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Is There a New Climate Politics? Emergency, Engagement and Justice

Editors

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Editorial

Editorial: Is There a New Climate Politics?

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Abstract
Addressing climate change globally requires significant transformations of production and consumption systems. The language around climate action has shifted tangibly over the last five years to reflect this. Indeed, thousands of local governments, national governments, universities and scientists have declared a climate emergency. Some commentators argue that the emergency framing conveys a new and more appropriate level of urgency needed to respond to climate challenges; to create a social tipping point in the fight against climate change. Others are concerned to move on from such emergency rhetoric to urgent action. Beyond emergency declarations, new spaces of, and places for, engagement with climate change are emerging. The public square, the exhibition hall, the law courts, and the investors' forum are just some of the arenas where climate change politics are now being negotiated. Emergent governing mechanisms are being utilised, from citizens' assemblies to ecocide lawsuits. New social movements from Extinction Rebellion to Fridays For Future demonstrate heightened concern and willingness to undertake civil disobedience and protest against climate inaction. Yet questions remain which are addressed in this thematic issue: Are these discourses and spaces of engagement manifestations of a radical new climate politics? And if these are new climate politics, do they mark a shift of gear in current discourses with the potential to effect transformative climate action and support a just transition to a decarbonised world?

Keywords
climate assemblies; climate change; climate emergency; climate politics; Green New Deal; just transition; youth movements

Issue
This editorial is part of the issue "Is There a New Climate Politics? Emergency, Engagement and Justice" edited by Anna R. Davies (Trinity College Dublin, Ireland), Stephan Hügel (Trinity College Dublin, Ireland) and Vanesa Castán Broto (University of Sheffield, UK).

1. Introduction

Climate politics may be entering a new era. In 2020, the European Commission fleshed out the European Green Deal that, while still attempting to square the circle of green growth, represented a change of gear in climate policy—a mechanism to mainstream climate change in multiple spheres of policymaking. At the time of writing, the newly elected US president Joe Biden is signing the country back into the terms of the Paris Agreement. China is pushing ahead with an industrial strategy that puts renewables at the forefront of its economy. However, despite the global attention to climate change, we seem to be losing adaptation and mitigation opportunities, especially in lower-income countries.

The Covid-19 outbreak in 2020 has impacted all economies, but its bearing on the environment is at best ambiguous (International Energy Agency, 2020; Le Quéré et al., 2020). The Covid-19 outbreak has also compromised ongoing efforts to reduce poverty and inequality (World Bank, 2020), and it has generated a need for stimulus packages of which sizeable portions will likely go to infrastructure, to facilitate digital connectivity, health care, pandemic-proofing of public services, and

mobility (Abadie, 2020). Will these investments change the world's trajectory towards a low carbon, climate-resilient future?

Prior to the Covid-19 pandemic, a confluence of emergency declarations, novel engagement activities and social movements were generating momentum for advancing courageous visions of future, low-carbon development. The climate actions discussed in this thematic issue explore whether the changes in climate change rhetoric and diversification of action sites, spaces, and mechanisms that have emerged over the past decade mark a radical shift of direction in the challenge of reducing carbon emissions and ensuring the liveability of the world for future generations.

Questions have roundly focused on how to respond and who will suffer the most (Mann, 2021). Climate change affects human health and wellbeing—with increasing evidence of mental health problems like solastalgia directly linked to climate change (Albrecht et al., 2007; Pihl et al., 2021). While the youth climate movement is increasing awareness of climate change in the public consciousness and re-centering climate debates around intergenerational ethics and justice, the landscape of climate action seems plagued by unintended impacts, as empirical evidence emerges of greening projects' negative impacts, for example, causing people's displacement (UN-Habitat, 2020). A just transition requires something other than incremental improvements on infrastructure and services: It requires a cultural shift that helps to reimagine human life within the world's confines. Such a cultural shift, however, requires political grounding.

This thematic issue enquires as to whether this 'new politics' of climate change signifies the continuation of business as usual or heralds a radical change in language, approach, and participation. If such a change is detectable, then there is a question of whether such change will lead towards a positive wave of environmental action or towards the creation of new inequalities. The articles in this thematic issue explore various terrains of contemporary climate politics, interrogating the extent to which they are reflective of a new climate politics marking a radical step change from the climate politics as usual which have failed to move global emissions in the right direction since 1990. Despite their diversity, both geographically and substantively, the articles identify common dimensions: the significance of new discourses of climate action, the creation of new places and spaces for engagement, and the expansion of climate agents with specific attention to previously marginalised voices.

2. Dimensions of a New Climate Politics

2.1. The Significance of Discourses

When we look at climate change discourses, a key question is the extent to which the proliferation of new terms ('climate emergency,' 'Green New Deal,' 'just transitions') reflect new ways of thinking or are simply a continuation of 'old discourses' of climate politics repackaged in a new context. Samper, Schockling, and Islar (2021), for example, explore this question in the context of the Green New Deal (USA) and Green Deal in the European Union. In their article, the Green (New) Deal emerges as a new set of discourses of green development that are seen as potentially revolutionizing current climate responses both in Europe and North America. The New Deal evokes the public works, social policy and financial reforms that, under President Franklin D. Roosevelt changed the American landscape between 1933 and 1939. The moniker, however, stands uneasily with the diverse set of other narratives that Samper and colleagues review, from programmes for green growth and infrastructure development to those that represent a fundamental criticism of current forms of organisation. The European Green Deal is perhaps the most advanced programme which affects every sector of the economy, from infrastructure development, to labour policy and the circular economy. However, despite the step-change in language and explicitly allocated funds for action, Samper and colleagues find it lacking, reproducing previous discourses and curtailing spaces for political debate.

Adopting a new 'green' discourse, then, does not alone indicate a radical new approach to climate action. This is a refrain reiterated by Ruiz-Campillo, Castán Broto, and Westman (2021) in their examination of the declarations of a climate emergency by 300 local governments in 24 countries. They argue that such declarations respond to growing pressure from social movements in international politics and signify a growing recognition of the sub-national government's role in climate governance (Ruiz-Campillo et al., 2021). However, they also note that framing climate change as an emergency does not, in and of itself, make decisions about which measures to adopt any easier. Nor does it necessarily impact the effectiveness of those measures over time.

Another institutional context—the university—provides additional opportunities for the emergence of new discourses and O'Neill and Sinden (2021) examine climate emergency declarations made in this context in the UK. Universities potentially present progressive organisations to support the implementation of low carbon futures; however, the research conducted by O'Neill and Sinden (2021) cautions against assuming that such declarations are solely driven by desires to support a radical uptick in climate action. Other concerns around market differentiation, sustainability capital, and competition for students also play a part in universities declaring a climate emergency.

While the declarations constitute performative, positioning exercises providing symbolic recognition of the urgency of the climate change challenge, they do not automatically translate into a radically different response to that challenge. Indeed, Ruiz-Campillo et al. (2021) note that most cities have not adopted plans

or initiatives under their emergency declarations that go much further than existing plans. Neither do O'Neill and Sinden (2021) reveal any evidence of radical innovation in university declarations. What they do provide is an opportunity for renewing cities' and universities' commitments constituting an anchor to expand dialogue across public, private and civil society arenas.

The ambiguity of emergency discourses is also an underpinning feature of the article by Fitzgerald, Tobin, Burns, and Eckersley (2021) exploring how policy-makers can reset agendas, veto proposals, and dismantle legislation even when a climate emergency has been declared. They identify the need for more expansive conceptual tools to examine the diverse ways policy-makers can work to delay radical climate action, developing the concept of 'policy stifling' to describe how the national government in Ireland issued a climate emergency declaration while also preventing the passage of a substantive Climate Emergency Measures Bill using the 'money message'—a policy tool that allows legislation to be delayed if it has implications for public finances. While Fitzgerald et al. (2021) conclude that the period they analyse between 2016–2020 does represent an era of new climate politics in Ireland, this new climate politics has yet to produce substantive policy developments, and emissions continue to travel in the wrong direction. This issue is revisited by Long (2021) in another context, that of climate finance. Here Long interrogates some of the potential vulnerabilities and injustices that run through the landscape of climate finance, linking back to the global financial crisis of 2007–2009. Long (2021) finds that the network of actors and intermediaries involved in climate finance governance has grown rapidly, and a narrative of climate action has become increasingly mainstream. However, he suggests that hopes of a private sector-led renaissance for a just transition to a decarbonised future may be over-optimistic. The application of the business-as-usual approach to finance raises serious concerns, given the sector's preoccupation with credit ratings, risk assurances and market stability. Certainly, as Long argues, emerging climate finance systems must not be permitted to morph into a new form of neo-colonial control through debt bondage justified by exhortations of a climate emergency. Growing diversity in spaces and places for deliberation of climate politics, including climate finance, provides a hopeful counterbalance to such tendencies.

2.2. New Spaces and Places of Climate Politics

New spaces of, and places for, climate change action and engagement—including local governments and universities already addressed above—have proliferated in the 21st century, from citizens' assemblies to public exhibitions. In many cases, these initiatives have strong place-based dimensions already identified as influential in enhancing climate change engagement (Davies & Hügel, 2021). The significance of place-based action is raised in an article by Creasy, Lane, Owen, Howarth, and van der Horst (2021), which examines Edinburgh's Climate Commission. This Commission is described as an experimental form of urban climate governance that strives to cohere fragmented climate governance at the urban scale and better represent the places whose futures they hope to shape. A key to their success is incorporating a diversity of perspectives to truly shape the city *with* its citizens rather than *for* them. However, Creasy et al. (2021) find that, despite the explicitly experimental framing of the Commission, the focus on recruiting high carbon emitting industries and a desire to identify discernible short-term impacts limited its possibilities to embrace new perspectives on a climate-proofed future, which also posed legitimacy risks. Nonetheless, there remain opportunities for such place-based Commissions to work closely with local democratic frameworks. More than just holding the local authority to account, such institutional forms could support innovation, empower stakeholders and extend situated climate knowledge within the city, unlocking new resources and possibilities.

While a relatively longstanding, if infrequent, feature of planning and policy deliberations internationally, citizen assemblies focused on climate change have emerged as high-profile fora for broader public engagement at national and sub-national scales (e.g., Devaney, Torney, Brereton, & Coleman, 2020). Citizen assemblies have created new spaces for dialogue and discussion, yet little is known about the drivers and hopes for these deliberative mechanisms or what public perceptions they generate. Sandover, Moseley, and Devine-Wright (2021) focus on these two knowledge gaps, examining the Devon Climate Assembly process that began in 2019 following the County's declaration of a climate emergency, paying particular attention to matters of legitimacy, credibility, and utility. They find that while widening participation and expanding local voices in climate debates was a key motivating force behind the Assembly, there were also concerns about the practical challenges of ensuring adequate citizen representation and whether citizens would be willing to consider some of the hard choices required to meet climate commitments. Ultimately, they conclude, in a similar vein to Creasy et al. (2021), with a judgment that the Assembly represents a space of cautious experimentation; at best, a modest example of a new climate politics that only lightly challenges existing landscapes of climate power and politics.

Both climate commissions and citizens' assemblies include formal processes for eliciting participants' views. Yet, other alternative spaces can generate different forms of engagement around climate change. The Carbon Ruins exhibition examined by Stripple, Nikoleris, and Hildingsson (2021) was an explicit attempt to help people imagine themselves as part of low-carbon futures. The exhibition presents its contents—relics from our current carbon age—as a means to allow people to reflect on these objects and their implications for

climate change with the ultimate goal of bridging the gap between abstract future scenarios and everyday experiences in the present. It provides a tangible, visible means for publics to engage with low-carbon world-building processes in ways that are normally inaccessible to them. That said, it is difficult to track and trace the impacts of such engagements both on those who visit the exhibition and wider stakeholders. The exhibition's impacts will be diffuse and intertwined with other media, education, and policy inputs. Nonetheless, they can be seen as additional, even alternative fora for climate politics to be (re)formed and debated, potentially amongst much more diverse publics than more formal mechanisms. This issue of broadening diversity of participation in climate politics forms the third major theme running through the articles in this thematic issue.

2.3. Diversity and Difference

Bringing together a focus on place-based interventions for increasing engagement in climate change adaptation with an explicit desire to bring marginalised voices into climate discussions, Davies and Hügel (2021) outline the process and impacts of a set of interactive workshops which were rolled out with young people attending a school located in a disadvantaged area of inner-city Dublin, Ireland. Such interventions are needed because young people in Ireland currently have limited channels to articulate their views, a finding supported by analyses of climate strikes in Ireland and elsewhere (Davies & Hügel, 2019). While a spatially and time-delimited exercise, it had positive impacts for increasing participants' knowledge of climate change science and policy processes. Such activities can provide important bedrock on which a greater sense of self-efficacy around future engagement with climate action can be generated.

Attending to youth voices in climate politics is also the focus for Fisher and Nasrin (2021) in their social-network analysis of the youth climate movement in the US and the nationally co-ordinated events they established. The article explores how youth movements have evolved and how participants engaged with other social movements concerned with the climate crisis. Although limited in timescale—so unable to make definitive statements about movement trajectories—Fisher and Nasrin (2021) conclude that suggestions of increasing influence by adult-led climate movements found in the data need to be further traced in the future. Both articles, by Fisher and Nasrin and Davies and Hügel, support arguments for more and better-protected spaces for youth voices to be heard autonomously and explicitly incorporated into broader climate politics.

Social media could be a means for public engagement and participation to change climate politics. Yang and Stoddart (2021) use social-network analysis to examine the climate communication patterns in China via Weibo—a micro-blogging site with over half a billion monthly active users. Their research shows that Weibo has enrolled new publics in climate-change debates. Still, the lack of balanced dialogue and users' tendency to interact with people similar to themselves restrict interactions and homogenize information flows.

Moving to the other end of the age spectrum, Keller and Bornemann (2021) explore the KlimaSeniorinnen Schweiz movement trying to force the Swiss government into greater climate action through legal mechanisms, media, and public debate. Here they find that KlimaSeniorinnen functions as a strategic actor in the Swiss climate context, developing collective action frames around human rights and the vulnerabilities of older women to intense heatwaves predicted to increase in frequency and intensity with climate change. Far from focusing only on the specific needs of the elderly in a climate-changed world, KlimaSeniorinnen has also sought to bridge generations, promoting intergenerational justice and flagging responsibilities towards future generations.

In contrast, Kenis (2021), in her analysis of the School Strikes for Climate in Belgium, shows how the establishment of an intergenerational conflict line succeeded initially in raising young people's agenda over an extended period. Young participants accused previous generations of undermining their futures, casting themselves as future climate-change victims. However, this conflict line also fostered change. The movement declined as a post-political consensus imposed technocratic and market-oriented responses to climate change. Kenis (2021) argues, along the same lines as Davies and Hügel (2021), building and maintaining a critical and politicized movement around climate change requires connecting it to other struggles with an emancipatory and intersectional lens.

While the articles in this thematic issue cover a range of settings, spaces, and mechanisms, they do not represent the full range of activities, actors, and institutions emerging around climate change. There is no coverage of vast swathes of the earth in areas collectively and problematically termed the global south. The issue of 'absence' around the discourse of climate emergency in these territories is increasingly recognized (Ruiz-Campillo et al., 2021). There remains an imbalance between widely researched areas and those largely ignored (Hügel & Davies, 2020). Reports like the *Intergovernmental Panel on Climate Change* (IPCC) struggle to obtain balanced evidence about, for example, how to respond to climate emergencies in countries for which there is little data or information of any kind. Climate politics is not an exception. That climate politics in the global south are not widely studied or researched does not mean that there are no politics in those areas. For example, in January 2020, Ugandan youth activist Vanessa Nakate was cropped out of a photo with Greta Thunberg. The outrage pointed both at the exclusion of brown and black people from narratives of climate change impact and the lack of acknowledgment of the rise of youth activism in African countries.

Another issue where further substantive work is required is the relative dislocation of climate change politics from broader accounts of structural inequalities (Davies, Hooks, Knox-Hayes, & Liévanos, 2020). Some of the articles in this thematic issue, such as Long's, point towards the racist, colonialist roots of the climate emergency. Fisher and Nasrin also link youth climate activism with the Black Lives Matter movement. However, although some studies link antiracist politics to climate action, they are still few and far between. The construction of environmentalism as white both denies the historical development of environmentalism and its present potential. We cannot understand the environmental movement without understanding its links to antiracist activism and the links to the civil rights movement in the US (Agyeman, Schlosberg, Craven, & Matthews, 2016).

3. Conclusion: A Research Agenda for a 'New Climate Politics'

The Paris Agreement of 2015, with its legally-binding commitment to limit global heating and the subsequent adoption of the Global Climate Action Agenda, set the stage for a wide-ranging reconfiguration of climate change politics. Five years after its adoption, it is clear that the agreement is driving climate action, but has it resulted in a 'new politics'? As Hale points out, several conditions must be met "in order for societies to benefit from a positive use of political power over a sustained period" (2010, p. 256; Mulgan, 2007): an "active civil society; a favourable world order; ethical leadership, and a culture of learning in government."

What will be the result of young people's increasing engagement in climate politics? Resistance to extending the franchise in national elections to 16-year-olds in the UK and Ireland can be seen as a reaction to this. It is an open question whether there are mechanisms by which climate strikes and street protests will influence policy via the ballot box. More research will be needed to ascertain whether a relationship exists between youth activism and political change and disentangle it from other effects.

Top-down large-scale mobilisation need not be the only manifestation of these new politics: One emerging area of thought which indirectly informs some of the arguments in this collection (e.g., Ruiz-Campillo et al., 2021; Stripple et al., 2021) is the area that focuses on thinking through a politics of the minor, the kind of micropolitical ideas that mobilise Foucault's notions of capillary power into the accidental context of environmental and climate decision-making. Emily Apter (2018) calls these politics 'unexceptional politics,' a politics 'behind the scenes' that mobilise the multi-layered spaces of decision making. So, while we do not see full evidence of a new climate politics, are we looking into the complexities of unexceptional politics? For example, what kinds of unexceptional politics are being mobilized in exhibitions to imagine alternative futures, such as Carbon Ruins (Stripple et al., 2021) or in social media (Yang & Stoddart, 2021)? What is the potential for traditional spaces of power such as legal courts or investor forums to transform (see Keller & Bornemann, 2021; Long, 2021)?

The Covid-19 emergency has in some ways shown the differences between the climate emergency and the pandemic. In the light of the pandemic and the need for a response, climate concerns have been displaced to the background. Covid-19 has generated new concerns—not only in responding to stop the spread of the virus and alleviating the impacts of lockdown but also in terms of long-term thinking about the kind of social investments we want to make. In line with the global health emergency that has arisen, it is also worth considering the climate emergency in temporal terms: An emergency requires extraordinary mobilisation of resources and sacrifice at various scales from the personal to the international, and it is often accompanied by the temporary suspension of activities and even rights which are otherwise taken for granted. These restrictions are accepted because they are seen as necessary and, crucially, temporary by a majority of the population. Still, as the pandemic has continued, fatigue has set in even as the world has begun to find ways out of it. What then would allow the climate emergency to be declared at an end? As Hulme points out (2019), net-zero carbon emissions are an unhelpfully narrow policy goal which are at once both insufficiently ambitious and serve to crowd out other concerns, and suggests that a focus on the Sustainable Development Goals (SDGs) is preferable. Future research should focus on the effects of this 'permanent emergency' on people's perceptions of climate change and what is being done to mitigate and adapt to it.

For many, responding to public health concerns goes hand in hand with concerns about climate change. What is certain is that a new landscape of investment and recovery has opened up at the same time as the pandemic has changed our expectations of who we are. As we hope for a post-Covid-19 world, we ask ourselves whether recovery from the pandemic can be a green one. For the sake of people and planet it must only be a green one!

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Climate Politics in Green Deals: Exposing the Political Frontiers of the European Green Deal

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Abstract
This article investigates the political attempts to frame European climate politics and provides a critical discourse analysis of the European Green Deal. A rapid transition towards low-carbon development across the world has been contested by discourses aiming to acknowledge the inseparability of social and ecological issues. These discussions are fairly new in the European context and in 2019, the European Commission presented its Communication on the European Green Deal—the European Union's legislative roadmap to carbon neutrality by 2050. Empirical evidence for this article is derived from process tracing and policy analysis of the European Commission's documents on the European Green Deal in relation to existing Green New Deals. Drawing from a neo-Gramscian perspective we argue that the European Green Deal is an attempt to extend the neoliberal hegemonic formation within European climate politics. This results in the foreclosure of democratic channels for articulating climate politics according to dissenting discourses, thereby avoiding the political contestation inherent to climate politics.

Keywords
climate politics; depoliticization; European Green Deal; hegemony; neoliberalism; sustainability

Issue
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1. Introduction

On the 11th of December 2019, the European Commission communicated to the European Parliament and the Council, a document called the European Green Deal (EGD). The EGD played a key role in the approval of the Von der Leyen Commission and its political agenda (Gaventa, 2019). It occupied center stage as the most lobbied topic in Brussels during the first 100 days of Von der Leyen's term (Kergueno, 2020). The EGD is presented as a "growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy" with zero emissions by 2050 (European Commission, 2019b, p. 2). The EGD further imagines decoupling economic growth from resource inputs, a goal that is contested by several academics (European Commission, 2019b; Jackson, 2017; Kallis, Demaria, & D'Alisa, 2015). The EGD also cites the Commission's commitment to a just, inclusive, and people-centered transition (European Commission, 2019b).

Several studies show that transitions are deeply political and involve considering the power relations and vested interests within energy systems (Haas, 2019; Kraushaar-Friesen & Busch, 2020), examining the impact of deploying renewables and gas infrastructure to grow industrial output and consumption (Guðmundsdóttir, Carton, Busch, & Ramasar, 2018), scrutinizing ownership

of the means to produce renewable energy with its inherent hegemonic struggles (Haas, 2019; Islar, 2012), and understanding the disproportionate responsibility of the polity in driving climate change (Kartha, Kemp-Benedict, Ghosh, Nazareth, & Gore, 2020; Lindt et al., 2017). Moreover, social resistance to sustainability agendas highlights the importance of recognizing the socioeconomic impacts of green transitions and the gap between the concerns of workers' struggles to meet the 'end of the month' versus the climate community's demand of avoiding the 'end of the world' (Martin & Islar, 2020). Green New Deals (GNDs), in this context, offer an alternative to mitigating climate change through "egalitarian policies that prioritize public goals over corporate profits" and targeting investments in vulnerable, marginalized, and frontline communities (Aronoff, Battistoni, Cohen, & Riofrancos, 2019, p. 14).

The European Trade Union Confederation (ETUC) published a set of key principles and guidelines that they recommend should be integrated into a future EGD to accurately capture the social impact of decarbonization. Trade unions also have asked the Commission to be formally included at all stages of the decision-making, policy implementation, and evaluation phases at European, national, sectoral, and regional levels (ETUC, 2020). Within this context, this article aims to contribute to a deeper understanding of the EGD in relation to existing GNDs by discussing if the European proposal provides possibilities and new opportunities to move beyond business as usual in the sphere of European climate politics. We argue that there is a need to explore the political frontiers that the Commission draws between reform and radical change to understand what is left out of the EGD, and the implications of such exclusions for the sustainable future of Europe. Empirical evidence for this article is derived from process tracing and policy analysis of the Commission's documents related to the EGD as well as a recent literature review on the GNDs in Europe and North America.

The article starts with neo-Gramscian perspectives on politicization. An explanation of the process tracing used for analyzing the EGD follows. Then, we continue with a brief contextualization of GNDs in Europe and North America in Section 4. In Section 5, we apply a process-tracing analysis and compare these developments with the EGD. In Section 6, we conclude by discussing the political frontiers of the EGD that define the core elements of European climate and energy (in)action.

2. Neoliberal Hegemonic Formation and Sustainability

Critical political theorists argue that current democratic politics have entered into a post-political chapter because the political, or the constitutive character of antagonism in human societies, is overlooked (Mouffe, 2005). By means of depoliticization, issues or people are excluded from democratic debates (Swyngedouw, 2013). Mouffe (2005) argues that depoliticization operates by drawing political frontiers while simultaneously denying their political character. Those excluded from these politically drawn boundaries are not considered as legitimate political adversaries. Rather, they are considered ignorant, uneducated, unmodern, and irrelevant. As a result, democratic institutions are weakened (Mouffe, 2005) and simultaneously the hegemonic framework is further tightened (Kraushaar-Friesen, 2019; Laclau & Mouffe, 1985). In environmental politics, a post-political condition may be manifested in the sense that "the articulation of divergent, conflicting, and alternative trajectories of future environmental possibilities" is forestalled (Swyngedouw, 2013, p. 5).

Hegemony plays a central role in understanding post-political theory. Gramsci developed the concept of hegemony to describe the cultural, economic, political, and ideological domination of a socioeconomic class by means of both consent and coercion (Gramsci, 1999). Neo-Gramscian approaches affirm hegemony as a type of political relation that presupposes that the social cannot be totalized or fixed because of the plurality of "political and social spaces which do not refer to any ultimate unitarian basis" (Laclau & Mouffe, 1985, p. 126). Therefore, hegemonic formations arise from articulating these political and social spaces according to a dominant discourse. In this context, the Gramscian concept of a war of position offers an analytical path to understand how hegemonic formations operate. Stegemann and Ossewaarde (2018) argue that the war of position refers to the strategic integration of counter-hegemonic positions into the hegemonic discourse. Floating signifiers, discursive elements with empty meaning and therefore contested in different political spaces, serve to make chains of equivalent meaning that allow a discursively logical incorporation (Laclau & Mouffe, 1985). This discursive operation attempts to totalize meanings that were previously contested and therefore draws a frontier outside of which alternative meanings lie. When the incorporation is discursively achieved, the hegemonic formation is extended. This 'resulting myth' establishes a post-political condition while the political, antagonistic character of the counter-hegemonic position is neglected (Stegemann & Ossewaarde, 2018).

Since the late 20th century, a neoliberal hegemonic formation has been steadily asserted over different political spaces. Neoliberalism can be considered as a 'process' instead of as an all-encompassing ideology with clear and demarcated end-states (Heynen & Robbins, 2005). The term neoliberalization has been used by Peck and Tickell (2002) to emphasize the process-based, variegated character of contemporary processes of economic and political restructuring. To be more specific, their approach stresses the insight that neoliberal reforms are built on uneven institutional landscapes. These different landscapes can intensify reform processes or homogenize regulatory practices. It is therefore important to understand that contemporary neoliberal restructuring reforms take place, and are part of, ongoing transfor-

mations of already existing regulations and systems in particular places and at particular times. This variegated approach emphasizes nationally or locally adapted neoliberal practices linked to the global system.

3. Analytical Framework

Process tracing can help with understanding how the discursive formation of neoliberalism is advanced in the EGD. Commonly used in qualitative social science research, process tracing is defined by its ambition to study causal mechanisms and causal relationships between independent variables and outcomes (Beach & Pederson, 2013). We define the causal mechanism in question to be Mouffe's (2005) depoliticization and use process tracing to test this theorized causal mechanism. Mouffe postulates that the post-political is brought about by the drawing of political frontiers, followed by the subsequent exclusion of people or issues that sufficiently denies any political character or legitimacy of counter-hegemonic ideas. The methodological use of theory-testing process-tracing from Beach and Pederson (2013) is explained in Figure 1 with an example from the EGD's focus on transportation. At the empirical, case-specific level, we start by identifying a political frontier in the Commission's goal of reducing transportation emissions by 90%. Through the process of exclusion, this goal excludes questions about the underlying factors that shape people's needs for travel in the first place. Such matters and their representatives are then excluded from any decision-making or goal setting. The Commission fails to ask why people must travel, either for working, living, etc., and deny the political nature of problems in relation to living and working locally. Through the process of neoliberalization, the Commission sets to achieve their goal of reducing transport emissions by developing and using alternative transport fuels, thus entering the post-political. The process tracing behind the analysis in Section 5 is explained by Figure 1 and is used to explicate the remaining environmental and social issues in the EGD.

4. Green New Deals: Narratives for Climate Change Mitigation

In the study of brief histories of GNDs, Mastini, Kallis, and Hickel (2021) reveal that little attention has been given to the fact that the content and framing of GNDs over the years has shifted. In what they refer to as 'GND 1.0,' an ecological modernization frame focused on investments in technological solutions is dominant. This frame is characterized as a technocratic exercise that seeks to revitalize capitalist investments by channeling financial means towards research and development, mild subsidies, and pricing carbon (Mastini et al., 2021). The 'GND 1.0' narrative in this sense can be tied to a neoliberal approach to climate politics insofar as it promotes market-friendly regulation, buttressing markets, and enabling resource mobilization and capital accumulation. Nevertheless, a different frame in GND proposals has emerged representing openness towards alternatives to the neoliberal approach.

The 'GND 2.0,' as coined by Mastini et al. (2021), originated in the aftermath of the G20 growth-friendly fiscal consolidation in 2010 where 16 of the G20 states failed to follow UNEP's 2009 recommendation of spending a mere 1% of GDP on green initiatives. The 'GND 2.0' "rejects the primacy of market-based environmental

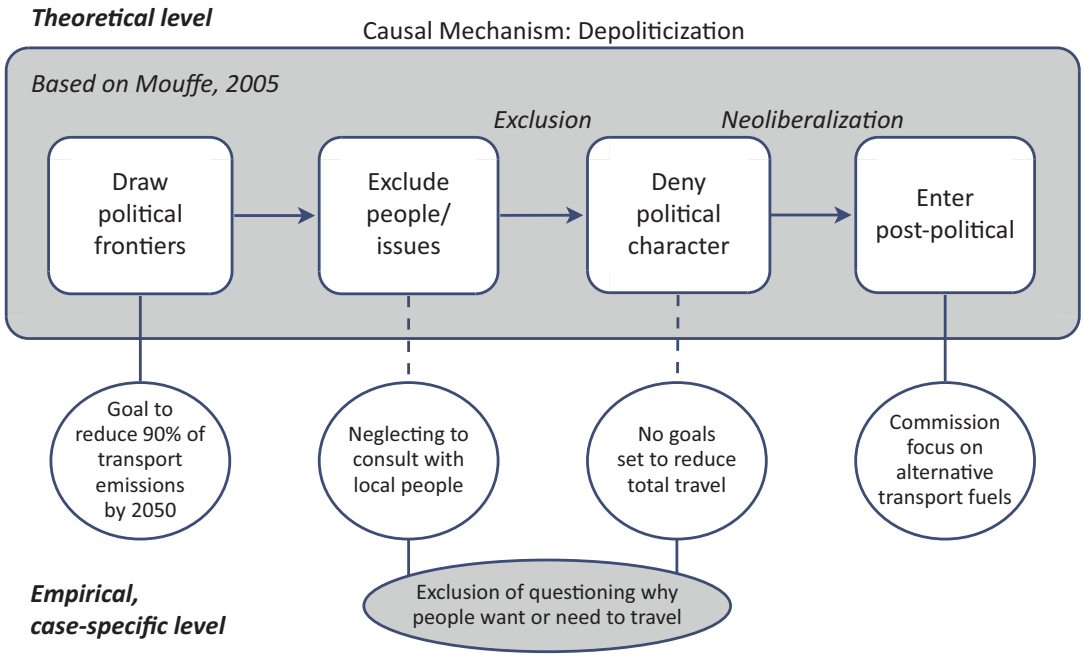

Figure 1. Author-created theory-testing process-tracing of depoliticization based on Beach and Pederson (2013).

policy instruments" that construct our present ecological meltdown as a market failure to be fixed through pricing, rather than inseparable from, and a part of, a social crisis that can only be addressed by redistributing economic and political power ("A bold new plan," 2019; Mastini et al., 2021, p. 3). Thus, the 'GND 2.0' embraces command-and-control environmental regulation and prioritizes decarbonization at speed, scale, and scope by using the power of public investment and coordination (Aronoff et al., 2019), while also seeing itself as part of grass-roots movement building (Mastini et al., 2021).

'GND 2.0' is embedded in recent GND proposals. In the U.S., Congresswoman Alexandria Ocasio-Cortez led the introduction of House Resolution 109 (hereafter H. Res. 109) in the House of Representatives in early 2019 (Recognizing the duty of the Federal Government to create a Green New Deal, 2019). H. Res. 109 is a non-binding resolution or essentially a list of goals and not full-blown legislation. More concrete policies have yet to be drafted in order to require the government to make any changes or implement any steps towards mitigating the country's climate impacts or adapting to the impending climate changes. H. Res. 109 declares the duty of the U.S. government to create a GND to: (a) achieve net-zero greenhouse gas emissions through a fair and just transition for all communities and workers; (b) create millions of good, high-wage jobs and ensure prosperity and economic security for all; (c) invest in the infrastructure and industry to sustainably meet the challenges of the 21st century; (d) secure clean air and water, climate and community resiliency, healthy food, access to nature, and a sustainable environment for all; and (e) promote justice and equity by stopping current, preventing future, and repairing historic oppression of frontline and vulnerable communities—defined as indigenous peoples, communities of color, migrant communities, deindustrialized communities, depopulated rural communities, the poor, low-income workers, women, the elderly, the unhoused, people with disabilities, and youth. H. Res 109 is an important step towards expanding previously drawn political frontiers because it opens channels to counter-hegemonic discourses.

Another frame in recent GNDs is the 'GND without growth.' As opposed to the GND proposal H. Res. 109, the 'GND without growth' is not contained in one single document. It is attributed to the ideas of degrowth academics, mostly North American and European, and other movements such as the Democracy in Europe Movement 2025. The latter published the report called *Blueprint for Europe's Just Transition* containing a different GND for Europe (Democracy in Europe Movement 2025, 2019). The report presents a set of proposals for socioeconomic, legislative, and institutional transformation while abandoning the dogma of GDP growth as the primary measure of progress. The recommended alternatives include increased public investment, democratization of the energy sector, a job guarantee, universal access to public services, resource caps, and environmental justice measures for resource-providing communities (Adler, Wargan, & Prakash, 2019; Mastini et al., 2021).

There are points of convergence and tensions between the GND H. Res. 109 and the 'GND without growth.' Kallis, Paulson, D'Alisa, and Demaria (2020, p. 68) argue that both proposals share the commitment to a rapid and massive deployment of renewables, the decarbonization of transport and agriculture, new or refurbished zero-carbon affordable housing, and reforestation and ecological restoration. Both also embrace social ownership of essential infrastructures and access to financial instruments like loans and subsidies for a more democratic control over the economy (Eskelinen, 2015; Marois, 2017). Furthermore, the idea of a just transition is mobilized in both narratives to point out the importance of co-creation of policies by involving labor unions and other stakeholders (Newell & Mulvaney, 2013). Another point of convergence is the expansion of the welfare state, which involves de-commodifying essential services such as healthcare, housing and work; thus, placing them within the realm of social rights rather than privileges allocated by the market (Gough, 2017; Mastini et al., 2021). Last but not least, both share a commitment to environmental justice as both explicitly address the need to give voice to communities rich in energy resources and to fairly distribute the costs and benefits of energy extraction (Kallis et al., 2020).

The gap between these GND proposals presents several points of contention. Some of these tensions concern the use of technology in the expansion of renewables through the costs and risks they can entail (Kallis et al., 2020). Instead of technology dependence, a 'GND without growth' calls for a fundamental transformation in the way we think about energy to reduce our dependence and increase redundancy with renewables. Another tension lies in the realm of employment and the just transition. Whereas the ideas which inspired the GND H. Res. 109, like those proposed by Rhiana Gunn-Wright at the New Consensus think tank, aims for guaranteed work and a family-sustaining wage, a 'GND without growth' would rather focus on more progressive employment measures aimed at work time reduction and work sharing (Kallis et al., 2020), a worker-controlled production system (Barca, 2019), and embracing gratuity on top of the universality of basic services (Kallis et al., 2020; Mastini et al., 2021). Though the New Economics Foundation, originally part of the visionary group to propose a GND in 2008 for the U.K., now supports a four-day work week and higher wages. Furthermore, the 'GND without growth' implies that public finance arrangements do not require growing the economy as a whole (Kallis et al., 2020).

Finally, a more substantial but not necessarily irreconcilable tension between these GNDs is identified in terms of the political frontiers they draw along the lines of the structural change and their underlying values and ideology (Mastini et al., 2021). This tension addresses two different points. First, while the 'GND without growth'

expands the realm of possibility by challenging capitalism and its incompatibility for degrowth, the 'GND 2.0' aims at reforming capitalism from the inside. Second, the 'GND 1.0"s emphasis on top-down, state-conducted action and the 'GND 2.0"s call for bottom-up, prefigurative, grass-roots politics will not be easily resolved (Mastini et al., 2021, p. 7). This dilemma calls for further conversations about climate politics that recognize that neither waiting for neoliberal capitalism to end nor allowing for new cycles of green primitive accumulation and commodification of nature are acceptable (McCarthy, 2015; Pollin, 2018). In this sense, the tensions can be loosened by noting that GNDs may be worth fighting for. They may be the most promising political opportunity available for movements defending socio-ecological struggles, such as those under the degrowth umbrella, to include their struggles on the battlefield of climate politics (Heron, 2019; Riofrancos, 2019). We will use the above analysis comparing 'GND 1.0,' 'GND 2.0,' and 'GND without growth' as a reference point to analyze the EGD so that we can situate the EGD in the spectrum between reform and radical change.

5. Analysis for the European Green Deal

In the following sections, we share the results of our process-tracing and policy analysis on the European Commission's communication documents on the EGD. The Commission begins the EGD by defining it, first and foremost, as a growth strategy. In the introductory section, the Commission states that the aim of the EGD is to transform Europe into a fair and prosperous society: One that is competitive, where economic growth is decoupled from resource use, while tackling climate and environment-related challenges. The latter goal is even promoted to the category of being the present generation's "defining task" (European Commission, 2019b, p. 2). However, addressing climate and environmental challenges is not a new policy objective as much as the Commission defines it as this generation's defining task. For instance, decoupling economic activity from environmental harm has been part of the Commission's discourse at least throughout the entire 21st century (European Commission, 2001, 2014, 2018, 2019a, 2019b).

As in the case of the GNDs examined above, we find points of convergence and tension arising between them and the EGD. To begin with the convergence points, and in line with the 'GND 2.0' narrative, the Commission shows a clear intention to exercise more stringent top-down climate governance. It promotes strengthening its command-and-control powers over the climate ambition of Member States. Complementarily, it also embraces increasing the level of climate ambition of the EU's transition to net-zero emissions targets for both 2030 and 2050. In contrast, showing more resemblance to a 'GND 1.0' narrative, the Commission also makes a plea for technological advancement to play a central role by stating that "climate and resource frontrunners" are needed "to develop the first commercial applications of breakthrough technologies in key industrial sectors by 2030," suggesting carbon-removal technology like BECCS are a top priority for the EGD agenda (European Commission, 2019b, p. 8).

The commitment to a rapid and massive deployment of renewables is another point where the EGD and the contemporary GNDs converge. The Commission affirms that decarbonizing the energy sector "is critical" (European Commission, 2019b, p. 6). It focuses specifically on the deployment of renewables while scantly addressing fossil fuels, implying that fossil gases will not necessarily be outlawed. The deployment of renewables explicitly promoted is the increase of offshore wind power and decarbonized gas. In this decarbonization strategy, market-based mechanisms occupy a central role, where trust for an energy transition is mostly placed on the competitiveness of renewables. Furthermore, energy efficiency, as opposed to a reduction in total energy use, is prioritized. Moreover, there is reason to doubt that energy-intensive industries will be adequately addressed and regulated within the EGD. So, whereas the EGD's aim of deploying renewables converges with the GNDs, the strategy may give rise to tensions between them given that the EGD's decarbonization strategy looks more like the 'GND 1.0' technocratic exercise of large-scale green investment and R&D.

The decarbonization of transport and agriculture is yet another point where the EGD and the GND discourses converge. The Commission promises a 90% reduction in transport emissions by 2050 by boosting multimodal transport (European Commission, 2019b). Furthermore, the Commission insists that transport "become drastically less polluting, especially in cities," for which a "combination of measures should address emissions, urban congestion, and improved public transport" (European Commission, 2019b, p. 11). However, at the strategy level tensions rise once again. There is little to no direction provided on how to improve public transport as the decarbonization of transport for the Commission focuses on alternative transport fuels, such as sustainable aviation fuels. One potentially radical point is made when declaring that the price of transport should reflect the cost to the environment and human health, but the document has a limited scope for following through with a commitment or indication of implementing a tax accurately reflecting the true cost of carbon (European Commission, 2019b). The 2011 White Paper for Transport set the EU's goal for reduction of transport emissions to 60% of 1990 levels by 2050 (European Commission, 2011). While the EGD increases this goal, the level of detail about how this goal can be achieved is not clearer than before. Similarly, in the EGD's 'Farm to Fork' strategy, tensions arise at the strategy level as the Commission takes a reformist stance focusing on "feeding a fast-growing population" by taking advantage of the opportunities opened by "new technologies and scientific discoveries," while stimulating sustainable food consumption (European Commission,

2019b, p. 11). The EGD ensures Member States' national strategic plans for agriculture reflect the ambition set out in the GND and 'Farm to Fork' strategy, indicating a desire to achieve goals and declarations of intentions but no real commitment or consequence for not meeting concrete, assessable indicators. Lastly, the EGD tasks the EU with developing "new innovative techniques" to protect crops from pests and diseases while ensuring sustainability of the system when decades-old approaches such as permaculture, no-till farming, or crop rotation are already-proven methods for sustainable land and crop management (European Commission, 2019b, p. 12).

There are additional convergence points between the EGD and the transformationist GND narratives. The EGD contains a strategy for housing as it promotes a 'renovation wave' of old buildings to make them more energy efficient, something also advocated for in the GND H. Res. 109. Reforestation and ecological restoration are featured in the EGD through different strategies to address biodiversity loss, forest degradation, and exploited fisheries, which are also mentioned in the GND H. Res. 109's aim to restore ecosystems and carbon sinks. The EGD attempts to empower citizens by, for example, embracing energy communities and strengthening environmental education, but the only real place for input and participation from citizens is through already existing citizen dialogues and assemblies. This demonstrates that the EGD recognizes social ownership of essential infrastructures in this transition, though the document lacks concrete strategies to allow for citizen input on the totality of initiatives proposed in the EGD and the chance for these initiatives to be viable or significant in the societal transition.

There are also outright tensions between the EGD and the GNDs. To begin with, the role of labor unions at the negotiation table is unclear, as it is never mentioned in the EGD. In the ETUC position paper on the EGD, there are proposals spanning many of the different initiatives that have followed the EGD such as the Climate Law, the Just Transition Fund, the Climate Pact, and the Circular Economy Plan. The ETUC points out that even though social partners are mentioned among the stakeholders, "We [ETUC] regret that no more attention is given to the role of trade unions and social dialogue to tackle climate change, especially at the company level" (ETUC, 2020, p. 5). Chief among ETUC's proposals is linking climate targets with robust social requirements, financing the transition through fair taxation and a bigger portion of the EU budget, a Just Transition Fund that ensures solidarity, a stronger focus on employment in the industrial strategy, and an update placing the EGD within the context of the Covid-19 pandemic (ETUC, 2020). In addition to ETUC's proposals, despite the GND H. Res. 109's explicit aims for high or decent wages for all, the EGD makes no such claim. Neither does it refer to working hours, working weeks, or worker-controlled production systems, as does the 'GND without growth' specifically. Importantly, the ETUC claims the percentages mentioned in the EGD "do not tell the whole story and that a target does not make a policy," indicating a call for a more viable document from the Commission detailing the means and mechanisms trade unions and others will have available to achieve the goals set out in the EGD (ETUC, 2020, p. 4).

A major friction between the EGD and the 'GND 2.0,' H. Res. 109, as well as the 'GND without growth' is in the realm of job security and essential services. Job security is not provided through use of a job guarantee, but rather through a financial strategy to re-skill or re-train workers from declining, carbon-intense industries and placement in 'new' economic sectors, which are not clearly defined (European Commission, 2019b). Though the GND H. Res. 109 is not a commitment from the U.S. government, but rather a goal, it does explicitly mention a job guarantee and the narrative could align with more radical strategies like work hour reduction or job sharing. Again, we see the EGD lacking in content and specificity with the absence of healthcare. Though it advocates for healthy food and a healthy environment, the only support of public health in the EGD is promised to come from the savings of building efficiency measures (European Commission, 2019b). Energy poverty is mentioned as an issue and building renovations given as the only solution, though no concrete strategy such as ensuring universality of access to energy is presented. Here the tension between the necessity to de-commodify essential services, as embraced by the transformationist GND narratives, and the opportunity to boost the economy in the EGD is at its clearest. While the GNDs utilize a momentous opportunity to progress the welfare state by de-commodifying and re-socializing public goods, the EGD strategy instead points them towards the market as a catchall solution.

Another evident tension is the differences in addressing environmental justice. The GND narratives are very clear by recognizing the risks of past, present, and future injustices suffered by frontline and vulnerable communities, as well as resource-rich countries, and the need to distribute the costs and benefits of the transition fairly. However, the EGD emphasizes the importance of 'green deal diplomacy' to promote and implement climate, environment, and energy policy across the world, keeping the door open for the EU to force other countries to follow suit, perhaps. However, this 'green deal diplomacy' pays little attention to the social and environmental injustices caused by the EU's resource and energy dependency on other parts of the world. In fact, the Commission reverts to a rather colonial attitude in the EGD by stating its intent to "work with global partners to ensure the EU's resource security and reliable access to strategic raw materials" (European Commission, 2019b, p. 22). Moreover, although the EGD contains a pollution strategy to protect citizens, there is little to no recognition of frontline and vulnerable communities or a fair distribution scheme of the costs and benefits of the pollution strategy, indicating a further side-lining and silencing of disadvantaged individuals and communities.

The financial arrangements reveal yet another tension between the EGD and the GND narratives. The EGD is concerned with mainstreaming sustainability by "sending the right price signals" to achieve what the Commission calls sustainable and inclusive growth (European Commission, 2019b, p. 17). Furthermore, the Commission plans to "mobilize international investors" to allow the EU to "remain at the forefront of efforts to set up a financial system that supports global sustainable growth" (European Commission, 2019b, p. 22). The first tension in the financial plans lies in the EGD's plan of 'righting' the price signals, which clearly follows a market-based approach to climate politics, similar to that of the 'GND 1.0' narrative as characterized by Mastini et al. (2021). The second tension is more specific to the EGD as a growth strategy, for Europe and the world, in contrast with the 'GND without growth' narrative that proposes moving beyond financial requirements to grow the economy.

A final, broader tension between the EGD and the GND narratives consists in what Mastini et al. (2021) described as the degree of structural change involved. The EGD shows a Commission that is in some instances fully trapped by the older 'GND 1.0' form of climate politics. The clearest examples of this entrapment are at the level of financial arrangements and environmental justice, where both strategy and discourse resemble the old more than the new form of climate politics. In other instances, instead, we see a changed Commission in word, to the extent that it utilizes the discourses of the newer 'GND 2.0,' but not in action, demonstrated by the proposed modifying of old policy strategies in the case of energy, transport, agriculture, and job security. Yet in other instances, the EGD fully embraces the new 'GND 2.0' narrative, such as is the case for housing renovation and ecological restoration.

What does this mean for the degree of structural change possible for the EU? The EGD reflects a continuation of previous policies for different sectors but increases goals and measures of these policies to a cross-sectoral level and introduces a common package for a green transition. In this sense, little structural change is expected from the EGD, which makes the methods of the 'GND 2.0' narratives unlikely to be used by the EU. In comparison to the 'GND 2.0' narratives, some of which attempt to embrace economic redistribution, the EGD does not allow such sites of struggle to open in climate politics. Rather, the EGD looks more like an attempt to re-define floating signifiers relevant to climate politics such as 'sustainability,' the meaning of which is even contested in the 'GND 2.0' narratives. In this way, chains of equivalence are permitted to exist between climate politics and the neoliberal hegemonic formation.

6. Concluding Remarks: Political Frontiers of the European Green Deal

The GND narratives accurately sketch how the deeply political aspect of climate politics is denied. On the one hand, the 'GND 1.0' narrative articulates climate politics according to the discourse of the neoliberal hegemonic formation. The object of climate politics according to this narrative is strictly addressing emissions and energy sources, while its political subject is humankind. On the other hand, the 'GND 2.0' narratives articulate the issues at stake in the sphere of climate politics according to a counter-hegemonic discourse where broader social concerns are inseparable from the ecological. The object of climate politics according to this narrative goes beyond the technical and involves addressing the socio-cultural and economic behaviors and institutional arrangements that drive or allow the rise of emissions in the first place. Such behaviors and arrangements, not distributed equally throughout humankind, constitute not only one political subject in the sphere of climate politics, but a plurality of subjects that are more or less responsible for the ecological crisis.

In the case of the EGD, the technocratic exercise that Mastini et al. (2021) refer to is reflected in the Commission's approach to climate politics strictly as a matter of emissions and energy sources. Except for those few instances in which the 'GND 2.0' narrative is fully adopted in the EGD, the Commission either remains trapped in the 'GND 1.0' narrative or tries to articulate climate politics using a 'GND 2.0' discourse without fully incorporating the necessary changes in terms of the object and the political subjects of climate politics.

Theoretically speaking, we can say that most of the time the Commission depoliticizes climate politics in the EGD by further articulating it strictly in terms of the neoliberal hegemonic formation, or by materializing a war of position in which the neoliberal hegemonic formation attempts to discursively incorporate counter-hegemonic narratives. In either case, the antagonism or the political contestation inherent to climate politics is eliminated, foreclosing democratic channels to counter-hegemonic articulations of climate politics. The result is that the EGD might only serve as a justification for EU Member States to delay implementing transformative climate policies and therefore perpetuate socioeconomic behaviors and institutional arrangements that are overly responsible for the climate crisis. The political frontiers of the EGD, and the tragedy of European current climate politics is, to paraphrase Gramsci, that the old climate politics are dying and the new cannot be born.

Conflict of Interests

The authors declare no conflict of interests.

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Article

Motivations and Intended Outcomes in Local Governments' Declarations of Climate Emergency

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Abstract
Near 1,500 governments worldwide, including over 1,000 local governments, have declared a climate emergency. Such declarations constitute a response to the growing visibility of social movements in international politics as well as the growing role of cities in climate governance. Framing climate change as an emergency, however, can bring difficulties in both the identification of the most appropriate measures to adopt and the effectiveness of those measures in the long run. We use textual analysis to examine the motivations and intended outcomes of 300 declarations endorsed by local governments. The analysis demonstrates that political positioning, previous experience of environmental action within local government, and pressure from civil society are the most common motivations for declaring a climate emergency at the local level. The declarations constitute symbolic gestures highlighting the urgency of the climate challenge, but they do not translate into radically different responses to the climate change challenge. The most commonly intended impacts are increasing citizens' awareness of climate change and establishing mechanisms to influence future planning and infrastructure decisions. However, the declarations are adopted to emphasize the increasing role cities are taking on, situating local governments as crucial agents bridging global and local action agendas.

Keywords
cities; climate change; climate emergency; emergency declarations; local governments; performative acts; politics

Issue
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1. Introduction

An emergency is a serious and unexpected incident that requires immediate action. In its 2014 report, the Intergovernmental Panel on Climate Change (IPCC; IPCC, 2014) showed with high confidence that climate change will increase the risks from heat stress, extreme precipitation, inland and coastal flooding, landslides, and water scarcity in urban areas. Multiple strands of multidisciplinary research have documented the impacts of climate change, for example, on human health and well-being (Committee OTEOC, 2011; Diaz, 2004; Goodwin et al., 2017), on economies and livelihoods (Kahn et al., 2019; Reid, Linda, Stage, & Macgregor, 2008; Stern, 2007; Wade & Jennings, 2016), on agriculture (Dinar et al., 1998; Maharjan & Joshi, 2013; Wang et al., 2009), and biodiversity (Brown et al., 2015; Jaeschke, Bittner, Jentsch, & Beierkuhnlein, 2014; Madhusoodhanan, Sreeja, & Eldho, 2016). Based on the data on emergency events of the Centre for Research on the Epidemiology of Disasters, 7,804 natural disasters occurred between 1980 and 1999 compared to 13,388 disasters between 2000 and 2019.

Many institutions, from the United Nations Environment Programme to the European Parliament, characterize this situation as a climate emergency.

Cities have been central to emergency discourses. Darebin (Australia) was the first city in the world to declare a climate emergency on December 5, 2016. Three years later, more than 1,500 climate emergency declarations had been passed by governments and jurisdictions in 29 countries, covering a population of more than 820 million (Cedamia, 2020). Approximately 1,000 of these correspond to local governments, of which most are concentrated in high-income countries, except for three declarations in the Philippines and one in Brazil (Figure 1; see also Supplementary File 1).

The peak in the adoption of declarations occurred after mid-2019, with more than 900 local declarations adopted in the space of only a few months. This peak occurred at the time of the release of the *Global Warming of 1.5°C* IPCC report in October 2018, which coincided with a surge in internet searches for 'climate emergency' and 'climate crisis' (Thackeray et al., 2020). Local governments had adopted 1,000 declarations by April 2020 (Figure 2). This is, however, not a local phenomenon: Institutions at all levels of governance, including supranational authorities and businesses, have adopted climate emergency declarations. Moreover, in December 2020, the UN secretary-general, António Guterres, asked all governments to declare a state of climate emergency until the world has reached net-zero CO_2 emissions (Harvey, 2020).

The term 'climate emergency' has been present in international climate politics for over two decades. Statements from the early United Nations Framework Convention on Climate Change Conference of Parties (the COPs) primarily urged technology transfers and finance to support transitions in low-income countries. However, the *Fourth Assessment Report* of the IPCC (from 2007) and Al Gore's documentary *An Inconvenient Truth* (from 2006) marked an inflexion point in the international discourse. In 2007, after a visit to Antarctica, former UN Secretary-General Ban Ki-Moon declared that climate change was an emergency that required emergency action ("UN chief makes Antarctica visit," 2007). A few months later, Spratt and Sutton (2008) published *Climate Code Red: The Case for Emergency Action*, which argued that declaring a state of emergency was a strategy for governments and other institutions to move away from 'business as usual' strategies to tackle climate change (Spratt & Sutton, 2008). A network of grassroots climate groups in Australia adopted the term 'climate emergency' to demand emergency action (Cedamia, 2020). Simultaneously, emergency discourses proliferated in academic reports, policy documents, and the media (Wilson & Orlove, 2019).

The declarations can be read as the culmination of social movements' efforts to raise the climate change profile in public policy. Climate emergency discourse brings together multiple constituencies, including established environmental movements, direct action groups (such as Extinction Rebellion), and a rapidly-growing

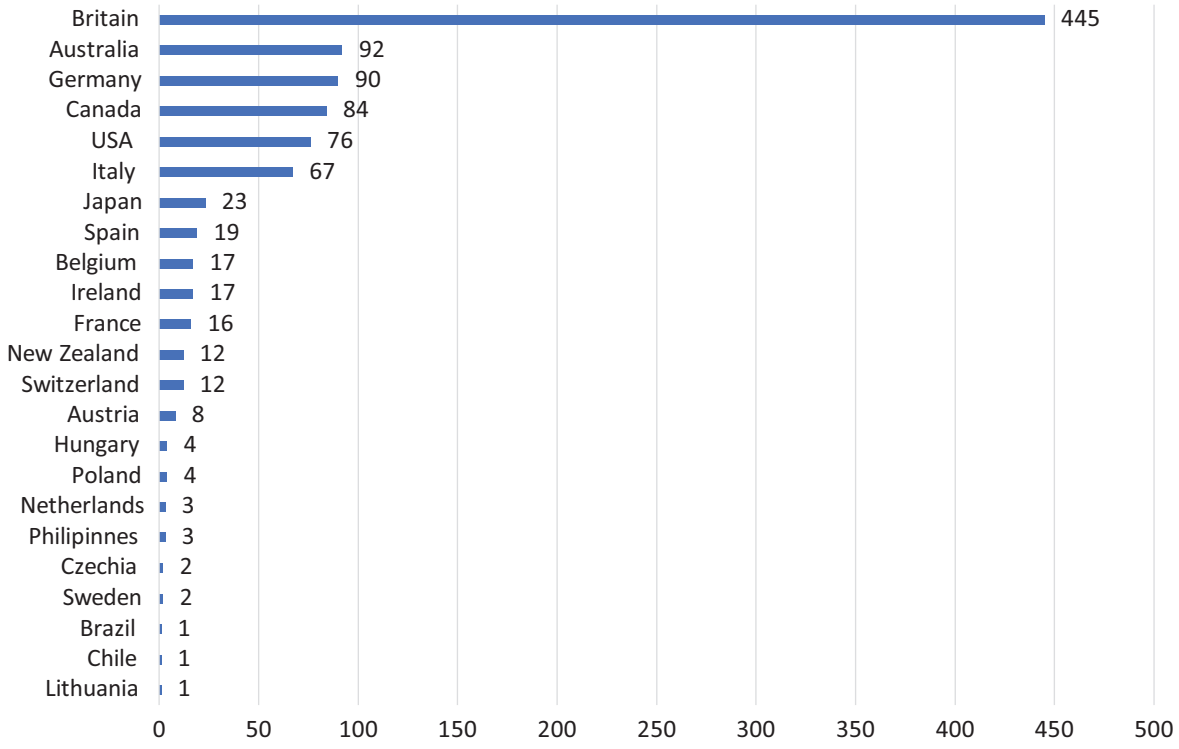

Figure 1. Declarations in local governments (by countries). Source: Authors' elaboration with information retrieved from Cedamia.org in April 2020.

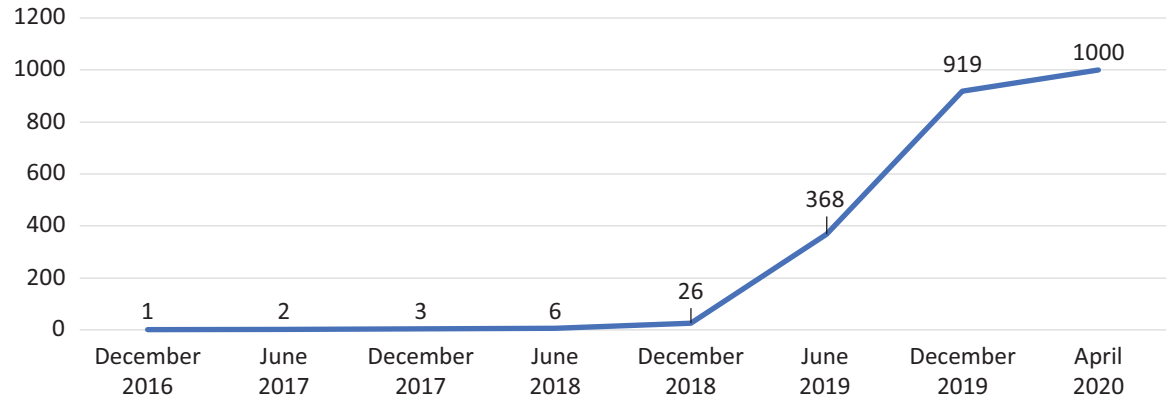

Figure 2. Evolution in the number of declarations adopted by local governments. Source: Authors' elaboration with information retrieved from Cedamia.org in April 2020.

international youth movement (Fridays for Future). These movements claim that current government action is insufficient to address climate change (UN Environment Programme, 2019).

This article aims to explore the scope of the climate emergency declarations, focusing on explicitly stated motivations and intended outcomes of local governments. The declarations emerge as a new putative mechanism to govern climate change in cities (Bulkeley & Kern, 2006; Kern & Alber, 2009). Following a literature review, our position is that emergency declarations mediate forms of performative power that influence climate governance at the local level. Our analysis involves a systematic examination of the motivations and intended outcomes of 300 declarations of climate emergency in local governments in 24 countries. The analysis of motivations suggests that the declarations constitute an instrument for local governments to position themselves in a global political landscape. However, the declarations also have performative power, as local governments commit to being held to account for their decisions. While the declarations may well fail to generate new forms of rapid, transformative action to tackle climate change, they do herald new political interactions to respond to climate change.

2. Performative Acts and the Meaning of 'Emergency'

The emergency discourse relates to the growing salience of an understanding of climate change as a security issue in academic and political debates. Climate change securitization became mainstream between 2007 and 2011 when it reached organizations such as the EU, the Organization for Security and Co-operation in Europe (OSCE), and the UN (Scott, 2012; Torres Camprubí, 2016). The framing of climate change as an existential issue, as a crisis or a disaster, is seen by some as a move to influence the way climate change is debated and understood, arguing that the rhetoric of emergency helps to bring climate change out of the ordinary and signals the need for quick action (Warner & Boas, 2017). While some fear that this securitisation shift may jeopardize decades of humanitarian work and human development programs (Thomas & Warner, 2019), others see it as an opportunity to regulate climate change through legislation, to make national governments more likely to assume their responsibilities (Giles Carnero, 2016), or to turn the military into a more valuable tool by involving them in the response to climate change (Matthew, 2000).

Oels (2012) has described three different schools of thought that analyse the framing of climate change as a security threat: the Copenhagen School, the human security perspective, and the Paris School (Oels, 2012). The Copenhagen School is concerned with the extent to which securitization of climate change as an existential threat may legitimise the implementation of mitigation and adaptation action via undemocratic procedures (Scott, 2012). The human security school links climate change to the vulnerability of local places and social groups, shifting the focus from state security to personal safety and sustainable development (Barnett & Adger, 2007). Finally, the Paris School argues for moving the focus away from the securitisation of climate change to the climatization of the security industry, as security professionals and institutions become increasingly engaged in climate action and debate (Oels, 2012; see also Jayaram, 2020).

Despite its widespread use, what the term 'emergency' refers to in the phrase 'climate emergency' is unclear. There are different meanings of the concept of emergency (Anderson & Adey, 2012). For this article, we use a conventional definition of 'emergency' as "something dangerous or severe that happens suddenly or unexpectedly and needs rapid action to avoid harmful results", as per the Cambridge Dictionary (Emergency, n.d.). The UN Department of Humanitarian Affairs (1992, p. 34) also defines 'emergency' as "a sudden and usually unforeseen event that calls for immediate measures to minimize its adverse consequences". Both definitions encapsulate the concerns of environmental and youth organizations: the sense of urgency to act immediately and the consequences of not doing so. The etymological

root of the word emergency emphasizes 'to arise' or 'to come to light.' Does the visibility of climate change impacts justify the use of the word emergency? Are they coming to light now? The writer Robert Macfarlane memorably wrote that the challenge with climate change is that its consequences may seep into everyday life without being noticed until the point at which the whole environment has been damaged beyond repair (see Macfarlane, 2005). On their side, the Alliance of World Scientists issued a warning in 2019, asserting that the world was in a climate emergency and that mitigating and adapting to climate change would entail major transformations in our society (Ripple, Wolf, Newsome, Barnard, & Moomaw, 2019). Although there is a perception of a growing frequency of impacts that would justify that emergency, there is also a sense that the crisis has been brewing over decades. Indeed, in the Declaration of the 1st World Climate Conference held by the World Meteorological Organization in 1979, it was agreed that it was urgently necessary for the nations of the world to foresee and prevent potential manmade [sic] climate changes and to develop a common global strategy for a greater understanding of the climate (World Meteorological Organization, 1979, p. 713). Hence, the climate emergency cannot be said to have arisen unexpectedly.

The adoption of an emergency frame in climate action may cause a need to question the political responses provoked by the declaration of emergency, as well as their effectiveness. Wilson and Orlove (2019) characterize a climate emergency by time pressure (which calls for immediate action and may forestall regular deliberations) and 'interval' (the space of time in which there is an opportunity to prevent disaster). As emergencies are socially constructed phenomena—open to contestation—they may be formulated for political gain or to justify action (through 'crisification'; Wilson & Orlove, 2019). The emergency framing may produce a set of emotional and cognitive responses, which might shape decision making in unintended or even counterproductive ways.

The literature on the political consequences of emergency frames, in particular, demands caution in advancing emergency declarations. Emergencies often call for drastic action and a range of situations such as 'state of alert,' 'state of readiness,' 'state of internal war,' 'suspension of guarantees,' 'martial law' (Neocleus, 2006), or other extraordinary interventions (Wilson & Orlove, 2019). Historically, the outbreak of an emergency has often led to declarations of a 'state of emergency' or 'state of exception,' that have justified harsh government interventions during periods of war, insurrection, or terrorist threat (Agamben, 2005; Fassin & Pandolfi, 2010; Hulme, 2019). Consequently, some commentators fear that the impacts of climate change could trigger a new manifestation of the 'state of exception' in which new forms of authoritarianism become viable (Davies, 2019).

In this article, we follow the Copenhagen School's understanding of securitisation. Buzan, Wæver, and de Wilde (1998) defined securitisation as a 'speech act,' not interesting as a sign referring to something real, but the utterance itself constituting the act. At the same time, securitisation also depends on other components, such as the acceptance of securitisation by an audience or emergency action by agents. The securitisation of the environment is effective only when new institutions or strategies respond to specific securitisation objectives (Hughes, 2007; Matthew, 1999). These observations suggest that the emergency discourse has brought climate change beyond professional spheres of securitisation, into the public and social debate.

In terms of effectiveness, we need to understand the role of emergency discourses in contrast to other, more established, discourses of climate change action. In the lectures delivered by John Austin at Harvard University in 1955 (Austin, 1962), he proposed the existence of two kinds of utterances: 'constatives,' for conveying information, and 'performatives,' for performing actions. The notion of performatives captures how language utterances 'do things,' in addition to stating things (Austin, 1962). Austin's ideas connect what is being said and adopted (that there is a climate emergency) with what is being done (the consequences of declaring an emergency). Declaring a climate emergency entails an action because the action of 'declaring' compels city councils and other local actors to deliver climate change commitments. Climate declarations state motives and respond to those motives; however, the response can only be effective if concrete action emerges from such statements.

3. Emergency Discourses and Local Action

The novelty of cities' engagement with the climate emergency is questionable given that local governments have expressed their commitment towards environmental protection for decades. Municipal authorities had already been profiled as champions of sustainability in the UN-led program Agenda 21 (UN Division for Sustainable Development, 1992), which presented local governments as sensitive to public opinion, able to facilitate participation, and already in charge of planning and policymaking in multiple sustainability domains (e.g., Brugmann, 1996; Mehta, 1996). Initiatives established in the 1990s, such as the Cities for Climate Protection program led by the International Council for Local Environmental Initiatives (ICLEI), firmly located the climate mitigation agenda within the jurisdiction of local governments (Betsill, 2001; Bulkeley, 2000). There were many reasons why municipal authorities took an interest in emission reductions, including opportunities for win-win action due to energy conservation lowering costs and providing economic benefits (Bulkeley, 2000).

A broad range of 'co-benefits' associated with climate action at the city level has since then materialized, as emission reductions have been linked to a diversity of sectors and policy strategies (de Oliveira, 2013;

Doll & de Oliveira, 2017; Lee & van de Meene, 2013; Rashidi, Stadelmann, & Patt, 2017). Examples include job creation (e.g., through local contracting and new business opportunities linked with energy efficiency improvements; Betsill, 2001) as well as improved air quality and reduced congestion (e.g., through investment in public transport; Betsill, 2001; Thambiran & Diab, 2011). In the last decades, nature-based solutions—responses that emphasise nature's role in providing environmental services—have become the dominant discourse of local climate action (Frantzeskaki et al., 2019). Climate mitigation has also increasingly become linked with established city branding strategies coupled with economic growth and investment through the association between low carbon development and a set of economic development aspirations, such as smart city and eco-city labels (Caprotti, 2014; Hollands, 2015; Long & Rice, 2019).

Emergency declarations at the local level thus relate to existing trajectories of climate action and urban resilience concerns. Lack of action following the declaration of climate emergency can harm local governments' credibility. For government institutions, credibility depends on achieving consistency between words and deeds (Kouzes & Posner, 2011; Lewicki & Bunker, 1996; Shapiro, Sheppard, & Cheraskin, 1992). Whatever their role, political leaders or social activists must act in ways consistent with the values of the people they represent (Kouzes & Posner, 2011). Deficits in political legitimacy may emerge if credible action plans and forceful implementation do not match emergency declarations.

Further, nobody can predict the consequences and appropriations of an utterance, such as a climate emergency declaration. Derrida (1988) argued that if an utterance is performable, it can also be distorted, reused, misused, misperformed, changed, and twisted in some new way (Robinson, 2003). For Derrida, there was a danger in the opportunities to reimagine language and its performativity in different contexts. Austin and Searle suggested that utterances adopted outside their proper contexts may become 'parasite speech acts' because they 'act' but in ways in which they cannot be taken as serious or literal (Austin, 1962). Parasitic speech acts are different from normal speech acts because of the lack of alignment between motivations and the utterance—and its consequences (Halion, 1989). Utterances can also be parasitic if they pose a danger to the context in which they are pronounced.

Appropriations happen in every utterance. The constant use of the phrase 'climate emergency' distorts its meaning within climate change debates. The declarations themselves will constitute a problem if the lack of consistency between motivations and responses leads to a devaluation of emergency discourse, without an alternative to substitute it. Aside from promoting authoritarianism, as feared by some, subtler risks may be embedded in emergency declarations if they direct social efforts for collective action in ways that do not promote the overall public good. Indeed, the declaration of climate emergencies has received criticism for being too narrow when positioning climate change against other pressing issues (e.g., poverty, economic and social inequality), and for expressing a new form of a democratic 'green populism' (Davies, 2019; Hulme, 2019).

The climate emergency declarations appear to have created momentum for climate action and galvanised a social movement. They may have opened spaces for collaboration within the geographies in which they have been declared. However, there is considerable uncertainty about their role and potential. We propose to examine the motivations and intended outcomes embedded in local governments' emergency declarations as a first step towards exploring their role in local governance.

4. Methodology

Cedamia.org (derived from "Climate Emergency Declaration and Mobilisation in Action") is a campaign to promote climate emergency declarations at all levels of government, in partnership with the Council Action in the Climate Emergency (CACE). Margaret Hender and Philip Sutton manage a website and a Facebook group that provide access to available declarations. We selected 300 declarations from local governments available from this archive (Supplementary File 1) which, in total, cover a population of over 85.6 million people. To identify declarations for analysis, we selected all declarations (148 in total) from countries that had issued less than 25 declarations (from countries with only two declarations, such as Brazil and Sweden, to those with up to 25 declarations, such as Germany). Next, we selected 152 documents from the six countries with more than 25 declarations adopted by cities with more than 50,000 people. When the information on the declaration contained in the archive was limited to simply the acknowledgement of a declaration having been made, we resorted to additional documents to obtain information on the motivations and intended outcomes of the emergency declaration. Those additional documents included press articles available for cities that reported the declaration's adoption, the minutes from the public meetings that led to the declaration, and public statements or interviews discussing their importance. We analysed the original declarations in English, Swedish, French, Italian, and Spanish. For any other languages, we used translated versions.

We compared the declarations in an excel spreadsheet, which allowed for systematic comparison and evaluation of patterns across cases. The 300 declarations were coded according to a set of pre-defined categories for motivations and intended outcomes. It is important to note that many declarations include multiple motivations behind their adoption (while some did not provide any motivation). As a result, the sum of N is greater than 300. Each co-author coded 100 declarations, followed by a revision of each others' coding. Tables 1 and 2 provide

an overview of the themes and their frequencies. For motivations, we also compiled a table exemplifying the topics with quote examples (Supplementary File 2).

5. Motivations to Adopt Climate Declarations

Our analysis of the motivations behind the declarations shows that local governments operate in the interface between international discourse and place-based concerns. There are various mechanisms at play, which we have grouped into three sets of rationales: political positioning, articulation of local concerns, and pressure from the civil society (Table 1). While most cities cited multiple reasons behind the adoption, 15% of authorities in our sample did not explain their rationale at all.

The first set of motivations relate to political positioning and international signalling of climate action intentions. A third of the declarations presented such motivation with reference to international policy (for example, references to the Paris Agreement and the SDGs, international events such as the Rio Summit or the COP conferences, or regulatory instruments such as the Kyoto Protocol and EU directives). Many declarations explicitly mention IPCC reports, mainly the target to keep global average temperature changes under 1.5°C. These motivations were similarly phrased across municipalities (especially declarations within the same country, such as Belgium), suggesting that local governments shared templates. These similarities suggest that the declarations do not necessarily reflect local knowledge of international politics.

A different political positioning style is visible concerning other government institutions within the sphere of influence of a particular local government. Many declarations (14% of declarations) were adopted following the declaration of emergency in other local governments within a given regional or national context. Positioning local government in relation to higher government levels was also common (10% of declarations). Declarations are presented as advocacy exercises to demand the transfer of funds, respond to higher-level resolutions, or highlight federal and state governments' lack of action. A final political justification was to respond to local party politics (6% of declarations). For example, many German cities declared a climate emergency following the request of Fridays for Future, which was supported by the Green Party and the Social Democratic Party. The same occurred in cities in Belgium and Spain, where the greens tabled motions to pass declarations. In some cities, opposition groups proposed the declaration as a strategy to obtain political visibility. Here, the political environment was an essential factor, as green and left-green parties played a central role in many cases.

The second set of motivations relates to specific conditions associated with climate change. The most common was a history of local government commitment to sustainability and identity of environmental leadership (e.g., commitments to emission reductions, carbon neutral targets, and participation in transnational networks; 24% of declarations). For instance, the Declaration of Recife (Brazil) mentioned that their Mayor is the president of ICLEI South America. Tacoma (US) located the declaration within its history as one of the US's most contaminated sites, which has inspired decades of environmental engagement. This rhetoric echoes Agenda 21 discourses, viewing local government—the authority closest to the people—as holding special responsibility to advance sustainability and protect future generations. Many of these justifications communicate an unmistakable sense of pride in the city's trajectory of environmental action. Links with social issues also emerged, such as precariousness and social exclusion, fuel poverty, and impacts on the homeless (6% of declarations). Many cities in France associated the declaration with the yellow vest protests against rising fuel prices.

Motivations related to local conditions also included the experience of climate impacts (9% of declarations). In Australia, for example, the declarations referred to stress on water resources and the death of animals,

Table 1. Summary of motivations to declare a climate emergency (Supplementary File 2).

Motivation behind adoption		N	Frequency
None	No explicit rationale	46	0.15
Political positioning	International policy	100	0.33
	Following other cities	44	0.14
	Positioning vis-a-vis higher-level government	29	0.10
	Party politics	19	0.06
Local concerns	History of environmental commitment	71	0.24
	Awareness of climate risks	32	0.11
	Previous impacts	28	0.09
	Link to social concerns	16	0.06
Pressure from civil society	Pressure from citizen and environmental groups	65	0.22
	Pressure from a single NGO	35	0.12
	Supporting school strikes	27	0.09

storms, floods, and fires. A similar rationale was the awareness of current and future risks (11% of declarations). For instance, Prague's declaration was adopted after an investigation that demonstrated links between heat and the absence of green space. Other declarations pointed to future risks of heat exposure, flooding, sea-level rise, storm surges, and increased risk of disease. Some declarations referred to regional conditions, such as the vulnerability of the Mediterranean in cities in Spain and France, or, in several Japanese declarations, the prevalence of typhoons.

The third set of motivations followed pressure from civil society. Many declarations referred to citizens' petitions or the combined pressure from protests and the demands of local groups (22% of declarations). The largest number of such motivations were in Canada, where NGOs and activists exerted pressure through petitions, participation at council meetings, and protests. There were instances where a history of environmental activism and conflict was a strong influence, such as in Hualpén in Chile. The recurrent mentions of some environmental groups in the declarations suggest that those groups have influenced public discourses, such as Rise for Climate in Belgium, Extinction Rebellion in the UK and New Zealand, People Before Profit in Ireland, and Fridays for the Future in Germany and Italy.

What is the relationship between these motivations and the act of declaring an emergency? First, the reasons to declare an emergency rarely describe a newly emerged, urgent challenge; that is, something dangerous or serious that happens suddenly or unexpectedly. About 9% find motivation in recent climate change-related impacts, but, for most, the justification builds on science, international policy, and global, rather than local, urgency. Second, while only some declarations contain an explicit call for action, many consolidate and showcase environmental commitment trajectories, where climate change is rarely seen as a new, unexpected event. Continuity (long-term action) rather than sudden responses appear to be more central to emergency declarations (Wilson & Orlove, 2019). The performative element of the emergency declarations consists of modelling examples of climate action and increasing social mobilization momentum, rather than fostering action in the specific locales where the declarations are adopted.

6. Intended Outcomes of Emergency Declarations

The arguments in terms of the intended outcomes of the declarations are polarised. On one extreme, declarations are criticised as mere forms of signification, political moves with little more than symbolic value. Some politicians openly express that they are meeting public demands without committing to anything in particular. For example, in Villingen-Schwenningen (Germany) officials proposed that committing to the declaration 'would not hurt.' On the other extreme, the declarations constitute a commitment to action, connected to precise and specific demands from societal groups and the start of a path towards practical action for local governments, as exemplified for example, in the presentation of declarations in Irish municipalities as heralding a new way of doing climate politics aligning climate change and biodiversity concerns. The reality is usually something in between. Declarations result from both elements, the symbolic and the practical because both symbolic and practical elements are intimately linked in a performative utterance of this kind. Accordingly, most declarations provided evidence of both.

Table 2 presents an overview of the intended outcomes identified in the sample of declarations reviewed. A variety of intentions to achieve impact are embedded in the declarations. 52 declarations could not be linked to intended outcomes (17%). Almost half of the declarations (46%) show 'aspirational outcomes,' that is, intended outcomes in terms of the conception of the local government as an active agent in climate change action, the need to show leadership, and the embedded belief that this is a moment to 'change minds.' Some of the strategies repeated across declarations show a deliberate alignment of the declaration with ongoing strategies to deliver sustainability. For example, some declarations are aligned with concerns about other environmental issues, such as waste management in Japan. In countries like Ireland and Italy, the declarations emphasize the consideration of the climate emergency with a parallel biodiversity emergency, as reflected in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report. Statements of specific targets were less frequent. Many local governments aligned themselves with targets at higher governance levels, but 9% of the declarations established specific targets for their city. The action of setting a target establishes a benchmark for accountability alongside a direction for the action. Some of the declarations (11%) set explicit environmental education objectives.

A third of the declarations proposed specific actions to shape ongoing governance processes. For example, 19% of declarations promised to undertake planning activities, such as a Climate Action Plan or the deliberate integration of climate change-related measures in ongoing efforts at Masterplanning or Transport Planning. About 9% of the declarations stated that local government operations would mainstream climate change, for example, using climate impact assessments for any new developments and policies. Very few (10 declarations out of 300) made provisions for mobilizing economic and financial resources for climate action, whether through finance, making an explicit request to other government levels, or committing a part of the existing budget.

A quarter of the declarations position the local government as a central actor providing coordination or climate change action leadership. 13% of the declarations are explicit about the local government's role to nudge other government levels to take action. Many declara-

Table 2. Summary of intended outcomes of declaring a climate emergency.

Intended outcomes of the declaration	N	Frequency
Aspirational objectives	139	0.46
Aligning declaration to ongoing strategies	79	0.26
Environmental education for citizens	34	0.11
Setting specific targets	26	0.09
No clear aspirational outcomes	161	0.54
Direct impact on existing governance processes	95	0.32
Integration of climate change into impact assessments	28	0.09
Mobilization of economic resources	10	0.03
Planning (from Transport Planning to Masterplanning)	57	0.19
No practical outcomes	205	0.68
Coordination with other actors	75	0.25
Multi-level dialogue	36	0.12
Nudge other government levels into action	39	0.13
No multi-level changes	225	0.75
Restrictions on further action	32	0.11
Create new municipal or other institutions, e.g., working group or committee	25	0.08
Move away from fossil fuels	7	0.02
Restrict future municipal decisions	20	0.07

tions identify the institution to be reached and the channels of communication to make it possible. The declarations are themselves part of that nudge. About 12% of the declarations focus on creating a multi-level dialogue to build forms of horizontal governance, bringing together communities, enabling participatory processes, or enabling civil society actors to act for climate change.

Finally, just over 11% of the declarations contain explicit attempts restricting future action. Of those, 8% commit local governments to create a specific body to deal with the climate emergency, be it a dedicated committee within the local government or a multi-actor conference. Also, 7% of the declarations pledge to enshrine climate change in local government operation frameworks so that climate concerns will influence and restrict future council decisions. Finally, a few declarations commit to divestment on fossil fuels (only 7 out of 300).

The analysis above shows that the declarations are themselves performative by proposing policy changes that align the operation of local government with its stated motivations; the integration of climate change in planning and impact assessment; the mediation of multi-level dialogues across government, civil society, and business; and the construction of a coherent message to influence governance futures. The declarations also shape what a climate emergency is and how to approach it. Rather than providing a sense of urgency in climate responses, the declarations emphasize the need to change climate politics by situating local governments as crucial agents bridging global and local action agendas. 'Less haste, more speed' is the motto of a report from Arup on how local governments can respond to the climate emergency (Arup, 2019). This report's key message is that addressing the climate emergency entails redefining local governance. Redefining local governance seems to be the main purpose of local emergencies, although the extent to which this has happened is unclear.

7. Conclusions

Emergency declarations can be read as positioning exercises without a real impact on climate change motivations and stressors. However, our analysis also suggests that there are good reasons to be optimistic about them: They have a performative component that manifests both in the motivations for making them and their intended outcomes. Such declarations have multiple effects, from modelling environmental action trajectories to fostering multi-level dialogues. They anticipate practical effects in changing local governance, from shaping planning and making future commitments to setting targets, although evidence of those changes is not available in this assessment.

The adoption of the declarations shows the limited geography of a 'climate declarations movement' related to the emergency discourse, as most declarations were adopted in six countries: the UK (with 44% of the declarations), Australia, Germany, Canada, USA, and Italy (with 67 declarations). Accordingly, the declarations' motivations emphasize questions of responsibility instead of questions of risk and security and leave drivers of structural vulnerability untouched. The analysis of motivations suggests that proximity was an important factor in adopting declarations, whether because other local governments acted as models or because they were exposed to similar pressures. The declarations appear as a collective event rather than multiple instances that should be looked at in isolation.

Are climate emergency declarations, then, 'constative' or 'performative'? In consideration of Austin's (1962) reflections, local governments can adopt a climate emergency to allow the constative (the statement of declaring the emergency) to function performatively (the mere fact of adopting the emergency constitutes an action). If the declaration absolves further intervention, it would be counterproductive to support local climate action. Suppose the adoption of the emergency declarations in themselves is seen as constituting decisive action (suggesting that no further measures are required once the declaration is adopted). In that case, it could be directly detrimental to making progress in climate protection at the local level. The declarations prefigure action to move local governments to change some practices, but they hardly envisage transformative actions. As explained above, only 11% of declarations foray into institutional change, for example, restricting municipal decisions or facilitating divesting. None of those offer examples of undemocratic, authoritarian action advanced under the discourse of emergency. In line with this, the declarations do not demonstrate that climate change is being successfully securitised in these countries. Declaring a climate emergency is not evidence of securitisation, particularly without evidence of action by agents within the securitisation industry (Warner & Boas, 2017). Our findings do not confirm that securitisation follows public declarations of climate emergency, in town hall meetings, or with climate activists' participation. Rather a successful climatization seems to be observed in spheres of economic policy, in military investments, or in the changes of discourses in the security industry that hardly intervene in the emergency declarations at the local level (Oels, 2012).

Our research suggests that local climate politics have been changed by adopting emergency declarations at the local level. The collective stand of 1,500 local government authorities from around the world, at the very least, signals a spirit of solidarity and unity that may support further action and ambition. It shows the role cities are willing to play at the international level to give answers to global challenges and respond to the demands of an increasingly aware society. The declarations have been an opportunity to renew the cities' compromises in the fight against climate change and to deal with the clear demands of a part of the population that were seeking greater engagement at the local level. As Hulme (2019) reminds us, once a climate emergency is declared, it is hard to see how it can be undeclared; the question then becomes how will cities deliver their promises and how will it impact their credibility. In this sense, the emergency declarations may be performative by producing enduring alliances and lasting perceptions of what it means to live in a society under threat of climate change. At the same time, the research also indicates that most cities have not adopted plans or initiatives that go much further than those that were already planned and that the declaration of emergency does not differ much in terms of plans to reduce emissions or adapt to climate change at the local level.

What we found absent in the climate emergency declarations examined was the question of urgency. The declarations recast climate change urgency as a call for shaping climate change governance, rather than rushing into delivering hasty or ill-conceived measures. From collaborative governance approaches to public consultations and legitimacy-building measures, the declarations herald a different era in climate change politics at the local level. Rather than driving local governments towards a state of exception—opening the door for authoritarian politics—the declarations constitute an anchor to dialogue across local government, social movements, and the private sector. In the context of increasing political polarization, the declarations establish bridges for dialogue at the local level. Bridges are also visible in the growing movements for climate justice, which emphasize the impacts of transitions on disadvantaged groups.

In summary, the emergency declarations are neither effective in creating a new age of climate action at the local level nor are they as dangerous as securitisation scholars suggest. While the emergency declarations seemed to have captured a particular moment of social concern regarding climate change, they follow a long trajectory of climate action at the local level. Maintaining the momentum seems to be the name of the game.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

Universities, Sustainability, and Neoliberalism: Contradictions of the Climate Emergency Declarations

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Abstract
UK universities have been successively declaring a climate emergency, following the University of Bristol's lead in 2019. Universities are key actors in climate change education, and potentially progressive organisations researching, teaching and implementing low carbon futures. Using universities' sustainability strategies, we present a secondary analysis identifying neoliberalism's significant role in influencing universities' sustainability policies and practices. This plays out through university boosterism where universities use their sustainability work to claim sustainability leadership, representing a form of sustainability capital to attract funding and potential students. Furthermore, we suggest a cognitive-practice gap exists between those *researching* sustainability and those *implementing* sustainability in universities. Thus, we conclude that there are inherent tensions in universities' sustainability governance, with universities embodying contradictory sustainability discourses and advancing a form of green capitalism. Entrenched neoliberal ideologies present challenges for those declaring a climate emergency and how such declarations are subsequently operationalised.

Keywords
climate change; climate emergency; neoliberalism; sustainability; United Kingdom; universities

Issue
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1. Introduction

The climate emergency notion, although not new, gained rapid ground during 2019, following statements from the IPCC, the global youth climate strikes, and a growing number of climate-related events such as the extensive and devastating wild-fires in Australia (Gibbs, in press). A wide range of organisations have made declarations, yet for Hulme (2019) the climate emergency declarations are reductionist. UNEP (2018, p. vx) stated that 2020 is the latest year when emissions should peak to meet the Paris Agreement temperature targets. The IPCC projections indicate the need for socioeconomic transformation (Gills & Morgan, 2020, p. 894), yet there is little sign of emissions abating nor the necessary institutional change (Dobson, 2019; Gills & Morgan, 2020). The high-carbon conjuncture, now known as the Anthropocene, provides a strong rationale for such institutional change. Universities are one actor amongst many that have declared a climate emergency, albeit not all universities have made such climate emergency declarations. However, they are frequently seen as having moral responsibility (Croog, 2016) to drive sustainability transitions (Lightfoot, 2019; Ramísio, Pinto, Gouveia, Costa, & Arezes, 2019). The educational role of universities in influencing future generations' sustainability practices is seen as critical, and university campuses represent opportunities for greening. Many universities have committed to sustainability strategies, with some developing sustainability centres, and other organisations

promote sustainability within the sector (e.g., Green Gown Awards, Students Organising for Sustainability, and the Sustainability Exchange).

In this article, we present our secondary analysis of university sustainability strategies, as well as media and sector-specific discussions of the climate emergency. As Blythe et al. (2018) observe, the language used in internationally agreed goals and policies shapes the discursive context for sustainable development agendas, including sustainability research, policy, funding, and interventions (see also Hatzisavvidou, 2020). Discursive frameworks are adopted and interpreted by a range of actors, which guide (or limit) the key foci and the types of action deemed appropriate for addressing sustainable development and the climate emergency. The sustainability discourses universities employ reveals how they currently define and practice sustainability and offers insights into future actions arising from their declarations.

Gormally, O'Neill, Hazas, Bates, and Friday (2019) argue that the neoliberalisation of the university sector creates points of tension in relation to sustainability. The recent climate emergency declarations have emerged within this neoliberal context, which is potentially problematic given that neoliberalism works *against* sustainability more widely (Hatzisavvidou, 2020). Climate change represents a potential impediment to further capital accumulation, but the creation of new markets centred around clean technology, electric vehicles and efficiency savings purportedly address this, whilst remaining firmly within continued neoliberal capitalism (Ciplet & Roberts, 2017). We argue that universities work in ways compatible with the notion of a socio-ecological fix (Chambers, 2020) whereby climate change represents the latest capitalist crisis in need of a fix. Incremental responses to climate change will not deliver urgently needed transformative action (Bulletin of the Atomic Scientists, 2020). This article contributes to an emerging body of literature on climate emergency declarations and makes important observations regarding neoliberalism and potential sustainable transformations.

The next section reviews the relevant literature, we then discuss our methods and data sources. In section four we present our findings, before offering some conclusions and avenues for future research.

2. The Climate Emergency and Neoliberalism

In the global North, many universities have engaged with sustainability and are seen as change agents, offering new ideas to help address significant global environmental problems. Enacting a low carbon transition raises questions for institutions about how they can reorient their operations to meet such environmental objectives (cf. Dobson, 2019). As Dobson (2019) notes, the very institutions and organisations that are perceived as being able to facilitate transformation may be stumbling blocks. The path to decarbonisation is far from straightforward (Jänicke, 2008), and there can be many diversions and distractions. The neoliberalisation of both the UK university sector and responses to climate change present distractions and challenges, as agendas of internationalisation and research metrics continue to promote unsustainable practices (see Whitmarsh, Capstick, Moore, Jana, & Qu, 2020).

There are ongoing debates regarding the extent to which sustainability should be embedded into universities' routine activities. These discussions relate to whether sustainability should feature in research and teaching across all disciplines and guide the daily operation of the institution and infrastructural settings (Disterheft, Caeiro, Azeiteiro, & Leal Filho, 2013; Lozano, 2006). There are multiple incentives including benchmarking schemes (e.g., People and Planet Index), certification schemes (e.g., Food for Life), and awards and prizes (e.g., Green Gown awards) which offer financial and reputational benefits in recognition of sustainability achievements. These are often used to showcase an institution's (green) identity to prospective students, researchers, academics and funders, enabling institutions to cultivate a 'sustainable' image.

Research-intensive universities have been identified as significant contributors to sector carbon emissions: The 20 research-intensive institutions that make up the Russell Group contribute to over half of the UK's universities' carbon emissions (Wadud, Royston, & Selby, 2019). Universities are simultaneously viewed as being uniquely equipped for practicing sustainability and leading the sustainability movement—indeed, it has been suggested that they have a moral duty to reach the next generation of influencers and leaders (Croog, 2016; Disterheft et al., 2013). Renouf et al. (2019) contend that with the scale and severity of the climate crisis, universities should prepare staff and students for living with a new 'normal' of a changing climate, which will fundamentally reshape all forms of work and life. For them, universities owe it to their students to be at the forefront of addressing the ecological and climate emergency and should act now given their significant carbon and environmental footprints (see also Hoolohan et al., 2021). Moreover, graduating students have the potential to disrupt business-as-usual to create a more hopeful Anthropocene (cf. Buck, 2015).

There is symbolic and performative importance in declaring a climate emergency, but the declarations have implications for action. However, how universities (and other organisations) will be held to account for meeting/failing to meet their goals is yet to unfold. Gills and Morgan (2020) reflect that despite multiple global climate agreements, emissions have increased. With international agreements such as the Paris Agreement reliant on voluntary agreements that have yet to demonstrate their effectiveness (Ciplet & Roberts, 2017), how can the climate emergency declarations signal a new and more radical political future? Researchers argue that we need new and creative ways of living with the world that enable "alternative framings of the actual, the possible

and the desirable" (Castree, 2015, p. 12) to be explored and pursued, yet these ideas remain disconnected from the ways many universities are managed. Radical ideas, such as complete systems change, are promoted beyond academia too, for instance, Greta Thunberg (2020) wrote to European heads of state demanding climate action: "Our current system is not broken—the system is doing exactly what it's supposed and designed to be doing. It can no longer be fixed. We need a new system."

Scholars focusing on the 'climate emergency' frequently express that we need to "articulate a no-carbon, radically democratic alternative" (Cohen, 2020, p. 52), and that universities need to be part of this, moving beyond capitalist, neoliberal, business-as-usual practices. However, Gills and Morgan (2020) suggest that, in many organisations, there is little evidence of appropriate action beyond recognising the climate emergency. In January 2020, The Bulletin of the Atomic Scientists (2020) wrote to leaders and citizens of the world emphasising the climate emergency: They specifically focused on the inadequacy of government policies and actions that fall short and are incommensurate with the scale of the climate emergency. Such inaction has worsened the climate emergency. Thus, many now recognise that crises cannot be solved within existing, dominant, typically market-driven structures, but instead require a system transformation towards decarbonisation.

2.1. The Neoliberal Institution

Bergland (2018) argues that 'academic capitalism' (Slaughter & Leslie, 1997) has seen universities shift from being public goods to companies producing knowledge, delivering key skills of competitiveness and entrepreneurialism. Students are thus reconceptualised as atomised individuals buying an education from the market, while universities compete for students, funding, and league table positions. There is growing recognition that the "system of capital accumulation with its commitment to material growth of economies" (Gills & Morgan, 2020, p. 897) represents a major barrier, exacerbating environmental problems whilst working to preserve the status quo. Gills and Morgan thus suggest that degrowth must be repositioned as responsible, not radical. This would necessitate major interventions in the neoliberal economies that we have become conditioned to accept as natural and enduring (Feola, 2020), yet Gills and Morgan (2020) see degrowth as the only realistic option. However, as Cupples and Pawson (2012, p. 16) note, neoliberalism is not "monolithic, inevitable and stable," thus there is potential for the disruptive promise of climate emergency declarations.

It is important to reflect on the discourse of an 'emergency' or 'disaster,' and what this may suggest is possible as a result of the declarations—declarations are not an end point, but should rather signal a new beginning, yet even the language of 'climate emergency' can foreclose some possibilities whilst opening others. As Cupples (2012) suggests, 'disasters' or 'emergencies' have potential to cause destruction but also offer space for transformative political change. However, the a priori political and social structures shape both the scale of the disaster and the futures made possible post-disaster (Cupples, 2012, p. 337). She points to the dangers of neoliberal economic policies for recovery from hurricanes and applies this to the context of the neoliberal university. Anderson, Grove, Rickards, and Kearnes (2020, p. 623) discuss the discursive work that the term 'emergency' does in the advent and (re)production of existing and new forms, practices, and relations of power. They point to research that focuses on what the act of formal declaration enables, and the kinds of action subsequently deemed possible. Another body of research problematises the 'state of emergency' by viewing 'emergency' as a technique of liberal rule. Thus, governing through emergencies deploys mundane techniques that work to enable the return of the non-emergency (neoliberal) everyday (Anderson et al., 2020, p. 624). In such framings, the idea of a climate emergency is conceptualised as a problem with a (human) solution, often articulated in geo-engineering approaches associated with the Good Anthropocene (Wright, Nyberg, Rickards, & Freund, 2018), and which may then preclude more radical outcomes (e.g., degrowth) and longer temporal perspectives (e.g., Indigenous knowledge; see Kopnina, 2020). As Jackson (2020) suggests, emergency responses can lack reflexivity, a reflexivity that is greatly needed when dominant biophysical approaches to the Anthropocene are framed in Crutzen and Schwägerl's (2011) terms: "We…decide what nature is and what it will be. To master this huge shift, we must change the way we perceive ourselves and our role in the world."

Problematically, the term 'emergency' can be employed to signify an event that is recognised, but which can, nevertheless, be resolved by actions taken to reach a point of closure. However, understanding the climate emergency in this way can be misleading given that climate change is already being experienced (Madden, 2019), and the already existing and altered atmospheric greenhouse gas concentrations will have irreversible and long-lasting effects (Dalby, 2019). Climate change is a global, long-running emergency 'event,' with temporally and spatially variegated impacts, requiring materially different forms of governance. Moreover, decarbonisation processes will have global and uneven effects. As a result, what the 'emergency' can address is the extent to which the future follows different scenarios, ones of high, low or no growth and associated greenhouse gas emissions, but these futures may be co-opted to preserve neoliberalism and economic growth. Thus, thinking about the terms 'disaster' and 'emergency' gives rise to how they might be governed, what governance techniques are required, the types of solutions made possible, and how multiple actors can be enrolled to both perceive the emergency and act on it. That climate emergency declarations have been 'heard' offers hope

of forthcoming action and change, as well as greenhouse gas emission reductions, but the important work is yet to come in how the state and other institutions respond. This hope may, of course, be misplaced false hope, but as Osborne (2019, p. 148) states: "There are still…possible shared futures…and some of them are worth having." We can discern multiple ecological, climatic, economic and social emergencies existing in tandem, yet each operating on different temporal registers affecting different people and places unevenly. A key challenge is how to create spaces of resistance and political intervention in response to the climate emergency declarations. How can the climate emergency be differentiated from other emergencies, even when anthropogenic climate change is a critical and omnipresent emergency framing all others (Huijbens, 2021)? Given other events in 2020 (e.g., Black Lives Matter), how might climate emergency declarations work to benefit poorer and Indigenous or ethnic communities rather than legitimising actions to their detriment (Goh, 2019; Whyte, 2020)—or what Hulme (2019) calls justifying the suspension of 'normal' politics? It is important to attend to the discourses that are embedded in climate emergency declarations and discern the voices that may remain unheard.

In the analysis that follows, we discuss how the neoliberalisation of UK universities affects how they enact sustainability, leading to 'solutions' that are framed in terms of, and which appeal to, market ideologies. The language, and the initiatives, follow trends such as cleantech (see Goldstein, 2018) where ideas that were once considered peripheral have become folded into the neoliberal project yet emptied of their radical potential. We explore how the act of making the climate emergency declarations by institutions such as governments, businesses, and universities may involve a reconfiguration of what such declarations mean.

3. Methods

This article draws on secondary research focusing on UK universities. We selected a representative sample of 17 universities across England, Northern Ireland, Scotland, and Wales, whose sustainability strategies were analysed. In addition to geographical representation, we accounted for characteristics including: Russell Group membership, university types such as 'Redbrick,' 1960s, and post-1992 universities, different sized student populations, as well as universities with sustainability champions. We also examined whether respective local government bodies had declared climate emergencies, and universities' sustainability league table positions (see Table 1 for an overview).

Complementing this, some universities are involved in wider sustainability projects—e.g., SOAS works

Table 1. Characteristics of the sample.

										Priority Themes								
University	University CED	Local authority CED	Sustainability Champion	Russell Group	University type	Student numbers	GUCCL Signatories	People and Planet Ranking	UI Green Metric Ranking	Renewables	Efficiency	Travel	Green buildings	Behaviour change	Food	Carbon management plan	Waste and recycling	Biodiversity on campus
Bristol	✓	✓	✓	✓	2	22278	✓	11		✓	✓	✓	✓	✓	✓			✓
Cardiff	✓	✓	✓	✓	2	30180	✓	46			✓	✓		✓		✓	✓	✓
Edinburgh	✓		✓	✓	1	33609	✓	38		✓	✓	✓	✓	✓	✓	✓		✓
Lancaster		✓			3	13336	✓	91		✓	✓	✓		✓		✓	✓	✓
LSE			✓	✓		11960		13		✓	✓	✓	✓	✓	✓	✓	✓	✓
Nottingham Trent		✓	✓		4	33255		3	UK #3	✓	✓	✓	✓		✓	✓	✓	✓
Oxford		✓	✓	✓	1	23975		45	UK #1	✓	✓		✓		✓	✓	✓	✓
Queens Belfast		✓	✓	✓	2	24695		103		✓	✓	✓				✓	✓	✓
SOAS			✓			5800		31		✓			✓			✓	✓	
St Andrews		✓	✓		1	8984		73		✓	✓					✓		
Sussex	✓	✓	✓		3	19413		51	UK #5	✓	✓	✓					✓	
Swansea	✓	✓	✓		2	20620	✓	9		✓	✓	✓				✓	✓	✓
UEA	✓		✓		3	17925	✓	29			✓	✓	✓		✓	✓	✓	✓
Ulster		✓	✓		4	24530		57		✓	✓	✓	✓			✓	✓	✓
Westminster	✓	✓			4	19000		63				✓	✓			✓	✓	✓

Notes: 1) Ancient universities; 2) Redbrick civic universities; 3) 1960s new universities; 4) Post-1992.

collectively on sustainability with other London universities under the Bloomsbury Greenthing umbrella; the University of Sussex has a large solar farm, while Lancaster has its own wind turbine; and Ulster University has formed a relationship with Belfast City Council to work together on the climate emergency. Furthermore, seven of these institutions signed the global letter declaring a climate emergency and committing to carbon neutrality by 2030, or 2050 at the latest, representing a collective commitment to addressing the climate crisis (SDG Accord, 2021). There are, thus, many interesting and diverse partnerships emerging, as institutions seek to make sense of, and act on, the climate emergency.

The nature of available documents varied between universities; our analysis included 83 documents across the 17 universities. These documents were typically listed on a specific set of webpages dedicated to sustainability. Some universities had a broad overarching strategy for sustainability, whereas others had separate strategies covering topics such as carbon management, food and behaviour change. However, where universities had distinct thematic documents, the topics covered were varied, as Table 1 shows.

We employed discourse analysis to focus on the language and content of university sustainability strategies to reveal the politics and practices of sustainability. As Wilkinson and Clement (2021, p. 12) note, language has power, history, and affects the nature of subsequent responses and actions: Language affects actors differently, reveals ideologies, and enables different kinds of futures. Hatzisavvidou (2020) argues language represents a 'rhetorical invention,' which involves 'devising ways to articulate, define, and constitute relations' between actors and their environments and practices, which leads to the formation of 'a particular environmental common sense.' The 'common sense' she identifies is centred around neoliberalism, which she suggests prevents the possibility of transformative sustainability action. Our analysis employed these methods to uncover the framing and rhetoric of sustainability amongst UK universities. Our secondary analysis involved inductive coding resulting in 40 codes, which emerged from the data in conjunction with concepts from the academic literature. These were then organised into themes, before being organised into higher-level themes. Whilst this remains a relatively small-scale UK study, our analysis was rigorous and thorough in attending to 83 documents produced by our sample, and with both authors coding separately, then reviewing, discussing and refining codes.

4. Neoliberal Sustainability Practices: University Boosterism and the Cognitive-Practice Gap

In this section, we contextualise the climate emergency declarations in the UK before outlining how the neoliberalisation of the university sector reduces space for sustainability transformations. We propose a concept of university boosterism, whereby universities act extrospectively, employing their sustainability credentials to attract students and funding, and to designate their membership of a global cohort of sustainability leaders. Furthermore, we outline a cognitive-practice gap between university research and university management practices. Together this creates a situation whereby universities are paradoxically sites of transformative research despite practitioners implementing mainstream versions of sustainability.

4.1. Contextualising Climate Emergency Declarations

The climate emergency website (climateemergency.uk) details institutions that have currently declared a climate emergency: 74% of UK local authorities have declared a climate emergency (Mace, 2020), suggesting cross-party commitment to the declarations. The number of universities declaring a climate emergency is lower, with 38 (∼33%) UK universities having made a declaration at the time of the research. Bristol University was the first UK university to declare a climate emergency (2019), following Bristol City Council (2018). There is an uneven pattern of declaring a climate emergency: Some universities that have not declared a climate emergency refer to other local institutions' declarations, while other universities do not mention the climate emergency.

New governance frameworks and associated organisations are emerging and evolving in response to climate emergency declarations. In October 2020, 72 universities had Sustainability Champions or created sustainability offices, while 117 had produced sustainability strategies. Moreover, a Climate Commission for UK Higher and Further Education Students and Leaders was instigated in November 2019, aiming to develop an action plan in response to the UK government's climate emergency declaration, and to create a strategic sector-wide approach. Alongside the emergence of new institutions, incumbent organisations like the Environmental Association of Universities and Colleges influence universities' sustainability actions through setting policy, sharing best practice, and running the annual Green Gown awards. In addition, organisations like the non-governmental organisation People and Planet run the 'green league' of UK universities, benchmarking universities based on sustainability criteria. Furthermore, the National Union for Students hosts Students Organising for Sustainability, an educational charity organised by staff and students in response to the ecological and climate crisis, and the University and Colleges Union's Green New Deal agenda (in conjunction with the National Union for Students) "demands that institutions declare a climate emergency" and prepare focused action plans.

Nationally, UK universities are situated within different legislative frameworks of the devolved governments of Scotland, Wales and Northern Ireland, each of which treats sustainable development and climate change

differently. At the UK level, the Climate Change Act 2008 is perceived as landmark climate legislation (Carter & Jacobs, 2014); the Scottish government brought forward their Climate Change Act Scotland in 2009. The Welsh government's focus is on sustainable development in the Future Generations and Wellbeing Act 2015, while in Northern Ireland a Private Members' Bill for climate change legislation was presented to government in Autumn 2020.

In sum, this suggests a complex, multi-scalar and relational landscape of sustainability legislation and practice within UK universities and the institutions that support them.

4.2. Understanding Sustainability

Sustainability is a slippery term (Blühdorn, 2007), frequently employed to suit the needs of different actors and institutions, and while climate science is unequivocal about the anthropogenic drivers of greenhouse gas emissions, it is less precise about specific outcomes or scenarios (Hulme, 2020). Most universities' sustainability and climate-related strategies recognised the 'wicked' problems of climate change, and specifically human influences on the climate:

> Human influence on the world climate is clear, with anthropogenic related carbon emissions the highest in history and warming of the climate system unequivocal. Recent changes in climate have had widespread impacts on human and natural systems and continued emissions will cause further warming and long-lasting changes. This increases the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. (Lancaster University Carbon Management Plan)

> We recognise that climate change is one of the most significant global challenges of the century. (Edinburgh University Climate Strategy)

When acknowledging the scale of environmental and climatic problems, universities frequently present themselves as natural leaders with a moral responsibility to act, and as institutions well placed to drive this agenda: "Universities are a major force in creating a more sustainable future, both in the way they conduct their operations and how they build future capacity around sustainable development issues" (Swansea University Sustainability Strategy).

The need to act is accepted but the nature of that action is more contentious (Rosol, Béal, & Mössner, 2017). Many universities draw on conventional definitions of sustainable development, whereby action is required to ensure "the physical environment remains intact so that human needs can be met" (St Andrews Sustainable Development Policy). Under such definitions, the health of the planet and ecosystems should be protected only for anthropocentric purposes, to sustain economies and societies rather than for the intrinsic value of those ecosystems (Kopnina, 2012), thus treating the environment as valuable only when employed to create surplus value via production.

4.3. Natural Leaders: Being First and Inspiring Others

The UK media regularly promotes a limited number of 'exemplar' universities, such as Nottingham Trent University, Manchester Metropolitan and the University of Gloucester. Certification schemes (e.g., EcoCampus, Green Gown awards) are used to promote specific universities' sustainability achievements, while some universities promote their own leadership for others to emulate:

> LSE is a global leader in sustainability, not just in terms of its teaching and research on climate change and other environmental issues, but also as a community, a large employer and a business. [It is] an example of best practice that other universities will emulate. (Lord Stern, LSE Sustainability Policy)

Universities' sustainability strategies frequently refer to their desire to be world-leading, world class and adopting leadership positions. Universities, we argue, see themselves as natural sustainability leaders, given their innovative research scoping new intellectual terrain and new forms of technology. Universities argue they are well-placed to address the 'wicked' problem of climate change: "Given the complex and challenging transitions that the pursuit of sustainable development requires, there is an opportunity for the University of St Andrews to play a leadership role in this area within Scotland, the UK and beyond" (St Andrews Sustainable Development Policy).

Best practice is a key method for universities in promoting their own sustainability practices, but they also replicate the actions of others. Best practice can be interpreted as meeting legislative requirements and a common-sense narrative of accepted practice, both of which can limit space for enacting transformative sustainability practices:

> We will remain committed to becoming an exemplar of good environmental practice in the [university] sector, in particular around effective carbon reduction. (University of East Anglia [UEA] Environmental Sustainability Policy)

> Globally, we are forging links as a member of the International Sustainable Campus Network with *leading universities such as Harvard, MIT and Oxford and Cambridge*. We are exploring partnerships with *leading, European, American, Asian and other global universities* to *share best practice*. (Edinburgh Climate Strategy, emphasis added)

Institutions such as Oxford, Harvard, Caltech, the University of British Columbia and Yale make up a global cohort of sustainability leaders, viewed as a benchmark for others to follow. Amongst universities, in the UK and more globally, we can identify 'hot' policy ideas (McCann, 2011) coalescing around sustainability activities and initiatives. Peck and Theodore (2015) describe these as 'fast' policies, driven by both the desire for 'ideas that work' and the promotional work of mobile policy experts, gurus and consultants. They argue that 'referencing' ideas from afar is commonplace, and while this is not necessarily new, the speed and intensity of such processes are new. While local expressions of such 'hot' ideas inevitably reflect local circumstances, the idea of flagship green buildings has found rapid traction amongst universities. For instance, Oxford University adopted Passivhaus standards for new buildings in 2017 (Oxford University Sustainability Design Guide). These hot policy ideas are shared and (re)shaped through national and global networks such as the International Sustainable Campus Network and the UK's Sustainability Exchange as well as certification schemes that promote 'best practices.' Such institutions and projects represent what McCann (2017) calls 'referencescapes,' which prioritise some problem framings over others, creating an 'extrospective impulse' that guides what is emulated or not. Furthermore, alongside institutions like Sustainability Exchange, universities act as beacons of best practice and seek to share their sustainability actions via policy mobility circuits. We can identify a global circuit of best practices and sustainability policies for universities, underpinned by a neoliberal agenda that focuses on sustainability as a marketable asset for universities, through the physical (buildings), educational (teaching, curricula, research) and institutional dimensions. Many universities are posturing for global leadership in sustainability and climate responses and structure their strategies around being the 'best':

> Our carbon efforts form part of our sector-leading sustainability performance. In 2012, we became the first UK university to achieve the EcoCampus Platinum mark. We were also the first to achieve ISO14001, the international gold standard for environmental management. We have consistently ranked among the top five global universities for sustainability in the UI Green Metric. (Nottingham Trent University Carbon Management Plan)

Rosol et al. (2017) argue that such ranking efforts lead to sustainability losing much of its transformative potential. Certification schemes act discursively to render sustainability practical and technical (Okereke, Bulkeley, & Schroeder, 2009, p. 76), often aligning to legislation which may generate only modest results. Some universities pursued certification and benchmarking schemes as ends in themselves for reputational purposes, a process we term 'university boosterism':

> This Travel Plan will support the University's aspiration to further improve the environmental performance of the University with the ultimate aim of maintaining a top 20 place in the People and Planet league, and a "First Class" award. (Sussex Travel Plan)

> Having the platinum status and ISO 14001 certification certainly adds weight to our marketing collateral for attracting new students. They and the wider public are certainly attracted by our green ethos which is why we are fully committed to continual improvement. (NQA Certification, 2014)

Similarly, Queen's University Belfast maintains that they need to be "ahead of the game" (Carbon Management Plan), as students and external partners demand disclosure on their environmental performance. Universities frequently use metrics-based schemes to 'evidence' leadership, for example the Green League published by People and Planet and the EcoCampus certification scheme. The climate emergency declarations potentially reproduce a metrics-driven approach to reach 'zero carbon' by a given date (2030, 2050, etc.; Hulme, 2019). Such techniques facilitate corporate framings of sustainability as improved (eco)efficiency (Freidberg, 2014), which Hatzisavvidou (2020) suggests is regularly witnessed in neoliberal institutions, and which creates quantifiable, measurable policies that are beyond dispute. Hatzisavvidou (2020) identifies three 'commonplaces' of neoliberalism (valuation, efficiency and competitiveness): the use of certification metrics aligns with ideas of efficiency and competitiveness. Furthermore, we might add leadership and 'hot' policy ideas (or 'best practices') to this list of the commonplaces of neoliberalism, representing what it means to be a good neoliberal-environmental institution.

4.4. Technology-as-Solution: Efficiencies and Cost-Savings

Our analysis suggests universities frequently align their climate change responses to technological improvements and cost-savings, representing a capitalist fix by attempting to solve the climate crisis through market-based instruments, whilst neglecting more ambitious change. This reinforces neoliberal ideologies of efficiency and innovation, for instance Edinburgh University discusses controversial technologies like Carbon Capture and Storage (Perlman, 2020). This involves universities balancing sustainability alongside other considerations, as UEA's Energy and Carbon Strategy exemplifies: "In carbon reduction terms, we work to balance the three sustainable development principles alongside three energy-specific themes: Reputation, capital cost, and operational cost.''

The severity of the climate crisis is not (currently) matched with radical action, and universities adopt and reproduce neoliberal responses to climate change.

Greening contemporary capitalism has more traction for its commercial potential compared to radically transforming operations (Klein, 2014), an approach universities echo:

> Mitigation and adaption open up opportunities to apply new technologies, increase efficiency and reduce costs whilst reducing emissions. (Edinburgh Climate Strategy)

> The University of Bristol is adopting a Circular Economy approach to managing its resources. This will offer potential cost savings as well as sustainability improvements. (Bristol Circular Economy Strategy)

These statements reinforce how universities embrace techno-fixes. For instance, a key aim of the University of Bristol's Emissions Strategy is: "Achieving financial or operational efficiencies through implementing environmentally sound initiatives." The idea of saving money through efficiency savings is pervasive and frequently based on the adoption of new technologies. Universities like Ulster, Sussex and Lancaster have 'invested' in renewable energies. LSE's focus on improvements in energy performance will increase "energy efficiency in buildings and equipment and minimising carbon emissions by using low and zero carbon technologies wherever possible" (LSE Energy Policy). As Goldstein (2018, p. 17, 30) explains, those involved in cleantech have worked to develop a discourse that is coherent, legitimising and appealing for its apparent radicalism, whilst remaining compatible with capitalism, a new green (and 'better') capitalism, which is anything but transformative. In this vein, Ulster University argues renewable energy will deliver carbon and cost savings: "The University has in place some small-scale photovoltaic generation and a large wind turbine generator. Both technologies are mature, qualify for government subsidies, and can provide significant carbon and cost savings" (Ulster Carbon Management Plan).

Universities are using technology and efficiency gains to capitalise from their climate change practices, and firmly occupying Hatzisavvidou's (2020) 'commonplaces' of neoliberalism. As Blühdorn (2007) argues, relying on technology and market-based solutions reduces environmental issues to concerns about resource consumption and emissions, resolvable via certification and markets, thereby neglecting alternative, more far-reaching policies. This reinforces Chambers' (2020) notion of a 'socio-ecological fix,' whereby environmental problems are solved through a series of capitalist 'fixes' such as new markets or technologies as a response to climate change. For Wakefield (2020, p. 51), promises of such fixes "must be understood as the substrate of a liberal regime promising neither redemption nor progress but only survival of existing, ruinous conditions amidst catastrophe.''

4.5. Cognitive-Practice Gap

From our analysis, we suggest a cognitive-practice gap exists: While universities are often sites of radical research, this can be disconnected from the types of actions universities-as-institutions propose for responding to climate change. Universities as spaces of research are thus distinct from universities as spaces of sustainability practice. The neoliberalisation agenda means that research questioning dominant modes of consumption and Western lifestyles is often not promoted by universities in their sustainability and climate strategies. As outlined above, the language and ideas within universities' sustainability strategies often adopts and reproduces the hegemony of neoliberalism as governing paradigm (Blythe et al., 2018; Swaffield, 2016). This is important, because as Hall (2016, p. 205) has argued, paradigm shifts cannot materialise unless "people have a language to speak about where they are and what other possible futures are available to them." To bridge this cognitive-practice gap, universities need to create space for dissent and alternative futures to be imagined and experienced. This absence of radical policy and action may be through indifference (Kopnina, 2020), but having declared climate emergencies, indifference will not suffice. As Hoolohan et al. (2021) have recently argued, the climate emergency framing requires institutions to make significant organisational changes to meet the necessary and deep emissions reductions.

To contextualise our findings, we reviewed university research strategies and statements to better understand how universities themselves understand their research activities. Such documents rarely make ideological claims or are explicit about their commitments to a political or economic model, given the breadth of research universities undertake. However, these documents do frequently refer to their world-leading potential and desire to improve their league table rankings: This applies to wider research landscapes as well as sustainability strategies. Fundamentally, these research statements primarily focus on the UK's Research Excellence Framework, being world leading and increasing grant capture.

Some universities (e.g., Bristol, LSE, Westminster) align their research to the UN SDGs, which reproduce mainstream definitions of sustainability: economic prosperity, ecological security and social wellbeing (UN, 2015). The SDGs have been critiqued for promoting an anthropocentric and neoliberal vision, with the environment secondary to economic and social concerns (Hickel, 2019; Kopnina, 2016). The goal of promoting continuous economic growth undermines environmental sustainability objectives, which Kopnina (2016, p. 113) suggests creates a "further objectification of [the] environment and its elements." Aligning objectives to the SDGs suggests that universities are not questioning dominant practices of (over)consumption.

Internationalisation was a common trope within university research statements, with universities aiming

to attract the best talent, for staff and students, and to facilitate further university student and income growth, attracting students from new and emerging 'markets' (e.g., St Andrews, Cardiff). Internationalisation can undermine sustainability, with international students and international academic conferences contributing to climate change (Baer, 2018; Whitmarsh et al., 2020). The internationalisation agenda leads universities such as St Andrew's to conclude that they cannot 'pick and choose the size of the carbon footprint' despite instituting policies that actively contribute towards this.

As above in relation to sustainability, we identified how university research statements also connect to 'fast' or 'hot' policy ideas, such as Innovation Centres (e.g., Bristol, Cardiff) that connect university research with business to create spin-out companies, based on entrepreneurial logics and a commitment to (economic) growth. About half of our sample specifically include sustainability and climate change as core research priorities (e.g., Bristol, Nottingham Trent, St Andrews, Edinburgh, Sussex, Swansea, Ulster), yet we found no evidence of universities discussing more critical or radical research in these research strategies.

Consequently, these universities both disconnect sustainability discourses developed in research from physical actions implementing sustainability, and conceptualise and implement sustainability and climate initiatives in ways that advance specific forms of green capitalism. As Parr (2013, p. 11) writes, capitalism's actors do not recognise limits to capital accumulation, but rather work to turn these into opportunities to ensure the continuity of economic growth, despite potential for negative impacts on nature and society. For Goldstein (2018) this represents a new form of capital: green capital. This green capital commercialises climate change as (yet) another opportunity for neoliberal economic growth and reproduces unequal power relations whilst (still) not addressing socio-ecological justice (Parr, 2013), maintaining and even expanding resource intensive lifestyles (Goldstein, 2018). Our concern is that the climate emergency declarations may be subject to the same processes of appropriation by capital, where they are employed to promote further economic growth via cleantech and other technological and efficiency driven initiatives. This distracts from the real work of the climate emergency declarations.

5. Conclusions

Overall, we suggest universities' neoliberal ideology often leads them to promote sustainability agendas as a form of university boosterism and sustainability capital, rather than attempting more ambitious change. A cognitive-practice gap exists, whereby radical research undertaken within universities is absent in the climate actions they operationalise. As we have discussed, there is potential for the climate emergency declarations to be co-opted by capital, locking in future greenhouse gas emissions growth.

In this article, we have explored the recent climate emergency declarations and have used UK universities' sustainability strategies as a case study for thinking about the possible actions arising from these declarations. Despite a long history of committing to sustainability, universities appear to remain firmly wedded to neoliberal ideals, whilst concurrently claiming to be sites of strong sustainability. Radical changes are not (yet) evident in relation to the climate emergency declarations. Existing sustainability strategies offer insights into the ways of thinking about, and acting on, the climate emergency declarations. Neoliberalism acts as a hegemonic logic to which others must succumb (Swaffield, 2016), which may limit the emergence of more radical change following the climate emergency declarations. Without such change, it is unlikely that the current, unsustainable paradigm will be transformed (cf. Bina, 2013). This represents a missed opportunity for universities to create a bridge between critical research and their sustainability practices, which could be addressed in their climate emergency plans and thus simultaneously contribute to wider societal goals. As Malm (2018) suggests, the climate crisis lays the conditions for a possible revolution against the continued reproduction of capitalism: To what extent can universities help enact this revolutionary future? Universities would need to promote a global transformation engendering Wals' (2010, p. 150) "planetary consciousness.''

This study remains limited to the UK, and more research is needed to examine whether these findings apply in different spatial contexts and under different political economic systems. Further research is needed to understand the institutional complexities of new organisations and governance processes emerging following the declarations, and how those working in such organisations and roles understand this work. The appointment of new staff in universities and local government in response to the climate emergency declarations provides fertile ground for exploring these ideas, both in the UK and internationally. Furthermore, research could helpfully explore the alternative narratives that remain unheard. The dialogue that does not happen may be as important as that which is heard, seen and publicised: Narratives framed around green growth make other solutions less tenable. We particularly note that universities' sustainability and carbon management plans place innovation centre stage and pay little attention to concepts such as degrowth. At present, universities are not utilising the findings from critical social science research which leaves a gap between critical sustainability research and practice. Given the severity of the climate crisis, universities could reposition their sustainability strategies to create pathways to degrowth, rather than reproducing capitalist fixes such as technology-as-solution.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

The 'Stifling' of New Climate Politics in Ireland

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Abstract
In 2019, Ireland declared a 'Climate Emergency,' receiving plaudits from across the political spectrum for doing so. Some argued the country was experiencing an era of 'new climate politics': In 2017, Ireland had established the first Citizens' Assembly on Climate, and in 2019 its Parliament debated a Climate Emergency Measures Bill, which was ground-breaking in its proposal to ban offshore oil and gas exploration. Yet, despite majority support for this Bill in Parliament, the minority Government blocked the legislation by refusing to grant a 'Money Message,' a potential veto activated following indication by an independent actor that a Bill would require the appropriation of public money. We introduce the concept of 'policy stifling' to capture how the Money Message was used to block the Climate Emergency Measures Bill. We conduct detailed process-tracing analysis, building on elite semi-structured interviews with policy makers and campaigners involved in the process. We argue that whilst the Government's stifling undermined the new era of elite climate politics, it simultaneously boosted an emerging grassroots climate politics movement with the potential for effecting more radical change in the longer term.

Keywords
climate change; climate emergency; depoliticisation; Ireland; policy dismantling; policy stifling; public policy; veto theory

Issue
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1. Introduction

Ireland has the reputation of being a climate laggard (e.g., Little & Torney, 2017). Yet recent developments—such as the Citizens' Assemblies in 2017–2018 that discussed how Ireland can become a climate leader, the adoption of a Climate Action Plan in 2019 (Torney, 2020) and declaration of a climate emergency on the 9th May 2019—seemed to suggest a turning of the tide on climate action during the minority government of 2016 to 2020. This period also witnessed a growing climate movement in Ireland, which along with some legislative progress on climate change, seemed to show that a new era of climate politics had arrived. However, whilst there have been steps forward, close analysis of technical legislative processes that led to the rejection of the Climate Emergency Measures (CEM) Bill reveals that the claim of a new era of elite climate politics may be premature, with climate action falling short of the transformations needed. The familiar trade-offs between short-term economic interests and environmental ambition that have long characterised climate politics in Ireland remain in

place. In this article, we present evidence of pressure being applied to an independent actor to facilitate the vetoing of policy proposals that could advance the climate agenda, through the use of the Money Message, which we describe in more detail below. We develop a novel concept of 'policy stifling' to describe this type of behaviour and suggest that decision-makers who engage in policy stifling seek to depoliticise their actions, in order to minimise wider political costs.

The next section outlines the operation of the Irish political process and the nature and status of the Money Message, before we develop and explain the concept of 'policy stifling,' drawing from the literature on veto points, policy dismantling and depoliticisation. We then outline our process-tracing methodology, and data collection for the period under investigation (2016–2020). Fourth, we analyse how Ireland's minority government fluctuated in its policy positions towards the climate emergency. Finally, we discuss our empirical findings and offer some conclusions.

2. The Irish Political System and the 'Money Message'

In Ireland, the Government, as the institution responsible for the country's economy and for proposing an annual budget, would be placed in a challenging position if it had no executive control to limit Bills with economic implications. Thus, Article 17.2 of the Constitution of Ireland states that the *Dáil* (parliamentary lower house) may not pass or enact a law "for the appropriation of revenue or other public moneys unless the purpose of the appropriation shall have been recommended to *Dáil Éireann* by a message from the Government signed by the Taoiseach [Prime Minister of Ireland]" (Constitution of Ireland, 2018). This message, signed by the *Taoiseach*, is what has become known as a Money Message, and is a traditional formal veto (see Kenny & Daly, 2019). The government is entitled to exercise this veto if the legislation is deemed to appropriate revenue or other public moneys.

To become law, all Bills must pass through five stages in each of the two legislative chambers: the *Dáil* and the *Seanad*. If and when a Bill secures a majority at the Second Stage of the five in *the Dáil*, the *Ceann Comhairle* (Speaker of the *Dáil*), advised by the independent parliamentary Bills Office, determines if a Money Message is required. As in many legislatures, the *Ceann Comhairle* is an elected parliamentarian who is expected to "preside impartially" in the chamber (Houses of the Oireachtas, n.d.). In May 2019, the Oireachtas Library and Research Service published a Note on Private Members' Bills (PMBs; Lynch & Lawlor, 2019), which listed 55 PMBs within the 32nd *Dáil* that were deemed to require a Money Message after reaching the Third Stage (in Select Committee), having already secured a majority in the *Dáil*. A further 14 PMBs did not require a Money Message.

Traditionally, Irish governments have benefited from parliamentary majorities, and therefore have not normally vetoed legislation by refusing to grant a Money Message if one is required, because any Bill that reaches this stage would already have the support of ministers. In cases where legislation is initiated by backbench parliamentarians (*Teachtaí Dála*, henceforth TDs), and the Bills Office and the *Ceann Comhairle* judge that a Money Message is necessary, the government can use this procedure to block legislation—although it does not always choose to do so. For example, in the case of the National Famine Commemoration Day Bill 2017, proposed as a PMB by Colm Brophy TD of the governing *Fine Gael* party, a Money Message was granted in May 2018 (Houses of the Oireachtas, 2019b). In contrast, a Money Message for the Waste Reduction Bill 2017, proposed by Green Party TDs Eamon Ryan and Catherine Martin, was not granted.

Our contention in this article is that the Irish Government persuaded the supposedly independent *Ceann Comhairle* that a potentially transformative CEM Bill required a Money Message, thereby reversing a previous decision that this was unnecessary. This enabled ministers to 'stifle' the proposed legislation. In the following section, we outline our concept of policy stifling, before explaining our case selection in more detail in Section 4.

3. Policy Stifling

It is generally accepted in legislative studies that legislation can be blocked during the agenda-setting stage, whilst being discussed, or after being agreed. We review each of these approaches, before proposing our own concept of 'policy stifling.'

First, policymakers may obstruct proposals before they are even formally discussed, or voted upon, through 'non-decision-making.' Bachrach and Baratz (1962) labelled this behaviour the 'second face of power': the ability of elites to set the agenda and thereby avoid debating and taking an active decision in the first place. Such behaviour can ensure that elites avoid paying the political price for opposing legislation that would have garnered popular support, as they do not need to reveal their opposition publicly. Second, policymakers can actively block policy proposals using formal veto powers granted to them in the legislative process (Tsebelis, 1995). In order to do so, however, a proposal must be submitted formally, in contrast to the principle underpinning pre-emptive non-decision-making. Finally, policy dismantling is the "cutting, diminution or removal of existing policy" (Jordan, Bauer, & Green-Pedersen, 2013, p. 795), which typically applies to legislation that has been adopted.

Whilst at first glance these approaches cover the main stages of the policy cycle (proposal, adoption and implementation), they overlook an important subset of policies that have been proposed and received support from the legislature but have yet to become law. During this window, governments wishing to obstruct a Bill's passage may seek to create new veto points in a way that means they are not punished by the electorate

for potentially unpopular decisions. Such a scenario has been neglected in the existing literature.

We propose that this behaviour is best captured by our proposed concept of 'policy stifling': the creation of a new veto point via government lobbying of an independent actor. Such stifling occurs once a Bill has already received majority support within the lower house. Moreover, we suggest that stifling is more likely when an independent actor plays a critical role in the policy adoption process, which is consistent with wider studies on depoliticisation, namely "the process of placing at one remove [i.e., with a degree of separation] the political character of decision-making" (Burnham, 2001, p. 128). The phenomenon is often pursued by establishing arms-length bodies and procedural mechanisms that give independent actors (which are sometimes 'neutral,' and sometimes unelected) greater influence over public functions (see Flinders & Buller, 2006). Sometimes viewed as a way to improve the legitimacy of policymaking, depoliticisation as a governing strategy has attracted much normative criticism on the basis that it deflects blame and reduces democratic oversight and accountability (Flinders & Wood, 2015). Subsequently, others argued that focusing solely on the exercise of state functions limits our understanding of what is 'political' (Beveridge, 2017) and both the narrow and broader understandings have relevance for environmental policymaking.

This framework is clearly relevant for analysing the era of climate politics. Key dimensions of climate policy, such as energy and planning, are broadly technocratic, as engineers, economists and bureaucrats tend to dominate policy design and implementation (Healy & Barry, 2017), and expert bodies often play important roles in decision-making. As Hajer (1995) notes, the politics of environmental change have become narrowly focused on such technical and administrative matters, squeezing out broader political contestations (Mangat, Dalby, & Paterson, 2018). However, as Healy and Barry (2017) note, climate politics more broadly are "not simply a technological or indeed a socio-technical matter" but rather inherently contested, "characterised by issues of power, distribution of and access to resources, political economy, and so on, it can be described as a deeply political struggle" (Healy & Barry, 2017, p. 452).

Our concept of policy stifling can contribute to wider analyses of public policy and of how governments treat policies that may command broad appeal, but which policymakers are nonetheless reluctant to introduce. Policy stifling is distinct from non-decision-making, vetoing and policy dismantling. First, a policy must be proposed in order to be stifled so does not qualify as non-decision-making. Second, a veto is typically defined as the exercise of a formal executive power to reject a proposal at a clearly indicated stage in the legislative process. In policy stifling, the government does not (yet) possess a formal veto, and it therefore lobbies actors to create one. Policy dismantling also differs from stifling, because it refers to the weakening or removal of legislation that has already been implemented. To summarise, we suggest that policy stifling is a distinct political phenomenon that occurs when a government successfully lobbies an independent actor to create a new formal veto point, which the government then employs to block a policy proposal. We now turn to explain our choice of case study method and the case itself, the Irish CEM Bill.

4. Methods, Data, and Case Selection and Description

4.1. Methods and Data

This article employs a qualitative, process-tracing approach. Process tracing is a "research method for tracing causal mechanisms using detailed, within-case empirical analysis of how a causal mechanism operated in real-world cases" (Beach & Brun Pedersen, 2019, p. 1). In this article, we analyse critically the case of the CEM Bill, and how it came to be vetoed despite securing a majority in the *Dáil*. Process tracing is used to explain change within cases, and so our case section is structured chronologically, before examining key themes in the discussion. While process tracing the CEM Bill is our primary focus, we also trace the development of other climate policies during 2016–2020, to enable us to reflect upon the development of an era of 'new climate politics' in the discussion, and to review the extent to which the government was willing to act on climate change in other areas. To conduct our analysis, we examined policy documents, legislation, speeches and newspaper articles from the period. We also held eight semi-structured elite interviews with relevant figures in October 2019 and in May 2020 (see Table 1; referenced as INT1 to INT8). The interviewees included an Irish MEP's assistant, an Irish environmental campaigner, two Irish civil servants, three environmental NGO volunteers, a Government Minister, a parliamentary assistant, and a journalist. The interviews were each recorded and then transcribed in full, before being coded using an iterative, inductive codebook. This coding process identified 23 themes that were discussed during the interviews, not all of which were directly relevant to our investigation.

4.2. Case Selection and Description

We selected the Republic of Ireland as a case due to its Janus-faced policy stances on 'climate emergency' legislation. The existing literature on Irish environmental policy focuses on Ireland's status as a laggard (Little & Torney, 2017) and notes how vigorous lobbying by business and farming groups hindered the development of more ambitious climate policy between 2007–2016 (Torney, 2017; Torney & O'Gorman, 2019). To date, there has been limited academic examination of climate governance under the minority 2016–2020 government or the development of 'new climate politics' in response to widespread efforts to address the climate

Table 1. Interview list.

Code	Date	Interviewee
INT1	23/10/2019	Irish MEP's assistant
INT2	24/10/2019	Irish environmental campaigner
INT3	24/10/2019	Irish civil servant
INT4	29/10/2019	Three Environmental NGO volunteers
INT5	29/10/2019	Irish civil servant
INT6	25/10/2019	Government Minister
INT7	06/05/2020	Parliamentary assistant
INT8	06/05/2020	Journalist

emergency. Lijphart (1999) placed Ireland between a majoritarian and consensual democracy in his classification, but the Republic has become more consensual over time, with the number of one-party cabinets falling over the decades (Bulsara & Kissane, 2009). Ireland's Single Transferable Vote electoral system has resulted in an increasingly wide range of parties within the *Dáil*.

The period under investigation ran from 26th February 2016 to 8th February 2020, covering the full term of Ireland's minority government, in which the lowest ever number of seats were returned for traditional parties, and includes the rise of the 'climate emergency' movement and Fridays for Future strike campaign. In 2016, an electoral swing away from the traditionally dominant two main parties resulted in a coalition government of the centre-right *Fine Gael* party with Independent TDs, relying on 'confidence and supply' support from the other traditionally dominant party, *Fianna Fáil*. This period clearly had the potential to herald a 'new politics' in which non-government TDs could exercise much greater legislative influence than previously, and governance innovations such as Citizens' Assemblies provided new platforms for political debate (Devaney, Torney, Brereton, & Coleman, 2020). This 'new politics' has become more apparent since 2011, and has been defined to date by growing levels of support for Sinn Fein, as well as for independent candidates and other, mainly left-of-centre, smaller parties, that focused specifically on green issues (Kavanagh, 2015, p. 79). Overall, there was a narrative of change and breaking new ground for democracy in Ireland: "The dawn of this [2016–2020] *Dáil* was heralded by talk of reform. Opposition TDs would be listened to. Their ideas would make it into legislation. And those laws would be passed by compromise" (Doyle, 2018).

Finally, for greater understanding of the role of bottom-up movements in agitating for political change, Ireland is an interesting context to study. Comparatively, Irish citizens have one of the highest levels of access to politicians, due to Ireland's relatively small size, the path dependent practices of contact and interaction with politicians such as a tradition of 'weekly clinics,' and a voting system that incentivises politicians to be generally responsive to those in their constituencies. Indeed, in 2016, 15.8% of citizens were found to have contacted their TDs in the preceding year period, whilst 87% of those were contacted during the 2016 election campaign (Farrell, Gallagher, & Barrett, 2018, p. 198). The particularities of the Irish system, including its Proportional Representation Single Transferable Vote system, have been suggested to encourage clientelism, which is seen as a hurdle to progress as it leads politicians to focus on their own constituencies rather than national issues (see Gallagher, 2019). However, the responsiveness of Irish politicians to their constituents should mean that if a desire for action on the climate emerges within the electorate, this can be communicated to political representatives relatively easily and could result in more ambitious climate policy. So, in this context, the country exhibits two factors that could facilitate progress in climate policy: a short chain of contact between politicians and citizens (including climate movements), and the emergence of a 'new politics' due to a minority government, dynamic party constellations and governance innovations. Given these favourable conditions, examining Ireland offers insights into the scope and emergence of a new climate politics to date, and potential lessons for the future.

5. Case Study: Stifling the Climate Emergency Measures Bill

In 2017, Ireland held its first Citizens' Assembly on how to make the country a global leader on climate action (Devaney et al., 2020), following the successes of Citizens' Assemblies in addressing other contested issues (INT5). One outcome of the Citizens' Assembly was the formation of a new parliamentary committee, the 'Joint Oireachtas ('legislature') Committee on Climate Action,' (known as JOCCA) comprising TDs from six parties plus two Independent TDs, to consider the citizens' recommendations. Eight days after the UK parliament's declaration of a climate emergency on 1st May 2019, Ireland followed suit. The declaration came via

an eight-word amendment moved by the Green Party, added to a motion endorsing a JOCCA report already passing through the *Oireachtas*. With only six of 160 TDs present in the House when the declaration was debated and passed, Green Party leader Eamon Ryan acknowledged its potentially limited and purely symbolic nature, stating that "declaring an emergency means absolutely nothing unless there is action to back it up" (Climate Emergency Declaration, n.d.). The declaration did not contain substantive provisions or information about how it would be implemented or enforced, and lacked the necessary resources needed for it to make a significant structural change.

Crucially, at the same time as the declaration, another proposal, the CEM Bill, was passing through the parliament. This Bill did contain specific provisions that could deliver meaningful climate mitigation, as it explicitly prohibited the government from granting new fossil fuel extraction licences. Notably, according to one of our interviewees (INT2), the Bill was pursued because of the 'new politics' context: "We live in this magical time of having a minority government, so you can still pass legislation when you are in the opposition….So this is a tremendously exciting thing for our campaign group."

Bríd Smith TD, of the Solidarity-People Before Profit party, introduced the CEM Bill on the 15th November 2017. The Bill was an amendment to the Petroleum and Other Minerals Development Bill, stating that, "while the climate emergency still exists, no new licenses shall be issued from this country for oil and gas," thus containing policy proposals that would address the problem in question and could be enforced relatively easily. On 30th January 2018, a revised and more detailed version of the Bill was introduced to the *Dáil*. Stop Climate Chaos, a coalition of over 30 civil society organisations, mobilised around the Bill, designing an email tool for people to contact their TDs directly. Campaigners focused on lobbying non-government TDs in order to take advantage of the minority government context. *Fianna Fail*, the second largest party in the *Dáil*, which propped up the Government in a confidence-and-supply arrangement, took a 'landmark position,' coming out in support of the Bill (O'Sullivan, 2018). On the 8th February 2018, with the support of Independent TDs and opposition parties, the Bill was supported by 78 TDs voting in favour at the Second Stage, while 48 voted against (Houses of the Oireachtas, 2018a; Lee, 2018).

In line with standard practice, the politically independent Bills Office reviewed the Bill to determine if it required a Money Message. In this case, as the Bill was judged to have no cost implications nor to need the appropriation of public funds, the Bills Office apparently stated that a Money Message was unnecessary (Crosson, 2019a). Speaking later on the matter, the Chair of the Joint Oireachtas Committee on Communications, Climate Action and Environment, Hildegarde Naughton of the governing Fine Gael party, confirmed this interpretation when she stated:

> I have a letter here from the Bills Office dated 26 February 2018, addressed to the then clerk to the committee, to the effect that this Bill does not require a money message, financial resolution or European Central Bank, ECB, consultation. (Houses of the Oireachtas, 2019a)

Thus, by March 2019, the Bill had received majority support in the *Dáil* on two occasions. The second time it was endorsed in the *Dáil* was to progress it after a tied vote in the Joint Oireachtas Committee. The tied vote in December 2018 had resulted in a 'procedural cul-de-sac' for the Bill as described by Bríd Smith TD, with the Leader of the Green Party, Eamon Ryan TD, questioning whether it would be "another environmental Bill which Fine Gael have been able to kill with procedural glue" (Sargent, 2018). After a period in 'limbo,' on 28th March 2019, Smith forwarded a motion in the *Dáil* that would allow the Bill to progress to select committee stage, whilst citizen groups protested outside the *Dáil* in support of the Bill (Crosson, 2019b). The vote resulted in the Bill being allowed to progress, with Smith including Not Here, Not Anywhere, Stop Climate Chaos, Trocáire (the overseas development agency of the Catholic Church in Ireland), and Friends of the Earth Ireland, in her thanks to those who supported the Bill (Crosson, 2019b). Thus, the Bill had two supportive votes in parliament, had been deemed not to need a Money Message, and was scheduled for Select Committee ('Third') Stage three months later (People Before Profit, 2019a).

Despite earlier progress, in May 2019, Seán Canney TD, Minister for Natural Resources, Community Affairs and Digital Development, wrote a letter to the *Ceann Comhairle* requesting further consideration of the money message decision (Houses of the Oireachtas, 2019a). He argued that the legislation might open the government up to legal costs, and result in the government losing revenue from fossil fuel drilling licences, and that this money could be used to fund the green transition (Houses of the Oireachtas, 2019a). Despite the *Ceann Comhairle* and Bills Office being independent of the government, and despite the fact that the usual timing for deciding whether a Money Message was required had passed, the *Ceann Comhairle* reversed the previous decision and decided that a Money Message was necessary for the Bill. Highlighting the paradox behind declaring a Climate Emergency but opposing a Bill that had climate implications, Deputy Smith (also a member of the Committee on Communications, Climate Action and Environment) asked the government:

> What, if anything, does a climate emergency mean if it is not that we have to take cognisance of the level of CO_2 in the atmosphere? Does that not constitute the basis of an emergency? We have just declared such an emergency in Dáil Éirean. (Houses of the Oireachtas, 2019a)

However, the Government did not grant the Money Message. On the 4th July 2019, Minister for Communications, Climate Action and Environment Richard Bruton wrote to Smith to explain why the Government would not grant the Bill a Money Message. Bruton argued that the legislation would not make any contribution to delivering Ireland's carbon reduction targets, but simply necessitate the importation of fossil fuels instead (McCrave, 2019). Furthermore, the Bill was said to ignore "the potential financial implications of the proposal," and listed other targets such as retrofitting 500,000 buildings, which had "been selected based on those choices which are the least cost to society as a whole" (McCrave, 2019). Thus, the government stifled the passage of a Bill that had already obtained majority support in the legislature, by encouraging an independent actor to create a veto point that it could then employ. In the words of our interviewees, "it was just clearly…a last ditched attempt to kill the Bill" (INT8). The interviewee went on to comment on the obscure way in which the Money Message was employed, arguing that "arguments used by the government were dubious at best" (INT8), with another interviewee adding, "they were making the argument that this piece of legislation which simply says 'don't grant any new licenses' impacts the budget. Which I believe is spurious, which is unfair" (INT2).

In response to this policy stifling, on the 5th November 2019, the Solidarity-People Before Profit party sought to propose in the *Dáil* that the Standing Orders be changed, such that Bills that had been blocked by the government using the Money Message could proceed (Finn, 2019; People Before Profit, 2019b). The party also proposed that the Government could no longer block Bills because of potential incidental expenses or indirect costs (People Before Profit, 2019b). However, the *Ceann Comhairle* refused to allow the party to use its Private Members' time to do so, citing concerns about its constitutionality (Finn, 2019). Following much parliamentary controversy over the "undemocratic" use of the Money Message (Finn, 2019), several delays, a High Court challenge (McConnell, 2019) and a General Election on the 8th February 2020, the CEM Bill lapsed with the dissolution of the 32nd *Dáil* and *Seanad*. Thus, a Bill that had achieved a parliamentary majority was successfully stifled, while the Climate Emergency Declaration remained as a clarion of the urgency of climate change.

It is worth noting, of course, that the CEM Bill was not the only climate measure discussed in the period under study. In June 2019, the Government passed a Climate Action Plan comprising 183 actions, assessed on a quarterly basis. Our interviewees varied in their perceptions of the Plan, from describing it as "really significant. That is the blueprint" (INT3) and "covering every segment of public, enterprise and private life" (INT6), to being "watered down and…discarding the citizens' recommendations" (INT2). Environmental and human rights groups levelled a "devastating critique" of the Plan, with more than 30 of these organisations "describing it as lacking detail, ambition and urgency" (O'Doherty, 2019). The CEM Bill, however, received broad support from environmentalists. Thus, the CEM Bill, and the wider era of supposed 'new politics' during the 32nd *Dáil*, is a useful case to analyse in order to establish whether a new climate politics is emerging, bolstered by grassroots calls for wide reaching transformative change.

6. Discussion

The 32nd *Dáil* saw several hallmarks of an era of 'new politics,' through the mobilisation of new coalitions and parliamentary tactics, but also the increased significance of the Money Message, which became a vehicle through which the government could halt the progress of climate politics. The CEM Bill had been passed twice by the *Dáil*: once following its introduction and again to progress the Bill after a tied vote in the Joint Oireachtas Committee on Communications, Climate Action and Environment. Nevertheless, the Government was able to delay, block and finally stifle its progress, through its encouragement of the *Ceann Comhairle* to employ the Money Message. Given that political forces were able to act in this way, claims that a new climate politics were emerging in Ireland seemed premature—at least at the elite level.

Our contribution of the concept of policy stifling enables greater analytical leverage in understanding veto theory, and the steps governments may take to block legislation they do not support. Building on the existing literature, we outlined how the Irish government attempted to depoliticise its highly political decision on the CEM Bill, by persuading the independent *Ceann Comhairle* that the legislation required a Money Message after all. That the Bill would put pressure on the public finances was not abundantly clear, and indeed, the initial decision that it did not need a Money Message makes the final decision that it (a) did require one and (b) would not receive one, all the more puzzling. What is clear, however, is that the government appeared reluctant to ban oil and gas drilling and would therefore be keen to prevent the Bill becoming law. Though understanding ultimate motivations is not possible, the Government did cite several financial reasons for its decision, including loss of revenue from licenses, the risk of legal action (O'Sullivan & Horgan-Jones, 2019), the availability of less costly approaches via its own Climate Action Plan and the prospect that the monies from fossil fuel extraction could be used to fund the green transition. By framing its decision in such financial terms, we can see how the government was able to argue that the Bill should require a Money Message and therefore enable it to stifle the legislation.

This case provides new insights for the concept of policy stifling. First, previous studies of similar practices focus on official channels for vetoing proposals (Tsebelis, 1995), or dismantling legislation after it has been implemented (Bauer & Knill, 2012). We introduce the concept

of policy stifling to this mix by showing how governments can employ mechanisms to depoliticise decisions that undermine legislative proposals and thereby try to reduce the political costs that explicitly blocking legislation could incur. Second, while the usage of the Money Message was low-profile and unfamiliar for much of the 32nd *Dáil*, its extensive usage over time led to a court case related to seeking to reduce its use. By the time of the case in November 2019, the Money Message had become high-profile, obtaining detailed coverage in national newspapers (Finn, 2019). To be explicit: in minority government contexts, it is the decision of the *Ceann Comhairle* and recommendation of the Bills Office as to whether a PMB requires a Money Message that determines whether the government can veto a Bill, or is powerless to stop its progression. Stifling bills by lobbying such independent actors may be 'low visibility' at first usage, but employing it frequently is likely to garner more high-profile attention, particularly when applied to salient policy proposals.

Climate emergency declarations could herald an era of new climate politics, with governments acknowledging the severity of the climate crisis and pursuing ambitious action. However, our analysis shows the need to scrutinise parallel policy developments on the ground, lest climate emergency declarations serve as greenwashing that obscures climate action realities. Climate emergency declarations, though increasingly welcomed, do not automatically translate to further action. The aftermath of the Climate Emergency Declaration saw continued and increasing citizen mobilisation around the climate issue, calling for action from government. Indeed, despite stifling the Bill, the Government later moved to ban offshore oil drilling, announced by the then *Taoiseach* Leo Varadkar at the 2019 UN Climate Action Summit. Further action on climate change may be predicated on the development of anti-fossil fuel norms (Green, 2018), and although the Bill was stifled, subsequent events seem to support the further development of grassroots anti-fossil fuel norms in Ireland during the timeframe analysed. Thus, the new politics may yet establish new norms that galvanise new policy coalitions, which in turn may hold even stronger sway in the event of continued minority government and increasing shifts in Irish electoral behaviour away from the traditional parties. Indeed, shortly before finalising this article in spring 2021, the grand coalition government moved to extend the ban on new offshore drilling to cover gas as well as oil. This new ban was not inevitable, and the citizens' movements agitating for climate action, particularly those seeking to develop anti-fossil fuel norms, such as Not Here, Not Anywhere, have been a key part in such developments. Despite the Government's initial attempt to depoliticise the decision on offshore drilling, therefore, social movements worked to (re)politicise the issue.

Indeed, the role of social movements, and the potential impact of a 'new grassroots climate politics' should not be underestimated. Bríd Smith acknowledged the "tremendous amount of work with Solidarity-People Before Profit in the lead-up to the production and presentation of the Bill" provided by non-governmental organisations (Houses of the Oireachtas, 2018b)—pointing to the role of wider social mobilisation on climate change in the Bill's development. Even though the Bill was stifled by the government, continued mobilisation by citizens solidified its legacy in concrete action. As one interviewee put it: "They killed the Bill, they were coming under huge pressure about that, it wasn't a good look for them, and then [Taoiseach] Varadkar made an announcement over in New York that he was going to ban oil exploration" (INT8). Furthermore, the spread of anti-fossil-fuel norms, which were strengthened by the CEM Bill, provides fertile grounds for new climate politics.

Overall, Ireland witnessed a stifling of the type of climate policy that would constitute a new climate politics approach from government, namely to implement initiatives that would support the radical changes necessary to address the climate emergency. Yet, increasingly active climate movements, and the development of anti-fossil-fuel norms through an ambitious policy proposal arising out of and supported by citizen mobilisations, suggest that despite this stifling at government level, a new grassroots climate politics may yet have potential to achieve transformative change.

7. Conclusion

Empirically, we found that Ireland's 'new politics,' which seemed to provide the basis for progress on climate issues at the elite level, was stifled by a government that wanted to proceed at a slower pace. The Climate Emergency Declaration did not prevent this stifling and nor did it encourage rapid climate action, which should be a cautionary tale for supporters of more progressive environmental policy. A key factor was the Government's success in lobbying an independent and depoliticised actor to help it block the legislation. However, while the CEM Bill did not pass, its proposals, the Declaration, along with the citizen movements associated with these, may yet have created new norms—alongside new coalitions of actors—for more substantive policies in the future. We would welcome further research into how these fluid politics shape policy across different sectors in Ireland, as well as how the Irish government has employed the Money Message as a veto on other policies not explored here. Indeed, the initial stifling of a ban on offshore oil and gas drilling, followed by the government's decisions to ban oil (and subsequently gas) drilling in the following legislative period, collectively offer a fruitful avenue of research for examining the development of anti-fossil fuel norms and social movements in repoliticising climate issues.

More broadly, we encourage scholars to investigate further the ways in which governments may engage in policy stifling, and which jurisdiction-specific mechanisms and procedures might enable policymakers

to try to depoliticise potentially unpopular decisions. Depending on the extent to which certain institutions can operate independently of the executive, these could include central banks, government agencies, scientific or advisory bodies, and (in less liberal democratic contexts) the courts. In particular, it would be useful to examine whether and how policy stifling operates in parallel with initiatives (such as climate emergency declarations) in other contexts. Our introduction of the concept of policy stifling captures the behaviour of politicians who wish to be seen to be acting on something, but are unwilling to expend political or financial capital, or perhaps simply do not wish to see meaningful change. Policy stifling is an important new conceptual tool for analysing contexts where (re)politicised action on climate change is increasingly urgent for achieving systemic shifts. Further research should also analyse whether and how policy stifling sits alongside other governmental strategies that aim to weaken or remove existing policies, such as agenda-setting, vetoing and dismantling legislation. Such studies will provide a fuller picture of how policymakers prevent the adoption and implementation of legislation that they oppose.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Crisis Capitalism and Climate Finance: The Framing, Monetizing, and Orchestration of Resilience-Amidst-Crisis

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Abstract
Throughout the development sector there has been a pronounced call for new funding mechanisms to address the climate crisis, and much of this is focused on attracting private sources of capital to fund 'bankable' projects in climate-vulnerable cities throughout the world. Enacted amidst a 21st century landscape of interlocking financial, epidemiological, and ecological crises, this call features an urgent narrative of 'resilience-amidst-crisis' that promotes large-scale, profitable investments as a form of green growth through debt-financing. The political orchestration and administration of new funding mechanisms (particularly green bonds and sustainable bonds) requires a new form of climate governance focused on the channeling of enormous sums of private capital through an assemblage of intermediaries toward profitable climate projects. This article interrogates this trend in climate finance, revealing that the framing, monetization, and orchestration of climate projects is dependent on a narrative of crisis capitalism deeply rooted in a colonial mindset of exploitation and profit. A key aim of this article is to deconstruct the contemporary dominance of crisis-oriented development and suggest the goal of decolonizing and democratizing the climate finance system.

Keywords
climate finance; climate governance; climate urbanism; crisis capitalism; resilience

Issue
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1. Introduction

Cities in the 21st century are attempting a multi-pronged response to climate change in an uncertain landscape of interlocking crises. While urban policymakers contend with the immediacy of climate hazards, most are also grappling with global economic recession, a looming global debt crisis, a widespread—but regionally differentiated—housing crisis, a persistent global pandemic, and a wave of social unrest and political volatility that stems from a range of structural issues (e.g., systemic racism, rising nationalism, increased authoritarianism, mismanagement, etc.). Indeed, 2020 may have been the year that the rhetoric of crisis became fully normalized in policy narratives, and this phenomenon has potentially worrisome consequences for equity and justice.

While narratives of crisis are employed at various scales of politics and governance, this article addresses the recent mainstreaming of crisis in the governance of climate finance at the municipal scale. Cities are presently targeted as the practical loci for climate mitigation and adaptation, and as such, have been highlighted as important recipients for climate funding. This has particular consequences for poorer cities of the global South, many of which are struggling to gain access to the funding and expertise needed to address overwhelming infrastructure deficits. That assistance is crucial, because the cost of climate-oriented development—particularly adaptation infrastructure—is enormous. Some projections have suggested that investment in climate action could be one of the largest ever mobilizations of investment capital, and one of the most profitable (New Climate Economy, 2018).

The confluence of these factors has produced a precarious situation for some of the more vulnerable recipients of climate finance. As multilateral agencies and development organizations court a purportedly necessary partnership with private financial institutions of the global North, they have become focused on risk-averse and profitable (or 'bankable') climate-related projects. This partnership may be attractive to private investment, but it requires intermediaries and recipients to navigate an increasingly complex system of climate finance that lacks oversight, accountability, and efficiency. In short, while the more influential actors in this system push for urgent action in the face of crisis, recipients are increasingly forced into a potentially damning cycle of catastrophe, debt financing, and response.

This article interrogates some of the potential vulnerabilities and injustices in the contemporary landscape of climate finance. Ultimately, I argue that the framing, monetization, and orchestration of crisis has become a pervasive feature of climate governance and finance since the global financial crisis of 2007–2009. Within the past decade, the network of actors and intermediaries involved in the governance of climate finance has grown exponentially. At the same time, despite this diversity of new actors, a narrative of climate action has become increasingly mainstreamed. That narrative is largely an export of the global North, and represents a 'resilience-amidst-crisis' approach that is structurally embedded within a colonial mindset (Quijano, 2000).

Following a brief discussion of methodology and scale, this article introduces the relevant scholarship on crisis capitalism and its relationship with climate finance, emphasizing the ways that a neoliberal and colonial rhetoric of resilience is used to normalize an ongoing state of crisis and response. I then outline the ways in which the governance of climate finance has evolved since the global financial crisis. This includes a section on the framing of the climate crisis as an urgent and expensive challenge that requires private sector leadership. The next section summarizes the new financial mechanisms and strategies that have been created to engage private capital. The following section then briefly discusses the actors involved in the orchestration of those mechanisms and strategies. The article ends with a critique of this system, along with suggestions for strategies to decolonize and democratize climate-oriented development.

2. Scale and Methodological Approach

Critiquing climate finance and the climate development sector introduces challenges of scale and methodology that must be acknowledged. First, examining the role of climate finance in urban development necessitates a much broader examination of climate governance. Cities are not isolated actors in climate development. Funding major climate-oriented projects requires municipalities to seek out investment capital, forcing cities into relationships with institutions and actors at multiple scales, including multilateral agencies, state governments, regional non-government organizations, and a host of intermediary actors. This is true of most cities but particularly so of poorer cities who may lack the credit rating or technical expertise needed to secure and administer funding. Additionally, actions taken within cities have a significant impact on surrounding communities and regions, further complicating issues of scale. As a result, while this article is largely focused on urban projects and policies, it acknowledges the scalar reach of its arguments, suggesting that such a lens is necessary to critique the scope and complexity of climate finance.

Second, it is likely helpful to clarify what I mean by 'climate finance.' For the purpose of this article, I use the definition of climate finance introduced by the Climate Policy Initiative (Falconer & Stadelmann, 2014, p. 4): "'Climate finance' typically refers to the financial resources paid to cover the costs of transitioning to a low-carbon global economy and to adapt to, or build resilience against, current and future climate change impacts." This is a broad definition. I use it intentionally because it captures the range of funding mechanisms that have been referred to as 'climate finance' in the development sector. Even though attempts at setting definitions and parameters exist (see, for instance, Brown, Bird, & Schalatek, 2010), the ways in which climate finance has been distributed constitutes a vast spectrum of arrangements (Donner, Kandlikar, & Webber, 2016; Hall, 2017; Roberts & Weikmans, 2017). Indeed, ambiguity, complexity, and lack of accountability in the administration of climate finance is a primary justification for this research.

Lastly, in terms of methodology, I rely upon a range of disciplinary perspectives and primary sources of information to evidence my arguments. In Section 3, I draw from formative theoretical works on crisis and disaster capitalism, the climate crisis, and critical works on the rhetoric of resilience. For Sections 4 and 5, I reviewed 112 peer-reviewed scholarly works on green bonds, climate finance, and regionally-specific case studies of urban climate-oriented development from the fields of geography, economics, international policy, environmental studies, sociology, and international development. I located relevant case studies and peer-reviewed analyses published between 2009 and 2021 in the following databases: EBSCO, JSTOR, and Google Scholar. Of those, approximately 70 representative works were cited. Additionally, I conducted a discourse analysis of reports and promotional materials from approximately 40 major multilateral institutions, development agencies, investment banks, private consulting firms, interurban networks, and related organizations to identify and compare the parallels in the rhetoric they employed (see Table 1). The resulting analysis reveals a public campaign amongst development agencies and organizations at multiple scales to expand neoliberal ideals, engage

Table 1. Primary sources (documents and reports) drawn from these organizations.

Development Agencies & Multilateral Institutions	Private Companies & Private Investment Banks	Interurban Networks, Initiatives, & Think Tanks
• Adaptation Fund • African Development Bank • Asian Development Bank • Association of Southeast Asian Nations (ASEAN) • European Bank for Reconstruction and Development (EBRD) • Organization for Economic Cooperation and Development (OECD) • United Nations (including subsidiaries & affiliates) • World Bank Group • World Trade Organization • Rockefeller Foundation • Rockefeller 100 Resilient Cities • World Resources Institute • World Bank Resilient Cities	• Banco Santander • Bank of America • Bank of China • Credit Suisse • Deutsche Bank • DZ Bank AG • Hannon Armstrong • HSBC • JP Morgan Chase & Co. • Kearney • McKinsey & Company • Oliver Wyman	• Asian Cities Climate Change Resilience Network (ACCCRN) • C40 • Cities Climate Finance Leadership Alliance • Climate Action Network • Climate Bonds Initiative • Climate Leadership Group • Climate Policy Initiative • Communitas Coalition • Compact of Mayors • Global Commission on Economy and Climate • International Institute for Sustainable Development (IISD) • Local Governments for Sustainability (ICLEI) • LSE Cities

influential private capital, and employ strategic financial mechanisms in response to crisis—a phenomenon that scholars of crisis capitalism have been concerned with for more than a decade.

3. Background: Questioning Crisis and Resilience in the Era of Climate Change

Narratives of crisis have received a great deal of attention in the 21st century, although not always in name. In a very real sense, the scholarship on disaster capitalism and the rhetoric of resilience is also the scholarship of the framing and management of crisis. Combining these perspectives reveals a dual narrative of crisis and resilience that facilitates a cycle of creative destruction, investment, and response. This section briefly reviews some of the scholarship that highlights the coloniality of crisis capitalism and climate finance.

More than a decade ago, Klein (2007) introduced the concept of 'disaster capitalism' to describe the ability of powerful state actors and multilateral agencies to harness crises as opportunities for the expansion of neoliberal ideals and specific financial mechanisms. This framing of crisis matches Schuller and Maldonado's (2016, p. 62) definition of 'disaster capitalism' as "national and transnational governmental institutions' instrumental use of catastrophe…to promote and empower a range of private, neoliberal capitalist interests." There is a long history of framing disaster or crisis as a rhetorical antecedent to exploitative policies, but by the end of the first decade of the 21st century, it had become remarkably commonplace in policy discourse (Castree, 2010). Indeed, responses to the September 11th terror attacks, to the increasing severity and prevalence of ecological disasters, and to financial crises have all been framed as crises in need of reactive policy measures; in each case the prescriptions involved the support and securitization or advancement of specific, influential capitalist interests (Boin, Hart, & McConnell, 2009; Coaffee, 2009; Fletcher, 2012; Octavianti & Charles, 2018; Pyles, Svistova, & Ahn, 2017).

While the terms 'disaster capitalism' and 'crisis capitalism' have been used interchangeably (see for instance, Octavianti & Charles, 2018), in this article, I refer to 'crisis capitalism' because it goes beyond implications of an event (a singular disaster or catastrophe) to more accurately refer to a systematic, ongoing condition of instability, danger, and vulnerability. As Azmanova (2020, p. 604) notes, since the financial collapse of 2007–2009, we find ourselves stuck in a protracted state of crisis: "Strategies for coping with the financial crisis have not solved the larger social crisis; short-term crisis management has become a new normal—we are stuck in perpetual crisis management." In the era of neoliberalism, this state of perpetual crisis management has facilitated new technocratic modes of development, new spheres of investment, and new networks for the administration of capitalist intervention (Harvey, 2010). Whether it be the global financial crisis, the climate crisis, Covid-19, or another crisis, these challenges are framed as persistent challenges that require market-based, capitalist interventions with the aim of achieving resilience.

Resilience is a concept taken from ecology, where it is used to describe the ability of an ecosystem to 'bounce back' from shocks and stresses. In climate development circles, resilience has been used broadly to describe the ability of urban ecosystems, infrastructures, and entire communities to respond to and recover from climate hazards (Meerow & Stults, 2016). In many ways, resilience has become a useful counter-discourse of crisis. The United Nations Intergovernmental Panel on Climate Change notes that, in response to the climate crisis, we must take steps to ensure a sustainable and resilient future. They define resilience as:

> The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions. (Intergovernmental Panel on Climate Change, 2012, p. 3)

Some scholars have noted that, over the past decade, resilience has become a 'global urban policy project' widely adopted by international organizations, think tanks, and practitioners throughout the climate development sector (Webber, Leitner, & Sheppard, 2020, p. 1). Its malleability has allowed various actors to appropriate it as an organizing principle, a developmental road map with flexible measures of assessment, and most importantly for this article: a useful vocabulary to frame neoliberal strategies of risk management (Bigger & Webber, 2020; Webber et al., 2020). And while the basic concept of resilience is by no means fundamentally problematic, its appropriation and employment in climate finance is worrisome, as it normalizes the climate crisis as a mode of creative destruction in need of perpetual innovations, investment, and rebuilding.

Whether employed reactively in the wake of a disaster or strategically in climate adaptation initiatives, discourses of resilience are employed as a means to promote new development initiatives that are largely top-down, technocratic, and costly. Furthermore, they consistently overlook histories of colonial exploitation and structural injustice, thereby exacerbating, rather than alleviating, disparities and vulnerabilities (Evans & Reid, 2014; McDonnell, 2020). As Ranganathan and Bratman (2019, p. 2) note, contemporary market-driven and technocratic visions of resilience "privilege design solutions and externally imposed ideas for community cohesion, while eliding the structural inequalities that make particular groups vulnerable to climate threats in the first place." Moreover, current policy discourses that employ the narrative of resilience-amidst-crisis are deeply embedded in colonial knowledge, supremacy, and violence (Reid, 2019; Serrano-García, 2020; Whyte, in press).

The resilience-amidst-crisis narrative referenced throughout this article is key to understanding the ways that climate finance represents a mechanism of colonialist interventionism. By resilience-amidst-crisis, I am referring to a three-part narrative that portrays a crisis as unprecedented and urgent, casts crisis victims as resilient subjects, and frames solutions in terms of access to capital markets, credit, and technocratic expertise. This narrative serves a dual function. The framing of crisis as unprecedented and urgent justifies policies that react to the present causes of the situation, thereby allowing the historical and structural causes of crisis to be obfuscated (Whyte, in press). At the same time, employing a resilience-amidst-crisis discourse romanticizes the survival capacity of disaster victims and fetishizes the resiliency of marginalized communities, thereby facilitating a disconnect that makes it easier to rationalize austere modes of governance and debt-bondage (Bigger & Webber, 2020; Perry, 2020; Serrano-García, 2020).

Crisis capitalism relies on the exercise of creating resilient, but compliant, subjects who become dependent on a system of debt finance disguised as sustainable development. Evans and Reid (2014, p. 8) note the "enthusiasm" with which ideologues of sustainable development impose the language of resilience, ultimately suggesting that the "making of resilient subjects and societies fit for neoliberalism by agencies is based upon a degradation of the political capacities of human beings." Framing resilient development as an imperative that must be executed quickly to save vulnerable communities—while simultaneously restricting their political agency and trapping them in a system of debt bondage—firmly situates crisis capitalism within a colonial mindset of exploitation and supremacy.

It should be noted that crisis capitalism and its employment of a resilience-amidst-crisis narrative should be considered within the broader context of the neoliberalization of nature that occurred in response to the simultaneous challenges of climate crisis and economic crisis (see for instance Bumpus & Liverman, 2011; Castree, 2010; Fletcher, 2012; While, Jonas, & Gibbs, 2010, etc.). It also should be considered in light of works that consider the financialization of everyday life (see, for instance, Karaagac, 2020). This body of literature serves as a useful foundation for understanding the financialization and governance of the climate crisis. Their speculations about newly created carbon markets (Fletcher, 2012), carbon offsets and trading schemes (Bumpus & Liverman, 2011), and carbon control and governance (While et al., 2010) remain highly relevant, but their discussion of crisis and power is most useful for this article.

These scholars and others focus on a trend that was just emerging at the time of their writing. That is, addressing the climate crisis introduces an extremely profitable frontier for financialization, investment, and influence. That frontier thrives on capitalism's ability to exploit the crises that it creates while also extracting value from vulnerable ecosystems, institutions, and people. Before addressing this further, it is necessary to

provide a brief overview of the ways that systems of climate governance and finance have merged through the framing, monetization, and orchestration of crisis. The following section argues that a resilience-amidst-crisis narrative has been recently focused at the municipal scale. In short, the city and its citizens are then cast as resilient subjects whose response to the climate crisis is dependent on significant streams of investment and technocratic expertise to be channeled toward climate-oriented infrastructure and development.

4. Framing and Monetizing Crisis: Urgent, Urban, and Investable

Throughout the past decade of compounding crises, multilateral agencies have mainstreamed a useful narrative of climate action. That message focuses on expanding markets to poorer regions through debt-finance mechanisms (Soederberg, 2013) and facilitating the role of private interests (through both philanthropic donors and private firms) in the governance of climate-oriented development (Graham, 2017; Seitz & Martens, 2017). This occurred alongside an increased focus on cities as the preferred sites of financial investment and climate action—a strategy that gained recognition in academic, institutional, and government literatures (Angelo & Wachsmuth, 2020; Rosenzweig, Solecki, Hammer, & Mehrotra, 2010). As Angelo and Wachsmuth (2020) note, climate change has provided the context for the global institutionalization of urban sustainability and climate action, with multilateral organizations, philanthropic foundations, and development agencies focusing much of their attention on cities as the most effective scale of intervention. This began in earnest in the decade following the financial crisis, with examples like the World Bank publishing its *Cities and Climate Change: An Urgent Agenda*, United Nations Habitat beginning its Cities and Climate Change Initiative, the OECD publishing various analyses on Cities and Climate Change, and a host of new initiatives mainstreaming a narrative that championed the relative flexibility and speed at which cities can address climate change.

Several scholars have suggested this shift constitutes a new mode of urban development known as 'climate urbanism' (Castán Broto, Robin, & While, 2020; Long & Rice, 2019). As Robin and Castán Broto (2020) note, climate urbanism as a strategy for climate action is not a homogenous approach: It remains a contested concept. This article first critiques the dominant narrative of climate urbanism before discussing diverse and subaltern approaches that contest that narrative. That dominant narrative prioritizes carbon control, climate resilient infrastructure, and technological fixes in order to safeguard the economic generative capacity of cities. Depoliticizing in nature, it suggests that urgent action is needed to address the climate crisis, that the city is the logical scale for climate action, and that new financial mechanisms are needed to boost investment in the type of costly climate projects that are necessary for a 'resilient' future (Long & Rice, 2019).

The widespread adoption of that narrative has allowed it to be proliferated quickly through multiple scales of climate governance, with new models, methods and experimentation answering the call (Bulkeley & Castán Broto, 2013; Castán Broto, 2017; Montero, 2020). However, the reality of delivering sufficient capital to fund major climate projects has remained a herculean task (Bigger & Webber, 2020). Indeed, the amount of money needed for effective climate action is staggering. Estimates range from $1,6 trillion per year to $3,8 trillion per year between 2016 and 2050 just to meet low-carbon energy transition goals (Clark et al., 2019), and as much as $90 trillion overall between 2015 and 2030 to meet the needs for climate resilient infrastructure (Global Commission on Economy and Climate, 2016). That outlook has worsened since 2020, as widespread social unrest and economic uncertainty around the Covid-19 epidemic has exposed structural vulnerabilities in emergency response, public health systems, and local economies (Flavelle, 2020; Salas, Shultz, & Solomon, 2020). Furthermore, these challenges are unfolding against the largest potential debt crisis in decades, which threatens developing and middle-income countries with over $130 billion in debt service payments (Stiglitz & Rashid, 2020).

With this in mind, it is easy to see why the private sector is being so heavily courted. The amount of unspent private capital in the global North has grown to record levels (Karsh & Robertson, 2020), resulting in an overabundance of idle Northern capital in search of investable projects (Bigger & Webber, 2020). Aside from renewable energy and sustainable transportation projects, however, private firms have had minimal interest in investing in potentially risky, low-return projects. This is especially true for large-scale, capital-intensive infrastructure projects, which were traditionally financed by the public sector or multilateral development aid. Yet, those conventional sources may be drying up. The Covid-19 epidemic is testing already-strained government budgets, and the financial situation of multilateral aid organizations has been troubled by discontinuity and a reduction in member funding. In response, multilateral and development agencies are now casting themselves as knowledge brokers and interlocutors that serve to connect private capital with 'bankable' climate projects. As the executive vice president of the International Finance Corporation noted in a 2016 report:

> There has never been a better time to invest in climate solutions….International Finance Corporation stands ready to support the private sector in its quest to invest more in industries that will improve the climate and yield healthy returns on investment….Working together, we can reduce climate's impact on the poor, while creating new

> markets for the private sector. (International Finance Corporation, 2016, p. v)

Despite an abundance of available capital, private investors were relatively slow to engage in climate finance, particularly in adaptation projects like the construction of defensive sea walls, climate-proofing utility infrastructures, enhancing the resiliency of water and agriculture systems, and improving emergency response systems. With little support from the private sector, some of the most significant infrastructure needs remain unfinanced; while increasing, adaptation projects accounted for only 12% of all climate finance commitments at the end of 2019 (International Development Finance Club, 2019).

As a result, engaging the private sector has taken priority in the promotional documents and public actions of the World Bank, United Nations, OECD, Global Commission on the Economy and Environment, Rockefeller Foundation, World Resource Institute, Asian Development Bank, and others. Collectively, these organizations have pitched climate finance as an investment opportunity with reliable returns and—following the lead of the World Bank—have established themselves as necessary arbiters and intermediaries of this global program. As (then) president of the World Bank President Jim Yong Kim noted in 2016: "It is not just about trying to persuade donors and financiers to put up more money, although we are definitely trying to do that, but it is also about creating the environment that crowds in a lot more financing" (United Nations, 2016).

In response, organizations have focused their attention on identifying new markets and projects (International Finance Corporation, 2016), making existing markets and projects more investor-friendly (Bigger & Webber, 2020), and creating political and financial risk assurance to encourage private lenders to invest. For instance, an International Finance Corporation (2016, p. v) report on climate investment opportunities states their intention of "providing information for investors, banks and companies about the most attractive climate investment opportunities, while offering governments a set of best practice policies and measures that have been proven to attract private investment." A report from the Climate Policy Initiative (Buchner et al., 2019) encourages governments to "identify the business models that can best enable private investment at scale," and the Asian Development Bank notes the importance of using financial policies to make climate investment more attractive: "The role of fiscal policy in increasing the rate of return for green projects and thereby elevating the private sector's share in these projects is crucial" (Sachs, Woo, Yoshino, & Taghizadeh-Hesary, 2019, p. 6). The United Nations Green Climate Fund has offered "a wide range of financial products including grants, concessional loans, subordinated debt, equity, and guarantees" in order to adapt and "overcome market barriers for private finance" (Ephraim, 2019). Yet, while a host of financial mechanisms and policies have been proposed to engage the private sector, nothing has been as successful as the growth of green bonds.

Traditional sources of funding such as grants, forgivable loans, and other mechanisms have remained a part of aid and finance packages from donor countries and philanthropic organizations, but in recent years, the growth of green bonds has emerged as the most important form of climate finance in terms of overall share of capital investment in climate-focused projects (Jones, Baker, Huet, Murphy, & Lewis, 2020). Relatively insignificant prior to 2010, green bond issuance rose to $323 billion by the end of 2019, eclipsing earlier projections (Kuchtyak & Davison, 2020). Even as the Covid-19 pandemic threatened to slow down the green bond market in 2020, the EU commission announced that approximately 30% of the €750 billion Next Generation EU recovery plan will take the form of green bonds, ensuring their continued significance in climate finance (Khan, 2020).

Like conventional 'vanilla' bonds, green bonds are instruments that allow borrowing organizations and institutions access to capital while providing investors with a relatively risk averse, low return investment option. Paraphrasing Jones et al. (2020, p. 50): On the issuer side, green bonds typically allow access to large amounts of capital that can be acquired more cheaply than through direct bank loans, and as such, are an especially attractive option for expensive projects like major infrastructure initiatives focused on adaptation. This makes them an ideal fit for development agencies whose recent focus—as previously mentioned—has been to unlock private capital and funnel investment to priority climate projects through private-public partnerships.

As scholars have noted, however, the rapid growth and popularization of green bonds is not without its faults (Bigger & Millington, 2020; Clark, Reed, & Sunderland, 2018; Jones et al., 2020). Indeed, the transformation of climate finance has introduced numerous concerns about ambiguity in climate finance regulation (Hall, 2017), the de-politicizing effects of a mainstreamed message of adaptation (Scoville-Simonds, Jamali, & Hufty, 2020), the denial or lack of evaluation of social dimensions of projects (García-Lamarca & Ullström, 2020), and the likelihood of reviving a new iteration of structural adjustment policy reminiscent of the Washington Consensus (Bigger & Webber, 2020).

Green bonds provide a model to monetize the climate crisis, but this model works for other crises as well. The recent introduction of 'sustainable bonds'—bonds that are applied to finance a combination of green and social projects—has allowed the green bond model to be reformulated for investors seeking to add a social dimension to their portfolios. Writing in *Environmental Finance*, a DZ Bank representative recently declared the 2020s "the decade of sustainable bonds" (Pratsch, 2020). After the obligatory tone of urgency in his framing of crisis: "Time is running out. The point of no return is approaching," Pratsch announced a "green goes rainbow'' trend in

development finance. The ambiguous regulatory structure of green bonds applies similarly to sustainable bonds, and most recently 'Covid-19 bonds,' the latter of which have no clear definition or regulation, but still managed to raise $150 billion between March and June of 2020 (Hirtenstein, 2020).

This is no coincidence. Throughout the Covid-19 crisis, multilateral agencies have actively promoted the green bond model as a way to further engage the private sector for other crises. In a recent report, the International Finance Corporation suggested that a successful response to the Covid-19 crisis will:

> Mirror the approach that we at the International Finance Corporation are using to tackle the climate crisis: that investors, businesses and financial institutions must lead the way….It's a business plan that's not only positive for the environment, but also good for people and profitability. (Klein, 2020, p. 1)

As the report's title suggests, private sector influence is an apparent 'sustainable' solution in an era of crisis: "When it comes to sustainable finance in the COVID era, let the private sector lead the way" (p. 1).

It is important to note that the monetization of crisis has not happened in a vacuum. A complex assemblage of agencies, institutions, and networks is involved in the administration of new finance mechanisms, and many of these actors have a history of advancing specific political and economic agendas. The following section addresses this issue before advocating for the decolonization of climate finance and climate governance.

5. Orchestrating Crisis: Old and New Actors in Urban Climate Governance

Numerous scholars have written about the evolution of urban climate governance (see for instance, Anguelovski & Carmin, 2011; Bulkeley et al., 2012; Gordon & Johnson, 2017). Their work is important context for this section, which focuses on the recent surge of intermediate actors in the system. That surge can largely be attributed to three reasons: the need to secure funding in the wake of the 2007–2009 financial crisis, the commitments (however loosely enforced) introduced in the 2015 Paris Climate Agreement, and lastly, the aforementioned push to engage the private sector in climate finance. The rapid growth of actors in urban climate governance has resulted in a complex assemblage of organizations, institutions, and agencies. Scholars have referred to the "entangled web…of the global urban resilience complex" (Webber et al., 2020, p. 5), the growing "dominance of intermediaries" in climate finance (Chaudhury, 2020, p. 1), and the "Cambrian explosion of organizations, norms, contributions, commitments, and other institutions" involved in climate governance (Abbott, 2017). While many of the most influential actors (particularly multilateral agencies like the World Bank, or philanthropic organizations like the Rockefeller Foundation) pre-date the 21st century rise in climate-oriented organizations, most have appeared in the past decade or so.

Because of their number and novelty, it has remained difficult—if not impossible—to keep track of new programs, intermediaries, and transnational investment relationships. The scholarship on intermediary actors in climate governance (see, for instance, Bäckstrand, Zelli, & Schleifer, 2018; Chaudhury, 2020; Gordon & Johnson, 2017) suggests the necessity of experts and institutions for the following: (1) To identify 'bankable' climate projects and connect funding sources to local municipalities; (2) to provide knowledge and expertise to municipalities with minimal experience in the types of climate adaptation projects promoted by influential organizations; (3) to assign credit ratings to municipalities and augment the capacity of cities to secure higher credit ratings so as to gain access to pools of funding; and (4) to administer, assess, and create accountability mechanisms for streams of finance.

As mentioned previously, multilateral organizations like the United Nations, World Bank, and IMF have recast themselves as knowledge brokers, problem solvers, and necessary 'middlemen' in financing climate action (Chaudhury, 2020; Scoville-Simonds et al., 2020). Partnering with corporate entities, influential philanthropic organizations, and other private actors has been key to their stated mission of unlocking private capital. Beyond traditional actors, a host of transmunicipal networks (such as C40 Cities Climate Leadership Group, the Covenant of Mayors, Cities for Climate Protection, and others) promote cities as pragmatic leaders capable of enacting policies and disseminating information and expertise to their municipal peers (Bansard, Pattberg, & Widerberg, 2017). Additionally, a host of institutional think-tanks and non-profits like Earth Institute Resilient Cities, World Resource Institute, the Resilient Cities Catalyst, and others serve as consultants, project designers, brokers, and analysts. More recently, a host of Project Preparation Facilities have emerged specifically to serve as intermediaries between new sources of capital and state and local actors in order to develop bankable, investment-ready infrastructure projects (Perera, Uzsoki, & Rana, 2017). Project Preparation Facilities are portrayed as particularly important for climate-vulnerable cities in developing countries, where connecting investors with bankable projects, administering those projects, and implementing those projects "requires skills and expertise that are not immediately available within municipal administrations" (Gorelick & Walmsley, 2020, p. 120).

The above list is abbreviated, and only begins to list a few of the many actors involved. As scholars have suggested, the proliferation of such organizations represents the emergence of a novel, ambiguous, and complex landscape of urban climate governance (Chan, Falkner, Goldberg, & Van Asselt, 2018; Chaudhury, 2020; Gordon & Johnson, 2017). Numerous scholars have

created frameworks that attempt to distinguish among different modes of 'climate governance orchestration' and their democratic legitimacy, efficacy, and underlying politics and power structures (see for instance, Abbott, 2017; Bäckstrand et al., 2018; Gordon & Johnson, 2017; Hölscher & Frantzeskaki, 2020; Kuyper, Linnér, & Schroeder, 2018). Yet each of these studies struggles to portray a clear and comprehensive picture of the architecture of this orchestration, and furthermore, many of these works express concerns about equity, justice, and democratic legitimacy in climate governance.

However, while a clear picture of this system remains elusive, certain commonalities point to underlying motivations and potential outcomes, all of which are related. First, while most of these organizations are transnational in their scope, nearly all are headquartered in the global North (Bansard et al., 2017; Bulkeley et al., 2012; Chan et al., 2018), and as such, reflect a notably western set of strategies and ideologies. Second, the messaging found in their mission statements and guidelines largely reflects the priorities and practices of the most influential development multilaterals, notably the United Nations and the World Bank. This includes, for instance, the use of specific metrics, rationales, administrative structures, feedback tools, and the employment of an overall language of inclusion and local participation; it is worth noting again that the legitimacy of each of these is highly questionable (Bäckstrand et al., 2018; Kuyper et al., 2018). Lastly, the vast majority of these actors have begun to repeat the resilience-amidst-crisis narrative of climate urbanism, which assumes that urgent, large-scale action is needed, that urban infrastructure and city citizens should be the focal point of these projects, and that financing these projects is dependent on providing access to investment capital (in this case, much of that capital originates in the private sector). This last part is key, because deference to private interests and a few notable philanthropic actors has already allowed a notable degree of elitist influence in development agendas (Graham, 2017). In short, the increasing complexity and lack of accountability in the administration of climate finance not only forces recipients to acquire the resources needed to navigate this system, it provides enormous flexibility to the most powerful and influential actors to orchestrate a system of debt finance that meets their own priorities.

The title of this section—orchestrating crisis—is intended to strike a troubling chord. Read literally, it implies that the current system of urban climate governance plays a role in exacerbating, rather than mitigating, the climate crisis. This article suggests that both are partially true and that this contradiction is important to understanding the intractable nature of the climate crisis. Indeed, the root causes of anthropogenic climate change are political and systematic. This means that while modes of governance embedded within those structures are capable of mitigating the elemental causes of climate change (i.e., greenhouse gases), they often serve to entrench the historical and systematic causes of the climate crisis (i.e., capitalism, patriarchy, and colonialism; Rice, Long, & Levenda, 2021). The next section addresses this, and discusses the ways that the climate crisis is framed as a depoliticized issue solvable by a mode of urban climate governance that reproduces the very systems that create crisis, profit from crisis, and entrench power through crisis.

6. Conclusion: Profit, Power, and the Coloniality of the Climate Crisis

Interrogating the strategic shift promoted by development organizations and their private counterparts reveals a great deal about the complexity of the climate crisis—an exercise that is helpful in locating strategies for decolonizing and democratizing climate action. This section acknowledges some of the contradictions in the rhetoric of climate development before concluding with a discussion of pathways forward for action and intervention.

First, it is imperative to acknowledge the urgency of the climate crisis. Climate change is indeed an urgent threat and immediate action is necessary. But framing the climate crisis as such allows room to expedite unjust policies, and this rhetoric should be the first area that policymakers and activists examine for potential abuse. This is particularly true when urgency is used to justify austere policies that support the most powerful actors, overshadow the injustices that will be heightened by those policies, and obfuscate the political and historical contexts that created these crises in the first place (Long & Rice, 2020). As Whyte (in press) notes, this is a conscious tactic that allows policy discussions to completely ignore the abuses of (continued) colonial power.

Second, cities are indeed logical spaces to prioritize climate action, but this focus is being implemented in a myopic manner. The framing of urban action as a pragmatic way to curb emissions and protect the majority of the world's population introduces multiple caveats. The most obvious of these is that it suggests a false dichotomy between rural and urban, thereby ignoring the metabolic and political interrelationships that permeate our climate-changed world. Put another way, issues such as forced migration, geophysical transformation (e.g., rising sea levels, erosion, flooding, etc.), the politics of anticipatory ruination (Paprocki, 2019) and the political economy of climate retreat (Scott & Lennon, 2020) all challenge what we mean by 'urban.'

Third, while engaging private capital is an important component of climate funding, hopes that the private sector will emerge as the responsible leader in just, equitable, and sustainable development are misplaced. As the private sector's role in climate finance has increased, so has critical scholarship that expresses concern about equity issues associated with a for-profit model, their increasing influence in development agendas, their lack of meaningful engagement with target

communities, their tepid progress on adaption projects, the lack of credible oversight and regulation, and their overdependence on credit ratings, risk assurances, and market stability (Bigger & Millington, 2020; Bigger & Webber, 2020; Clark et al., 2018; Graham, 2017; Hall, 2017; Jones et al., 2020; Kuyper et al., 2018; Pauw, 2015; Walenta, 2018). Furthermore, it is becoming clear that the emergence of green and sustainable bond markets as funding mechanisms—orchestrated by institutions like the World Bank—embody what Bigger and Webber (2020) refer to as 'Green Structural Adjustment.' As this article has argued, aspects of the emerging climate finance system potentially represent a new mode of colonial control through debt bondage adapted for the neoliberal era.

Ultimately, the funding strategies that accompany this resilience-amidst-crisis narrative are not intended to tackle the complexity of the climate crisis or assist those most vulnerable. Instead, they are promoted to increase investment potential and ensure profit, while advancing a subjective vision of climate action disguised as global altruism. Confronting this problem requires twofold action. While scholars and educators are working to unmask and abolish the structural power dynamics in the climate development sector, activists and community leaders are working to promote development models and systems of governance that are inclusive, distributive, and participatory.

In a practical sense, this requires a significant disciplining of the financial sector, an empowering of the public sector, a rethinking of budget priorities toward resource redistribution, and a meaningful commitment to transparent democratic engagement. For many of the influential actors in climate development, this is an uphill task. Addressing one of those measures would be viewed as difficult, addressing more than one would be perceived as radical, addressing all of them would be considered revolutionary. At the same time, frameworks for critical intervention already exist (for example: Castán Broto et al., 2020; Pellow, 2018; Pulido & De Lara, 2018; Ranganathan & Bratman, 2019; Whyte, 2017), as do approaches that blend critical theory and practical policy approaches (for example, recent works on the Green New Deal and de-growth economics: Arnoff, Battistoni, Cohen, & Riofrancos, 2019; Goh, 2020; Patel & Goodman, 2020; Rodríguez-Labajos et al., 2019). Additionally, there are myriad calls for increased regulation of the green bond market and climate finance more broadly, many of which have already been cited earlier in this article. Not all of these approaches are radical, and some include more reasonable strategies to engaging the private sector (Clark et al., 2018) and even include calls for reform from within multilateral agencies themselves (e.g., Fullenkamp & Rochon, 2017).

Admittedly, despite the existence of both practical and conceptual roadmaps for intervention, the many historical structures of injustice remain the largest roadblock. The economic imaginaries, inclusions, and exclusions created by the financial sector are deeply embedded in a system of colonial supremacy and racial capitalism that will not be dismantled overnight (John, 2018). Likewise, empowering the public sector must recognize that the state is itself a historical colonial apparatus built upon Indigenous theft and violence. However, the enforcement capabilities of the nation-state, acting on behalf of the public, hold the sovereign power to discipline and regulate financial institutions, and commit to transparent, democratic solutions. Ultimately, any solution to the climate crisis must prioritize a postcolonial perspective that (1) recognizes the legitimacy of a multitude of climate actions, (2) empowers local knowledge and decision-making capacity, and (3) makes social justice concerns paramount (Robin & Castán Broto, 2020). As Sultana (2019, p. 42) notes, this is an ongoing struggle that requires collective action:

> Decolonizing development is a collective project, not an individual one, nor one that has a timeframe or prefigured set of goals. It requires difficult questions be asked and possibilities envisioned collectively in order to pursue equitable and emancipatory transformations for planetary justice. Decolonizing has to be a collaborative journey and a collective struggle of committed individuals.

The next two decades will determine if the design, funding, and implementation of climate projects and policies emerge in a just, democratic, and equitable manner, or if they materialize in a political economic landscape of profit, polarization, and segregation. This necessitates a collective, rather than individual, political project—one that subverts systems that profit from crisis, rejects a mentality of resilience-amidst-crisis, and empowers communities toward collaborative, democratic, and equitable climate action.

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Article

Representing 'Place': City Climate Commissions and the Institutionalisation of Experimental Governance in Edinburgh

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Abstract
Against the backdrop of increasingly fragmented and poly-centric urban climate governance, this article examines the establishment of city climate 'commissions' as an experimental means of addressing the challenge of climate change at the city-scale. In doing so it addresses the question: What constitutes diversity in voices and perspectives when trying to represent the city as a place for climate action? To answer this question, the article presents an analysis of the Edinburgh Climate Commission's establishment, drawing on participatory ethnographic research carried out by a researcher embedded within the project team. The account of how this new mode of urban governance was both conceptualised and then put into practice offers a new institutional angle to the literature on urban 'experimentation.' Through our reflective analysis we argue that aspirations to ensure pre-defined 'key' industries (high carbon emitters) are accounted for in commissioner recruitment, and an over-emphasis on capturing discernible 'impacts' in the short term (by involving organisations already pro-active in sustainable development) hindered an opportunity to embrace new perspectives on urban futures and harness the innovative potential of cities to engage with the multifaceted nature of the climate challenge. Furthermore, new insight into the relationship between local authorities and other 'place-based' agents of change opens up important questions regarding how to balance the attainment of legitimacy within the political status quo, and the prospect of a new radical politics for urban transformation.

Keywords
agency; cities; climate change; Edinburgh; local governance; net zero; polycentrism; Scotland

Issue
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1. Introduction

While the traditional view of governance is that of local political action shaped by national policy-making and international agreements (Anguelovski & Carmin, 2011), in recent years cities have been increasingly promoted as 'strategic arenas' for experimentation when it comes to the governance of climate change (Castán Broto, 2020). This localisation of a planetary sustainability agenda has raised a number of questions regarding how under-resourced and over-burdened local governments can be supported and empowered to drive forward change in an increasingly polycentric landscape of climate governance (Jordan et al., 2015). While this interest in urban centres is often draped in terminology of 'devolution,' 'ownership' and 'autonomy,' it does so against a backdrop of

decades of neoliberal agenda-setting which has reduced urban governance to a practice of inter-city competition as local authorities compete with each other for an ever-shrinking pool of resources (Davidson & Iveson, 2015; Harvey, 1989; Mouffe, 2005). As a result, to date the question of climate change as an explicit agenda for the local scale has, inevitably, taken on a somewhat experimental form involving a range of place-based private, public and civil society stakeholders operating in and between fragmented formal governance landscapes (Caprotti & Cowley, 2017; Dikeç & Swyngedouw, 2017; Fudge & Peters, 2009; Stripple & Bulkeley, 2019).

Such a complex and constantly changing landscape presents urban stakeholders interested in addressing climate change with both challenges and opportunities. On the one hand, there is a considerable risk of undermining local democracy by depoliticizing decision-making in the city through the unanticipated devolution of responsibility to a series of unelected actors setting their own agendas (Davidson & Iveson, 2015; Hodson & Marvin, 2010; Karaliotas & Bettini, 2016). However, while the de-politicisation of urban governance is certainly a recognised trend, some have argued that this experimentation may in fact lead to more effective and innovative forms of decision-making materialising at previously unharnessed scales (Hughes, Chu, & Mason, 2018; Romero-Lankao et al., 2018). One such argument is about the opportunity this opens up for non-state local actors to bring their diverse resources to bear on pressing governance challenges. Actors such as universities (deeply embedded in the places in which they are located and therefore with a vested interest in the effects and impacts of a changing climate on their cities) can take on 'place-based' leadership roles in the forging of new modes of local governance (Vallance, Tewdwr-Jones, & Kempton, 2019). In taking on such roles, an opportunity also exists to diversify the perspectives on sustainability problems brought to the tables of governance and to redistribute power across a broader network of actors invested (physically, economically, and emotionally) in particular places. This could, in turn, allow for responses to calls from a variety of scholars for a decolonisation of the knowledge bases which continue to myopically frame society's principal challenges (Braun, 2002; Quijano, 2000; Santos, 2008; Vainer, 2014).

Reflecting on an opportunity to deliver place-based experimental leadership in practice, this article draws from an ethnographic case study observing the establishment of the Edinburgh Climate Commission (henceforth 'the Commission') and its introduction into the city's political and institutional fabric. Delivered as part of a UK-wide network of city-level commissions premised on facilitating cross-sector collaboration within the city, the Commission presented an experimental opportunity to establish a new institutional entity with a mandate to coordinate action on climate change alongside the local authority. Developed in partnership between the University of Edinburgh and the City of Edinburgh Council, this innovative mode of urban climate governance offers a potential mechanism for greater action on climate change by more effectively harnessing the local resource bases of a variety of stakeholders, and allowing them to find a more coordinated expression.

Through engagement with an ethnographic account of decision making and the drivers and logics behind these decisions as they played out during the setting up of the Commission, we ask: What constitutes diversity in voices and perspectives when trying to represent the city as a place for climate action? In asking this question we seek to understand which agencies, described by Ramirez, Estevez, Goyeneche, and Rodriguez (2020) as being 'embedded' in the intimate interactions of place-based coalitions and capable of driving change, can be sought out and harnessed in pursuit of action on climate change at the city-scale. We are also interested in how what Castán Broto (2020) describes as the situated 'messiness' of pre-existing climate change governance (comprising a variety of actors and agents operating across various geographical and institutional scales) is navigated when attempting to establish political and institutional legitimacy beyond the local state.

In addition to critically reflecting on this novel mode of local climate governance, our theoretical aspirations are animated by a desire to better understand the 'places' to which 'place-based' governance arrangements come to represent. Barron, Hartman, and Hagemann (2020) observe that the complexity of place in relation to sustainability and climate change remains remarkably under-theorised. This is despite its increasing prevalence within both political ('place-making') and societal ('sense of place') discourse. Sustainability, they argue, continues to be seen as a framework for neoliberal development whose focus on issue-based policies fails to recognise the "particularities of individual places, the people and organisms that inhabit them, and the ways in which they interact with other places" (Barron et al., 2020, p. 448). Taking our inspiration from this critical (re-)engagement with the importance of place, in this article we seek to analyse the way in which a shift to ostensibly 'place-based' local governance arrangements grapples with these multiplicities in pursuit of action on climate change.

The article's contributions are developed over three further sections. The following section introduces the case study and describes our methodological approach to empirical research, ethnographically embedded within decision making around the establishment of the Commission as a new mode of urban climate governance. This section also includes reflections on how the ideas of geographer Doreen Massey (2004) were drawn upon to develop an interpretive framework for making sense of the ethnographic material. The subsequent section then presents an account of how the city of Edinburgh was first framed as a place in need of a new (and explicit) mode of climate change governance requiring leadership from more than just the city

council. It subsequently discusses how this interpretation of 'place' came to be represented by a very particular set of stakeholders deemed to have the requisite capacity to deliver on this new governance mandate. The concluding discussion then unpacks the implications of this for how the city of Edinburgh continues to be imagined as a place for taking action on climate change and reflects on the need for a more attentive approach to the question of what climate commissions can be vis-à-vis existing urban governance institutions. For other cities looking to establish place-based climate commissions, we suggest there is an opportunity to reflect on how greater attention to the complexity of 'place' might open up and diversify (rather than impede and decelerate) local action on climate change.

2. Case Study and Methodology

2.1. The Commission

The Commission was established in February 2020. It has been conceptualised and delivered through the Place-Based Climate Action Network (PCAN); a multi-university led project funded by the UK's Economic and Social Research Council. As part of its networked approach to driving place-based action on climate change, PCAN aims to establish climate 'Commissions' as replicable, local models of climate change governance that foster cross-sector collaboration between public, private and third sector organisations operating in specific locations (PCAN, 2019). PCAN's aspiration for a replicable model of urban climate governance goes beyond mere learning and knowledge exchange aspirations, setting it apart from other inter-city networks operating in a similar thematic space, such as C40 cities and the UK100 programme. Initially focused on three core city-based Commissions in Belfast, Leeds and Edinburgh, the network continues to expand and incorporate additional cities, towns and counties including Lincoln, Doncaster, Croydon and Surrey. Within the context of the PCAN project, climate commissions are defined as:

> City or area-wide partnerships bringing together people and organisations from the public, private and civic sectors who work collaboratively to help drive, guide, support and track climate action. Commissions are independent bodies that complement the activities of local government, combined authorities and local enterprise partnerships and that extend their reach and build an area's capacities to deliver climate resilience and low carbon transitions. (PCAN, 2019)

The Commission has been co-sponsored by the University of Edinburgh and the City of Edinburgh Council, who jointly serve as the secretariat for the Commission. Officers from the Council's Policy and Insight Team and members of the University's Centre for Carbon Innovation worked together closely in order to set up the Commission, select its members, and envisage a strategy and workplan. The chosen members of the Commission cover a range of industries across the private, public and third sectors (Table 1). In terms of the Commission's governance the most influential member is the Chair who, having been identified early in the process, also oversaw the recruitment of commission members.

Table 1. The sectoral background of the members of the Commission.

Role on the Commission	Employment
Chair	Head of Climate Change & Sustainability at energy supply company
Vice-Chair	Leader of City of Edinburgh Council
Member	Chief Executive at a local community support hub
Member	Chief Executive at a local environmental NGO specialising in Energy and fuel poverty, recycling and carbon reduction
Member	Development & Operations Manager for a local youth environmental charity
Member	Partner and head of the Clean Energy sector at law firm
Member	Director of independent research organisation
Member	Chief Executive Officer at City of Edinburgh Council
Member	Associate Director of Scottish Futures Trust
Member	Community organiser and tenants' representative
Member	Director of large construction and manufacturing firm
Member	Director of Urbanism for sustainable mobility NGO
Member	Co-founder of a green tourism programme
Member	Sustainable Investment Lead at financial services firm
Member	Professor of climate change research at the University of Edinburgh

2.2. Methodology

The empirical data was collected by the lead author who, as an MSc student and voluntary project ethnographer (for her dissertation) was able to closely follow the process of setting up and establishing the Commission. From its initial conceptualisation as part of the PCAN project (2019), through discussions with other member cities in the network, to the selection and recruitment of Commission members in Edinburgh, the lead author was able to observe how decisions were made, by whom, and based on which logics. The aim of the empirical engagement was thus to chart comprehensively how a new mode of urban climate governance came into being, how it interacted with what already existed within the political and institutional fabric of the city, and what ultimately materialised as a result of these interactions.

Data was principally collected via an ethnographic field diary, with entries collated between October 2019 and May 2020. This diary was used to note down observations, quotes from meetings, immediate post-interview thoughts and self-refection (Emerson, Fretz, & Shaw, 2011). A process of sustained participant observation gave an insight into the changing views of participants and constantly evolving nature of the project (Spradley, 1980). Rather than being a research 'technique,' participant observation is a mode of being-in-the-world embodied by the researcher (Hammersley & Atkinson, 1983). Fieldnotes were generated from meetings: i) amongst members of the Commission's secretariat, hosted at the University of Edinburgh; ii) the wider PCAN project team from across the UK; and iii) the Commission itself. In addition to this, the researcher also attended (either in person or virtually) meetings of the Policy and Sustainability Committee of Edinburgh City Council, made up of cross-party elected members who would be responsible for defining the commission's relationship with the city's political sphere.

Semi-structured interviews with key individuals involved in the set-up process of the Edinburgh Commission (see Table 2) were used to supplement the collected ethnographic material (Jacobsen, 2014). A total of 11 interviews were carried out between October 2019 and April 2020 ranging in length from 35 to 75 minutes. The purpose of these interviews was to fill in any gaps in the researcher's understanding of the decision-making rationales at work in setting up the Commission by generating reflective, first-hand accounts from those with powerful roles in the process (Allen, 2017). These interviews should be considered part of (and not separate to) the ethnographic process. The interview questions themselves were driven not only by a desire to better understand and 'join the dots' (Ward, 2018), but also by the researcher's own identity as both a lifelong Edinburgh resident and a passionate urban environmentalist. Identities which served to situate the researcher both 'within and beyond the field' (Mannay & Morgan, 2015).

The empirical material collected by the above methods provides the basis for the presentation of a critical urban case study (Flyvbjerg, 2006, 2011; Ward, 2018; Webb, 2019). Through this case study, we chart the establishment of the Commission as an exercise in 'institutional bricolage' (Cleaver & de Koning, 2015). This refers to an approach which views the emergence of new understandings not as a mere assembling of a group of stakeholders, but as a power-laden process which draws on both new and existing place-based agencies. In order to unpick this for the case of the Commission, analysis of the collected material was undertaken via iterative discussions between the ethnographic researcher and wider members of the project team. In this sense, and following Pachirat (2017, p. 148), the ethnographic material is not considered to be some form of extracted 'raw' data "that can then be checked against any 'analysis' in a finished ethnography." Instead, the material offers an interpretive rendering of the world which gives "explicit attention to power relations" (Pachirat, 2017, p. 153) in its attempt to understand how the City of Edinburgh is being understood, defined, and represented by this new institution.

Table 2. List of interviewees: Roles are generalised to some extent for the sake of anonymity.

Interviewee code	Role in setting up the Commission	Interview length
LeedsCC	Leeds Climate Commission Member	45 minutes
LeedsU1	University of Leeds Project Team	1 hour
LeedsU2	University of Leeds Project Team	1 hour
LeedsU4	University of Leeds Project Team	1 hour 15 minutes
EdU1	University of Edinburgh Project Team	34 minutes
EdU2	University of Edinburgh Project Team	45 minutes
EdU3	University of Edinburgh Project Team	50 minutes
EdCouncil1	Councillor on the Policy and Sustainability Committee	35 minutes
EdCouncil2	Councillor on the Policy and Sustainability Committee	1 hour
EdCouncil3	Councillor on the Policy and Sustainability Committee	1 hour 10 minutes
EdCC	Edinburgh Commission Member	45 minutes

Our analysis, played out in these post-fieldwork discussions, sought to 'make sense' of what had been gathered and was guided by the pioneering work of geographer Doreen Massey (2004). For emerging place-based environmental governance practices such as the Commission, while the devolution of responsibility to cities may serve to empower and stimulate action, the notion of 'place' to which this pertains is under constant negotiation and should not be taken for granted, or more explicitly, should not be confused with (or supplemented by) mere "locatedness" (Massey, 2004, p. 8). Massey's arguments regarding the need to make this key distinction have important implications for the establishment of the Commission; a project that is simultaneously embedded in the context of Edinburgh (and therefore striving to account for the unique particularities of this place), while also remaining tethered to a generalizable approach to transferable and reproducible modes of 'place-based' climate governance. In the following sections we therefore use this analysis to present two ethnographic 'tales' (Van Maanen, 2011); narratives which account firstly for the way in which Edinburgh was framed and understood as a place needing to be represented by a climate commission, and secondly for the identification of the individual and collective agencies deemed to have the capacity to deliver this. While the insights generated by the narratives will have wider relevance by virtue of what is revealed regarding the complexity of contemporary urban climate governance, the experimental nature of the project also allows us to position our findings as reflections for other academics engaged with critical social science but also seeking to support impact-oriented projects launching climate commissions or similar new institutional entities. The work presented here should certainly not be read as criticism of the commissioners or take anything away from those who helped to ensure the commission's successful launch during the Covid-19 pandemic. As voluntary project ethnographer, the lead author was formally independent of the PCAN project and thus sufficiently distanced to develop this critique—in collaboration with her dissertation supervisor (second author). Involvement in the write-up of this article has helped the other co-authors who are core members of the PCAN team, to internalise this critique and reflect on the consequences for this project. That important discussion lies beyond the scope and limit of this article.

3. Findings

3.1. Conceptualising a Climate Changing Edinburgh

> We might not get it right from the start…in fact I'm a little bit frustrated right now that it feels like that's the process we've gone through and that we could have just got on with it six months ago. And that's partly to go back to that resourcing and commitment thing, but it's partly just the kind of journey to get everybody to buy into what you're going to do. We didn't get a green light for doing it in partnership with the Council until about October at the Policy and Sustainability Committee meeting and at that point, we thought right, game on. Now here we are in January and we still haven't got a Climate Commission…meanwhile the planet is melting and we're all going to die. (EdU2)

This quote offers an important starting point for understanding the powerful discourses involved in steering the establishment of the Commission and reflects some of the top-down pressures that played a key part in forging how the city came to be understood as a place subject to a new mode of experimental climate governance. These pressures coalesced around three themes at global, national, and local scales: the existential threat of climate change; the mandate put forward by PCAN and other Climate Commissions already established in the network; and the pre-existing approach to climate governance by City of Edinburgh Council and their enrolment into the set-up process. Not only did these pressures form the crucible in which the city came to be interpreted as a place where action could (and then should) be taken on climate change, but they dictated the speed at which the Commission was created, accelerating progress and shaping decision-making as a result. Here, we unpack how these three themes became interwoven to endow the commission from day one with a very particular focus on climate change mitigation strategies and the attainment of a net zero emissions status for the city.

While both mitigation and adaptation are given credence in the aspirations of the wider PCAN project, in Edinburgh climate mitigation emerged from a very early stage as the important agenda for those setting up the Commission. The dominance of this narrative was catalysed by a particular type of analysis which predates the PCAN project: the Mini Stern Review, which presents a city-scale emissions profile, breaking down mitigation strategies by economic sectors, and delivering a roadmap to the neutralisation of emissions within these sectors in the future. This idea is based on the UK national Stern Review (Stern, 2006) and has been led by researchers from the University of Leeds whose success in producing a Mini Stern Review for the city of Bristol was a key catalyst for the development of similar review for Leeds, Belfast and Edinburgh. These reviews and their identification of 'cost-effective' emission reduction options, have helped shape discussions within each of the PCAN cities, offering a boundary object for inter-city dialogue and stakeholder engagement. As a consequence, the City of Edinburgh's adopted target of net zero by 2030 became a central structuring mechanism in establishing the relationship between the council, the university and, ultimately, the commission.

A quantification of a city's carbon footprint is a growing trend in urban climate governance where the socio-natural complexities of climate change are represented by economic sectors or types of infrastructure

and their respective climate impacts (Rice, 2014). This trend has been accelerated by a growing number of city-based emissions targets which have emerged as a symptom of a more autonomous, and competitive regime of urban climate governance. Often set by local governments in the aftermath of emergency declarations (Rode, 2019), while regularly accompanied by strategy documents attempting to describe how these net zero goals will be achieved, previous research has highlighted the ways in which these agendas can result in profound forms of urban depoliticization; "[t]ranslat[ing] potentially interesting dynamics into a consensual project for urban renewal and city marketing" (Kenis & Lievens, 2017, p. 1762). This depoliticization of potentially disruptive, agentic cities and their populations has been framed by numerous scholars as a form of technocratic sustainability 'fix,' allowing for an engagement with climate change that is palatable for the existing (and dominant) political economy (Dujardin, 2020; Karaliotas & Bettini, 2016; Nciri & Levenda, 2019).

In Edinburgh, this depoliticization took a number of forms and a number of concerns were raised as to the viability and validity of the city's Mini Stern review; both by members of the project team at the University and by commissioners during the recruitment process. In the first instance this review was criticized for being misleading by virtue of claiming that a 2030 net zero target could be achieved by offsetting emissions outside of the city boundaries while strategically neglecting to include scope three emissions (emissions intimately connected to the city and its constituents but released outside of city boundaries) in these calculations. Furthermore, the analysis was seen as unethical for how it approached the setting of a carbon budget for Edinburgh, simply dividing the IPCC's global budget by total population without recourse to the burden of responsibilities for taking action. Precisely as Kenis and Lievens (2017) warn, a very particular (and literal) interpretation of the geography of the city is inscribed in order to justify the setting of an achievable net zero goal without debate over the practical and or ethical implications of this feasibility. Beyond this, and perhaps most importantly, a readily transferable methodology for emissions profiling on the part of PCAN, and a city council with a recently adopted (and notably ambitious) net zero target served to sideline opportunities for alternative, more nuanced forms of both intra-city and inter-city knowledge sharing.

Even though, as argued by Wesselink and Gouldson (2014), these Mini Stern reviews are not intended to be used 'instrumentally,' the timing of the adoption of this report in the Edinburgh context offered a particular interpretation of how the Climate Commission could establish legitimacy vis-a-vis the city's newly adopted net zero-strategy. This raises questions about the impact that both the speed at which the Commission was set up, and the need for political and institutional legitimacy, would have on democratic and geographical accountability in commissioner selection and recruitment. In principle, aspirations to establish a new institution (rather than merely deliver a strategy document) offered Edinburgh an opportunity to 're-politicise' climate change in the wake of net zero goal setting (Kenis & Lievens, 2017). In practice, however, an opportunity to avoid becoming "embroiled in the politics" (EdU2) justified the commission's focus on already adopted council emissions targets as its principle priority. As a result, and as the quote at the start of this section indicates, this rush to "get on with it" became a key feature of setting up the Commission; something echoed during other interviews:

> And we were conscious that we wanted to move quite quickly and get things up and running. And if we could, we wanted to be able to kind of populate the Commission without having to go to any kind of competitive advertising process of recruiting people. (EdCC)

Practices of carbon measurement and accounting provide key tools through which power is exercised over an urban landscape "where carbon's calculability plays a central role in defining the targets of urban planning and the moulding of urban environmental citizenship" (Rice, 2014, p. 385). While not in itself a negative practice, when taken in isolation this focus on what Hulme (2019) terms "hitting the carbon numbers," i.e., achieving a reduction in emissions as fast as possible, prevents the city from being looked at with a broader lens. As Hulme (2019, p. 24) expands: "[a]cting under conditions of climate emergency to do 'whatever it takes' risks marginalising a wider set of justice and well-being concerns." Consequently, in setting up the Commission, discussions around intersectionality and relationality rarely managed to penetrate the barriers of senior decision-making processes which remained occupied by bureaucratic challenges of implementation and focused on the issue of emissions and the looming narrative of a climate emergency:

> I certainly didn't see the Commission being made up of representatives of Edinburgh with people from different geographies in Edinburgh, different backgrounds, different professional backgrounds, different ages, different ethnic backgrounds, because the Commission is not a body designed to kind of reflect the diversity of Edinburgh it's a body designed to reflect the diversity of voices that are needed in order to best articulate the approach to tackling climate change. (EdCC)

Implied here is the idea that the people deemed best able to articulate the challenges and solutions to climate change in the city are those with technocratic expertise. This attitude excludes a diversity of knowledges and perpetuates the idea of climate change as a two-dimensional 'problem' for which we require expert, technocratic solutions (Dujardin, 2020). As famous urban

theorist Jane Jacobs (1961, p. 17) wrote: "As in all Utopias, the right to have plans of any significance belonged only to the planners in charge." Building on this, there was a sense from senior stakeholders that questions of demographic representation would be better addressed in later iterations of the Commission. Ironically, given that in political terms 2030 remains a considerable time in the future, for those involved in setting up the commission, what came to matter most was the here and the now. In the following section we therefore open up the question of how this urgency translated into a specific set of individuals ultimately chosen to represent the city, and the form of collective agency sought by bringing them to the table.

3.2. Representing a Climate Changing Edinburgh

> We talked about different ways of doing this, from having lay people on the Commission being dependent on expertise from outside…to having the kind of Commission we've ended up with, which is a combination of cross cutting expertise on different issues and deep sectoral expertise….I was also keen to make sure that the Commission was gender balanced, which I'm pretty sure we've achieved and that there was also a bit of an age demographic kind of representation across the Commission as well. You know, it had to cover the key sectors that were going to be critical in driving down emissions. (EdCC)

Across the UK, cities are increasingly engaged in climate governance. Often made manifest through emission targets and sustainability plans, this localised approach is unfolding in a fractured urban governance landscape where it is unclear who should be responsible for climate change as a governance issue (Barron et al., 2020; Hughes et al., 2018; Vallance et al., 2019). It is out of this landscape that the PCAN network's Climate Commissions have emerged and, given the growing awareness of the need to encourage collaboration, the responsibility of choosing which people from across this diverse and complex city to bring together, became a key part of setting up the Edinburgh Commission.

Driven, in no small part, by the way in which the city's emission profile was characterised by sector in the Mini Stern review, the shortlisting process for commissioners, led by the secretariat at the University, placed significant emphasis on representing these sectors on the Commission. To catalyse the required action, engaging with what were often referred to as 'the right people,' was a key element for many. When asked to expand on this during interviews, an ability to directly or indirectly mobilise financial capital or other assets in pursuit of technological and behavioural change was identified as a key factor. As the extracts below highlight, it was important for those drawing up the shortlist to select candidates who worked within an influential industry, had knowledge of sustainability and also wielded enough social capital to be able to effectively disseminate messages across and between communities:

> I think we are going for relatively large organisations because there's a bit of looking for people who have influence, expertise, and, you know, time to give to a Commission. (EdU3)

> If the Climate Commission is going to advise us and be able to wield some power to make things happen, it needs to have expertise on it. But it will also need to have people from the various sectors who are respected by those sectors and understand those sectors. (EdCouncil2)

> The problem is you need the clout, you need the backing of the CEO. But you also need the knowledge and the expertise of people who are actually doing it. (EdCouncil1)

From these extracts it is clear that access to both financial and social influence were key elements to commissioner selection alongside a degree of expertise on climate change. There was a sense in these discussions that by engaging powerful 'experts' (particularly those from the private sector), the position of the Commission would be seen as more legitimate in the city and that there would be a greater chance of it catalysing action in what were otherwise regarded as hard to reach industries. Beyond these factors, as the extract at the start of this section indicates, there was also a commitment to achieving a gender balance which became a prominent point of discussion (at times contention) during the set-up process. The challenge of realising this commitment was described by EdU1:

> I think if we go with the criteria, I definitely think it would be good to have a woman Chair but the most important thing for the success of the Commission is to have the person who is the best qualified with the best ties…the thing that was most difficult…was to find a woman in the private sector with a background in climate.

Gender is often regarded as a low hanging fruit when it comes to demographic diversity and, in the case of the Edinburgh Commission, gender was consciously considered in the selection of commissioners. However, the internal debate highlighted here, and the eventual choice of a male Chair, indicates that social standing and power within a particular sector became more important than securing a female lead. This failure to appoint a female Chair was again justified on the ground of finding the 'right person,' something which was seen to trump "tokenistic reasons" (personal communication, City Council officer).

These extracts show that selecting individuals with existing power and influence became a driving force in

Commission development and one that, in some cases, trumped the inclusion of basic levels of demographic diversity. With this in mind, the recruitment of these individuals became an important and interesting part of the Commission's story. Rather than use an external application process, commissioners were identified either by their public profiles (such as LinkedIn, a route to professional profiles and characteristics) or connections with stakeholders, and were approached individually. At one point this selection process consisted of an initial list of potential commissioners being passed around the secretariat team who then added to it based on their own connections with people in the city-region. While offering a degree of variation and access to a certain set of personal networks within the area of climate change, this means of selection limited engagement with the wider city to personal, fairly homogenous and socially elite networks.

This use of personal networks is illustrated by EdU3:

> The clout that you get from that and then access to resource like my friend's dad, I put him down because I think he's a really great guy. And he's, I think Chairman of a Development firm with offices in Edinburgh.
>
> Because I sort of knew what they were looking for, at that point: people from big law firms or people from big companies, it was kind of easy to sift through….And then obviously, the environment sector….Edinburgh is quite a small city so people do know each other, people have worked with each other before.

While this informal method of selection certainly restricts the pool of potential commissioners, it does grant a degree of pre-ordained cohesion to the Commission as members have common goals. There was also a sense that this process of mobilising social networks was faster and more efficient than using applications to create a pool of commissioners, something that, as we have seen, was important to stakeholders developing the Commission.

Since the global economic crash of 2008 there has been a growing prevalence of narratives around community 'resilience' within UK policy (Walker & Cooper, 2011). This reflects a wider trend of austerity and neoliberal agenda setting as local governments become further reduced in their ability to deliver services and, as a result, devolve responsibility to citizens. With this in mind there is certainly merit in devolving this responsibility to more robust (and culpable) actors rather than putting pressure on already under-resourced communities. On this subject, one interviewee highlighted the role of privileged groups in both addressing climate change and in facilitating the inclusion of less powerful voices without placing the burden of responsibility on them:

> We do absolutely need their voices, but people have chaotic lives, and they're living in deprivation and poverty. They don't have time to care about other people and all of those things. Their priorities are looking after themselves. So, our expectations of how they engage is different. I think it's more important to help them get to where they need to be in order to be able to engage. (EdCouncil1)

This insight speaks to the complex issue of representational justice and the importance of being able to accommodate a range of voices and perspectives without adding to financial or emotional burdens. This is important to bear in mind as, in order to co-produce Place Based Leadership, actors and organisations must have sufficient 'slack' resources (such as time, money and energy) to contribute to the governance of place (Beer & Clower, 2014). In Edinburgh, this meant that many people have been unable to take part in emergent forms of Place Based Leadership, a fact that extends not only to under-represented communities but even to some of the selected Commissioners who are sometimes juggling multiple high-pressure jobs. By (understandably) aligning its workplan with existing council visions and strategies in order to achieve legitimate institutional authority rapidly, the recruitment narrative quickly become one of what commissioners could do for the Commission and its agenda, rather than what a new climate commission might do for them as diverse representatives of the city, and, by extension, for the city as a place:

> Something about this meeting feels like a kickoff, like we can go off and be leaders in our communities and professional networks from today…to actually harness that agency within our communities in Edinburgh…and try to drive some of these behaviour changes that people are willing to engage with. But it's not just about what we want them to do but about finding out what they are doing because we have an incredible city and there are lots of things being mobilised at the moment with the Covid-19 response but also that have been going for a long time…so for me I feel like I want to liberate that agency right from today and use the influence that each of us has as commissioners and leaders. (A Commissioner during the first Commission meeting, March 2020)

Despite considerable emphasis being based on emissions reduction and the city's net zero goal in both the conceptualisation of the commission's role and the recruitment of commissioners (or perhaps precisely because of), there had been a desire to include in the selection, a representative from "the community" (EdU2). The long quote above, from the commissioner appointed to play this role, comes from the first climate commission meeting in March 2020. In stark contrast to the top-down approach to commissioner recruitment, this offered hope for driving bottom-up agency, connecting together a fragmented, complex and messy city when it comes to the issue of climate change

governance. In doing so, however, it also raised key analytical questions (engaged with by this article's analysis) about how this agency is embodied and enacted by other commissioners. Commissioners who were recruited not for their embeddedness in place and the communities that they (too) represent, but for their respective areas of expertise with regards to direct action on climate change.

Building on the conceptualisation of place in the previous section, this section has unpacked the question of who was chosen to represent this way of understanding the city. Reflecting on what this means for climate change and democracy at the city scale, it is clear from this analysis that selecting known individuals who possessed not only technical expertise but also social power, was a primary focus for University and Council stakeholders when selecting commissioners. Questions of demographic diversity, beyond that of a gender balance, were not seen as an important element in this process which took place predominantly through the personal and professional networks of stakeholders involved in setting up the Commission. These observations point to the challenge of building diverse coalitions as it relies primarily on the unpaid labour of stakeholders thus excluding the experiences of under-resourced communities. This arguably stems from a lack of opportunity to recognise (and subsequently act upon) the fact that the very challenges facing such communities, which would supposedly limit their ability to participate in discussions on climate change, are likely to be interwoven with the very same social, political and economic forces at the heart of unsustainable emissions levels.

4. Concluding Discussion

The focus of this article has been the question of how place-based climate commissions as experimental forms of urban climate governance strive to represent the cities whose future's they hope to shape. Drawing on ethnographic research methods to explore how the city has been both conceptualised and represented as a 'place' through the Commission's establishment, we have illustrated how what these institutions are charged with doing (and the need for this to be tangible and orientated on impact in the short term) comes to frame what they will *be* vis-à-vis existing urban climate politics. More specifically, our critical reflections have shown that a fast-tracked conceptualisation of place, instigated from the top-down and structured by the extra-local nature of the PCAN project and its weddedness to the value of emission reduction strategies based on sectoral analysis, has legitimised a focus on technocratic, 'expert' knowledge, capable of delivering measurable impacts. In doing so however, it became difficult to encourage a move beyond this static and abstract performance of Edinburgh and towards a more relational interpretation of place (Massey, 2004), one which takes seriously the importance of building a diverse ecology of relevant, place-based, knowledges about the city's (and the planet's) future (Santos, 2008).

Reflecting on these findings, we are compelled to ask ourselves; what is insufficient about existing forms of urban representation when addressing climate change as a place-based governance issue? Have we fully considered why climate change requires special status in this regard, or indeed the implications for urban democracy of granting this status? Our arrival at these questions is borne out of the article's threefold contribution to the existing literature on urban climate governance. Firstly, we provide evidence that the depoliticization of climate change as a governance issue, associated with the setting of net zero goals and associated decarbonisation roadmaps (Kenis & Lievens, 2017) is capable of taking an institutional form in how it can be used to justify the role and purpose of climate commissions. Secondly, we have documented how a pressure and need to deliver things at pace in light of the pressing nature of the climate challenge can be drawn upon as justification for accepting this depoliticization of the challenge. Third and finally, we have demonstrated how active aspirations to be involved with place-based climate governance inevitably require the establishment of a new structure that is institutionally 'tangible' and visible from the outset. This is as opposed to working with and seeking to coordinate and amplify the diverse, complex and explicitly political agencies that already exist within and through the city (Castán Broto, 2020; Ramirez et al., 2020).

With not only democratic legitimacy but also a wealth of local knowledge, the local political sphere continues to hold a pivotal, yet often undervalued and under-resourced, role within governance. For this reason, rather than Commissions needing to be a new, independent form of governance, perhaps there is an opportunity to approach this institutional resource as a vehicle for re-energising climate change politics within the city? Much like the role played by politically 'green' parties described in Robert Goodin's (1992) book *Green Political Theory*, capable of catalysing great change by influencing the policies of existing parties, there is an opportunity for Commissions to work closely with existing local democratic frameworks and their associated geographies. Commissions could be more than a 'critical friend' holding already existent local government policy to account (as the Commission's role in the city is regularly represented). Instead, they might be a platform to catalyse institutional innovation, empower stakeholders and build situated climate knowledges within the city. Rather than feeding the zero-sum game of carving out resources from existing local allocations, there is an opportunity to unlock new resources and possibilities.

The anecdotal reflection from the Commission presented at the close of the previous section offers great hope as to what climate commissions might be or might become with regards to harnessing and amplifying the place-based agency of the city in the fight against climate change. The challenge for cities like Edinburgh,

embedded within wider inter-city networks of place-based action, is to avoid missing these opportunities by simply writing them off as incompatible with pre-conceptualised definitions of what constitutes 'place-based' climate action (and what it should strive to achieve). Thus far an interpretation of 'place' has been transposed upon the city in the understandable rush to prioritise tackling planetary scale issues such as climate change by privileging the 'local,' without sufficient recourse to what this actually means beyond mere location (Massey, 2004; Russell, 2019). Even 'Mini Stern,' the informal name given to the techno-managerial review outlining a cost-effective roadmap to net zero, speaks to the local as merely a sub-unit of the national scale. A scale down to which existing sustainability 'fixes,' well-rehearsed by national government, should be dropped (Nciri & Levenda, 2019). Inter-city climate action initiatives such as PCAN must strive to find ways to balance the vital networking and learning opportunities they facilitate with resisting a one-dimensional and static interpretation of the 'places' that they seek to network together. Failure to do so risks diminishing the unique dynamism and creativity of cities

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Contrasting Views of Citizens' Assemblies: Stakeholder Perceptions of Public Deliberation on Climate Change

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Abstract
It has been argued that a 'new climate politics' has emerged in recent years, in the wake of global climate change protest movements. One part of the new climate politics entails experimentation with citizen-centric input into policy development, via mechanisms of deliberative democracy such as citizens' assemblies. Yet relatively little is known about the motivations and aspirations of those commissioning climate assemblies or about general public perceptions of these institutions. Addressing these issues is important for increasing understanding of what these deliberative mechanisms represent in the context of climate change, how legitimate, credible and useful they are perceived to be by those involved, and whether they represent a radical way of doing politics differently or a more incremental change. This article addresses these gaps by presenting findings from mixed method research on prior expectations of the Devon Climate Assembly, proposed following the declaration of a climate emergency in 2019. The research compares and contrasts the views of those commissioning and administering the citizens' assembly, with those of the wider public. Findings indicate widespread support, yet also considerable risk and uncertainty associated with holding the assembly. Enabling input into policy of a broad array of public voices was seen as necessary for effective climate response, yet there was scepticism about the practical challenges involved in ensuring citizen representation, and about whether politicians, and society more generally, would embrace the 'hard choices' required. The assembly was diversely represented as a means to unlock structural change, and as an instrumental tool to achieve behaviour change at scale. The Devon Climate Assembly appears to indicate 'cautious experimentation' where democratic innovation is widely embraced yet carefully constrained, offering only a modest example of a 'new climate politics,' with minimal challenges to the authority of existing institutions.

Keywords
citizens' assemblies; climate assembly; climate change; climate emergency; climate politics; deliberation; democratic innovations

Issue
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1. Introduction

The necessity to rapidly and extensively respond to climate change has been repeatedly emphasised by scientific experts (e.g., Intergovernmental Panel on Climate Change, 2018). A narrative of Climate Emergency has emerged over recent years, driven by social movements such as Fridays for Future. Policy makers at different scales have responded through declarations of Climate Emergency and setting target dates to reach net zero emissions. At the time of writing, 74% of local authorities in the UK have declared a Climate Emergency, as

has the UK national government (Climate Emergency UK, 2021). Civil society groups, notably Extinction Rebellion in the UK, have demanded greater public participation in climate policy making through the use of deliberative mechanisms such as citizens' assemblies with the ability to produce recommendations that are binding and not just advisory (Extinction Rebellion, 2019). Bryant and Stone (2020) identify six UK local authorities—all based in cities—that have implemented public deliberations on climate change. However, judging the extent to which these new narratives, declarations and deliberations are indicators of a 'new climate politics' is uncertain. In the case of public deliberations, it requires analysis of the motivations and rationales underlying why these new mechanisms are being introduced by policy makers—is the aim to re-configure power relations between citizens and elected representatives? Or to address particular challenges with representative politics (e.g., lack of trust, lack of citizen engagement, short-term interests), which may need addressing to respond to the climate crisis? Upon what criteria are the legitimacy and credibility of citizens' assemblies based? And what happens next: Do they lead to substantively new policies and actions on climate adaptation and mitigation? Are citizens' climate assemblies a one-off, or do they represent a more enduring shift towards public deliberation in policy making?

In this study, we begin to address these important questions through a case study of the first citizens' climate assembly to take place in a rural county of the UK, in Devon, South West of England (hereafter referred to as 'the Devon Climate Assembly'). Addressing gaps in the literature on citizens' assemblies, we focus on the views of stakeholders, including public officers (administrators and managers of local authorities and other public organisations), as well as members of the wider public who contributed to a public call for evidence as part of the wider process leading up to the assembly. With regards to temporality, we address the gap that little research has explored stakeholder perceptions of public deliberation before an assembly takes place. This is useful to reveal the expectations and anticipations associated with democratic innovations when citizens' assemblies are held in places for the first time: How are they justified by policy makers as a necessary departure from conventional politics? Upon what criteria are their legitimacy and credibility argued to lie?

Devon represents a suitable context to address these questions. In 2019, local councils across the county declared a Climate Emergency. Devon County Council convened a partnership of 27 organisations—the Devon Climate Emergency Response Group (hereafter DCERG)—to coordinate responses. A Net Zero Task Force made up of 15 experts was set up to write the Carbon Plan, informed by a citizens' assembly to ensure public participation. 'Mini-public' deliberation on climate change has not taken place in Devon to date. Conducting research in advance of the Devon Climate Assembly, we use a risk analytical framework to investigate the perceived opportunities, drawbacks and uncertainties associated with the assembly by stakeholders and 'engaged' publics. We also attend to how perceptions of legitimacy and credibility play out across different geographies of urbanity and rurality, noting the lack of research on rurally based climate assemblies to date. We pose the following research questions:

> RQ1: How do local stakeholders—specifically those commissioning the assembly and members of the wider public—perceive the opportunities and drawbacks of holding a Net Zero Citizens' Assembly in Devon?
>
> RQ2: In terms of process and outcomes, what aspects of mini-public deliberation are considered crucial to its legitimacy and credibility?

Drawing on analysis of data from interviews with local stakeholders and from surveys with 'engaged' publics, the research addresses these research questions and contributes to debates concerning public trust in political institutions, and the institutionalisation and broader purposes of public deliberation (e.g., Dryzek et al., 2019; Farrell et al., 2019). The remainder of the article is structured as follows. In Section 2, we begin by setting out reasons behind the growing interest in deliberative public engagement on climate change, before discussing the benefits and challenges of mini publics such as citizens' assemblies (Section 2.1). We next show how our research builds on, and addresses gaps in the current literature (Section 2.2), before describing the context of our own study (Section 2.3). Section 3 sets out our methodology, and Section 4 outlines our key research findings. We discuss these findings more fully in Section 5 before presenting our conclusion.

2. Public Deliberation and the Governance of Climate Change

With many governments reluctant to divest from fossil-fuels or risk reductions in economic growth, there has been a burgeoning interest at sub-national levels (e.g., cities and regions) in the role that mini-public deliberation might play in building a social mandate for action on climate change (Howarth et al., 2020). The interest in deliberative public engagement has also grown in the context of increasing disenchantment with 'formal' politics and elected politicians (Flinders & Curry, 2008; Smith, 2009; Stoker, 2006), as well as political polarisation and the spread of misinformation (Farrell et al., 2019). Deliberation by mini-publics is contended to overcome many of the difficulties associated with political engagement through social media (Dryzek et al., 2019), notably an emphasis upon argumentative complexity, civility, listening, mutual respect and openness to persuasion. Given these developments, increasing interest at regional and local levels in applying public deliberation to

the challenge of climate change is unsurprising. However, democratic innovation via mini-public deliberation on climate change at the local level also raises many challenging questions regarding risk and uncertainty in proposing, justifying and implementing mechanisms hitherto unfamiliar to local stakeholders and publics.

2.1. Citizens' Assemblies as Mini-Public Deliberation

Citizens' assemblies are a type of 'mini-public,' which involve bringing together a group of citizens—selected randomly to be representative of a wider population—to 'deliberate' on a specific topic on which they are provided with information (by experts, and other stakeholders) to inform a decision making process or public opinion (Dahl, 1989). They are just one variety of mini-public, amongst others such as citizens' juries, deliberative polls, consensus conferences and planning cells (Smith, 2009; Smith & Setälä, 2018). These institutions bring together a random selection of citizens to deliberate on issues of public concern and to provide a collective recommendation, although the types of topics considered vary, as well as their size, and specific objectives. Citizens' assemblies have been described as "potentially the most radical and democratically robust" type of mini-public (Escobar & Elstub, 2017, p. 3), partly because of their size, the length of time that can be involved compared to other mini-publics, i.e., usually over several weekends (Smith & Setälä, 2018), the informed nature of the deliberations, and their potential for influencing public policy. Although citizens' assemblies are relatively rare, experimentation with their use is growing, and they have been utilised by national governments to garner public input into topics like electoral reform (the Netherlands, British Columbia, Ontario), abortion (Ireland), long term care (UK) and climate change (e.g., in France, UK and Ireland). There has been some, although more limited, use by local public authorities, for instance Vancouver's assembly on municipal planning (Beauvais, 2018), as well as by teams involving academics and civil society organisations on constitutional and multi-level governance issues (Flinders et al., 2016; Renwick et al., 2018). Thus citizens' assemblies are not novel, but their application to the challenge of climate change is a more recent phenomenon.

A central aspect of any mini-public is citizen deliberation involves "engaging with alternative arguments with an open mind" (Niemeyer, 2013, p. 435). Mini-publics are part of a family of institutions designed to enhance citizen involvement in political decision making, sometimes described as 'democratic innovations.' Other democratic innovations include direction legislation, participatory budgeting and town hall meetings, and various forms of e-democracy (Smith, 2009). Mini-publics are used to complement rather than replace systems of representative democracy, and aim to improve the relations between citizens and decision-makers (Hendriks, 2006), and deepen citizenship, re-casting the role of citizens as co-producers and problem solvers (Elstub & Escobar, 2019). They tend to be used in policy areas of high political salience, of constitutional importance, or which are politically sensitive or divisive, and are often employed to consider issues where decisions have to be made but where different policy options involve difficult trade-offs (Parkinson, 2004; Renwick et al., 2018).

One of the main benefits of citizens' assemblies, according to their advocates, is that their recommendations can command high public legitimacy (Elstub & Escobar, 2019). Legitimacy claims stem from the rigour with which participants are selected, the informed nature of deliberations, the inclusion of expertise from credible and impartial witnesses, the variety of perspectives considered, and the richness of the debates. There is emphasis on creating institutional conditions that allow free and equal participation between citizens in a context of mutual respect and understanding (John, Smith, & Stoker, 2009). From this perspective, incorporating elements of citizen deliberation into policy development can be said to enhance democratic legitimacy. However, the quality and legitimacy of citizens' assemblies themselves is contingent upon requirements including an open and transparent process, impartiality of witnesses, lack of interest group or political party dominance, and wider public engagement in the process (Devaney, Torney, Brereton, & Coleman, 2020; Farrell et al., 2019). These can be regarded as issues of 'input legitimacy' which are focused around the participation and inclusion of relevant actors, and 'throughout legitimacy' concerned with the quality of processes and interactions involved (Devaney et al., 2020; Schmidt, 2013).

Despite the possible benefits of citizens' assemblies for addressing topics such as climate change, there are also limitations. These mechanisms only involve one small part of a population, albeit a statistically representative and randomly selected component. Participation is voluntary since those invited can decline the invitation, creating a potential self-selection bias (Smith & Setälä, 2018). Those who do not take part (the majority of citizens) are left 'untouched' by the process (Parkinson, 2003). Lafont (2015) points out that the views of participating citizens are not representative of public opinion, since their opinions are likely to shift during the deliberation. She also questions the accountability of citizens' assemblies, as unelected bodies which other citizens may feel do not represent them. Others have noted that deliberative mini publics often lack real decision making power. Parkinson (2004, p. 385), discussing citizens' juries, notes that they sometimes make "recommendations that are within quite narrow boundaries that are determined by levels of power to which [the participants] do not have access." This underscores the importance of ensuring that where deliberative mini-publics are used, the agreed follow-up and implementation procedures following their recommendations are communicated clearly to participants, thus enhancing 'output legitimacy' (Devaney et al., 2020).

Existing literature has not considered whether citizens' assemblies are perceived as a radical departure from politics as usual by the different groups involved in them, nor what these different groups consider to be their main purpose, risks and benefits. Research is lacking on whether social movements, the wider public and political/administrative actors hold different, and potentially competing, views about the purpose of citizens' assemblies on climate change, with the risk that the findings and recommendations of an assembly may be called into question and lack legitimacy. This is an important issue when local areas are experimenting with forms of democratic innovation and a key focus of this research.

2.2. When a Local Area Engages with a Mini-Public for the First Time: Aspirations and Uncertainties

Within the literature on citizens' assemblies specifically, there has been considerable emphasis on the experiences and views of participants themselves (Beauvais, 2018; Niemeyer, 2013; Renwick et al., 2018). Other research explores the views of the professional participation practitioners who conduct deliberative mini-publics (Cooper & Smith, 2012). However, there is relatively little research on the views of either the public officers or political office holders who commission and organise citizens' assemblies, and even less examining wider public perceptions. Previous work has explored perceptions of these institutions among 'opinion leaders,' e.g., in a proposed citizens' climate assembly in Australia which did not come to pass, owing to opposition (Boswell, Niemeyer, & Hendriks, 2013). Parkinson (2004) explored the motivations of health managers using citizens' juries, and found they were used as a means of testing out arguments. By bringing together witnesses, managers, professionals and lay people, the issues were thoroughly debated, giving clarity at the end of the process and a stronger sense of the legitimacy of competing arguments. Managers also viewed the juries as a means of rationalising polarised debates between competing interest groups, giving public managers the opportunity to make decisions that would be perceived as free of interest group domination. With regards to temporality, while much previous research focuses on experiences and reflections of participants during or after citizens' assemblies (e.g., Devine-Wright & Cotton, 2017), less research has explored the period before the assembly has taken place.

The implication of these gaps is a lack of research upon the expectations and anticipations of democratic innovations when mini-publics such as citizens' assemblies are held in places for the first time. For political leaders, the decision to hold a mini-public climate deliberation is likely to require justification and legitimisation as to why a departure from 'business as usual' politics is required. Moreover, such innovation might be associated with considerable uncertainty and a range of potential risks and opportunities regarding what is involved, how it should be undertaken and what outcomes might arise. Accordingly, we apply a risk analytical framework (Pidgeon, Hood, Jones, Turner, & Gibson, 1992; Slovic, 2010) to explore stakeholder and public perceptions of the Devon Climate Assembly, with a focus upon perceptions of its potential benefits and drawbacks for tackling climate change, as well as positive and negative affective responses. As part of this analysis we explore the extent to which a citizens' assembly is seen as a radical break and new way of doing climate politics, a mandate for more radical action, or whether there are other, more instrumental reasons for pursuing this type of deliberative mini-public, such as those alluded to above (Parkinson, 2004).

There are important spatial dimensions to democratic innovation. Local authority-led mini-publics on climate change, in the UK at least, have taken place in urban areas to date. Holding mini-public deliberations on climate change in rural areas is likely to raise particular challenges, not least in ensuring the representativeness of participants. Farrell et al. (2019) underscore the importance of random selection in the design of mini publics. Yet recruitment requires voluntary participation by citizens. Ensuring representative participation from scarcely populated or historically disadvantaged rural areas is likely to pose a challenge to the legitimacy of democratic innovation (Smith, 2009). Rurally facing climate assemblies also have to engage with a range of critical issues not faced by urban areas, notably the siting of large and controversial energy infrastructure such as wind turbines, provision of low carbon mobility to remote areas, and alterations to historical patterns of farming and land management.

2.3. The Devon Carbon Plan and Climate Assembly

Our research is conducted in Devon, the third largest County in the South West of England with a total population in 2019 of 1,2 million people and an average age of 43.7 years, above the national average (Devon Population Statistics, 2019). Rural areas account for 90% of Devon's land area, and the county is internationally recognised for landscapes of national importance; 35% of Devon's land area is within Dartmoor and Exmoor National Parks together with five Areas of Outstanding Natural Beauty. Yet Devon also has major urban centres, three largest of which—Plymouth, Torbay and Exeter—account for almost half of its population. There are significant wealth and life expectation gaps between areas in the north and south and between more remote rural and coastal populations that contrast to better-resourced urban and suburban based populations (Devon Health and Wellbeing Board, 2019). Recent government statistics highlight these income and lifestyle disparities with indices of multiple deprivation categorising parts of North Devon and Torridge as some of the most deprived places in England (Devon County Council, 2020).

In 2019, following Devon councils' declaration of a Climate Emergency, Devon County Council convened

DCERG—a partnership to coordinate responses across Devon, with the aim of producing a Carbon Plan to reach net zero emissions. DCERG includes local councils and national parks (n = 14), health trusts (n = 3), private sector interests (e.g., utilities and farming organisations, n = 4), environmental organisations (n = 3) and academic institutions (n = 3). DCERG, in turn, set up a Devon Climate Emergency ('Net Zero') Task Force made up of 15 experts to write the Carbon Plan, and a Climate Impacts Group to create a regional Adaptation Plan.

DCERG devised a process to create the Carbon Plan that combined three steps. First, Expert Thematic Hearings were convened by the Task Force across November-December 2019, calling witnesses on Transport, Energy and Waste, Food, Land and Sea, Built Environment and Cross-cutting themes (Devon Climate Emergency [DCE], 2020a). Second, DCERG issued a Public Call for Evidence, with submissions reviewed by the Task Force for inclusion in the Carbon Plan. Third, DCERG committed to holding a Citizens' Assembly in order "to enable views of the general public to play an important role in the production of the Devon Carbon Plan" (DCE, 2020b).

DCERG and Devon County Council have collaborated with researchers from the University of Exeter to inform how the Devon Climate Assembly will be undertaken (see Positionality). University researchers were commissioned to conduct evidence reviews about citizens' assembly design and delivery, with the aim of ensuring adherence to best practice, and by association the legitimacy and credibility of the assembly. The Covid-19 pandemic severely disrupted the Carbon Plan process, pushing it back to mid-2021, necessitating the assembly to be held online. Instead of deliberating on the entire Plan, DCERG decided that the assembly would focus on a small number of particularly challenging and controversial issues. These include disincentives on private car use, changes to land management associated with reduced meat production and consumption, and use of onshore wind energy to generate low carbon electricity. Within this evolving local context, we address research gaps concerning the expectations and anticipations of democratic innovations when citizens' assemblies are held in places for the first time.

3. Methodology

A single case study research design (Yin, 1981) was employed, with the aim of providing an intensive, in-depth investigation (Sayer, 1992) of local stakeholder perceptions of the Devon Climate Assembly. Interviews with commissioning and independent expert stakeholders enabled deep insights into the perspectives of those commissioning the assembly process, with a specific focus on understanding the perceptions of local authorities and other local decision makers. A survey with engaged publics enabled us to gauge perceptions of public stakeholders who had declared an interest in the assembly process.

16 in-depth interviews were conducted between June and September 2020. Interviews were conducted with DCERG members from local authorities (n = 10), membership organisations such as land based, business and environmental organisations (n = 3) and a Devon County Council representative (n = 1) as well as members of the Devon Climate Emergency Task Force (n = 5). In the rest of the article when referring to DCERG stakeholders in general, we use the term 'commissioning stakeholders.' Elsewhere we use the term 'council stakeholders' to distinguish issues common to local authority interviewees. Interview questions focused on stakeholders' expectations of the Devon Climate Assembly and their perceptions of its value, challenges, risks, opportunities and uncertainties in the context of the wider Carbon Plan process (see the Supplementary File for interview schedule).

A questionnaire was used to capture the perceptions of engaged public stakeholders. Recruitment was undertaken in collaboration with Devon County Council, who identified and facilitated introductions to 100 individuals who had submitted evidence in the 2019 public consultation. Of the 31 people who completed the survey, only seven stated that they represented a voluntary organisation or activist group such as a local Green Party group and a Community Renewable Energy group. The majority (89%) were aged 50 years or over. Geographically, public participants were more likely to reside in rural areas or the more populous areas of South and East Devon, with relatively few from urban areas. The survey questions focused on perceptions of, and confidence in, the public consultation process, expectations of the citizens' assembly, and perceptions of the risks and opportunities of using a citizens' assembly to address climate change (see the Supplementary File for survey instrument).

Interview data analysis was conducted using Nvivo led by the first author. Thematic analysis (Braun & Clarke, 2006) was used to identify issues of risk and benefit, legitimacy and credibility that were important to participants, linked to the main research questions. Analysis of survey data combined descriptive analysis from multiple choice questions and manual thematic coding of open ended answers. Both sets of analyses were integrated to form an over-arching narrative using a form of triangulation (Baxter & Eyles, 1997). In reporting the findings below, we use thematic headings which emerged as part of our predominantly inductive analytical approach.

In terms of positionality, this study was conducted in collaboration with Devon County Council—the lead instigator of DCERG—who co-designed and co-funded the research. Although acting as expert advisors within the process, through the production of two rapid evidence reviews on mini-public deliberation for DCERG and the Task Force, the researchers sought to maintain a self-reflexive position throughout when they engaged with the participating stakeholders, to retain a critical independence with regard to the aims of the research, methodology, and how the findings were interpreted and used.

4. Key Findings: Democratic Innovation, Climate Governance, Risk and Representation

Our findings indicate that stakeholders across all groups believe that citizens' assemblies hold potential as sites of democratic innovation on climate change. However, a spectrum of opinions on the purpose of the Devon Climate Assembly were apparent, ranging from perceiving the need for innovative forms of democracy, to perceiving a need for intensive public education and behaviour change. Democratic innovation was perceived by all stakeholders as fraught with risk, albeit with distinct stakeholders being concerned about differing risks. These risks relate to the processes and outcomes of the assembly, focusing on issues of legitimacy, representation and the spatial context of the process. Commissioning stakeholders in particular made evident their fundamental concern to demonstrate that the assembly is a legitimate and transparent process.

This section will present the differing narratives of democratic innovation expressed via stakeholders' perspectives on the Devon Climate Assembly, whilst also interrogating perceptions around the risks of legitimacy, representativeness and the spatial context of the process.

4.1. Democratic Innovation and the Challenge of Climate Emergency Governance

For some council stakeholders, the value of the citizens' assembly was in "challenging the position of politicians…in order to make changes" (DCERG Interview June 2020). There was recognition that politicians and local authorities are unable to act alone to tackle climate change, resulting in a narrative of 'bringing the public on board.' Extending democracy to the people of Devon was seen as essential so that the public could "own it [the Carbon Plan] and feel that they can shape it. This is vital for a do-able, active plan" (DCERG Interview July 2020).

Stakeholders recognised that multiple complexities are inherent in the process of addressing pathways to Net Zero. For instance, they acknowledged the complexity of knowledge and information regarding climate change and the wide range of knowledges relating to different critical policy areas. In addition there was acknowledgment of the multiple scales of governance, notably the importance of central government for themes such as energy and transport, which further compound the context of making controversial policy decisions.

For council stakeholders, democratic innovation was viewed as creating a welcome pathway through these complexities, providing leadership and political cover for local authorities. A collective approach was welcomed within this narrative of 'hard decision making.' However ultimately interviewees feared that politicians may still make decisions with an eye toward winning elections. The Devon Climate Emergency Task Force interviewees focused on fears that the general public would reject an opportunity to make hard choices that would impact on their lifestyles and consumption practices. A smaller number of interviewees, representing membership bodies, feared that the citizens' assembly would produce outcomes that were too radical for their membership and/or are not implementable.

The citizens' assembly was, therefore, seen by stakeholders in multiple and overlapping ways—as a novel way to engage in climate policy making, and as an instrumental tool for public education, a theme expressed by a range of stakeholders who saw it as a process that "touches on people's lifestyles" and "instigates behaviour change" (DCERG Interview July 2020). Interviewees saw the potential for the assembly to enable policy and behaviour change, providing a sound evidence base for politicians and assembly members whilst also educating the wider public on why these issues matter and why hard decisions are required.

4.2. Democratic Innovation and Risk

There was awareness of great risk in implementing democratic innovation but also risk in remaining with politics as usual and not addressing the urgent issues of climate change. Mass climate change protests in 2019 were seen to have changed public perceptions of climate change and created a need for political action at all levels:

> It was one of Extinction Rebellion's…national demands and we thought locally it made a lot of sense…there are things that we can do at a Devon level but there are things that need to be done at a national level….And there are things that can be done at a very local level that don't need any kind…of large organisational support for, and we wanted to try and find a way of expressing that. (DCERG Interview July 2020)

Our analysis highlights that commissioners of the Climate Assembly were aware of potential positive impacts of a citizens' assembly and wider Carbon Plan process. They emphasised the importance of a wider public engagement and a communication plan that would run alongside the citizens' assembly to enable the public to both follow the steps of the process, i.e., observe its legitimacy, and to be informed along with assembly members about the complexities of the issues under deliberation. However commissioning stakeholders were also highly aware of the risks of the assembly. Issues of legitimacy overarch the concerns commissioning stakeholder expressed about the assembly, which was seen to be of fundamental importance to the success of the project.

Engaged publics also expressed concerns regarding the legitimacy of the citizens' assembly process, with concerns about the procedures for running the assembly that focused on issues of representation, knowledge sharing and facilitation. Their concerns can be summarised as relating to issues of power and authority in decision making, i.e., whose voice and whose knowl-

edge are listened to? "Legitimacy in my eyes would involve excellent leadership allowing full consideration of information & proposals from bona fide scientists and climate experts….Who appoints the expert witnesses? Lack of transparency or bias in how people are invited to take part" (extracts from open ended questions from the engaged publics survey September 2020).

4.3. Democratic Innovation and Representation

Issues of representation were central to commissioning stakeholders' concerns and can be summarised as being primarily centred on achieving fair representation of Devon residents by taking into account perspectives from less populous, less economically resilient areas. This was seen as essential to achieve public buy-in for the outcomes of the Carbon Plan process. Secondly, issues of representation focused on bringing in wider perspectives into decision making, linking matters of representation with issues of power and authority in democratic innovation.

4.3.1. The Rural Context to Climate Change Decision Making

For council stakeholders, there were significant concerns how a public panel could represent the diversity of lived experiences across Devon. Concerns focused on those living in rural areas that experience a lack of services, less employment opportunities and areas of significant deprivation. There was concern that decisions taken in a citizens' assembly would not reflect the lived experiences of those living in less economically resilient rural localities. Council stakeholders projected anxiety that the more densely populated areas would attract more representation in the assembly process. They believed that city regions and densely populated areas would be prioritised in the recruitment process, side-lining and weakening rural voices:

> I think you could be disenfranchising a large portion of…the Devon decision makers and…and the public as well, because it's not seen as being truly representative, and it's going to be the usual Exeter, Plymouth, Torbay focus….So it's not northern and it's not rural. (DCERG Council Interview June 2020)

Concerns about a lack of rural representation arose in part from where the 2019 expert hearings were held. Despite proposing several northern locations, hearings were conducted in the south and east of the county. Poor transport links and unreliable digital infrastructures were reasons, stakeholders believed, underpinning the decision not to hold hearings in North Devon. This fuelled concerns that spatial bias may be replicated in the representation of the Devon Climate Assembly itself.

Concerns relating to the lived experiences of rural areas were not limited to the operation of the assembly, but also linked to apprehensions about potential outcomes. Different types of stakeholders, including commissioning stakeholders and engaged publics, expressed concern that recommendations from the assembly relating to land use, the rural economy and farming may fail to account for the needs and heritage of rural and farming communities:

> Devon has a real challenge in those rural areas having more reliance…on less sustainable travel or less sustainable energy…it's going to be very difficult for the carbon plan to come up with a one size fits all approach…not just the urban area…but the rural area…where it's a bit more difficult…those areas could be left behind….So I think that taking the views of the rural areas on board…will help us to ensure more of a just transition across the whole county. (Devon Climate Emergency Task Force Interview July 2020)

This articulates awareness of the challenges of finding implementable climate outcomes that work across the varied geographies and lived experiences of Devon communities. Engaged publics also emphasised the importance of agriculture to the local economy of rural Devon; reinforcing stakeholders' agreement that representation of the rural voice on the assembly was imperative to perceptions of its effectiveness and legitimacy. That the Climate Assembly could unlock the complexity of devising climate change policies and strategies that are operable across the sub-region was a hope all stakeholders agreed with.

4.3.2. Process of Participation: Bringing Wider Voices into Decision Making

Public participation was viewed by commissioning and the Devon Climate Emergency Task Force stakeholders as an essential way of determining public perspectives on climate policy change, and as a method of generating public 'ownership' of those policy changes. The Climate Assembly was seen as a way to bring in wider perspectives to decision making, including usually disengaged voices. It was seen as a public engagement tool that would go beyond commonly used methods such as public consultations or information campaigns. For this reason and considering the inherent complexity of tackling climate change, stakeholders were predominately positive about the potential for the Climate Assembly to produce insights into public perspectives and as a vehicle to gain 'social permission from people' for policy outcomes (Devon Climate Emergency Task Force Interview September 2020):

> You tend to get a certain demographic of people who respond…you don't really have an inkling of how representative it is of people who particularly don't tend to get involved. Particularly lower socio-economic groups, ethnic minority backgrounds,

> young people particularly. (DCERG Council Interview October 2020)

This reflects widely held views from stakeholders that question the legitimacy of conventional public engagement processes (and the demographic details of public respondents in our research partially supports this finding as the majority of respondents were aged over 50—other demographic details such as education and ethnicity were not collected). The perception was that for more radical policy changes to be publicly acceptable, input from a more diverse demographic (that is perceived to be representative) is needed to ensure that policies that are approved will have the potential for wide public buy in. Citizens' assemblies were seen as making public engagement meaningful and having the potential to extend democracy to a wider demographic of citizens than those who usually vote.

Many stakeholders discussed the importance of having an extensive communication campaign running alongside the assembly. The objective of this would be to enable a Devon-wide audience to digest material shared to the assembly with the result that the public are educated about the imperatives and potential pathways for policy change. Some stakeholders offered suggestions for best practices for a successful communication campaign which focused on issues of who the public would listen to and engage with:

> So the outcome of the citizens' assembly is presented in a language that will come across well on Spotlight [local area TV program], or Radio Devon…then ideally…there will be some leaders that emerge from the citizens' assembly…if they are people who the average viewer of Spotlight will relate to then that's going to be the way in which it's going to really land. (DCERG Council Interview July 2020)

Concerns about how to communicate to a wider audience to gain public buy-in on climate change policies links closely to wider themes of representation and questions relating to who has the authority to determine climate change policies.

Commissioning stakeholders expressed concerns about the impacts of Covid-19 on public perceptions of the urgency of climate action. Another impact of Covid-19 is the requirement to redesign public engagement to run online. Commissioning stakeholders perceived an online citizens' assembly to potentially overcome challenges of access, removing the necessity to transport assembly members and expert witnesses around the sub-region. However, all stakeholders expressed concern that a digital divide would impact on representation in an online assembly, which was seen as being a particular issue for rural and northern communities with poor access to digital infrastructures.

Taken together, the analysis indicates widespread support, yet also considerable risk and uncertainty associated with holding the assembly. Broadening the range of public voices inputting into policy was deemed necessary for effective climate response, although scepticism existed about the practical challenges of ensuring citizen representation, and about whether politicians, and society, would embrace the 'hard choices' required. Nonetheless there were aspirations that the assembly could serve as a tool for education and behaviour change, as well as providing a mandate for change. In summary, the research suggests an approach of 'cautious experimentation,' rather than a radical attempt to reconfigure power relations between citizens and politicians, with a commitment to democratic innovation widely embraced yet carefully constrained to minimise risk and uncertainty.

5. Discussion and Conclusion

Our research considers whether a 'new climate politics' is emerging across different societies, founded upon calls for urgent change from civil society groups and social movements, new narratives and declarations of Climate Emergency, the setting of target dates to achieve climate neutrality and the innovation of democratic mechanisms with an emphasis upon mini-public deliberation. Recent events in Devon, England present a suitable case study to begin to address this question of an emergent 'new climate politics,' given Emergency declarations by local councils, the establishment of a new stakeholder coalition and expert task force, and the commitment to hold a citizens' assembly on climate change. It also enables several research gaps to be addressed, notably concerning a priori risk perceptions held by stakeholders and non-participant publics concerning the benefits, drawbacks and uncertainties associated with a citizens' climate assembly, as well as important spatial dimensions of perceptions of legitimacy and credibility across rural and urban geographies. As such, the research contributes to debates concerning public trust in political institutions, and the institutionalisation and broader purposes of public deliberation (Devaney et al., 2020; Devine-Wright, 2017; Dryzek et al., 2019; Farrell et al., 2019). Such research knowledge also provides practical value to those wishing to embed deliberative public engagement alongside traditional representative democracy.

Addressing our first research question, we found that local stakeholders—specifically those commissioning the assembly and members of the wider public—perceived representative politics as unlikely to effectively tackle climate change due to its focus on time bounded, party political election cycles. A citizens' assembly and its wider governance processes, which entailed multi-agency and multi-sectoral partnership of local organisations operating at different levels of governance, was seen as providing an opportunity to address the inherent complexity of climate change whilst also providing politicians with a process that would provide legiti-

macy for the bold policy changes that might be required. As such, our research concurs with other work which has noted the role of deliberative mini-publics in tackling difficult and contentious issues (Parkinson, 2004; Renwick et al., 2018), and shows how the institutional apparatus surrounding an assembly can provide political decision makers and public managers with the legitimacy for decisions in these contentious areas. In terms of perceived risks and opportunities, the process of a citizens' assembly was seen as a tool for extending democratic processes beyond 'politics as usual,' engaging a wider set of voices than 'conventional' public participation processes. That said, there remained scepticism about the potential of an assembly to overcome political priorities connected to winning elections. A climate assembly was also viewed as an opportunity for public education and behavioural change, grounded in scepticism that publics would accept 'hard choices' embedded in everyday lifestyles and consumption habits. In this regard, the assembly can be seen, to some degree, as an instrumental tool to foster behavioural change, as much as the re-configuring of power relations between citizens and elected politicians (Elstub & Escobar, 2019; Hendriks, 2006).

The assembly was also perceived by stakeholders as an opportunity to understand and involve diverse public perspectives, including those less likely to vote. From a policy maker's perspective, the assembly was seen as providing 'political cover' for local authorities to tackle complex controversies that have multiple scales of governance and geographies of citizens. Yet there was considerable uncertainty about the likely outcomes of an assembly, with some worried that its recommendations may be too radical, and others that they may not be radical enough. Worries were expressed that the outcomes and recommendations may disadvantage populations in the more rural and economically disadvantaged parts of the County, further contributing to longstanding geographies of social and economic vulnerability.

Addressing the second research question, concerns relating to legitimacy focused on diverse issues, bound up with the perceived necessity for inclusion of a wide range of perspectives including those from rural and farming areas, and the need for a process which was transparent and seen to be so, including transparency over the selection of witnesses. Taking account of the varied geographies of the county was seen as part of delivering a just transition to Net Zero. Process issues like good facilitation were mentioned as well as issues of design, formatting, quality of deliberation, what information is shared and by whom, the numbers of people involved, and how representative the assembly was perceived to be (issues of input and throughout legitimacy), as well as whether the findings were listened to and implemented, reinforcing the need for 'output legitimacy' (Devaney et al., 2020). Transparency and a robust process were therefore seen as critical to navigating the potential risks of the project.

Themes raised by research participants resonate with existing literature on democratic innovations. Key issues of representativeness/inclusiveness and transparency raised by our research are connected to the need for input and throughout legitimacy in citizens' assemblies articulated elsewhere (Devaney et al., 2020). Furthermore, mini-publics are conventionally seen as providing opportunities for engaging wider groups of participants than in other public engagement processes due to the processes of randomisation involved (Escobar & Elstub, 2017; Smith, 2009; Smith & Setälä, 2018). In our study concerns were expressed over whether this would be achieved, particularly in relation to the rural and less economically advantaged population, and digital divides that may emerge in an online assembly.

In conclusion, the case study provides an example of 'cautious experimentation' where a commitment to democratic innovation is widely embraced yet carefully constrained to minimise risk and uncertainty. Citizen input will be enabled by the assembly, but within a broader multi-stakeholder, multi-stage process where power remains vested in experts (in the Task Force) and incumbent institutions (in the DCERG) rather than youth, civil society groups or social movements. Moreover, the Devon Climate Assembly recommendations will only inform policy, not make decisions. In these ways, it can be said to offer a modest example of a 'new climate politics,' with minimal challenges, at least at this stage in the process, to the power and authority of existing institutions.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

Carbon Ruins: Engaging with Post-Fossil Transitions through Participatory World-Building

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Abstract
While many pathways to post-fossil futures have been articulated, most fail to engage people in imagining themselves as being part of those futures and involved in the transition. Following recent calls for more immersive experiences, the 2019 initiative "Carbon Ruins—An Exhibition of the Fossil Era" (Carbon Ruins) is a performance set around a historical museum from the future, which uses recognisable, culturally powerful physical objects to bridge the gap between abstract scenarios and everyday experiences. Through its physical presence and extensive media coverage, Carbon Ruins struck a chord with scientists, activists, creative professionals, policy makers, civil society organisations, and the general public. Like other imaginary worlds, Carbon Ruins is not finished. It is an open-ended process of narrating, imagining, and representing (the transition to) a post-fossil future. In this article we reflect upon Carbon Ruins as a participatory form of world-building that allows for new ways of knowing, and new ways of being, in relation to post-fossil transitions. We discern three different kinds of authorship that were taken on by participants: as originators, dwellers, and explorers. While the originator makes the future world a recognisable place, the dweller can engage active hope in place of a passive sense of urgency, and the explorer can transform resignation into commitment, with a fresh determination to leave the fossil era behind. Situating Carbon Ruins within a critical political tradition, we find post-fossil world-building to be a form of critique that destabilises accustomed ways of thinking and opens up new fields of experience that allows things to be done differently.

Keywords
critical practice; experiential futures; imagination; post-fossil futures; world-building

Issue
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1. Introduction

The year is 2053. The curator at the recently inaugurated museum Fossil opens:

> Welcome to the Carbon Ruins exhibition! It is created to act as a form of collective memory from the fossil era, and as a space in which to discuss what living sustainably in a post-fossil society actually means.
>
> The exhibition is also a way to celebrate that we were successful in limiting global warming to 1.5 degrees and reaching our net zero emissions goal three years ago. Here in Sweden, we are proud to have been the first—and not just first, but early! We hit zero emissions back in 2045, in accordance with the climate laws laid down in the twenty-tens. I think we deserve a little bit of applause for that, don't you?
>
> *applause*

It is well understood that imagination is crucial for societal transformations (e.g., Ghosh, 2017; Linnér & Wibeck, 2019, 2020). How we imagine the future shapes the choices we make in the present and, conversely, our failure to imagine alternative futures hampers us in organising society differently (Andersson, 2018; Beckert, 2016). Transitions to post-fossil futures are imagined through a range of different means, such as emissions trajectories, energy scenarios, industry road maps, and long-term climate policy strategies. These have, however, largely failed to meet the world as it is now, or tell us about how we will inhabit future worlds. Transitions become intangible, abstract, and out of reach for citizens and organisations. So, despite the proliferation of scenarios and visions, and assurances that, for example, the EU *will* be climate neutral by 2050 through a new Climate Law, we still know very little about how such an imagined post-fossil world works, and how we get there. We are not drawn into these post-fossil worlds in the same way as we are immersed in Tolkien's, LEGO's, or Minecraft's. But why is that? Shouldn't it be possible to tap into the joy of inventing, building, and visiting imaginary worlds as a way to wrestle with the inertia and path dependencies that lock us into high-carbon economies (Bernstein & Hoffmann, 2019)?

We take, as a starting point, inspiration from Levitas (2013)—utopia as emergent expressions of a better world—to explore how imaginary worlds that are still open and 'unfinished' can enable participants to craft stories about a transition that are compelling for other people. What bearing speculative post-fossil world-building could have on the conceptual and theoretical work of academia might not be immediately obvious. But interventions like "Carbon Ruins—An Exhibition of the Fossil Era" (hereafter Carbon Ruins) can be seen as having a methodology that resembles 'critical environmental politics,' broadly conceived: They seek to make the familiar appear strange, and so bring the unfamiliar into clearer focus (Death, 2014, p. 1). By destabilising our accustomed ways of thinking, such interventions clear a space for things to be otherwise (Burchell, 1996, p. 33). Climate imagination can thus be a critical practice that seeks to "gain clarity about the conditions under which we think and act in the present" (Dean, 2004, p. 36). By problematising what is given to us as necessary to think and do, Carbon Ruins aligns with more familiar modes of critical scholarship such as those emanating from Marx, Gramsci, the Frankfurt School, or post-structuralism. But the insistence of Carbon Ruins on staging a speculative immersive experience is something it shares with many works of visual and performance art. Thus, we find post-fossil world-building, along the lines we develop in Carbon Ruins, to be a form of critique that calls for playfulness and experimentation with possible spaces of transformation. Our ambition with Carbon Ruins echoes Foucault's epistemological gesture, that "knowledge is not made for understanding; it is made for cutting" (Foucault, 1984, p. 88).

Departing from a Rancièrian account of politics—one that opens up new spaces, possibilities and conversations—Candy (2010) suggests that we need critical futures thinking in order to move beyond a 'politics of the obvious' and deliberately craft moments where the world could be seen and experienced otherwise. Design and fiction are hence indispensable tools for engaging politics. In this aesthetic register, some ways of seeing or doing are made visible, thinkable, or available in a way that they previously were not (Candy, 2010, p. 130). The problem, however, according to Candy, is that our performative and material practices for thinking possible worlds 'out loud' are underdeveloped. We need to design and stage interventions that:

> Exploit the continuum of human experience, the full array of sensory and semiotic vectors, in order to enable a different and deeper engagement in thought and discussion about one or more futures, than has traditionally been possible through textual and statistical means of representing scenarios. (Candy, 2010, p. 3)

Hence, the political needs not just to be interpreted, but enacted through a variety of material and aesthetic forms.

In 2019, scholars associated with Lund University developed Carbon Ruins. The world of Carbon Ruins was represented as a historical exhibition in the Swedish museum Fossil. Through a range of objects, narratives, performances, and images, the museum evidences how humanity finally responded to intensifying climate disruption. The aim is to inspire hope in the early-21st-century visitor that a post-fossil transition is possible, if neither simple nor without loss. The collection and the interactive elements of Carbon Ruins frame transition in the past and 'future present' as a process that has already happened. Remnants and artefacts of the high-carbon era are displayed alongside accounts of their journey to obsolescence, a presentation that estranges them from their original context and instead makes them visible as carbonised objects and agents of climate injustice. Remember frequent flyer cards? Beef burgers? Plastic toys, steel bottles, and concrete infrastructures?

Despite the overarching frame narrative that forms the backbone of Carbon Ruins—that we did indeed manage to meet the Paris Agreement target of limiting global warming to 1.5 degrees—Carbon Ruins is not told as a single story. In that sense, its features most resemble what Wolf (2012) calls 'imaginary worlds.' While all the different elements of Carbon Ruins contribute to the making up of a post-fossil world, they are not there simply to advance the story of how we transitioned away from the fossil era. Rather, they invite the participant to actively immerse themself *into* that world and become part of it, in order to remember the losses and sacrifices, the feel and smell of things lost or left behind, and the joyous moments once the transition was well under way.

To catalyse engagement with climate politics, we discuss in this article the potential of depicting post-fossil transition as culture, rather than technology; and as experience, rather than as policy scenarios and industrial visions. We reflect, in particular, upon Carbon Ruins as a participatory form of world-building that allows for new ways of knowing, and new ways of being, in relation to post-fossil transitions. Following this introduction, in Section 2 we introduce the concept of 'world-building,' and discuss how imaginary worlds could be developed and used. We describe how the Carbon Ruins world was made and how it continues to expand, still being added to and coming to life in new ways. In Section 3 we articulate three different kinds of authorship that participants engaged in, and what that meant for the ways in which Carbon Ruins spurred new kinds of conversations on climate change and post-fossil transitions. Finally, we reflect on our experience of creating imaginative spaces that could be inhabited by various publics, and the kinds of engagement with a post-fossil world it gave rise to among participants.

2. Imaginary Worlds

The process of constructing an imaginary world is often called world-building. This work takes a number of forms today, including science fiction novels, video games, and energy projections. Key to the success of a world-building project is an imaginary setting that is coherent in its ecology, its geography, and its cultural features, including its politics. Humans' ability to simulate situations has guided our evolution throughout history (Holland, 2009). When responding to imaginary worlds, we engage both abstract thought and emotion, to vividly simulate what is not but might be. The study of such worlds has a long tradition in literary theory, media studies, anthropology, sociology, international relations, and more. Insights drawn from across this wide field of study helped us find our point of departure with Carbon Ruins. Weldes (2003, p. 11) calls for a study of politics that uses 'possible worlds' to "explore elements of contemporary society in more or less estranged settings." Crawford (2003, p. 209) draws attention to the close affinity between critical theory and science fiction, where our present is destabilised through utopian science fiction's narrative techniques of extrapolation, estrangement, and defamiliarization. The development of specific utopian visions is the necessary first step towards identifying the obstacles to social and political change. Feminist utopian science fiction with its insistence on emotional engagement, passion, and hopeful reconstruction, is an example of a fertile ground on which to remake world politics (Crawford, 2003). Similarly, Nordin (2010, p. 110) relates science fiction writing to the long tradition of the thought experiment in analytic philosophy. He cites in particular the *Foundation* trilogy of Isaac Asimov and the *Mars* trilogy of Kim Stanley Robinson, calling for a philosophy of 'meaningful speculation' for which fiction can be a powerful tool.

Literary scholars have stressed the importance of authenticity in imaginary worlds. As Tolkien put it, in order for an imagined world to read as credible, it must be presented 'as true' (1947). Suvin (1979) argues that the genre of science fiction uses a variety of tropes and techniques to generate the necessary 'cognitive dissonance' to project its audience into an imagined alterity or futurity. Expanding on this, recent work in the emerging field of design fiction (Candy, 2010; Candy & Dunagan, 2017), as well as work within media studies (Wolf, 2012) have drawn attention to the particular qualities of world-building—the shift from story to world. The best imaginary worlds have an open-ended, work-in-progress quality. Think, for example, of Star Trek, which has unfolded across decades and diverse media—film, TV series, video games, and so on. As Jenkins puts it, "we are drawn to master what can be known about a world which always expands beyond our grasp" (2007, as cited in Wolf, 2012, p. 11). Following Wolf (2012, p. 17), the imaginary world of Carbon Ruins is a realm of possibility, a mix of the familiar and unfamiliar, of dread and dream, that can make us more aware of the circumstances of the actual world we inhabit. Carbon Ruins is multi-authored, with new stories perpetually being made about places, characters and agents of change. Such a mode of engaging with post-fossil transitions through participatory world-building is what makes Carbon Ruins distinct from other future exercises and thus worth exploring in more detail.

In recent years, representations of a climate-changed world have proliferated in the forms of art installations, literature, movies, exhibitions, and games. Some of these emanate from the cultural and creative sector, others from within academia, urban planning, or the media industry. Representing this wider production of 'climate imaginaries' is beyond the remit of this article, but a few examples are introduced as context. Hajer and Pelzer (2018) ran a staged performance of a multimedia installation that tells a story of the large-scale exploitation of the North Sea for harvesting offshore wind energy, and Pelzer and Versteeg (2019) facilitated a contest that concerned imagining a post-fossil city. A wide range of immersive and interactive art installations have nurtured alternative forms of world-building (see, e.g., Bendor, Maggs, Peake, Robinson, & Williams, 2017), while Robinson (2003), Wangel (2012), Candy and Dunagan (2017), Hesselgren, Eriksson, Wangel, and Broms (2018), and Wangel et al. (2019) have experimented with new forms of participatory future-making. There is more analysis to be done on the features that these projects of climate-change world-building have in common and the differences between them. Our preliminary view is that these examples represent instances of pluralistic and performative anticipatory approaches to climate governance (Muiderman, Gupta, Vervoort, & Biermann, 2020).

2.1. Making the Carbon Ruins World

Carbon Ruins opened on 8th April 2019 at Lund University (see Figure 1). To engage with different audiences, it toured around Lund, hosted by the Town Hall in May, the Cathedral Visitors' Centre in September, and the Public Library in October. The exhibition was guided over 100 times and visited by nearly 6,000 people in 2019. Following requests to display the exhibition in other venues, a mobile version was developed in the summer of 2019, housed in a 100-year-old trunk that has retained its original appearance (see Figure 2). Since October 2019, the trunk has been on display locally in Lund as well as in other cities in the south of Sweden—Malmö, Växjö, and Helsingborg. Plans for displaying it in Stockholm had to be relinquished due to the Covid-19 pandemic, but since the autumn of 2020 Carbon Ruins appears as part of the "Human Nature" exhibition at the National Museums of World Culture in Stockholm. In March 2020, a digital audio guide app was developed, which allowed for an immersive experience that could either accompany, or function independently of, the exhibition.

Wolf describes the way imaginary worlds come to life across different media and story arcs, "grow[ing] in clarity and detail, inviting us to enter and tempting us to stay, as alive in our thoughts as our own memories of lived experience" (Wolf, 2012, p. 2). In Carbon Ruins the device of a fictional museum exhibition is deployed to produce a sense of the present as the future's past. The museum, being a site of shared public memory, is a format of many useful rhetorical capabilities. The audience already knows what to expect from a museum. They have a prior relationship with the format that helps visitors make the imaginative leap into the present as past. Each 'portal' object contains information elements—the look of a fast-food burger, the feel of plastic turf, or a narrative of how locals formed a new sustainable mining business—that add detail to the imaginary world.

A basic frame narrative tells us that the year is 2053, that we are in Sweden, and that we met the Paris Agreement target of limiting global warming to 1.5 degrees. A brief outline of what this means for Sweden, in terms of local climatic changes (e.g., increased risk of forest fires and changes to the length of seasons), sets the world parameters with which all other elements of Carbon Ruins have to be consistent. From January to March 2019, we hosted scenario workshops and conversations with experts and practitioners in the areas of energy, steel, plastic, mobility, and agriculture to produce the first building blocks of this world. Participants were introduced to the frame narrative and given the task of reflecting on current practices or objects that would have changed or become obsolete in the Carbon Ruins world. They were also asked to speculate how that transition happened, why particular objects disappeared, who the agents of change were, and which key events would structure the story of that

Figure 1. Carbon Ruins at Lund University. Photography by Håkan Röjder (8 April 2019).

change. A core group, which included the authors of this article, then designed the formal exhibition architecture and curated the objects.

Another key world-building block is a large canvas timeline of the fossil era (1849–2049), which highlights three (fictional) historical periods: the years of Great Expansion, the years of Fossil Fears, and the Transition years.

Key speculative events in the Carbon Ruins story are the bursting of the global carbon bubble in 2024, the introduction of the EU Transitional Agricultural Policy in 2026, the decommissioning of the Bełchatów coal-fired power plant in 2036, and the closure of the last blast furnace in Sweden in 2042. Stepping into the exhibition, participants encounter a selection of artefacts that draw attention to the changing practices that have made these objects obsolete. Some objects, such as minerals used for electric vehicles, or bumblebees and beetles, bring attention to sustainability challenges that might remain, or are even intensified, in a post-fossil future.

Participants were invited to send written questions and reactions to the exhibition's email address. They could take guided tours, in which the guide prompted them to immerse themselves in the world by imagining who they were in 2053 and what they did during the transition years (photographs from two such guided tours can be seen in Figure 3). In this way, a tool for time travel was provided to the participants. Acting as guides, scholars from the core group guided visitors through the exhibition and introduced them to the objects on

Figure 2. The mobile version of the Carbon Ruins exhibition. Photography by Ludwig Bengtsson Sonesson (24 October 2019).

Figure 3. Guided tours at different locations. Lund University (top), public library (bottom). Photographs by Caroline Mårtensson (top; 8 April 2019) and Roger Hildingsson (bottom; 10 October 2019).

display by narrating the role each played in the transition, what made them change, and who the agents of change were. The guided tours also created room for conversation and dialogue between the narrators and the visitors. The stories being told were deliberately not too fixed, but were left intentionally open to spark visitors to react, ask questions, and intervene—from the perspective of their future selves. Visitors' comments and imaginative reactions were picked up on and sometimes incorporated into the storytelling in subsequent tours. After every guided tour, some time was spent out of character to allow the participants to ask ques-

tions and leave suggestions as to how to further develop the exhibition.

This feature was further developed into fictional storycrafting workshops in which participants were asked to craft their own stories about the transition years. These workshops turned out to be critical for the expansion of Carbon Ruins, but also for nuancing what it means to participate in this world. Workshops were carried out with a wide range of participants, including visitors at public events, scheduled groups, researchers, and students. We also held one participatory performance in which the acquisition of a new exhibit was staged in character.

The Carbon Ruins world is based not on individual characters or a specific plot, but on a mix of elements—or sub-worlds—which can sustain multiple interrelated characters and their stories. This process of world-building encourages the audience's curiosity about "a world which always expands beyond our grasp" (Jenkins, 2007, as cited in Wolf, 2012, p. 11). Like other imaginary worlds, Carbon Ruins is not finished. It is an open-ended *process* of narrating, imagining, and representing (the transition to) a post-fossil future. At all the sites, events, and interventions, participatory world-building took place. Because of its participatory performance character, Carbon Ruins is also a world that evolves, making it able to represent many different, though similar, futures. New objects and stories are continually being added, while others are changed or removed. Everyone who visits Carbon Ruins is thus considered a co-author in the work of world-building. While some have contributed extensive story-making and research, others have contributed a question or a nod of recognition which, however simple a gesture, nevertheless involved them in the shared imaginative project. To participate in Carbon Ruins is thus an *exploratory* as well as a *co-creative* exercise, and a *cross-learning* experience. The more actively you participate, the more you learn about and shape the world.

3. Ways of Knowing, Ways of Being: How People Engaged with Carbon Ruins

Carbon Ruins allows for physical immersion in the post-fossil world of 2053. In the museum, the visitor is surrounded by objects that belong to an era that is now gone, creating a sensory and conceptual immersion by which the participant becomes mentally and emotionally involved. The aim of the Carbon Ruins project was, however, to go beyond mere immersion and allow people to actively contribute to the world, so as to find their own place in the transition. Allowing visitors to add objects to the collections, and to invent and share new stories, makes the transition tangible and populates it with characters that people can relate to and identify with.

Our reflections on the kind of engagement with climate politics and governance this participatory world-building allows are based on participatory observation at the different sites and events that we have hosted, from the first world-building exercises to the guided tours and workshops. As guides of the exhibition, we interacted with the participants in different ways. We prompted them to imagine their (fictive) experiences of the transition years and answered spontaneous questions. Reactions and questions out of character were also common. Short notes of notable, recurrent, or unusual responses and remarks were written down after each guided tour or storycrafting workshops. Follow-up interviews were made with participants who had been more heavily involved in the world-building by participating more than once, actively inviting members of their own organisations to take part, or hosting the exhibition and so becoming co-organisers of the world-building. In total, five interviews were made. Four of them were individual interviews—two policy officers from Lund municipality and two officers from the Swedish Church—and the fifth was a focus group interview with three people from a traffic consultancy firm engaged in planning and sustainable mobility. As the Carbon Ruins project was heavily reliant on this kind of collaboration, we wanted to know why these people had chosen to bring the exhibition to their respective organisations, what expectations they had, and what it had meant for them as individuals as well as professionals. We also asked them if Carbon Ruins had somehow influenced the way their organisations were thinking about or working towards post-fossil transition.

Reflecting on our experiences and interactions during workshops, guided tours, and follow-up interviews, we discern three different kinds of authorship among the ways in which participants engaged with Carbon Ruins. Participants fell into the categories of originators, dwellers, and explorers. These authorships represent different positions taken when contributing to the world-building and should not be seen as fixed categories; a given participant might contribute as originator and as explorer, sometimes in the same world-building exercise. Although the world-building process of Carbon Ruins was open, it necessarily went through different stages that allowed different kinds of opportunities for participation and contribution. In the following section, we elaborate on how the different forms of authorship build bridges between current everyday worlds and the future; that is, how they make transitions tangible and relatable, and let people see themselves in that future world. We describe how the staging of different activities allows for the creation of different forms of authorship, and what these imply in terms of: (1) what questions were asked about, and in, the Carbon Ruins world; (2) the typical contributions of each type of author; and (3) the kinds of affective engagements these give rise to (see Table 1).

3.1. Originators

The originators were the first to inhabit the Carbon Ruins world. They produced the timeline, encyclopaedic content like newspaper clippings, and research papers from

Table 1. Modes of engagement for different kinds of authorship.

	Key questions	Ways of participating	Kinds of contributions	Affective engagement
Originators	What objects or practices were left behind in the post-fossil transition? Why where they left behind?	Workshops, meetings, study visits	Objects, stories, encyclopaedic content	Enthusiasm, creativity, knowledge deployment, speculation
Dwellers	What do you recognise? What do you remember? What does all this mean?	Guided tours, visits, audio guide, media coverage	Reactions, questions, reflections, added detail, contextualisation	Humour, play, imagination, personal stake, objections, hope
Explorers	What is missing? What do you challenge?	Workshops, interventions, hosting the exhibition	More stories, more objects, and alterations (challenging details or larger parts)	Hope, pathways to change, ownership

the future. They also devised stories of objects that disappeared or changed during the transition years. Most of the participants who took the role of originator were researchers or experts in relevant fields, participating in the initial world-building workshops together with the core group. They had typically not seen any of the other elements, as the Carbon Ruins world at that stage was yet to be constructed. The originators therefore did not have access to an already-existing imaginary world, or even parts of it. Important prompts that facilitated their engagement with the world-building exercise were the frame narrative, with its implications for Sweden and for specific sectors, and draft versions of the timeline. Their reactions to these were considered and incorporated into the imaginary world that was then coming into being. Drawing on their knowledge, expertise, and lived experiences, participants were invited to identify objects and practices that might be left behind or become substantially transformed in the transition, and to craft their own stories about what happened during the transition years.

As originators, they engaged with the task at hand with enthusiasm and creativity, and enjoyed the chance to apply their expertise and knowledge to speculative thought. Many even took the chance not only to leave behind undesirable objects and practices in the fossil era, but also to think about a better world to come. A common thread of wishful thinking and moral utopianism can be found in many of the originator stories. Without any sophisticated problematisation or further substantiation, many things were solved simultaneously by the transition to a future that was not only post-fossil but also resembled a near-perfect future society. The fossil era was looked back on not only as the period when human activity heated the Earth, but as an era of unsustainability in which we humans were unhealthy, wasteful, disconnected from nature and our senses, and so forth. This moral utopianism is not uncommon, and can be seen in other scenarios, but is contradictory to the pluralism strived for in critical utopianism. It is also less productive for building an imaginary world inhabited by persons characterised by all the shortcomings and deficiencies of human individuals. All this points to the challenges of engaging in imaginary thinking and meaningful speculation about a world yet to be. It is no simple matter to craft stories that are coherent and credible to various publics intended to inhabit such an unfinished world.

Not unexpectedly, many of the first stories developed were full of unsolved questions, inconsistencies, and loopholes, and fairly closely resembled the present world with its comfortable familiarity. An interpretation of the somewhat conservative first efforts of many originators is that, having no world to relate to but the present, the originators were *searching* for the Carbon Ruins future by grounding it in past and contemporary debates with which they were familiar. This is, however, an important facet of making a world which is felt as 'real.' The originator stories illustrate how this kind of authorship contributes to bring the imaginary world to life in the present by balancing novelty with plausibility. While dramatic and playfully exaggerated, many originator stories took inspiration from present phenomena, such as: the Liberate Tate performances at Tate Modern (the LEGO protests story); farmer demonstrations in Brussels and Paris (the milk riots); WW2-era practices of rationing and collective efforts (the steel crisis); or even inventing a fictive sequel of an acclaimed novel to show how language was once permeated by fossil fuel use (*Miss Smilla's Memories of Snow*). Stories like these added recognition, authenticity, and credibility to the processes of change in the Carbon Ruins storyworld. They made a post-fossil world feel like a plausible outcome, but showed that there were conflicts and strong emotions that emerged along the way.

3.2. Dwellers

Dwellers were more diverse in their engagement with Carbon Ruins than the originators. Entering into an

already existing but unfinished world as visitors and participants, they could react to, and expand on, the things they encountered. One participant reflected that the timeline, through its extension into the future, linked the Carbon Ruins world to the present and past, which made the immersion easier. Participants at the dweller stage were asked to recount (that is, invent) their own experiences of the transition years. Their imaginative engagement gave a new vividness to the Carbon Ruins stories that the originators had invented. As one of the interviewees expressed it: "Reality and imagination are blurred. That is what makes it different. Imagination is what makes it exciting. It also invites participants to dare speculate, and to dare move the boundaries for what is possible" (Policy officer, Lund municipality).

The immersion was not always an easy or leisurely one. It provoked a range of emotional responses. A few objects and their stories were particularly powerful for reflection on the personal stakes of a post-fossil transition. One participant said she experienced a kind of crisis when hearing the nylon stockings story, emphasising the carbon embedded in the nylon fabric: "So I'm, like, wearing oil? I have never thought about it that way" (anonymous person at one of the guided tours in Lund). Changed conditions for travel and leisure, in response to both mitigation strategies and a changing climate, were mourned. When listening to the story of how professional sportspeople protested climate change inaction by demonstrating how the conditions for winter sports were rapidly deteriorating, one participant painfully recounted a memory of the first time there was not enough snow at his favourite ski resort in Austria. This story, together with that of the frequent flyer card, also prompted reflections on the status travel has and what it means: "We live to travel. The trip really starts six months earlier. What is the meaning of life if we cannot travel? To show the kids: This is where we are going, that is when we will be happy!" (Policy officer, Malmö municipality). But anger was also provoked by the frequent flyer card because it belonged to a climate researcher. One participant countered by arguing that scientists were doing an important job, and they should not be blamed because they needed to travel, even though it implies emitting carbon to the atmosphere. This objection started a longer discussion on where responsibility lies and what it means to reduce flying (for whom, what kind of flights, how much does it matter). It also led to an expansion of the frequent flyer card story, not only making it about personal change but contextualising it, adding details on how academia as a whole responded to its excessive flying habits.

Most participants, however, referred to their engagement as a hopeful experience, remarking on a current of dry humour in the exhibition materials which they felt made it easier to scrutinise our present world and habits. It was important to dwellers that the path towards a post-fossil society was outlined, but that the way the transition unfolded was left open so that they could speculate on it and propose changes. Another important aid to active participation as a dweller is that the stories that make up Carbon Ruins are stories of a transition that has already happened:

> Carbon Ruins is a journey of transformation. How did we get here? Most of the time it is the other way around. You take small steps forward. Now we have already arrived here. It feels good to start from the future. Not being able to postpone the future, some decisions. Something changes when you think like that. (Policy officer, interview, Lund municipality)

Many participants also expressed an appreciation for the opportunity to contribute to world-building, with one praising the format's encouragement of speculation: "It allows you to think big" (anonymous person at one of the guided tours in Lund). But not all participants felt it was easy to contribute to world-building. A perceived lack of expertise and knowledge of the climate impact of various practices inhibited some dwellers' imagination, despite there already being a world in place to relate to:

> It was difficult to contribute with stories because you feel like you don't know enough! It felt hard to substantiate. It would be rewarding to do the whole thing again, with people with different competencies and perspectives who can contribute with different kinds of stories. To have a mixed group would have been very interesting. (Policy officer, Malmö municipality)

Other visitors expressed feelings of anxiety about the magnitude of the climate crisis, and wondered whether we are at all capable of handling it in any meaningful way. This, of course, also affected their engagement with Carbon Ruins, and prevented a complete absorption in the storyworld. This points to the need for further facilitation to achieve a deeper sense of engagement among various participants.

3.3. Explorers

A few participants stood out as engaging particularly deeply with the Carbon Ruins world. These participants, here referred to as explorers, went further than the dwellers by adding new fragments to the Carbon Ruins world and thus expanding its scope. Explorers typically engaged in workshops or performances, during or after visiting the exhibition.

Many explorers reacted to a perceived lack of pain and suffering in the narrative of the transition years and produced stories of inequality and unjust transition. One example was the suggestion of adding barbed wire as an object in the exhibition. The barbed wire would be a symbol of borders, and the horrible migration politics of the EU during the transition years. The story imagines a heat wave across the Iberian Peninsula in 2035, which leads to the collapse of the agricultural system in Europe, and a

large number of people fleeing to the north, which eventually mobilises a movement for a more humanitarian migration politics.

Another example is a letter sent to a (fictive) local Swedish newspaper which had favourably reviewed the Carbon Ruins exhibition. A middle-aged woman remembers how the famine she experienced during her youth made her infertile, and the reason she thought she would have for celebrating the transition—that a post-fossil world would allow her children and their children the possibility to live a good life—was stolen from her:

> For my own village the story was one of unimaginable pain. We depended upon fossil-fuel-based food systems. In the great agricultural transition, the food shortages of Europe pushed the rural marginalised further away from access to food. My family and I were forced to beg for handouts from the state, which in a changing climate was insecure and hungry. I saw neighbours flee the villages—to better times in suburban slums of rapidly growing cities. But most of all I saw anger. We had not caused this crisis—why were we to pay with the forced genocide of rural cultures? (Researcher, Uppsala University)

Explorer authorship was also facilitated by the workshops, in which groups from the same workplace or organisation had the chance to collectively formulate *their* transition story. One group from the Swedish Church expressed that the exercise of writing their story made them dare to think about what they really wanted, what the role of the Church really is in making sense of climate change. Their story was one of shifting theology:

> We returned to our eco-theological roots. Everything alive is part of God's creation. When the church loses money, it is seen as a release from the claws of capitalism. We share our economy….When you are buried your body becomes an organic bag in which you can plant a tree. We are co-creators in God's creation.

Not only does the Carbon Ruins world, then, provide a sense that post-fossil futures are possible, it might also, at least for some participants, invoke a kind of hope related to action:

> How do we talk about the future, is it bright or dark? What does that mean? The exhibition gives hope about the future, but it is also important to realise that we need to do things now if these visions are to be reached. What can we do to contribute? (Officer, interview, Church of Sweden)

The explorers were characterised by a will to take ownership of post-fossil transition stories. Their many amendments to the perceived lack of painful stories in the Carbon Ruins world points to the importance of including a multiplicity of stories about the transition, each one describing different victories, struggles, and sufferings that are relatable to different kinds of audiences.

4. Towards Imaginative Engagements with Climate Politics

The sites where a carbon-constrained world is represented and acted upon are nowadays everywhere, from the UN to the bike lane, from the boardroom to the courts and the supermarket. And yet, long-term decarbonised futures are seldom situated and made palpable. Carbon Ruins proposes a methodology for crafting a space where imaginative, as well as tangible, engagement with a post-fossil world can emerge. It does so by problematising contemporary social practices by defamiliarizing them, provoking imagination and critical self-reflection through the sharing of stories and memories around particular artefacts. Carbon Ruins is a kind of 'experiential future' (Candy, 2010), a process of co-creating a post-fossil world, which invites participants to experience fragments of a future, to alter them, and to create new fragments. The fact that participants were able to continually alter and expand on the world led to a "blurring [of] the distinction between audience and authorship" (Wolf, 2012, p. 281). We observed, in general, three broad kinds of authorship (originators, dwellers, and explorers), and many different forms of engagement.

While many future-imagining exercises invite participants, as originators, to start building the world while it is still open, often that world is then subsequently offered as ready-made—a new status quo that cannot be changed, only reacted to. In this article we have reflected on what happens when people are instead invited to become active in changing and inhabiting a world (dwellers) and to expand on it (explorers). The concreteness of things happening in our subcreated world, and the fact that stories about innovation, change, and resistance were always populated by particular agents (people, organisations, movements, etc.), spurred discussions about things that we take for granted about the present world, what might be done about them, and what kind of society is even desirable. We found that dwellers were able to supplant a passive sense of urgency with 'active hope.' For those who had the chance to take the role of explorer, a sense of resignation could be turned into active commitment and determination. A crucial question is, of course, to what extent this sense of agency can translate into action in the 'primary world' after they have ended their experience with the 'secondary world' of Carbon Ruins? Candy argues that a:

> Deepening engagement with the domain of the future does progressively engender a form of political engagement, a heightened sensitivity to the mutability of the world, and with that, a sense of one's own capacity, however modest, to nudge things in one direction or other. (Candy, 2010, p. 164)

Thus, participatory engagement with an imaginary world such as Carbon Ruins not only provokes retrospection and self-reflection, but might also inspire participants to view themselves as agents of change and, eventually, spark people to act on the basis of their engagement with the future.

This approach of immersion in, and co-creation of, an imaginary post-fossil world did not, however, engage every visitor. For instance, we observed visitors that did not appreciate the openness and vagueness of the world. Others were unable to engage emotionally because of feelings of hopelessness. Such reactions are reasonable in world-building for those who find it difficult, or perhaps even irresponsible, to achieve the necessary suspension of disbelief. That some visitors felt unable to engage imaginatively is understandable considering both the incompleteness of the imaginary world and the present power structures that are driving the climate crisis in the first place. Even so, this drove us to reflect on how to engage as many people as possible. First, a lesson learned from our experience with Carbon Ruins is the importance of presence. As hosts, we were responsible for facilitating world-building. We found that participants need guidance and prompts that trigger them to enter the world and to participate in the collective process. Second, imaginary world-building relies, as other kinds of storytelling and narration do, on the credibility and authenticity of the storyworld. The stories being told about this world enrich it partly through being consistent with it. To make these stories reliable, 'facts' and knowledge-based claims drawn from the present world are critical, especially when participants feel they do not know enough. The openness of the storyworld not only enabled shared authorship among participants; it also provided leeway for accommodating reservations and objections along the way, and formed a basis for revising and updating the stories. This allowed participants to openly dispute facts and object to ideas they did not find credible, which made them more able to engage with the post-fossil world even though their immersive experience was not successful.

When Carbon Ruins encourages its different audiences to reflect on what happened during the transition years, it reconstructs a 'history of the future present' (Adam, 2010) that resembles what Foucault considered the critical potential of historical methods: to disturb what was previously considered immobile; to fragment what was thought unified (Foucault, 1984, p. 82). Garland (2014, p. 372) describes the 'genealogical analysis' as one which traces how "contemporary practices and institutions emerged out of specific struggles, conflicts, alliances, and exercises of power, many of which are nowadays forgotten." Through the device of a fictional museum set in the future, Carbon Ruins urges its authors, as originators, dwellers, and explorers, to 'remember' how the post-fossil present came into being. We find that the authoring of such stories and histories is a powerful method for thinking about how the future might be configured otherwise. Carbon Ruins is not about the search for an absolute origin, a grand beginning, or, in our case, a closed and predestined scenario for the transition to a post-fossil future. Rather, it is about descent and emergence; the collaborative piecing together of separate dispersed events and practices to form a contingent post-fossil future present.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Just Adapt: Engaging Disadvantaged Young People in Planning for Climate Adaptation

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Abstract
The visibility of young people in climate change debates has risen significantly since the inception of the Fridays for Future movement, but little is known about the diversity of positions, perspectives and experiences of young people in Ireland, especially with respect to climate change adaptation planning. To close this knowledge gap, this article first interrogates key emergent spaces of public participation within the arena of climate action in Ireland in order to identify the extent of young people's participation and whether any specific consideration is given to disadvantaged groups. It then tests the impacts of workshops specifically designed to support disadvantaged young people's engagement with climate change adaptation which were rolled out with a designated Delivering Equality of Opportunity in Schools (DEIS) school in inner-city Dublin, Ireland. We found limited attention to public participation in climate change adaptation planning generally, with even less consideration given to engaging young people from disadvantaged communities. However, positive impacts with respect to enhanced knowledge of climate change science and policy processes emerged following participation in the workshops, providing the bedrock for a greater sense of self-efficacy around future engagement with climate action amongst the young people involved. We conclude that what is needed to help ensure procedural justice around climate action in Ireland are specific, relevant and interactive educational interventions on the issue of climate change adaptation; interventions which are sensitive to matters of place and difference.

Keywords
adaptation; climate change; education; Ireland; participation; young people

Issue
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1. Introduction

In December 2018 a 15-year-old Swedish student, Greta Thunberg, addressed the UN climate change summit, COP24. She had risen to prominence following her initiation of a climate strike from school under the banner of Fridays for Future in August the same year. Her powerful speeches calling for an end to discussions and more science-based action on climate change were delivered throughout 2019 as youth-led climate strikes and marches inspired by her actions occurred globally. She has played a significant role in reframing climate change as an inter-generational climate crisis within which young people have not only a vested interest, but also a right to participate in planning for climate action.

As stated in the UN Convention on the Rights of the Child (1990) every person under the age of 18 has the right to participate in the decision-making processes that impacts them. In research, such rights to participate in climate action are frequently articulated as one element of attaining procedural justice (e.g., the fairness of processes) in relation to the formation and implementation

of climate policy (Schlosberg, Collins, & Niemeyer, 2017) and, alongside distributional justice (e.g., fairness of outcomes), they are increasingly incorporated in strategies for a just transition to a decarbonised future (European Commission, 2019; ICTU, 2019). However, while participation can vary widely in form and function, the term is often used generically in climate change policy and practice (Hügel & Davies, 2020), with little effort made to evaluate the rules (e.g., social and regulatory) and tools (e.g., devices, mechanisms, methods and approaches) which shape participation and the skills and understandings required of those involved. As a result, both research and practice find that education can play a key role in supporting engagement with climate change (Cantell, Tolppanen, Aarnio-Linnanvuori, & Lehtonen, 2019; UNESCO, 2015), explaining how participation processes operate and providing training to ensure participants have the requisite capabilities to participate effectively. This does not mean that educational interventions on climate change will necessarily lead to wider participation in climate action and thus to greater procedural justice, particularly given wide variations in people's circumstances and identities (Allwood, 2020), but it is seen as a foundational element if fairness in the processes that resolve disputes and allocate resources to govern climate change is to be achieved.

Greta's role as a driver of climate activism amongst many thousands of young people is undeniable, but—as recognised in her speech at the UN Climate Action Summit in September 2019—she does not claim to represent the intersectional experiences of young people in relation to climate change globally. Research has begun to examine the diversity of young people's concerns, experiences and actions in relation to climate change, but it is embryonic (Dawson & Carson, 2020). Contributing to the expansion of this arena of climate change research, this article explores the engagement of young people from disadvantaged backgrounds with issues of climate adaptation planning in Ireland. Specifically, the article addresses two research questions: (1) To what extent have young people from disadvantaged backgrounds been included in climate adaptation planning in Ireland; and (2) what impacts do educational workshops have on young people's capabilities to participate in climate adaptation planning. As a result, the aims of this article are two-fold, first to identify the extent to which disadvantaged young people have been involved in climate adaptation planning in Ireland, and second to examine the impacts of an educational intervention focused on building capacities amongst disadvantaged young people to engage with climate change adaptation planning.

To achieve its aims, this article builds on findings from a rapid survey of young people's questions about climate change undertaken during climate marches in Dublin in 2019 (Davies & Hügel, 2019), which found that young people wanted more education on climate change science and policy, and more recognition of their voices and opinions in policy decisions. Following a review of existing research and an explanation of the methods employed, we interrogate the place of young people, and specifically those from disadvantaged areas, in key spaces of public participation related to climate action in Ireland. We then discuss a suite of place-based interactive workshops designed to engage young people with ideas of adaptation planning. Finally, we reflect on the benefits and limitations of such place-based interactive workshops, arguing for a re-examination of how climate change and action is provided in schools and, drawing on the work of Osborne (2015), for greater sensitivity to difference when seeking to enact a just transition to a decarbonised future.

2. Background

It is widely recognised that disadvantaged communities experience heightened risk from climate change and need to be better engaged in decisions about adaptation to achieve a just transition to a decarbonised future (Davies, Hooks, Knox-Hayes, & Liévanos, 2020). However, public participation in climate change adaptation planning is often limited in practice (Hügel & Davies, 2020). In response, an expanding stream of research is exploring ways to increase the capacities, resources and agency of young people (Börner, Kraftl, & Giatti, 2020; Hansen et al., 2013; Haynes & Tanner, 2015), with Osborne (2015) making a powerful argument that in order to understand vulnerability to climate change it is necessary to incorporate not only the multiple factors that shape identity and power, but also the intersectionality of these factors. In particular contexts researchers have sought to improve the adaptive capacities of 'at risk' youth communities in relation to climate change (see Haynes & Tanner, 2015), but calls for greater youth participation—and particularly participation amongst disadvantaged groups—in adaptation planning remain (e.g., Treichel, 2020). Researchers are keen to move beyond rhetoric which characterizes seeing young people as only 'victims,' and to highlight the important roles they play in shaping society through the expression of their views and as everyday change agents (Börner et al., 2020). While they are unable to vote, young people through their social practices, whether that is eating, heating or protesting, can affect their localities.

Place-based interventions are increasingly seen as important in this regard because they focus on "what matters to people and what they care about" (Amundsen, 2015, p. 258), overcoming perceptions of psychological distance that have affected engagement with climate change (Scannell & Gifford, 2013, p. 3). However, attachment to place amongst young people in vulnerable or disadvantaged areas can be ambivalent and fragile. In this regard, further empirical research is needed to explore appropriate means and mechanisms of place-based, educational engagement with

disadvantaged groups, particularly in relation to digital technologies (Bowman, 2019).

It is increasingly recognised that young people's concerns about, and actions in relation to, climate change are diverse and demand nuanced and appropriate forms of education that go beyond providing information about the climate system, to include discussion of decision making, power and [in]justice within society, particularly in relation to local contexts and personal experiences (Bowman, 2019; O'Brien, Selboe, & Hayward, 2018). Indeed, O'Brien et al. (2018, p. 8) argue that such education provides opportunities for deepening democracy which "is essential to challenging the assumptions and interests that maintain business as usual and for developing strategies and actions that directly confront those with vested interests in systems and structures that perpetuate climate change and social inequality." Yet the education sector remains a relatively untapped opportunity to combat climate change in this regard internationally, particularly education with respect to adaptation planning amongst disadvantaged communities.

Ireland is selected as the focus for this article as it has been shown to be a laggard with respect to taking climate action within a European context (Burck, Hagen, Höhne, Nascimento, & Bals, 2020), particularly in relation to adaptation and despite being lauded for its national citizens assembly on climate change held in 2017 (see Devaney, Torney, Brereton, & Coleman, 2020). In the case of Dublin, adaptation baselines identified in local climate action plans (Dublin City Council & Codema, 2020) found that climate change was already having an impact and that those impacts were likely to increase in the future. Specifically, the average sea level in Dublin Bay is rising faster than initially forecasted and has risen by twice the global average in the last 20 years. The number of days with heavy rainfall has also increased, as has the number of extreme flooding events (Dublin City Council & Codema, 2020). The precise location for the research in inner-city Dublin was selected because it is vulnerable to pluvial, fluvial and coastal flooding, which is predicted to increase under conditions of climate change, and it is recognised by government as a site of socioeconomic disadvantage. The research was conducted with a designated DEIS (Delivering Equality of Opportunity in Schools) school. The DEIS scheme was developed to provide better opportunities for those in communities at risk of disadvantage and social exclusion (Department of Education, 2017). Disadvantage in this context is defined as "impediments to education arising from social or economic disadvantage which prevent students from deriving appropriate benefit from education in schools" (Department of Education, 2017, p. 4). All schools in Ireland are assessed in terms of the socioeconomic background of their pupil cohort using centrally held data from the Department of Education Database and Central Statistics Office Small Area Statistics, to identify those schools which require the greatest level of support. We selected the Transition Year cohort (students aged 15 to 16) to work with because each school is able to design its own Transition Year programme, within guidelines, to suit the needs and interests of its students. This gives flexibility and space for new topics—space which is not available within the curriculum for second level Junior and Leaving Certificate programmes. It was also seen as a particularly pertinent lifestage for participants as the cohort is approaching the Irish voting age of 18.

3. Methods

This article draws its empirical evidence first from a review of processes and spaces for engagement in climate action in Ireland, specifically focusing on the attention that has been given to disadvantaged young people within them. The review answers research question: (1) To what extent have young people from disadvantaged backgrounds been included in climate adaptation planning in Ireland? It then draws on a series of specifically-designed workshops with Transition Year students delivered in a school setting and involving attitudinal surveys, presentations, discussion points and interactive exercises which generate data to respond to the second research question: (2) What impacts do educational workshops have on young people's capabilities to participate in climate adaptation planning?

3.1. Review

A narrative review (Hoggart, Lees, & Davies, 2002) of statutory planning guidelines for engaging young people in the development of climate action policy and plans in Ireland was conducted. Within this, explicit searches were conducted to identify any reference to 'disadvantage' and 'young people.' Additional searches of all 1,185 submissions, including 153 group submissions (from non-governmental organisations, sectoral interests and representative groups), to the Citizens Assembly were also conducted (see https://2016-2018.citizensassembly.ie/en/Submissions). However, the nature of the submission portal means it is not possible to identify the age of individuals submitting and from organizational submissions just three were from youth representative groups: The National Youth Council of Ireland; ECO-UNESCO and Young Friends of the Earth. These submissions were searched for the keywords again with relevant content identified and interrogated. Given the low number of youth submissions and the lack of statutory attention to disadvantaged young people, additional climate change-related initiatives from leading youth-focused groups in Ireland—The National Youth Council of Ireland and 31 *Comhairle na nÓg* (local Irish youth councils)—were also examined for references to disadvantaged youth participation and adaptation. In each case emails were exchanged with personnel in the organisations examined to ensure coverage of information and actions.

3.2. Workshops

The second data collection point was a series of place-based workshops conducted at a secondary school in an inner-city location in Dublin with their current Transition Year cohort. Six sessions were conducted between March and May 2019. The school was chosen as it is the only secondary school situated in an area of Dublin that has experienced multiple serious flood events of all three types (coastal, fluvial, and pluvial) in the past 20 years. We, the authors, designed and delivered the workshops during the normal school day, with teachers and classroom assistants present. The workshops were structured to fit into the classroom environment and timetable, providing information and opportunities for discussion, as well as interactive exercises for experiential learning (Suarez, Mendler de Suarez, Koelle, & Boykoff, 2014) and opportunities to apply subject knowledge in the form of participant presentations in a familiar learning environment. The same cohort—a single class—attended each workshop, though there was a degree of intra-workshop variation due to absenteeism. Consent was obtained from the participants before the workshops commenced, outlining (1) the purpose and scope of the project, (2) the data that would be collected, and (3) allowing members of the cohort to opt out or withdraw at any time. The outline content of each of the sessions is shown in Table 1. In addition to the attitudinal surveys outlined below, notes were taken during and after each workshop session to record experiences and conversations that took place in the classrooms. A record was also kept of activities conducted in each of the two interactive exercises.

3.3. Survey

A survey (n = 25) was run twice: before the first workshop, and after the second workshop. Table 2 details the questions asked in the attitudinal survey and response options (with a response scale ranging from 1 to 5, with 1 denoting strong disagreement and 5 denoting strong agreement) for these questions. As the sample sizes were small and the data are not normally distributed, non-parametric tests were used to analyse the responses. The Mann Whitney U (Wilcoxon Rank Sum) test was conducted. Survey questions were selected based on those in the British Social Attitudes 35 "Climate Change" chapter (Fisher, Fitzgerald, & Poortinga, 2018). The survey was selected as a robust means to quickly and quantitatively identify and compare key dimensions of participants' attitudes and awareness of climate change both before and after the workshops. They provide a different and complementary form of knowledge compared to the qualitative notes of discussions and interactive exercises collated during the workshops themselves (Hoggart et al., 2002).

4. Results and Discussion

This section first identifies the extent to which disadvantaged young people feature in climate adaptation

Table 1. Workshop content outline.

Session	Content	Key data collection points
1	Introduction: • To research team and project • To climate change	 • Pre-workshop attitudinal survey • Interactive exercise: Online images of climate change
2	History: • History of Ringsend • Flooding in Ringsend	 • Recap and discussion of interactive exercise results from Session 1
3	Present: • Types of flooding • Sensing floods • Defending floods • Forecasting floods	 • Interactive exercise: Flood mapping: will your home be flooded?
4	Future: • Flood adaptation approaches • Reducing vulnerability • Types of adaptive interventions	 • Recap and discussion of interactive exercise from Session 3
5	Field trip: • Climate action visitor experience	 • N/A
6	Wrap up: • Group presentations	 • Post-workshop attitudinal survey

planning in Ireland, and then examines the impacts of educational workshops focused on building capacities amongst disadvantaged young people to engage with climate change adaptation planning.

4.1. Climate Change Participation Policies and Practices

In Ireland, Section 13 of the Planning and Development (Amendment) Act 2010 (2010), which amended Section 20 of Planning and Development Act 2000, states that young people (or groups or associations representing them), are entitled to make submissions or observations on local area plans, including climate action plans (Department of Environment, Climate and Communications, 2019a). Such statutory regulation acknowledges that this requires planning authorities to be innovative and engage actively with young people, particularly through voluntary initiatives, such as the Green Schools programme. This programme, operated and coordinated by the Environmental Education Unit of the non-governmental organization An Taisce, promotes long-term, whole-school action for the environment. However, participation in the Green Schools initiative is reliant on sufficient interest and commitment amongst teachers and the school's Principal to register for the scheme and initiative activities. Equally, the Green Schools initiative does not yet offer a dedicated climate change theme in their programme, and where activities in other themes—such as transport or energy—relate to climate change, it is focused on mitigation actions with little attention given to adaptation issues. Young people's interests may also be represented by community groups, but only if those groups exist and engage with Local Community Development Committees or Public Participation Networks who then participate in local climate action planning. However, Dublin's Climate Action Regional Office have engaged directly with Dublin youth councils (*Comhairle na nÓg*) in both 2019 and 2020, giving presentations on climate science, climate impacts and climate action, but without specific focus on inequalities or disadvantaged communities. This may change in the future as the Department of Environment, Climate and Communications states that "the Government is working with the CAROs [Dublin's Climate Action Regional Offices] to identify the most vulnerable areas and population groups to ensure assistance and support is delivered where it is needed most" (Department of Environment, Climate and Communications, 2019b).

Ireland has gained international plaudits for its citizens' assembly on climate change (Cahillane, 2020), with its 99 members representative of gender, location, and social class in the country (Leahy, 2017), at least of citizens who are eligible to vote (i.e., over 18). Young people under 18 and their representative groups were able to submit to the pre-assembly deliberations however and three youth bodies did so: The National Youth Council, ECO-UNESCO and Young Friends of the Earth. The National Youth Council—a national organisation which represents and supports community, voluntary and not for profit youth organisations in Ireland—made a series of recommendations, particularly exalting the place of critical thinking in education. Relevant to the research questions in this article, education was seen as a key route through which young people can be supported to tackle interlinked climate change and global justice issues and how they relate to their everyday lives. Key statements from the National Youth Council were "to recognise young people as active global citizens," and "to adequately resource education to empower young people to analyse, reflect on and challenge decisions related to climate change" (National Youth Council, 2017, p. 4). However, matters of inequalities are articulated globally rather than within Ireland, and while reference to "the future" is made, there is no explicit mention of adaptation.

A similar story is replicated in the submission from ECO-UNESCO, a youth-focused environmental education organisation. Adaptation is not mentioned, but education is recognised as having a "key role" in climate change action (ECO-UNESCO, 2017, p. 5). In their submission, ECO-UNESCO include the results of a survey they conducted with young people. The majority of these responses focus on mitigation actions and related behavioural changes that will need to be adopted to reduce emissions. Others highlight the lack of space for engagement opportunities for young people to get involved in policy making (ECO-UNESCO, 2017, p. 11), but matters of disadvantage, inequality and justice are not explicitly mentioned.

Young Friends of the Earth—a voluntary activist group working to advance global climate justice by mobilising and inspiring people to join the movement in Ireland—has a wider age remit than both the National Youth Council and ECO-UNESCO, with members aged between 17 and 40. Their submission focuses predominantly on mitigation "to avoid the worst effects of climate change," rather than adapting to the inevitable changes that will occur even if Ireland's ambitious targets are met. They do, however, call for flood risk plans for every county in Ireland, rain gardens and other soft engineering options to reduce flooding now and in the future. They also identify that more funding and power needs to be allocated to local authorities in order to implement climate action plans (including both mitigation and adaptation).

One youth group that did not submit to the citizens assembly, but which has been active in relation to youth engagement with climate change is *Comhairle na nÓg*, a collective body of youth councils that operates in 31 local authorities across Ireland. In the Dublin *Comhairle na nÓg* there are 63 elected members between the ages of eleven and 18 who come from the five administrative areas of Dublin City. Within this, eight places are held for what they refer to as 'seldom-heard young people' from marginalised or vulnerable contexts. Each year the young

people involved identify, prioritise and progress topics of importance to them. In 2019 participants had the opportunity to cast their vote in the *Dáil* (Government) Chamber and set out a climate change agenda for the *Comhairle na nÓg* National Executive to lead on until 2021. Once again, the focus of this work was set squarely in the space of mitigation.

Overall, despite a context of burgeoning engagement with climate action in Ireland, there remains limited articulation of adaptation to climate change and the role that public participation might play in that. Nor are the differentiated identities and situations of young people in Ireland, and how those identities and situations might affect participation or climate action, discussed. In response, place-based workshops (Table 1) were developed and conducted within a second level DEIS designated school in a socioeconomically disadvantaged area of inner-city Dublin. The area where the workshops took place experiences multiple pressures, being vulnerable to current and future climate change effects (particularly sea level rise and flooding) and facing negative impacts from persistent socioeconomic deprivation on the one hand and gentrification on the other.

4.2. Adaptation Workshops: Flood Resilience

In Session 1, the participating students first completed an anonymous attitudinal questionnaire to establish their views about climate change and its impacts, as well as indicating their awareness of climate change adaptation (see Table 2 for results). While a small sample, these results do align with the findings of other studies that adaptation is the poor relation within climate action and awareness of adaptation is weak within publics (Hügel & Davies, 2020). They also suggest that there is some level of technical optimism amongst the cohort that technology and gaming could provide supports for enhanced engagement with matters of climate change. Following the questionnaire, the students were given an introductory presentation on the science and politics of climate change. Specific emphasis was placed on the issue of adaptation and the need to plan for long-term effects of climate change. To initiate discussions, students were encouraged to imagine and talk about what they thought their area would look like in 2050. This discussion revealed a wariness of thinking about such distant futures, and elicited responses that were very much rooted in current power geometries the participants experienced in the present. In particular, one participant felt that they would no longer be living in the area as it would be 'Google-land,' referencing the influence of the dense cluster of tech-based companies which operate adjacent to their neighbourhood and which have led to processes of gentrification in the locality (Cardullo & Kitchin, 2018). This raised other discussion points amongst the class, first regarding matters of persistent intra-generational and inter-generational injustice around basic services, including access to affordable housing, and second, their position on the cusp of voting age in Ireland and their perspectives on the powers that this would (or would not) give them to affect change in their local area and nationally. We were then able to link these debates to matters of climate (in)justice and the differentiated experiences of climate change and its effects internationally. Building on this, the session concluded with an interactive exercise where students were asked to use internet search engines to identify and collate images that were tagged under the search term 'climate change' to be used as an entry point for a discussion about how climate change is portrayed and the role technology and media plays in this portrayal in Session 2.

Session 2 began with a recap of the introductory content and a discussion of the images collated previously. Thirty-one discrete images were identified, but only two had a tangible connection to the local area, while four were related to Ireland and eleven were abstract images; that is, images which were not documentary in nature, such as collages or figurative depictions of a burning earth. The facilitators discussed the ways in which opaque socio-technical forces such as algorithms can filter images seen when viewing searches online and how that may affect perceptions of climate change if the images were not recognisable or did not resonate with the everyday surroundings of the viewers. This led to debates about the challenge of psychological distance from climate change such distant imagery may create and the impacts that might have on motivations to participate in planning for climate change; something which also preoccupies psychologists (Spence, Poortinga, & Pidgeon, 2012). Following this, the second session focused on the social, economic and environmental history of the area in which the school was based. While the area is proximate to the centre of Dublin, it is separated from it both by a river and a canal which has led to an historically tight-knit community with a strong sense of place. Up until the 1980s, the main occupations of its inhabitants were dock workers and fishermen. Although generations of families remain in the area, in recent decades the community has become more fluid and diverse as young professionals working in the tech companies located in the nearby Docklands sought accommodation close to their workplaces. This historical tour provided a backdrop to identify and narrate three key flooding events which occurred in the area in the past 20 years and opened up discussions amongst the group about these. The place-based focus of this discussion proved productive. The first image of a flooded home shown was immediately recognised by a participant as their grandmother's house, and subsequent discussions revealed that several participants' parents and close relatives had directly experienced at least one of the flood events. The participants were encouraged to engage with their friends, families and neighbours about experiences of these events for discussion in the next session which would focus on flood management approaches.

Session 3 involved introductory content related to the types of flooding—fluvial, pluvial and coastal—experienced in the area as well as material regarding the mechanisms of flood control utilised, and the sensing and forecasting techniques employed. The students were then able to engage with these forecasts through a web-based, interactive mapping exercise which could be played simultaneously by all and which illustrated the potential impact of climate change on the participants' homes in a concrete manner. The exercise used a number of interactive technologies: a web-based vector map—which provided a base map of the area in which participants lived—an in-browser spatial analysis toolkit that enabled the determination of a flood event's impact on the participant's home, and synchronised application state which enabled a shared, real-time display of participant locations. The base map was combined with a layer containing flood data for a variety of likelihood scenarios (0.001% AEP, 0.005% AEP, and 10% AEP—annual exceedance probability: the probability of a flood occurring in any given year). Finally, another vector layer to hold volunteered geographic information was provided. Figure 1 illustrates this: The bottom layer (horizontal pattern) contains the "base map" of geographic data; the middle layer (dot pattern) contains the flood data for a variety of scenarios; the top layer (vertical pattern) contains volunteered geographic information.

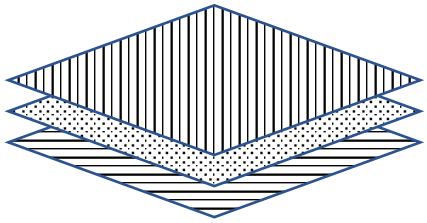

Figure 1. Conceptual model of the interactive exercise display elements.

Initially, each participant was shown a map in their web browser, displaying the area in which they lived, and centred on the workshop location (a secondary school). Participants were instructed to locate their home on the map, and to move their icon over that location. While doing so, they were able to observe the other participants' icons moving. The second phase involved the activation of additional game controls by the facilitator: Participants were given access to three buttons, each activating the visualisation of a coastal flood extent for a given probability, enabling them to switch a flood event on and off, and immediately see whose home would be affected by a flood event (see Figure 2). The third phase involved an informal discussion of the exercise's mechanics, and a discussion of the 'results': whose home had flooded, and who was thus affected. It was clear that in this context, as Joliveau (2009) also suggests, anchoring activities in participants lived environments usefully increased participant interest.

Discussion and analysis revealed that most (N = 18) participants' homes would be flooded to some extent under all three scenarios. Participants initially saw this as catastrophic, with one participant gleefully announcing "I'm dead" after running the exercise. Such responses are something researchers have linked to the impact of popular culture 'catastrophe' films affecting perceptions of climate change risk (Bulfin, 2017). However, in the workshop such responses could be discussed in a more nuanced fashion, with the reiteration and reinforcement of material from previous sessions. Historical flooding in the area had been extensively discussed, and the extent to which participants' relatives had been affected by that flooding was already established (i.e., they were financially affected and cannot access flood insurance, but they did not die), and the likely impact of future flood events was also illustrated.

Session 4 began with a recap on the forecasting of future flooding in the region before exploring the range of flood adaptation options which could be applicable to the predicted increase in flood frequency and intensity in the area (Dublin City Council & Codema, 2020). A range of hard and soft urban flood management options were presented, from emergent small-scale nature-based solutions such as porous pavements and vegetated roofs to large-scale hard engineering options including flood walls and off-shore flood barriers. The participants were encouraged to explore the pros and cons of the different options and possibilities for integration of blue-green and grey infrastructure (Kapetas & Fenner, 2020; Vojinović, European Commission, & Directorate-General for Research and Innovation, 2020). As raised in existing research on place attachment (Scannell & Gifford, 2013), the notion of managed retreat or wholesale abandonment of the area to rising seas was perceived as particularly distressing in discussions. While many workshop participants had previously voiced a desire to leave the area at some point, the idea that it could cease to exist or that they might not have a choice in the matter was a cause of considerable unease. It should be noted that this is not a realistic prospect within the next century under current projections, a fact that was made clear to participants to avoid generating unwarranted anxiety. Examples of local controversies around flood defences—where residents and policy makers disagreed about the relative worth of flood risk reduction versus aesthetic views of the coast—were successfully used in the workshop to discuss the complex choices facing policy makers in a democratic political system.

Session 5 comprised a visit to an interactive, game-based climate change visitor attraction about an hour's drive south of the school. This commercial, for-profit interactive experience is designed for visitors of all ages, although its gaming focus appeals particularly to young people. While the experience is primarily mitigation-focused in content, the purpose of the visit was to further explore the benefit of adopting interactive gaming elements with the cohort that were so productive

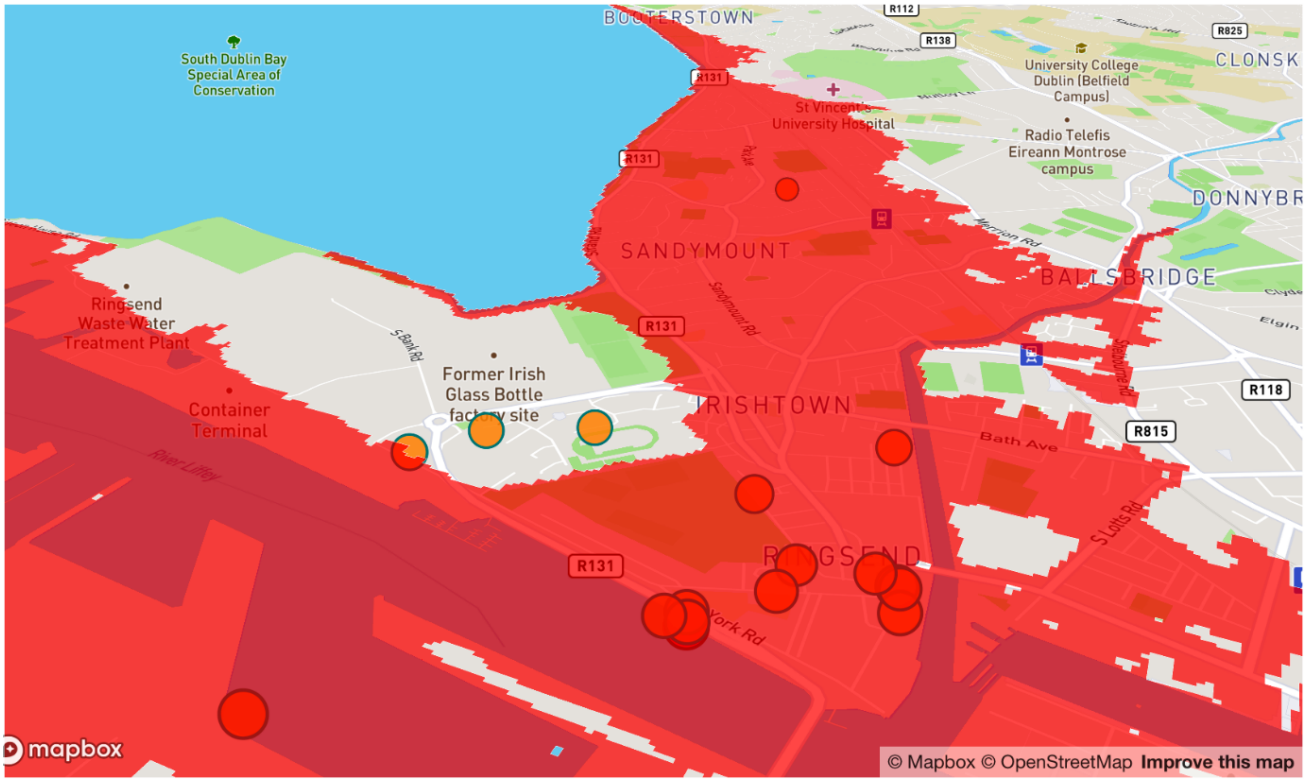

Figure 2. Visualisation of a 0.001% AEP flood event on the community. Note: Markers approximately denote participant homes.

during the workshop. While the standard of presentation and quality of the games was extremely high, discussion with the participants revealed two drawbacks: The foci were on imaginary or quasi-imaginary places and on excitement—exercises had to be completed within set periods, generally using repetitive physical input rather than any critical thinking. While this created immediate immersion, it provided little opportunity for learning or reflection about the complexities of climate action.

The final session incorporated a repeat of the initial attitude survey and a chance for participants to present to the class their experiences of the workshops. The results of the survey (see Tables 2 and 3) show that the differences between responses are statistically significant ($p < 0.05$) in two cases: (Q.4) I understand the difference between climate change mitigation and climate change adaptation; and (Q.7) I think interactive maps are a useful tool for talking about and demonstrating the effects of climate change;

However, other changes between the pre- and post-workshop surveys responses are also notable. For example, there was a decrease in agreement with the statement that it is too late to do anything about climate change, indicating that the sessions had provided participants with a greater sense of agency. There was also considerable increase in agreement with the statement that the participants knew about the history of flooding in their area and what their council was doing to help them manage climate change. Meanwhile, although there was increasing agreement with the view that technology can help communities adapt to climate change, and that interactive maps were a useful means of demonstrating climate change effects, there was less agreement that computer games were a good way to imagine these effects. This finding may have been stimulated by the preceding fieldtrip experience which involved some games which were quite simplistic compared to the exercises in the classroom, but further research is required to explore whether gaming can play a role in expanding personal efficacy amongst young people in relation to participating in climate change adaptation, or not.

Overall, discursive feedback from the students also indicated that, from a low base, their knowledge about climate change, adaptation and flooding had increased over the duration of the project. Nonetheless, experiences and engagement with the workshop material were mixed within the group and there was inconsistent attendance across the six sessions related to low general attendance rates within the school. In addition, despite participants indicating increased understanding in the survey responses, many remained uneasy about formally presenting their knowledge to the group (including the facilitators and teachers) and they preferred informal class discussions to solicit feedback. Low levels of confidence in terms of expressing their views in front of others persist and would require longer-term engagement and activities specifically focused on supporting confidence in public speaking.

Table 2. Attitudinal survey results (pre- and post-workshop).

Statement	Survey	N	Mean Rank	Sum of Ranks	
1.	I think it's too late to do anything about climate change	Pre	25	24.74	618.50
		Post	22	23.16	509.50
		Total	47		
2.	I know about the history of flooding in my community	Pre	25	22.54	563.50
		Post	22	25.66	564.50
		Total	47		
3.	I know what the council is doing to help my community to cope with climate change	Pre	25	22.00	550.00
		Post	22	26.27	578.00
		Total	47		
4.	I understand the difference between climate change mitigation and climate change adaptation	Pre	25	20.14	503.50
		Post	22	28.39	624.50
		Total	47		
5.	I think technology can help me and my community adapt to climate change	Pre	25	21.26	531.50
		Post	22	27.11	596.50
		Total	47		
6.	I think technology is the most important tool we have to help us to adapt to climate change	Pre	25	24.62	615.50
		Post	22	23.30	512.50
		Total	47		
7.	I think interactive maps are a useful tool for talking about and demonstrating the effects of climate change	Pre	25	20.36	509.00
		Post	22	28.14	619.00
		Total	47		
8.	Computer games are a good way to help us to imagine the effects of climate change	Pre	25	26.60	665.00
		Post	22	21.05	463.00
		Total	47		
9.	Imagining what our lives will be like in the future is a good way to discuss adaptation to climate change	Pre	25	24.78	619.50
		Post	22	23.11	508.50
		Total	47		
10.	I think that changing my own behaviour can help to limit the effects of climate change	Pre	25	23.76	594.00
		Post	22	24.27	534.00
		Total	47		

Table 3. Survey test results with asterisks indicating statistical significance.

Survey Question number	Mann-Whitney-U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
1	256.500	509.500	−0.425	0.671
2	238.500	563.500	−0.801	0.423
3	225.000	550.000	−1.112	0.266
4*	178.500	503.500	−2.168	0.030
5	206.500	531.500	−1.542	0.123
6	259.500	512.500	−0.356	0.722
7*	184.000	509.000	−2.034	0.042
8	210.000	463.000	−1.460	0.144
9	255.500	508.500	−0.444	0.657
10	269.000	594.000	−0.133	0.895

5. Conclusion

It is widely accepted that the effects of climate change are not the same for everyone and existing inequalities affect how climate change impacts populations and their ability to respond to it (Osborne, 2015). Measures introduced to act on climate change will also have different effects on people, according to their gender, class, wealth, ethnicity, physical ability and other structural inequalities (Allwood, 2020). These differences need to be considered for climate action to be fair, both procedurally and in terms of the distribution of impacts.

However, this article demonstrates that despite the Irish Government articulating the need for a just transition to a decarbonised future in Ireland (Department of Environment, Climate and Communications, 2019a), there have been few spaces or resources developed to explicitly support disadvantaged young people in Ireland to engage with climate change, and fewer still to address engagement with climate change adaptation. In response, and as a preliminary experiment in developing relevant resources for disadvantaged young people, the series of place-based, technology-mediated workshops outlined in this article reveal positive impacts on participants' knowledge and sense of efficacy, albeit from a low base level.

Given the exploratory nature of the workshops, the small sample size and the statistically significant change in responses to only two questions, it is not possible to make strong claims about the positive impacts of the workshops in isolation. However, seen as a precursor to wider studies they indicate a promising line of enquiry. Participants' interest in and enthusiasm for place-based content, for example, adds evidence to Scannell and Gifford's (2013, p. 3) proposition "that messages would be more effective if they captured the local materialization of climate change, including the regionally relevant activities that contribute to the problem." Also, in line with Leiserowitz (2007), the workshops revealed that: Online media algorithms may create or reinforce unhelpful psychological distance from climate impacts; messages illustrating the local impacts of climate change can be captivating; and messages may be usefully targeted at a specific group to address the particular barriers they face in taking climate action. That the workshops identified "the complexities of inequality in urban phenomena" (Osborne, 2015, p. 136; see also Lee, 2007) such as deprivation, gentrification and flooding, and linked them to climate change allowed participants to identify their cumulative riskscapes (Davies et al., 2020). It is important to encourage young people to connect climate change to their lived environments in this way and to think through the implications of adaptation in order to better understand: (1) why action in this arena is so difficult (e.g., uncertainties, long time horizons, large capital investments); (2) why it takes so long (e.g., multiple vested interests and diverse communities); and (3) how they can engage with those processes (e.g., through youth councils, open consultations, strikes and marches), all key questions raised by young people on climate strike marches in Dublin (Davies & Hügel, 2019).

To conclude, young people need to be supported to understand the complex politics and policy processes of climate adaptation alongside increased awareness of climate change science. While further research and a larger sample of participants is required, this exploratory study does provide evidence of the suitability of adaptation planning as an arena that young people in the classroom can actively engage with. Following on from Börner et al. (2020), we suggest it is important to ensure that such educational interventions for engaging with climate change adaptation focus, at least initially, on what matters to the participants. This requires a collaborative process comprising dialogical and reciprocal interaction. Of course, enhancing climate change education does not necessarily lead to greater public participation and therefore a more procedurally just climate policy, as with other areas of environmental policy there are many intermediating variables between knowledge and action (Davies, Fahy, & Taylor, 2005). However, we suggest that movement towards procedural justice cannot be achieved in the absence of appropriate education on climate change science and politics, which includes attention to participation, engagement and adaptation. As one UN youth delegate for Ireland noted: "Together, we can build a world that leaves no one behind, but we must not build it *for* everyone. We must build it with everyone" (National Youth Council, 2017).

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Shifting Coalitions within the Youth Climate Movement in the US

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Abstract
How has the youth climate movement in the US grown since the Climate Strikes began and in what ways did it change as it grew? This article takes advantage of a unique dataset that includes surveys from activists who organized the nationally coordinated climate strikes in the US that began with Fridays for Future in spring 2019. Building on the research on alliance building and strategic coalitions, this article analyzes how the patterns of participation changed over the period of the study. We employ social network analysis to map the affiliation networks among the organizers of these events to assess the coalitions of groups involved and the shifting organizational landscape. Our analysis does not provide evidence that groups spanned the boundaries across movements, nor does it show that identity played a role in coalition building in this movement. Instead, by mapping out the coalition of organizations within this movement and how connections among them change over time, we see clear evidence that this youth-led movement was reoriented by adult-led organizations. Our article concludes by considering how these findings suggest the future trajectory of the youth climate movement and its role in a 'new climate politics' in America.

Keywords
activism; climate change; climate movement; climate strike; coalitions; social network analysis

Issue
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1. Introduction

On 20 August 2018, Greta Thunberg participated in the first climate strike ever. Inspired by the national school walkout against gun violence in the US that was organized after the Parkland School Shooting in Florida, the 15 year-old decided to spend her Fridays sitting with a hand written sign in front of the Swedish parliament. Since that Friday in August, Fridays for Future—the name of the group coordinating this tactic of skipping school on Fridays to protest inaction on climate change—has spread across the seas and around the world. In March 2019, the first 'global' climate strike took place, turning out more than one million people around the world (Carrington, 2019). Six months later in September 2019, young people and adults responded to a call by Thunberg and other young activists to participate in climate strikes as part of the Global Week for Future surrounding the UN Climate Action Summit (Thunberg, 2019), and the number of participants globally jumped to an estimated 7,6 million people (350.org Team, 2019).

In the US, the youth climate movement has also grown. As school strikes have become more common, the initial vanguard of young Americans who were inspired by Thunberg along with their personal experiences with climate change were joined by activists who originally cut their teeth in the anti-Trump Resistance (Fisher, 2019c; for a broader discussion of the Resistance,

see Fisher, 2019a). At the same time, groups that were founded specifically to organize young people around the issue of climate change joined in coalition with more established climate groups, as well as less climate-focused organizations to mobilize participants to join the growing movement. Although participation in these climate strikes and the broader youth climate movement expanded over the past two years, there is limited research on the movement to date (cf. de Moor, De Vydt, Uba, & Wahlström, 2020; Evensen, 2019; Fisher, 2019b; Fisher & Nasrin, 2020; Martiskainen et al., 2020).

This article provides empirical evidence regarding how the youth climate movement has grown in the US since the globally coordinated Climate Strikes began in spring 2019. We analyze a unique dataset that includes surveys from 522 activists who helped to organize the nationally coordinated climate strikes in the US that began with Fridays for Future in 2019. Specifically, this article builds on the research on coalition building in social movements to analyze how the patterns of collaboration changed over the period of the study, in terms of the organizational networks of the coordinators of these climate strikes. We employ social network analysis to map out the affiliation networks among the individuals involved as a means of assessing the shifting organizational landscape. By analyzing what are the dominant organizational nodes in the movement and how they are connected, our findings show how the coalition changed over time.

This article is separated into three sections. First, we present a brief review of the literature, paying particular attention to the ways that the extant research has understood the role of organizational coalitions in social movements. Second, we provide details of the data we collected and the methods used to analyze organizational coalitions within the youth climate movement. Third, we present the results of our analysis and discuss the implications of our findings on a growing movement that has been forced to change due to a global pandemic.

2. Alliance Building and Strategic Coalitions

In recent years, scholars of social movements have paid substantial attention to the role that alliance building and strategic coalitions play in growing and maintaining movements of all sorts (Barkan, 1979; Fantasia & Stepan-Norris, 2007; Fantasia & Voss, 2004; Ferree & Hess, 2016; Grimm, 2019; Levi & Murphy, 2006; McAdam, 1982, 1983, 1983; Meyer & Corrigall-Brown, 2005; Polletta, 2002; Shaffer, 2000; Staggenborg, 1991; Thomas & Trevino, 1993; Van Dyke & McCammon, 2010; Wang, Piazza, & Soule, 2018). Research has looked at coalitions of organizations that work within a single social movement (see e.g., Heaney & Rojas, 2008; Morris, 1993), as well as coalitions across movements that span boundaries (Wang et al., 2018; see also Beamish & Luebbers, 2009; Meyer & Whittier, 1994; Van Dyke, 2003). In her study of movement activity among college students, Van Dyke compares coalitions, finding that "local threats inspire within-movement coalition events, while larger threats that affect multiple constituencies or broadly defined identities inspire cross-movement coalition formation" (Van Dyke, 2003, p. 226).

Some of this research specifically looks at how coalitions and strategic alliances are associated with successful movement outcomes (Gamson, 1990; Grimm, 2019; Levi & Murphy, 2006; Morris, 1993; Steedly & Foley, 1979; Van Dyke, 2003). In her well-known study of the pro-choice movement, Staggenborg (1991) discusses how organizational coalitions help groups compensate for their lack of resources and organizational insufficiencies to generate grassroots supports (see also Borland, 2008; Wang et al., 2018). Similarly, when Beamish and Luebbers (2009) look at the coalition among environmental justice, peace, and anti-weapons proliferation groups, they find that successful coalitions involve ongoing social interactions that help to reduce the potential for intergroup conflicts. When conflicts and differences in perspective are not addressed, they can "erode membership, break down collective incentives and commitments, and thus undermine social movement efficacy" (Beamish & Luebbers, 2009, p. 647; see also Barkan, 1979; Bliuc, Betts, Vergani, Iqbal, & Dunn, 2019; Cárdenas & de la Sablonnière, 2020; Freeman, 1972; Gamson, 1990; Lichterman, 1996; Staggenborg, 1991).

To date, there have been a handful of studies that examine how intersectionality contributes to social movements (Heaney & Rojas, 2015; see also Milkman, 2017; Swank & Fahs, 2013; Terriquez, 2015). Scholars have used intersectionality as a theory, an analytical framework (Cho, Crenshaw, & McCall, 2013; Choo & Ferree, 2010; Crenshaw, 1991), as well as a method (Hancock, 2007) to examine how intersections of race, class, gender, sexual orientation, legal status, and other categories of identity are linked to structures of inequality and produce different life experiences and forms of oppression or privilege (for a general discussion of intersectionality, see Cho et al., 2013; Choo & Ferree, 2010; Collins, 2002; Crenshaw, 1991; Valentine, 2007). The definition of intersectionality and its applications have evolved over time. Intersectionality was originally developed by legal scholar Kimberlé Crenshaw (1991) to explain how African American women faced challenges when pursuing claims of employment discrimination. Although it originated in discussions of women of color, contemporary research on intersectionality aims to explain the experiences and complexities of both marginalized and privileged groups in society (Carbado, 2013; Cho et al., 2013; Shows & Gerstel, 2009; Wingfield, 2009). Some scholars have suggested that these intersections divide people into silos characterized by distinct and competing interests that prevent the kind of coalition building that is necessary for strong social movement organizing. For example, intersectionality has been criticized as producing 'identity politics' that focuses on narrow group interests at the expense of broader political claims (Brown, 1995; Ehrenreich, 2002).

At the same time, a limited number of studies of collective action have specifically explored how intersectional interests can be used to build coalitions within and across social movements, thereby increasing the number and diversity of activists (Adam, 2017; Carastathis, 2013; Fisher, Dow, & Ray, 2017; Fisher, Jasny, & Dow, 2018; Goss & Heaney, 2010; Roberts & Jesudason, 2013; Wadsworth, 2011). In her influential work, Kimberlé Crenshaw (1991) suggests that intersectionality—which highlights the intersections of race, gender, social class, and other social qualities—can promote coalitions instead of divisions (see also Hancock, 2007). Identity-based groups are recognized as spaces of similarity, seclusion, and safety (Reagon, 1983). Building directly off of the work of Crenshaw (1991), Carastathis (2013, p. 941) makes a case for thinking about identity groups as coalitions that facilitates "effective political coalitions that cross existing identity categories." In other words, not only can coalitions be formed by spanning movement boundaries (see especially Wang et al., 2018), but they can combine efforts of people with different identities in a common struggle. Within this research, some studies have specifically explored intersectional mobilization processes and how shared grievances play a role (see Terriquez, 2015).

In their study of the overlapping motivations of protest participants, Fisher et al. (2017) provide evidence for these claims by looking at how intersectionality mobilized activists to join the first Women's March in 2017. The authors conclude that:

> Individuals were more likely to be motivated by issues connected to the social identities that were most salient for them: Black participants mobilized for Racial Justice, Hispanic participants mobilized for Immigration, and women mobilized for Reproductive Rights. Our analysis supports previous studies that find that individuals concerned with a range of social issues can establish and build coalitions informed by intersectional motivations. (Fisher et al., 2017, p. 5; see also Fisher et al., 2018)

2.1. Using Network Analysis to Study Coalitions

Much of the research studying coalitions within social movements focuses specifically on the role of social ties and social networks to facilitate connections among individuals and organizations (Gould, 1991; Heaney & Rojas, 2008; Kim & Bearman, 1997; Klandermans & Oegema, 1987; Marwell, Oliver, & Prahl, 1988; Mische & Pattison, 2000; Park, 2008; Rosenthal, Fingrutd, Ethier, Karant, & McDonald, 1985). Numerous studies have concluded that individuals' ties to organizations play an important role in mobilizing activists (Passy, 2003; Saunders, Grasso, Olcese, Rainsford, & Rootes, 2012; for an overview, see Diani & McAdam, 2003). Moreover, social networks analysis has been employed to study how movements are expanded and connected to other groups. Studying the Italian environmental movement, for example, Diani shows how networks in social movements are largely formed based on members' socialization experience, issues priorities, and organizational differences (Diani, 1995). In their edited volume, Diani and McAdam (2003) discuss how networks facilitate inter-organizational alliances that can strengthen social movements. In other cases, research has employed social network analysis to analyze when coalitions fall apart (see particularly Heaney & Rojas, 2008).

In his piece in *The Blackwell Companion to Social Movements*, Diani outlines the ways that analysis of individual activists and their organizational affiliations can explore "how activists connect groups" to understand "the web of multiple ties that ultimately make up a social movement" (Diani, 2007, pp. 348, 339; see also Diani, 2010; Diani, Lindsay, & Purdue, 2010; Heaney & Rojas, 2008; Rosenthal et al., 1985). Consistent with this work that employs social network analysis, our article builds on the research on coalitions among social movement organizations to assess how the affiliation networks of the organizers in the Youth Climate Movement in the US changed during the period of our study. Though our analysis, we are able to assess the degree to which organizational coalitions in this movement cross movements, issues, and identities over time.

3. Data and Methods

This article integrates data collected through three waves of online surveys of the hosts of the events coordinated by the youth climate movement from 2019–2020. 'Hosts' are the term used by the movement to describe the local-level of organizers for climate strikes; they were responsible for coordinating local mobilization and logistics. Data were collected from these hosts who worked on the internationally coordinated climate strikes in the US in spring 2019, the Global Climate Strike in September 2019, and for Earth Day Live in April 2020. In total, the dataset includes surveys from 522 activists who helped to organize the nationally coordinated climate strikes in the US that began with Fridays for Future. In the sections that follow, we describe each wave of data collection.

3.1. Data Collection from the US Hosts of Fridays for Future in Spring 2019

To begin this project, data were collected from the US-based hosts who coordinated the 2019 spring climate strikes in March and May. Contact information for organizers of the strikes was collected from the group that coordinated the events: Fridays for Future. The official website of Fridays for Future includes information for any organizer who is willing to share their information by date and location of event. An individual link to an internet-based survey was shared with everyone who signed up with Fridays for Future to organize a US-based strike. The survey yielded a 21% response rate. To make sure that all youth climate activists who had

been involved in organizing climate strikes in the US were included in the sample, an anonymous link was also shared via groups working specifically to engage young people in the US around the issue of climate change. In total, 220 people completed the survey.

3.2. Data Collection from the US Hosts from the Global Climate Strike

Following the success of the spring 2019 climate strikes, Greta Thunberg and other young activists called for adults to join young people in the streets for climate strikes that were coordinated as part of the 'Global Week for Future' surrounding the UN Climate Action Summit in September 2019 (Thunberg, 2019). The strikes turned out estimated 7,6 million people globally and over 500,000 people in the US (350.org Team, 2019). Working with one of the coordinating organizations for the September strikes in the US—Future Coalition, which coordinated the StrikeWithUs website—we conducted an online survey of all of the hosts of the 633 events being coordinated around the US as part of the Global Climate Strike on 20 September 2019. An initial email and two reminders that included an anonymous link to our survey were sent out by the organization to their list of climate strike hosts before the event. The email requested that they participate in our study. In total, 131 hosts completed the survey, representing a 21% response rate.

3.3. Data Collection from the US Hosts of Earth Day Live

In early 2020, organizers were planning for even larger strikes and demonstrations and were working to coordinate a huge event to coincide with the 50th anniversary of Earth Day in April. However, with the global spread of Covid-19 and the enforcement of social distancing, climate activists called off their in-person protests and worked to move their activism online (Thunberg, 2020). In the US, the organizational coalition that was working to plan a three-day climate strike in April transitioned their efforts to coordinate a three-day digital event called 'Earth Day Live,' which was scheduled to take place from 22–24 April 2020 by the US Climate Strike Coalition of youth-led organizations. As part of the event, organizers encouraged activists to participate in numerous activities including virtual protests, tweet storms, hashtag activism that targeted specific corporations, and posting selfies with signs. It is worth noting that this event was independent of the commemoration of the anniversary of Earth Day, which was also called 'Earth Day Live' and was coordinated by the adult-led group: Earth Day Network.

Like data collection for the Global Climate Strike in September 2019, data for this wave of the study were collected through one of the leaders of the organizational coalition for the event: Future Coalition. The organization shared an anonymous link to the survey via an email and two follow-up reminders with their list of all of the local hosts of the Earth Day Live mobilization in the US. The link was shared with the 1,269 people who had signed up to host any of the events that they had coordinated over the year. This list included 442 individuals who signed up specifically to serve as a host for the Earth Day Live event. In total, 171 hosts completed the survey (representing a response rate of 14% of the total list of organizers and 39% of the people specifically signed up for this event in April 2020). Table 1 presents an overview of the data included in this article.

4. Findings

We begin by presenting an overview of the data collected from these three waves of youth climate activism in the US. Next, we discuss our analytic technique for analyzing the affiliation networks of the organizers of this movement. Finally, we present the results of our network analysis that shows how the organizational coalitions changed over the period of our study.

4.1. Overview of the Dataset

Consistent with other studies of activism during this period of heightened contention in the US (see e.g., Fisher, 2019a; Fisher et al., 2019), organizers during all three waves of the movement—in spring 2019, fall 2019, and spring 2020—were predominantly female (66%, 68%, and 65% respectively), majority White (67%, 77%, and 72% respectively), and came from highly educated families. During all three waves, the majority of participants reported coming from households with parents/guardians who had completed an undergraduate degree or higher. In other words, there is consistency in

Table 1. Overview of data collected.

	Spring Climate Strike Organizers	Global Climate Strike Organizers	Earth Day Live Organizers
Date of event(s)	15 March and 24 May 2019	20 September 2019	22–24 April 2020
Number of Events	163	633	442
Number of Respondents	220 (35 from Fridays for Future)	131	171
Response Rate	21%*	21%	39%

Note = * Percentage based on the number of respondents who had organized with Fridays for Future.

the identities of the participants at each strike. Although it is possible that these findings are due, in part, to response biases in the methodology, these patterns regarding the gender, race, and educational attainment of our dataset are consistent with previous research on the demographics of the environmental and climate movements in the US (Giugni & Grasso, 2015; see also Fisher et al., 2019).

As expected, organizers in this movement were young. However, the median age of the hosts went up substantially over the period of our study: Hosts of the spring 2019 strikes reported a median age of only 18 years-old, those organizing in fall 2019 reported a median age of 25, and the organizers for Earth Day Live in April 2020 had a median age of 32.

4.2. Organizational Affiliations of Hosts

As previously noted, our analysis focuses on the affiliations of the hosts in this movement and employs social network analysis to map out how the organizational coalition changes over time (Diani, 2007; Heaney & Rojas, 2008; Rosenthal et al., 1985; see also Mische & Pattison, 2000). Data are based on respondents' responses to the question: "Are you a member of any organization or group that is involved in the global climate strike or youth climate movement?" If respondents said yes to this question, they were asked to write in the names of up to three groups. The overall number of groups named by each individual organizer goes down during this time period: In summer 2019, respondents mentioned being affiliated with an average of 2.9 groups per respondent; in fall 2019, respondents answered 1.8 groups per person; and in spring 2020, respondents mentioned 1.7 groups per respondent.

4.2.1. Most Common Organizations in Each Wave

Next, we look at what organizations were mentioned the most in each wave of data collection to understand the overall organizational ecosystem of the youth climate movement. Table 2 presents the counts of the top organizations mentioned in each wave of data collection along with the percentage each group received. We list all organizations that received five or more mentions during at least one wave of the study.

Although Sunrise was consistently the most mentioned organization during each wave of the study, the other most mentioned organizations changed over time. During the first wave of the study in summer 2019, the top three groups were Sunrise, US Youth Climate Strike, and Fridays for Future—all of which are youth-led organizations. In fall 2019, organizers named Sunrise, 350 and US Youth Climate Strike as the most common groups. It is worth noting that 350 is an environmental organization that was founded in 2008 by "a group of university friends in the US along with author Bill McKibben…to build a global climate movement" (350.org Team, 2021). Even though it was founded by young people in 2008, it has grown to be a professionalized environmental group that is adult-led. In spring 2020, Sunrise continued to be the most mentioned group with almost a quarter of all respondents (23%) reporting being affiliated with it. The other most mentioned organizations were both adult-led environmental groups: 350 and the Sierra Club. Even though more general organizations were in the network, based on these findings, there is no evidence of groups that span boundaries playing a substantial role in this coalition (Wang et al., 2018; see also Beamish & Luebbers, 2009).

4.3. Analyzing Organizational Affiliation Networks

Building directly off Diani's work (2007), the next step in our analysis is mapping out the affiliation networks of the organizers of the climate strikes to understand the co-occurrence of membership in groups. Comparing these affiliation networks over time, we are able to see more clearly how the coalition changed during the period of study. Before presenting the affiliation networks of these climate activists over time, we discuss our analytic technique.

Table 2. Counts of top organizations and frequency by sample (all groups with 5 or more mentions).

Organization	Spring Climate Strike Organizers (N = 220)	Global Climate Strike Organizers (N = 131)	Earth Day Live Organizers (N = 171)
Sunrise	27 (12%)	23 (18%)	39 (23%)
US Youth Climate Strike	21 (10%)	12 (9%)	10 (6%)
Fridays For Future	19 (9%)	2 (2%)	3 (2%)
Extinction Rebellion	13 (6%)	4 (3%)	8 (5%)
Schools for Climate Action	9 (4%)	0	1 (1%)
This is Zero Hour	7 (3%)	1 (1%)	6 (4%)
350	5 (2%)	16 (12%)	32 (19%)
Sierra club	3 (1%)	5 (4%)	14 (8%)

4.3.1. Network Analysis Technique

We visualized the organizational coalitions as an actor-organization affiliation network by creating a bipartite graph for each climate strike separately. In these networks, hosts (who are respondents in the survey) are represented by grey diamonds and organizations with which they are affiliated are represented by green circles. The groups that are youth-led are depicted as a light green circles and those groups that are adult-led are depicted as a dark green circles. The ties between a host and an organization are represented as a line. Node size of the organizations corresponds to the degree centrality of the group. By mapping out co-occurrence of organizational affiliation, these visualizations provide more evidence about the coalition in terms of who is playing a central role and how organizations are related to one another in terms of sharing members, as well as how they change over time.

Affiliation networks for each wave of the study are presented in the next section. Consistent with Table 2, only groups that were mentioned by at least five respondents during at least one wave of the survey are included in the analysis. Groups that received zero mentions during a particular wave are absent from that specific network diagram.

4.3.2. Spring 2019 Climate Strike Affiliation Network

The affiliation network of organizers from the spring 2019 climate strikes are presented in Figure 1. The diagram shows clear evidence that the coalition is being steered by youth-led groups: Not only are youth-led groups the most popular individually, but the most central nodes are Sunrise and US Youth Climate Strike, which are youth-led groups based in the US, which are connected through various activists to the internationally focused youth-led group Fridays for Future. It is also worth noting that Sunrise, which gained notoriety when its members occupied Nancy Pelosi's office in December 2018 calling for a Green New Deal (Sonmez, 2018), is connected to every other group in the network through at least one member. In this network, adult-led groups play a relatively peripheral role; only Extinction Rebellion connects to the most central youth-led organizations.

4.3.3. September 2019 Climate Strike Affiliation Network

When we look at the affiliation network of hosts from the September 2019 climate strikes presented in Figure 2, we see clear evidence of changes in the organizational coalition. Although Sunrise continues to be the central node in the network with connections to numerous other youth-led groups, adult-led groups have started to play a larger role in the coalition. It is worth noting that in September 2019, Fridays for Future is no longer playing a prominent role in the network. Moreover, this group that was formed in response to the organizing efforts of Greta Thunberg is the only youth-led group that is not directly connected to the most prominent group: Sunrise. Instead, the adult-led 350 plays a much bigger role during this wave, even though it is only directly connected to two groups: Sunrise and the adult-led Sierra Club.

4.3.4. Earth Day Live Affiliation Network

Sunrise continues to play a central role in the affiliation network of organizers during the Earth Day Live event, which is presented in Figure 3. In fact, during this wave,

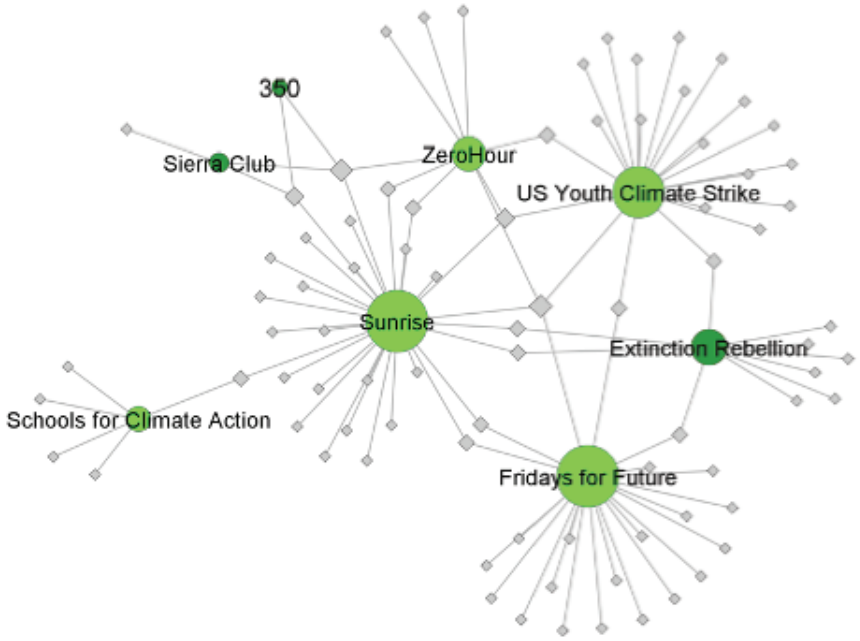

Figure 1. Affiliation network for Spring 2019 strikes.

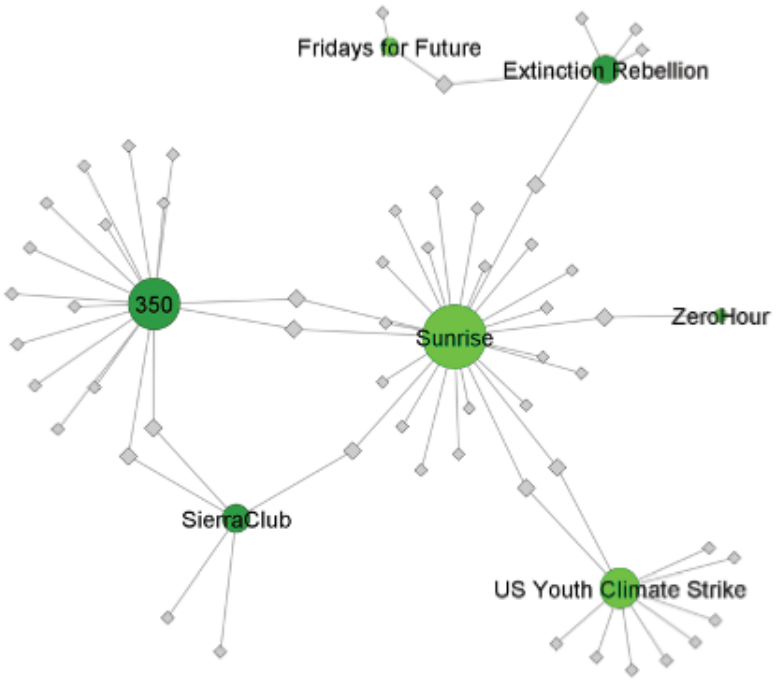

Figure 2. Affiliation network of organizers for September 2019 strikes.

Sunrise members report being affiliated with every other top organization in the network except for Schools for Climate Action, which is not a central group in this network. In contrast to the previous waves of the study, the other two top groups in this network are adult-led 350 and Sierra Club. The April 2020 network is denser, with the adult-led groups all being connected to one another as well as to the numerous other youth-led groups.

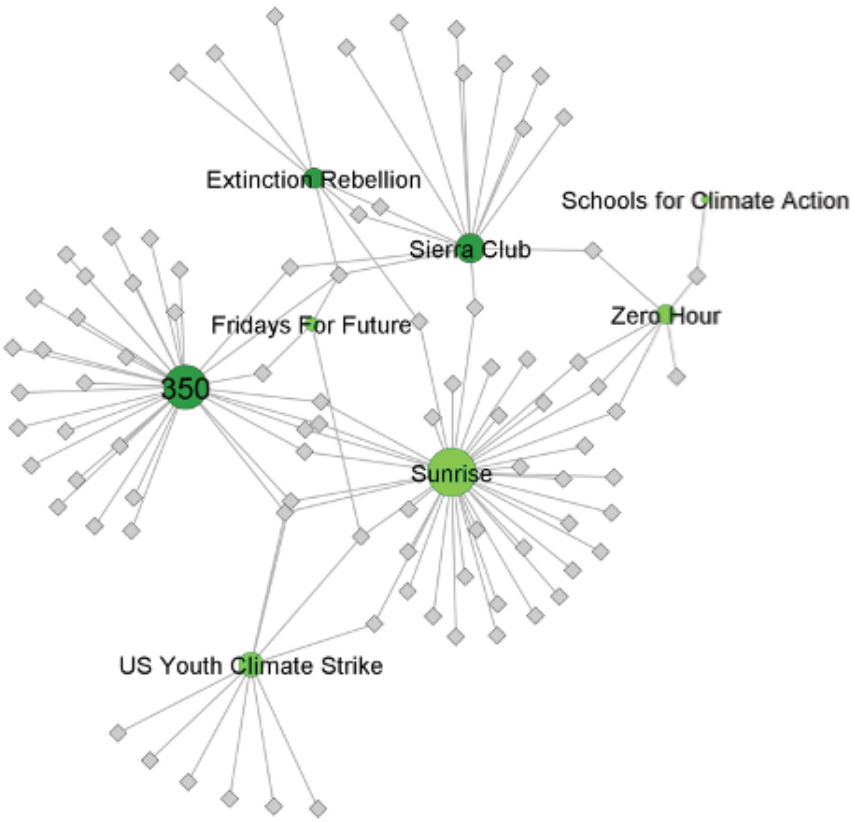

Figure 3. Affiliation network for organizers of Earth Day Live, April 2020.

5. Conclusions

By analyzing the affiliation networks of the local hosts from three waves of climate activism in the US, we see clear evidence about how the coalition of this movement has changed. Across all waves of activism, we do not see evidence of groups that span movement boundaries playing a large role in the coalition (Beamish & Luebbers, 2009; Wang et al., 2018; see also Goss & Heaney, 2010). Rather, the coalition continues to be led by groups with a mission to address the climate crisis. We also do not see clear evidence of intersectionality in terms of the identities of the members of the groups in these coalitions (Carastathis, 2013). To the degree that age can be an identity, we do see evidence that the youth-led groups, which tend to have less professionalized leadership and structure, were supplanted over time by adult-led organizations. In other words, although it began as a clear case of youth-led activism, by spring 2020, the coalition was being led by a combination of youth and adult-led groups. Not only did the median age of the organizers go up substantially during the period of study, but the organizational coalition shifted to include a number of adult-led groups that were playing a more central role.

This change is due, in part, to the duration of the climate struggle. As research has documented, more professionalized organizations—like 350 or Sierra Club—play important roles in sustaining activism (Staggenborg, 1991). Well-established organizations that have consistent funding streams and long-term members sustain participation and activism during the slower and more difficult periods. It is worth repeating that 350 was started in 2008 by a group of young people working with activist Bill McKibben to stop the climate crisis, but these young people have grown up and the organization has professionalized over the past 12 years.

At the same time, our findings also provide evidence of the ways that external factors and political opportunities affect coalitions (Meyer & Corrigall-Brown, 2005). In this case, the Covid-19 pandemic and all the subsequent Covid-19-related changes to opportunities for activism during stay-at-home orders are likely to have played a substantial role in the changes in the coalition and the movement. In their recent assessment of this cycle of climate activism internationally, de Moor et al. (2020, p. 1) note that the pandemic "arguably marks the end of the first chapter of the recent climate protest cycle." Although we believe that it is premature to determine if the cycle is completed, there is no question that the pandemic and the changes in protesting behavior due to it, had a direct effect on the trajectory of the movement in terms of who was involved and what tactics they employed.

As the pandemic wears on, school strikes continue to be held mostly indoors and on social media, which has reduced participation considerably. With professional adult-led groups playing a more central role in the coalition, one might expect the movement to focus on more mainstream tactics (like demonstrating on a weekend rather than during the school day when participants must skip school) and to redirect its efforts beyond young people. Instead of following this trajectory, much of the work of the youth climate movement in the US since the Earth Day Live event in April 2020 involved a redirection of efforts away from the tactic of the climate strike.

In summer 2020, huge demonstrations took place across the US in response to the police killing of unarmed Black citizens including George Floyd and Breonna Taylor. In response, a number of youth-led climate groups—including the Strike With Us coalition of youth climate groups, which includes Sunrise—called for their members to mobilize in solidarity with the Black Lives Matter movement (Strike With Us, 2020; Sunrise Team, 2020a). In addition, these groups focused much of their efforts during the second half of 2020 on mobilizing young people to participate in the election. Sunrise, in particular, received a lot of media attention for its work around the election and in swing states (see e.g., Arrieta-Kenna, 2019) and the group announced a new program to support young people to run for political office in Fall 2020 (Sunrise Team, 2020b). Such efforts provide clear evidence that, even though the tactic of the school strike has become less common, the youth climate movement in the US continues.

It is important to highlight here that comparisons between the movement in the US and in other parts of the world should be interpreted with caution. Not only is the trajectory of the movement broader than the time period of our study, but the US case is very much a product of the political and organizational landscape of America. As has been noted elsewhere (Fisher, 2019c), climate strikes began during a time of heightened contention in the US, and many participants in these strikes reported very high levels of engagement in other protests as part of the anti-Trump Resistance prior to participating in climate activism through school strikes. Moreover, there were already a number of organizations, including Sunrise, working within the youth climate space in the US before the first climate strikes began in this country (Sonmez, 2018; see also Arrieta-Kenna, 2019). When the tactic of the school strike became popular, these more established organizations played an important role in supporting the network of activists participating in the movement. As has been previously noted, such groups are always more capable of sustaining and supporting activism over time and they are now leading the movement to engage in other tactics.

The findings from this study of the youth climate movement in the US point to some clear opportunities for future research. First and foremost, this study provides a snapshot of a limited period of time in the youth climate movement in the US. Future research must continue to study this movement, focusing on the individuals participating and the organizations involved to understand the broader trajectory of the long-term climate struggle. It is unclear the degree to which our

findings in the US would be different if data collection had begun earlier as groups were just beginning to organize climate strikes or if a global pandemic had not occurred.

Moreover, as the tactics of the movement have shifted, it is important to look at the ways the coalition of organizations involved in the movement has also changed. In particular, future research should explore what role resources, organizational structures, political opportunities, and tactics play in the trajectory of the youth climate movement. Although such research should continue to collect extensive data through surveys, it would benefit from integrating intensive open-ended semi-structured interviews with individual activists and organizational representatives. Future research is also needed to explore in more detail the role that local hosts are playing within the movement. Although there is scant evidence that these individuals were central to decision-making around the national climate strikes, future investigation can help us understand what roles they may be playing in coordinating climate activism in their communities and sustaining activism at the local level. Finally, following the recommendations from Fisher and Nasrin (2020), research should aim to connect this climate activism to its broader effects on the individuals and organizations involved, the policies they are aiming to influence, and the material outcomes of these efforts in terms of actual environmental changes.

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Conflict of Interests

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Article

New Climate Activism between Politics and Law: Analyzing the Strategy of the KlimaSeniorinnen Schweiz

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Abstract
Since 2016, a group of senior women organized in the association KlimaSeniorinnen Schweiz has been trying to legally force the Swiss government to take stronger climate protection measures. Parallel to the pursuit of a climate lawsuit, the KlimaSeniorinnen have developed into a growing social movement that is present in the media and participates in the public debate on climate change. Building on this specific climate litigation case, the present article analyzes the strategy formation of new actors in the field of climate governance. Based on existing concepts of social movement research, the strategy formation of the KlimaSeniorinnen is reconstructed in terms of a strategic actor who pursues certain strategic orientations in given strategic contexts. The empirical analysis of the strategic context (by means of opportunity structures), the strategic orientations (via collective action frames), and the strategic actor (by means of interviews) shows a double strategy. On the one hand, the KlimaSeniorinnen attempt to address a specific legal opportunity structure with an 'injustice frame,' which emphasizes human rights and the special vulnerability of older women to intense heat waves. On the other hand, they want to mobilize public support for an ambitious climate policy by additionally promoting a 'grandchildren frame,' which articulates altruistic values, such as responsibility towards future generations. Based on this analysis, both practical implications and consequences for future research on a new climate politics, which is increasingly taking shape between and across different arenas, are discussed.

Keywords
climate activism; climate litigation; climate movement; KlimaSeniorinnen Schweiz; new climate politics; strategy; Switzerland

Issue
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1. Introduction

A growing number of societal actors are combating climate change on various fronts with different strategies (Dietz & Garrelts, 2014; Dryzek, Norgaard, & Schlosberg, 2013). In particular, the longstanding stalemate in international climate politics and the widely perceived failure of governments to take serious action, both of which were particularly evident during the spectacular failure of the 15th Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change in Copenhagen in 2009, have given rise to new actors and initiatives that seek to take matters into their own hands (Falkner, Stephan, & Vogler, 2010). The increasingly differentiated field of climate governance includes activities as diverse as urban climate change experiments (Castán Broto & Bulkeley, 2013), 'do-it-yourself' forms of action (Cloutier, Papin, & Bizier,

2018), sufficiency-oriented business models (Bocken & Short, 2016), and the development of governance networks that seek to organize climate protection beyond politics and the state (Bäckstrand, Kuyper, Linnér, & Lövbrand, 2017).

In recent years, however, in the wake of the Paris Agreement and its new approach to climate governance, which emphasizes the role of national governments in a mechanism of voluntary but binding goal-setting and reporting, we are witnessing both a new wave of political mobilization and a renewed invocation of government responsibility (de Moor, Vydt, Uba, & Wahlström, 2020). The most prominent example is certainly the Fridays for Future movement, which started with local school strikes by young people and soon developed into a broad transnational climate movement far beyond the younger generation (Martiskainen et al., 2020). Messages proclaimed in mass public rallies and marches, such as "we strike until you act" or "follow the Paris Agreement," underscore that this new climate activism is again increasingly demanding political action from governments.

Besides these highly visible forms of urging governments to act, other groups of climate activists address their concerns through more formal strategies and via institutional channels. Rather than resorting to starting mass protests or provoking civil disobedience (Mattheis, 2020), for example, they are seeking to force governments to accept their responsibility for climate action through legal means. With Urgenda's lawsuit against the Dutch government certainly being the most prominent case, an increasing number of climate lawsuits have been filed by various actors against governments in different countries in recent years (Burger et al., 2017; Okubo, 2013; Peel & Osofsky, 2017; Setzer & Vanhala, 2019).

Meanwhile, research on climate litigation has continued to increase and—mainly from a legal perspective—has produced comprehensive insights into the conditions and consequences of climate lawsuits in different contexts. However, social science analyses of the actors who engage in climate activism by legal means and their respective strategies are still scarce (Setzer & Vanhala, 2019). In order to better understand the role of climate litigation in and for climate governance, there is still a need for more specific insights into the complex and diverse motivations of those who choose to mobilize the law in pursuing their strategies (Vanhala, 2013, p. 462). Accordingly, the aim of this article is to contribute to the understanding of the "community of capable and willing litigants" (Setzer & Vanhala, 2019, p. 6) by analyzing the strategy of a specific litigant, namely the KlimaSeniorinnen Schweiz. Representing a group of elderly women, the KlimaSeniorinnen are the first to attempt to enforce stronger governmental climate protection measures through legal action in Switzerland. In addition to the legal process, the group has quickly developed into an actor that voices its demands in the broader public and thus receives ample media attention. In addition to contributing a case study to climate litigation research, our analysis aims to shed light on how new actors in the field of climate politics are acting strategically in the context of increasingly differentiated climate governance. We argue that new actors in the climate movement, such as the KlimaSeniorinnen Schweiz, pursue multiple strategic orientations in more and more varied strategic contexts that provide social movements with different entry points to address their concerns.

In the following section, we briefly embed the case study of the KlimaSeniorinnen Schweiz in new climate politics (Section 2). Drawing on social movement theory and the analysis of political strategy, we specify three dimensions for understanding strategies of climate activism, namely strategic contexts, strategic orientations, and strategic actors (Section 3). We outline our methods, which combine a literature-based analysis of strategic contexts, a frame analysis of strategic orientations, and qualitative interviews to shed light on the activities of strategic actors (Section 4). Subsequently, we present the results of our three-dimensional strategy analysis of the KlimaSeniorinnen Schweiz (Section 5). We then reflect on the interplay between the strategy dimensions and discuss the broader implications of our analysis for new climate politics (Section 6). We conclude with perspectives for practice and future research.

2. Background: New Climate Politics and the Climate Litigation of the KlimaSeniorinnen Schweiz

2.1. New Climate Politics and Climate Litigation

Climate change has become a socio-political megatopic that permeates all areas of society (Dryzek et al., 2013). The increasingly diverse group of actors in climate activism reflects a multiplication of strategic entry points in ever more pluralized and institutionalized climate governance. For example, the progressive differentiation of climate governance—from international agreements to governmental climate protection programs—brings with it new opportunities to address and articulate climate political interests and concerns (Bäckstrand et al., 2017). In particular, the post-Paris regime represents a new reference and motivational basis for climate activism, as it is largely based on a principle of binding voluntariness that virtually calls for an active role of civil society actors in controlling governmental policies (Falkner, 2016; Kanie et al., 2019).

In addition to mobilizing political pressure on the streets through parties and parliaments, climate activism is increasingly resorting to institutional channels to articulate its concerns. Examples of this polity-directed activism are so-called climate lawsuits or litigation, with which social movements have been fighting for several years for more climate protection (Boutcher & McCammon, 2019, p. 307; Hilson, 2002). To an increasing extent, they are being considered as potentially important mechanisms to support the implementation

of nationally determined contributions under the Paris Agreement (Butterfield, 2018). Even if the obstacles in terms of both high costs and demanding criteria for standing are significant and the chances of success have so far been rather low, there are always new cases of climate complaints (Setzer & Vanhala, 2019; Vanhala, 2012, 2013). In the further course of this article, we want to better understand the strategic considerations behind climate lawsuits by looking at the special case of the KlimaSeniorinnen Schweiz.

2.2. The KlimaSeniorinnen Schweiz

In 2014, Greenpeace International launched a strategy process with the aim of involving more people in the fight against climate change. After the first-instance victory of the Dutch organization Urgenda in 2015, Greenpeace Switzerland decided to initiate a similar climate litigation case in Switzerland. As the Federal Supreme Court is not able to review the compatibility of federal laws, such as the CO_2 Act, with the Swiss Constitution, Greenpeace commissioned a legal opinion to examine another potential substantive legal foundation for a climate litigation case in Switzerland (see Bähr, Brunner, Casper, & Lustig, 2018). The suggested procedural path—the request to issue a 'ruling on real acts' (Verfügung über Realakte) in terms of Article 25(a) of the Federal Act on Administrative Procedure—requires a particularly affected group of people as applicants. The lawyers identified women between 75 and 84 years of age as especially suitable. Their mortality rate is significantly higher during heat waves—also compared to men of the same age cohort. According to the legal opinion, senior women are particularly affected by climate change and also have an interest worthy of special protection, thus fulfilling two essential legal requirements for filing a lawsuit.

As no existing organization met the legal criteria for applicants, Greenpeace actively searched for a new group. Once a board of active women had been formed, they recruited more members by activating their networks. At the time of its official foundation in August 2016, the new association of the KlimaSeniorinnen Schweiz consisted of 273 members. Since then, this number has grown to over 1600 women (January 2020). The KlimaSeniorinnen are financed by private donations and by Greenpeace Switzerland. With increasing donations, the group has gained more and more financial independence and even reimbursed Greenpeace for some of its expenses.

2.3. The Legal Process

In November 2016, based on Article 25(a) of the Federal Administrative Procedure Act, the KlimaSeniorinnen filed their request for the discontinuation of failures in climate protection (Verein KlimaSeniorinnen Schweiz, 2016). They claimed that four administrative bodies, including the Swiss Federal Council; the Department of the Environment, Transport, Energy, and Communications; and two of its subordinate agencies, failed to fulfil their obligations regarding the Swiss climate legislation and its implementation by 2020 and 2030. They demanded that the government ends its illegal behavior and adjusts its omissions by initiating, among others, a preliminary legislative procedure to reinforce the greenhouse gas emission reduction targets and corresponding mitigation measures.

In substantive terms, the KlimaSeniorinnen base their claim on a variety of legal sources, beginning with the obligations arising from the Paris Agreement and through three provisions of the Swiss Constitution, namely the right to life (Art. 10, para. 1), the principle of sustainable development (Art. 73), and the precautionary principle (Art. 74, para. 2). Further, the claim is based on two articles of the European Convention on Human Rights, namely the right to life (Art. 2) and the right to respect private and family life (Art. 8).

In April 2017, the Department of the Environment, Transport, Energy, and Communications rejected the application, arguing that the KlimaSeniorinnen did not meet the formal requirements for legal standing. They denied the special affectedness of the KlimaSeniorinnen, asserting that they aimed at a global reduction of the CO_2 concentration for everyone's benefit. The KlimaSeniorinnen lodged an appeal with the Federal Administrative Court, which was rejected in November 2017 based on the argument that the KlimaSeniorinnen had not demonstrated any specific affectedness that goes beyond the general concern. A further appeal with the Federal Court was also rejected in May 2020, prompting the group to file the case at the European Court of Human Rights in November 2020, where it is still pending.

3. Framework: Analyzing Strategy Formation of Social Movement Actors

Movement research has established three broad factors that explain the formation and activities of social movements: the institutional contexts movements face, which determine the opportunity spaces of their actions; the construction and interpretation of norms and ideas that guide their actions; and the organizational basis available to actors for mobilizing support and coordinating their actions (McAdam, 2017). For our empirical analysis of the strategy formation of the KlimaSeniorinnen Schweiz, we interpret these three bundles of factors as basic dimensions of strategy, with strategy referring to the deliberate attempt by actors to pursue certain, longer-term goals within a given context through coordinated action (Doherty & Hayes, 2019; Raschke & Tils, 2013). Strategy formation thus involves the development of a strategic goal orientation in relation to a specific strategic context by an organized strategic actor. We specify and operationalize these three elements—strategic context, strategic orientation, and strategic actor—as follows.

Strategic context refers to both the structural and situational conditions within which and in relation to which groups decide whether or not to take action and how. By providing incentives for certain options and imposing constraints on others, the strategic context influences a movement's strategy-making. While it draws on the concept of political opportunity structures, which is widely used to explain the emergence and institutionalization of social movements in terms of the openness of political systems (Meyer & Minkoff, 2004; Van Der Heijden, 1997), the concept of strategic context goes beyond that other concept in three ways: First, in addition to more or less open political structures, strategic contexts emphasize more contingent and dynamic factors, such as the receptivity of political elites to social movements' concerns (Hilson, 2002). Second, it reflects the pluralization of (climate) governance arenas and broadens the perspective to include "different openings" available to social movements to address their concerns (Vanhala, 2012, p. 526). In our case of climate litigation, we refer specifically to political and legal opportunities. While political opportunities open and close spaces for actors to influence the policy agenda, legal opportunities include all kinds of factors that condition access to legal governance (Vanhala, 2012, p. 526) and that influence the design of legal strategies (Fuchs, 2013). Specifically, legal opportunities refer to the "mechanics of the judicial process that shape access to the court, including what may be litigated, who can litigate and where and when such litigation can occur" (Vanhala, 2012, p. 527). Third, unlike opportunity structures, which imply a unidirectional imposition of opportunities and constraints on social movement actors, strategic contexts refer to a field of loosely connected and relatively autonomous arenas among which social movements can, to some degree, choose the most favorable (McAdam & Tarrow, 2019).

Strategic orientations comprise the most important (cognitive) interpretation patterns and (normative) goals of movement actors, with which they try to reach a certain audience and/or influence the political process. We capture strategic orientations through an analysis of collective action frames. Frames refer to those "action-oriented sets of beliefs and meanings that inspire and legitimate the activities and campaigns of a social movement organization" (Benford & Snow, 2000, p. 614). With the help of frames, movement actors attribute a specific (and always selective) meaning to social phenomena (Hänggli & Kriesi, 2012): They problematize existing conditions (Entman, 1993), assign responsibilities for the problem and its solution, outline alternatives in terms of goals and options for action, and provide reasons why other actors should support the cause (Snow, 2004; Snow, Vliegenthart, & Ketelaars, 2019).

Social movements generally refer to collectives of actors who engage in some form of joint action to pursue common goals (Snow, Soule, Kriesi, & McCammon, 2019). The concept of *strategic actors* refers to the fact that social movement strategies are usually formulated and driven by a group of core actors who cannot control the social movement in a strict sense (Scharpf, 1997) but who have specific resources, such as finances, an organizational base, experience, knowledge, and networks, to significantly shape the movement's strategy (Edwards, McCarthy, & Mataic, 2019). It is the strategic actors who take the lead in formulating and implementing strategic orientations within given strategic contexts (Ganz & McKenna, 2019; Morris & Staggenborg, 2004). To this end, they ensure the provision and maintenance of strategic capacity by building organizational structures and mobilizing resources and social support (Raschke & Tils, 2013).

4. Methodology: Combining Literature, Frame, and Interview Analysis

Our case study on the KlimaSeniorinnen Schweiz combines three analytical steps, each of which relates to one of the conceptual elements of our strategy framework. To gain insights into the strategic context in which the KlimaSeniorinnen emerged and work, we first identified, based on existing literature, crucial elements of the political and legal opportunity structures in Switzerland that are likely to shape the strategy formation of the KlimaSeniorinnen.

To capture the strategic orientation, we conducted a frame analysis of the written communication of the KlimaSeniorinnen. The analysis included different kinds of publicly accessible documents, such as statutes, legal documents, and press releases (covering the period from July 2016 until the end of 2019), as well as a selection of media reports and parts of their website. These different groups of documents are aimed at different audiences, such as legal bodies (legal documents) or the media and the public (press releases, media reports). First, we conducted a deductive a priori categorization based on various studies of framing in environmental politics (Dahinden, 2002; Nisbet, 2009). Framing patterns, such as a focus on scientific facts or an emphasis on personal affectedness, served as a guideline for the subsequent inductive categorization. We mapped the patterns and figures of thought in the text material and combined them into a hierarchical order (Kuckartz, 2014). Following Benford and Snow (2000), we used the three frame functions—diagnostic, prognostic, and motivational—and added Entman's (1993) problem definition function to be able to more accurately depict the legal reasoning. These four functions served as superordinate categories, and all the codes were assigned to these functions. Thereby, we were able to distinguish two predominant category patterns, representing two collective action frames.

In a last analytical step, we conducted qualitative, semi-structured interviews with three key strategic actors: the co-president of the KlimaSeniorinnen Schweiz, the responsible project leader at Greenpeace Switzerland, and one of the association's lawyers. All

interviews were conducted in January 2020. Conscious of fundamental limitations of reconstructing decision-making processes in movements (Blee, 2012), the aim of the interviews was, on the one hand, to obtain factual process knowledge about the organization and motivation of the strategic core actors and, on the other hand, to deepen and validate the results of the analysis of the strategic context and strategic orientations and link them to the interpretations of the actors (Bogner, Littig, & Menz, 2014, pp. 18–19).

5. Empirical Findings: Strategy Formation in the Case of the KlimaSeniorinnen Schweiz

5.1. Strategic Context

The KlimaSeniorinnen face a comparatively open political opportunity structure in Switzerland (Kriesi, Koopmans, Duyvendak, & Giugni, 1995). Besides the opportunities for social actors to participate in the regular legislative process through consultations, the direct democratic system in Switzerland offers numerous opportunities for social movements to bring their demands into the political arena (Kriesi & Wisler, 1996; Van Der Heijden, 1997, p. 30). While a facultative referendum allows social movements to oppose parliamentary decisions, a federal popular initiative offers the opportunity to initiate changes and put problems on the political agenda. One could even say that the direct democratic system guides the actions of social movements into the conventional channels of political will and interest articulation as it delegitimizes unconventional, confrontational, or violent actions (Van Der Heijden, 1997, p. 43). The party-political composition of cantonal and national parliaments was rather non-receptive concerning climate issues when the KlimaSeniorinnen were founded. The party landscape was sharply divided with regard to environmental topics, with a majority of conservative and liberal positions. However, with the sharp increase in public attention being paid to the climate issue in recent years, which has translated into a strong increase in votes for green parties in cantonal elections and especially the 2019 elections for the National Parliament, the so-called green wave has provided favorable opportunities for addressing climate policy issues. Thus, these political factors have a signaling effect that reinforces the movement actors' perceptions of political opportunities for action (Meyer & Minkoff, 2004).

In contrast, the legal opportunities appear less favorable. The non-existence of a constitutional court reduces the possibilities for social movements to pursue their demands through legal action. Therefore, no Swiss court is able to review the provisions of the CO_2 Act for its compatibility with constitutional and human rights (Krumm, 2015, p. 231). In addition, the legal process chosen by the KlimaSeniorinnen is characterized by complex procedural requirements, for example, with regard to the right to sue. This is demonstrated by the fact that the procedure was only disclosed through a detailed legal opinion from two lawyers. Grassroots movements without substantial financial and legal support are thus de facto excluded from legal action. Apart from the procedural issues, the legal dispute of the KlimaSeniorinnen is considered a pioneering project in Europe and the world (Bähr et al., 2018). Neither the Federal Court nor the European Court of Human Rights have ever ruled on such a legal case before. Although legal cases in other countries have served as a source of inspiration, no direct judgment could be used to build up the argumentation. This underlines that the legal process taken by the KlimaSeniorinnen is associated with considerable risks, which indicates rather unfavorable legal opportunities.

5.2. Strategic Orientation

Our analysis of the written communication of the KlimaSeniorinnen revealed two distinct strategic orientations associated with two clearly distinguishable but partially overlapping frames (see Table 1). An 'injustice frame' stresses the older women's particular affectedness in terms of health problems and a scientifically proven higher mortality rate during heat waves. In a magazine for elderly people, one of the board members stated: "We senior citizens are the population group most affected by the increasing heat waves, because our health problems and mortality are particularly high. This is why we are suing the government" (Hollenstein, 2019, translated by the authors). The problem of global warming is described as imminent and highly urgent. The injustice frame emphasizes the state's responsibility to protect human rights codified in the Swiss Constitution and international law. A member of the KlimaSeniorinnen said in an interview with an established daily newspaper:

> The Federal Constitution states that [the government] must protect people from harmful impacts. The government has a duty to protect senior women. It must preventively protect us from negative effects on our health; this is the basis of our complaint. (Häne, 2016, translated by the authors)

The injustice frame underlines that the government's failure to protect senior women leads to a substantial violation of these women's rights and thus to a state of injustice. It predicts that more climate protection is needed to solve the problem, and hence the KlimaSeniorinnen have the right to resist by means of a climate litigation case. Potential activists are motivated by the portrayal of the KlimaSeniorinnen as a social movement with numerous members that counts on support from the public and from Greenpeace.

The 'grandchildren frame,' on the other hand, emphasizes the threat that global warming poses for future generations. For example, one of the climate seniors stated in an interview with a magazine for grandparents in Switzerland: "I want my grandchildren to

Table 1. The frame category system.

Frame function	Injustice frame	Both frames (ambiguous categories)	Grandchildren frame
1. Problem definition	Particular affectedness Health problems Scientific foundation	Urgency	Threat for future generations
2. Diagnosis	Legal basis Rights violation	Responsibility of state actors	
3. Prognosis	Climate change litigation The right to resist	More climate protection	
4. Motivation		Support from Greenpeace and public Social movement	Protection of grandchildren Responsibility of the older generation

have a good life. A condition for this is that the climate stabilizes" (Gindely, 2016, translated by the authors). The grandchildren frame also blames state actors for not assuming their responsibility and demands more ambitious climate policies in order to solve the problem. The motivation function of the frame is twofold: On the one hand, it stresses the need to protect grandchildren. On the other, it accentuates that the older generations have contributed substantially to the climate crisis and therefore bear a certain responsibility to act.

The injustice frame is far more dominant than the grandchildren frame in all the types of analyzed communication. However, we observed significant differences: While the grandchildren frame was almost non-existent in legal documents, it was clearly visible in media reports, on the website, and in the association's leaflet (see Table 2). The latter are documents targeted at the mobilization of new members and supporters from the broader public. In addition, the injustice frame was largely self-contained, whereas the grandchildren frame rarely appeared by itself but rather in combination with the injustice frame.

5.3. Strategic Actor

The internal organization of the KlimaSeniorinnen reveals a clear division of tasks and roles. The team of lawyers mainly focuses on the legal representation of the litigation case. Greenpeace, on the other hand, is repeatedly described as the movement's secretariat. Even after the initiation and formation of the group, the NGO has continued to play a central strategic role: The project leader prepares most of the board meetings, designs parts of the written communication, and coordinates media relations. Greenpeace also conducted media training for those women most present in the media. According to statements by Greenpeace and senior women activists, Greenpeace's central organizational role was never concealed from the public, but it has not been proactively communicated either. The interviewees stress that the decision-making authority concerning the legal proceeding as well as the public appearances ultimately lie with the association's nine-member board and its general assembly. Likewise, it is the association and its members who decide what kind of information they want to communicate to the media and the public.

In terms of external relations, the three key strategic actors interviewed pointed at the importance of a global network on climate change litigation for the KlimaSeniorinnen case. Greenpeace and the board of the KlimaSeniorinnen maintain a close and steady dialogue with actors in new climate politics around the world. They also emphasize the advantages of exchanging legal arguments between cases in different contexts, even if courts are not bound by the judgments of courts in other countries. Thus, the case of the KlimaSeniorinnen was inspired by other climate litigation processes, and their legal argumentation based on the European Convention on Human Rights is intended to promote other court cases around the globe and especially in Europe.

Table 2. Distribution of frames.

Example	Categories of injustice frame	Ambiguous categories	Categories of grandchildren frame
Legal documents	74%	26%	0%
Press releases	58%	36%	6%
Website, leaflet, statutes	39%	49%	12%
Media reports	53%	34%	13%

Notes: Distribution of categories in the different types of analyzed communication. For example, 58% of all categories allocated in press releases are attributed to the injustice frame, 36% can be assigned to both frames, and 6% belong to the grandchildren frame.

The KlimaSeniorinnen were far from inactive in the long interim periods between the filing of the legal complaints and the authorities' answers. They expressed their concerns through various side activities and active media work. Side activities included a delegation of the KlimaSeniorinnen traveling to the World Economic Forum in Davos or taking part in networking events at the COP 23 in Bonn in 2017. Several board members have regularly participated in podium events, conferences, or climate marches. For instance, the co-president contributed to a discussion board on health and the environment at the University of Lausanne in 2019. They have increasingly cooperated with other climate movements, such as young activists of the Fridays for Future movement, and have organized common events and performances. The association also supports a popular initiative aimed at anchoring the goals of the Paris Agreement in the Swiss Constitution ('Gletscherinitiative'). These activities were accompanied by a lot of active media work. The KlimaSeniorinnen published press releases regarding every step in the legal procedure and many of the side events. Moreover, several members were portrayed in well-known newspapers but also in issue-specific media, such as magazines for grandparents or women. As a result, the KlimaSeniorinnen achieved a comparatively broad media presence and were given the chance to emphasize their goals and demands and to explain the motivation behind their activism in front of different social groups and differentiated publics. The strategic actors interviewed emphasized how being associated with the KlimaSeniorinnen offers a lever for senior women to engage in climate politics. Moreover, their presence in the media is assessed positively not only for mobilization purposes but also because thus far the tendency has been for seniors not to have a strong voice in climate activism.

6. Discussion: The Dual Strategy of the KlimaSeniorinnen and its Implications for New Climate Politics

With regard to the relatively open political system in Switzerland, which basically offers many opportunities for social movements to put their claims on the political agenda, it seems counterintuitive that the KlimaSeniorinnen have chosen the protracted and costly legal route to force state actors to take more ambitious climate action. However, our strategy-oriented analysis sheds a more nuanced light on this seemingly counterintuitive choice, revealing more complex considerations of strategic actors pursuing strategic orientations in differentiated strategic contexts.

Interviews with key strategic actors suggest that the lawsuit initiated by the KlimaSeniorinnen is part of a dual strategy aimed at achieving simultaneous impacts in the legal and political arenas. Thus, the idea of founding the association originated from strategic considerations of Greenpeace Switzerland. The interview partners confirmed that the strategic purpose consisted not only of the legal case but also of the complementary political mobilization. The goal was to found a movement that could outlast the duration of the lawsuit. The choice of a legal route was particularly regarded as bearing the potential to attract greater political attention. In view of the polarization between left- and right-wing parties in the field of climate policy, it was aimed not so much at political decision-makers but rather at a broader public, especially the older generations, which had previously been less concerned about climate issues. In the wake of the green wave and a more receptive political atmosphere, the climate seniors increasingly reached out to the broader public and became engaged in political mobilization. With the green wave, their legal activities became more prominent and visible in the media, and they began to exploit their political potential. This legal–political double strategy manifests itself in the presence of two frames that indicate different strategic orientations and are tailored to different strategic contexts. With a frame that focuses on their own need for protection, the KlimaSeniorinnen try to address and create resonance in the legal system. The injustice frame focuses on the immediate consequences of climate change in the form of heat waves and emphasizes an acute threat to the health and physical integrity of older women, and thus their constitutional and human rights. This serves as the basis for claiming an illegal violation of the state's responsibility to protect this particularly vulnerable group of elder women. In contrast, the grandchildren frame refers to the consequences of unchecked climate change for the living conditions of future generations and emphasizes the responsibility of the older generation to take action. In its future-oriented and altruistic orientation, it aims at direct supporters, new members, and the general public. According to the interviewees, the altruistic motives in the grandchildren frame are particularly well suited for mobilizing the older generation, as they resonate with their intrinsic motivation for engagement.

Yet the political mobilization goals of the climate seniors are also supported by their legal strategy. Apart from the fact that the legal process itself receives considerable media attention, the choice of legal action does not only represent an appropriate form of activism (Hilson, 2002, p. 241) but also lends additional legitimacy to the concerns of the KlimaSeniorinnen and further strengthens their already high age-related integrity and credibility. Taken together, their social status, fragility, and rights-based legal activism give them a serious and legitimate voice in the climate movement and beyond. However, strategic actors are well aware that there is a tension between legal and political orientation. For example, the altruistic framing of the older generation as being responsible for future generations, aimed at mobilizing additional support from older people, could undermine their positioning as a particularly vulnerable group that deserves special protection by the state, as

promoted in the injustice frame. Apart from the fact that the communication of the KlimaSeniorinnen is clearly dominated by the injustice frame, the strategic actors interviewed believe that the advantages of political mobilization outweigh the risks of weakening their position in the lawsuit.

Apart from adding another case study on legally oriented climate activism to existing research (Burger et al., 2017; Setzer & Vanhala, 2019; Vanhala, 2013), our detailed empirical analysis of the KlimaSeniorinnen documents how climate litigation can be part of a broader strategy. The KlimaSeniorinnen did not follow a strict script but reacted flexibly to the development of their legal case and the reception of their proceeding in the media and the public. All the same, the active initiation of the group by Greenpeace, the targeted dual framing, the clear distribution of roles between the strategic actors, and the active media work are condensed into an overall picture of a strategic actor using a climate lawsuit not only for legal purposes but also for political mobilization. In particular, the case study shows how groups address "different openings" in targeted ways to articulate their concerns (Vanhala, 2012, p. 529) and how they develop different frames to do so.

Our case study once again underlines the role of strategic considerations in the formulation of legal claims (Wedeking, 2010). Thus, the legal (sub-)strategy of the KlimaSeniorinnen is based on a frame that highlights the actual dangers—in the form of heatwaves—of the ongoing climate change for the specific needs and rights of older women. The acute violation of the rights of this group is presented as a consequence of the government's failure to implement an ambitious climate policy, from which the necessity and duty of the state to pursue a more ambitious climate policy *now* is derived. In contrast to earlier climate lawsuits, two interlocking frame shifts are at work here: On the one hand, the time frame is shifting in such a way that climate change is no longer interpreted only as a risk for future generations, but rather as a currently manifest threat to a specific social group (Hilson, 2019). On the other, the reference to a present threat opens up the possibility of linking the consequences of climate change with human rights, thus reflecting the recent human rights shift in climate processes (Peel & Osofsky, 2018). The emphasis on urgency, based on a shift from the future to the present, is also characteristic of other parts of the climate movement (de Moor et al., 2020).

As for the observed efforts concerning political mobilization, our case analysis confirms previous research, which has shown that legal strategies often have indirect political and social effects, and sometimes are even chosen because of them (Boutcher & McCammon, 2019; Edelman, Leachman, & McAdam, 2010; Vanhala, 2012). Yet, it points to a specific strategic quality of this political mobilization by law. Thus, the KlimaSeniorinnen were created purposefully and with professional support from Greenpeace as a group that is both entitled and promising with regard to filing legal action. At the same time, the legal strategy was only made possible by Greenpeace's financial means and institutional resources. While the collaboration between professional and financially strong movement actors and non-professional and non-institutionalized activists is not a novelty (Mol, 2000; Van Der Heijden, 1997), the case of the KlimaSeniorinnen is characterized by very targeted efforts to combine the strategic competence of professional actors with an intrinsically and authentically motivated civil activism. Apart from pointing out the tension between these divergent orientations of strategy and sincerity as it were (Holdo, 2019), the case is also an example of how this tension can be productively dealt with by means of differentiated yet connected communicative frames tailored to different contexts and audiences. Moreover, on the one hand, the case stands for the high degree of differentiation in climate activism. At the same time, it reveals the overlapping of and interaction between different strands of the climate movement, allowing for innovative liaisons between varying actors.

Finally, the KlimaSeniorinnen are an exemplary case of how climate activism is spreading to and increasingly permeating various areas of society. By purposefully linking climate change and its consequences with other issues, such as health, seniority, and femininity, new themes are created that engage new actors and create new publics (Nisbet, 2009). This is conveyed through increased media attention. For example, many media that have not previously dealt with climate issues have reported on the climate senior citizens. In this way, it was possible to reach parts of society that have so far been less intensively involved with the topic and to provide them with a voice in the climate discourse. In the progressive expansion and relating of more and more topics, social actors, and arenas also lies an integrative potential of climate activism.

7. Conclusion

Our case study on the strategy of the KlimaSeniorinnen Schweiz backs the general proposition that climate political activism is becoming increasingly differentiated and pluralized. Climate issues are motivating more and more (specific) social actors in different fields to engage with climate change. Our case study additionally points to a special strategic quality of recent climate activism. This is expressed in the targeted development of a social group that is eligible to file a lawsuit and in the close collaboration between professional and non-professional movement actors in pursuing, by means of communicative framing, a two-fold strategic orientation within given strategic contexts. On the one hand, the KlimaSeniorinnen try to address a specific legal opportunity structure with a human rights-based lawsuit by developing an injustice frame that emphasizes the special vulnerability of older women to intense heat waves

and commits the state as a protector of its citizens and their constitutional and human rights to an ambitious climate policy. On the other hand, they want to mobilize public support for an ambitious climate policy in a specifically structured political arena. To this end, the KlimaSeniorinnen build on the senior women's social respect, on their credibility, and on the inherent legitimacy of their rights-based legal activism. Besides that, they count on a grandchildren frame, with which they seek to motivate and mobilize the older generation, in particular, by emphasizing altruistic values, such as responsibility towards future generations. On a more general level, the case of the KlimaSeniorinnen shows how legal climate activism seeks to find its way into and activate a certain climate governance mechanism that has developed since the Paris Agreement: a mechanism of voluntary national reduction obligations, whose functioning requires implementation pressure from different sides, including the broader public or the courts.

Future work on further legally oriented or other forms of climate activism should analyze the strategic quality of the new climate activism more broadly and more deeply. For example, the question arises whether multiple strategic orientations have become the norm and what changes in climate governance such 'strategization' of climate activism responds to. Further, the empirical effects and practical consequences of an increasingly strategically oriented climate activism should be examined. It would be interesting to find out how a strategically shaped movement develops when certain strategic contexts are closed down. What will happen to a strategically oriented actor like the KlimaSeniorinnen after the potential failure of their lawsuit? By generating a broader and more detailed picture about the strategies of diverse actors in an increasingly populated field of climate politics, research could also provide practical indications of the potentials of cooperative strategy development. For example, it could show how different groups of climate activists can combine their respective strategies to address, in a more coordinated manner, the various entry points of an increasingly differentiated climate governance architecture.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Clashing Tactics, Clashing Generations: The Politics of the School Strikes for Climate in Belgium

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Abstract
Much has been written about the challenges of tackling climate change in post-political times. However, times have changed significantly since the onset of the debate on post-politics in environmental scholarship. We have entered a politicised, even polarised world which, as this article argues, a number of voices within the climate movement paradoxically try to bring together again. This article scrutinises new climate movements in a changing world, focusing on the School Strikes for Climate in Belgium. It shows how the movement, through the establishment of an intergenerational conflict line and a strong politicisation of tactics, has succeeded in putting the topic at the heart of the public agenda for months on end. By claiming that we need mobilisation, not studying, the movement went straight against the hegemonic, technocratic understanding of climate politics at the time. However, by keeping its demands empty and establishing a homogenised fault line, the movement made itself vulnerable to forms of neutralisation and recuperation by forces which have an interest in restoring the post-political consensus around technocratic and market-oriented answers to climate change. This might also partly explain its gradual decline. Instead of recycling post-political discourses of the past, this article claims, the challenge is to seize the 'populist moment' and build a politicised movement around climate change. One way of doing that is by no longer projecting climate change into the future but reframing the 'now' as the moment of crisis which calls on us to build another future.

Keywords
Chantal Mouffe; climate change; climate law; depoliticisation; intergenerational justice; new climate activism; politicisation; post-politics; School Strikes for Climate; technocracy; Youth for Climate

Issue
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1. Introduction

It is Thursday 10 January 2019. It is cold on the streets. A few people gather on the Carrefour de l'Europe nearby Brussels Central station. The atmosphere is reserved and nervous, almost feverish, at the same time. Would other people show up? Or would they be the only ones who decided to actually skip school and take to the streets? Not much later, small groups of pupils start flowing in from all sides. Slowly but certainly, the square is thronged with people. The atmosphere relaxes. Enthusiasm grows. People start giggling and shouting. Some start singing. Soon, the square is too small for the crowd that has gathered. The crowd starts moving towards Rue de la Loi. Excitement rules. An improvised and spontaneous demonstration takes to the streets. More than 3000 young people, primarily secondary school pupils, participate in this first Belgian climate strike. They all responded to a Facebook video call of two teenage girls, Anuna De Wever and Kyra Gantois, to skip school for the climate. Their call was, in turn, inspired by Greta Thunberg, the 15-year-old Swedish climate activist

who had been striking for the climate since September 2018. With the initiative, Belgium was put on the map as one of the first countries in Europe where School Strikes for Climate took place. Belgium would also turn out to be one of the countries with the highest number of participants, certainly relative to the size of the country. On Thursday 17 January 2019, no fewer than 14,000 pupils take the streets. The week after, 35,000 strike for the climate. On Sunday 27 January, the School Strikes for Climate feed into an earlier planned demonstration, leading to the biggest climate march ever in the country, attracting more than 70,000 participants. After this milestone, Youth for Climate, the platform which has been established in the meantime and which calls for the School Strikes for Climate in Belgium, decides to opt for a number of local demonstrations. On Thursday 31 January, 30,000 climate strikers are counted in Leuven and Liège. The week after, School Strikes for Climate take place in several cities, among which Antwerp, Leuven, Kortrijk, Brussels, Hasselt, Beringen, Liège, Bergen, and Herve. In total, the new climate movement organises 20 strike days in Belgium. The last demonstration takes place on Thursday 17 May, two days before the federal and regional elections. With the exception of 15 March, when the first Global Climate Strike for Future takes place, the Belgian strikes never reach the number of 30,000 people again. Still, the numbers stay significant for a long time.

The emergence of new social movements or, more broadly, new forms of social upheaval, is always intriguing. Why is large-scale social protest triggered at a particular moment? How come some mobilisations barely attract a few dozen people and others easily gather thousands and more? What was so appealing about the School Strikes for Climate? How come climate change suddenly succeeded in inspiring so many young people? A whole range of academic fields have tried to understand social movements' characteristics from a variety of perspectives. At the same time, it appears impossible to fully capture the rise of new forms of social upheaval in theoretical frameworks. There always seems to be something that escapes us. In that sense, like climate change itself, climate mobilisations seem to be characterised by unpredictability, non-linearity, feedback loops, and threshold points.

Without pretending to give the final answer on the 'how' and 'why' of the School Strikes for Climate in Belgium, in what follows, I will look at them from the perspective of post-foundational political theory. More in particular, I will draw on the work of Chantal Mouffe (2002, 2006, 2018) and Erik Swyngedouw (2010, 2013a) and, to a more limited extent, Jacques Rancière (1998, 2001) and Slavoj Žižek (1994, 2000). Key to this body of work is the notion of 'the political,' which concerns the 'discourses' through which social phenomena are constructed and given meaning. Politicisation is considered a core ingredient for democratic politics, but 'the political' can also get lost. This happens when discourses portray themselves as being devoid of power, conflict, and decision; realities which constitute the essence of politics. Of key importance is that it is on the level of ideas or representations—in other words, 'discourses'—that the (de)politicised nature of social movements has to be assessed (Howarth, 2000; Howarth, Norval, & Stavrakakis, 2000). Therefore, my focus will be not so much on the movement's social composition, resources, or number of participants (for work that takes up this challenge see, for instance, de Moor, de Vydt, Uba, & Wahlström, 2020; Martiskainen et al., 2020), but on how the movement understands, represents, or gives meaning to itself and builds itself on this basis.

To that aim, I will write about the movement as a unified actor, even though I am aware that no such thing as a fully unified movement ever exists. The focus will be on the way in which the movement is represented to the broader public by its spokespersons, and the way it is framed on websites, social media, and television, and in newspapers, and magazines. While I have interviewed a number of people who joined the demonstrations, this data will not be the focus of the current analysis, as these people did not actively participate in the movement's framing towards the broader world. I am aware that, consequently, this article will not fully do justice to the diversity of the movement, and that some people might not recognise themselves in the picture I draw. For the sake of arriving at a distinct political-theoretical analysis, and because of the factual observation that a small group of spokespersons had a tremendously important impact on how the movement was presented to the outside world, I will present a rather homogenised account focusing on these public voices, partly making abstraction from the plurality of viewpoints which were present within the movement's rank and file. In that context, it is also important to underline that my analysis should not be read merely as an argument *about* the movement, but also as an intervention *in* the movement. In other words, it should not be understood as a distant critique, but as a way of building the movement exactly through engaging in a critical debate. While I am fully aware of the limits of the current analysis, it is my contention that looking at new climate movements from the perspective of 'the political' can help make sense of their successes and failures, as well as of the challenges, discussions, and tensions they face.

In what follows, I will first sketch the changing political condition within which the Belgian School Strikes for Climate appeared. I will argue that we have moved from a post-political to an increasingly politicised, even polarising world, and that it is important to situate the movement within this context. Second, I will contend that the Belgian strikes have triggered a politicising dynamic through their tactics, which were based on the controversial claim that there is no point in attending school when faced with climate change. Third, I will zoom in on the movement's choice for an intergenerational conflict line, showing how this choice on the one hand pointed

to a potential subject of change, but risked homogenising both the future and the present on the other. Fourth, I will argue that this evolution, in combination with the movement's choice to keep its demands empty, opened the door to the movement's neutralisation and recuperation, which may partly explain its subsequent decline. I end the article with some reflections on how to seize 'the populist moment' (Mouffe, 2018) instead of recycling the post-politics of the past.

2. The End of the Post-Political

A lot has been written about climate change and the post-political (e.g., Bond, Diprose, & Thomas, 2019; MacGregor, 2014; Machin, 2013; Maeseele, 2015; Kenis & Lievens, 2014, 2015; Swyngedouw, 2007, 2010, 2013a). This literature does not only deal with the difficulties of tackling climate change in a depoliticised world, but also with the way in which the predominant climate narrative—characterised by its claim that 'we are all in this together,' which often underpins presumedly neutral market-oriented and technocratic policies—has historically contributed to reinforcing post-political tendencies. Indeed, the central argument of this literature was not only that an overarching depoliticised atmosphere influenced the way climate change was hegemonically approached, but also that the focus on an externalised enemy (CO_2) and the lack of a privileged subject of change have played a significant role in strengthening what was considered a post-political condition (Swyngedouw, 2010, 2013).

Importantly, the initial theories on the post-political were developed in the late 1990s and the first decade of the 21st century (Mouffe, 2002, 2006; Rancière, 1998, 2001; Žižek, 2000). The understanding of society in terms of a post-political condition was rooted in a historical situation in which political parties tended towards the centre, the neoliberal political economy had gained a historical victory, and consensus-seeking was key (Mouffe, 2002, 2006). The theoretical background of this literature, which was labelled post-foundational political theory (Marchart, 2007), starts from a distinction between 'politics,' on the one hand, and 'the political' on the other. Whereas the first refers to institutions like the parliament or voting, the second refers to a logic of thinking and acting which acknowledges the inevitability of division and conflict. Stating that we lived in a post-political condition therefore did not mean that there would no longer be 'politics' in the commonsensical meaning of the term (think about the game of party politics, the parliament, or voting), but that the *constitutive* dimension of conflict and plurality was not recognised anymore. The first analyses of climate change and post-politics would follow not much later (Swyngedouw, 2007, 2010). Importantly, this was also the period when the international climate summits became strongly mediatised and public events (Boykoff & Pearman, 2019), most notably COP15 in Copenhagen in 2009 and to a lesser extent COP21 in Paris in 2015, which lent themselves well to analyses in post-political terms (Goeminne, 2010; Kenis & Mathijs, 2014; Swyngedouw, 2013a). Climate change was hegemonically approached in a market-oriented and technocratic way, and presumably neutral win-win solutions were advocated through which environmental, social, and economic concerns could supposedly be smoothly reconciled, and around which all stakeholders would easily unite (Kenis & Lievens, 2015; Swyngedouw, 2013a, 2015). Where dissident voices came to the fore, they were often swiftly ridiculed, marginalised, and even criminalised. In this context, a crucial question, both academically and in activist circles, was how to repoliticise climate change.

However, the global political constellation changed significantly since the first work on climate change and the post-political appeared. From the election of US president Donald Trump in 2016 to the coming to power of Brazilian president Jair Bolsonaro in 2019, from the success of extreme right-wing parties in Poland, France, and Belgium to the rise of the tea party movement and the alt-right: The world has seen a dynamic of politicisation, even polarisation, though admittedly not entirely the kind of repoliticisation many critics of the post-political condition had pleaded or hoped for. To understand the normative character of post-foundational political theory, it is important to see that diagnosing the Zeitgeist as post-political was never meant as a merely descriptive gesture (Kenis, 2019). It has always been a form of ideology critique, starting from an emancipatory and democratic perspective, and this is exactly what many critics of the post-political thesis (McCarthy, 2013; Urry, 2011) have failed to acknowledge. In other words, the 'post-political' critique had a fundamental 'political' intention. Its aim was to denounce the undemocratic character of post-political affairs, and to generate a space in which resistance and opposition could become legitimate options again (Mouffe, 2006, 2018; Rancière, 1998; Žižek, 2000). The theoretical strategy to do this was to make the lack of an ultimate foundation of the hegemonic order visible and thereby contestable.

Looking from that perspective at the international evolutions in the second half of the second decade of the 21st century, an interesting development has taken place. Hitherto hegemonic orders, such as globalisation, free trade, and neoliberalism, lost their invincible position, and even climate politics was pushed out of its comfortable post-political place within which we would all agree. The *Gilets Jaunes* made clear to the entire world that climate politics is a class struggle and in no way an uncontested domain. It is in this context that we witnessed, and should make sense of, the emergence of the biggest grassroots climate mobilisations ever seen.

3. Politicisation of Tactics

> Why should we continue going to school when there is no future waiting for us? (Youth for Climate, 2018)

"There is No Planet B," "Act Now," "Climate Justice Now": The movement's main slogans do not sound very inspiring at first sight. They are exactly the same slogans as those used during the COP15 demonstrations in Copenhagen in 2009, and during all climate demonstrations that followed from then onwards. But what is new, radical, and turns out to be incredibly mobilising is the idea that it is legitimate, even necessary, to skip school to demonstrate against climate change. "Our only way to exert pressure is by skipping school, just as a labourer who strikes in his company," explains one of the movement's spokespersons in a newspaper interview ("Zo'n 3.000 klimaatspijbelaars," 2019). While the youth climate strikers are not the first to skip school for a higher goal, their tactics seem to be even more appealing because they resonate with the point they want to make. Tactics and message converge in the idea that there is no point in attending school when confronted with climate change: In order to tackle climate change, we need political pressure, not studying or even more science. With this argument, the movement breaks with the hegemonic technocratic approach to climate change, which elevates their tactics' stakes. As one of the movement's spokespersons states during a speech at the very first Belgian School Climate Strike: "We spend all our youth on school benches. The message is that studying hard will bring us far, but I don't believe that any longer. What is far? If all proof resulting from scientific research is simply neglected?" (De Wolf & Arnoudt, 2019). This argumentation is part of a broader, international narrative that "'going to school begins to be pointless' with the climate crisis looming" (Fisher, 2019). Or, as two young climate activists state in a well-shared op-ed: "Why do we skip school for the climate? Our future does not only depend on our studies, but also on the climate" (Verbeke & Vanderstricht, 2019). They add that time pressure strongly influences their strategies: "We do not have the time to wait till we have the right to vote or can become politicians ourselves." It is also this argument that provokes most reactions in first instance. Soon, a vast debate takes off on whether it is legitimate to skip school to demonstrate against climate change. Several right-wing, liberal and conservative politicians claim that the climate problem will not be solved by civil disobedience: "We also and especially need knowledge and technology. Therefore, we have to study, develop new ideas," as a well-cited academic claims (Boudry, 2019). Addressing the climate strikers directly, he states: "You can contribute to that as well, with your smart brains. Do you understand now why some people think it is ironic that, of all things, you leave school to save the climate?" The youth climate strikers do not show many signs of being impressed: "They tell us that we have to study, and get to know the science, but then we see that politicians neglect all science about the climate completely" (De Wolf & Arnoudt, 2019). Whereas mainstream actors resort to a conventional technocratic discourse which underscores the importance of education, science, innovation, and expertise, more progressive voices embrace the movement's politicising push, arguing that we know by now what the problem is. Whereas the first stress that pupils have to obey public order, the latter argue that civic responsibilities might sometimes exactly entail violating that order.

Calling for a school strike is a politicising message in itself: pupils decide to distance themselves from the place that is attributed to them in society. This is the type of argument Rancière (2001; see also Dikeç, 2012) uses when conceptualising political action: By breaching the established 'police order,' which requires pupils to attend school every single school day, they politicise their own role or position in society. This does not mean that the extent to which pupils have to emancipate themselves from social expectations does not vary greatly. While some get parental approval and even support from their (head) teachers to join the demonstrations, others have a much harder path to walk. However, in both cases, they make themselves into political subjects, who no longer understand themselves merely as school pupils but also as potentially active agents of change. Furthermore, through their actions, they create a conflict in society, not only between politicians but also between (head) teachers, parents, and even pupils themselves. As Mouffe (2002, 2006) has convincingly argued, conflict can stir passion, as it shows that something is at stake. It can thereby set in motion processes of political subjectification. That the Climate Strikes are a passionate affair is clear from the intense atmosphere during the demonstrations. The improvised and uncontrolled parade through the city, the climbing on scaffolds and carrying of road signs, the sexualised messages—all contribute to the subversive character of the strikes.

While the politicising dynamic starts with the question of whether it is legitimate to skip school for the climate, the dynamic does not stop there. Maybe for the first time in Belgian history, we witness an explicit discussion in the centre of the political arena on what has to happen to tackle climate change. Because of the centrality of the topic and the passion with which it is publicly displayed, voices from all over the political spectrum feel obliged to position themselves. Significantly, however, Youth for Climate does not really take position itself.

4. One Generation, One Voice

> One generation, one voice. We demand climate justice to ensure a promising future for our generation and the generations that follow. (Youth for Climate, 2019a)

During the demonstrations, the demand for intergenerational justice figures centrally. With slogans like "It is Our Future," "Our World, Our Future, Our Choice," and "Don't Burn Our Future," the youth climate strikers accuse previous generations of having left them with bleak future perspectives. By pointing to themselves as the future victims

of climate change, they do not only establish a dividing line, but also point to and enact a subject of change.

However, not long after the first strike, their own complicity in the climate crisis is publicly displayed. Critics denounce the double standard within the climate strikers' discourse, targeting in particular the flying behaviour of many young people. "But if they go on holiday, the teenagers take the plane, which is, as we know, a big source of pollution," is stated in a press release on the day of the very first strike (Van Driessche, 2019). The youth climate strikers answer that structural changes are needed, not individual ones: "It should not only be about what citizens can do themselves. Much more is needed. We need structural action if we want to avoid the coming catastrophe" (Youth for Climate, 2019b). Furthermore, they denounce the depoliticising thrust of the critique. As a well-shared op-ed states: "As soon as young people act like citizens, one tries to turn them into consumers again. While ministers pretend to be happy with the juvenile climate engagement, they try to get rid of the political message" (Vandepitte et al., 2019). Still, the question remains whether young people are really only victims of climate change. Slogans such as "One Generation, One Voice" tend to make abstraction from the massive inequalities in responsibilities and victimhood, both in the *here* and *now* and in what is framed as 'our common future.' Sherilyn MacGregor (2014) speaks in this context about the 'big we' which has characterised environmental discourse for decades. Erik Swyngedouw (2015) argues that, in so far as climate change is projected into the future, abstraction is made from those who are living in the apocalypse here and now. With an intergenerational dividing line, both the previous and the future generations also risk being presented as homogenised categories.

Definitely, every politicisation entails a depoliticisation (Kenis, 2015; see also Mouffe, 2006). Every construction of an 'us' and 'them' conceals, or at least de-emphasises, other divisions, internal to the constructed 'us' and 'them.' It is never possible to politicise all potential conflict lines without dissolving a movement as a united entity. Politicising every potential conflict line means there is no 'us' anymore but only a sum of individuals who agonistically relate to each other. At the same time, an 'us' can exist only by mercy of a 'them.' In that sense, the challenge is to keep the 'us' big enough to have political leverage and be able to speak of a movement, but not so big that it includes everyone. In other words, politicisation is a double-edged sword. As a result, movements are always and by definition balancing unstably between different us–them formations and are characterised by a continuous negotiation on where to draw the lines between multiple potential 'us-s' and 'them-s'. The challenge this brings becomes clear soon. Where the movement starts with Youth for Climate, they are quickly joined by Students for Climate, Scientists for Climate, Workers for Climate, and even Grandparents for Climate. The movement broadens, and as a result its initial fault line evaporates. Whereas part of its mobilising thrust resided in the establishment of a conflict line, soon the movement ends up with an 'all together' discourse again.

5. The Future is Haunted by the Past

> How can I study, pursue a career and have children when the world is about to fall apart? (Wauters, 2019)

This does not mean that an intergenerational conflict line cannot be interesting or politicising as such. Several social movements have aimed at realising social change by drawing a line between the current generation and the previous ones, emancipating themselves from the legacy of the past. A well-known example is the generation of May '68 and the way in which they aimed at breaking with existing forms of authority in the family or at school, or with consumer society. Staging yourself as 'the new generation' that will make the difference can definitely be a very politicising act: It is an attempt to start anew, to uproot the foundations of the existing social order and put society on a new footing. Is this acknowledgement of the fundamental alterability of the foundations of the hegemonic order not exactly what politicisation is about? As Slavoj Žižek (2000, p. 199) puts it: "The political act (intervention) proper is not simply something that works well within the framework of the existing relations, but something that changes the very framework that determines how things work."

However, while for May '68ers the future was open, for the youth climate strikers the future is haunted by the past. A famous wall painting of the period of May '68 reads: "The future will only contain what we put into it now." The same, however, cannot be said of the predicament the youth climate strikers find themselves in. Their frustration is exactly that they will not be able to get rid of the legacy of the past. The past looks at them from the future: the greenhouse gases emitted in the past are there to stay. Even worse, their cumulative effect will be felt only in the future. But there are other differences between the generation of May '68 and the school skippers for climate as well, characterising the School Climate Strikes in ways which sometimes correspond to the depoliticising thrust that Swyngedouw (2007, 2010) criticises in mainstream climate discourse. To start with, the discourse of Youth for Climate does not so much start from the *desire* to create another future as from the *need* to do so. While May '68 was about changing 'life as we know it,' at least part of the youth climate movement wants to ward off climate change in order to preserve or protect what we currently value and know. While May '68 was hugely emancipatory in terms of young people's self-understanding, staging themselves as the generation that would make the difference, the School Climate Strikes ask people in power to act on their behalf. Finally, and most importantly, the intergenerational conflict of May '68 was accompanied by a strong politicisation of dividing lines in the *here* and *now*.

6. Empty Demands

> The actions of Youth for Climate are intended to bring politicians, CEOs and powerful people together to implement ecological measures. (Youth for Climate, 2019a)

Dividing lines in the *here* and *now* are exactly what Youth for Climate's public discourse seems to be lacking. As they argue: "It is important to reach out to everyone in order to tackle the climate problem together" (Youth for Climate, 2019a). It is at least a remarkable observation: While the world is polarising, the youth climate movement tries to keep or bring everyone together (again). The necessary condition for this far-reaching form of collaboration is that the movement keeps its demands empty. Its main objective is the establishment of a climate law, without much substantial content attached to it. Along the same lines, the movement argues that "the next government needs to be a climate government" (Youth for Climate, 2019a), regardless of the political parties which constitute it. They claim they do not need to answer the question of what has to happen exactly. As they contend: "This is not something Youth for Climate has to figure out. There are enough (climate) experts who are currently ignored" (Youth for Climate, 2019a).

In line with broader international tendencies, it is first and foremost the political right which denounces the apolitical thrust of this approach. In an inflammatory debate, a Flemish nationalist politician argues that betting on a climate law "opens the door to a system in which judges can determine what politics can decide" (Cattebeke, 2019). A centre-right liberal politician, in turn, complains that in this way, "climate politics comes into the hands of judges and technocrats," and a Christian-democrat politician argues that politics "has the task of voting for concrete proposals that are clear in terms of what they stand for" (Cattebeke, 2019). The movement, however, does not seem to be impressed by the reproach of being apolitical. To the contrary, the apolitical character of their approach is exactly what they consider a strength. They assert that they start from "an apolitical standpoint—because climate is a cause which concerns everyone" (Youth for Climate, 2019a). More specific guidelines have to come from "an independent panel of climate experts" and have to be based on "neutral scientific facts" (Youth for Climate, 2019a). To put these ideas into practice, they address Flemish Government Architect Leo Van Broeck and former President of the IPCC Jean-Pascal van Ypersele and "urge them to let [them] and policy makers know which evidence-based solutions exist to halt the climate crisis" (Youth for Climate, 2019b).

The claim that all their proposals are apolitical—or at least neutral, drawing directly on scientific research—is striking. De Moor et al. (2020) observe in this context a broader, international evolution in which "the main change [in comparison with previous grassroots climate mobilisations] appears to be the use of a more politically 'neutral' framing directed more strongly at state than non-state actors." Importantly, the movement's political allies, like Scientists for Climate, make similar claims. A petition which gathered more than 3500 signatures from academics in support of the Belgian School Strikes for Climate adopts a for scientists unusual 'political' standpoint of unconditionally embracing the actions of the school climate strikers, and a rather radical discourse on the measures which should be implemented to turn the tide. At the same time, however, they emphasise that their proposals are "neutral" and "merely based on scientific facts" (Scientists 4 Climate, 2019), failing to acknowledge the political character of their choices.

Surely, it is part of science's self-understanding to perceive itself as neutral and even the opposite of politics (Lievens & Kenis, 2018). Still, that does not mean that, in the construction of scientific discourses, no political processes take place (Goeminne, 2012; Kenis, 2020). Not only are the epistemological boundaries of scientific research partly politically determined, but every translation into policy proposals also entails a decision in terms of which scientific findings to focus on. Because of the very nature of climate change, a very wide range of human activities can be scientifically shown to contribute to climate change. Exactly this lack of a clear object of change is one of the main reasons why climate change is so liable to depoliticisation (Kenis & Lievens, 2014). The challenge is therefore not to prove that a certain activity has a climate impact, as almost every activity does, but to acknowledge that targeting particular activities always entails, next to a scientific evaluation, also a political choice.

Of course, there might be good reasons for keeping the demands empty and for opting for a strategic depoliticisation. It can help keep the movement together and prevent it from being absorbed by what was quickly developing into a very tense political playing field during the first weeks of the School Climate Strikes. But the main reason the movement opted for a depoliticised discourse seems to lie elsewhere. More precisely, it seems to be inspired by a 'political' choice. Just as the 'post-political condition' never meant that politicising voices were entirely absent (Mouffe, 2006), so does the current, more 'politicised' conjuncture not mean that depoliticising tendencies are no longer present. In that sense, the explicitly apolitical features of the movement's discourse could be considered the death throes of a vanishing post-political hegemony, or even an attempt to restore or revitalise a lost post-political condition which was omnipresent in green thinking for decades and which was seen as a necessary condition for tackling climate change.

7. Depoliticisation, Recuperation, and Neutralisation

Leaving the determination of the content of the climate struggle to actors outside the movement entails a risk.

It means everyone can appropriate the struggle and give it their own content and direction. This has a positive side: it means that a real agonistic debate and thereby a process of politicisation around the topic can arise. However, it also means that under an apolitical umbrella, a political project can take shape.

7.1. Sign for My Future

On 5 February 2020, shortly after the first Belgian School Strikes for Climate, Sign for My Future is launched: an impressive, corporate-funded environmental advertisement campaign, including a large number of radio and TV commercials, which was set up by a partnership between the institutionalised environmental movement, hundreds of CEOs, media people, and academics. It is the largest of its kind ever launched in Belgium. The campaign presented itself as "a *citizens' initiative* that has developed into a broad coalition of young people, corporate executives, civil society organisations, the media and the academic world" (Sign for My Future, 2019, author's italics). While the coming together of both initiatives seems a coincidence, convergences develop promptly. Leading figures of the Youth Climate Strikes, such as Anuna De Wever and Kyra Gantois, are present at the opening event and publicly support the campaign. Furthermore, there is a striking similarity between their aims: a climate law, an independent advisory panel of climate experts, and a governmental investment plan. Similar to Youth for Climate's discourse, their proposals are directed towards the government and presented as merely apolitical.

Slavoj Žižek (1994) analyses these kinds of gestures as the 'masterstroke of ideology.' As he argues, the dominant ideology is the one that succeeds in presenting itself as the opposite of ideology: as neutral, merely scientific, or technological; as apolitical. Crucially, under the guise of an apolitical discourse, a political project inevitably takes shape. In the case of Sign for My Future, the underlying political stakes are already revealed in the choice for a particular messenger: a group of hundreds of CEOs (e.g., BNP Paribas, IKEA, Microsoft, Danone, Proximus, and Unilever) present themselves as allies in the struggle against climate change. Similarly, demands such as the establishment of a governmental investment plan "to help citizens and companies make the transition to a sustainable society" (Sign for My Future, 2019) reveal underlying political stakes. The point is that an apolitical discourse is merely a political discourse which presents itself as apolitical (Kenis, 2015). As Laclau and Mouffe (2001; see also Mouffe, 2006) contend: While all social relations are discursively constructed, and this always entails the exercise of power, discourses can remain blind to their own political dimension, or actively conceal it. This is what makes them depoliticised or post-political. A politicised and democratic discourse, in contrast, is one which fully recognises its political inscription. In other words, under the umbrella of an apolitical discourse, a political project takes shape. The difference is that it is not recognised as such and is therefore much less easily contestable.

7.2. Struggling to (De)Politicise Climate Change

Sign for My Future aims to put pressure on the government through a large-scale petition. With posters spreading messages such as "When I am older, I want to see tornadoes on television, not in my garden," "When I am older, I want to shop for shoes, not for flippers," "When I am older, I want to play football on a green field, not in a dry sand pit," they aim at collecting signatures from a broad public. At the same time, the campaign is increasingly contested on social media. Is the climate struggle about saving 'life as we know it'? Is it about warding off the climate disasters that threaten 'us'? Despite the impressive coalition, the Sign for My Future campaign is not the big success its designers had hoped for. The petition gathers 267,000 signatures, which is significant, but little in comparison with the resources which were put into it, as one of its initiators later publicly recognised (Dheedene, 2019). The campaign keeps relying on (social) media and is barely picked up by grassroots activists gathering signatures in the streets. Its 'consensus' narrative about preserving 'life as we know it,' spread through slogans concocted by marketing firms, not only misses the agonistic dimension which can trigger passion by showing that something is at stake (Mouffe, 2002), but also turns climate change into something superficial or meaningless. Who would be passionate about mobilising for such an empty stake? The hidden political message fuelled the suspicion.

The initiators of the campaign, however, seem struck dumb by the unexpected turn of events. Big is the consternation that an initiative with a goal as noble as tackling climate change is criticised. Three assumptions figure centrally in the ensuing debate. First, there is the assumption of 'convergence spaces': the idea that different environmental initiatives can neatly exist next to each other, as in the end, they all work towards the same goal (North, 2011; Routledge, 2003). As a well-shared oped, which aims at countering the critiques, reads: "A climate transition will happen when a hundred flowers can bloom" (Goris, 2019). The problem with such a representation is that it fails to acknowledge the struggles at play below the surface and that it denies that divergent ways of tackling climate change can be politically incompatible (Kenis, 2019). Second, there is the assumption that we need 'consensus' in order to arrive at change. This is exactly what generates the depoliticising dynamic Mouffe (2006) has criticised in her work on post-politics. The problem with 'consensus' discourses is that they misrecognise the constitutive and mobilising role of agonism in society and prevent the revelation of the political grounds behind the technocratic and market-oriented approaches at play. Third is the assumption that 'the people' are apolitical, and therefore the only way to address

them would be through an apolitical approach. As the chief editor of MO* magazine states:

> I see the petition…as an instrument to communicate with very large groups of citizens who are situated in the misty centre of the debate….Those citizens…easily represent 50% of the electorate. This is not the moment to be right in your own bubble, but also within broader society (Goris, 2019)

Stated differently, the campaign is assumed to appeal to a supposedly apolitical public that would be situated somewhere in-between centre left and centre right. But are 'the people' so apolitical today?

While the world is polarising, the new climate movements project an aversion of politics on 'the people,' sticking to a post-political narrative whose time has already passed. The regional, federal, and European elections of Sunday 26 May 2019 are experienced as a slap in the movement's face. "Flanders is radicalising," reads a newspaper headline (Eeckhout, 2019). The predicted victory for the green party does not materialise. The centre parties lose to the benefit of the radical left and especially the far right.

7.3. Depoliticising Climate Change in a Polarising World

While the Youth Climate Strikes were highly successful in terms of mobilising large numbers of people and succeeded in putting climate change at the heart of the public agenda for months on end, it subsequently declined without leaving many tangible results. The emptiness of its demands made it relatively easy for oppositional forces to endorse the movement's demands while sticking to 'business as usual,' thereby "neutralis[ing] [the movement's] subversive potential," as Mouffe (2018, p. 34) warns. In the same line, it allowed mainstream voices to fill the void and, thereby, its demands to be "recuperated by the existing system" (Mouffe, 2018, p. 34). Consequently, the mobilising energy withered away. The last calls for a strike no longer attracted many participants, and after the elections of 26 May 2019, the movement was struck by internal crises. This does not mean the movement did not realise significant gains on the symbolic level: climate change has been staged as a matter of concern in unprecedented ways. Furthermore, for young people, the strikes might well have been the politicising experience of a lifetime. As Fisher (2019) notes: "This growing movement is important beyond its potential impact on climate policy because it is creating a cohort of citizens who will be active participants in democracy.''

8. Conclusion

Following Mouffe (2018, p. 9), who cites Machiavelli in this respect, the task is to write "*in* the conjuncture" instead of merely reflecting "*over* the conjuncture." This requires taking position in the here and now. This positioning has to start from an estimation of the current political situation. Whereas a depoliticised climate discourse easily thrived in a post-political atmosphere, the political context is different today. In a polarising world, the challenge is "to seize the populist moment" by giving an emancipatory and democratic thrust to the politicising tendencies which are present in society (Mouffe, 2018, p. 1). One way of doing that is through a politicisation of our perception of historical time.

As I have argued in this article, projecting climate change into the future discursively conceals that the catastrophe is already here. Focusing on the *here* and *now* leads to a radically different position, allowing politicisation along an intersection of social justice lines. For that reason, it might be more interesting to understand our current predicament in terms of the Anthropocene. While the concept of the Anthropocene has been rightly criticised for being discursively homogenising and therefore depoliticising in itself (Malm & Hornborg, 2014), and arguably it would be better to speak about the Capitalocene (Moore, 2016) or Oliganthropocene ("epoch of a few men and even fewer women"; Swyngedouw, 2013b), the reframing of the *now* as the moment of crisis, as the *ruin* on which another future has to be built, might be politically more interesting than fighting an enemy whose teeth have yet to be revealed. If we situate doomsday in the past, the future might become more promising again. If there is no reason to keep what we have, emancipatory politics become an option again. Furthermore, opening up the debate to more fundamental questions on how we as human beings, for the first time in history and self-consciously though mostly unwillingly, inscribe ourselves in geological processes can radicalise and even revolutionise the levels of change we allow in our imaginaries (Clark, 2010). Finally, such an approach makes it easier to connect with other struggles on the basis of which an emancipatory and intersectional frontier can be built.

Drawing on Laclau and Mouffe's (2001) earlier work, such a frontier could be built through constructing chains of equivalence between nodal points from a range of different struggles, such as climate, anti-racist, and anti-austerity politics. Interestingly, we recently also witnessed the emergence of a number of initiatives along these lines. With slogans like "Burn Borders Not Coal" (Ende Gelände), "The Climate Crisis Is a Racist Crisis" (Black Lives Matter), and "Climate Refugees Welcome" (Lesbian and Gays Support the Migrants), activists have emphasised the intersectionality of struggles. In the same line, it might be useful to think about ways to 'internalise the enemy' and move beyond targeting CO_2. By pointing to specific social practices *here* and *now*, the opponent acquires an identifiable face (Kenis & Lievens, 2021). Also, at this level, interesting initiatives have been developed in recent years. Examples include the Dutch initiative #Shellmustfall and its Belgian counterpart #Ineoswillfall. Still, none of these initiatives have

been as successful as the School Strikes for Climate so far, especially in terms of their mobilising capacity. The latter might partly testify to the unpredictability of forms of social upheaval: it is not because you follow all the steps that you will have a cake.

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Article

Public Engagement in Climate Communication on China's Weibo: Network Structure and Information Flows

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Abstract
This article provides an empirical study of public engagement with climate change discourse in China by analysing how Chinese publics participate in the public discussion around two Intergovernmental Panel on Climate Change reports and how individual users interact with state and elite actors on the pre-eminent Chinese microblogging platform Weibo. Using social network analysis methods and a temporal comparison, we examine the structure of climate communication networks, the direction of information flows among multiple types of Weibo users, and the changes in information diffusion patterns between the pre- and post-Paris periods. Our results show there is an increasing yet constrained form of public engagement in climate communication on Weibo alongside China's pro-environmental transition in recent years. We find an expansion of public engagement as shown by individual users' increasing influence in communication networks and the diversification of frames associated with climate change discourse. However, we also find three restrictive interaction tendencies that limit Weibo's potential to facilitate multi-directional communication and open public deliberation of climate change, including the decline of mutually balanced dialogic interactions, the lack of bottom-up information flows, and the reinforcement of homophily tendencies amongst eco-insiders and governmental users. These findings highlight the coexistence of both opportunities and constraints of Weibo being a venue for public engagement with climate communication and as a forum for a new climate politics and citizen participation in China.

Keywords
climate change communication; China; public engagement; social media; social network analysis

Issue
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1. Introduction

Since its 13th Five-Year-Plan period (2016–2020), China has undergone a pro-environmental transition and a restructuring of its economy for greener growth. China—currently the world's largest emitter of CO_2, and seen as a 'laggard' in Copenhagen (Christoff, 2010)—has recently taken a more proactive role in the global climate regime (see Engels, 2018; Roberts, 2011). China pledged at COP21 to peak its emissions by 2030 and announced in 2020 to further strengthen its target to achieve carbon neutrality by 2060. Domestically, these pledges have translated into a series of rapid climate policies and state-led programs, such as policies and investments to boost renewable energies and the nationwide "Energy Conservation and Emission Reduction" plan (State Council, 2011). Although China's climate responses remain largely insufficient to meet climate targets, these initiatives demonstrate a positive shift in China's environmental orientation. Some observers

highlight the significant role of the Chinese central government in steering this pro-environmental transition. They attribute China's environmental turnaround to an authoritarian environmentalism model where a non-participatory approach bypasses public ignorance, conflicts of interest, and other factors that slow or hinder climate action (e.g., Beeson, 2018; Chen & Lees, 2018). However, recent studies have presented a more nuanced image of China's environmental governance. Internal contestations among governmental agencies, local authorities, and interest groups often exhibit a mixture of both liberal and non-inclusive features in China's multi-level climate governance (e.g., Lo, 2015; Schreurs, 2017). Public participation, in its various forms, is increasingly prevalent and effective in the practice of environmental policy processes (see Wu, Ma, Bian, Li, & Yi, 2020). Instead of relying on a strong state capacity to override contestation, successful environmental outcomes are often a result of coordination among multiple stakeholders (e.g., Huang, Castán Broto, Liu, & Ma, 2018).

These important nuances in China's environmental governance show us the need to study China's climate governance as a complex and evolving process and to direct more attention to the interactions among state and non-state actors across different settings. In this study, we explore how such interactions among state, elite, and individual actors unfold in the climate change communication field.

Climate communication helps construct public imaginaries and promotes civic participation around climate change. It is an important arena in which climate change discourse is produced, reproduced, and transformed (Carvalho, 2010; Carvalho, van Wessel, & Maeseele, 2017). A proliferating body of literature discusses both the positive and negative roles of social media for online discursive interaction and offline action around climate change. However, despite the significance of China's actions (or inaction) in the global decarbonisation process and the increasing penetration of social media in Chinese society, little is known about the way in which climate change is communicated on Chinese social media and the degree to which these channels can be leveraged for public engagement in climate politics. This study looks into how climate communication is carried out on Weibo, a premier social media platform and an important space for public expressions in China. By analysing the structure of communication networks and the direction of information flows in public discussions about the Intergovernmental Panel on Climate Change (IPCC) *Fifth IPCC Assessment Report* (AR5; IPCC, 2014) and *Special Reports on Global Warming of 1.5 ºC* (SR15; IPCC, 2018), this study sheds light on the often black-boxed interaction processes among state, elite, and individual actors in building public discourse around climate change. Thus we contribute to a better understanding of both the potential and limitations of the Weibosphere for public engagement in China's new climate politics.

2. Literature Review

Public engagement with climate change is a multifaceted notion that comprises cognitive, affective, and behavioural dimensions (Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007). Climate communication plays an important role in many of these facets. Communication helps to create discursive conditions for public engagement as it shapes people's perceptions of and attitudes towards climate change. Discursive interactions in climate communication also provide important venues for the construction of people's political subjectivity in acting on climate change (Carvalho, 2010; Carvalho et al., 2017). A core tenet of public engagement is the promotion of two-way information exchange that enable multiperspective inputs and mutual-learning (Rowe & Frewer, 2005). Such multi-directional interactions are particularly important in addressing climate change. Being a complex issue situated at the intersections between ecological, economic, political, and social systems, its causes and impacts involve an extraordinarily diverse array of stakeholders. Climate mitigation and adaptation demand coordination between various motivations for (and barriers to) making changes (Baber & Bartlett, 2005). In light of this, a crucial objective of climate communication is to provide a public space in which actors can present, deliberate, and negotiate their diverse and sometimes contested interests around climate change (Stevenson & Dryzek, 2014).

A rich body of literature discusses how social media bring in opportunities for—and also challenges to—such multi-directional interactions in disseminating knowledge, shaping public perceptions, coordinating public engagement, and mobilizing political participation around climate change (e.g., O'Neill & Boykoff, 2012; Pearce, Brown, Nerlich, & Koteyko, 2015; Segerberg & Bennett, 2011). However, this body of literature has a noticeable geographical bias as it is largely based on developed Western societies, particularly the Twittersphere (Pearce, Niederer, Özkula, & Sánchez Querubín, 2019). In the Twitter context, climate communication has been studied from various perspectives, including user-centred research on information exchange, content-based research on themes and sentiments, and reflexive discussions about its technological, social, and political potentials (for a review, see Pearce et al., 2019; Schäfer, 2012). There is, as yet, only a handful of studies looking into how climate communication plays out on China's Weibo (e.g., Liu & Zhao, 2017; Riley, Wang, Wang, & Feng, 2016).

Although few Weibo studies are specified in climate communication, research on Weibo's role in civic communication is proliferating. As an important alternative space for public discourse in China, Weibo provides a conduit for presenting voices that were once absent from China's state-operated mass media system allowing them to be debated in public discussion. Even though this process is not free from political, market, or

algorithm interference, it still introduces positive dynamics into state–society interaction in China (Gu, 2014; Lewis, 2013; Sullivan, 2013; Wang & Shi, 2018; Zhang & Lin, 2014). In the environmental field, many studies focus on civil society organizations to investigate how Weibo is leveraged to raise public environmental awareness, facilitate environmental advocacy, and mobilise (non-confrontational) civic action (e.g., Huang, Gui, & Sun, 2015; Zhang & Skoric, 2020). Researchers also note the positive translation of online public opinion to environmental policies. A good example is the public debate over air pollution: ignited and escalated on Weibo, this nationwide debate made air pollution a highly visible issue on China's political agenda and eventually led to factory relocation and industrial reform (see Fedorenko & Sun, 2016). In this light, Weibo is often discussed as an enabling space for the environmental movement and a green public sphere (Liu, 2011; Sima, 2011; Yang, 2009) in China.

However, consistent with critiques of the rigidity of the Habermasian public sphere (e.g., Fraser, 1990), some scholars question whether the public sphere notion fits the complicated and dynamic reality of civic communication in China, where the boundary between state and society is often blurred (Huang, 1993). While many researchers cite censorship as the main reason to question Weibo's political potential, we caution that the interaction between the state and the public on Weibo is more complex than a simple oppression–empowerment dichotomy. The situation on the ground varies across different fields and different levels of political sensitivity. King, Pan, and Roberts (2013) showed that censorship is only limited to curtailing mobilisation of subversive collective action. Rauchfleisch and Schäfer (2015) also found multiple public spheres exit on Weibo and the one associated with environmental issues features a high degree of open criticism and has large-scale participation. In relation to the broader environmental governance, there is also a nuanced body of literature showing complex interplays between the central authority and local agencies (e.g., Lo, 2015), and between state actors and civil society (e.g., Wu, Chang, Yilihamu, & Zhou, 2017). Van Rooij, Stern, and Fürst (2016) observed that a host of new environmental actors has risen and diversified China's environmental regulatory landscape. Relatedly, scholars have also noted the increasing use of deliberative measures in China's environmental policy processes (Mol & Carter, 2006; Zhang, He, Mol, & Zhu, 2013). These nuances resonate with what He and Warren (2011) called the deliberative turn in China's political development, where public feedback and participation are increasingly incorporated into governance practice.

These important nuances in China's environmental politics show the need to move beyond a binary view and to direct more research attention toward the interaction process among state, elite, and individual actors. This article explores such interaction processes in the important yet under-researched field of climate communication in China.

We focus on Weibo-mediated public discussions around the IPCC AR5 and SR15 reports. As significant milestones and structuring forces in the development of the international climate regime, IPCC reports are important drivers of media visibility and public debate over climate change (Broadbent et al., 2016). These documents are also important objects in the 'science-policy interface' of the global climate regime because they work to produce the consensus position on climate science and shape climate policy development (Howe, 2014). In the Twitter context, previous studies have examined the communication of IPCC reports on several aspects, including the dominant frames (O'Neill, Williams, Kurz, Wiersma, & Boykoff, 2015), topics and communities (Pearce, Holmberg, Hellsten, & Nerlich, 2014), the divergence and interaction between different communities (Holmberg & Hellsten, 2016), and scientific knowledge translation among stakeholders (Yagodin, Tegelberg, Medeiros, & Russell, 2016). Newman (2016) studied the spreading of IPCC AR5 on Twitter and found non-elite actors attracted the most attention in public discussions. His study suggested opportunities on Twitter for non-traditional voices to reach large audiences. By contrast, in the Weibo context, Liu and Zhao's study (2017) on the public discussion around the Paris Summit presented a rather bleak picture for public engagement on Weibo. Based on the number of reposts, they argued climate communication on Weibo is dominated by institutional actors, particularly state-owned media and government agencies. However, we argue that climate communication on Weibo is more nuanced than this image of institutional actors' domination. User influence on social media is a multifaceted notion that may not be sufficiently captured by a single indicator such as repost quantity. In this study, we extend previous research findings by investigating user influence from a relational perspective.

Using social network analysis (SNA) methods, we study public engagement in climate communication on Weibo by focusing on information flows and interaction processes among different types of users. Specifically, we ask the following questions: Who participates in the spreading of the AR5 and the SR15 reports on Weibo? To what extent does information flow in a top-down or bottom-up manner? What factors contribute to users' tendencies to participate in the AR5 and SR15 public discussions? We also include a temporal dimension in our analysis to compare the climate communication networks between the AR5 and SR15 periods. Since these two reports were respectively published before and after the pivot in China's environmental orientation, comparing these two periods can shed light on how public engagement has developed alongside China's pro-environmental transition. By offering an empirical assessment of the interaction structure between state, elite, and individual actors, this study contributes to the

literature of climate communication and public engagement in China's new eco-politics.

3. Methodology

We collected publicly accessible Weibo posts containing the keyword 'IPCC报告' (IPCC reports) within 16 months of each report's release (2013 September–2015 January for AR5 and 2018 October–2020 February for SR15). We only focused on original user-generated posts (AR5 n = 1709, SR15 n = 2505). Figure 1 illustrates the distributions of these posts over weeks. For both reports, public attention was mostly concentrated within a short time immediately after their release. Nevertheless, both reports were discussed persistently over the 16-month timespan and re-attracted public attention with the subsequent publication of related documents.

We used SNA to examine user interactions in public discussions on Weibo. SNA is a family of methods that draw on network and graph theory to investigate social structures. Unlike standard statistical techniques that reduce the social world to aggregates of discrete individuals and examine social behaviours as a function of individuals' attributes, SNA treats actors as 'agents-in-relation' and considers the effects of both individuals' attributes and the relational structure in which they are embedded (Crossley, 2011). Such a relational perspective is particularly useful for our study since information on social media is generated by users (agents) and travels through their online connections (relation).

We extracted all usernames involved in reposting relations and collected their publicly accessible user profile data. There were 316 such users in the AR5 period and 701 in the SR15 period. While these users only represent a very small fraction of the vast Weibosphere, they are nevertheless a meaningful sample for our relation-focused analysis because our primary interest is on users' interaction patterns rather than users per se. Based on users' reposting relationships, we constructed directed and valued networks (as shown in Figure 2) to depict the structure of information dissemination, with nodes representing users, directed edges showing the directions of information flows, and edge values indicating the frequencies of reposting relationships.

Our examination consisted of two levels of analysis: We first descriptively analysed user demographics, the content of top posts, and network-level structures to provide an overview of public discussions. We then examined the structure of communication networks using exponential random graph models (Robins, Pattison, Kalish, & Lusher, 2007). As a statistical tool designed to tackle network data, exponential random graph models allows us to model the probability of relationships in networks as a function of both the individuals' social attributes and the network's structural properties. This helps us examine the structure of information flows between different types of users and identify the factors that affect their likelihood of spreading climate messages on Weibo.

Specifically, we tested three groups of factors. The first two groups address the notion of elite-ness in climate communication. We used multiple factors in our models to represent its different conceptualizations. We distinguished three types of 'elite' users based on their digital social statuses (users were considered high digital social status if their follower sizes are above the median of all sample users in the respective periods), interests in climate science or environmentalism (users were considered as science-affiliated or environmental concerned if their Weibo profiles contain related keywords), and account types (as indicated in Weibo's official verification system). The third group of factors explore two network structural effects that have particular implications for public engagement in climate communication.

To test these factors, we built three sets of exponential random graph models with three groups of

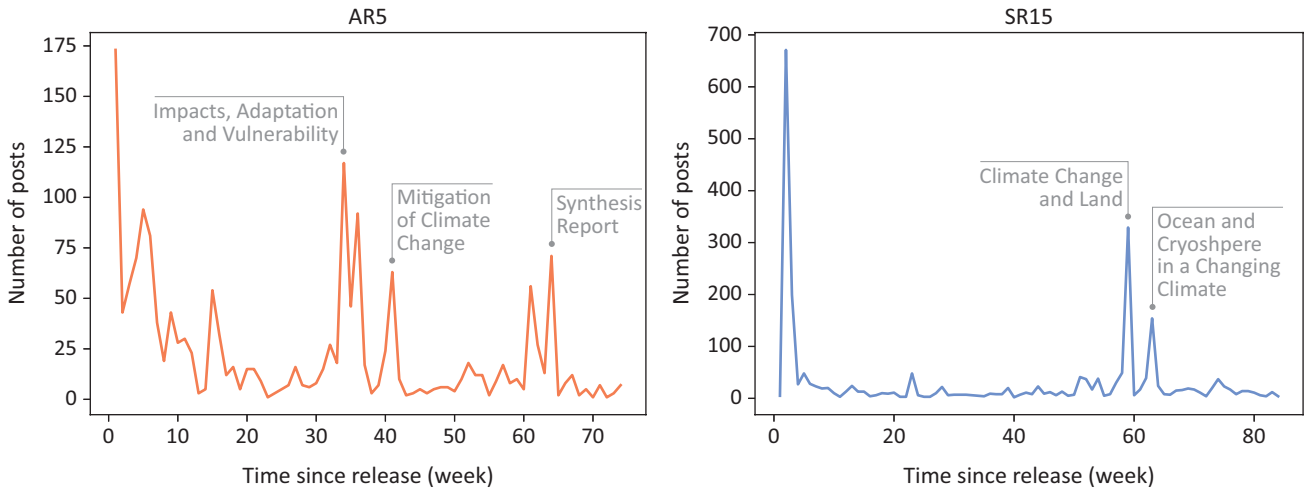


Figure 1. IPCC-related Weibo posts distribution by week since release. Notes: AR5: 27 September 2013 to 30 January 2015; SR15: 8 October 2018 to 10 February 2020.

Figure 2. Overview of AR5 network (left) and SR15 network (right), in ForceAtlas2 layout (Jacomy, Venturini, Heymann, & Bastian, 2014).

hypotheses. The first group of hypotheses examines individuals' attributes. Since a higher status indicates a larger potential audience group on Weibo, we expected a positive effect of a larger follower size on both sending out and receiving climate messages: H1 users with a large number of followers are more likely to (a) be reposted and (b) repost others. We then tested the effect of being eco-insiders on users' reposting behaviour. Previous studies found internet use promotes citizen participation mainly among those who already have a high interest in or knowledge of relevant issues (see e.g., Min, 2010). We expected a similar positive effect in climate communication so that science-affiliated and environmentally concerned users would be more active than laypeople in obtaining and spreading climate messages: H2 science-affiliated users are more likely to be (a) information senders and (b) information receivers; H3 environmentally concerned users are more likely to be (a) information senders and (b) information receivers.

The second group of hypotheses examines the direction of information flows between individual users and four types of organizational users. Since China's climate responses are often seen as featuring a top-down character, we expected the same mechanism to be mirrored in the communication area so the AR5 and SR15 information would flow from organizational users to individual users: H4 organizational users, including (a) government, (b) media, (c) business, (d) education, and (e) civil society organizations, are more likely to be information providers for individual users. We also tested whether there is a bottom-up information diffusion pattern: H5 individual users are more likely to provide information for organizational users, including (a) government, (b) media, (c) business, (d) education, and (e) civil society organizations.

The third group of hypotheses explores two types of network effects. The first is a pair-wise propensity: H6 users tend to form mutually balanced communication relationships by reposting those who have reposted themselves. This mutually balanced form of interaction is important to foster mutual-learning in climate communication. The second network influence is the homophily effect. Homophily describes people's tendency to interact mostly with those who are similar to themselves (McPherson, Smith-Lovin, & Cook, 2001). This effect has particular relevance in climate communication as it may limit individuals to selective information sources, thus creating echo-chambers which lead to opinion segregation and polarization (see, e.g., Jang & Hart, 2015). Previous studies revealed that strong homophily exists between climate activist and sceptic groups on Twitter and that this escalates partisan polarization over climate policies, as illustrated in U.S.-oriented research (Carmichael, Brulle, & Huxster, 2017; Williams, McMurray, Kurz, & Lambert, 2015). Within the Chinese context, our primary interest was the potential cleavage between the state/elite actors and the general public, so we tested whether a homophily effect exists among eco-insiders and various institutional users: H7 there is a statistically significant homophily effect amongst eco-insiders (i.e., environmentally concerned and science-affiliated users) and H8 there is a statistically significant homophily effect amongst organizational users, including those from (a) government, (b) media, (c) business, (d) education, and (e) civil society organizations.

Since our primary interest in this part of the analysis is the structure of information flows rather than the strength of users' relationships, we dichotomized the communication networks based on the presence (1) or

absence (0) of the reposting relationship between user pairs. Self-loops were also excluded as reposting oneself has little meaning for information diffusion. Models were estimated using the R package 'ergm' (Hunter, Handcock, Butts, Goodreau, & Morris, 2008).

4. Results

4.1. Expansion of Public Engagement: Scale, Participants, and Network Overview

From the AR5 to the SR15 period, more people participated in public discussion and actively engaged in interactions with others, as well as more diverse frames associated with climate change on Weibo. We saw increases in the average numbers of reposts (from 12.54 in AR5 to 18.61 in SR15), comments (5.46 to 16.93), and likes (4.44 to 26.91). The portion of non-monologic posts (i.e., those with at least one reposting) also increased from 16.96% in AR5 to 26.63% in SR15. We also examined the content of the top 1% most widely circulated posts in each period (AR5 n = 17, SR15 n = 25). Figure 3 shows the themes which emerged from these top posts. We found early discussions focused on describing and understanding climate change, including news about the release of AR5, the projected climate scenarios, global impacts, infographics, and debates over settled versus uncertain science. This is consistent with Liu and Zhao's (2017) study, which found that Weibo discussions during the Paris Summit period were primarily about raising public awareness, and climate change was mostly presented as a global threat with little relevance to China's national context. However, we saw new developments in the SR15 period. Themes in SR15 discussions became more specific, argumentative, and domestically oriented, covering issues such as the impact on local environments and livelihoods, the urgency of mitigation and adaptation action, low-carbon development for national interests, and debate over developed countries' historical carbon debts.

Table 1 compares the network-level descriptive statistics between AR5 and SR15, which shows more detailed changes to communication networks. As indicated by the larger numbers of nodes, edges, diameter, and average path length, the SR15 network had more participants, more reposting relations, and longer information diffusion chains than the AR5 network. However, three vital changes can be observed beneath this overall expansion pattern. First, the intensity of interactions decreased from the AR5 to SR15 period as the network density dropped from 0.31% to 0.14%. Second, the contradiction between the increased average degree and the decreased average weighted degree indicates that while individual users may interact with more people on average, they were less likely to interact recurrently or maintain their relationships over time. Third, as shown by the decrease in modularity, the SR15 network had fewer closely-knit clusters and presented a flatter structure than the AR5 network. Together, these network-level changes show that expansion of the network's scale did not bring a proportionate growth in interaction intensity. While the communication networks expanded from the AR5 to SR15 periods, interactions on networks became less dense, less recursive, and less clustered.

Another important trend identified by the network-level comparison is the popularization of climate communication on Weibo. The shares of eco-insiders, users located in China's wealthy developed areas, and those with higher online social statuses dropped significantly from the AR5 to SR15 period. Conversely, there was increased engagement by users from the lay public, underdeveloped regions, and those with lower online social statuses. The popularization trend is also reflected by the rising influence of individual users. We consider

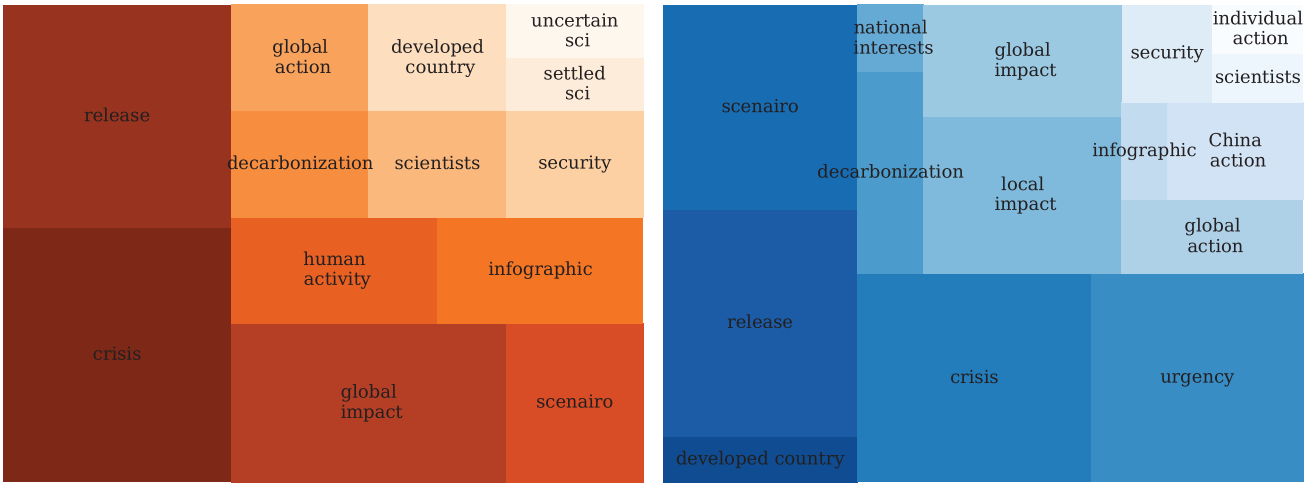
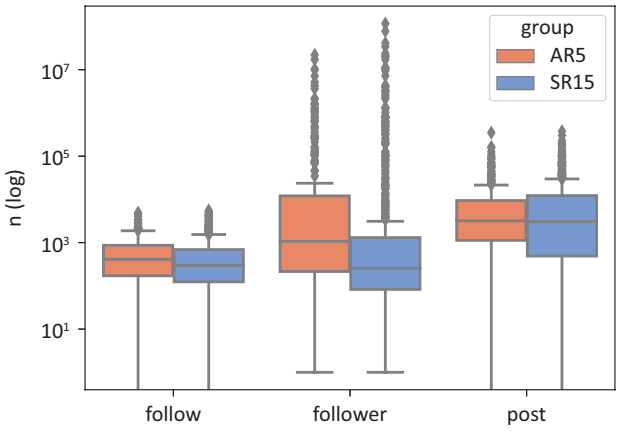


Figure 3. Content themes in the top 1% most circulated posts in the AR5 period (left) and the SR15 period (right). Notes: A larger square size indicates a higher theme frequency. A darker colour indicates a larger total repost number. A post may contain multiple themes.

Table 1. Network-level descriptive statistics of the AR5 and SR15 communication networks.

	AR5		SR15	
General Structure				
n of edges	312		694	
n of nodes	316		701	
avg. degree	0.81		0.91	
avg. weighted degree	1.34		1.26	
density	0.31%		0.14%	
diameter	5		7	
avg. path length	1.79		2.24	
modularity [a]	0.87		0.76	
User Profile	n	%	n	%
environmentalist	48	15.18%	49	7.08%
science-affiliated	71	22.46%	43	6.21%
official verification	133	42.08%	147	21.24%
developed area	116	36.7%	231	33.38%
underdeveloped area	31	9.81%	82	11.84%
online social status				
Central Nodes [b]	*weighted degree*	*betweenness*	*weighted degree*	*betweenness*
state/elite	30%	25%	20%	5%
public individual	25%	45%	65%	85%



Notes: [a] Modularity using the Louvain algorithm (Blondel, Guillaume, Lambiotte, & Lefebvre, 2008); [b] The top 20 nodes by centralities.

users as influential if they reached a large audience (measured by weighted degree centrality) or bridged information flows between many others (measured by betweenness centrality). Focusing on the top 20 nodes with the highest weighted degree and betweenness centralities, we found more individual users became influential in the SR15 period whereas the share of elite users (e.g., governmental organizations, state-run media, people with official backgrounds) in these central positions dropped significantly over time. Overall, we saw that more individuals from the general public participated in information diffusion and had more opportunities to reach or bridge large audiences in the SR15 network.

4.2. Limitations to Public Engagement: The Direction of Information Flows

While the analysis above shows a general expansion of public engagement, a more nuanced picture emerged when we used exponential random graph models to examine interaction processes and information flows between state, elite, and individual users. The modelling results are provided in Table 2. All models successfully converged and fitted the data well (see the Supplementary File for goodness-of-fit and convergence statistics).

In Model 1, we examined the interaction pattern of three types of elite users, including those with high online social status (H1) and those involved in climate science (H2) or environmentalism (H3). We found different types of elite users played different roles in information diffusion. First, in both AR5 and SR15 networks, those with a large number of followers were always more likely to send information to, and less likely to receive information from, users with a small number of followers. Second, eco-insider's roles changed over time: Science-affiliated users, who tended to be active in both sending and receiving information in the AR5 period, were less active in receiving information in the SR15 period.

Table 2. Exponential random graph models results of the AR5 and SR15 communication networks.

	Model 1		Model 2		Model 3	
	AR5	SR15	AR5	SR15	AR5	SR15
Individual Terms						
fans_large (in)	−1.26*** (0.25)	−1.39*** (0.23)				
fans_large (out)	0.59*** (0.15)	1.23*** (0.11)				
science (in)	0.77** (0.24)	−0.49 (0.40)				
science (out)	0.21** (0.07)	2.18*** (0.08)				
enviro (in)	−0.13 (0.29)	0.78** (0.27)				
enviro (out)	0.2** (0.08)	−0.06 (0.16)				
Dyadic Terms						
reciprocity	3.47*** (0.43)	1.03 (1.09)				
top-down flow						
civil			0.32** (0.12)			
edu				0.78** (0.25)		
gov			0.03 (0.16)	−0.03 (0.21)		
media			0.29* (0.12)	3.44*** (0.08)		
bottom-up flow						
civil			−0.93† (0.52)			
edu			0.65 (0.74)	−2.03*** (0.55)		
gov			0.04 (0.38)	−2.50*** (0.34)		
media			−0.66 (0.43)	−2.17*** (0.54)		
homophily						
insider					0.41* (0.17)	1.77*** (0.19)
laypeople					−0.31* (0.12)	−1.95*** (0.09)
civil					2.25** (0.75)	
gov					1.42† (0.78)	1.65*** (0.38)
media					2.09*** (0.63)	0.15 (0.75)
individual					−0.02 (0.26)	−0.28 (0.20)
Baseline						
edges	−4.79*** (0.23)	−7.47*** (0.15)	−4.39*** (0.14)	−7.00*** (0.10)	−4.21*** (0.56)	−5.50*** (0.29)
in-degree (1)	2.07*** (0.17)	2.85*** (0.15)	1.83*** (0.14)	2.77*** (0.12)	1.84*** (0.14)	3.32*** (0.15)
out-degree (0)	5.98*** (0.46)		6.59*** (0.43)		6.33*** (0.45)	
out-degree (1)	3.79*** (0.38)		4.11*** (0.37)		3.96*** (0.38)	
Model Fit						
AIC	3226	8448	3327	8199	3304	7913
BIC	3331	8548	3432	8288	3438	8023

Notes: † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.00$. There were not enough observations of interactions between individual users with the civil society organization group in the SR15 period and the education group in AR5, so their corresponding dyadic terms were dropped in Model 2 and Model 3. Two out-degree controlling terms were added in AR5 models to better fit the data and improve model convergence.

By contrast, while environmentally concerned users tended to be information providers in the AR5 period, they took on more of an audience role in the SR15 period as they became more active in receiving information.

In Model 2, we examined the direction of information flows between organizational users and individual users (H4 and H5). We found the diffusion of climate change information on Weibo tended to follow a top-down pattern. As the second block of Table 2 shows, while individual users tended to receive information from civil society organizations in the AR5 period, educational organizations in the SR15 periods, and media organizations in both periods, none of the organization types tended to obtain information from individual users. In the SR15 network, there were even fewer bottom-up flows from individual users to education, governmental, or media users than one would expect by chance. Overall, we found the top-down pattern of information diffusion was reinforced over time and individual accounts became less likely to be reposted by organizational accounts in climate communication on Weibo. However, this top-down trajectory shows a divergence from Liu and Zhao's previous study (2017), which found that governmental and media users dominated climate communication on Weibo. Our network analysis shows governmental users were not influential information providers for individual users. Instead, only the media users (including mainstream, private, and independent types) played

a significant role in spreading information to individual users in climate communication on Weibo.

Model 3 tests two network effects. We found the reciprocity effect (H6) was statistically significant only in the AR5 period. The decrease of mutually balanced relations signals a recent decline in interactive conversations in climate communication on Weibo. This may reflect a broader shift of interaction patterns on Weibo towards spreading messages rather than promoting dialogue and opinion exchange. When testing homophily effects, we found eco-insiders (H7) tended to communicate in more closed circles amongst themselves in both periods, whereas users from the general public were more likely to jump out of their circle and obtain information from eco-insiders. We saw a low risk of information cleavage for most organizational types except for governmental users (H8). While there was a homophily tendency within civil society and media organizations in the AR5 period, it was no longer statistically significant in the SR15 period. However, governmental users' homophily tendency was reinforced over time. Since closed communication circles often lead to information cleavage, reinforce people's existing opinions, and exacerbate divergences between groups, the homophily tendencies amongst eco-insiders and governmental users may obstruct them from participating in meaningful public deliberation on Weibo. Furthermore, we noted a hierarchical pattern among governmental users. Figure 4 shows an example from the SR15 network. Within this governmental users' cluster, information flows hierarchically from the Ministry of Ecology and Environment to provincial- and lower-level local environmental protection bureaus, then to subsidiary public organizations and non-state actors. This hierarchical chain provides an example of how a top-down form of environmentalism manifests itself in the communication domain.

5. Discussion

Our findings show both opportunities and limitations for climate communication on Weibo alongside China's pro-environmental transition in recent years. From the AR5 to SR15 period, there was a general expansion of public engagement and popularization trends in climate communication on Weibo, as shown by the increased number of participants, diversified climate change frames, and increased influence of individual users in bridging information flows. We examined users' dominance from a relational perspective and found that non-elite individual users became more influential in climate information diffusion on Weibo. Our exponential random graph models results provide more nuances to the general popularization trend. Firstly, we found information flows in climate communication on Weibo largely followed a top-down pattern. Media accounts were the most prominent information source for individuals, whereas the governmental users' role to individual users was not significant. Secondly, among the

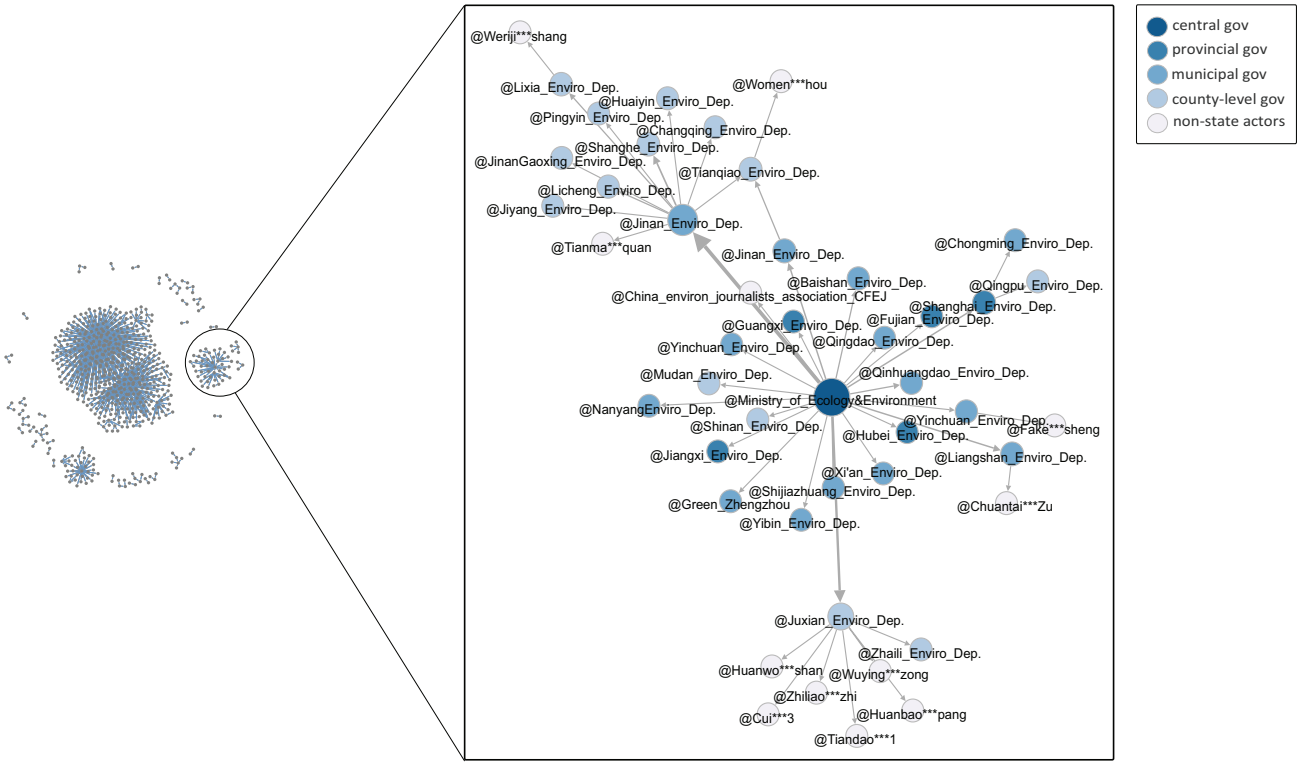


Figure 4. A hierarchic governmental user cluster in the SR15 network. Notes: Left: the whole SR15 network. Right: a governmental user cluster. Node sizes indicate weighted degrees; node colours indicate hierarchic levels; edge arrows show the directions of information flow. Non-state actors' usernames have been anonymized to protect privacy.

three types of elite users studied in our models, only the environmental user group showed a high probability of obtaining information from the general public users. Those with more followers and those affiliated with climate science tended to play the role of information sources in climate communication. We also found several trends that limit Weibo's potential for facilitating multi-directional public engagement in climate communication, including the decrease of interaction intensity, the decline of mutually-balanced dialogues, the reinforcement of top-down diffusion pattern, and persistent homophily tendencies amongst eco-insiders and governmental users.

These findings present a mixed picture of the interaction process among state, elite, and individual actors, which helps us to reconsider Weibo's role in climate communication. Social media's potential for public engagement and political participation derives from the interactivity and connectivity embedded in their techno-social infrastructure. While interactivity enables people to be engaged in multi-directional opinion exchanges and public deliberation, connectivity generates 'mediated public connection' (Couldry, Livingstone, & Markham, 2007) that allows fragmented individual conversations, experiences, and beliefs to be consolidated into public discourses and collective values. Despite the theoretical potential, the degree to which interactivity and connectivity translate into opportunities for public engagement varies across different contexts. First, we have to ask who the public are: The actors that constitute 'the public' in climate politics are not a homogenous or unified whole (Whitmarsh, O'Neill, & Lorenzoni, 2013). Instead, there are a nexus of multiple publics (Fraser, 1990) who interpret climate change, each with their own vested interests, perceptions, and 'cultural competencies' (Burgess, Harrison, & Maiteny, 1991). Second, complexity also arises from the structure of interactions. While some interactions create bridging and bonding opportunities that translate connectivity into social capital, other interactions produce restrictive structures. Therefore, in our analysis, we first distinguished Weibo users by their types, online social status, and their interest or involvement in climate science and eco-protection. We then examined the structure of their interactions and the direction of information flows in this structure to discuss Weibo's potential to facilitate open and multi-directional communication. Our empirical results presented the process and complexity in Weibo interaction from a relational network perspective, thus contributing to the ongoing debate about both the potential for and limitations of leveraging social media for public engagement with climate change.

Our analyses show both enabling opportunities and constraining conditions on Weibo. While we do find signs of Weibo's democratizing potential as a green public sphere (Yang, 2009), we also see how greater participation may not translate into political efficacy in terms of the ability of citizen voices to reach elite state actors. Such a coexistence between the expansion of public engagement and the top-down information diffusion pattern in climate communication resonates with the notion that the Chinese political sphere is undergoing a shift, becoming more 'responsive' (Mertha, 2009), where public participation is increasingly incorporated into environmental governance, but public participation does not challenge the centrality of state elite actors. This mixed image suggests that Weibo does not necessarily lead to a more autonomous or bottom-up climate politics, but neither does it simply maintain official and elite users' dominance in shaping the public discourse of climate change. This two-sided image highlights the limitation of viewing Weibo as a normative Habermasian public sphere in China's eco-politics. China's environmental movement and governance are characterised by an interpenetration between the state and the civil society (Ho & Edmonds, 2007). Therefore, to better understand China's climate politics, we have to move beyond a dualistic view that rests on a binary opposition between state and civil society, and direct more attention to the processes through which state and civil society interact, as well as their contexts and dynamics.

This study is subjected to several limitations. First, the size of the dataset we examined was limited by our choice to focus on public discussions around IPCC reports rather than climate change in general. Although studying this specific topic allows us to focus on the core conceptions of climate change, these event-triggered discussions cannot fully represent how climate change is discussed in everyday life. Future studies would benefit from a larger dataset that includes more issue- and theme-based public discussions to capture a more comprehensive picture of climate change discourse. Second, we measured users' influence by their degree of centrality in communication networks. While node centralities are important indicators of prominence in network analysis, users' influence in communication is nevertheless a multifaceted concept. Future research will benefit from incorporating other indicators to gauge different aspects of communicative influence. Relatedly, we focused on the process of information diffusion through sharing relationships. There are other important dimensions of communication. Particularly, future studies could focus on the ideational content in climate communication and the quality of deliberation by conducting an in-depth qualitative analysis of public discussions.

6. Conclusion

This article provides an empirical study of public engagement with climate change discourse in China by analysing the information flows among state, elite, and individual users in public discussions around two IPCC reports on China's prominent social media platform Weibo. Our results show there is an increasing yet constrained form of public engagement in climate communication on Weibo. We find public engagement expanded alongside

China's recent pro-environmental transition as individual users became increasingly influential in initiating public discussions and disseminating climate messages in communication networks. Relatedly, we observe a popularization trend of the climate change discourse as shown by the diversification of participants and frames in public discussions. Conversely, we found three restrictive interaction patterns that highlight the limitations of Weibo as a space for a new climate politics in China. First, the decline of mutually balanced dialogic interactions reduces Weibo's potential to facilitate meaningful public deliberation around climate change. Second, the lack of bottom-up information flows indicates a deficit of public feedback and input, which limits Weibo's potential for facilitating genuine multi-directional communication in public engagement. Third, closed communication circles amongst eco-insiders and governmental users may confine them to selective information and opinions, create cleavages between these elite users and the general public, and thus obstruct mutual-learning and open opinion exchange in climate communication.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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