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# Assessing the impact of Fridays for Future on climate policy and policymaking in German cities

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## ABSTRACT

During 2019, Fridays for Future (Fff) groups were highly active across the globe, calling for changes to both policy outputs (specifically, a more ambitious climate mitigation approach) and policymaking processes (namely, greater public participation and civil society involvement in decision-making). However, we lack a comprehensive assessment of the changes the movement may have induced, and why it may have been more successful in some places than others. Building on Hall's (1993) three orders of change, and drawing on interviews and document analysis in 25 German cities, we develop and apply a framework to measure its influence. We found that all 25 cities did change their policymaking processes as a result of Fff pressure, and most also introduced more ambitious policy outputs. In particular, we found Fff had more success in those cities where greater scope for a step-change in climate ambition existed: namely, where socioeconomic, demographic and political conditions were amenable to progressive climate policy, but where the municipality had hitherto not been a leader in the field. Conversely, the movement had less impact in leading cities and in places with poorer and older inhabitants and stronger far-right representation.

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## Introduction

During 2019, the Fridays for Future movement (Fff) gained substantial prominence around the globe through its school strikes and demonstrations. Its demands for world leaders to take the climate crisis more seriously appeared to generate significant political traction, particularly in Western Europe (Haunss & Sommer, 2020; Pollex & Soßdorf, 2023). For example, a large number of German municipalities responded directly to Fff's demands to declare 'climate emergencies' and embrace more collaborative approaches to policymaking (Haupt et al., 2023b; Appendix 1). Given that many of these cities were not particularly ambitious in terms of climate mitigation prior to 2019 (Otto et al., 2021), and public bodies in the country are generally characterised as hierarchical Weberian bureaucracies (Kuhlmann et al., 2021), we can see how Fff during 2019 may have contributed to significant changes in both local climate policy and policymaking approaches in many German cities. However, we currently lack a comprehensive assessment of its impact, and the reasons why it may have been more successful in some places than others. How much did Fff change local policymaking processes and climate policy outputs, and how and why might its influence have varied from city to city? The fact that Fff's activities came to quite an abrupt halt in early 2020 due to the COVID pandemic enables us to focus on its impact during this fairly short time period, and also draw some broader conclusions around the

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factors that may contribute towards social movements exerting different degrees of influence over political decision-making.

This paper makes a key conceptual contribution and presents a robust comparative analysis of the movement's influence in 25 German cities. Conceptually, we show how Hall's (1993) three orders of change not only offer a useful heuristic for examining changes in policy *outputs*, but can also be applied to assess the extent to which governments adopt different policymaking *processes*. Empirically, we find that although FfF groups undoubtedly led to an increase in local climate policy ambition and a more participative policymaking approach, the extent to which they transformed these outputs and processes was strongly influenced by local socioeconomic and political conditions. In particular, cities with growing, younger, wealthier populations and stronger Green, ecological or alternative party representations were much more likely to engage with FfF activists and accede to their demands. Moreover, FfF's impact was greater in cities that were not already perceived to be climate leaders, partly because these municipalities had morescope to make a step change in their level of ambition. In other words, we suggest that the movement may have been most influential in 'follower' cities rather than in the 'usual suspects', because followers have more space to make substantial strides forward. Although local conditions were nonetheless important factors in facilitating this step change, we suggest that this finding has broader relevance for studies of social movements and interest group politics.

We proceed as follows. In the next section we set the context by outlining how 2019 represented a window of opportunity to change climate policy and policymaking in Germany. We then introduce Hall's three 'orders' of policy change and explain how they can act as a heuristic to measure changes in climate policy outputs and policymaking processes. Next, we set out our research design and methods, and apply our combined framework to assess how FfF's activities contributed towards changes in climate policy and policymaking in 25 German cities. Finally, we discuss our findings in the context of the literatures on policy change and policymaking, and summarise our key contributions in the conclusion.

## Research context

Between the end of 2018 and onset of the COVID pandemic in early 2020, the Fridays for Future movement became increasingly active in seeking to raise public awareness of the climate emergency through high-profile school strikes and demonstrations. These activities contributed towards a shift in the national mood in Germany (Buzogány & Scherhauer, 2022; Pollex & Soßdorf, 2023): indeed, one study found that it led directly to increased votes for the Green Party in state and municipal elections in 2019 (Fabel et al., 2023). Perhaps most prominently, FfF pressured governments at all levels to declare a 'climate emergency' (something that 46 German cities did during 2019 and 2020 (see Annex A)), and also to involve citizens more closely in decision-making processes (Haupt et al., 2023b).

However, even though FfF groups were instrumental in putting the issue of a climate emergency and the need for greater citizen engagement on (local) political agendas, the extent to which they were able to trigger genuine changes to policy outputs and policymaking processes is less clear. Previous research has argued that climate emergency declarations were often performative and symbolic (Ruiz-Campillo et al., 2021), and therefore the long-term impact of FfF's activities in German cities may actually be quite limited. Moreover, given that local socioeconomic, demographic and political conditions influence a city's climate policy (Haupt et al., 2023a), the movement may have exerted different levels of influence in different places. For example, wealthier cities with relatively young, growing and highly-educated populations and a large service sector are more likely to be climate 'forerunners' than their counterparts with poorer, older residents and a greater reliance on heavy industry (Bedsworth & Hanak, 2013; Duma & Nilsson, 2024; Krause, 2011). This is particularly the case if they are home to universities or research institutes (Bery & Haddad, 2023) and/or have strong green or alternative parties (Kronsell, 2013).

Additionally, different cities will have had different 'starting points' for climate policy: those that were already 'climate leaders' in 2019 probably had less scope to introduce more far-reaching policies (such as more radical greenhouse gas emissions reductions) than their less ambitious counterparts. Conversely, although 'latecomer' and 'laggard' cities have a lot of ground to catch up with the leaders, they often struggle

to do so due to a lack of resources and political support (Kern, 2019). In this study, we were especially interested in the impact of FfF on those cities located more in the middle of the spectrum – the ‘followers’ – particularly where the local socioeconomic, demographic and political conditions might be conducive to more progressive climate policy, but the municipality is not viewed as a leader or pioneer in the area. Generally speaking, we might expect FfF to have exerted the most influence in cities of this nature, given that (a) the local conditions are broadly favourable and (b) these cities have more scope to take large strides forward in climate policy. However, previous studies have yet to examine the impact of FfF on policy and policymaking, and particularly how and why it might vary according to local contexts, in any depth. We set out to fill this gap, using Hall’s framework to measure the extent of these changes (see below).

### ‘Orders’ of change in policy and policymaking

In a much-cited article, Hall (1993) proposed three different ‘orders’, or levels, of change, to act as a heuristic for assessing the extent to which new policies may differ from their predecessors. In an ascending order of magnitude, he distinguished between the *settings*, *instruments* and hierarchy of *goals* that underpin public policy. Illustrated by the example of macroeconomic policy in the UK between 1970 and 1989, he showed how politicians and media actors successfully changed the overriding policy *goal* from reducing unemployment to lowering inflation, and this led to the development of new *instruments* and *settings* that fitted within the new paradigm of monetarism (or neoliberalism), which replaced Keynesianism. Hall characterised *instruments* as being the techniques, policies and institutions that governments adopt to achieve their goals, whereas *settings* refer to the levels or standards at which these instruments are applied.

Hall drew explicitly on Kuhn’s (1970) concept of scientific paradigms to characterise a change in the prioritisation of policy *goals*, and stressed that change at this level is rare. However, we can expect governments to introduce new or different *instruments* (i.e. specific policies or institutions) to achieve the same overriding goal more often, and tweak the calibrations, stringency or *settings* of existing instruments on a much more frequent basis. In the environmental policy sector, for example, a paradigm shift would require governments to prioritise climate change and sustainability over economic growth, and, in line with Robyn Eckersley’s (2004) conceptualisation of the ‘Green State’, implement policies that reflect these preferences. As Hausknot (2020) has argued, this reordering of priorities would represent a major transformation in industrialised democracies, and, therefore, we would expect changes in policy *instruments* and (particularly) *settings* for environmental policy to be much more common than a paradigm shift in *goals*.

Numerous studies have adopted Hall’s conceptualisation both empirically (Berman, 2022; Hörisch & Wurster, 2019) and to develop theory around policy change (Béland, 2009; Knill et al., 2009). Most have sought to track and monitor changes in instruments and settings (e.g. Burns et al., 2018) rather than policy goals, reflecting Hall’s expectation that paradigm shifts are rare (although see Schmidt et al., 2019 for an interesting example). Notably, however, these studies apply Hall’s heuristic solely to evaluate substantive policy *outputs*. We extend its empirical potential by mapping the same three orders of goals, instruments and settings on to *policymaking processes*. Borrowing from Arnstein’s (1969) ladder of public participation in planning decisions, we can see how some governments could adopt ‘citizen control’, which sits at the apex of her ladder, as an explicit *goal* of policymaking. On the assumption that this would replace a previous reliance on representative democracy (which prioritises the views of administrators and experts in policymaking) with public participation (in which the preferences of citizens and stakeholders are paramount), we can see how a change at this level of magnitude would represent a paradigm shift. Alternatively, governments might introduce new policymaking *instruments* (such as (binding) referendums, participatory budgeting, advisory councils or mini-publics) and/or tweak existing policymaking *settings* (for example, require elected representatives respond to or adopt ideas from public consultations, or engage more frequently with citizens on an *ad hoc* basis, Elstub and Escobar 2019). German cities and towns do have quite a long history of public consultation, for example through Local Agenda 21 processes (Kern et al., 2007). Between 1997 and 2002 the number of such city-wide initiatives increased from less than 100 to almost 2,400. Such developments represent a

major change from the country's traditional, hierarchical policymaking approach, in which public officials and elites dominate (Eckersley, 2018; Kuhlmann et al., 2021)<sup>1</sup> to a more participatory policy style. As with policy *outputs*, therefore, we would expect changes in the instruments and (particularly) the settings for policymaking *processes* to be much more common than a paradigmatic transformation in goals.

### Research design and expectations

Given that FfF demanded that governments adopt more radical policy outputs (most notably a more ambitious approach to climate mitigation) as well as more innovative policymaking processes (in particular, greater involvement of citizens in decision-making), we can generate a more complete understanding of the movement's impact by assessing whether and how different German cities may have changed goals, instruments and settings along both of these dimensions. Specifically, we can see how prioritising climate protection over economic growth on the one hand, and/or participative rather than representative democracy on the other, would represent a change in policy output and/or policymaking goals respectively. At the next level down, new climate strategies and/or measures that do not undermine or jeopardise the prevailing growth-first model would represent a change in instruments along the policy outputs dimension, whereas changes to instruments for policymaking could involve the establishment of new, embedded institutions that involve citizens in decision-making. Finally, in terms of settings, new targets for GHG emissions or the declaration of a climate emergency would represent a change in the settings of existing policy outputs, whereas different policymaking settings could involve a greater reliance on more informal and *ad hoc* citizen engagement activities. Table 1 summarises our analytical framework for identifying any changes to goals, instruments and settings accordingly.

Although we adopted an exploratory approach to assess FfF's level of influence in different cities, we nonetheless set out with some expectations as to how this might vary depending on the local context. In line with previous studies of social movements, for example, we anticipated that cities in which FfF can draw on a larger pool of resources, and where the structural conditions are more likely to support FfF's objectives, are more likely to listen to activists' demands and change policy accordingly (Edwards et al., 2018; Kitschelt, 1986). As such, we would expect FfF to be more prominent and influential in those places where the local political, socioeconomic and demographic conditions for ambitious climate policy are largely favourable. Given that previous studies have found that larger cities, and those with stronger Green parties, universities or research institutes, as well as populations that are growing, relatively young, well-educated and affluent, are more likely to become climate 'leaders' (Bery & Haddad, 2023; Haupt et al., 2023a; Krause, 2011), we might expect FfF to be more influential in these places. In contrast, FfF activists are perhaps more likely to face opposition or hostility in cities with stronger populist and far-right political parties, relatively older populations and where fossil fuel and manufacturing industries play an important role in the local economy.

At the same time, however, policymakers in leading cities might be relatively impervious to FfF pressure, particularly if their current policies are at the limits of feasibility and any attempt to bring forward targets for carbon neutrality (for example) may lack credibility. Given that climate managers in these cities are likely to have a detailed understanding of what the municipality can achieve, and the enormity of the challenge they face, they might view some FfF demands as unrealistic – even if they share activists' passion and views about the urgency of the crisis. In contrast, 'follower' cities – particularly municipalities in which the local conditions are relatively conducive to progressive climate action, but which have historically been less ambitious

**Table 1.** Framework to assess changes in climate policy outputs and policymaking processes.

	Change in policy outputs	Change in policymaking processes
Goals	Prioritise environment over economic growth (in line with 'green state' ideal)	Prioritise participative above representative democracy (in line with 'citizen control' ideal)
Instruments	New climate strategies or measures	New municipal institutions that involve citizens and other stakeholders in decision-making
Settings	More ambitious greenhouse gas reduction targets; declaration of a climate emergency	Greater public consultation with activists and other social movements, though on an <i>ad hoc</i> basis

and lower-profile – may be more likely to engage with FfF and accede to its demands. We can see how climate managers in such cities might wish to ‘piggy-back’ on FfF’s high profile to push forward more ambitious policy ideas within the municipality, and suggest to decision-makers that they would win broad support from the local population. In other words, although FfF may well have contributed towards changes across different urban contexts in Germany, we suspect it may have been particularly influential in cities where the local conditions were broadly in favour, but the baseline of climate activity was low.

## Method

With this in mind, and following Seawright and Gerring (2008), we selected a range of diverse cases to try to reveal the extent of change in a range of different cities. We examined 25 mid-sized cities from seven federal states across Germany, with populations varying from around 50,000 inhabitants in Emden to approximately 355,000 in Wuppertal. We selected mid-sized cities because this enabled us to undertake a more comprehensive comparison between our units of analysis. Since we chose a cross-section of different types of cities and adopted a medium-N approach, we would expect our results to be more generally applicable across Germany than if we had just focused on a small number of municipalities.

Table 2 lists our 25 cities in descending order of favourability for climate action, based on the demographic, socioeconomic and political factors that previous studies have found can influence local climate policy (Bery & Haddad, 2023; Haupt et al., 2023a; Krause, 2011). To construct the table, we selected a range of indicators relating to each of these categories and ranked all 25 cities according to the presence of each individual factor, before summing these totals to rank them in order of overall favourability for climate policy. Based on our selection, therefore, the local conditions in Erlangen might be most conducive to ambitious local climate action, whereas we might expect those in Brandenburg an der Havel to be least favourable. To give an indication of each city’s starting point, the table also indicates where 23 of our 25 cities<sup>2</sup> fared in terms of mitigation in the ranking system designed by Otto et al. (2021), which rated the climate activities of 104 medium-sized and large German cities. Since this study had a cut-off date of 31 December 2018, its findings act as a useful proxy for the baseline level of climate mitigation in each city before FfF became prominent in Germany. Given that FfF’s demands focus on reducing greenhouse gas emissions rather than climate adaptation, we have only used Otto et al’s ranking for mitigation activity.

Following the discussion above, we suspected that FfF groups might exert more influence in those cities that are located towards the top of Table 2 but were ranked relatively low in terms of their climate mitigation baseline. As such, we might expect FfF to be most influential in cities such as Erlangen, Würzburg, Regensburg, Ingolstadt, Karlsruhe and Aachen. In contrast, the movement might have less impact in those mitigation leaders that are located near the top of the table, where there is less scope for much more ambitious policy (for example, Freiburg, Bonn, and Münster). Additionally, it would probably exert less influence in those cities towards the bottom of Table 2, (such as Brandenburg, Cottbus and Gelsenkirchen), where the local conditions are less conducive to climate action.

We drew on both document analysis (including studying climate mitigation strategies, council meeting minutes and transcripts, press releases and local media reports) and a total of 56 interviews with representatives from local FfF groups, other societal organisations and local policymakers. In each of the 25 cities we spoke to at least one person from the municipal administration and one from the local FfF organisation or a similar, affiliate group.<sup>3</sup> To identify FfF’s role in changing policy outputs and policymaking processes in each city, we triangulated the interview data with the results of our document analysis. We then drew on Hall’s framework to code each policy and policymaking innovation in each city according to whether it represented a change in goals, instruments or settings.

## Findings

We now map our empirical findings against Hall’s heuristic using the framework in Table 1, beginning with those cities that introduced the fewest or no changes, before examining possible innovations in settings,

**Table 2.** Our sample of cities listed by favourability of local conditions for climate action<sup>5</sup>.

More favourable conditions for climate mitigation	City	Demographics		Science and Education		Economy		Politics		Climate baseline Mitigation ranking out of 104 German cities <sup>10</sup>
		Population trend in % (1992-2019)	Average age of population	% of students in local population <sup>6</sup>	Unemployment rate in % (2019)	GDP <sup>7</sup> per capita in € (2019)	% of vote for green parties <sup>8</sup> in recent local elections	% of vote for far-right parties <sup>9</sup> in recent local elections		
	Erlangen	9.6	41.4	24.9	3.5	100,095	32.0 (2020)	3.7 (2020)	3.7 (2020)	2 <sup>th</sup>
	Heidelberg	15.2	40.0	22.8	4.0	58,209	36.6 (2019)	5.0 (2019)	5.0 (2019)	9 <sup>th</sup>
	Regensburg	23.6	41.4	20.6	3.3	85,414	28.9 (2020)	4.4 (2020)	4.4 (2020)	= 80 <sup>th</sup>
	Münster	18.4	41.3	19.8	4.6	57,708	31.5 (2020)	2.2 (2020)	2.2 (2020)	= 2 <sup>nd</sup>
	Würzburg	+/-0	42.7	26.2	3.3	67,017	36.4 (2020)	3.8 (2020)	3.8 (2020)	= 80 <sup>th</sup>
	Freiburg im Breisgau	19.3	40.6	14.1	4.9	55,284	33.0 (2019)	3.6 (2019)	3.6 (2019)	1 <sup>st</sup>
	Konstanz	13.8	43.8	18.4	3.1	35,915	31.8 (2019)	not represented	not represented	N/A
	Bonn	11.2	41.6	11.5	6.3	82,081	27.9 (2020)	3.2 (2020)	3.2 (2020)	= 2 <sup>nd</sup>
	Ingolstadt	27.2	42.2	5.5	2.8	133,426	19.3 (2020)	7.6 (2020)	7.6 (2020)	97 <sup>th</sup>
	Karlsruhe	12.2	42.3	12.3	3.9	66,579	30.1 (2019)	7.1 (2019)	7.1 (2019)	38 <sup>th</sup>
	Aachen	2.9	44.1	24.2	6.9	39,194	34.1 (2020)	3.7 (2020)	3.7 (2020)	30 <sup>th</sup>
	Kempten	11.0	44.2	7.3	3.2	53,191	29.5 (2020)	6.8 (2020)	6.8 (2020)	21 <sup>st</sup>
	Potsdam	22.7	42.8	15.3	5.7	44,596	29.1 (2019)	9.5 (2019)	9.5 (2019)	27 <sup>th</sup>
	Elmshorn	-5.0	43.4	4.9	4.5	30,356	20.0 (2023)	not represented	not represented	N/A
	Bergisch-Gladbach	7.0	45.9	0.05	4.8	28,887	28.7 (2020)	4.6 (2020)	4.6 (2020)	102 <sup>nd</sup>
	Lübeck	+/-0	45.2	6.3	7.3	45,098	25.5 (2023)	8.6 (2023)	8.6 (2023)	49 <sup>th</sup>
	Wuppertal	-8.9	43.6	6.5	8.1	37,183	19.6 (2020)	6.1 (2020)	6.1 (2020)	37 <sup>th</sup>
	Solingen	4.3	44.5	/	7.1	32,449	18.2 (2020)	5.0 (2020)	5.0 (2020)	43 <sup>rd</sup>
	Rostock	-15.2	45.1	6.9	6.8	38,106	19.0 (2019)	9.6 (2019)	9.6 (2019)	11 <sup>th</sup>
	Krefeld	-8.3	44.6	2.2	10.1	34,800	20.1 (2020)	5.4 (2020)	5.4 (2020)	= 80 <sup>th</sup>
	Remscheid	-11.5	44.9	/	7.0	37,671	14.7 (2020)	6.0 (2020)	6.0 (2020)	63 <sup>rd</sup>
	Oberhausen	-6.8	44.9	/	9.8	27,489	14.4 (2020)	7.6 (2020)	7.6 (2020)	71 <sup>st</sup>
	Gelsenkirchen	-31.2	43.5	2.1	12.8	31,930	12.2 (2020)	12.9 (2020)	12.9 (2020)	57 <sup>th</sup>
	Cottbus	-31.2	46.9	5.7	7.6	35,833	9.1 (2019)	22.3 (2019)	22.3 (2019)	91 <sup>st</sup>
	Brandenburg a.d. Havel	-26.0	48.0	3.3	8.1	33,053	13.9 (2019)	14.2 (2019)	14.2 (2019)	73 <sup>rd</sup>

Less favourable conditions for climate mitigation



instruments and goals – initially for policy outputs and subsequently for policymaking processes. Where cities changed both their settings and instruments along either dimension, we address each occurrence separately.

**Policy outputs**

**No Change.** As Table 3 shows, five of the 25 cities (20%) did not implement any visible changes to policy outputs in response to FfF activity. These included Brandenburg an der Havel and Cottbus (neither of which even discussed declaring a climate emergency in the city council), as well as Oberhausen and Solingen, both of which clearly rejected climate emergency resolutions.

**Changes in policy settings.** More than half of our cities (14 of the 25) introduced changes in policy settings as a direct response to the political debates set in train by local FfF groups, specifically relating to their demand to declare a climate emergency. These municipalities also adopted new and more ambitious targets for greenhouse gas emissions reduction, although the target year for reaching climate neutrality differs significantly: 2030 or earlier in Erlangen, 2030 in Aachen, Kempten and Münster, 2035 in Bonn, Elmshorn, Konstanz and Rostock, 2040 in Lübeck, 2045 in Würzburg, and 2050 in Krefeld. In many cases, these cities also introduced interim targets to help to plan and track their progress towards climate neutrality.

Our interviewees stressed that pressure from local FfF groups played a crucial role in them declaring climate emergencies, and also in adopting more stringent GHG reductions targets. High-profile FfF strikes and demonstrations took place in many of these places during 2019, including Aachen, Bonn, Konstanz, Münster, and Würzburg (Interviews A1, BN2, KO1, M3, WÜ2). In Münster, the local FfF group launched a petition to declare a climate emergency, which was adopted by local politicians and received a majority in the city council (Interview M3). FfF then joined forces with other local civil society groups and initiated a campaign to set a new climate neutrality target (2030). Despite some initial scepticism from Green Party councillors (Interview M3), FfF activists managed to convince them to vote for the 2030 target and ensure a political majority in the council. This meant that Münster’s mayor had to accept this more ambitious target (against his will) and now has to deliver a progress report every year (Interview M3).

**Changes in policy instruments.** Sixteen cities (64%) introduced changes in policy instruments in response to the debates around a climate emergency. Building on their more stringent GHG reduction and/or climate neutrality targets, nine of these sixteen announced they would develop new mitigation plans to set out how they would achieve their more ambitious targets (Aachen, Bergisch-Gladbach, Elmshorn, Erlangen, Kempten, Konstanz, Krefeld, Lübeck, Würzburg). Of these nine, only Bergisch-Gladbach and Elmshorn were yet to prepare and adopt such a new plan by early 2024. Three other cities (Freiburg im Breisgau, Heidelberg and Wuppertal) did not adopt new targets; however, along with Bonn, they did develop new mitigation action plans that included new policies and measures that should be adopted immediately or in the near future. The quantity and depth of these policies and measures differ substantially, ranging from a 14-point package in Wuppertal (which involved switching to green electricity in the municipal administration and the procurement of low-

**Table 3.** Changes in settings, instruments and goals for climate policy outputs in 25 German cities.

Order of change in policy outputs	Cities that reached this level during 2019
<b>No change</b>	<i>Brandenburg an der Havel, Cottbus, Oberhausen, Potsdam, Solingen</i>
<b>Changes in settings</b> e.g. introducing more stringent CO2 emissions reduction or climate neutrality targets, or developing (new) climate or sustainability plans	<i>Aachen, Bergisch-Gladbach, Bonn, Elmshorn, Erlangen, Kempten, Krefeld, Karlsruhe, Konstanz, Lübeck, Münster, Remscheid, Rostock, Würzburg</i>
<b>Changes in instruments</b> e.g. adopting more ambitious or new policies or listing them in revised climate strategies, action plans etc, or introducing new institutional units or procedures (e.g. 'climate checks')	<i>Aachen, Bonn, Erlangen, Freiburg im Breisgau, Gelsenkirchen, Heidelberg, Ingolstadt, Karlsruhe, Kempten, Konstanz, Krefeld, Lübeck, Remscheid, Regensburg, Wuppertal, Würzburg</i>
<b>Changes in goals</b> Prioritising climate mitigation over local economic growth/development	None



emission public buses) to 150 separate initiatives in Bonn (including energy-efficient refurbishment of municipal buildings and the expansion of e-charging stations). Freiburg also adopted a new catalogue of measures, including providing more funding for climate protection and introducing a climate and species protection manifesto. Notably, FfF activists were not critical of Freiburg’s decision not to declare a climate emergency, arguing that this would have been just another symbolic action ‘of which we have had more than enough in Freiburg already’ (Interview F1).

Additionally, although neither Remscheid nor Ingolstadt declared a climate emergency or announced a new mitigation plan, both cities did develop new urban sustainability plans that were adopted in 2022 and 2023 respectively. Whilst new sustainability plans clearly relate to climate mitigation, it is notable that these cities did not respond as explicitly to FfF’s demands as many other cities – particularly since the local FfF group in Remscheid was relatively small and moderate (Interviews RS 3, 4), and wanted to remain independent of party politics (Interview RS4).

Alongside the adoption of new plans and strategies, seven cities introduced climate or sustainability ‘checks’ into decision-making (Erlangen, Freiburg im Breisgau, Gelsenkirchen, Karlsruhe, Konstanz, Regensburg, Wuppertal). These checks represent another change in policy at the instrument level, in that they require the municipality to examine and highlight the possible climate impacts of new council resolutions (e.g. regarding CO<sub>2</sub> emissions) and seek to ensure that such impacts are discussed and minimised as part of the decision-making process. In another example of policy instrument change, Konstanz established a climate coordination unit within the municipal administration. Indeed, not only was Konstanz the first German city to declare a climate emergency, but it also introduced significant changes at the institutional level, including the adoption of a new climate target, a new mitigation plan, and a climate check.

*Changes in policy goals.* Despite these changes in policy settings and instruments, however, none of our 25 municipalities made changes in their overall policy goals and hierarchy of priorities. Indeed, although many of them are amongst Germany’s climate forerunners, and several emphasise the need for a ‘transformation’ in their mitigation strategies, no city explicitly prioritised climate mitigation over local economic growth or development in these documents – and none of our interviewees from either FfF or municipal administrations suggested that they had done so either. As Table 3 sets out, however, FfF did result in many cities changing the settings and instruments of their climate policy outputs.

### *Policymaking processes*

*No change.* In contrast to the situation with policy outputs, all 25 cities introduced some changes to policymaking processes as a result of FfF’s activities. Such procedural changes may have been easier for municipalities to introduce than more concrete (and potentially controversial) changes to substantive policy outputs, but the contrast is nonetheless significant and shows that FfF had an impact on local policymaking across the country.

*Changes in policymaking settings.* Indeed, as Table 4 illustrates, we found some changes in policymaking settings in all of the 25 cities we studied, in that staff and politicians in each municipality consulted with local FfF

**Table 4.** Changes in settings, instruments and goals for policymaking processes in 25 German cities.

Order of change in policymaking processes	Cities that reached this level during 2019
<b>No change</b>	None
<b>Changes in settings</b> e.g. consulting local activists on climate-related policies	All 25 cities
<b>Changes in instruments</b> e.g. establishing or updating climate advisory councils as fixed institutions within the municipality	Heidelberg, Solingen, Bonn
<b>Changes in goals</b> Prioritising co-creation and collaboration with citizens as the means through which policy is made: the institutionalised, overriding goal of the city is to become a participative civic space	Erlangen

on climate policy, albeit often on an *ad hoc* basis rather than through formal institutions. Often, this included meetings with the mayor (Interviews BN1, F1, H2, KA1, KE1, KO2, P3, RS4, S2, W2, WÜ2). Furthermore, Gelsenkirchen, Kempten and Potsdam invited FfF members onto already existing, institutionalised, climate advisory boards. The influence of these boards over local policy varies (e.g. although FfF members can contribute to board discussions in Potsdam, they do not have voting rights and the board is dominated by eight scientific experts and only has an advisory function (Interviews P2, P3)), but there is little doubt that movement contributed directly towards substantial changes to policymaking procedures across a range of German cities.

**Changes in policymaking instruments.** In response to FfF pressure, three of our cities introduced new, embedded institutions that involve citizens in decision-making, and therefore made changes to policymaking instruments. For example, the mayor of Heidelberg set up an internal climate action group consisting of members from the buildings and environment department, the municipal utility company, the university, and representatives of the local FfF group. The group had met seven times prior to our interview (July 2021) and contributed towards the city's mitigation action plan (Interviews H1, H3). Solingen also set up a sustainability advisory board in 2020 after the municipality decided not to declare a climate emergency. Although its establishment was originally proposed as a compromise solution to keep activists happy, the local FfF group stressed that this board helped to strengthen its relationships with municipal officers, by feeding back on the feasibility of implementing FfF suggestions and demands in the city (Interview S2). Finally, Bonn oversaw a new participatory governance initiative, *Bonn4Future – Wir fürs Klima* (Bonn for Future – Together for the Climate), which was originally triggered by bottom-up pressure from FfF activists and others. This dialogue with citizens led to the development of a 37-point climate action plan, which the city council passed with a large majority in March 2023 (<https://beteiligung.bonn4future.de/de>). However, the funding for this initiative expired shortly afterwards, suggesting that it could represent a temporary change in policy instruments rather than longer-term, overarching policy goals.

**Changes in policymaking goals.** Although we might expect a change in policymaking goals to occur only very rarely, we did find that the city of Erlangen came fairly close to such a transformation in terms of climate policymaking. Specifically, the municipality established a broad group of actors from local politics, administration, science, civil society and business (*Klimaaufruch Erlangen*), as well as a citizens' assembly comprising a group of heterogeneous and randomly selected residents. Together, these groups analysed a report from a research institute, which suggested a broad range of policies to reach climate neutrality, and proposed that the city adopt 41 specific measures, which were agreed by consensus. In 2022, the municipal council adopted 14 of these policies (the ones that it considered to be most urgent) and provided the respective funds to implement them. Although FfF representatives were disappointed that the city did not agree to all 41 measures, Erlangen's process represents a novel form of joint policymaking that blends traditional representative democracy with an institutionalised participatory element. We recognise that it may be difficult to measure whether any city has re-ordered its policymaking goals to prioritise 'citizen control' above representative democracy, not least because local elites may proclaim that it is a municipal objective for political purposes but not actually introduce any changes to achieve it.<sup>4</sup> However, Erlangen's approach represents a level of change that we did not observe in our other cities.

## Discussion

Some might argue that many cities would have strengthened their mitigation policies and introduced more participative policymaking mechanisms anyway, irrespective of FfF's activities during 2019. The local conditions detailed in Table 2 were more conducive to greater climate ambition in many of those cities that introduced new instruments, and the looming Paris deadline for net zero GHG emissions could have meant that a reappraisal of existing policies was inevitable. However, FfF undoubtedly acted as a catalyst: by raising awareness of the climate emergency during 2019, it urged municipalities to adopt more ambitious mitigation

policies. It also contributed to significant increases in Green Party representation in local government and mayoral offices (Fabel et al., 2023), which increased the pressure for change. Even if the declaration of a climate emergency in some cities may have been largely symbolic, our interviewees confirmed that many politicians did take these pronouncements very seriously and strengthened their mitigation policies accordingly. Moreover, all of our 25 cities introduced more participative democratic processes, which were a specific demand of most FfF groups but only indirectly associated with climate mitigation. This strongly suggests that the movement had a major impact along the policymaking dimension, and therefore we can conclude with reasonable certainty that it also effected changes to policy outputs.

By mapping Tables 4 and 3 back against Table 2, however, we can see that the local conditions within each city influenced whether FfF's demands fell on fairly stony, or relatively fertile, ground. Specifically with regard to policy outputs, all of the cities in which no change occurred are located towards the bottom of Table 2, with the exception of Potsdam – a city that was already ranked quite highly (27th) in terms of climate mitigation prior to the local FfF group becoming active. At the other end of the scale, none of our cities adopted new overriding goals in terms of policy outputs, but many of our most likely candidates for making a step-change (e.g. 'followers' with largely favourable conditions for climate policy such as Erlangen, Karlsruhe, Regensburg and Würzburg) did introduce new policy instruments and often tweaked the settings of existing instruments. The only exception here is Ingolstadt, which was a climate laggard in 2018 and did not introduce major policy changes in response to FfF pressure afterwards, despite having largely favourable conditions for climate policy. In this case, however, the dominance of the Audi corporation may well have contributed towards Ingolstadt being markedly more reluctant to promote mitigation compared to cities whose wealth comes from more climate-friendly sources. Krefeld and Gelsenkirchen were the only cities with unfavourable conditions to introduce new policy instruments. In the case of the former, our interviewee attributed FfF's success partly to a spillover effect from a large and very active local group in nearby Düsseldorf (Interview KR2), whereas Gelsenkirchen's relatively recent history of seeking to develop low-carbon industry helped it to continue making progress on climate mitigation (Interview GE2; see also Eckersley, 2018).

In terms of policymaking processes, it is notable that Erlangen approached the threshold for a change in goals. Given that this municipality also introduced new instruments for policy outputs, its local FfF group appears to have exerted more influence than those of our other 24 other cities, in line with our expectations that 'follower' cities with favourable conditions might represent the most fertile ground for activists to effect change. At the other end of the scale, because all of our 25 cities tweaked their existing policy instruments, it is more difficult to draw conclusions about how FfF's impact varied according to local contexts. However, it is notable that Heidelberg and Bonn (both climate leaders) introduced new instruments, suggesting that they still had room to innovate in terms of citizen participation in policymaking processes, even though their policy outputs were already well advanced. Since we did not have a reliable benchmark for the level of public involvement in decision-making prior to FfF becoming active, it is difficult to assess the extent to which each city had the potential to take a step change in this area. Indeed, given that many more cities adopted new instruments for policy *outputs* than for policymaking *processes*, we suggest that there is more space for a step-change in citizen participation than in mitigation policy.

At the same time, our findings suggest that environmental movements will struggle to effect change in those areas that are less likely to embrace it, and will have more success in places that are more amenable to their demands – particularly where the baseline of activity is comparatively low. Such findings are perhaps not unsurprising; however, in the absence of national government support, they chime with studies that suggest the 'usual suspects' in local climate policy (predominantly larger, wealthier cities with younger populations) are likely to remain ahead of their smaller, poorer counterparts with older residents (Kern et al., 2023). Previous literature has stressed the importance of these local factors for climate policy ambition (Krause, 2011; Bedsworth & Hanak, 2013; Homsy, 2018; Haupt et al., 2023a), and they also appear to play a crucial role in shaping how municipalities respond to social movements. Perhaps more notably, however, the starting points of some of the cities we examined also influenced the extent of FfF influence. Those municipalities that were placed towards the top of the Otto et al ranking (e.g. Münster, Freiburg or Bonn) had already introduced more ambitious policy outputs (such as stringent GHG reductions and/or net zero targets) and

policymaking processes (e.g. the introduction of climate advisory boards) before 2019. Although some of them did introduce (even) more ambitious settings and instruments following FfF pressure, they had less scope to make a step change in their approaches, because they were already operating at a relatively high level in terms of climate policy and public participation. Conversely, there was greater potential for ‘follower’ cities such as Erlangen, Würzburg and Regensburg to make a step change in their mitigation activities, particularly considering their largely favourable conditions for climate policy. Although the dominance of the Audi automobile manufacturer in Ingolstadt means that this city should be treated as a special case, our findings largely bear out these expectations. Such issues should be subject of additional research, which could itself lead towards further refinement of our assessment framework.

## Conclusions

Our study has made both theoretical and empirical contributions. First, by applying Hall’s orders of change to policymaking processes as well as policy outputs, we have highlighted the broader utility of this framework for future studies. Given that policymaking processes contribute towards policy outputs, albeit sometimes over a lengthy period of time, such studies would help us to gain a better understanding of the overall impacts of social movements on political systems. Second, and notwithstanding the caveat that policy announcements (such as the declaration of a climate emergency) in some cities may have been largely symbolic, our empirical findings suggest that FfF initiatives led to changes in policy output settings and instruments in numerous German municipalities, as well as policymaking changes at the level of settings, instruments and (in the case of Erlangen) goals. Even though the movement was only active for a limited period of time before the pandemic hit, we suspect that its legacy may be longer-lasting in these places, especially where the stars aligned to change both policy and policymaking processes. Indeed, we would argue that FfF-inspired changes in policymaking instruments (i.e. the establishment of new participatory governance mechanisms) could set off a self-reinforcing process, in which these institutions help to foster increasingly more ambitious policy – provided activists continue to engage with decision-making processes. In contrast, FfF had less impact in places with poorer and older inhabitants and stronger far-right representation, which suggests that these cities will probably continue to struggle to keep up with the ‘usual suspects’ in terms of climate policy ambition.

Although we examined a wide range of different cities, there are still knowledge gaps around the role of local FfF (and similar) groups, and we would welcome further studies into their activities and impacts. Our medium-N approach meant that we were unable to examine specific phenomena in sufficient depth to draw firm conclusions about how FfF effected change in individual cities. It may be that future studies could adopt process-tracing or comparable approaches to gain a greater understanding of how specific individuals (or indeed local FfF groups) shape policy innovations, perhaps mapped against a typology of outputs similar to that of Hall’s three orders of change. Our study suggests that they may be more influential in those places where local demographic, socioeconomic and political conditions are most likely to support change, and where local policies are not already highly-developed. We might expect these contextual variables to shape the extent to which other social movements can influence policy outputs and policymaking processes – whether related to climate change or other policy issues. Such findings also have implications for activist groups, who might wish to focus their activities on those areas where the local conditions might be most likely to support their cause, but governing actors have not (yet) taken a leading role in the issue.

We also acknowledge that our study has some limitations. First, it remains to be seen whether the new policy and policymaking arrangements become institutionalised in all of our cities, and therefore whether FfF’s activities lead to long-term sustainability transformations. We would welcome future studies into the effectiveness, longevity and impact of both FfF-inspired climate emergency declarations and new participatory governance mechanisms, in cities in Germany and elsewhere. Second, since we adopted an exploratory and medium-N approach, we could only undertake a limited number of interviews in each city. It may be that more in-depth case studies could reveal more nuance in the effectiveness of different strategies and demands that activists adopted across the different cities, which may also have shaped their level of influence over decision-making.

Alternatively, qualitative comparative analysis could help to draw firmer conclusions about the factors that contribute towards a specific outcome, such as the declaration of a climate emergency; since we sought to examine the interplay of multiple different variables, such a focused examination was not within the scope of our study. We would welcome such research and look forward to the further development of theory around how and why activists (can) influence policymakers in different contexts.

## Notes

1. We do not seek to develop a normative argument about the efficacy or desirability of giving societal groups more influence over policymaking; we merely use Arnstein's ladder as a heuristic to measure the extent to which FfF may have led to changes in these processes.
2. Elmshorn and Konstanz were not included in the Otto et al study and therefore we have not given them a ranking.
3. All participants provided informed written consent before being interviewed, and were granted anonymity. Our study obtained all necessary ethics approvals from the Leibniz Institute for Research on Society and Space.
4. There is perhaps a notable contrast with adopting new goals in terms of policy outputs here: even at the rhetorical level, expressing a desire to prioritise environmental sustainability over economic growth is unlikely to be as politically popular as favouring participatory over representative democracy.
5. Sources: municipal databases, local chambers of commerce, the Federal Employment Agency, Statistical Offices of the Federation and the Länder. Since specific figures for lower-tier district authorities are unavailable, all data (with the exception of student numbers) pertaining to Aachen, Bergisch-Gladbach, Elmshorn and Konstanz refer to the county or city-region within which these municipalities are located.
6. Number of students enrolled at universities based in the respective cities.
7. Gross Domestic Product
8. Green parties include Bündnis 90/The Greens, the ÖDP (Ecological Democratic Party) and local parties with a focus on environmental and climate issues (e.g., climate lists). Source: websites of the respective cities.
9. Far-right parties include the Alternative for Germany (AfD), Die Heimat (formerly National Democratic Party), the III. Path or other local groups. Source: websites of the respective cities.
10. Taken from Otto et al. (2021)

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