Directly or by Encouraging Others? Mixed Governance Logics for Climate Change Adaptation in Six Polish Cities

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Abstract

Municipal authorities are expected to play a central role in urban climate change adaptation, using urban assets and engaging local stakeholders through both direct command-and-control measures and indirect approaches such as delegation, and civic participation. However, the public responsibility dimension of the mixed governance mode is not yet specified clearly. This article addresses the gap by analysing how a combination of direct and indirect governance approaches can shape the scope and distribution of public responsibility. This is illustrated by comparing actions in urban adaptation plans and recommendations from climate citizen panels. The findings demonstrate that a mixed governance approach is an emerging mode of urban climate governance. However, its configuration varies between official plans and panel recommendations, particularly with regard to the scope of city-led actions and the involvement of other entities.

Keywords

climate change adaptation, cities, civic participation, mixed governance

Logic of governance for urban climate change adaptation

Adaptation to climate change is expected to bring long-term, transformative changes to *the fundamental attributes of a system* (IPCC, 2023, p. 7). Local governments are among the key actors expected to enable urban adaptation to climate change (Nalau *et al.*, 2015; IPCC, 2022; OECD, 2023). They are often formally tasked to lead local adaptation efforts, including understanding local climate risks, planning adaptation, securing funds, upgrading local infrastructure, providing local regulations, and assessing progress.

However, urban environmental policy is associated with multi-level decision-making and complex environmental knowledge (Bulkeley, 2005), as well as conflicting priorities and urgent issues (Bulkeley & Betsill, 2013; Cohen, 2020), all of which might affect the size and types of actions taken by local governments. Furthermore, the success of urban adaptation efforts depends on enabling conditions, which often extend beyond the direct resources available to local administrative structures. These include access to a knowledge base, sufficient financial and legal resources, favourable and stable political conditions, effective horizontal and vertical coordination, and the availability of supportive social networks (Pasquini *et al.*, 2015; IPCC, 2022; Brullo *et al.*, 2024). This leads to a need for stakeholder engagement (Chu *et al.*, 2016), shared responsibility (Mees, 2017), and co-creation (Frantzeskaki *et al.*, 2025) in local urban adaptation efforts. The effective mobilisation of resources and skills among other entities therefore becomes one of the key capabilities of urban governance, as demonstrated by the readily applicable frameworks provided by international organisations and networks (e.g., ICLEI's (2019) *Resilient Cities, Thriving Cities: The Evolution of Urban Resilience* and C40's (2020) *Climate Action Planning Framework*). These resources and skills include coordination, visioning, enabling co-production, motivating, and providing advocacy.

How can cities govern infrastructure and service provision while facilitating broader stakeholder engagement in the face of escalating climate change and urban complexity? One possible strategy for reconciling these differences is to create an array of adaptation tools that appeal to the different motivations of participants and serve the various stages of the decision-making process. For instance, Henstra (2015) reflected on four categories of adaptation instruments: authority, treasure,

organization, and nodality (information). Ulibarri *et al.* (2021) listed the most common adaptation tools: regulations, plans, economic instruments, capacity-building options, networking, and information-based instruments. When analysing the institutionalisation of adaptation practices in local governments, Olazabal and Castán Broto (2022) divided tools into the stages of the process: planning, policy, management and evaluation, and delivery and legacy. Similarly, research on urban climate change adaptation in Poland indicates a variety of adaptation actions, including technical, operational, and informational actions (Institute of Environmental Protection – National Research Institute (IOŚ-PIB), 2023).

However, Howlett and Rayner (2007), along with subsequent studies (e.g., Lesnikowski *et al.*, 2019), have emphasised how, rather than using the full range of available options, governmental authorities often rely on repeated use of a more limited set of instruments. Howlett and Rayner termed this phenomenon an *implementation style*, while Lesnikowski *et al.* (2019) referred to it as *governing logics*. According to this perspective, governments tend to implement policies based on a preference between, or the availability of, two general types of instruments: the *direct provision of services* – referred to as *substantive policy instruments* – and *indirect efforts to influence beliefs and behaviour* – known as *procedural policy instruments*. This distinction aligns with the well-established dichotomy in environmental governance, often framed as *rowing versus steering*. *Rowing* is typically associated with hierarchical public authority (Peters, 2011); it involves binding instruments such as *command-and-control* measures (Schmitt & Schulze, 2011). In the context of urban adaptation governance, these may include laws and regulations, permitting processes, and other state interventions that affect individual rights and private property (Bednar & Henstra, 2018; Ulibarri *et al.*, 2021). *Steering*, by contrast, refers to the engagement of diverse actors through non-binding mechanisms aimed at fostering collaboration and voluntary action (Niedziałkowski & Putkowska-Smoter, 2021). This indirect mode of governance has been further explored, for example, by Bednar and Henstra (2018), who proposed a typology of four governance modes used in climate change adaptation. Among these, only one relies primarily on direct state authority, whereas the others are grounded in alternative rationales; namely, market-based, network-based, and community-based approaches.

The multidimensionality of indirect governance can be further understood through a theoretical lens, as demonstrated by the research of Abbott *et al.* (2016). In this mode, policy objectives are managed by bringing together other parties using encouragement and incentives rather than enforcement and control (Abbott *et al.*, 2016). The main objective is to enhance the capacities of the governing party, which lacks the resources possessed by third parties, such as expertise, legitimacy, and operational capacity (Abbott *et al.*, 2021). The literature covers delegation, trusteeship, and co-optation, all of which are based on the governing entity's delegated authority and contractual control over the other parties. It also encompasses orchestration – *the soft control of like-minded intermediaries* (Abbott *et al.*, 2016). This control is based on material and normative support in exchange for reliance on third-party authority.

Recent studies have further emphasised the importance of intermediaries in urban contexts (Frantzeskaki & Bush, 2021; Hofman *et al.*, 2023; Lord *et al.*, 2025), and in climate policy (Tobin *et al.* (eds.), 2023), including urban adaptation to climate change (Mees *et al.*, 2018). Focusing on governance logic concerning intermediaries helps to address the growing recognition that the chosen mode of climate change adaptation governance significantly affects the distribution of public responsibilities (Bednar & Henstra, 2018; Hölscher *et al.*, 2019). In fact, major challenges in urban climate adaptation, such as performance evaluation (Olazabal & Ruiz De Gopegui, 2021), equitable outcomes (Anguelovski *et al.*, 2016), and implementation gaps (Adger *et al.*, 2009; Mees *et al.*, 2017), frequently revolve around how public responsibilities are negotiated and shared. This highlights the empirical potential of examining how governing logic can influence the scope and distribution of public responsibility. Bednar and Henstra (2018, p. 155) noted the normative implications of selecting a particular governance mode; such choices *provide a frame of reference to distinguish the values central to particular visions of governance*. In this context, a preference for direct or indirect governance approaches may reflect underlying expectations about the roles and responsibilities of urban actors. Similarly, Lesnikowski *et al.* (2019) suggested that authorities may develop stable preferences for particular governance styles, which shape how they define policy

goals and select instruments. Such preferences may also reinforce specific expectations regarding the distribution of public accountability, potentially prompting other actors to respond by promoting alternative understandings of public responsibility assigned to particular entities.

Despite the intuitive overlap, the public responsibility dimension is rarely considered in critical analyses of governance modes. To fill this gap, this study analyses how a combination of direct and indirect governance approaches can shape the scope and distribution of public responsibility, balancing *direct implementation* – when a city authority delivers urban adaptation efforts through city-led structures and resources, including its command-and-control abilities – with an *encouraging-others approach*, when the aim of adaptation efforts is to mobilise non-municipal entities and resources through formal and material incentives (delegation), as well as persuasion (orchestration). This framework is illustrated empirically by mapping actions in urban adaptation plans and recommendations from climate-related citizen panels. The results demonstrate that the combination of direct and encouraging logics constitutes a recognisable urban governance model in both analysed sources. However, qualitative analysis reveals discrepancies in the preferences for the elements of this blend between official documents and citizen panel recommendations, particularly with regard to the extent of city-led activities and the involvement of a broader range of urban entities.

Methodology

Existing material on urban climate change adaptation in Poland allows for tracing the strategic choice of governance mode for newly introduced environmental issues. From 2015 to 2017, 44 Polish cities committed to developing urban adaptation plans as part of a pilot project coordinated by the Ministry of the Environment. The city of Warsaw developed its climate change adaptation framework independently, in cooperation with an environmental NGO. Subsequently, several cities organised citizen panels on climate issues, some of which also addressed adaptation issues (Szymaniak-Arnesen in Podgórska-Rykała & Pospieszna, 2024, see Annex 1). This study compares actions from six urban adaptation plans (Gdańsk, Kraków, Łódź, Poznań, Rzeszów, and Warsaw) with the recommendations of the climate-related citizen panels in those cities.

These six Polish cities were selected because, at the end of 2024, they possessed both a developed city adaptation plan and citizen panels addressing climate change adaptation. For the plans, the study focused on the lists of adaptation measures as they were the most locally anchored parts of the plans. The remaining sections, such as the methodology and climate conditions assessments, were developed with the assistance of external expert (see Putkowska-Smoter, 2025). For the climate panels, the study focused on the lists of recommendations selected for implementation, because these were binding on the city authorities. The analysis aimed to map all the actions and measures to be implemented in the area of climate change adaptation, broadly defined in line with the working definitions in the analysed documents, as well as IPCC (2022) recognition. As the number of activities in each individual city varied depending on the chosen form of document creation (from 4 tasks in Warsaw's urban adaptation strategy to 76 recommendations from the citizen panel in Poznań), it was more telling to divide them into two groups of activities: actions of urban adaptation plans and recommendations of citizen panels. A total of 385 actions were analysed, consisting of 262 recommendations from the climate-related citizen panels and 123 actions from the urban adaptation plans.

To contextualise the analysis, a reflexive thematic analysis (Byrne, 2021) was used to code all the data collected, rather than applying particular categories of adaptation efforts. The initial coding of the scope and means of adaptation efforts was developed further in line with the question of *what will be implemented* (area of intervention) (see Annex 2). To better reflect the data, one action could be coded with several codes at the same time. All the analysed actions were then coded as direct ones because urban adaptation actions are or should be delivered by at least some of the city-led structures or resources, and/or by involvement of the city-led authority (related to law, regulation, or permits). To map the means of direct implementation, I adopted a general classification of direct means of governance. Encouraging-others governing logic was then coded if the description of the actions involved any elements of cooperation, providing resources and incentives for actions

in line with urban adaptation efforts (delegation), or supporting voluntary involvement in the goals (orchestration).

In most cases, assigning the actions to a governance logic was intuitive and aligned with the classifications recognised in the literature (Lesnikowski *et al.*, 2019; Ulibarri *et al.*, 2021), with research-driven adjustments based on qualitative verification. The first such adjustment involved 'activities concerning data'. In most cases, the implementation of such activities assumes the participation of expert and technical executive entities, so they could be considered as instances of delegation. Still, based on the description of these activities, which indicated the city as the data provider, they were assigned to direct governance logic. The second example was the 'activities on strategic documents' category. As an activity formally assigned to the city, it could be considered an example of direct governance logic. However, the primary aim of this activity is to delegate responsibility by integrating climate issues into city policy and encouraging commitment and cooperation on this topic, including with other public administration entities. The third adjustment was in education and financial incentives; again, these activities were assigned to the city as direct obligations, but also particularly relevant as delegation (incentives) and orchestration (education) measures. The results consisted of mapping a repertoire of urban adaptation measures within the context of mixing direct and encouraging governance logic, from two perspectives: official documents and the recommendations of the citizen panels (see Table 1).

In line with the suggestions of reflexive content analysis (Nicmanis, 2024) regarding the use of counting when analysing qualitative data, the occurrence frequencies and suggested coding patterns were driven by the context of the data and the research questions. They cannot be treated as measures of statistical significance.

Table 1. Typology of urban adaptation governance logics

Governance logic	Description based on means coded	Citizen Panels	Urban Adaptation Plans
Direct	Investments in public infrastructure and services (e.g., including social and blue-green infrastructure); activities related to planning, data, and monitoring; local economy aspects; legal aspects; information provision; activities on spatial management.	262	123
Indirect (delegation and orchestration)	Support for individuals and private entities on acting in line with urban adaptation efforts (consultations); involving business; cooperation with other entities; providing financial incentives; activities on strategic documents; standards of operation; educational activities; promoting good practice; supporting social participation and social cohesion.	135 (92 delegation, 56 orchestration)	33 (20 delegation, 16 orchestration)

Source: Author's elaboration.

Results

Across the recommendations and plan actions, each governance logic could be identified: direct, indirect (delegation), and indirect (orchestration). In both sources, however, indirect logic was coded less often for orchestration than for delegation. In the plans, direct logic dominated, whereas in the panels direct and indirect logics were more evenly balanced; this may signal different expectations about how far municipal structures should be involved in adaptation efforts. Investments in public infrastructure and services, and activities related to planning, data, and monitoring were the most frequently coded means in both sources. In both sources, direct logic dominated interventions related to urban environmental issues and public and private transport; indirect logic was most common in the governance area.

By contrast, the area of intervention for energy and air quality was interpreted differently. In the recommendations, this area was more often coded as indirect action, whereas in the plans it was associated with direct action. This discrepancy may reflect the fact that, when the urban adaptation plans included in the analysis were created (2019–2020), energy issues were treated as a separate city activity from adaptation and were framed as mitigation. Consequently, these issues were not widely incorporated into the adaptation documents. In contrast, the citizen panels, which took place more recently, most often had a broader 'climate' scope, and energy issues were included. This pattern may also point to expectations about preferred governance in energy management and mitigation efforts. Because the coding scheme permitted overlapping codes, it was also possible to establish that direct and indirect logic were indicated simultaneously within the same recommendation or action. This may indicate a preference for expanding the mix of measures and combining them, rather than relying on *single-instrument* policy (Lesnikowski *et al.*, 2019).

The following paragraphs describe the identified trends in detail, illustrating them with qualitative summaries of areas that have been coded intensively for a given trend in both sources.

The means supporting the logic of direct governance

The largest subcode within this category was investment in public infrastructure and services. The second-largest subcode was activities on planning, data, and monitoring. For citizen panels, the third-largest subcode was local economy; for urban adaptation plans, however, it was information provision. Actions related to the urban environment and public/private transportation were particularly intensely coded with means of direct logic. Therefore, a detailed analysis was conducted to illustrate the direct means of governance, including urban environmental issues, from both sources. The *recommendations of the citizen panels* focused on direct investment, particularly in blue-green infrastructure, as well as spatial planning as a tool for the protection and development of green areas and better water absorption. The consideration of urban ecosystem services in public activities was proposed in terms of municipal data, as was the provision of data on tree management. This expectation was also linked to introducing legal obligations for private entities participating in the spatial planning process to develop or protect blue-green infrastructure. It was also proposed that urban greenery resources should be developed by increasing their area and improving their natural conditions. This would include protecting existing greenery and strengthening the natural potential of lawns, tracks, roofs, and walls within the city. This was also related to the expectation of establishing formal nature protection in the city. Next, waste management was identified as requiring upgrades and stronger financial and legal regulations. For *actions from urban adaptation plans,* direct means for urban environmental issues focused particularly on water management, in the form of direct investment in flood protection measures and water absorption. Other activities aimed at developing or upgrading urban systems and data management, particularly systems for sewage and rainwater management, as well as systems integrating blue and green infrastructure for multipurpose climate change adaptation. To develop blue-green infrastructure, direct actions through spatial planning were indicated, including legal obligations for private entities to protect nature and provide water retention.

The means supporting indirect governance logic aimed at delegation

For the citizen panels, the largest subcodes in this category were consultancy services for individuals and private entities, financial incentives, and cooperation. For the plans, the largest subcodes were cooperation and activities on strategic documents. In terms of overlapping means of indirect delegation and direct implementation, the most intense overlap for citizen panels was in planning, data, and monitoring activities and local economies, while for urban plans it was in planning, data, and monitoring activities, as well as investments in infrastructure and services. This mixed governance logic was illustrated by a detailed analysis of the energy and air quality area from citizen panels, and urban environmental issues from urban plans. The *recommendations of the citizen panels* related to providing strategic and holistic advisory and formal support for individuals and private entities, including financial incentives, to encourage and facilitate the

implementation of thermal modernisation, energy efficiency, and renewable energy sources (RES) in energy and air quality interventions. Another group of activities related to promoting pro-climate standards, such as green buildings and energy efficiency standards, both within urban structures and among private owners. Additionally, there was a demand for strategic and coordinated actions within urban administrations and between local stakeholders. This included the creation of cooperation platforms, strategic documents on climate adaptation and mitigation, and monitoring the effectiveness of actions. The *actions of urban adaptation plans* involved indirect measures relating to urban greenery and water, which required cooperation with other public entities (e.g., for flood protection) and regional bodies. These measures also included updating strategic documents on climate-related issues and providing operating standards for water management within the urban administration.

The means supporting indirect governance logic aimed at orchestration

The largest subcode in this category was education. In terms of overlapping means of indirect orchestration and direct implementation, for both sources, the most intense overlap was in information provisioning, and investments in infrastructure and services, followed by planning, data, and monitoring activities. Additionally, for the citizen panels, there were several overlaps of orchestration means with cooperation. Therefore, to illustrate indirect means of governance aimed at orchestration, the areas of energy and air quality from the citizen panels and governance from the urban plans were analysed in detail. *The recommendations of the citizen panels* included indirect activities aimed at orchestration, as related to expected indirect activities aimed at delegation. For example, the descriptions of the expected advisory and formal support for individuals and private entities also included postulates related to social cohesion, such as taking vulnerable groups into account and building social capital. This included promoting good pro-climate practices through educational and informational campaigns, as well as decentralised local grassroots activities such as energy communities. For the *urban adaptation plans*, indirect actions aimed at orchestration for governance included raising social awareness of climate change and adaptation in forms adapted to different target groups. They also included providing information on climate threats, available sources of climate information, and good practice in local adaptation. These actions aimed to influence behaviour change and strengthen local adaptation capabilities.

Discussion

Qualitative analysis of the mix of direct and indirect governance provides useful insights into the scope and distribution of public responsibility. Environmental issues, transport, and investment in public infrastructure and services emerged as key areas of public responsibility, consistent with municipal capacities, and were usually linked to direct implementation. Even when they referred to the same governance logic, the two sources differed in who should take direct action in urban adaptation and how. The citizen panels emphasised a more interventionist role for municipal authorities, including regulating other entities through legal instruments and strategic data management. The city plans, by contrast, focused on investing in the climate resilience of urban infrastructure and developing city systems for this purpose; this suggests that spatial planning is treated as a tool for regulating other entities' activities. The logic of indirect governance aimed at delegation was described in more detail by the citizen panels, including the forms of delegation (consulting, standards, and strategic documents) and the entities involved (the city, private owners, groups of private entities, and individual owners). The urban plans tended to focus on established cooperation with public entities and the creation of operating standards that other entities could adopt. This difference may reflect divergent views on the legitimacy of municipal authorities when they shift implementation responsibilities to other entities. In both sources, the indirect governance logic of orchestration seemed to play a supporting role alongside the other two logics. It was based chiefly on the dissemination of knowledge, which should prompt a shift towards pro-climate behaviours and support the growth of community-led initiatives and local resilience. Finally, the frequent co-occurrence of direct and indirect logic in descriptions of the same actions supports the idea that

urban adaptation is expected to rely on a combination of governance logics, with a preference for direct and delegated involvement.

These findings also contribute to critical assessments of urban climate change adaptation in Polish cities, including the emphasis on infrastructural and technological solutions (Kalbarczyk & Kalbarczyk, 2020; Masik & Gajewski, 2021) and the shortcomings of public participation initiatives (Kalbarczyk & Kalbarczyk, 2022). They point to patterns in the distribution of responsibility that align with previous conclusions about the importance of negotiating (Runhaar *et al.*, 2015) and envisioning (Olazabal & Castán Broto, 2022) the normative dimension of implementing urban adaptation and broader urban planning (Saldert, 2024). They also align with arguments that the power relations involved in urban climate policy warrant further research (Hugel, 2020; Bulkeley, 2021; Lambrou & Loukaitou-Sideris, 2021). Differences in preferences regarding direct governance and the involvement of private entities further develop critical assessments of urban climate change adaptation and municipal leadership (Mees, 2017; Uittenbroek *et al.*, 2022). They also contribute to research on the importance of public–private tensions, as recognised in previous adaptation studies (Mees *et al.*, 2012; Mees, 2017; Susskind & Kim, 2021).

In terms of policy-relevant insights, these findings show that formulating urban climate change adaptation actions involves negotiating both their extent and the approach to achieving them. The qualitative analysis suggests that preferences in this area can be assessed by: (a) how far the parties establishing adaptation measures agree on the role of municipal resources and administrative structures in implementation; (b) how clearly the possibilities and limitations of operating these structures are articulated; and (c) the roles envisaged for individual citizens and private entities in adaptation measures, including whether these actors are enabled to comment on the planned scope of responsibilities. This is particularly relevant in light of recent legal changes, namely the introduction of mandatory urban adaptation plans for cities with over 20,000 inhabitants from July 2025, and the incorporation of climate and environmental objectives into local strategies from January 2026.

This study has several limitations. It examined declarative descriptions, which depend on the conditions and quality of the action-planning process. Future research could assess the extent to which actions are implemented in accordance with the declared logic, by triangulating with other data sources (e.g., in-depth interviews). The study's scope was also limited to cities for which both sources were available for comparison across urban adaptation plans and citizen panels. A broader analysis across Poland would help to establish the scale of the identified governance trends.

Conclusion

This study has shown how a combination of direct and indirect governance logic can clarify the scope and distribution of public responsibility, balancing direct implementation with encouraging others through delegation and orchestration. The analysis identified a preference for a multi-instrument policy approach informed by mixed governance. However, the configuration of these logics varied between official plans and panel recommendations, as well as across specific areas of intervention. Qualitative verification indicated that this combination reflected anticipated public responsibility, particularly regarding the scope of city-led actions and the involvement of other entities. Therefore, when formulating urban climate change adaptation actions, consideration should be given to the extent of these actions and the governance approach by which they are to be achieved.

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Declaration of generative AI and AI-assisted technologies in the writing process

While preparing this work, the author used DeepL to improve language and readability. The author reviewed and edited the content after using this tool and takes full responsibility for the publication.

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Annex 1. Table of civil panels analysed

City	Year	Area of debate
Gdańsk citizen panel	2016	Urban adaptation to climate change
Warszawa citizen panel	2020	Urban climate policy
Kraków citizen panel	2021	Energy efficiency and renewable energy
Poznań citizen panel	2021	Urban climate change mitigation and adaptation
Łódź citizen panel	2023	Urban climate change mitigation
Rzeszów citizen panel	2023	Climate neutrality

Source: Author's elaboration based on Szymaniak-Arnesen (2024).

Annex 2. Areas of intervention coded

Areas of intervention	Data-driven subcodes		Citizen Panels	Urban Adaptation Plans
Energy and air quality	energy management green buildings and thermal upgrading mitigation actions RES air quality protection ventilation corridors		122	16
Urban environmental issues	blue-green infrastructure street greenery new planting nature inventory and nature protection renovation of green areas promoting active lifestyle rainwater management and water absorption investment in the sewage system flood control measures and protection of rivers waste management wind protection		67	46
Public and private transport	Public transportation (investment in public transport and bicycle systems)	Private transportation (changes in vehicle traffic, road development, and electric mobility)	39	21
Emergency events	heat (access to water investments in the water supply system; reducing water consumption; cooling)	supporting emergency services; providing information about threats; actions on crisis management plans	12	23
Governance	environmental education activities on strategic documents activities on spatial planning monitoring of climate-related actions green public procurement		84	29

Source: Author's elaboration.