Transitioning towards Sustainable and Equitable Cities: Law and Governance Perspectives on Urban Climate Action

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I. The urban climate challenge

Human-caused climate change increasingly results in risks for human beings and ecosystems. Extreme weather, such as floods, droughts and storms, already causes huge losses and damages around the world, especially in places and among people who are vulnerable. What is more, the adverse effects of climate change intensify other problems, such as environmental pollution and social inequality.[1] In response to this challenge, there is general agreement that, in this decade, accelerated climate action is necessary to reduce the dangerous impacts of greenhouse gas (GHG) emissions on people and nature. Taking action now, it is argued, will also contribute to the transformative change that is so essential for a sustainable and equitable world.[2]

Cities are critical spaces for climate action.[3] Because of their dense mix of people, activities and infrastructure, as well as their resource-intensive systems, they are vast contributors to climate emissions. Despite occupying only 2% of the world's land area, cities now consume nearly 78% of the world's energy and produce more than 60% of total GHG emissions.[4] At the same time, cities are at the forefront of devising and deploying innovative solutions. There are increasing examples of effective urban climate action, ranging from low-energy housing to walkable urban spaces.

Climate science, however, continues to point to the insufficiency of current efforts to reduce the risks posed to human beings and ecosystems.[5] In cities, too, climate action is still limited, often being focused on individual risks and short-term gains without connecting all relevant actors and sectors to produce meaningful, long-term effects.[6]

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[1] See the 2023 Intergovernmental Panel on Climate Change (IPCC) Synthesis Report for the Sixth Assessment Report, published as H Lee and J Romero (eds), *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva, IPCC 2023) pp 35–115.

[2] ibid.

[3] See, eg, C Göpfert, C Wamsler and W Lang, "A framework for the joint institutionalization of climate change mitigation and adaptation in city administrations" (2019) 24 Mitigation and Adaptation Strategies for Global Change 1.

[4] UN Habitat, "Urban Climate Action – The Urban Content of the NDCs: Global Review 2022" (2023), 6, available at https://unhabitat.org/urban-climate-action-the-urban-content-of-the-ndcs-global-review-2022 (last accessed 19 September 2023).

[5] See the IPCC Synthesis Report, supra, note 1, 57–66.

[6] See the 2022 IPCC report on cities and climate change, published as D Dodman et al, "Cities, Settlements and Key Infrastructure" in *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva, IPCC 2022) pp 907–1040.

Beyond mere experimentation and measures targeting low-hanging fruit, the pace and scale of urban climate action must increase significantly if cities are to be transformed towards a more sustainable and equitable future in line with the decarbonisation goals set in legislation.

This "new phase" of climate action generates major challenges for cities.[7] Above all, it urges reflection on how this phase can be regulated and governed effectively. In particular, cities need a better understanding of which actors, with what roles and powers, can enable and accelerate this transition in and of cities. This demands a detailed investigation of the processes needed to involve and commit these actors and to link efforts across sectoral boundaries and governance levels. It also evokes questions about mechanisms and modes, both legal and governance, that can serve to address these challenges and ensure that solutions are not only emissions-free but also sustainable and equitable.

To engage with these questions, this symposium brings together scholars from the legal and governance disciplines. Taking stock of some of the latest developments in science and practice, it offers a fresh perspective on the transition to sustainable as well as equitable cities in the context of the need to achieve rapid decarbonisation. While adopting a perspective mostly focused on European cities, the authors of the various articles draw on different bodies of literature, use a variety of methods and empirically illustrate their arguments based on diverse contexts and cases.

II. Viewing urban climate action through the lenses of law and governance

To lay the foundation for the discussion that follows, we first briefly outline what it means to understand and analyse urban climate action through the lenses of law and governance. In broad terms, this symposium contributes to investigating the ways in which different actors and institutions, at various levels and in a range of spheres, coordinate their actions to achieve rapid, widespread decarbonisation in cities that at the same time is socially equitable. This *problematique* lies at the interface of the approaches, mechanisms and modes of two disciplines, namely law and governance. Although some of the articles in this symposium refer to more than one of these to develop their analyses, below we emphasise the contribution that each has made individually to understanding the common problem and pinpoint emerging questions.

Law arguably plays a dual role in tackling climate change. Besides providing the tools to shape the trajectory of climate action, it also gives the instruments to protect those affected.[8] Legal frameworks at the local, national and international levels thus provide the foundation upon which cities can build their climate strategies and plans. For instance, urban planning laws can influence the density of urban development, the design of transportation systems and the promotion of energy-efficient buildings. Environmental regulations can then mandate emissions reductions and the adoption of clean technologies. Laws also empower local governments to set climate goals and enact

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[7] In particular, we aim to contribute to the broader call in the urban climate literature that, albeit with varying nuances, suggests moving to a phase of urban action studies that examines the interactions among the multiple policies that influence climate change, the role of various city actors and the scale and speed needed for cities to effectively contain global warming to within 1.5°C. See, among others, in this sense: J van der Heijden, "Studying Urban Climate Governance: Where to Begin, What to Look for, and How to Make a Meaningful Contribution to Scholarship and Practice" (2019) 1 Earth System Governance Article 100005; VC Broto, "Climate Change Politics and the Urban Contexts of Messy Governmentalities" (2020) 8(2) Territory, Politics, Governance 241–58; H Bulkeley, "Climate changed urban futures: environmental politics in the Anthropocene city" (2021) 30 Environmental Politics 266.

[8] L Reins and J Verschuuren, "Climate change mitigation and the role of law" in L Reins and J Verschuuren (eds), *Research Handbook on Climate Change Mitigation Law* (Cheltenham, Edward Elgar Publishing 2022) p 5.

policies aligned with global climate agreements, such as the Paris Agreement,[9] while also enforcing compliance with climate regulations.

The study of law in relation to urban climate action has typically developed at the intersection of international law, environmental law, and public law. International law scholars have over time come to appreciate the "global" role of cities in the field of climate action and sustainable development. Cities have indeed created transnational networks and other forms of activation to engage directly with international organizations on climate change and sustainability issues. This has developed a narrative of cities as agile actors able to fill the governance gap left open by states' inaction. The growing role of cities has also led to their increasing recognition by international institutions and in legal documents, piercing the traditional state-centric perspective of international studies.[10]

In the areas of environmental and public law, analyses have mostly focused on the instruments developed by cities within the scope of their competences. Here, it is observed that the role of cities as frontline implementers and local regulators has grown, along with their toolbox. The emerging body of urban (climate) laws consists of a mix of local rules created by cities to mitigate and adapt to the impacts of climate change across various policy areas,[11] as well as a set of voluntary practices and standards developed by transnational networks of cities, although these latter may eventually turn into "norms" with some level of "bindingness".[12] Beyond the normative framework, some scholars have also examined how certain constitutional structures can allow the necessary degree of flexibility, experimentalism and dissonance to promote effective local mitigation and adaptation.[13] More recently, others have examined cities' emergence as important actors in shaping states' legal obligations under climate law through litigation.[14]

In combination with the lens of law, this symposium adopts the perspective of governance. Governance structures and arrangements define how decisions are made, resources allocated and responsibilities assigned within urban areas. Effective governance is said to be crucial for mobilising climate action. Cities with strong and inclusive governance structures are understood to be more agile in responding to climate challenges.[15] They are more successful in engaging a wide range of stakeholders, from community organisations to private businesses, to collaboratively develop and implement climate initiatives.

Initially, scholars paid attention primarily to modes of governance and the effects of urban climate action, often using examples of forerunners as case studies.[16] Promising

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[9] Paris Agreement 2016, Dec. 1/CP.21 Annex, UN Doc. FCCC/CP/2015/10/Add.1 ("Paris Agreement").

[10] For an encompassing analysis of the relationship between international law and cities, including in the area of climate change, see HP Aust and JE Nijman (eds), *Research Handbook on International Law and Cities* (Cheltenham, Edward Elgar Publishing 2021).

[11] On this, see A van der Berg and J Verschuuren, "Introduction to climate resilient cities and the law" in A van der Berg and J Verschuuren (eds), *Urban Climate Resilience: The Role of Law* (Cheltenham, Edward Elgar Publishing 2022) pp 7–8.

[12] See J Lin, *Governing Climate Change: Global Cities and Transnational Lawmaking* (Cambridge, Cambridge University Press 2018) p 128.

[13] J Reich, "Federalism and Mitigating Climate Change: The Merits of Flexibility, Experimentalism, and Dissonance" (2021) 10 Transnational Environmental Law 263.

[14] See M Torre-Schaub, "Dynamics, Prospects, and Trends in Climate Change Litigation Making Climate Change Emergency a Priority in France" (2021) 22 German Law Journal 1445.

[15] See, eg, K Hölscher, N Frantzeskaki, T McPhearson and D Loorbach, "Tales of transforming cities: Transformative climate governance capacities in New York City, US and Rotterdam, Netherlands" (2019) 213 Journal of Environmental Management 843–57.

[16] See, eg, J van der Heijden, "From Leaders to Majority: A Frontrunner Paradox in Built-Environment Climate Governance Experimentation?" (2018) 61 Journal of Environmental Planning and Management 1383; G Alber and K Kern, "Governing climate change in cities: modes of urban climate governance in multi-level systems" in *Proceedings Conference Competitive Cities and Climate Change* (Paris, OECD 2008) pp 1–30.

efforts to combat climate change were increasingly seen locally, focused on the adoption of rules and voluntary measures.[17] Networking has also been extensively analysed as a governance strategy that cities adopt to influence other cities and levels. Both the role and effects of networks are highlighted, as well as their intrinsic limitations and unequal power relations.[18] At the same time, experimentation has emerged as a mode of governance for developing not only technological but also social innovation, and it is still defining the way cities operate in the field.[19]

Recently, however, the analysis of urban climate action has turned more critical.[20] As climate science has highlighted the insufficient pace and scope of urban climate action and the tightened legal framework requires urgent action, scholars have converged in questioning the effects of the local measures implemented so far, including the multiple inequalities underlying and generated by them.[21] Responses to fill these gaps abound, ranging from upscaling of local climate action to better integrating climate change with other sustainability issues in order to develop transformative solutions while finding ways to empower people and address emerging inequalities.[22] Key questions emerging from most of these analyses are how to implement such change and, especially, how to regulate and govern the necessary transformations – the latter being a question that is also central to this symposium.

III. The city as critical space for climate action: contributions to this symposium

This symposium opens with a conceptual piece by Van der Heijden in which the author advances future lines of development for a systematic "science" of scaling of urban climate action and its governance.[23] The analysis departs from the observation that scholarship's narrative on the role of cities in climate change has greatly evolved over time. Whereas

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[17] On the concept of "municipal voluntarism", which characterised this first phase, see H Bulkeley (ed.), *Cities and Low Carbon Transition* (Abingdon-on-Thames, Routledge 2010).

[18] See, eg, M Keiner and A Kim, "Transnational City Networks for Sustainability" (2007) 15 European Planning Studies 1369; K Kern and H Bulkeley, "Cities, Europeanization and multi-level governance: governing climate change through transnational municipal networks" (2009) 47 Journal of Common Market Studies 309; Sofie Bouteligier, "Inequality in new global governance arrangements: the North–South divide in transnational municipal networks" (2013) 26 Innovation: The European Journal of Social Science Research 251; N Frantzeskaki, "How City-Networks Are Shaping and Failing Innovations in Urban Institutions for Sustainability and Resilience" (2019) 10 Global Policy 712.

[19] See, eg, H Bulkeley, VC Broto and G Edwards, *An Urban Politics of Climate Change: Experimentation and the Governing of Socio-technical Transitions* (Abingdon-on-Thames, Routledge 2015); P Hofman et al, "Retrofitting at Scale: Comparing Transition Experiments in Scotland and The Netherlands" (2021) 2 Buildings and Cities 637; E Smeds and M Acuto, "Networking Cities after Paris: Weighing the Ambition of Urban Climate Change Experimentation" (2018) 9 Global Policy 549; J van der Heijden, "Experimental Governance for Low-Carbon Buildings and Cities: Value and Limits of Local Action Networks" (2016) 53 Cities 1; A Karvonen, "The City of Permanent Experiments?" in B Turnheim, P Kivimaa and F Berkhout (eds), *Innovating Climate Governance: Moving Beyond Experiments* (Cambridge, Cambridge University Press 2018).

[20] See, eg, H Bulkeley, "Climate Changed Urban Futures: Environmental Politics in the Anthropocene City" (2021) 30 Environmental Politics 266; S Bouzarovskim and H Haarstad, "Rescaling Low-Carbon Transformations: Towards a Relational Ontology" (2019) 44 Transactions of the Institute of British Geographers 256.

[21] V Castán Broto and E Robin, "Climate urbanism as critical urban theory" (2021) 45 Urban Geography 715.

[22] On upscaling, see K Kern, "Cities as Leaders in EU Multilevel Climate Governance: Embedded Upscaling of Local Experiments in Europe" (2019) 28 Environmental Politics 125. On the need for climate-connected responses in cities, see H Bulkeley, "Managing environmental and energy transitions in cities: state of the art and emerging perspectives" (*OECD*, 2019) https://www.oecd.org/cfe/regionaldevelopment/Bulkeley-2019-Managing-Transition-Cities.pdf (last accessed 19 September 2023).

[23] J Van der Heijden, "Towards a Science of Scaling for Urban Climate Action and Governance" (2023) European Journal of Risk Regulation.

cities were first portrayed both as victims and as main originators of climate change, later they were addressed as places of opportunity and as saviours. Recently, however, the narrative has taken a more critical turn, in which urban climate action is drawn as too piecemeal and limited compared to the pace and scale of change needed to achieve the ambitious climate goals set by law.

Building on this observation, now increasingly shared by others, Van der Heijden calls for practice and research to pay greater and more critical attention to the "scaling challenge"; that is, the need to find ways to stabilise, accelerate and replicate cities' climate action, ensuring that its still-limited scale matches the transformative changes required. To fill this gap, according to the author, a "scaling science" is needed to better understand the processes involved in such scaling efforts, but current scholarly efforts in this direction are still in their infancy. In particular, Van der Heijden notes that while a typology of scaling forms of urban climate action already exists, the conditions under which such processes emerge and the analytical perspective to study their evolutions require further efforts. Contributing to this debate, the author develops a set of enquiries that such a "science" of scaling must urgently address, including those that further investigate the existence, characteristics, pathways of development and practical application of scaling processes of urban climate action and its governance.

Hofman, Stapper and Groenleer continue with an empirical analysis that sheds light on the role of so-called intermediaries in the acceleration phase of the energy transition as an essential component of urban climate action.[24] Their starting point is similar to that of the previous article, in that they also recognise that, after the initial phase of testing new technologies to realise the energy transition, these innovations must be diffused. This new phase, however, generates itself new governance challenges, including the as-yet unexplored need to orchestrate the efforts of the broader and more complex ecosystem of actors involved in the acceleration phase and to address the misalignment between new technologies and the existing institutional configurations. The authors fill this gap with an in-depth analysis of two local energy projects in the southern Netherlands through the lenses of the literatures on transitions and urban intermediaries. Their analysis shows that transition intermediation can take shape in a variety of ways. Specifically, while a mix of various local and regional actors can take on the role of transition intermediaries, some may take on multiple intermediary roles simultaneously or play similar roles as others at the same time. The authors also highlight the role that these intermediaries play in connecting the energy transition to broader societal developments, notably citizen engagement at the local level.

In the next article, Berti Suman, Peca, Greyl, Greco and Carsetti follow up on the topic of citizen engagement.[25] They reflect on how citizen science can contribute to the governance of urban ecosystems and how it can respond to the quest for social justice connected to climate action in cities. To address these questions, the authors focus on two citizen science initiatives defined as "extreme cases". These were developed and co-created directly by citizens to contribute to the governance of Rome's major waterways, which are characterised by a state of environmental degradation and ineffective public intervention. Working at the intersection of urban governance and environmental governance, the authors discuss how both initiatives have sought to tackle this governance problem by promoting "small-win" interventions. The authors find that, in both cases, citizen science can be a useful contribution to urban climate governance beyond its traditional role of knowledge creation, particularly by functioning as an advocacy tool for

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[24] P Hofman, M Stapper and M Groenleer, "Exploring the Role of Intermediaries in the Acceleration Stage of the Energy Transition: A Comparative Case Study of Two Local Energy Projects" (2023) European Journal of Risk Regulation.

[25] A Berti Suman, M Peca, L Greyl, L Greco and P Carsetti, "The 'Citizen Sensing Paradigm' to Foster Urban Transitions: Lessons from Civic Environmental Monitoring in Rome" (2023) European Journal of Risk Regulation.

citizens to shed light on often-overlooked local issues. This advocacy role, in turn, can help not only to mobilise individual participation in local governance, but also to improve collective responses to urban resource management problems.

Having discussed intermediation and advocacy in the local climate transition, the symposium continues with an article by Van Der Berg focusing on the role of government.[26] The author explores how climate adaptation – understood as the process of adapting to the current and projected impacts of climate change – is integrated into urban planning tools. The integration of climate adaptation into urban planning represents an increasingly advanced solution for improving the resilience and sustainability of cities, as urban planning maintains a temporal and spatial scope that allows it to cover all policies and sectors in a city where climate losses and damages may emerge. Yet, as already noted, the scope of this integration process still varies among cities, and questions loom about the legal and governance mechanisms that should facilitate it.

Responding to this call, Van Der Berg assesses the urban planning arrangements of two low-lying coastal cities, Rotterdam and Antwerp. Due to their particular vulnerability to the effects of climate change, each is in urgent need of climate adaptation measures. The analysis finds that, while urban planning in both cities is generally informed by climate risks, the integration of climate adaptation into urban planning is still incomplete due to a failure to consider the synergies and trade-offs inherent in climate adaptation, as well as the use of inconsistent conceptualisations of what climate adaptation should mean and a misalignment of climate goals and timelines. According to the author, this picture can be explained by the lack of resources, knowledge and cooperation among the city officials involved in this process, as they must work together to effectively integrate climate adaptation into urban planning.

The symposium closes with an article by Colombo and Dijk that, like the article by Van Der Berg, reflects on the integration challenges involved in the decarbonisation of urban society.[27] This time, however, the focus is urban mobility. As in other sectors, the urgency of achieving ambitious climate targets within the tight timeframe set by law is pushing cities to use climate action to radically transform their mobility infrastructure and practices to make them more sustainable. In practice, this means prioritising, where possible, a shift to slower and more active mobility modes over technological solutions that simply reduce the GHG emissions of vehicle mobility, as only the former contributes to decarbonising mobility while also meeting other sustainability goals. Yet, as the authors note, this approach makes mobility governance more complex, as the actors, objectives and actions involved become more diverse and the likelihood of contestation potentially increases.

Focusing on two cities in the Netherlands, Rotterdam and Maastricht, the article analyses the challenges and complexities of a transition towards a multi-objective governance of urban mobility in the context of the need for rapid decarbonisation. The authors find that in both cities the combination of spatial development tools and processes, as well as regulatory instruments that set stringent emissions limits, can increase support for transformational measures to decarbonise urban mobility. According to the analysis, this combination generates the necessary urgency among strategic actors in mobility and other mobility-generating functions to develop the concrete synergies necessary to redesign urban transport around slower and more active mobility. However, the empirical analysis shows that the integrative dynamic can be counteracted by local economic actors, as well as by fiscal and economic instruments developed by national and European Union institutions. This is because

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[26] A Van Der Berg, "Climate Adaptation Planning for Resilient and Sustainable Cities: Perspectives from the City of Rotterdam (Netherlands) and the City of Antwerp (Belgium)" (2023) European Journal of Risk Regulation.

[27] CM Colombo and M Dijk, "Understanding the Policy Integration Challenges of Sustainable Urban Mobility in the Context of Rapid Decarbonisation" (2023) European Journal of Risk Regulation.

their emphasis on financing vehicle transport modes or, at best, their focus on vehicle emissions reduction forces cities to dilute their efforts towards a radical transformation of their mobility system.

IV. Concluding observations and future directions

Together, the articles in this symposium present a number of shared observations and advance several new avenues for research on the broad topic of the transition towards sustainable and equitable cities in the context of the need to accelerate decarbonisation efforts.

A first common observation is the complexity associated with this new phase of urban climate action. Herein, complexity may concern different aspects, as the various contributions clarify. It may refer to the complexity of the governance system itself. Indeed, as urgency mounts to increase the pace and scale of climate solutions, the number and nature of the actors involved are also set to grow and diversify. For instance, to address the social implications of climate change, citizens are attempting to get more involved in urban climate governance, as demonstrated by the instances of civic environmental monitoring[28] and intermediation in the energy transition.[29] Complexity may also refer to the problem to be addressed, among other things, because of its cross-cutting nature, as in the case where decarbonising urban mobility is to be pursued jointly with other sustainability goals.[30] Complexity is clearly not a new topic in climate governance.[31] Yet, in the present context, it is an important feature. It highlights the need, when examining how to regulate and govern this "new phase" of urban climate action, to focus on the evolving set of actors that are called upon to design climate solutions, as well as how they look at the common problem to be solved and how they manage the controversies and conflicts that may likely arise therefrom.

Starting from actors and agency, the various articles in this symposium sharpen our understanding of the politics involved in this "new phase" of urban climate action and the resulting implications. Specifically, some contributions show that certain roles become central in governing this stage. For example, because of their ability to orchestrate the activities of other actors and align their efforts to the broader framework, transition intermediaries play an essential role at the stage when new technologies for the energy transition need to be diffused.[32] At the same time, these evolving roles can bolster existing coalitions around the development of certain climate solutions or create new ones, as some analyses indicate. Within the municipal administration, for example, the need to address climate change along with other issues has generated new alliances across levels and administrative silos.[33] However, several authors also warn that actors may not all be aligned on the changing framing of the climate problem and its solutions, and this may pose a major threat to the policy dynamics and their success in this phase of urban climate action.

In addition to actors and agency, processes are also essential in governing the transition in the urban context. This symposium focuses on several key ones. First, it discusses integration, understood both as the incorporation of climate change into policies and as the joint consideration of various sustainability goals in climate solutions. Although such

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[28] Berti Suman et al, supra, note 25.

[29] Hofman et al, supra, note 24.

[30] Colombo and Dijk, supra, note 27.

[31] Among many others, see C Adelle and D Russel, "Climate Policy Integration: A Case of Déja Vu?" (2013) 23 Environmental Policy and Governance 1; K Crowley and BW Head, "The enduring challenge of 'wicked problems': revisiting Rittel and Webber" (2017) 50 Policy Science 539.

[32] Hofman et al, supra, note 24.

[33] Van Der Berg, supra, note 26; Colombo and Dijk, supra, note 27.

integration has traditionally been a central process in climate governance, as some contributors caution, old problems can emerge in this phase of urban climate change, such as the (lack of) alignment among the various actors and levels involved.[34] Second, an equally important process in this phase of urban climate change policy is scaling, which involves reinforcement and replication across contexts and levels of urban climate actions. Unlike with integration, the relatively new focus on scaling raises a set of open questions. Specifically, beyond a full typology of scaling, which is already quite set, the ways and conditions through which this process can take place and criteria to measure its results still require attention.[35] Finally, acceleration is a critical process addressed in this symposium. As one contribution shows, this phase in the energy transition is still little understood in terms of its dynamics and effects, particularly at the local level.[36]

To implement urban climate actions in this "new phase", then, two instruments are specifically examined in this symposium. The first is civic environmental monitoring, which has materialised as an innovative tool to address the social justice claims emerging from (failed) climate policies.[37] In the case of Rome, this was developed entirely from below by local citizens. The importance of such initiatives lies less in directly devising climate solutions than in providing the knowledge of environmental damage that was hitherto lacking in order to reach solutions. By filling this gap, this tool succeeds in creating the necessary incentives and urgency to mobilise public institutions and citizens in urban climate governance. Second, urban planning emerges as a key tool for strengthening urban climate action.[38] As indicated, climate initiatives now need to be extended across all areas and provide broader and longer-lasting benefits beyond GHG emissions reductions and short-term gains. In this sense, urban planning offers the advantage of functioning as a meta-instrument to coordinate other instruments across policy areas and over time. However, as pointed out in this symposium, urban planning requires, among other things, expertise to identify synergies and trade-offs among various climate measures, alignment with the overall legal framework and combination with other tools, such as environmental regulations, which generate a sense of shared urgency among all levels and actors to cooperate around common goals.

Finally, an important theme cutting across the various articles in this collection is how to approach the study of a novel and complex topic such as that presented here. Indeed, only by asking the right questions can academic work develop concepts and frameworks to better clarify problems and guide practice in devising solutions thereto. In this sense, some contributions argue that, as some of the discussed mechanisms and transformations are mostly novel, we need to first question their existence and development. Moreover, we should be open to choosing alternative approaches for evaluating their effects and success, as some of these transformations may be less large scale and linear than traditional policy changes and yet still produce valuable results.[39]

Beyond this, all contributions converge in calling for their results to be tested by additional real-life examples, approached through the lens of multiple- or single-case studies. In addition to the obvious focus on so-called climate pioneers, some contributions demonstrate that much can be learned from cases where climate governance, for one reason or another, is ineffective, because that is where obstacles to adopting solutions can more clearly emerge and instruct practice to overcome them. At the same time, study of vulnerable places, such as low-lying cities, seems particularly fruitful for urban climate

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[34] Van Der Berg, supra, note 26; Colombo and Dijk, supra, note 27.
[35] van der Heijden, supra, note 23.
[36] Hofman et al, supra, note 24.
[37] Berti Suman et al, supra, note 25.
[38] Van Der Berg, supra, note 26; Colombo and Dijk, supra, note 27.
[39] Van der Heijden, supra, note 23; Berti Suman et al, supra, note 25.

research because, as mentioned above, climate change effects hit them most of all. Finally, as this new phase of urban climate action is still ongoing and requires changes that will unfold over time, longitudinal studies are important to understanding the temporal evolution of this transition and the conditions that may favour or hinder it.

In conclusion, viewing urban climate action through the lenses of law and governance reveals the pivotal roles that their mechanisms and modes play in shaping the future of our cities and our planet. Effective legal frameworks and governance structures are essential to guide cities towards a sustainable and equitable future. As cities continue to develop and adapt to the challenges of climate change, attention to law and governance in their strategies and plans, alongside academic study of their mechanisms and modes, will remain indispensable to achieving meaningful progress in the fight against climate change, as this symposium shows.