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Norm domestication challenges for local climate actions: A lesson from Arizona, USA

Mahir Yazar

Centre for Climate and Energy Transformation,
Department of Geography, University of
Bergen, Bergen, Norway

Correspondence

Mahir Yazar, Centre for Climate and Energy
Transformation, Department of Geography,
University of Bergen, Bergen, Norway.
Email: mahir.yazar@uib.no

Abstract

Research on norm domestication in multi-level governance structures is overlooked in urban climate governance and policy literature. This paper conceptualizes multi-scalar interactions of norm domestication for local climate actions. The city of Phoenix, which operates under the “purple” (blue cities and red legislatures) state of Arizona, is analyzed to illustrate how a local government can take up the climate actions left in the void at the state and federal levels. The empirical findings reveal important temporal politics at the state level that influenced the local government’s climate norm domestication. The period of Democratic party leadership diffused climate norms at the state-level and positioned the local government more as a climate policy-taker, adopting decisions from the state legislature. Swings in the state-level executive orders under the subsequent period of Republican leadership, however, forced the local government to seek some common ground for norm domestication, usually related to the nonpartisan goals of economic development. Consequently, local climate actions are subject to depoliticization of climate change from the higher-level governance structures. Overall, decarbonization targets are not being directed in ways that lead to a broader shift in the socio-technical system but would support short-term emission reductions if multiple institutions, both at the state and sub-state levels, created spaces for collaboration rather than competition.

KEYWORDS

Arizona, local climate governance, multi-level governance, norm domestication, Phoenix

1 | INTRODUCTION

Cities are central to the generation of climate change and its impacts on humans; thus, city governments are responsible for implementing transformative climate actions (Bulkeley & Castán Broto, 2013; Yazar et al., 2022). Many cities have taken the lead in pledging, namely to the Paris Agreement, to meet climate change goals, beyond the commitments made by national or regional governments (Figueres et al., 2017; Allen et al., 2018 ; Revill & Harris, 2017). Researchers have shown that cities can take actions to decarbonize in order to

modestly cut emissions from their operations (Larsen & Hertwich, 2009) by investing in the Information and Communication Technologies (ICT)-led smart city infrastructure. This movement lays down the transformation of the current infrastructure systems, such as mass transit and electric vehicles (Nakamura & Hayashi, 2013) and energy efficiency standards for buildings (Ascione et al., 2013; Kuokkanen & Yazar, 2018). These rapid solutions in cities lead to a reduction in emissions, which can significantly contribute to decarbonization actions and alleviate human-caused climate change (Bai et al., 2018). Yet, there are multiple challenges for decarbonizing

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actions at a local level due to the divergence in laws and regulations, climate agendas and nationally driven politics (Yazar & York, 2021).

Urban climate governance research gives special attention to the relationship between national and local governments and their governance actors to resolve the power asymmetries in decision-making that hinder the implementation and the acceleration of climate change actions at local levels (Fischer & Newig, 2016; Hodson & Marvin, 2010; Späth & Rohrer, 2012; Wolfram & Frantzeskaki, 2016; Yazar et al., 2020). Urban climate governance literature also focuses on the underlying multilevel governance dynamics, such as the differences between climate agendas of the national government and local governments or international organizations (Jensen et al., 2016; Raven et al., 2012). This paper aims to address the key research gap to identify how local governments that operate under states that deny climate change could generate progressive local climate actions. The city of Phoenix is selected for this study as the city is in the state of Arizona, which the Republican administration has governed, and is well-known for its stance on the denial of climate change. Under such state administration, this paper aims to show how a local government, the city of Phoenix, has space to maneuver, negotiate and accelerate local decarbonization actions via norm domestication.

Norm domestication and norm diffusion have distinct meanings. Norm diffusion is broadly used in international relations and public policy literature. Norms are defined as “shared understandings that make behavioral claims” (Finnemore & Sikkink, 1998, p. 891). In norm diffusion literature, a particular focus is given to the socially constructed context in which global norms are developed and how the organizations, operating in national and subnational governments, mediate the process of adopting and mobilizing global norms in a given domestic context through political leadership or policy entrepreneurs. (Acharya, 2004; Checkel, 1997; Dominguez, 2010; Kingdon, 2014; Restoy & Elbe, 2021). Norm diffusion is increasingly used in the environmental governance domain. It is mainly to show the interface between global norms and environmental policy adoption. It also highlights power structures among political and economic elites and their negotiations with each other and with other social groups (Alger & Dauvergne, 2017; Gustafsson et al., 2020; Winanti & Hanif, 2020). Norm diffusion focuses on how nation-states form a consensus to adopt new international norms, however, such agreed new norms cannot guarantee that a national government will implement them domestically, such as human rights (Restoy & Elbe, 2021; Stevenson, 2013).

National or federal governments may reject international norms, but local governments and non-state actors (such as civil society organizations and universities) might still promote such norms domestically, known as “norm domestication” (Howse & Teitel, 2010; Restoy & Elbe, 2021; Zimmermann, 2016). Researchers highlight the nested hierarchy in governance structures, both at local and at wider levels, that cause conflicts among organizations in adopting or modifying global norms to align with given domestic interests such as cultural or cognitive preferences (Levitt & Merry, 2009; Macdonald & Nem Singh, 2020; Singh & Camba, 2020; Wiener, 2018) and disagreements over norm processes, which operate under specific political and legal

structures that mediate the outcomes of adopted norms (Acharya, 2004; Börzel & Risse, 2012; Kingdon, 2014; Zimmermann, 2016). Such domestic interests affect the degree to which a global norm is effectively adopted and localized, but also raises concerns about how robust multi-level governance structures are and the actors' engagement at multiple levels. Multi-level governance (MLG) includes horizontal, vertical, and hierarchical arrangements (from the local to the global) but, more importantly, the connectivity between multiple organizations operating in disparate domains of governance. The MLG paradigm is essential to emphasize local governments' capacity to participate in norm domestication processes through interacting with multiple institutions, within and beyond the city or the national borders. In climate change governance and policy scholarship, MLG is contextualized to better understand the interplay between transnational climate networks, policy organizations (both at global, national, and local levels), national rules and regulations, as well as policy entrepreneurs and civil society, in the promotion of local climate actions (Garcia Hernandez & Lucatello, 2022; Kukkonen et al., 2018; Lovell, 2016).

The complex processes of norm domestication in a multi-level governance context are still lacking in urban climate governance and policy literature, with notable natural resource management exceptions (Gustafsson et al., 2020; Macdonald & Nem Singh, 2020). Norm domestication processes differ significantly due to varying geographical conditions, socio-political pressures, and the existing resources used to address those different pressures, as well as temporal shifts such as changes in political leadership. In this regard, depending on their adaptive strategies and available resources, local governments may differ significantly from national or state administrations in taking norm domestication actions. This paper will look at the city of Phoenix's multi-scale interactions (e.g., global, state, and local) with different institutions, within and beyond the state levels, to illustrate how norm domestication operates in a local context. Hence, this paper specifically focuses on (1) local government's interaction with the state, (2) local government's interaction with global networks and (3) local government's interaction with civil society and universities.

The paper is organized as follows: Section 2 introduces multi-scalar interactions for norm domestication and local decarbonization. Section 3 introduces the case of the city of Phoenix and the methods implemented there. Section 4 outlines the case study results. The empirical results reveal that adopting climate actions in the city of Phoenix relates to two important temporal politics at the state level, which are discussed further in Section 5. The discussions in Section 5 highlight how the process of norm diffusion at the state level under the Democratic governor between 2003 and 2009 provided a safety net and guidance for the city of Phoenix to take local climate actions starting in 2007. However, the subsequent period of Republican leadership with anti-climate change political agenda at the state level triggered the city of Phoenix for the process of norm domestication via engaging with non-state actors starting in 2010. Lastly, Section 6 builds on the conclusion for further studies.

2 | NORM DOMESTICATION IN MULTI-SCALE PERSPECTIVES FOR LOCAL CLIMATE ACTIONS

International norms are continually contested and somehow institutionalized in negotiated international agreements. For instance, the 2009 Copenhagen Agreement was based on a 2°C temperature control target without long-term emission reductions, whereas the 2015 Paris Agreement, as a legally binding international treaty on climate change, sets long-term mitigation targets and emission constraints (Oberthür & Groen, 2018). Such evolution of climate mitigation norms is influential in diffusing decarbonization policies and targets at the federal and state levels and subsequently domesticated at different local governments. Yet, a city can play an active role in developing its own strategy and action plans for decarbonization (e.g., low-carbon buildings, sustainable urban planning) that may not be adopted by the state administrations. One way to achieve local decarbonization agendas is to have a multi-level urban governance structure capable of co-produced effective climate governance capacities. The emerging scholarship in urban climate governance views decarbonization actions beyond the conventional governance approach and contextualizes urban governance in less institutionalized, multi-actor networks. Thus, developing alliances across multiple levels of governance, from local to international agencies, especially to overcome dominant national authorities' reluctance to take decarbonization actions, are found to be essential (Binz et al., 2020; Caprotti et al., 2020; Emelianoff, 2014; Farla et al., 2012; Jensen et al., 2016). For instance, some cities can directly support and facilitate low carbon actions through local regulations and incentives or, indirectly, by promoting a secure and livable urban lifestyle with moderate housing prices. Los Angeles can be cited as an example in which the mayor committed to tackling carbon emissions even though the federal government of the US withdrew from the Paris Agreement (Hughes, 2019) until the Biden administration. Such decarbonization actions at local levels are deeply related to norm domestication.

However, domestication of a norm has challenges due to the realities of domestic conditions. There might be controversy within progressive local governments and state governments that might not recognize such a new international norm (Acharya, 2004; Capie, 2012; Stevenson, 2013). The conflict between the local and state governments in recognizing an international norm pushes the local administrations toward seeking new collaborations within and beyond state boundaries. Uncovering the types of collaboration and processes for norm domestication in local climate actions requires a framework to understand better the local process in which a norm is localized across a diverse array of institutions. Responding to this lacuna, the following sub-sections introduce the multi-scalar interactions – “spaces of engagement” (Cox, 1998)—based on *local government's interaction with the state*; *local government's interaction with the global networks*; and *local government's interaction with the civil society and universities*. Multi-level interactions are essential to reflect broader landscape features such as local and global trends (Binz et al., 2020; Jensen et al., 2016; Murphy, 2015) and socio-institutional values and cultures (North, 1990).

2.1 | Local government's interaction with the state

States are generally prioritized in norm diffusion literature. They have the legal authority to bind all organizations under their jurisdiction to new international norms, but they can also ensure that norms are incorporated and enforced within their jurisdiction (Acharya, 2004; Checkel, 1997; Dominguez, 2010). Hence, following Schreurs' logic (2008), the interpretation of actions to decarbonize at state and national levels shapes the decarbonization actions at the local level. On the other hand, all the US local governments have some individual authority which is best seen in their ability to levy taxes and fees to generate “own-source revenue” and rights granted by their state constitution (Buettnner & Wildasin, 2006). For instance, a local government in the US can charge people for waste disposal and keep the money to invest in decarbonization actions. Therefore, while the respective roles of state and city administrations' interests might conflict, state administrations do not always serve as an obstacle to their cities' efforts to achieve low carbon transition (e.g., energy efficiency in buildings). Still, it is essential to identify key policy organizations within the state level and assess the impacts of their activity at different levels of governance in terms of hindering or fostering decarbonization-related policy decisions (Yazar & York, 2021). Here, the focus will be given to explore how state-level organizations and their positions in the broader political coalitions affect the decarbonization actions in the state and, consequently, at local levels.

2.2 | Local government's interaction with global networks

In terms of global action for the mitigation of climate change and sustainability transitions, nation-states tend toward competition while cities seek to cooperate (Betsill & Bulkeley, 2007). Cities operate across scales; for example, to cooperate with other global cities, they may share ideas and new visions of decarbonization through transnational rather than national networks. Norm domestication must concentrate on how local governments facilitate decarbonization actions while competing with state interests. Such cooperation between the local and the global city networks is vital in facilitating and hastening the sharing of knowledge for cities that aim to decarbonize but lack the technical capacity and state-level support and guidance. For instance, the Cities Climate Leadership Groups (C40) generates and shares knowledge on how specific urban climate problems can be addressed and provides technical assistance to cities as part of the network. In addition, the “Transition Towns Network,” an international citizen-led organization, provides tools and processes to help citizens to take decarbonization actions (van der Heijden, 2019).

Nevertheless, in federal systems, national governments give most funding to urban infrastructures, such as transportation and public housing (Glaeser, 2012), whereas state governments may limit or encourage decarbonization actions. Policy entrepreneurs also play a significant role in resource allocations. Policy entrepreneurs or climate entrepreneurs (Green, 2017; Mintrom & Luetjens, 2017) act as



“crucial agents of change in the policy process” (Timmermans et al., 2014, p. 97). Identifying their roles within the existing administrative frameworks or socio-institutional structures (Aylett, 2013) at the state level can determine local governments' ability to adopt decarbonization agendas co-created with the global networks. However, some policy entrepreneurs can also jeopardize state and local decision-making processes, such as protecting the existing high-carbon regulations (Khan, 2013) or carrying on fracking activity (Arnold, 2021) due to interests in economic development.

2.3 | Local government's interaction with civil society and universities

Local non-state organizations, such as NGOs or civil society organizations are an essential part of norm domestications at a local level (Acharya, 2004). Universities are also given a pioneering role in information exchange and expertise especially with local governments to tackle multiple and complex climate related issues (Cinar & Coenen, 2022; Knuth et al., 2007; Mosier, 2015). Certain local non-state organizations can already advocate the internal practice of an international norm, but state or local governments might sideline their practices. Studies show that non-state organizations have been actively engaging and facilitating the dissemination of ideas developed at international levels, such as human rights and feminist movements, and relating them to local contexts (Levitt & Merry, 2009; Madsen, 2018). Similarly, the inclusion of civil society organizations, such as grassroots and neighborhood organizations, in decarbonization decision-making facilitates the transfer of knowledge and skills to local communities. Many European cities employ the Smart City Living Lab (SCLL) approach, which brings together different organizations, and provides spaces for decarbonization experiments in buildings and the transport sector (Evans & Karvonen, 2010). Here, it is vital to identify the values and beliefs of civil society organizations and to what extent their diverse knowledge systems and identities are recognized and included within the local actions taken to decarbonize.

3 | THE CASE STUDY AND THE METHODS

3.1 | The city of Phoenix

The city of Phoenix is the capital of the U.S. State of Arizona with a population of 1,6 million (U.S. Census, 2019). As a desert city in Arizona, the city of Phoenix has been tackling extreme heat and flash floods. Nevertheless, the city is a significant regional and global energy consumer and carbon emitter that simultaneously exacerbates the effects of climate change (Yazar et al., 2021). The city of Phoenix has been built around speculation and economic growth for more than a century (York & Boone, 2018). Environmental injustice has been an issue for several generations since minority residents in the city struggle with fragmented neighborhoods, pollution from industrial land use and warehouses, and the freeways (Pope et al., 2016).

The city of Phoenix is administered through a multi-level governance structure in which elected politicians, and policy entrepreneurs, as well as experts and bureaucrats employ political and administrative resources to promote the city's interests (Pierre, 2017) under state legislature. Yet, when it comes to urban planning, Fink (2019) argues that Phoenix tends to go toward top-down governance, where government and businesses play significant roles in decisions with only a weak mechanism for community input through village planning committees (Bernstein et al., 2016; Iwaniec & Wiek, 2014). Stanley (2016) argues that such pro-growth urban political and economic coalition remains yet is modified by the culture and knowledge-driven economic development coupled with the real estate industry in downtown Phoenix. The city of Phoenix has been strongly influenced by state and federal actions, especially in water management, large-scale infrastructures and real estate developments. The top-down urban growth regime, spurred on by the state legislative, removed land-use authority from the municipal government (Gammage et al., 2008) and allowed non-local development capital to gain power over local land-use politics and inevitably focus on higher density infill developments for their lucrative returns. (Stanley, 2016) The above-mentioned services and sectors must also be resilient to the effects of climate change; therefore, they are essential components to effectively implement actions for decarbonization in the city.

The city of Phoenix is an instructive case due to the stark contrasts between the relatively liberal politics of the residents and leaders, at the city level, and the much more conservative attitudes of the rural areas, which dominate the state legislature. This situation in Arizona is found in several other red states, especially in Texas, where progressive attitudes held by the majority of the state's residents (who live in its major cities) are being aggressively suppressed by the rural-dominated legislature whose policies have remained solidly conservative (Stokes, 2020). Arizona, despite having a reputation for being solidly right wing, is relatively moderate. Although the current state legislators in Arizona are dominated by the Republican party politicians who reject efforts to make the state more resilient to climate change (Fink, 2019), the negotiations around the local climate actions in the city of Phoenix and the State of Arizona began in 2005. Democratic Governor Napolitano (2003–2009) advocated actions to combat climate change and supported the public officials in the state and local governments, as well as Arizona State University (ASU) to lead climate action plans. She also provided a safety net for the local government to participate in the transnational network activities and set goals to mitigate the effects of climate change. Besides the example of Janet Napolitano, former Democratic governors, such as Rose Mofford (1988–1991) and Bruce Babbitt (1978–1987), were able to make Arizona an environmental policy leader (Smith, 2002). The progressive decisions on climate change led by the state government provided the impetus for the city of Phoenix to take tangible steps to tackle climate change within its boundaries, starting from 2007.

3.2 | Data and methods

Semi-structured interviews are conducted to ensure a wide range of perspectives on the three identified themes to conceptualize norm

domestication for local decarbonization actions in Phoenix, Arizona. The snowball sample face-to-face interviews were conducted in 2019 between October and December. The remaining interviews were completed through phone and zoom calls due to COVID-19 restrictions in the state of Arizona in 2020. In summary, 13 political elites were interviewed, including two from the Arizona state government, three from the government of the city of Phoenix, five from NGOs and civil society groups, and three from academia who used to consult for the local government regarding the setting of an agenda for decarbonization. Brief anonymized details of respondents' professions and initiated organizations are provided in [Appendix A](#) (Table A1). The collected statements of the interviewees are coded following coding methods developed by Bernard et al. (2016). Each respondent is also given a code, while exemplar quotes from the interviews are presented in the result section. In addition, field notes based on participant observations are included to provide a complete picture of mutual understandings and values.

To complement the qualitative interview data, two primary policy documents were reviewed related to climate change mitigation, the House Bill 2491, and the Senate Bill 1222. Also, the minutes from eight meetings of the Phoenix city Council were examined during the period between 2004 to 2012 - these are the only available online minutes that are related to decarbonization actions. The two policy documents and the meeting minutes allowed the study to better understand the socio-institutional capacity of the advisory groups in sustainability and climate change, and the vision and pathways outlined by the city of Phoenix for decarbonization actions. Ten local climate action plans and strategy documents were also reviewed; specifically, the 2007 Energy Efficiency Actions, the 2009 Climate Action Plan for the city of Phoenix, the 2010 Energize Phoenix, the GHG Inventories from 2005, 2012, 2015, 2016, and 2018, the 2016 Phoenix Transportation Plan (T2050) and the 2020 Climate Action Plan Framework. These documents outline climate mitigation action in the city of Phoenix from 2009 to 2020 (see the list of the reviewed documents in [Appendix B](#) (Table B1)). These secondary data documentary sources allowed this study to ensure a more robust data set, enabling more potent interpretations of norm domestication dynamics in a local context.

4 | RESULTS

4.1 | Local government's interaction with the state

The empirical result highlights how temporal politics and swings in political leadership at the state level affected the direction of the local government to take climate action. The Phoenix city council meeting minutes reveal that the Democrat Governor, Janet Napolitano (2003–2009), established Arizona's Climate Change Advisory Group, which was chaired by the Arizona Department of Environmental Quality. The city of Phoenix served the group, among other technical working groups, to develop a state-level climate action plan [Meeting Minutes no.161459, 2006 & SG1]. In 2007 Energy Efficiency Actions adopted

by the State and the House Bill 2491 was signed to extend the solar energy tax credit to manufacturers and to those who install solar devices. Meanwhile, in 2007, the Western Governors' Association, consisting of the states of California, Washington, Oregon, New Mexico, and Arizona, agreed to create a regional cap and trade program for greenhouse gases. The Governor issued an executive order concerning Climate Change Action for the years 2006 to 2013, which set a goal to reduce GHG emissions in Arizona. In a state-level meeting, Stephen Ahearn, the former Director of the Arizona Residential Utility Consumer Office, told the participants, “*Governor Napolitano is treating the climate change issue with similar priority as immigration*” [Meeting Minutes no.164608, 2007].

In 2007, the city of Phoenix endorsed the Governor of Arizona's goal to reduce statewide greenhouse gas (GHG) emission to a level of 2000 emissions by 2020 and 50 percent below 2000 emissions by 2040. In 2007, the office of environmental programs worked with finance department to re-allocate funds for a climate action plan. The city hired a consultant company to make a GHG inventory and it became a member city of the ICLEI (Local Governments for Sustainability), an international NGO. ICLEI provided software to conduct an emissions inventory and accelerated the planning process [PHX1]. “*The 2009 Climate Action Plan for the city of Phoenix focused on reducing GHG from its facilities as the city of Phoenix would not have a direct impact on the industries – they are not regulated by the city – that are the primary source of emissions* [PHX2].” The city of Phoenix meeting minutes shows that the City Council opposed making any decision about a resolution that agrees with the Kyoto Protocol goals but expressed support for conducting an inventory and setting a target for the city.

An interview with a former public official who worked in the city of Phoenix argued that “*everything has been gone backward after Governor Napolitano* [A1].” In 2009, Jan Brewer, who “*is a Republican and not just a Republican but a very right-wing Republican and total denier of climate change* [A2],” became Governor for the years 2009–2015. In 2009, the Governor signed bills to prohibit the Department of Environmental Quality in Arizona from reducing greenhouse gas emissions unless explicitly authorized by the legislature. An interviewee [SG2] mentioned that before Governor Napolitano's term ended, she authorized the Department of Environmental Quality to review the clean car standards as the State of Arizona was on track to adopt the California clean-car standard, which would help to reduce emissions from transport. Governor Brewer also pulled the state out of the Western Governors' Association. Such changes in the state government eventually affected the city of Phoenix and its climate mitigation targets; as one interviewee mentioned, “*the mayor cannot unilaterally say energy-efficient streetlights! You got to work it through the system* [PHX3].”

The data gathered from the interviews also suggest that there have been numerous executive orders from the state legislature that have hindered local government from accomplishing more to address either climate change or waste disposal and its management. For instance, for a while, during Napolitano's tenure, Arizona Public Service (APS), the largest utility in the State, and its parent company Pinnacle West were also moving in a pro-renewable direction, thanks

to their environmentally progressive VP, Ed Fox. However, the politics of the state forced APS to take more conservative positions, even though utilities in other states had shown that it is possible to be profitable and green. Also, the state government prohibited local governments from limiting, banning, or putting fees on plastic bags and other disposable containers [A1, PHX1, PHX2]. More recently, in 2020, the state government passed Senate Bill 1222, which prevents local governments from changing city building codes for energy efficiency and stops them limiting gas expansion into existing and new construction and infrastructure projects.

4.2 | Local government's interaction with global networks

The reviewed meeting documents and the conducted interviews show that the policy entrepreneurs, or pro-climate action organizations, in the State of Arizona and the city of Phoenix gathered mainly for energy efficiency, to achieve global climate mitigation targets. On the other hand, more anti-climate change policy entrepreneurs in the State of Arizona played significant roles in prohibiting progressive agendas and ambitions that pro-climate agencies support.¹ For instance, in 2008, Sandra Kennedy was elected to the Arizona Corporation Commission, a public utilities commission. She worked with the Republican majority led by Kris Mayes to advance Arizona's solar energy and energy efficiency. Kris Mayes was a Republican, and she was the chairwoman who was an advocate for energy efficiency and renewable energy standards. According to one interviewee, *"it was a pretty big deal at the time, and she pissed many people off [A3]."* However, the standards suggested by Mayes and supported by Kennedy were not implemented. The interview data suggest that APS and Pinnacle West are the most prominent lobbyists of Republican regulators to prevent any actions that hinder their services in the State. In 2018, Sandra Kennedy was re-elected to the Corporation Commission with an agenda to lower utility rate increases and create more solar (roof solar panels) and renewable energy in Arizona [N1].

Such political tensions around decarbonization actions at the state level were also reflected in local governments' interaction with the global city networks. In 2011, the City Council withdrew its membership from ICLEI as the Council did not support paying a membership fee to the network [PHX1]. However, ASU faculty and staff supplied the two mayors, Phil Gordon (2004–2011) and Greg Stanton (2012–2018), with background information needed to underpin sustainability and climate change objectives. An interviewee indicated that the president of ASU and the head of the Global Institute of Sustainability at that time collaborated with Mayor Stanton and appointed a sustainability officer whose salary was covered by ASU. According to the interviewee, *"before Mayor Stanton, the city of Phoenix had been technically doing sustainability, however it was mainly small scale operational and not strategic in future orientation [A1]."* In fact, the "Energize Phoenix" project (2010–2013), which was part of the U.S. Department of Energy's Better Buildings Neighborhood Program and the American Recovery and Reinvestment Act of

2009, started in the later term of Mayor Gordon and ended in the early term of Mayor Stanton. It was led by a collaboration of the City of Phoenix, ASU, and APS. The project created a sustainable large-scale model of urban energy efficiency in a 10-square-mile urban corridor of Phoenix. It stretched along the newly constructed Metro light rail and upgraded 1700 residential units, 30 million square feet of commercial, industrial, and institutional spaces, and reduced carbon emissions by 50,000 metric tons per year (Energize Phoenix, 2013).

In 2018, the former Mayor, Greg Stanton, indicated that even though the federal government had withdrawn from the Paris Agreement, *"the city would remain committed to the agreement's goals (The city of Phoenix, 2018)."* Indeed, GHG emission reductions were given priority in the city-wide government operations. For instance, GHG emission reductions were achieved in 2018 (1.7% below the levels in 2015 and 15.4% below those in 2005). Since 2005, the city has invested \$600 million in climate mitigation actions; specifically in the replacing the LED streetlights, GHG-reductions in compost and biogas facilities (e.g., the 27th Avenue Compost Facility to divert material from the landfill and the installation of methane capture systems), ongoing retrofits to reduce energy use in the municipal buildings, cool pavement installments, solar power facilities (e.g., the Lake Pleasant solar installation) to reduce the amount of electricity the City purchases from the electricity grid. They also extended bus and paratransit operating hours as well as increasing local bus frequency through the incorporation of alternative fuels into the vehicle fleet fuel portfolio (The 2018 GHG Inventory). The current Mayor of the city of Phoenix, Kate Gallego, who used to be a member of Arizona's Climate Change Advisory Group and the Sustainability officer, is also an advocate of climate change actions. An interviewee said, *"I think she understands that this is not just about ego protection. Sustainability and climate policy are good for all people, and it is also good for businesses [A2]."* In 2019, the mayor signed the commitment to become part of C40 – Cities Climate Leadership Group.

4.3 | Local government's interaction with civil society and universities

The interviews with the NGOs and civil society groups showed that the grassroots organizations in the city of Phoenix are emerging in terms of supporting energy efficiency and the dissemination of information among community members, addressing climate change-related challenges that affect vulnerable populations. For instance, some civil society groups that work in the Phoenix Union High School District, the largest high school district in the state, unveiled a new zero-emission electric bus [C1]. They also partnered with other local school districts to build infrastructure to replicate zero-emission electric buses. Some local groups and organizations pressured utilities to be more responsive to the public needs; one interviewee indicated that utility companies *"have the sole power to make so many choices about our clean energy future [C2]."* To increase public awareness, some grassroots trained promoters, known as community advocates, who share information related to the history of environmental

movements in the US, the high level of air pollution in the south side of Phoenix, and energy efficiency by organizing events in churches or schools [C3].

Civil society organizations also conducted lobbying activism and promoted pro-climate change policy support for the Arizona Corporation Commission, putting pressure on the City Council to recognize climate change emergencies in the city. Chiapas and Sierra Club, for instance, supported climate champions via their political action committee, which recently endorsed the election of Sandra Kennedy to the Corporation Commission [N2 & C1]. Chiapas also worked with state leaders to advance legislation prohibiting monopoly utilities from investing in their regulators. In addition, the League of Conservation Voters, a national umbrella organization, worked with Chiapas and created scorecards which record where federal delegations stand on environmental votes which then allows the public to monitor the federal government's decisions about the environment and climate change. The younger generation also actively put pressure on local governments to adopt new climate resiliency plans and declare climate emergencies. Most well-established NGOs and civil society groups encouraged and supported youth strikes. Extinction Rebellion, Sunrise Movement Phoenix, and the Sierra Club have recently requested a declaration from the Phoenix City Council to pass a resolution with the declaration of a climate emergency and commit to entirely carbon-neutral goals by 2030 [N1]. An interviewee from an NGO indicated that the Commission's public hearings are limited to professional groups such as lawyers or lobbyists; therefore, the representations of NGOs or civil societies would be prevented. *"Everybody that goes to those meetings is paid to be there. Moreover, that is horrifying. If you are from the Navajo Nation, you are not going to be heard in that process [N1]."*

Also highlighted in Section 4.2, one key institution and player in the city of Phoenix is Arizona State University (ASU) and its president, Michael Crow. More so than in any other U.S. city, ASU has had a dominant impact on economic development and public policy in Phoenix (Fink, 2011). One of the interesting aspects of Crow's long tenure as ASU's president, since 2002, is that he has had to navigate a tricky landscape in which the university's largest funder continues to be the state legislature, while the university's greatest international reputation comes from its work in sustainability, a term the legislature abhors. Crow has maneuvered through this potential minefield mainly by diversifying funding sources, getting money from philanthropy, federal grants and, uniquely in 2006, from a citywide \$400 M+ bond issue to help build the university a downtown Phoenix campus. This was the first time in US history that a local government funded the urban expansion of a state university campus. During Crow's first decade in office, many of the 25 cities in Metro Phoenix also lobbied to get their own local branch of the ASU franchise to get its economic development and workforce benefits. However, Crow has also taken advantage of political opportunities when they arise, for instance, during Janet Napolitano's governorship, the Governor and the president of ASU formed a powerful alliance that implemented many of the policies related to sustainability and climate change (Fink, 2011).

5 | DISCUSSION

This article presents a framework that focuses on the multi-scale nature of norm domestication.

It does so via an in-depth analysis of how global decarbonization norms are adapted by the city of Phoenix under the shadow of the state of Arizona. Based on the three themes identified in the norm diffusion and urban climate governance literature: (1) local government's interaction with the state, (2) local government's interaction with global networks, (3) local government's interaction with civil society and universities, challenges are identified for putting norm domestication into action for effective local decarbonization. The empirical results show that the adoption of climate actions in a local municipality in Arizona is highly related to two important temporal politics, "a lively and relational understanding of space that is considered in tandem with time (Massey, 2005 cited in Yong, 2021, p. 9)" that affected the role of the city of Phoenix in leading climate actions.

First, the emergence of climate actions is directly shaped by the state as a norm through state-level political leadership under the Democratic governor who was more open to political and policy learning on climate change between 2003 and 2009. Thus, there was limited uptake by more local organizations at the municipal level during this period as the climate action practices and decision-making processes were taken care of by the state administration (norm diffusion). During Governor Napolitano's term, the state government's work for climate change appears to be strongly connected to national, as well as regional collaborations with other states and sub-state authorities. The state had begun working to disseminate the potential decarbonization actions by joining regional networks and learning from other states that are pioneers in climate actions. Meanwhile, the tighter collaboration between the state and the local administrations in Arizona seemed potentially favorable as both were in the process of domesticating decarbonization actions. In such a political and administrative environment, the local government remained more of a policy taker, adapting decisions taken by state-level policymakers. Climate governance, therefore, consisted of state-driven politicians and administrative aides who kept climate change away from the political discourse (e.g., climate change denial, or far-right skepticism of climate change) and focused on aligning with the global mitigation targets.

On the contrary, under the subsequent period of Republican leadership at the state level, climate change actions were gradually phased out. Consequently, municipal leadership and civil society groups deal with the state level politics to maneuver the complex system of climate governance in the state of Arizona. With more conservative governors like Doug Ducey, the local government (also collaborating with ASU) tries to find some common ground. This is usually related to the nonpartisan goals of economic development and workforce enhancements and in so doing depoliticize climate change from the formal governance channels. The newly elected mayor of Phoenix, Kate Gallego, for instance, came to office with a new vision for the city, including climate change actions, such as investing in energy-efficient social housing and green infrastructure, especially for vulnerable communities. Even though the new mayor's actions and commitments to climate change offer potential, seeking

financial support from the state remains challenging as the city's authority is limited by the state legislators. Also, local decarbonization pathways are mediated by the existing infrastructure and the underlying socio-technical systems (Bulkeley et al., 2014). In this sense, the seemingly arbitrary decisions made in the state via hard regulatory state policies, ultimately determine the conditions for local decarbonization in the city of Phoenix. The state government's political constellations and economic growth priorities, coupled with the technical infrastructure conditions of the city, inevitably confine decarbonization actions to new infrastructure. Consequently, norm domestication in the city of Phoenix is confined to the implementation of rapid solutions on top of the existing infrastructure, rather than expecting a spill over effect by requiring retrofitting the existing socio-technical systems.

Although the local government has adopted a climate change agenda aimed specifically at addressing the heat issue, such as creating an Office of Heat Response & Mitigation in Phoenix in collaboration with ASU (The City of Phoenix, 2021), a lack of political power in decision-making increases injustices (Bolin et al., 2013; Yazar & York, 2022). Thus, the local government reinforces the state's climate denial approach by enacting policies with "less debate, little altered from what is worked out by the City Council and private sector... make Phoenix conducive to more rapid, sequential, single-loop learning about climate change (Fink, 2019, p. 23)." Norm domestication implemented from bottom-up (e.g., non-state organizations including scientists, civil and local organizations) could offer a diagnosis and path forward that answers the call for co-producing inclusive local decarbonization actions.

The empirical results also highlight actions for climate change, as a political act, is best carried out by the civil society organizations through petitions, organized protests, and shaming politicians who deny climate change. Yet, activists' demands for the climate emergency in the state is being actively thwarted by an increasingly radicalized Republican Party. In addition, the recognition of vulnerable communities and community organizations is overlooked or sometimes ignored in public hearings and decision-making both at local and state levels, which in turn creates another obstacle to domesticating local decarbonization actions effectively in the city of Phoenix. Such downsides also indicate that the practice of democracy at the state and local levels is under threat and climate change policy is one of the most important victims of this situation (along with other issues such as tax policy, gun control and abortion).

Overall, the form of multi-level climate governance is redefined by the time frame of the state leadership in Arizona. More importantly, the temporal politics and its strong influence on the prospects of climate actions at the local level are subjects to depoliticization of climate change from the higher-level governance structures. Multi-level interactions during Napolitano's term advanced climate norm diffusion and provided a safety net and an impetus to the local organizations seeking norm domestication opportunities. Navigating climate change actions in the complex and multi-scale governance structure, especially in cities where extreme weather events already exacerbate environmental inequalities, requires closer attention to capture tensions in norm diffusion from the state levels versus norm domestication uptakes at the local levels. In this study, there are clear signs of norm domestication efforts that are being

made by the local government and non-state organizations, either through using shadow networks (York & Yazar, 2022) at the state level bureaucracy or issue salience. Yet, several climate governance challenges remain, especially multiple stakeholders' participation in the formal governance structure and contributing to climate policymaking.

6 | CONCLUSION

This study highlights the need for the multi-scale nature of norm domestication for local climate actions, especially to better understand how temporal politics and political leaderships reveal key roles in climate governance and power in decision-making. The political polarization of climate change triggered by right-wing populist parties affects the role of progressive local governments to implement climate actions. Therefore, norm domestication may help researchers to explore how city governments, especially those that are under right-wing populist national leaderships, navigate local climate actions by engaging multiple organizations within and outside their jurisdictions. Norm domestication for local decarbonization requires purposeful actions, implying changes in the existing local and state administrations. Addressing city-wide priorities and infrastructural challenges for decarbonization requires the creation of a new platform in which state and local government and non-state organizations interact. Such interactions allow the discussion of norm domestication regarding what a city needs to retrofit to achieve low-carbon futures. Non-state organizations can facilitate this process by identifying the most pressing challenges in the current socio-technical systems that need reconfiguration for decarbonization.

By employing the multi-scalar interactions using the norm domestication lens for urban decarbonization pathways, this study finds that the city of Phoenix, a large urban center in a Republican-led state, could be more progressive and climate-action oriented than the state and state leadership. Nevertheless, the deciding factor in whether a purple state like Arizona enacts pro or anti-climate policies is the party affiliation of the Governor. The empirical evidence suggests that urban decarbonization interests (e.g., local governments' administrative functions) and urban infrastructure (e.g., building stock, transportation, and urban planning) reside outside the state government's approach to socio-technical reconfiguration. The identified multi-scalar interactions in norm domestication toward local decarbonization actions can help other cities. This is especially true for those outside the western context, where such decarbonization targets are new, and may experiment with low-carbon transition pathways differently. Thus, more research is needed to better understand cities under different governance and national structures and to what extent their administrative contexts hinder or foster the transfer, incorporations, and integrations of international norms in their localities.

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ORCID

Mahir Yazar  <https://orcid.org/0000-0002-8863-6024>

ENDNOTE

¹ Out of state political activists also have a history of using Arizona to try right-wing policies through ballot initiatives.

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APPENDIX A

TABLE A1 Description of interviewee's sectors and positions

Identified codes for the interviewees	Sectors	Positions
SG1	State government	Officer, the Arizona Department of Environmental Quality
SG2	State government	Officer, the Arizona Department of Environmental Quality
PHX1	The city of Phoenix	Environmental Engineer, the city of Phoenix
PHX2	The city of Phoenix	Attorney, the city of Phoenix
PHX3	The city of Phoenix	Urban Planner, the city of Phoenix
C1	Civil Society	Founder, urban planning community organization
C2	Civil Society	Staff member
C3	Civil Society	Project Manager
N1	NGOs	Founder/social entrepreneur
N2	NGOs	Founder/social entrepreneur
A1	Academia	Part-time Lecturer/Former consultant to the city of Phoenix
A2	Academia	Part-time Lecturer/Trainer for Local Sustainability Actions
A3	Academia	Faculty Member/Former board member for energy transition at the city of Phoenix

APPENDIX B

TABLE B1 Reviewed documents for this study

Documents name	Access links
The House Bill 2491	https://www.azleg.gov/legtext/48leg/1r/bills/hb2491h.pdf
The Senate Bill 1222	https://legiscan.com/AZ/text/SB1222/id/2140466
The 2007 Solar & Other Renewable Energy Resources Subcommittee Phoenix Environmental Quality Commission Minutes (164608)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=O8CC2bfXmX145/QTOHFnOkIs8/GCYZKulxXW4xfuz38=
The 2007 Solar & Other Renewable Energy Resources Subcommittee Phoenix Environmental Quality Commission Minutes (164607)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=0ALxhzv8Ldsv4qY7BOsnTtRhaftlVIZRO+itTv4bRM=
The 2007 City of Phoenix City Council Sustainability Subcommittee (160473)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=5MHto9ghPWWVtehmCT5e9GczW+5V7e0JVQ5GkMgPX3rg=
The 2007 City Council Report Sustainability Subcommittee (161535)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=tnsOzo/PKRSHMkIZX9TPuFSOL8Y+1VyGNoLxLzMd5I=
The 2007 City of Phoenix City Council Sustainability Subcommittee (160472)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=byCPy+fVjlkfj8yNOS3UO7yNNDv6ln+hhBci4417KJg=
The 2007 City of Phoenix City Council Sustainability Subcommittee (161459)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=r80hx6lcvxzXSLzXo1GTxVyZa78Tlzs9A6YYd8B2x5U=
The 2012 City Council Report (172634)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=jd63ETmourvHjUa1jM205fO3AexwGHA3WVnJWbDRm/c=
The 2012 City Council Report Finance, Efficiency, Innovation and Sustainability (172486)	https://apps-secure.phoenix.gov/PublicRecordsSearch/Home/RenderPDF/?id=fote6ycWa7gqaQS5auoRxicQxK1cEyMuBVvK5TPHLck=
The 2007 Energy Efficiency Actions	https://www.phoenix.gov/oepsite/Documents/d_029824.pdf#search=2007%20Energy%20Efficiency%20Actions
The 2009 Climate Action Plan	https://www.phoenix.gov/oepsite/Documents/ACTION%20PLAN%20-%20%20FINAL.pdf
The 2010 Energize Phoenix (2010–2013)	Year 1: https://www.phoenix.gov/oepsite/Documents/102273.pdf Year 2: https://www.phoenix.gov/publicworkssite/Documents/energizephxyear2report.pdf#search=energy%20efficiency%20action Year 3: https://static.sustainability.asu.edu/giosMS-uploads/sites/22/2016/07/Energize-Phoenix-YR3-Report2.pdf
The GHG Inventories from 2005, 2012, 2015, 2016 and 2018	2005: https://www.phoenix.gov/oepsite/Documents/d_027157.pdf 2012: https://www.phoenix.gov/oepsite/Documents/2012%20City%20of%20Phoenix%20Community%20GHG%20FINAL%20Report.pdf 2015: https://www.phoenix.gov/oepsite/Documents/2015%20City%20of%20Phoenix%20GHG%20Report%20FINAL%20Comprehensive%20REPORT-072916.pdf 2016: https://www.phoenix.gov/oepsite/Documents/FINAL%202016%20PHOENIX%20COMMUNITY%20GHG%20INVENTORY%20COMPREHENSIVE%20REPORT.pdf 2018: https://www.phoenix.gov/oepsite/Documents/2018_City_of_Phoenix_Govt_Ops_GHG_Report_FINAL.pdf
The 2016 Phoenix Transportation Plan	https://www.phoenix.gov/t2050/overview
The 2020 Climate Action Plan	https://www.phoenix.gov/oepsite/Documents/COP039%20Climate%20Action%20Plan_FIN_HR.pdf