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SEEN BUT OVERLOOKED? THE EMERGENCE OF REGIONAL LEADERSHIP IN POLYCENTRIC CLIMATE GOVERNANCE AFTER PARIS

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Abstract

As the Paris Agreement formalized a climate regime transition towards a more polycentric approach, non-state agents have been perceived as influential actors in global climate governance. Observing the implementation of climate targets by regional governments in federal or decentralized systems, the dynamics of climate leadership are also being defined by these actors. While recent literature recognized the emergence of such dynamics in increasingly polycentric structures, the consideration of regional action in the domain of climate leadership demonstrates a shortage of conceptual and empirical studies. Reviewing the existent references on polycentric governance, but also climate leadership, this paper is guided by two goals: (i) to problematize and acknowledge the literature gap on the phenomenon of regional leadership in global climate governance; and (ii) justify the relevance and need of developing such study.

Keywords

Paris Agreement, Polycentric Governance, Regional Climate Leadership.

Resumo

O Acordo de Paris formalizou uma transição do regime climático para uma abordagem mais policêntrica que reconhece os agentes não estatais como atores influentes na governação climática global. Tendo em conta a implementação de metas climáticas por governos regionais em sistemas federais ou descentralizados, as dinâmicas da liderança climática também estão a ser definidas por estes atores. Embora a literatura reconheça o surgimento de dinâmicas de liderança alternativas em estruturas cada vez mais policêntricas, poucos estudos analisam a ação regional no domínio do clima quer através de estudos conceptuais ou empíricos. Revendo as referências existentes sobre governação policêntrica, mas também sobre liderança climática, este artigo é guiado por dois objetivos: (i) problematizar e reconhecer a lacuna na

literatura sobre o fenómeno da liderança regional na governação climática global; e (ii) justificar a relevância e necessidade do desenvolvimento deste mesmo estudo.

Palavras chave
Acordo de Paris; Governação Policêntrica; Liderança Climática Regional

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Introduction

Global climate governance is currently a fast-changing domain denoting dispersed and multilevel patterns of initiatives by a wide range of actors (Jordan *et al*., 2015). Described by Ostrom (2010) as the emergence of a polycentric environment, recent developments within the international climate regime (Falkner *et al.*, 2010; Hickman, 2015; Jordan *et al.*, 2018) confirm the trends of greater polycentricity by acknowledging the role of non-state actors, namely regional governments. Although recent literature in the field acknowledges such premise (Bulkeley, 2014; Liefferink and Wurzel, 2017; Jordan *et al.,* 2018), little research has addressed the role of regional climate leadership in a polycentric context.

According to the 2022 Intergovernmental Panel on Climate Change (IPCC), there is an urgency for climate action to take place at multiple governmental levels and calls for efforts far beyond current international, supranational, national, and sub-national commitments. Considering the failure of monocentric (*i.e.,* action by the state as a unitary power) solutions up to the Kyoto Protocol, the Paris Agreement has acknowledged the need for a more polycentric (*i.e.,* state and non-state action in a multilevel context) climate regime. It has done so by encouraging climate efforts of non-state actors or, in other words, Paris has recognized the agency of independent units *beyond the state* (supranational, regional, local, public, and private) in the effective long-term response to climate change (Hale, 2016). In this framework, and observing the increased activity of climate agency by regional governments in federal contexts towards the implementation of climate goals, we notice the emergence of regional climate leadership in polycentric governance. In other words, a functional need has opened an opportunity for regional actors within federal political systems, to position themselves as agents who influence the course of global climate governance, thus acting *beyond* the state.

In what the literature is concerned, there has been a general acknowledgment of non-state actors as important entities in the governance of climate change, while noting a contextual opportunity for these to perform climate leadership *beyond the state* (Jordan

et al., 2015; Jordan *et al.*, 2018; Dorsch and Flachsland, 2017; Liefferink and Wurzel, 2017; Wurzel *et al.*, 2019). Being recent and still evolving domains, research on polycentric climate governance (Jordan *et al.*, 2018) and general climate leadership (Liefferink and Wurzel, 2017) literature have been dedicated to the development of theoretical and conceptual knowledge while empirical observations have briefly considered the role of local governments (*i.e.*, the lower level of administration within a given state such as municipalities or cities.) as well as private entities (*i..e.*, individuals or collectivities who are not state-controlled or affiliated such as civil society, NGOs, and companies). Although contributions in describing and explaining the structural intricacies of an emerging climate governance reality have been significant, this paper acknowledges that the current state of the art is still lacking a conceptual framework that effectively captures regional climate leadership in both theoretical and empirical terms.

In sum, this paper is guided by two objectives: first, the identification of a literature gap concerning regional climate action and, more specifically the phenomenon of regional climate leadership; second, justify the relevance of proceeding with such study concerning both conceptual and empirical analysis. The remainder of this article is divided into four different parts: to start with, we contextualize and locate a favorable context for the emergence of regional climate leadership; in second place, a literature review on climate leadership within polycentric governance is presented to identify a gap; in second place, we demonstrate the importance of considering the role of regional actors in climate leadership within a polycentric context while also presenting its conceptual framing; in the following section we briefly analyze empirical evidence from Québec and California on the emergence of the phenomenon; finally, we close the article with a summary of our major arguments and point future research paths.

1. The climate regime: An opportunity for leadership *beyond* the state

As noticed in the literature (Stripple and Stephan, 2013; Bulkeley *et al*., 2014; Jacobs, 2019), shifts are taking place in the governance of climate affairs as part of broader changes in the international system. Within this context, the Paris Agreement is deemed to have formalized important developments in the climate regime when considering its institutionalization of governance *beyond the state* (Jordan *et al.*, 2015; Dorsch and Flachsland, 2017; Pattberg and Widerberg, 2017; Jordan *et al.*, 2018).

Established in 1992, the United Nations Framework Convention on Climate Change (UNFCCC), sets the global framework that deals with the global climate system and, particularly, with the mitigation of global climate change. In other words, the UNFCCC represents the international climate regime which, in Krasner's (1982: 185) words, consists of *principles, norms, rules, and decision-making procedures around which actor expectations converge* in the domain of climate. While the UNFCCC sets the broad principles and norms of the climate regime, specifications on its rules and procedures have been defined in its foundational agreements: the Kyoto Protocol (1997), and second, the Paris Agreement (2015) which, emerged to replace the guidelines previously established in the 1990s. As Paris abandoned Kyoto's monocentric approach (i.e., action controlled by a single unitary power (Aligica and Tarko, 2012: 244), the rules and

procedures of climate governance have adopted polycentric guidelines (i.e., multilevel patterns of governing (Ostrom, 2010a) therefore, unfolding a paradigm transition in climate politics (Jordan et al., 2018: 135).

Paris Agreement, article 7th, (2015) acknowledges the broadening universe of international affairs as complex and fragmented by noting that climate change is a global challenge faced by all with local, subnational, national, regional, and international dimensions and that it is a key component of and makes a contribution to the long-term global response to climate change (United Nations, 2015: 9). Essentially, Paris formalizes a transition from a regulatory, state-centered approach to a more fragmented environment (Hale, 2016: 12), or, in other words, a shift from a monocentric to a polycentric governance approach (Jordan et al., 2018) in terms of regime rules and decision-making procedures.

The central condition of polycentricity notes that political authority is dispersed among separate units in a fragmented governance context with overlapping jurisdictions, but which do not stand in a hierarchical relationship to each other (Skelcher, 2005: 89). In such environment where several entities have their independent agency recognized (Ostrom, 2010a: 552), we first hold that polycentricity offers a considerable opportunity for the involved units to be influential actors in climate governance (Wurzel *et al.*, 2019). Second, besides opening an opportunity for an independent agency of entities, polycentric governance also generates dynamics that amplify the action and impact of the relatively autonomous units who wish to perform self-governance in this context: as units maintain relations among themselves (Jordan et al., 2018: 147), *they take each other into account in competitive relationships, enter into various contractual and cooperative undertakings or have recourse to central mechanisms to resolve conflicts* (Ostrom *et al.,* 1961: 831); they build a polycentric system that enhances *innovation, learning, adaptation, trustworthiness, levels of cooperation of participants, and the achievement of more effective, equitable, and sustainable outcomes at multiple scales* (Ostrom, 2010: 552).

In this context of paradigm transition in the climate regime, we apprehend that regional governments may take advantage of an opportunity to become more autonomous in the implementation of global climate targets beyond the nation-state by performing climate leadership. This paper considers the noticeable role of regional governments in this transformational process toward polycentric governance in the climate arena (Bulkeley *et al*., 2014: 55).

2. Leadership in polycentric climate governance: a literature review

Acknowledging the literature calls to understand an emerging reality in the domain of climate change as part of broader shifts in global politics (Hoffmann, 2011 and 2013; Bulkeley *et al*., 2013; Falkner, 2016), our research relies on the existing literature of polycentricity and climate leadership to identify and understand a new phenomenon entitled regional climate leadership.

As the arena of climate change started reflecting larger trends in global politics (Hale and Held, 2011), subnational governments (regional and local), non-governmental organizations, business, individual, and non-state actors, in general, are recognized to be taking responsibility and adopting new approaches in the governance of climate change (Bulkeley *et al.*, 2014). Considering this fact, the literature has also reflected a shift from state-centered classical approaches (Barret, 2005; Hare *et al.*, 2010) towards an academic debate that considers new forms of climate governance by looking at vertical and horizontal dynamics through which is taking place (Dorsch and Flachsland, 2017). With the intent of bridging a wide set of proliferating concepts to describe an emerging reality of complex dynamics (regime complex, fragmented governance, transnational climate governance), Elinor Ostrom (2010) dedicated her last work to climate change and suggested the rescue of the term polycentricity[1] as an analytical approach to understand an emerging structure of climate governance and what efforts can be improved to face this threat (Dorsch and Flachsland, 2017: 47).

Given that there was potential to generate co-benefits through climate actions occurring at multiple scales (Ostrom, 2010b; Ostrom 2012), Ostrom notices the emergence of spontaneous, dispersed, and multilevel governing dynamics from bottom-up sources, below and alongside the UNFCCC. In her work, Ostrom (2010) described '*polycentric systems as multiple governing authorities at different scales (…) each unit exercises considerable independence to make norms and rules within a specific domain* (Ostrom, 2010: 552). Ostrom's conception of polycentric systems, reveals a broader framework by precisely considering the relationship between the various levels, units, and domains (Jordan *et al.*, 2018: 5) that do not necessarily replace each other. Considering Paris' encouragement of new forms of governing such as annual events and technical expert meetings, enrollment of non-state and subnational actors in emission commitments, and then the introduction of the Nationally Determined Contributions (NDCs) by states, the UNFCCC is being observed by recent scholarship as increasingly reflecting polycentric governance. Interestingly, Liefferink and Wurzel (2017) notice that polycentric conditions offer great potential for climate leadership opportunities to a large universe of actors. In addition, Wurzel *et al.* (2019) and Wurzel *et al.* (2021) also note the relevance of MLG and polycentric framework lenses to understand how different actors employ leadership and for what purposes.

In the specific domain of climate leadership in polycentric contexts, the work of Liefferink and Wurzel (2017) and Wurzel *et al.* (2019) made significant contributions: (1) clarification of concepts (leaders, pioneers, laggards, and followers); (2) delimitating and reorganizing a set of analytical distinctions (positioning of leaders and pioneers according to their internal and external environmental ambitions). Liefferink and Wurzel (2017) suggest a two-level matrix to qualify states' environmental policies and therefore, identify leadership (Table 1). They distinguish actors according to their internal 'face' – the environmental ambitions of domestic policies – and their external 'face' – the

[1] Having been mentioned in 1961 by Vincent Ostrom in the context of metropolitan governance, he used the term 'polycentric systems' to identify a system of public services (or goods) that may be provided by different agencies that are self-organized by a variety of actors in urban American environments (Jordan *et al.*, 2018: 4).

environmental ambitions displayed in their foreign policy: (a) Laggards have low internal and external policy intentions; (b) pioneers are ahead of the pack (first-movers) regarding their domestic policies, but do not have a direct intention to influence followers in international dimension although they do it unintentionally by setting an example; (c) symbolic leaders are demonstrative in the international sphere, but are not consequential in their domestic policies; (d) pushers take the lead domestically by setting the highest climate standards regardless of any conditioners, and intentionally lobby other actors to follow their example. Within this frame of reference, the phenomenon of climate leadership includes the behavior of pushers and pioneers, actors who are either first movers or who set the highest policy ambitions while influencing the course of climate governance internally and externally in an indirect (pioneers) or direct way (pushers).

Table 1. Ambitions and Positions of Environmental Actors

	Internal 'face'	
External 'face'	Low internal environmental ambitions	High internal environmental ambitions
Low external environmental ambitions	(a) Laggard	(b) Pioneer
High external environmental ambitions	(c) Symbolic leader	(d) Pusher

Source: Lieferink and Wurzel, 2017.

The grounding framework of climate leadership conceived by Liefferink and Wurzel (2017) is an important starting point for looking at the internal and external angles of the phenomenon. However, when considering its application to regional leadership in climate governance, we acknowledge that its conception in terms of internal and external ambitions (i.e., followers' attraction or not) still leaves much to be said on how these specific actors express their climate leadership. Briefly, an important political dimension is missing concerning how regional federal actors take advantage of Paris to fulfill climate leadership.

Despite the importance of recent literature developments, both in the domain of polycentric governance and climate leadership, little research has been dedicated to a deeper conceptual development of climate leadership under polycentric conditions and, in what concerns the role of regional governments, particularly within federal systems, no study has been pursued. As such, our contribution is to acknowledge the literature gap while noticing the relevance of studying an emerging phenomenon that has not been contemplated yet.

3. Regional climate leadership as politics of self-governance

3.1. Regional climate leadership as the 'capacity' to lead

As polycentricity explains how a regime shift slowly takes place, it also acknowledges that a considerable number of entities in the international system are exposed to the opportunity to influence a specific issue field like climate change (Jordan *et al.*, 2018: 136). As the role of federal regions has not been studied through such a prism, nor applied, more specifically, by the framework of climate leadership, the subtle emergence of a phenomenon has been seen but overlooked by these fields: regional climate leadership.

To begin with, the regional level of analysis is of considerable importance for the successful implementation of climate targets. The term 'region' refers to the *territorial unit immediately below the sovereign state* (Kuznetsov, 2015: 22), more precisely, entities *situated between the local and national levels with a capacity for authoritative decision-making* (Hooghe *et al.*, 2010: 4). Although climate goals and ambitions are defined and discussed at the international level, their implementation falls within the scope of action of each state and, within each state, of their respective subnational entities. To this end, the specific level of governance that has a central role to play in climate change policies is regional, particularly federated regions where there is the autonomy of action in a set of legislative/administrative powers of climate-related selected sectors/policies. Their closer proximity to citizens, their greater flexibility than national governments, and the fact that they are responsible for many of the policy areas involved in climate policies (energy, transport, industry, housing, environment) explain the importance of regional governments in the implementation of climate policy (Cittadino *et al.* 2022). For example, the regional governments of California and Quebec have been highly active during the last decades in evidencing their potential for coordinated efforts at all levels of governance by developing their climate policies while, many times, acting at the forefront of national policy targets (Chaloux, 2016; Leffel, 2018; Chaloux *et al.* 2022).

According to Galarraga *et al.* (2011), there are important reasons to consider regional governments as vital actors for the effective implementation of global climate targets. To start with, regional bodies are often the main implementing level for global agreements on climate change policies considering their range of responsibilities particularly in decentralized states where several policy domains such as environmental policy, transport, and industrial policies, fall under the scope of regional action. In such federal contexts, many national governments may not guarantee that their commitments are successfully achieved without considering their regional units. Additionally, regional governments are close enough to people to better tailor actions to their needs. Regions should be able to identify priorities and difficulties and thus implement policies more clearly, while still being strategic enough to establish links between all the different policy areas that need to be coordinated for climate change policy. Finally, it is also worth noting that regions are better placed to guarantee the effective implementation of policies. As the impacts of climate change will vary from place to place, the combination of institutions and legal and political tools available to public decision-makers are unique from region to region, meaning that each region is aware of its proper strategy.

Secondly, climate leadership performed by regions in federal or decentralized governments is framed beyond climate action *per se*. In other words, climate leadership reflects broader debates of structural and system-wide fragmentation taking place at the global level through contention, competition, and collaboration governance dynamics (Risse, 1995; Nye, 2019; Kim, 2020). Understanding their relevance in the policy process of achieving global targets, but also recognizing the space given to non-party stakeholders in the Paris Agreement (Chaloux, 2022), a set of regional federal governments have made their case as actors of local implementation but also as actors of global-reaching influence (Giudicelli, 2022). Interestingly, the polycentric context brought by Paris opens a two-fold stage for regional federal governments: (1) the recognition to internally act *beyond* a mere relay for national efforts, and, therefore, design and implement their territorial policies aligned with specific contexts and according to their legislative capacities (*Ibidem*); (2) but also the recognition of action across traditional national boundaries by encouraging the external engagement in climate governance dynamics (Paquin, 2020). As federated regions have relevant competencies, both at the national and international levels, there is an opportunity to lead through self-governance. In other words, the performance of self-governance represents (1) the chance for a federal region to act autonomously in the implementation of its climate regulation which may surpass (set higher standards/ambitions) or anticipate (fill regulatory voids) federal climate policies and, (2) the possibility of regional governments to engage internationally, without the interference of the state government and influence course of global climate governance.

3.2. Regional Climate Leadership Beyond the State: a Reviewed Typology

The notion of climate leadership as *agents of change* presented by Liefferink and Wurzel (2017) is insufficient to describe the above-described context. As dynamics endorsed by regional actors require a broader framework of analysis, we consider the conception presented by Andresen and Agrawala (2002) which regards a relation between actors within a group (leaders and followers) where one or a few individuals may (1) use power to induce a group to adopt a particular line of policy and, therefore, (2) shape the collective behavioral patter of the group. In this line of thought, we understand climate leadership as the capacity of an actor to, unintentionally or intentionally, change climate behavioral patterns by gathering followers[2], thus influencing global climate governance (Andresen and Agrawala, 2022) through external and/or internal action (Liefferink and Wurzel 2017). To transpose such conception into the realm of regional climate leadership *beyond the state*, this work considers the analytical framework of internal and external action provided by Liefferink and Wurzel (2017) (see Table 1 above).

To start with, we notice the positioning of climate actors according to their internal and external ambitions: laggard, pioneer, symbolic leader, and pusher. The two-level matrix provided by Liefferink and Wurzel (2017) allows the identification of the climate

[2] Followers are actors who emulate the activities of pioneers/pushers (leaders). Followers emerge in response to a perceived superiority and legitimacy of leaders that result in the adoption of the same or a substantively similar approach to a particular climate problem (Wurzel *et al.*, 2019).

leadership expression in two ways: (1) it establishes that climate leadership is performed in a two-dimension structure of external and/or internal climate policies that influence global climate governance; (2) it identifies that pioneers and pushers are the ultimate expressions of leadership dynamics, the only policy strategies capable of influencing climate governance (setting of an example of behavioral patterns that may be followed). On the other hand, we also note that regional leadership in climate governance expresses dynamics of self-governance (*i.e.*, autonomy of action) in climate action.

Considering the internal and external performance of self-governance (*i.e.*, autonomy of action) in climate policy as low and high, allows us to identify actors with the actual capacity to change behavioral patterns (*i.e.*, followers attraction) thus influencing global climate governance as set out below in Table 2.

Table 2. Regional climate leadership

	Internal 'face'	
External 'face'	Low internal climate self-governance	High internal climate self-governance
Low external climate self-governance	(a) Laggard	(b) Pioneer
High external climate self-governance	(c) Symbolic leader	(d) Pusher

Source: Author's own based on Lieferink and Wurzel, 2017.

Table 2 distinguishes the following four types of regional climate leadership positions:

(a) Low internal and low external climate self-governance does not reflect climate leadership. Federal regions do not make use of their legislative capacities to pursue their own internal climate regulation or external climate engagement to attract followers. Such actors are classified as **laggards** and do not influence climate governance.

(b) High internal and low external self-governance classify **a pioneer position**. A pioneer federal region makes internal use of its legislative capacities to pursue its own internal climate regulation, being even able to anticipate or surpass federal climate ambitions, yet it shows no direct interest in attracting followers via international engagement. A pioneer may, nevertheless, express climate leadership considering that it may attract followers by unintentionally setting an internal exemplary behavior and, therefore, also influence global climate governance.

(c) Low internal and high external climate self-governance determines a **symbolic leader**. Although the federal region may use its legislative capacities through the external performance of climate diplomacy, the same is not performed internally. Considering that there is no domestic commitment in terms of setting its own climate

regulation, symbolic leaders are not perceived as legitimate actors by potential followers and are, therefore, unable to change behavioral patterns in global climate governance (influence).

(d) A combination of high internal and high external self-governance turns a federal region into a **pusher**. In this case, a federal government uses its legislative capacities to pursue its own internal climate regulation, by namely being able to anticipate or surpass federal climate ambitions, but also to actively mobilize international partners[3] (followers) externally. A pusher reflects a climate leader that intentionally influences global climate governance.

Altogether, we perceive that pioneers and pushers are the ultimate expressions of regional climate leadership dynamics. Both pioneers and pushers make use of their legislative capacities as federal governments to be influent actors (gather followers) in climate governance, through external and/or internal action (in the latter, either intentionally or unintentionally): internally, there is the affirmation of its own climate regulation, which sometimes may be considered to surpass and/or anticipate national action; externally, there is an unintentional (pioneers) or intentionally (pushers) attraction of followers that result in influence over the behavioral patterns of other actors concerning climate change. In this context, regional climate leadership is the capacity of regional federal governments to gather followers, thus influencing climate global governance through the internal and external performance of self-governance.

Overall, regional climate leadership establishes a parallel between the polycentric context inaugurated by Paris and climate leadership. Such resemblance sets a leverage position for regional federated governments who might foresee an opportunity to influence climate governance. The adoption of such strategy consists of the capacity to influence climate governance (i.e., leadership) in two dimensions: (1) domestically, by adopting its own climate ambitions (2) internationally, by actively enrolling in climate diplomacy activities that mobilize other actors to pursue the same climate ambitions. Although such phenomenon has remained overlooked by the literature, empirical evidence suggests that it is already taking place whereas some federated states have been acting as autonomous actors within the global climate regime structured around the Paris Agreement (Chaloux *et al.*, 2022).

4. Evidence of regional climate leadership: the cases of California and Québec

Although subnational governments have been active climate players for several decades, only recently their important role has been recognized with the adoption of a more polycentric climate regime under Paris. The U.S. state of California and the Canadian

[3] Internationally, regional federal actors use their action capacities by actively enrolling in subnational diplomacy and transnational networks. By informally collaborating with other sub-national, national, and non-state entities, they work towards the achievement of innovative climate policy solutions and acknowledge-sharing to be applied domestically (Leffel, 2018; Chaloux, 2022).

province of Québec are among the leading federated units that have evidenced ambitious climate efforts in line with the Paris Agreement (*Ibidem*). Having stood out for their independent agency in the implementation of global climate standards, their prominent role at the domestic and international levels suggests that a phenomenon of regional climate leadership is in the making.

After long years of unrecognized efforts, California and Québec are currently acknowledged by experts and actors in the field as actual climate leaders considering the ambitious implementation of climate measures and policies (Chaloux *et al.*, 2015; Eatmon, 2009; Leffel, 2018; Setzer, 2015). With or without the national support of the respective national governments, there has been a direct commitment from both cases to the implementation of policies that support the premises of the Paris Agreement, namely emission reductions and reporting established in Articles 4.1, 4.2., 4.4., 4.9, 4.19. Regardless of not being signatory parties: both have independently established their greenhouse gases (GHG) emission reduction targets, deployed a set of policy mechanisms and tools to tackle climate mitigation and adaption, and even joined several bilateral and multilateral climate agreements with international partners (Chaloux, 2022). Having proactively demonstrated a willingness to be regarded as full-fledged actors in the global climate regime inaugurated by Paris, California, and Québec are worth analyzing cases that suggest the emergence of regional climate leadership.

Despite very limited international competencies[4] (dependent on Congress approval) but considerable climate regulation jurisdictional capacities[5], California, has gained a reputation for applying the continent's most ambitious emission targets but, especially, for trying to carry America's climate commitments on the eve of Trump's withdrawal (surpassing). Simultaneously, California is also well-known for actively engaging in subnational diplomacy and transnational networks. Using its jurisdictional capacities on climate-related policy, California has internally established its equivalent to the Nationally Determined Contributions (NDC) concerning the 2030 emissions targets defined by the Paris Agreement. Overall, the federal region has set an economy-wide GHG emission reduction target for 2030 at 40% below 1990 levels and, as a member of the Under2 Coalition, it is also committed to the goal of reducing 80%-95% of emissions below 1990 levels by 2050. Similar to the NDC's scheme applied to Paris' signatory parties, California has equally set, with *Assembly Bill 32*, the obligation of updating their GHG emission reduction targets every five years. Internationally, California has also signed informal agreements (*e.g.*, memorandums of understanding) to perform its external action via subnational climate diplomacy and transnational networks: along with Québec, California

[4] According to the American Constitution states are expressly forbidden from negotiating formal treaties yet, it grants limited access to international activity and often only with the consent of Congress reflecting the legitimate interest of local communities. To avoid a delicate overstep of their legal bounds, state-level officials celebrate informal arrangements such as cooperation agreements or memorandums of agreement; international loan agreements; protocols of intent (or memorandums of understanding); exchange of letters or notes; political declarations and statements. Importantly, although there is no formal ministry of international affairs or relations in California, there is a Senate Office of International Relations as well as the Governor's International Affairs and Trade Development Representative.

[5] The Clean Air Act gives California special authority to enact stricter air pollution standards in comparison to federal policy. However, EPA (Environmental Protection Agency) must approve a waiver before California's rules may go into effect.

has founded a renowned cap-and-trade system that may deal with 80% of their overall emissions both have joined; co-created, or signed notorious initiatives namely, the Western Climate Initiative[6] (a collaboration set to create a cap and trade system in North America); Regions4[7] (initially known as the Climate Group, a network led by non-central governments focused on Sustainable Development); the Under2 Coalition[8] (a global pledge aiming to achieve net-zero emissions in 2050); and the Regions Adapt[9] (three multilateral organizations that collaborate, and share best practices and intelligence on the development of climate policies).

Considering its almost unlimited jurisdiction internationally[10] but also in climate policy, Québec, made use of its regulatory capacities to remarkably implemented one of the first carbon levies in North America but also to actively engage in international activities involving the achievement of Paris' targets. Similar to California, Québec has also set its domestic equivalent to the 2030 NDC targets by fixing an economy-wide GHG emission reduction target of 37,5% under the 1990 level by 2030 and the aim of reaching net-zero emissions by 2050. Just like California, in 2020, Québec approved *Bill 44*[11] which requires the update of a climate action plan and respective targets every five years. Interestingly, Québec has equally mobilized its external action capacities to join the same climate-networked initiatives as California, including the cap-and-trade system of which Québec is a co-founder.

As past efforts became acknowledged, California and Québec multiplied the number of mechanisms, policies, and action plans to position themselves as active players in the global climate regime since the Paris Agreement was signed. Having done so as an individual stand and as an expression of its self-governance capacities, the case of Québec and California confirm that the landscape of global climate governance is growing by filling federal leadership voids, aiding national governments, and adding essential and needed capacity from the bottom-up (Leffel, 2018). In the end, we notice possible empirical evidence that denotes the possible presence of regional climate leadership in the cases of California and Québec.

Conclusion

Based on the Paris Agreement's recognition of needed action *beyond* the nation-state for effective long-term resolutions in climate change, this paper identifies the opportunity for a wide set of actors to become influential actors in global climate governance (climate

6 More information is available at: https://wci-inc.org/, accessed in may 2023.
7 More information is available at: https://regions4.org/, accessed in may 2023.
8 More information is available at: https://www.theclimategroup.org/under2-coalition, access in may 2023.
9 More information is available at: https://climateinitiativesplatform.org/index.php/RegionsAdapt, access in may 2023.
10 Although Québec may not formally sign international treaties, the province may sign agreements and memorandums of understanding. International Relations of Quebec are under the supervision of the Ministry of International Relations and La Francophonie, being part of the Government of Quebec, which constitutes a secondary jurisdiction of Canada. Equally relevant, all international treaties concluded by Canada that involve Quebec's matters of competence require the approval of Quebec's National Assembly.
11 *Bill 44* is officially entitled *An Act mainly to ensure effective governance of the fight against climate change and to promote electrification.*

leadership). With this acknowledgment, our discussion has sought to do a brief literature review on climate leadership and polycentric climate governance to acknowledge a gap and notice how the role of regions, especially regions in federal or decentralized political systems, has not been yet considered under this framework.

We have started by contextualizing the post-Paris context where a gradual paradigm transition in the arena of climate politics is taking place. Briefly, a transition from monocentric to polycentric climate approaches is taking place as part of broader transformations in the international climate regime led by the UNFCCC. A first but smooth step of this transition was witnessed in 2015 by the time the Paris Agreement formally invited non-party stakeholders (*i.e.*, civil society, the private sector, regions, and cities) to the global effort of effectively addressing climate change considering that the commitment endorsed by the parties was insufficient to deal with the challenge. Regarding this fact, our analysis suggests that up-to-date literature on climate leadership in polycentric policy contexts has overlooked empirical the role of federal regions in the post-Paris period. Although there is already some conceptual development on what it means to be a climate leader and how polycentric governance offers significant potential for the occurrence of such a phenomenon, a reframing of the model was required to consider regional federal action according to its legislative capacities. An empirical application of such a framework to federal regions would lack accuracy in its analysis as it would leave out considerable details of the phenomenon that are essential for its explanation: self-governance.

Overall, this paper also identifies a lack of literature consideration for regional actors in Paris' polycentric context. Although these are frequently implicit in the several references to subnational levels of climate action and their importance in achieving international goals, they are often overlooked. Calling attention to this fact, we notice the emergence of regional climate leadership by relying on empirical signs in the cases of California and Québec. As federal units start setting their role as leading authorities of climate policy implementation but also as actors with global-reaching influence in the climate regime inaugurated by Paris, the phenomenon occurs at the internal and external dimensions when the necessary competencies are gathered: (1) admission for the autonomous implementation of (climate) territorial policies that are independent of the central state; (2) admission for action across state boundaries and active engagement in climate governance dynamics. Ultimately, regional climate leadership expresses the capacity of regional federal governments to influence climate governance through the performance of self-governance in the internal and external domains.

To conclude, we consider that our paper brings awareness to an important research gap while establishing grounds for a wide set of future research options both theoretical and empirical. Although scholars have suggested that the success of global climate governance depends, at least, on the integration of non-state entities, particularly local actors (Hsu, Weinfurter, and Xu, 2017), no study has addressed the phenomenon of regional climate leadership *beyond* the state. We consider that it is of interest to have a deeper understanding of regional climate leadership under polycentric conditions. Further enlightenment could be brought through the empirical application of regional climate

leadership to specific case studies to figure out why there is a search for influence in climate governance.

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