1 Introduction: Climate governance across the globe: pioneers, leaders and followers

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Introduction

In a global community of about 200 states and seven billion people, it could be easy to hide and not take action on climate change. Indeed, some have done exactly that. Yet, many choose to act, to achieve long-term benefits, for themselves, for others, and for those who are not yet born. Sometimes they do so in order to draw others to their cause; in other cases, they do so regardless of how their peers will behave. Urgent action is needed to mitigate climate change. Who leads? Who follows? How? When? Why?

Environmental leaders and pioneers have long been identified as pivotal actors for solving or at least mitigating environmental problems at both the domestic and international governance levels (e.g. Young, 1991; Underdal, 1994; Andersen and Liefferink, 1997; Jänicke, 2006; Liefferink and Wurzel, 2017). Leaders and pioneers can act as 'agents of change' (Liefferink and Wurzel, 2017) who are of central importance for successful climate change governance (e.g. Grubb and Gupta, 2000; Oberthür and Roche Kelly, 2008; Jordan *et al.*, 2012; Parker and Karlsson, 2014; Wurzel, Connelly and Liefferink, 2017; Wurzel, Liefferink and Torney, 2020). Much of the existing literature on leaders and pioneers in environmental governance in general and climate governance in particular has focused on countries in the Global North. We therefore know relatively little about the role environmental leaders and pioneers can play in relation to countries in the Global South. This volume tries to make a contribution towards closing this gap in the literature by offering a critical analysis of climate leadership and pioneership in countries of the Global South (see Chapters 2 to 6) and in jurisdictions in the Global North (see Chapters 7 to 13). The chapters

in our volume cover a range of large and small countries from both the Global South and Global North. This breadth should allow us to undertake a more nuanced analysis and to draw more informed conclusions (see Chapter 14) on what factors help to explain how, when and why different types of countries offer what type of climate leadership and pioneership.

The 2015 Paris Agreement, which is based on a bottom-up approach and requests that states put forward voluntary national pledges in the form of Nationally Determined Contributions (NDCs), has arguably increased further the importance of climate leaders and pioneers. The Agreement refers explicitly to the need for leadership by stating that 'developed country Parties shall continue taking the lead' (article 4.4). In order to achieve 'rapid reductions' (article 4.1) in greenhouse gas emissions (GHGE), the Paris Agreement is complemented by a mechanism to facilitate 'the exchange of information, experiences and best practices' (adoption decision, items 33-34; see also Chapters 8 and 14). Learning from climate leaders' and pioneers' innovative climate governance measures and, if possible, emulating their best practices, has therefore become even more important.

The successful ratcheting up of ambitions and actions in international climate governance and domestic climate policy depends, however, not only on leaders and pioneers but also on followers. Therefore, the authors of the chapters in this volume were asked to identify, if possible, followers and assess occurrences of climate followership for their case countries. Up to now, the scholarly literature has paid relatively little attention to followers and their interactions with leaders and pioneers in multilevel and polycentric climate governance structures although there are important exceptions (e.g. Torney, 2014, 2015, 2019; Parker, Karlsson and Hjerpe, 2014; Wurzel, Liefferink and Torney, 2019).

Global climate change governance has always taken place within multilevel governance (MLG) structures that include at least the international, national and subnational levels as well as the supranational level for the currently 27 member states of the European

Union (EU). While the 1997 Kyoto Protocol adopted a top-down 'targets-and-timetables' approach, the 2015 Paris Agreement rests on a bottom-up approach that relies on voluntary measures propped up by regular reviews and monitoring (e.g. Klein *et al.*, 2015). Many analysts have argued that the Paris Agreement has made global climate governance more *polycentric* (e.g. Ostrom, 2014; Oberthür, 2016; Jordan *et al.*, 2018). According to Elinor Ostrom (2010: 552), '[p]olycentric systems are characterized by multiple governing authorities at different scales rather than a monocentric unit ... Each unit within a polycentric system exercises considerable independence to make norms and rules within a specific domain.' However, as Liefferink and Wurzel (2018: 136) have argued, 'while polycentricity and monocentricity, which constitute opposite poles on the governance dimension, are useful heuristic analytical terms, they are rarely found (at least in their pure form)'. As we will explain in more detail below, although multilevel and polycentric governance approaches are not identical, they actually partially overlap, because both concepts emphasise the importance of multiple decision-making or governance centres.

As an analytical starting point, all chapters in this volume take Liefferink and Wurzel's (2017) differentiation that leaders normally actively seek to attract followers, while pioneers do not do so. Importantly, leaders have 'the explicit aim of leading others, and, if necessary, to push others in a follower position' (Liefferink and Wurzel, 2017: 953). Pioneers on the other hand focus primarily on their own actions. The French term *pionnier* refers to a foot soldier or soldier involved in digging trenches (Merriam-Webster online dictionary, 2020). Pioneers carry out activities which, depending on the specific circumstances and subsequent events 'in the field', may or may not help others to follow (Liefferink and Wurzel, 2017: 952-953).

Much of the existing literature tends to employ interchangeably a wide range of analytical terms to describe somewhat similar phenomena, such as leader, pioneer,

entrepreneur, forerunner, front-runner, first mover, lead state, lead market, lead actor, pacesetter and trendsetter, to name only some of the most commonly used terms (Liefferink and Wurzel, 2013). The inflationary use of such a wide range of different analytical terms is 'making difficult the emergence of theory-guided cumulative empirical research on the actions and impact of leaders and pioneers, which are widely perceived as important agents of change' (Liefferink and Wurzel, 2017: 951). For this volume, we asked all chapter authors to make use only of the analytical terms *leader* and *pioneer*, and to follow Liefferink and Wurzel's (2017) differentiation, whereby leaders will actively seek to attract *followers*, while this is normally not the case for pioneers. Yet, leadership and pioneership can manifest in many different ways. To obtain clear insights into how countries play influential roles across the globe, we need to typologise their behaviours.

Different types of leadership and pioneership

There is broad agreement in the environmental governance literature that leaders usually exhibit not only one single type of leadership but different types of leadership, either simultaneously or sequentially (e.g. Burns, 1987; Young, 1991, 1999; Underdal, 1994, 1998; Grubb and Gupta, 2000; Parker, Karlsson, and Hjerpe, 2014). However, different classifications exist regarding the exact *types* of leadership, which can exhibited by different actors. For example, Young (1991) identifies structural, entrepreneurial and intellectual leadership, Underdal (1994) differentiates between coercive, instrumental and unilateral leadership, Grubb and Gupta (2000) distinguish between structural, instrumental and directional leadership, and Parker, Karlsson and Hjerpe (2015) demarcate structural, directional, idea-based and instrumental leadership. These concepts are distinct, but overlap with one another. Instead, the chapters in this volume all draw on the same fourfold leadership classification: (1) structural, (2) entrepreneurial, (3) cognitive and (4) exemplary leadership

(see Liefferink and Wurzel 2017; Wurzel, Connelly and Liefferink, 2017; Wurzel, Liefferink and Torney 2019).

First, s*tructural* leadership is usually associated with military and/or economic power, especially by International Relations (IR) scholars (e.g. Young 1991, 1999; Underdal 1994, 1998; Nye, 2008). For structural climate leadership, military power tends to be only of secondary importance – climate change cannot be solved by military means – while economic power is more central for being able to transform structural climate leadership capabilities into actual structural leadership. The size of the domestic market is an important source of structural power, which jurisdictions can try to transform into structural leadership. Young (1991: 288 and 289) has argued that structural leaders 'are experts in translating the possessions of material resources into bargaining leverage' while making use of 'the existence of asymmetries among participants or stakeholders in processes of institutional bargaining'. Although structural power and leadership are closely related concepts, they are not identical (e.g. Young 1991; Nye 2008). Power is a necessary but not a sufficient condition for structural leadership. In his study on US Presidents, Burns (1978: 19) has argued that '[a]ll leaders are actual or potential power holders, but not all power holders are leaders'. Burns' argument also applies for the analysis of the behaviour of states and their representatives in international negotiations. This conceptualisation helps to explain why powerful states (e.g. the USA and China) have sometimes failed to offer structural leadership in international climate governance, or have done so only intermittently (see Chapters 2 and 7). Oberthür (2016a: 83) has claimed that '[p]ower and power structures have become an increasingly prominent consideration in analyses of international climate policy in the 21st century' while pointing out 'the rise of climate change to high politics, great power politics and even geopolitics'.

An actor's relative contribution to a particular environmental problem may provide it with structural power. For example, China overtook the USA as the world's largest emitter of carbon dioxide (CO_2) emissions in the 2000s. By doing so, China increased its relevance (and thus arguably also its structural power) for any global climate regime. The bilateral agreement between Presidents Barack Obama and Xi Jinping in November 2014 constituted a milestone in the run-up to the 2015 Paris Agreement, not least because the USA and China constituted the two largest producers of GHGE (Bang and Schreurs, 2017; Li, 2017; Liefferink and Wurzel, 2018: 141). Conversely, one could argue that the EU's declining GHGE are reducing its *structural* or *systemic relevance* for international climate governance (see Chapter 8). However, systemic relevance can be achieved not only by contributing to a governance problem, but also by being able to offer solutions to collective action problems. Systemic relevance is important for a wide range of domestic politics and international governance issues because it provides the actor with considerable power resources that may be activated to try to influence positively (i.e. by offering leadership) or negatively (i.e. by vetoing or watering down) domestic policy-making and/or international governance which is aimed at solving collective problems. For example, Young (1991: 288) has argued that the USA was of systemic relevance for the Bretton Woods agreement because of the central importance of the US dollar, and Dyson (2014) has pointed out that Economic and Monetary Union (EMU) within the EU would not have been viable without Germany, which constitutes the EU's largest economy.

Importantly, an actor using its structural power to influence domestic policy-making and/or international rule-making becomes a structural environmental leader only by mobilising its structural power in pursuit of strengthening collective goods (Young, 1991; Underdal 1998; Parker, Karlsson and Hjerpe, 2015). In other words, a state that vetoes and/or waters down climate protection measures does not act as a climate leader or pioneer, within

this conceptualisation. We therefore follow Underdal's (1998: 101) argument that 'a leader is supposed to exercise what might be called "positive" influence, guiding rather than vetoing or obstructing collective action'. Similarly, Young (1991: 285) has defined leadership as 'the actions of individuals who endeavor to solve or circumvent the collective action problems that plague the efforts of parties seeking to reap joint gains in processes of institutional bargaining'. There is therefore 'a normative dimension which requires the leader/pioneer to facilitate rather than to veto ambitious environmental measures which help to solve collective action problems' (Liefferink and Wurzel, 2017: 957).

Secondly, *entrepreneurial* leadership requires negotiating and diplomatic skills for brokering compromise agreements (Young, 1991; Underdal, 1994, 1998). Young (1991: 295) has argued that '… entrepreneurs play key roles as facilitators of bargaining processes that can all too easily bog down or get diverted into blind alleys in the absence of skilful measures to keep them on track.' While entrepreneurial leaders will try to facilitate compromises acceptable to other actors, they themselves may have stakes and interests in the governance issues that are being negotiated. Large, powerful states usually have more diplomatic resources than smaller, less powerful countries. In the run-up to the Paris climate conference (Conference of the Parties - COP21) in late 2015, host nation France invested massive diplomatic resources to facilitate compromise solutions, which paved the way for the Paris Agreement (e.g. Bocquillon and Evrard, 2017; see also Chapter 8). However, smaller countries may sometimes find it easier to act as honest brokers for compromise agreements because their stakes and interests in particular solutions may be lower than those of large, powerful states. Their domestic constituencies tend to be more homogenous, and thus leave broader scope for negotiators in proposing possible and acceptable 'win-sets' in international negotiations, whereas larger countries can experience lock-ins due to heterogeneities in their base of interests at home (cf. Putnam, 1988; Andersen, 2019).

Thirdly, *cognitive* leadership involves putting forward innovative ideas and defining or redefining interests and problem perceptions. Cognitive leaders may propagate concepts to share with other states, such as 'sustainable development' and 'ecological modernisation'. While the concept of sustainable development postulates that equal attention should be paid to environmental, economic and social concerns, adherents to ecological modernisation argue that environmental measures are beneficial not only for the environment but also the economy, for instance, in form of the 'green' jobs created by a low carbon economy. Ecological modernisation in particular has been advocated predominantly by wealthier states, but another noteworthy concept that has been especially instrumental within the global climate governance community resulted from the cognitive leadership of Global South states. After much advocacy by countries that have historically produced fewer GHGE and have fewer resources with which to mitigate climate change (see Chapters 2 and 3), the principle of Common But Differentiated Responsibilities (CBDR) underpinned the United Nations Framework Convention on Climate Change (UNFCCC) that was adopted at the 1992 Rio 'Earth Summit' (e.g. Rajamani, 2012). CBDR has since been enshrined also in the 1997 Kyoto Protocol and the 2015 Paris Agreement (e.g. Klein *et al.,* 2017).

Although powerful actors (e.g. large or resourceful states and transnational corporations) may find it easier to offer structural leadership, this is not necessarily the case for cognitive leadership. For example, smaller EU member states (such as Sweden, as well as, at times, Denmark and previously the Netherlands) are widely seen as having punched well above their structural leadership weight when it comes to being able to offer cognitive leadership (Andersen and Liefferink, 1997; Liefferink and Andersen, 1998; Andersen and Nielsen, 2017;; see also Chapters 11, 12 and 13 in this volume). Cognitive climate leadership usually relies strongly on scientific expertise and practical implementation knowledge (Liefferink and Wurzel, 2017: 959). The EU has been portrayed as a 'normative power'

(Manners, 2002), which suggests that it relies more heavily on cognitive than on structural leadership (see Chapter 8) although Damro (2012) has pointed out that the EU frequently acts also as 'market power' when exerting structural climate leadership. Cognitive leadership may also include what Dyson (2014: 5) has called 'arguing power' which stems from the 'capacity to frame how policy issues… are debated' and allows actors 'to set the normative standards of policy evaluation'. According to Dyson (2014), arguing power can more easily be established by actors who are of systemic relevance (i.e. have considerable structural power that they can also try to transform into structural leadership).

Cognitive leadership often requires considerable (financial, staff and time) resources especially if the generation of novel scientific findings and practical implementation knowledge is involved. However, cognitive leadership also includes the framing of principles such as the above-mentioned CBDR.

Cognitive leadership operates on a different timescale to structural and entrepreneurial leadership. While (military and) economic power can be used almost instantly or at least relatively quickly to transform structural leadership capacities into actual structural leadership, cognitive leadership often requires considerable time to achieve acceptance and become effective. Young (1991: 298) has argued that 'new ideas generally have to triumph over the entrenched mindsets or worldviews held by policymakers, so that the process of injecting new intellectual capital into policy streams is generally a time-consuming one'.

Fourthly, leadership by example or *exemplary leadership* is the intentional setting of examples for others, while unintentional example-setting is referred to as *exemplary pioneership* in this volume. *Intentional* exemplary leadership resembles what Grubb and Gupta (2000) have defined as directional leadership. Intentional exemplary leadership and directional leadership amount to what Liefferink and Wurzel (2017: 959) have called a *constructive pusher* position according which a leader seeks to offer unconditional exemplary

leadership. In other words, a constructive pusher will not make its climate leadership actions conditional on other actors taking the same or similar actions. In contrast, *constructive pushers* unconditionally put forward domestic policies as models for other actors (cf. Liefferink and Andersen, 1998). Unlike *conditional pushers*, constructive pushers do not make conditional their own actions on the actions of other actors. As conditional and constructive pushers both seek to attract followers (although by different means) they can be subsumed under the umbrella term *leader*.

Pioneers may exhibit unintentional example-setting although they are not usually seeking to attract followers. As explained above, the actions of pioneers may emulated by other actors despite this outcome not being actively pursued. The policy learning, diffusion and transfer literature offers an abundance of empirical examples of followers who emulated intentional or unintentional example setting by environmental leaders or pioneers (e.g. Tews, Busch and Jörgens, 2003; Tews, 2005; Jänicke, 2006).

Importantly, leaders usually combine different leadership types either simultaneously or sequentially. The specific mix of different types of environmental leadership offered by a particular actor can change over time and may vary across environmental issues and governance levels. This underscores the utility of employing a specific typology, as we do in this volume, in order to avoid seemingly enduring generic labels such as 'environmental leader' that fall to dust when scrutinised across time or policy areas.

Followers and followership

As pointed out above, environmental leaders and pioneers have received significantly more scholarly attention than followers, although there are notable exceptions (e.g. Torney 2014, 2015, 2019; Parker, Karlsson and Hjerpe, 2015; for the general literature on leaders and followers see Rhodes and t'Hart, 2014). The dearth of studies on followers is at least partly

due to the methodological and evidential challenges associated with identifying empirically followers and followership (Torney, 2019; Wurzel, Liefferink and Torney, 2019). Much of the policy transfer, diffusion and learning literature acknowledges that it is generally easier to identify actors who come up with policy innovations (i.e. act as their source). It is much harder to determine which actors have emulated the leaders/pioneers, or the mechanisms (e.g. transfer, diffusion and learning) through which emulation has taken place (e.g. Tews *et al.*, 2003; Tews, 2005).

There is a major challenge for studying followers and followership: states that adopt the same or similar climate governance measures may have gravitated towards such measures independently from each other, rather than by following the example of another state. The possibility of states adopting similar measures independently from each other has been captured well by Lowi's (1964) famous dictum that 'policy determines politics'. Decision-makers in states that possess similarly structured economic, social and political institutions and capacity tend to gravitate 'naturally' towards similar policy solutions. In line with this argument, Hoberg (1986: 358) has pointed out that '[m]any theorists have argued that there is only one best way to resolve a particular problem, and, since nations at similar levels of industrial development confront a common core of problems, responses will converge accordingly'.

However, although Lowi's dictum received considerable support especially among American political scientists, it gained much less traction among European political scientists, for whom Richardson's (1982) 'policy style' concept, which turned Lowi's dictum on its head by postulating in essence that 'politics determines policy', became a more influential concept. In other words, according to the policy style concept, states usually follow certain national path dependencies that may constrain severely the policy options available to domestic policy makers. Importantly, the 'policy determines politics' and the 'politics determines policy'

schools of thought offer useful heuristic models that can rarely be found in pure form in real world domestic politics and international governance.

The contemporary debate about climate leaders/pioneers and followers and their preferred climate policy/governance solutions carries faint echoes of the 'policy determines politics' versus 'politics determines policy' scholarly debate. Jänicke (2005) has argued that there is frequently a high degree of 'conformism' according to which most countries converge towards the same preferred policy approaches, which echoes Lowi's dictum that 'politics determines policy' and implies that 'followers' will mostly 'copy' the climate mitigation measures taken and policy instruments applied by leaders or pioneers. In contrast, Rhodes and t'Hart (2014: 6) have pointed out '[t]here is now a growing body of thought and research that understands leadership as an interactive process between leaders and followers'. Seen from Rhodes and t'Hart's (2014) perspective, 'follower' countries can be expected to adapt and alter climate mitigation measures and policy instruments to their specific preconditions and their (national) institutions of governance. For example, while energy efficient and low-carbon district heating is widely distributed in Europe's Nordic countries, who rely on it heavily not only because of their cold climate but also because of the presence of strong local authorities with planning powers and institutionalized sources of low-interest finance (see Chapter 11). Countries that seek to follow the Nordic countries' trail of collective heating systems may need to adapt such systems considerably, for example, to domestic traditions of private sector involvement and finance. Another example of the 'politics determines policy' patterns identified by Richardson and collaborators (1982) can be found in renewable energy policies. The 'feed-in-tariffs' approach pioneered in Germany was transformed by the state's followers, such as Sweden and the UK, into a more market-oriented system of renewable obligation certificates (Butler and Neuhoff, 2005; Söderholm, 2007).

In order to identify convincingly followers and followership, it is important not only to determine a purported leader/pioneer and an actor that has subsequently adopted similar policies or responses. One also has to establish also that the actions of the purported follower were indeed caused by preceding actions carried out by leaders or pioneers (Torney, 2019; Wurzel, Liefferink and Torney, 2019: 12-13). Such requirements are inherently more complex, time-consuming and costly for researchers to fulfil, hence arguably the current lack of empirical examples within the current literature.

Followership and rapid policy learning from best practice are of central importance in multilevel and polycentric climate governance especially if, as postulated by the Paris Agreement, a bottom-up approach is adopted. The policy transfer, diffusion and learning literature covers effectively why and how pioneers may unintentionally, and leaders intentionally, attract followers (e.g. Tews *et al.* 2003, see also Jänicke and Wurzel 2019).

Why do some countries become climate leaders or pioneers?

Much of the state-centred Comparative Politics (CP) literature has focused on a wide variety of factors, which help to explain the actions of leaders and pioneers and their ambitions and motivations. Drivers for acting as environmental leaders and pioneers include a high level of problem pressure, high political salience of environmental issues and regulatory competition (e.g. Jänicke and Jacob, 2002, Liefferink *et al.*, 2009). The environmental capacity literature has identified, among others, institutional, politico-administrative, informational-cognitive and technological capacities as important factors for states being able to offer environmental leadership/pioneership (e.g. Jänicke 2006).

High problem pressure, high political salience and regulatory competition are also important factors for explaining the actions of climate leaders and pioneers as well as followers (Wurzel, 2002). Creating and maintaining a ‘green’ public image appears to be

particularly important for cities, regardless of whether they are affluent (e.g. Bulkeley and Betsill, 2005; Kern and Bulkeley, 2009) or structurally disadvantaged (Wurzel *et al.*, 2019).

Another way of looking at why actors strive to become leaders or pioneers is to investigate the way their 'green' ambitions are structured. While drawing on the distinction between leaders and pioneers, we assess four possible combinations of an actor's *internal* and *external ambitions* (Prittwitz, 1984), on a scale ranging from 'low' to 'high'.

Liefferink and Wurzel (2017) distinguish in ideal-typical fashion between the following four *positions* that states may take up. First, low internal and low external ambitions lead actors to become *laggards* (or, at best, followers); second, the combination of high internal and low external ambitions turns actors into *pioneers* which try to 'go it alone'. Third, when the opposite is the case and there are low internal and high external ambitions turn, actors are *symbolic leaders* that fail to back up domestic climate action with their externally directed 'green' ambitions in foreign climate policy. Finally, as discussed above in the section on 'exemplary leadership', a state that marries high internal and high external ambitions is either a constructive or conditional pusher state. Constructive and conditional pusher states fall under the umbrella term *leaders*, which can then be manifested as one of the four types (structural, entrepreneurial, cognitive, and exemplary).

Putting the distinction between the two concepts to one side for a moment, how do we define the 'ambitiousness' that is inherent to pioneership and leadership? In this volume, pioneership and leadership refer to actors who are either *first* to introduce and/or propagate a certain climate policy measure, or who exhibit the *highest* level of ambition. As Liefferink and Wurzel (2017: 956) have pointed out '[b]oth "the first in class" and "the best in class" can in principle be viewed as leaders or pioneers, although the motivations underlying their differing ambitions and the subsequent consequences may be different'. Importantly, Burns (2003: 26) has argued that '[f]ollowers might outstrip leaders. They might become leaders

themselves.' Former followers who develop into leaders may become more innovative and ambitious than previous or existing leaders, who in turn may become followers. Sometimes, leaders become laggards at least temporarily, or at best followers, because they downgrade their climate governance ambitions. For example, after an election, a new government may attribute significantly lower importance to climate protection; a scenario that happens in both Global South states (see especially Chapters 3, 5 and 6) and Global North countries (see especially Chapters 7, 10, 11 and 12). These examples show that it is also important to analyse the domestic politics of climate change. Yet IR-inspired studies of global climate governance sometimes ignore or at least downplay domestic politics, limiting their explanatory ability.

Moreover, all climate leaders have some blind spots (Wurzel, 2008). It is extremely difficult, if not impossible, for any single country to remain indefinitely a leader or pioneer across all climate governance issues. Having said that, some countries have shown considerable more staying power as climate leaders or pioneer than others. The chapters in this volume offer novel empirical findings and new analytical insights, which will help us to gain a better understanding of leaders, pioneers and followers from across the globe and how they act and interact with each over time. Both MLG and polycentric governance concepts are well geared towards capturing both policy and politics dimensions at different and/or multiple levels of climate governance.

Multilevel and polycentric governance

While focusing on different governance levels, MLG concepts usually emphasise the important role played by public institutions, such as the state, and supranational and subnational actors. The MLG concept was initially proposed to capture the complexities of federal states (e.g. USA) and quasi-federal jurisdictions, such as the EU (Marks, 1993).

Following Hooghe and Marks (2003), the MLG approach has gradually been extended and applied to the dynamics of wider regional and international regimes. MLG concepts aim to grasp the subtle shift of the locus of decision-making to a wider spectrum of actors at different spatial and sectoral levels. Hooghe and Marks (2003) contrast the conventional state-centred approaches' assumption of a 'Russian doll' hierarchy between actors (one actor is smaller and embedded within the context of another), with the 'marble cake' conceptualisation of governance actors of MLG (whereby different actors interweave in myriad ways). For the latter concept, the demarcations of competences are partly overlapping and somewhat fluid, enabling various sub-state, sectoral, supranational and international actors to exploit MLG opportunity structures for initiative, interplay and influence. Importantly, this understanding applies to both (sub-state, sectoral, supranational and international) climate leaders/pioneers, and to climate laggards at such levels. The MLG concept has frequently been criticised for being little more than a metaphor, lacking the analytical stringency required for disentangling causal factors, as part of a continuous and cumulative research programme (Jordan, 2001; Blom-Hansen, 2005). Indeed, empirical applications of the MLG concept are wide-ranging and have sometimes relaxed the concept's implicit requirements. To narrow the conceptualisation of MLG, we assume a specific definition in this volume MLG. That is, MLG highlights 'above all the changing role and relevance of the traditional nation-state and the fading away of the Westphalian international system, which is gradually replaced by a more fluid politico-institutional order in which power and authority are redistributed from the state upwards but also downwards' (Tortola, 2017: 244), and possibly sideways, for example, towards business (e.g. Strange, 1988).

Seen through the MLG lens, the policy space provided for leadership (and followership) is hence considerably larger and wider than one would assume from the perspective of either traditional state-centred CP approaches, or a conventional IR perspective

of a global climate regime with some 195 countries. The congregation of mayors from across the globe in the C40 network of 96 cities, in which 'the world's leading cities [are] taking bold climate action' (C40 Cities, 2020) reflects the significance of leadership exercised by subnational actors well beyond the framework of their respective regions and nation states. The structures and processes of MLG are of interest here, as we seek to understand how different types of actors employ various types of leadership, and for what purposes. Much of the existing climate governance literature has focused primarily on international climate negotiations, particularly within the UNFCCC. However, the Paris Agreement and simultaneous bottom-up developments are gradually widening the focus beyond state action to include also innovative subnational climate measures. Indeed, these initiatives may then be upscaled to the national level or transferred sideways to other subnational actors (e,g. through the C40 network) in an attempt to deliver the promised NDCs. It is especially during those delivery processes that the theoretical perspective offered by MLG provides useful analytical lenses for the assessment of leadership, pioneership and followership. The vacuum in global leadership that emerged after the announcement by President Trump that the USA will withdraw from the Paris Agreement at the end of 2020 has not yet been filled, with China being unable to do so (see Shen and Xie, 2019). Still, 'the mutual help among poor brothers' (ibid.: 717)[(1)] that was provided by China's South-South climate fund serves as yet another illustration of the fluid processes that exist outside the core international climate governance structures.

When it comes to who are core actors, and what the relations are between leaders, pioneers, and followers, MLG concepts are located somewhere in between polycentric and state-centric governance concepts. Broadly speaking, state-centred concepts argue that states are the most important actors. Polycentric governance concepts usually identify non-state actors within specific policy domains as core actors. Finally, MLG concepts tend to

emphasise the importance of mutual dependencies between sub-state, state and supranational actors across different governance levels. However, as discussed above already, some variants of MLG concepts are quite close to polycentric governance concepts, regarding the importance they attach to non-state actors. In the climate governance literature, both MLG (e.g. Grubb and Gupta, 2000; Schreurs and Tiberghien, 2007; Jordan *et al.*, 2012) and polycentric governance (e.g. Ostrom, 2014; Homsy and Warner, 2014; Oberthür, 2016a; Morrison *et al.*, 2017; Jordan *et al.*, 2018) approaches have been widely used. Moreover, some studies have drawn on both concepts (e.g. Wurzel, Connelly and Liefferink, 2017; Wurzel, Liefferink and Torney, 2020). The shift away from a top-down 'targets-and-timetables' climate governance approach, as embodied in the 1997 Kyoto Protocol, towards a bottom-up approach with voluntary pledges as enshrined in the 2015 Paris Agreement, has partly driven this development. Jordan and colleagues (2018: 4) have argued that developments in climate change governance 'appear to confirm the trend towards greater polycentricity'. Similarly, Oberthür (2016a: 81) has argued that the Paris 'Agreement recalibrates the role of the multilateral UN process as providing overall direction towards global decarbonisation, while leaving implementation to other international organisations, states and various non-state actors and initiatives'. Thus, these stances chime with the argument put forward by Selin and VanDeveer (Chapter 7) that the USA is experiencing a 'polycentric turn'.

Polycentric governance concepts share certain core presuppositions (such as multiple centres of decision-making) with MLG approaches, although conceptually they are *not* identical (e.g. Homsy and Warner 2014, Wurzel *et al.* 2017, Jordan *et al.* 2018; Liefferink and Wurzel, 2018). By comparison with polycentric governance approaches, MLG concepts usually assume a stronger role for governmental (i.e. subnational, state and supranational) actors (Morrison *et al.*, 2017, Liefferink and Wurzel, 2018; Wurzel, Liefferink and Torney,

2019). As mentioned above, the MLG concept, which was initially developed for federal and quasi-federal political jurisdictions (e.g. Marks 1993, Hooghe 1996), emphasises the mutual dependency of subnational, national and supranational governmental actors. MLG concepts differ from state-centred approaches by rejecting the idea of traditional top-down *government* in favour of less hierarchical *governance*, which is an assumption that is shared by polycentric governance approaches. In contrast to MLG concepts, polycentric governance concepts attribute a higher degree of autonomy to non-state societal actors, such as business, NGOs and citizens, while putting greater emphasis on the role of functionally defined governance domains that are characterised by a high degree of self-organisation (e.g. Ostrom, 2010, 2014). According to Ostrom (2010: 552), who pioneered the concept of polycentric governance approaches alongside her co-authors, '[p]olycentric systems are characterized by multiple governing authorities at different scales rather than a monocentric unit ... Each unit within a polycentric system exercises considerable independence to make norms and rules within a specific domain.' Her definition echoes a broad-based recognition that emerged in the wake of the failed climate negotiations at COP15 in Copenhagen (2009): only by involving civil society in accelerating a low-carbon transition would it be possible to mitigate global warming and accomplish UNFCCC objectives.

According to Dorsch and Flachsland (2017) one of the advantages of polycentric governance is that it encourages experimentation and learning-by-doing at regional and local levels which, if successful, may lead to upscaling of innovative climate governance measures to higher climate governance levels (see also Ostrom, 2012, 2014; Kern 2019).

In line with Wurzel, Liefferink and Torney (2019), we argue that polycentric governance approaches emphasise the importance of societal self-coordination within loosely coupled governance structures (e.g. Ostrom, 2012, 2014). Meanwhile, MLG advocates often posit that governmental actors (including supranational EU actors) must play an important, if

not dominant, role for climate policy (e.g. Marks, 1993; Hooghe, 1996; Homsy and Warner 2014). This distinction also has consequences for the conceptualisation of leadership and pioneership. Polycentricity can help us to understand why and how bottom-up self-governing initiatives emerge and flourish (Dorsch and Flachsland, 2017; Jordan *et al.*, 2018). Due to the relatively high autonomy of functionally specific (or domain specific) polycentric sub-systems, it may however be difficult for leaders to attract followers from other functionally defined quasi-autonomous subsystems (see Liefferink and Wurzel, 2018).

Morrison *et al.* (2017: 2) have accused proponents of polycentricity of inadvertently ignoring 'not only different types of power at play but also how their distribution may affect both governance processes and environmental outcomes'. Similarly, Singleton (2017: 1000) has argued that '[p]ower is a concept that remains largely underdeveloped within Ostrom's work rendering her themes "curiously apolitical" (Wall, 2014: 480)'. Interestingly, Lowi's (1964) argument that 'policy determines politics' also largely downplayed the importance of power and power asymmetries for decision-making.

In contrast, MLG concepts frequently adopt a 'top-down view of subnational actors' (Fairbrass and Jordan 2004: 152), according to which, national governmental actors and supranational EU actors have greater decision-making powers at their disposal. However, this status exists despite the mutual dependencies between national and supranational actors, as well as subnational governance actors.

Both MLG and polycentric governance approaches conceptualise 'the plurality of actors and levels and the complexity of their interactions not as obstacles but as an opportunity for innovation and interactive learning' (Jänicke 2017: 118, see also Marks and Hooghe, 2004: 16; Ostrom, 2012, 2014). Ostrom (2014: 119) has advocated the adoption of 'a polycentric approach to the problem of climate change in order to gain the benefits at multiple scales as well as to encourage experimentation and learning from diverse policies adopted at

multiple scales'. Similarly, Marks and Hooghe (2004: 16) argued that MLG structures 'facilitate innovation and experimentation'. Thus, these concepts proffer nuanced means for looking beyond traditional understandings of power and authority. As such, they are especially useful for analysing the complex webs of interactions that define climate governance, in which every actor is – to highly variegated degrees – both responsible for and vulnerable to the impacts of climate change.

The structure of this book

Following this Introduction in Part I, our volume divides Part II into five chapters on Global South countries, namely China, India, Costa Rica and Vietnam, New Zealand, and Brazil and Indonesia. Part III shifts the focus onto Global North countries. We examine the USA, EU, Germany, United Kingdom (UK), four Nordic countries (Denmark, Finland, Norway and Sweden), Ireland, and Switzerland. Finally, in Part IV, we use the Conclusion to provide a comparative summary of the main novel empirical findings and new analytical insights put forward in the preceding chapters. There, we offer a critical comparative analysis of the core conceptual themes, namely types of climate leaders, pioneers and followers, and MLG and polycentric governance.

The chapters in this volume offer rich, detailed case studies of 16 countries and the EU, with the aim of gaining a better understanding of which climate change measures have been driven forward by leaders and pioneers, and how. The novel empirical findings and new analytical insights presented in the chapters should allow us to obtain a better comprehension of which climate innovations and best practices may have to be altered, if they are to be used by others. Indeed, in jurisdictions that have developed along certain path dependencies, even 'actors of change', such as leaders and pioneers, may find it challenging to alter their paths significantly. Yet, regardless of this difficulty, the threat of climate change demands

transformational change and innovation, rather than merely transactional tweaks and adjustments. This volume provides an exploration of climate innovations across the globe. Time is running low for the kinds of systematic changes we need, but these chapters demonstrate that it is possible to build – but also to lose – momentum towards a more low-carbon future.

Endnotes

(1) The expression cited by Shen and Xie (2019: 717) stems from Xie Zhenhua, who was China's lead negotiator at COP21 in Paris.

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