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Environmental Politics

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/fenp20

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To cite this article: Kajsa-Stina Benulic, Marianne Kropf, Björn-Ola Linnér & Victoria Wibeck (2021): The meaning of leadership in polycentric climate action, Environmental Politics, DOI: 10.1080/09644016.2021.1970087

To link to this article: https://doi.org/10.1080/09644016.2021.1970087

Published online: 01 Sep 2021.

ENVIRONMENTAL POLITICS
https://doi.org/10.1080/09644016.2021.1970087

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The meaning of leadership in polycentric climate action

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ABSTRACT

Previous research points to leadership as a key ingredient in mitigation of and adaptation to climate change. We adopt a polycentric perspective and use focus group interviews with Swedish actors within the business sector, politics, and government agencies, to analyse participants' views on what it means to lead, preconditions of leadership, and division of responsibilities, in a context of transformative change. Our results suggest that participants focus on collective dimensions of leadership rather than front-running but see multiple ways of demonstrating climate leadership as being available to actors across governance levels and issue areas. Challenges to these views on leadership include the request for shared rules and regulations, and courage among leaders to enact coercive top-down leadership to handle conflicts and trade-offs. We conclude that polycentric transformative leadership is by default polysemic and will require multiple leadership roles at different scales changing over time.

KEYWORDS Climate change; leadership; sustainability transformations; focus groups; polycentric; non-state actors

Introduction

'Sweden is to become one of the world's first fossil-free welfare states' (Government of Sweden 2017a), Prime Minister Stefan Löfvén announced when the Swedish Government passed its climate political framework. At a time when the world is grappling with how to deal with climate change, the government is not alone in vying for a leadership role. Swedish municipalities, counties, regions, companies, business associations, and other non-state organizations have signed a declaration of intent to show leadership (Fossil Free Sweden n.d.). Ambitions similar to the Swedish one are also being voiced by other governments. One example is New Zealand, where the Minister for Climate Change, James Shaw, stated concerning the 2019 Zero Carbon Amendment Act that 'part of what we're doing is we're role modelling for

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other countries' (The Guardian 2019a), and in Costa Rica the country's decarbonization plan was launched with President Carlos Alvarados stating: 'We can be that example – we have to inspire people' (Guardian 2019b).

Recent plans to tackle climate change highlight the need for societal transformations (European Commission 2019, Government of Sweden 2019); that is, comprehensive and non-linear system changes to make society into something qualitatively different from what it is today (Feola 2015, Patterson *et al.* 2017, Fazey *et al.* 2018, Hölscher *et al.* 2018, Linnér and Wibeck 2019). Societies are dynamic complex systems where feedback loops and effects over time and at different scales are hard to foresee. Thus, manoeuvring transformational change requires adaptive structures and agile agents (Linnér and Wibeck 2019).

Past research suggests that such transformations will require collaboration on a scale previously unseen, between government, business, non-state actors, and communities (Kuenkel 2019). Collaboration between actors has been an important feature of definitions of environmental leadership since before the sustainability transformations discourse gained traction (Gallagher 2012), not the least in polycentric climate governance (defined as the existence of multiple centres of decision-making, across governance levels, sectors, and public and private actor domains, see Torney 2019). Carlisle and Gruby (2019, p. 927) point to 'enhanced adaptive capacity, provision of good institutional fit for natural resource systems, and mitigation of risk on account of redundant governance actors and institutions' as primary benefits of polycentric governance. These advantages directly speak to the need for agile responses under transformative change.

While increasing scholarly attention has focused on the interaction between state, sub-state and non-state actors in climate governance in the wake of the Paris Agreement (Bäckstrand *et al.* 2017, Chan *et al.* 2018, Kuyper *et al.* 2018, Jernnäs and Linnér 2019, Hsu *et al.* 2020), Wurzel *et al.* (2019) still see the attention as being limited. This is especially the case for interaction between leaders and followers in polycentric governance, focused on the types and drivers of leadership of subnational and non-state actors. Furthermore, there are few empirical studies of how actors in polycentric climate governance define types of leadership in relation to transformative societal change rather than spearheading the resolution of one particular environmental issue (Hölscher *et al.* 2018, Kuenkel 2019).

We aim to analyse how key actors make sense of leadership during a transformative process of change. To this end, we adopt a polycentric perspective that allows for a complex landscape of potential climate leaders and followers, where a diverse set of actors can be assigned or assume leadership in relation to each other across horizontal and vertical divides. Specifically, we present a Swedish focus group study of how actors within local and regional politics, the business sector, and regional and national government agencies make sense of: 1) what it means to be a leader, 2) how

preconditions shape the possibilities for enacting leadership, and 3) how responsibilities are divided. We contribute empirically to the climate change leadership literature by exploring how actors in polycentric climate governance view academically derived types of leadership, which to the best of our knowledge has not been done before.

In addition, as the transformation imperative has gained traction in climate change governance, we explore how to understand climate leadership in the context of societal transformations rather than specific mitigation or adaptation action. Hence, we seek to bridge the literatures on climate leadership and sustainability transformations, which to date has been sparsely done.

Background: Sweden's climate policy framework

Our contribution focuses on the views of subnational, national, and non-state actors in Sweden. As a high-income country, Sweden exemplifies a state with particular responsibility to achieve the United Nations Sustainable Development Goals, both according to the United Nations (UN) 2030 Agenda (United Nations 2015) and according to Sweden's own declaration of seeking leadership in implementing the Agenda through domestic action, as well as contributions to global efforts (Government of Sweden 2017b). Sweden is an illustrative case of the polycentricity that often characterizes climate leadership for two reasons: first, the Swedish Government states that transformations toward decarbonization cut across all sectors and must include all stakeholders in society (Government of Sweden 2019). Second, formally independent state, non-state, and sub-national actors have assumed leadership, for example through the roadmaps to a Fossil Free Sweden (Fossil Free Sweden n.d.), and city pledges to aim for net zero greenhouse gas (GHG) emissions in 2030 (Euro Cities 2020).

The Swedish Parliament agreed on a climate policy framework in 2017 that should take the country to carbon neutrality by 2045, by reducing territorial emissions by at least 85% compared to 1990 and offsetting the remaining 15% by, e.g., use of carbon sinks, bioenergy with carbon capture and storage, or mitigation activities abroad. After 2045, negative emissions should be accomplished (Government of Sweden 2017b). The Swedish Parliament (2017) passed the Climate Act that came into force in January 2018, at the same time as they mandated the new independent Climate Policy Council to advise the government and to assess government policies against the goals of the framework and progress towards the climate objectives (Swedish Parliament 2017).

The Government reinforced the Swedish leadership ambitions in its first climate action plan from 2019. However, in its assessment of this plan, the Climate Policy Council criticized the government for failing to clarify how the suggested measures would contribute to attaining the climate goals, and concluded that 'the Government's leadership and governance must be

strengthened to drive the climate transition with sufficient force and speed' (Climate Policy Council 2020, p. 13). Noting that the rate of Swedish GHG emissions reduction has decreased since 2014, the Climate Policy Council has called repeatedly for further political action and increased collaboration among stakeholders from different sectors and organizations (Climate Policy Council 2019, 2020).

Leadership and collective action

The role of climate leadership in evoking change has been studied since the 1990s, before the sustainability transformation discourse became prominent (Wurzel *et al.* 2019). The importance of climate leadership in both mitigation (Schreurs and Tiberghien 2007, Sarasini 2009) and adaptation (Meijerink and Stiller 2013, Scholten *et al.* 2015) efforts has been emphasized, and different modes of leadership have been described (Young 1991, Underdal 1994, Grubb and Gupta 2000, Parker and Karlsson 2015), at multiple levels (Torney 2019). Climate change leadership has at times been conflated with environmental leadership, but has carved out its own research niche. The argument for treating climate leadership as its own phenomenon, albeit connected to other forms of leadership, can be traced back to the nature of the problem. The complexity, uncertainty, abstractness, and magnitude of climate change pose particular challenges to actors wishing to lead, and to the organization of leadership (Parker *et al.* 2012, Meijerink and Stiller 2013). Therefore, scholars have argued that climate change requires leadership across both sectors and governance levels (Ostrom 2010, Torney 2019). The advent of the transformation imperative in climate change discourse highlights the possibly changing roles of climate leadership, not only in terms of polycentric leadership but also with an enhanced focus on collectives rather than individual leaders (Kuenkel 2019).

Modes and roles of climate change leadership

State-centred approaches have dominated research on climate change leadership, but the analytical focus has ranged from the intraorganizational to the transnational context, often in the setting of multilateral negotiations (Underdal 1994, Parker *et al.* 2012, Wurzel *et al.* 2019). It has covered actors other than states – for example, businesses (Gallagher 2016, Esty and Bell 2018), and local actors (Swianiewicz *et al.* 2018). What ties these studies together is the understanding that climate change is constituted as a collective action problem that requires several actors to join forces to reach a common goal, hence the need for leaders.

The literature contains many classifications of leadership in which the modes described differ in their mechanisms and the capabilities they require. In traditional definitions of environmental leadership, the exertion of influence is an essential component; a leader continuously guides or directs the actions of others towards a joint purpose. Such a definition disqualifies the classification of (first) actions that diverge from a shared platform as leadership, as well as one-off instances of exerting influence, and brute force (Underdal 1994). Viewed this way, leadership is inextricably linked to collective action and is inherently relational, implying that aspiring to be a leader and being recognized as one are not the same. Being a leader requires having followers (Karlsson *et al.* 2011). Pioneership has been included in leadership models to emphasize that front-running and mobilization of followers can be unintentional (Liefferink and Wurzel 2017).

While the classifications draw boundaries between modes of leadership in different ways, there appear to be some common elements. Firstly, there is a power-based dimension to leadership, which is classified into one or more modes. Secondly, the conceptions of leadership also include idea-based elements, which typically entail the (re)framing of an issue to influence others, but can also include the crafting of consensus and coalitions. Table 1 summarizes the definitions of modes of leadership, according to different scholars.

Liefferink and Wurzel (2017) point out that leadership is not static; the same actor can combine or switch between modes and actors working collectively may take on different roles at different times. Nhamo (2009) has suggested that the complexity of climate change demands an even more fluid and dynamic leadership model, where leadership modes and leader types are combined. Underdal (1994, p. 192) emphasizes the importance of role differentiation and sequencing, and states that some modes should not be carried out by the same actor, e.g. coercion and mediation.

Actors who lead

Wurzel *et al.* (2019, p. 1) define climate leaders as 'agents of change who are of central importance for climate change mitigation and adaptation'. External climate change ambitions, i.e. the mission to influence others, is a unifying characteristic of leaders (Liefferink and Wurzel 2017). A leader is not the same as a front-runner, meaning that those who are in the middle of the pack, or trudging behind, can also exercise leadership.

Polycentric governance stipulates that there are many decision-making centres because different actors can act relatively autonomously (Wurzel *et al.* 2019). Leader-follower relationships are not limited to states on an international arena but that climate leaders can emerge at all levels, from the local to the global. Furthermore, leadership can be carried out by

Table 1. Modes of leadership.

LEADERSHIP MODE	DESCRIPTION	REFERENCES
Power-based		
Structural/ Coercive	1) Use of hard power to exert influence, through promises or threats. 2) Exertion of influence through negotiation and bargaining.	1) Young 1991; Underdal 1994; Grubb and Gupta 2000; Wurzel and Connelly 2012; Parker and Karlsson 2015; Liefferink and Wurzel 2017 2) Underdal 1994; Grubb and Gupta 2000; Parker and Karlsson 2015
Entrepreneurial	Exertion of influence through negotiation and bargaining.	Young 1991; Wurzel and Connelly 2012; Liefferink and Wurzel 2017
Unilateral/ Directional/ Exemplary	Stating an example by moving first to resolve a collective problem, thereby exerting influence through a change in available options and/or social pressure.	Underdal 1994; Grubb and Gupta 2000; Wurzel and Connelly 2012; Liefferink and Wurzel 2017
Idea-based		
Intellectual	Use of the power of ideas to shape understandings of issues and available options.	Young 1991
Cognitive	(Re)defining interests using scientific expertise, experiential knowledge and/or arguing power.	Wurzel and Connelly 2012; Liefferink and Wurzel 2017
Instrumental	1) Exertion of influence through provision of a diagnosis or cure to which other actors give merit, due either to the diagnosis or cure itself, or to trust in the provider. 2) Creation of coalitions by using diplomatic skill and crafting structures. 3) Evoking consensus between actors.	1) Underdal 1994; Parker and Karlsson 2015 2) Grubb and Gupta 2000 3) Underdal 1994

state actors and governments, but is not restricted to them as non-state actors such as businesses, non-governmental organisations (NGOs), and individual citizens can also demonstrate it (Torney 2019). Wurzel *et al.* (2019) have synthesized studies that show how different modes of leadership are available to non-state actors; stating that coercion and negotiation are easier for powerful actors, such as states and businesses, to acquire, while idea-based forms of leadership and leading by example have been carried out by both state and non-state actors, such as cities, regions, individuals, NGOs, and businesses. As with modes of climate leadership, more research ventures have approached drivers of leadership from a state-centric perspective, while less is known about drivers of leadership in polycentric governance (Wurzel *et al.* 2019).

Stewarding sustainability transformations

As the societal transformation narrative has gained traction in climate change action (e.g., IPCC 2018), a new context in which to understand climate leadership emerges. It involves a shift from addressing climate

change as a particular problem in society, to changing the underpinnings of the societal system that is creating the problem (Scoones 2016, Patterson *et al.* 2017). While societal transformations in a general definition entails 'profound and enduring non-linear systemic changes, typically involving social, cultural, technological, political, economic and/or environmental processes' (Linnér and Wibeck 2019, p. 4), the specifics of transformations, the process and the outcomes, as well as motivations, mean different things to different people (O'Brien 2016, Wibeck *et al.* 2019). This begs the question how the transformation turn in climate governance might influence understandings and the preconditions of climate leadership among actors in different parts of polycentric systems. Analyses of transformational leadership certainly warrants further and deeper studies. However, we focus on the core notion of societal transformation as a metamorphosis in the way we organize society and live our lives, and whether such aspirations invoke new demands for climate leadership.

In descriptions of how to steer or act in relation to sustainable transformations, scholars have used concepts such as governance (Scoones 2016, Patterson *et al.* 2017, Jacob *et al.* 2019, Mangnus *et al.* 2019) and stewarding (Hölscher *et al.* 2018; Kuenkel 2019).The concept of leadership is less commonly used in relation to sustainability transformations than it is in relation to climate change.

A critical issue for transformative action is to what extent societal transformations can be governed (Linnér and Wibeck 2019). Complex systems theory, as well as a multitude of historical attempts, teach us that plans to command large-scale socio-ecological systems never fully evolve as intended, due to the unpredictability of irregular and non-linear interactions, both within and outside the systems (Flood 2002, Miller and Page 2007). Feola (2015) similarly argues that transformations cannot be completely governed: they will always involve processes emerging outside our control, but they can be influenced through the setting of conditions that open up or close off particular paths.

Our understanding of the role of actors in transformations draws on the structuration theory of Giddens (1984), which posits that agency is both structured and structuring. The notion that societal transformations cannot be completely controlled does not mean they cannot be influenced by actors who, for example, formulate goals and visions, or carry out transformative projects or experimentation. According to Kuenkel (2019), stewardship of sustainability transformations rests on a new form of collective leadership. Collective leadership is achieved when actors from different institutions collaborate in such a way that they catalyse 'systemic change for the common good, across institutional boundaries in multi-actor settings' (Kuenkel 2019, p. 22). There are similarities between this view of stewarding transformation and the polycentric, multi-level perspective of climate leadership (Torney 2019), since the centres of decision-making can function as a system when they interact competitively or

cooperatively (Ostrom 2010). However, Kuenkel (2019) argues that stewarding sustainability transformations requires enhanced cooperation and collaborative competency and that distributed collectives, not individual leaders, are at the centre. It is our understanding that manoeuvring sustainability transformations put more emphasis on collaboration between the distributed collectives than polycentric governance, and does not require formal independence between them.

Methods

For this study, we conducted eight semi-structured focus group interviews (Morgan 1997, Wibeck *et al.* 2007) to understand how different actors make sense of climate leadership. We strove to achieve both depth and breadth in the study, by first conducting a series of homogeneous focus groups involving Swedish politicians and actors from the business sector, and regional and national authorities in different groups. Subsequently, we conducted two mixed-group interviews, involving participants from all or most of these categories (see Table 2). The focus groups consisted of representatives of organisations that in different ways had acknowledged their will to take on climate leadership.

Our methodological approach allows us to look for understandings of leadership shared between the participants who represent different actor groups in polycentric governance. Focus groups lend themselves well to such in-depth exploration of sense-making (Marková *et al.* 2007). However, the set-up of this qualitative study is not apt for comparative analyses between actor groups or individuals.

All of the focus group interviews occurred in the facilities of the Norrköping Decision Arena, which supports the use of interactive brainstorming and the polling tool Mentimeter. Open-ended questions and the focus group set up invited participants to steer conversations to topics and aspects of their choosing. We invited participants to reflect upon why climate

Table 2. Focus groups included in the study.

FOCUS GROUP (FG)	ACTORS	NUMBER OF PARTICIPANTS
1	Businesses	3
2	Regional government agencies	4
3	Businesses	6
4	National government agencies	4
5	Local and regional politicians	4
6	Local and regional politicians	6
7	Mixed group (businesses, government agencies, and politicians)	6
8	Mixed group (businesses, government agencies, and politicians)	5

leadership is important, who leaders are in different settings, and what influences possibilities of enacting leadership. For the Mentimeter exercise, we posed a survey question that we previously used for the International Negotiations Survey at the UNFCCC Conferences of the Parties (COP): 'Climate leadership is best demonstrated by: 1) developing new solutions, 2) establishing joint actions and initiatives, 3) providing a role model, implementing best practices that others can copy, 4) providing visions, 5) using resources to take significant domestic climate action, and 6) using resources to motivate others to take action'. We identified the options through previous leadership literature (e.g. Elgstrom 2007, Kilian and Elgström 2010, Parker and Karlsson 2010, Saul and Seidel 2011, Papa and Gleason 2012, Parker *et al*. 2012), and formulated and tested them through an expert panel of researchers on climate leadership. We introduced the Mentimeter question to the focus groups to further spur discussion.

We audio-recorded the focus group interviews to facilitate transcription and analysis. The participants were informed of the audio-recording, data analysis, and transcription processes and gave their written consent to participate in the study. Our analysis focused on recurring arguments rather than individual opinions, and we have anonymized quotes from the interviews. We used the program 'easytranscript', Version 2.50 to transcribe the group interviews word-for-word. The focus groups generated a total of 249 pages of transcripts. Since we conducted the interviews in Swedish, we also prepared the transcripts in Swedish, but we have translated important citations into English for this contribution.

For the analysis, we first read the transcripts in full, recorded shifts in topics and coded each topic according to its central theme. Two transcripts were coded independently by three researchers before one of us completed the coding of all transcripts. We then sorted all topics into categories representing the research questions: types of leadership, preconditions for leadership, and responsible actors. Within each category, we used clustering to identify recurring themes that represented meanings shared among the focus group participants. The principle for selecting recurring themes to present in the analysis was that the theme was central in a majority of the focus groups (≥5). To further interpret the meaning of each theme, we to the original transcripts, searched for patterns within the themes, and compared the categories based on research questions to find links; for example, between ways of demonstrating leadership and responsibility for acting as a leader. We selected the quotations used to illustrate the analysis from a larger body of transcript excerpts representing the same central theme within a category.

Results

What it means to lead

When discussing what characterizes a leader, the focus groups framed it in terms of what a leader should do, and what qualities are necessary in order to be able to act as a leader. The actions, as described by the participants, fall into the idea-based and power-based modes, i.e. *intellectual* and *entrepreneurial*, as well as *coercive* and *unilateral* leadership. However, the participants' discussions also showed that the same way of demonstrating leadership can be given multiple meanings.

Ways of demonstrating leadership

One way of demonstrating leadership is 'using resources to motivate others to take action'. This idea was highlighted in all the focus group discussions, but only in combination with other ways of demonstrating leadership. While leadership has been defined as the exertion of influence to make others follow (Underdal 1994), the participants did not make sharp distinctions, either between intending to motivate and succeeding in motivating, or between taking action oneself and motivating others to act. Several actions were understood as having a motivational function: communicating positive examples, providing positive examples/role models, communicating positive visions, formulating visions, and being a front-runner. 'Providing a role model' and 'providing visions' are two other ways to demonstrate climate leadership, and these were both common themes during the focus group discussions. According to participants, leaders could carry out both of these approaches in two different ways: in isolation or in combination. A leader could provide visions in two ways, both *instrumental*; by being the visions' architect, and/or by motivating followers by communicating the vision and the rewards that await those who take action. One participant explained that providing a vision means to 'attract people [by] telling [them] the sun will shine, the grass will be greener, and the insects will come back' (FG 6). However, the participants who highlighted the necessity of an alluring vision also contended that it is insufficient; visions should be complemented by concrete measures, good examples, or explanations of how to achieve the vision.

Likewise, leaders can be role models themselves, setting positive examples for others to follow, but they could also communicate what other role models are doing to inspire action. Based on how the participants made sense of the provision of role models, this way of demonstrating leadership can be *unilateral* and/or *instrumental*. *Unilateral* leadership means moving first (Underdal 1994, Liefferink and Wurzel 2017) and participants connected provision of role models to leading by example, but not to the same extent as they connected it to acting in what was perceived as a right way. Being a front-runner was not as commonly emphasized as providing role models, though it was also seen as potentially motivational. More importantly, being

a front-runner was associated with an improved reputation, a stronger position in negotiations, or gaining business advantages, what Liefferink and Wurzel (2017) would call pioneership, as the intention is not to attract followers.

A possible explanation for why the participants did not emphasize being a front-runner more is that the importance of collectivity in climate leadership was a prominent theme in the focus group discussions. The participants' focus on collective climate leadership is in line with Kuenkel's (2019) conception of stewarding sustainability transformations, where the individual leader is less important. Collective climate leadership was hailed for several different reasons: it was seen as more likely to achieve change, spur innovation, create widespread engagement, and ensure that others will follow if you do choose to move first. Thus, you get insurance that you will not be alone in taking a risk. An additional benefit of collective climate leadership that was mentioned is that collaboration between actors from different sectors and governance levels can facilitate seeing the whole picture, thereby avoiding unforeseen negative effects and conflict. Similarly, participants pointed out that collaborative planning, joint initiatives, and learning might help leaders to identify obstacles further along the road in order to pre-empt them and create a smoother ride towards climate-goal achievement. The potential drawbacks of collective climate leadership mentioned during discussions were that joint initiatives might be more symbolic than effective, and that it would be difficult for actors to collaborate when they were used to competing with each other for resources or market share.

A complex picture of collective leadership emerged in the focus group discussions. A divergence from the climate leadership literature, but not necessarily the sustainability transformations literature, is how broadly the participants interpreted leadership actions; not only actions intended to guide or direct others were considered to be leadership. Based on the focus group discussions, the list of ways to demonstrate collective climate leadership includes the following: inviting others to join the collective effort, joining a collective effort, formulating joint initiatives, implementing joint initiatives, identifying collaborators, learning from others, helping, or challenging other actors. 'Establishing joint actions and initiatives' is one typical way of demonstrating climate leadership, but the discussions added many related ways of demonstrating climate leadership. One example of successful collective climate leadership that recurred in several focus group discussions was Fossil Free Sweden and its delivery of visions, as well as the jointly developed roadmaps towards net-zero GHG emissions within different sectors. Although each roadmap focuses on only one sector, the initiative was described as joint between business, industry, the government, and government administration because all played a role in making the initiative come to fruition.

Scholars have pointed out the messiness of climate leadership before, and while Underdal (1994), among others, contends that role differentiation between actors and sequencing are important, others view fluidity as inherent to (Liefferink and Wurzel 2017) or even necessary for collective climate leadership (Nhamo 2009) and polycentric governance (Carlisle and Gruby 2019). The focus group discussions point towards an understanding of collective climate leadership as agile and complex, with many leaders demonstrating leadership in many different ways. By outlining a multitude of leadership actions and roles, the focus group discussions imply that all actors who are involved in collective leadership are leaders. This, however, does not mean that everyone should do everything, or that everyone is suited to a leadership role.

Leadership qualities

In addition to determining the activities that constitute leadership, we can also define what leadership means in terms of the qualities that characterize it. Two leadership qualities were prominent in the focus group discussions, the first being courage, as the following quotation illustrates:

> I also wrote down political courage because, if we only think about the climate, we now have very ambitious, and in that regard courageous, climate goals. But the real courage appears when tensions emerge between the social, the economic and the environmental – when we actually have to make decisions that are inconvenient at present or when someone has to pay in some way for the transformation. (FG2)

Courage was understood as a requirement for many of the activities included under the leadership umbrella. The above quote shows that courage was deemed especially important when win-win outcomes were unavailable. Specific activities seen as more courageous were prioritization, between groups of actors or possible choices, and making decisions, especially ambitious political decisions, when public support was lacking. Other activities that require courage according to participants were being a front-runner, political decision-making, such as setting ambitious goals or introducing taxes, pushing for more ambitious goals and regulations in negotiations, as well as sticking to and defending standpoints and decisions. Also, lack of courage was discussed as an explanation for inadequate leadership, especially among politicians. However, participants expressed an understanding for such lack of courage, and stated that it is probably harder for politicians to show courage because they are scrutinized publicly and depend on public support.

A second quality of leadership emphasized during discussions was the ability to see the whole picture. According to participants, this ability means that a leader takes into consideration different sectors, such as energy and transport, different levels of governance, and different aspects of sustainability, from the

ecological to the social and economic, and beyond. Phrases used to explain the ability to see the whole picture were leadership for 'society' or 'the system'. When motivating why this was important, participants referred to possible conflicts of interest and unwanted consequences if leadership is limited to one sector, sustainability dimension, or governance level. Scholarship on the stewardship of sustainable transformations also warns against silo thinking and isolated action, if encompassing societal change is the goal (Kuenkel 2019). In the focus groups, the ability to see the whole picture was not contingent on collective leadership but was rather seen as a leadership skill attributable to any leader, including individual ones. This is interesting for two reasons, the first being that 'seeing the whole picture' and avoiding unintended consequences is seen as virtually impossible when it comes to societal transformations (Feola 2015), and the second being that, when marks of good leadership were discussed, the participants focused on qualities of individual leaders rather than of a collective even though collective leadership was hailed as important. The possibility of transgressing sectorial and vertical boundaries was not described as dependent on collaboration between actors, and this is why the ability to see the whole picture is perhaps best understood as a mark of a good individual leader rather than its own mode.

Leadership preconditions

Stepping up to the plate as a leader is not only tied to the qualities of an individual or organization. The focus groups identified several preconditions that either facilitate or hinder leadership activities. There was also conflation between leadership activities and leadership preconditions, since participants pointed out that it is a leadership activity to create preconditions favourable to other potential leaders.

Support of political leadership

In the discussions, leadership was conditional upon available supporters; it was perceived as being best carried out when there are groups of actors agreeing with your line of action. Climate leadership was seen as part of a process, where leading actors, when the time is ripe, can come together and push for change. Leadership of this kind was connected both to decision-making within political fora, such as the COP or local governing boards, and to making business investments or strategic changes. Participants deemed support especially important for politicians; they were not expected either to lead, or to encourage others to do so, if support from the public and/or the business sector was lacking. Support from the public and/or businesses was also described as a facilitator of courage among politicians; with support, they can dare to make decisions that are not universally liked and to defend them.

Making sense of support as a key to leadership raises questions about how to mobilize such support, which is where idea-based leadership can come in (Underdal 1994, Grubb and Gupta 2000). Rather than discussing how to gain support, participants emphasized acting when there is a window of opportunity. The existence of support seemed tied to some notion of the zeitgeist, as a participant explained:

> You can't push things forward if you haven't got others with you. In our democracy we need more parties, groups of people, who feel the same way and decisions must be accepted because otherwise you'll run into another hurdle. It's very hard to push ahead. I've experienced times when I lobby, or someone else lobbies, for something that's right, but the time isn't. (FG 7)

A metaphor used to describe this precondition of support was 'being chosen'. The need for support was tied to the fear of not being chosen. If you lead without having support you run the risk of not being re-elected, if you are a politician, and of alienating employees or customers if you are a business leader.

Goals and action plans

The overarching goal of Sweden is to achieve net-zero GHG emissions by 2045, but it is not the only goal in the decarbonization transformation. Overarching and supporting goals were appreciated as necessary preconditions by the focus groups, but they were made sense of in slightly different ways. These goals were either understood as sufficient preconditions, or as deficit preconditions if not accompanied by action plans. Why action plans are needed to make goals sufficient preconditions for leadership is illustrated in the following quotation about working towards a goal:

> I remember when I started working, it's a while ago, so I don't remember the goal, it was something to do with energy or electricity, and naturally I thought there was an [action plan]. Who should do what, which agencies, how should this come about? So, I sat there, and I made phone calls to ministries and agencies, I felt a bit silly afterwards, and no one had any plan for how to reach the goal. I thought it wasn't true, I must have misunderstood something, but I hadn't. It really is the case, there is no plan for how to reach 100% renewable energy. (FG 8)

However, there were two different views on whose responsibility it is to provide action plans. Either it befell the same leader(s) who have set the goals, or else other groups of leaders were expected to design action plans that suit their specific needs once someone else has set the goals.

Rules and regulations

Shared rules of the game were perceived as a necessary precondition for climate leadership, specifically among business actors. One example of such shared rules that was mentioned during the focus group discussions was the Swedish Climate Act. Participants pointed out two main purposes of shared

rules of the game. The first is to create predictability, and the second is to create a level playing field so that businesses can know that it will pay off financially to be a leader. Predictability was deemed necessary in order to make investments in operations to decrease GHG emissions, or to put time and money into developing new solutions. In order to achieve predictability, the rules and regulations have to be the same for all actors, but also stable over time. Creating a level playing field, by contrast, was seen as having more to do with the streamlining of national legislation, in order to achieve fair competition among actors in different countries or regions of the world. While shared rules of the game were understood as being a precondition for businesses to act as leaders, a role was also carved out for politicians and agencies; namely, to make sure that the rules of the game are indeed shared. What was requested from politicians was *coercive* leadership, they were assigned responsibility for influencing the financial pay-off, to make it worthwhile for businesses to assume leadership. This suggests that leadership can also entail the removal of obstacles that hinder other actors from becoming leaders. Here, the participants did ascribe different leadership roles to different actors in a way they did not when it came to, for example, collective leadership.

In contrast to the precondition of shared rules of the game stands the precondition of *flexible rules and regulations*, i.e. less *coercive* leadership from politicians. Too rigid rules and regulations were seen as hampering business leadership, but also leadership among government agencies and public actors. The participants' reasoning was that rigidity does not allow for leadership in the forms of experimentation, leading by example, implementation of new technology and solutions, or increased demands on other actors. In particular, the legislation concerning the production and trading of renewable energy, and the Swedish law on public procurement, were recurring examples of rigid rules and regulations hindering climate leadership.

Conclusions

This contribution fills a research gap by providing empirical insights into how actors in polycentric climate governance view academically derived types of leadership. We focused on how actors within local and regional politics, the business sector, and regional and national government agencies made sense of: 1) what it means to be a leader, 2) how preconditions shape the possibilities for enacting leadership, and 3) how responsibilities are divided. To address the sense-making of climate leadership in the context of the societal transformations envisioned in the IPCC 1.5°C report and the 2030 Agenda, we have bridged the literatures on climate leadership and sustainability transformations.

First, leadership was given multiple meanings in the focus group discussions, and participants included a wide range of ways to demonstrate leadership. Notably, the Swedish actors focused more on collaborative leadership than on leading by example through front-running. Furthermore, both courage and the ability to see the whole picture were qualities associated with acting as a leader. Second, support of leadership, goals and action plans, and rules and regulations were singled out across focus groups as important for shaping the possibilities to enact leadership. The clearest divergence of views concerned whether the rules and regulations should primarily support predictability or allow flexibility within the system. Third, the participants divided the responsibility for some ways of demonstrating leadership and creating preconditions for leadership between different actors. However, most ways of demonstrating leadership and most leadership qualities were discussed in more general terms in the focus groups, which we interpreted in the way that their generalizability was important and that they were available to any actor desiring to lead.

Our conclusions illustrate some of the characteristic features of polycentric climate leadership and stewarding sustainability transformations but also point to some tensions between state-centric and polycentric leadership. The polycentric approach to climate leadership and ideas about the stewardship of sustainability transformations, like the focus group participants, emphasize the collective dimensions of leadership in order to break silos. A system of leaders and followers that links, but is distributed across, levels and issues, could more adequately and effectively address the complexity, magnitude, uncertainty, and abstractness of climate change (Nhamo 2009, Ostrom 2010, Torney 2019), or steward a systemic transformation, rather than a shift within a sector (Kuenkel 2019). However, our focus group study also shows that while leadership is often given meanings of collective action, there are suspicions among participants that it might be more symbolic than effective. The meanings ascribed to leadership by participants often veer away from state-centric views of climate leadership. Whether this is due to a socialization into collective leadership or a belief about its effectiveness, or indeed both, remains to be investigated in future studies.

Furthermore, the participants highlight the leadership ability of seeing the whole picture, and deem it especially relevant in relation to the inclusion of different sectors, levels of governance, and aspects of sustainability. If the societal sustainability transformation narrative continues to grow stronger, so might the importance of nexus qualities, since manoeuvring sustainable transformations entails transgressive rather than silo thinking (Kuenkel 2019). The role of courage, the other quality highlighted by participants, in polycentric leadership is not as clear. Participants deem it important when

trade-offs and conflicts are dealt with, and these are impossible to avoid in a polycentric transformative process. At the same time, participants view courage as facilitating coercive top-down leadership.

Another characteristic of polycentric transformative leadership is that it spurs agility. That the focus group participants assign many different meanings to leadership, without necessarily linking specific leadership modes to specific actor groups, is in line with such an adaptive system where subnational, non-state, and state actors can form decision-making centres and demonstrate leadership and pioneership under constantly changing circumstances. It might seem messy that roles and responsibilities have not been clearly defined and that not one but many leaders emerge, but only if we assess the leadership from a state-centric point of view. However, the leadership precondition of stable rules and regulations to ensure predictability, which reoccurred in the focus group discussions, does not speak to an agile system but rather points to there being diverging ways of seeing what is conducive to leadership apt at dealing with climate change. In essence, polycentric transformative leadership is by default polysemic; it will require multiple leadership roles at different scales changing over time.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by The Swedish Foundation for Strategic Environmental Research—Mistra through the research programme Mistra Carbon Exit [Grant No 2016/12#6] and The Swedish Research Council Formas through the project 'Decarbonisation leadership: Disentangling Swedish transformation pathways and their exemplary roles' [Grant No 2016-00589].

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