Engaging City Residents in Climate Action: Addressing the Personal and Group Value-Base Behind Residents’ Climate Actions

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Abstract
Cities can play a pivotal role in accelerating climate action, that is, climate mitigation and adaption. Yet, the success of cities’ climate strategies strongly depends on the cities’ residents, who often have to accept, adopt, undertake and participate in climate actions. This article discusses how a better understanding of city residents’ motives—particularly the personal and group values that underlie their climate actions—could foster climate action in cities. Importantly, it engages with the rich literature in the social sciences on personal values, which—though typically overlooked by policymakers—highlights the relevance of focusing on personal biospheric values (i.e., caring about nature and the environment) in explaining and promoting residents’ climate actions. Additionally, the article provides novel insights into how perceived biospheric group values (i.e., the extent to which relevant groups are perceived to endorse biospheric values) can strengthen the value-base for climate actions, particularly among those residents who weakly endorse biospheric values. Critically, it provides concrete examples of how cities can strengthen the group value-base for climate actions, thereby showing how cities can play a unique role in engaging residents in climate action.

Keywords
Empowerment and participation, personal values, values, climate action, city residents, group values

Introduction
Climate change is negatively impacting living environments and livelihoods across the globe. To prevent (further) risks of climate change, climate actions—which include climate mitigation and adaptation actions—are urgently needed across all societal levels at an unprecedented wide-ranging scale (Gillard

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et al., 2016; Intergovernmental Panel on Climate Change, 2018). Cities play a pivotal role in climate mitigation and adaptation as they strongly contribute to climate change, are strongly impacted by climate change, are responsible for many climate actions and policies, and—according to our theorising—can exert a unique influence on individuals’ climate actions. Specifically, we propose that individuals’ climate actions and policy support may strongly depend on the perceived endorsement of values within a city (i.e., perceived group values; Bouman & Steg, 2019). This novel proposition extends and integrates literature on personal values and social identity theory and applies it to the city context. Thereby, we provide new perspectives on how cities can (de)motivate climate actions among its residents, which is critical to reach city- and society-level climate targets. We briefly introduce why cities are crucial entities to consider when focusing on climate change, after which we discuss existing literature on the key role played by personal values in (de)motivating climate action. We extend this by introducing when and how individuals’ perceptions of others’ values—specifically the values they perceive to be endorsed within their city—can influence individuals’ climate actions. Thereby, we provide insights into the unique role cities may play in undertaking and accelerating climate action and show how they can powerfully contribute to the promotion of urgently needed climate actions among their residents.

**Cities and Climate Action**

Cities play a pivotal role in accelerating climate actions for at least four reasons. First, cities strongly contribute to global greenhouse gas emissions (C40, 2018; International Energy Agency, 2008, 2016; Wamsler & Brink, 2014b) and, accordingly, clearly impact climate change and its mitigation. Second, cities are highly vulnerable to the risks of climate change (C40, 2019; Intergovernmental Panel on Climate Change, 2018; Reckien et al., 2017; Wamsler & Brink, 2014b), making climate actions pressingly needed within them. Third, cities are often responsible for the initiation of climate action as many climate policies are at the city level and, therefore, fall within the responsibilities and jurisdiction of cities and their local governments (Amundsen et al., 2018; Rosenzweig et al., 2010). Lastly, cities are often considered centres of wealth and innovation, placing them at the frontline of societal change and providing strong potential for climate action (Amundsen et al., 2018; Bazaz et al., 2018; C40, 2017, 2019; International Energy Agency, 2016; Rosenzweig et al., 2010; Solecki et al., 2018). The pivotal role cities play in accelerating climate action is further emphasised by urbanisation (UN DESA, 2017). With cities becoming more (densely) populated, diverse and expanding, emissions will sharply increase if no further actions are undertaken (Bai et al., 2018; CDP, 2014; Revi, 2016; Stern et al., 1998). At the same time, these developments provide clear opportunities for climate action (C40, 2019; Intergovernmental Panel on Climate Change, 2018; Revi, 2017; Solecki et al., 2018). For instance, new urban areas and buildings can be made climate friendly and resilient right from their development.

Yet, despite the pivotal role that cities play in reaching global climate targets, the key to successful climate action often rests in the hands of the persons living in the cities (Carrico et al., 2015; Dietz et al., 2013; Hackmann et al., 2014; Intergovernmental Panel on Climate Change, 2018; Sovacool, 2014; Vlek & Steg, 2007). For instance, cities can have ambitious plans for climate action, involving highly innovative technologies and policies, but without residents accepting, participating, adopting and/or using them, these plans are unlikely to succeed. In addition, next to top-down initiated actions from local governments, bottom-up initiatives from city residents can be critical to reach climate targets (Perlaviciute et al. 2018; Wamsler & Brink, 2014a). Thus, when cities want to achieve their ambitious climate targets, they need to encourage their residents to engage in climate actions as well.
However, whereas institutional, technological and economic aspects are often considered in the development of climate strategies, policies and trajectories, typically much less attention is paid to social aspects, particularly the social and psychological factors behind city residents’ support for and participation in climate actions. Yet, climate strategies and trajectories will be more effective if they target the key factors that drive or inhibit individuals’ climate actions (Carrico et al., 2015; Dietz et al., 2013; Hackmann et al., 2014; Intergovernmental Panel on Climate Change, 2018; Sovacool, 2014; Stern et al., 2016; Vlek & Steg, 2007). Therefore, identifying the motivating, enabling and inhibiting factors involved in city residents’ support and undertaking of climate actions as well as understanding how climate strategies and policies could address them can be very powerful tools to accelerate consistent climate actions and ultimately reach cities’ climate targets.

This article aims to provide a comprehensive overview of the key factors that motivate, enable and inhibit climate actions among individuals living in cities, specifically focusing on the personal and social value-base in which their climate actions are often rooted. We first discuss how personal values can motivate climate actions. Thereafter, we discuss how the perceived values of the group(s) an individual belongs to can be additional motivators; these appear to be particularly useful in motivating those individuals who are not (yet) personally motivated to engage in such actions. Importantly, we argue that cities as entities can be an important source of group values, potentially making them a strong encouraging force for residents’ climate actions.

**Personal Values and Climate Actions**

*The Personal Value-Base Behind Individuals’ Climate Actions*

One key driver of individuals’ climate actions are the values they personally endorse (Boer & Fischer, 2013; De Groot & Steg, 2008; Dietz et al., 2005; Hornsey et al., 2016; Maio et al., 2009; Schultz & Zelezny, 1999; Steg et al., 2014 a, b; Stern et al., 1998). Values give people broad and desirable goals to strive for in their lives and guide their beliefs and actions (Durkheim, 1897; Rokeach, 1973; Schwartz, 1992; Schwartz & Bilsky, 1987; Schwartz et al., 1992). Values are relatively stable over time, transcend specific situations and are used as standards or criteria based on which actions, technologies and policies are evaluated and on which individuals decide whether to support certain actions or not (Durkheim, 1897; Feather, 1995; Rokeach, 1973; Schwartz & Bilsky, 1987; Schwartz et al., 1992).

Research has identified a universal set of personal values that are endorsed, at least to some extent, by all individuals in the world. Although individuals typically endorse all values to an extent, the strength of endorsement and prioritisation of each value varies between individuals (Maio, 2010; Rokeach, 1973; Schwartz, 1992; Schwartz et al., 1992). That is, one individual might endorse certain values strongly and prioritise them over other values, whereas another individual might endorse these values to a lesser extent and prioritise other values instead. Accordingly, each individual has a unique value system in which values are hierarchically ordered. Importantly, the values that someone prioritises are likely to have greater influence on their beliefs and actions than the values that they endorse relatively weakly (Maio & Olson, 1995; Schultz & Zelezny, 1999; Schwartz, 1992, 2012; Stern et al., 1998; van den Broek et al., 2017).

Four values appear to be particularly related to climate actions (Bouman et al., 2018; De Groot & Steg, 2007, 2008; Dietz, 2013; Dietz et al., 2005; Steg & De Groot, 2012; Steg et al., 2014; Stern et al., 1998).
Two of these values belong to the self-transcendence cluster, indicating that goals associated with these values benefit things larger than the self, in particular, other people, nature and the environment, and thus transcend the self. The other two values belong to the self-enhancement cluster, indicating that the goals associated with these values primarily benefit individuals personally, such as their personal welfare and well-being.

The two values belonging to the self-transcendence cluster are biospheric and altruistic values; a strong endorsement of these values typically promotes climate action. Biospheric values create goals to care for nature and the environment. Thus, a stronger endorsement of biospheric values is consistently related to a stronger engagement in climate action (Bouman et al., 2018; De Groot & Steg, 2007, 2008; Hornsey et al., 2016; Ponizovskiy et al., 2019; Schwartz, 2003; Steg et al., 2014b; Stern et al., 1998). Altruistic values indicate goals to care for the well-being of other people and for social equality and fairness. The more someone endorses altruistic values, the more likely they are to engage in climate action, which could be explained by the notion that many climate actions benefit other people, including future generations and society at large (Bouman et al., 2018; De Groot & Steg, 2007, 2008; Schwartz, 2003; Steg et al., 2014b; Stern et al., 1998). However, when climate actions are perceived to have societal costs, for instance when they disadvantage certain groups (e.g., subsidies on expensive technologies may benefit those who can afford the technology but disadvantage those who cannot) or when individuals have to decide to either invest in climate actions or social welfare (De Groot & Steg, 2008), strong altruistic values may inhibit climate action.

The two values belonging to the self-enhancement cluster, egoistic and hedonic values, are typically negatively related to climate actions (Bouman et al., 2018; Steg et al., 2014b; Stern et al., 1998). Individuals who strongly endorse egoistic values care a great deal about status, possessions, power and achievement, and are often less likely to engage in climate actions because such actions are typically associated with egoistic (e.g., financial) costs (Bouman, et al., 2018; Schultz & Zelezný, 1999; Steg et al., 2014b; Stern et al., 1998; Venhoeven et al., 2013). Individuals who strongly endorse hedonic values prioritise having fun, pleasure and comfort, and are less likely to engage in climate actions due to associated hedonic costs, such as inconvenience or effort (Bouman et al., 2018; Steg et al., 2014b; Venhoeven et al., 2013). Yet, some climate actions are perceived as having personal benefits, and may therefore be motivated by strong hedonic or egoistic values (cf. Ponizovskiy et al., 2019). For instance, individuals with stronger egoistic values are more likely to adopt status-enhancing sustainable technologies (e.g., electric vehicles) or implement financially attractive climate measures (e.g., installation of solar panels). Similarly, stronger endorsement of hedonic values could make individuals more likely to adopt technologies that make life easier (e.g., automation) or more comfortable (e.g., insulation).

Importantly, many individual actions have both costs and benefits for different types of values. For instance, individuals could perceive investments in insulation as having biospheric (e.g., lower energy use), hedonic (e.g., comfort) and egoistic benefits (e.g., lower energy bills), and at the same time as having hedonic (e.g., inconvenience of installation), egoistic (e.g., initial investments) and biospheric (e.g., unsustainable materials) costs. When individuals perceive an action as having benefits and costs for the same or different types of values, they can experience a value conflict (de Groot & Steg, 2008; Perlaviciute & Steg, 2015; Ponizovskiy et al., 2019; Schwartz, 1996; Steg, 2016; Steg et al., 2015). In such instances, the perceived relative positive or negative impacts on each value, and particularly the impacts on strongly endorsed values, guide the individual’s decision to engage in an action or not (Dietz, 2013; Dietz et al., 2013; Perlaviciute & Steg, 2014, 2015; Ponizovskiy et al., 2019). For instance, for someone with strong biospheric values, small environmental benefits (e.g., small energy savings) could outweigh some egoistic or hedonic costs. Conversely, for someone with stronger hedonic values,
environmental benefits alone might not be convincing enough, particularly when actions are inconvenient. On the other hand, if the costs are simply too high, individuals are also unlikely to undertake climate actions even if the costs pertain to less-endorsed values (e.g., simply being unaffordable or very inconvenient) and even if those individuals strongly endorse biospheric values.

In sum, four types of values underlie individuals’ support for and engagement in climate action. In general, the stronger individuals endorse self-transcendence values, particularly biospheric values, the more likely they are to engage in climate actions, whereas the stronger they endorse self-enhancement values, the less likely they are to engage in climate actions. Moreover, individual climate actions are often perceived as having costs and benefits for different types of values, which can result in value conflicts, in which the implications of the action for each type of value and the relative importance an individual attaches to each value is decisive in which actions individuals are likely to support or undertake.

**Targeting Personal Values to Promote Climate Action**

**Target Self-Enhancement Values**

It is often assumed that costs and benefits associated with self-enhancement values are most decisive in individuals’ decisions to support or engage in climate actions, and accordingly, most climate strategies focus on alleviating those costs or promoting those benefits (Bolderdijk et al., 2013; Handgraaf et al., 2013). For example, frequently employed strategies to promote climate actions include subsidising sustainable technologies (e.g., for PV-panels), which can lower perceived egoistic costs. Similarly, strategies can emphasise self-enhancement benefits, such as reductions in living costs (i.e., egoistic benefits) due to energy efficiency investments or improved living comfort (i.e., hedonic benefits) due to better insulation.

Although self-enhancement strategies can be effective, particularly when self-enhancement costs are critical barriers for change, they can also be less effective than typically anticipated (Bolderdijk & Steg, 2015; Handgraaf et al., 2013; Schwartz et al., 2015). Importantly, many considerations that are critical to individuals’ decisions to participate in climate actions do not pertain to self-enhancement values alone and are thus not addressed by self-enhancement strategies. Moreover, not all climate actions have self-enhancement benefits, and most of the ones that do (e.g., energy efficiency measures) only have small self-enhancement benefits, which are often perceived as not worth the effort (Bolderdijk et al., 2013; Dogan et al., 2014). In such situations, self-enhancement strategies (e.g., subsidies, incentives) are unlikely to succeed especially among intrinsically motivated individuals (e.g., with strong biospheric values) who would act when no self-enhancement strategy is in place (Bolderdijk et al., 2013).

Another factor that reduces the effectiveness of self-enhancement strategies is that many self-enhancement benefits are extrinsic to the desired action. Oftentimes, a policy or intervention attaches a self-enhancement benefit (e.g., subsidy, gamification) to a specific action (e.g., installation of solar panels, energy efficiency behaviours) to increase its attractiveness. However, when such a policy or intervention is discontinued (e.g., subsidy) or when the incentive wears out (e.g., fun aspect of gamification), people are likely to return to their old behaviours (Bolderdijk et al., 2011; Maki et al., 2016; Van der Linden, 2015) unless another benefit is introduced (Fujii & Kitamura, 2003).

Furthermore, focusing on self-enhancement benefits could crowd out more intrinsic (self-transcending) motivations (Bolderdijk et al., 2013; Deci et al., 1999; Frey & Jegen, 2001; Gneezy & Rustichini, 2000; Handgraaf et al., 2013; Schwartz et al., 2015), thereby reducing or removing an important motivational source for climate actions (Bolderdijk et al., 2013; Schwartz et al., 2015; Steg et al., 2014; Stern et al.,
Therefore, climate strategies targeting self-enhancement values can be less effective than typically anticipated and could sometimes even lower—instead of increase—residents’ motivations to engage in climate actions.

**Targeting Self-Transcendence Values**

Although much less attention is typically paid to strategies targeting self-transcendence values (Bolderdijk & Steg, 2015; Handgraaf et al., 2013; Penn, 2003)—like strategies stressing the benefits of climate actions for nature, the environment, or society—such strategies are much less susceptible to the issues raised above mainly because most climate actions inherently benefit self-transcendence values. Moreover, the often heard scepticism that self-transcendence strategies only appeal to a very small group of people who are extremely engaged with climate change and climate actions seems, at least partly, unwarranted. Many individuals endorse self-transcendence values relatively strongly (Bouman & Steg, 2019), which suggests that there is a relatively strong personal value-base for climate strategies targeting self-transcendence values (Bouman & Steg, 2019; Schwartz & Bardi, 2001; Steg, 2016, 2018).

Indeed, research suggests that strategies pertaining to self-transcendence values, biospheric values in particular, are effective in encouraging individual climate actions, and can even be more effective than pertaining to self-enhancement values (Bolderdijk et al., 2013; Crompton, 2010; Evans et al., 2013; Hahnel et al., 2015; Handgraaf et al., 2013; Noppers et al., 2015; Schuitema & de Groot, 2015; Schwartz et al., 2015; Steinhorst et al., 2015; Van der Linden et al., 2015). Schwartz et al. (2015), for instance, found that enrolment in an energy-saving programme was higher when only environmental benefits were advertised compared to when monetary benefits alone or both monetary and environmental benefits were advertised. These results show that communicating that a specific climate action has biospheric benefits can be more effective in promoting it than communicating its self-enhancing benefits; the latter might even undermine the positive effects of communicating the biospheric benefits.

In addition, strategies that promote specific climate actions by targeting self-transcendence values likely result in positive spillover effects; that is, they are also likely to enhance individuals’ engagement in other but related climate actions than the specific action that is promoted (Evans et al., 2013; Nash et al., 2017; Peters et al., 2018; Steinhorst et al., 2015; Van der Linden, 2015). For instance, Steinhorst et al. (2015) found that presenting electricity savings as environmentally beneficial enhanced not only individuals’ motivation to save electricity but also their motivation to lower their beef consumption and heating and car use, which was not the case when electricity savings were presented as being financially attractive. One explanation for these positive spillover effects is that most climate actions benefit self-transcendence values. Highlighting the self-transcendence benefits of one action can make people aware of the similar benefits of other actions as well, thereby also promoting these climate actions (Evans et al., 2013; Peters et al., 2018; Steinhorst et al., 2015; Van der Linden, 2015). Moreover, individuals are often motivated to act consistently, particularly when actions are taken voluntarily and deliberately and are considered indicative for individuals’ self-identity (Van Der Werff et al., 2014). Accordingly, when individuals engage in climate actions for self-transcending reasons, they likely see themselves as pro-environmental and pro-social persons, which strengthens their motivation to engage in congruent climate actions (Peters et al., 2018). Hence, unlike self-enhancement strategies, which are often specific to the targeted action (Nash et al., 2017; Peters et al., 2018; Steinhorst et al., 2015), strategies focusing on self-transcendence values have the power to positively spillover and motivate engagement in other climate actions as well, thereby enabling the promotion of a wide range of climate actions.

An additional benefit of focusing on self-transcendence values is that actions initiated out of self-transcending reasons are typically associated with positive affect and emotions. For instance, individuals who engaged in climate actions out of biospheric reasons indicated feeling better about their actions than
when they did so out of self-enhancing reasons (Bolderdijk et al., 2013; Venhoeven et al., 2016) and typically experienced positive feelings and emotions after performing such actions (Taufik et al., 2014, 2016; Venhoeven et al., 2013). These positive feelings and emotions, in turn, appear to be important predictors of future climate actions (Taufik et al., 2014, 2016; Venhoeven et al., 2013; Johnson-Zawadzki et al., in press). Hence, if the main aim of an action is to serve a goal larger than the self, such as protecting the environment or limiting climate change, individuals feel good when performing this behaviour, and these positive feelings can, in turn, motivate further climate actions.

In sum, considering the personal value-base that underlies individuals’ engagement and support for climate actions, it is essential to design effective climate strategies. Identifying the perceived costs and benefits of actions and considering the importance of these costs and benefits to individuals given the values they prioritise provide important guidelines for climate interventions and strategies. Importantly, when it comes to climate actions, strategies targeting self-transcendence values seem particularly powerful, as self-transcendence benefits are likely to effectively and consistently promote a wide range of climate actions, at least among the relatively large group of individuals who strongly endorse such values (Bouman & Steg, 2019; Schuitema & de Groot, 2015; Steg, 2016).

Motivating the Less Motivated

While strategies targeting individuals’ biospheric values can be very effective and powerful in motivating climate actions among those individuals who strongly endorse these values, the effectiveness of such strategies might be limited for those individuals who do not strongly endorse biospheric values or who prioritise conflicting values instead (e.g., self-enhancement) (Schuitema & de Groot, 2015; Steg, 2016). Accordingly, an important remaining question is how to motivate climate actions among those individuals who are not strongly personally motivated to do something for the environment. One possible strategy could focus on strengthening personal self-transcendence values, and thus strengthen the personal value-base for climate action. Yet, such approaches are unlikely to be successful as personal values appear difficult and slow to change (Dobewall & Aavik, 2016; Fetvadjiev & He, 2019; Manfredo et al., 2017; Milfont et al., 2016). Moreover, approaches aimed at changing individuals’ values could be considered unethical. Accordingly, it might not be advisable or effective to actively try to steer individuals’ personal self-transcendence values in more environmental directions (Manfredo et al., 2017), at least not if one aims to achieve urgent, quick and immediate change (Ives & Fischer, 2017) as is currently deemed necessary to successfully deal with climate change (Intergovernmental Panel on Climate Change, 2018).

The Group Value-Base Behind Individuals’ Climate Actions

Whereas individuals’ personal values seem difficult and slow to change (Ives & Fischer, 2017; Manfredo et al., 2017), we propose that individuals’ perceptions of others’ values might be more malleable but also critical in (de)motivating individuals’ climate actions (cf. Bouman & Steg, 2019). Specifically, as we explain in more detail below, we argue that individuals’ climate actions not only depend on the values individuals personally endorse, which is focal in most research on values and climate action (Ives & Fischer, 2017; Jans et al., 2018; Manfredo et al., 2017; Steg et al., 2014; Stern et al., 1998), but also on the values they perceive their groups (i.e., ingroups) to endorse. Importantly, because perceptions of group values are based on limited and biased information, perceived group values often deviate from (the mean
endorsement of) personal values within a group, which arguably makes them more influenceable by interventions and information. Moreover, individuals often appear to underestimate their group’s self-transcendence values (Bouman, 2018; Bouman & Steg, 2017, 2019; Bouman et al., 2018; Hanel et al., 2018), which may hold people back from taking climate action (cf. Bouman & Steg, 2019; Bouman et al., 2018) but also provide unique opportunities to strengthen the biospheric value-base to promote climate action. Yet, before moving to how a group-value approach could contribute to promoting climate actions within cities, we first discuss why the groups individuals belong to (i.e., ingroups), and specifically the values their ingroups are perceived to endorse, can play an important role in shaping their climate actions.

### Why Perceived Group Values Matter

One of the main reasons why groups shape individuals’ actions is because groups can form an integral part of how individuals see themselves (Hornsey, 2008; Tajfel et al., 1971; Tajfel & Turner, 1979; Turner et al., 1987). More specifically, an individual’s self-concept consists of a personal identity, which focuses on distinctive and idiosyncratic characteristics that differentiate the individual from others, as well as of social identities, which focus on key characteristics that are shared within and typify the group(s) an individual belongs to (e.g., family, work, city, nation) (Hornsey, 2008; Tajfel et al., 1971; Tajfel & Turner, 1979; Turner et al., 1987).

Individuals tend to act in line with a personal or social identity when this identity is activated. Which identity is activated strongly depends on the person (e.g., how central a certain identity is to someone’s self-concept) and their context (Haslam et al., 1999; Turner et al., 1987). For instance, when attending an international conference, someone’s national identity might come to the fore, whereas this identity might be irrelevant at a national conference where everyone has the same nationality (unless this identity is a critical part of the conference) (cf. Jans et al., 2018). Moreover, the more someone identifies with an ingroup—that is, the stronger someone feels positively emotionally related to a group (Postmes et al., 2013)—the more accessible this identity is to the individual and the easier this identity is activated in a given context.

When a certain social identity is activated, an individual is likely to be guided by the goals that are important and central to this identity (Bouman & Steg, 2019; Fielding & Hornsey, 2016; Haslam et al., 1999; Jans et al., 2018; Unsworth & Fielding, 2014; Bouman et al., 2020). Group values can reflect what is (perceived to be) important to a group (Bouman & Steg, 2019; Bouman et al., 2020; Jans et al., 2018; Knafo et al., 2011; Sagiv et al., 2011; Schwartz, 1999) and can therefore steer members’ actions.

### Which Group Values Matter?

Although there are different perspectives on what group values entail, one approach is defining group values as the aggregate of all members’ personal values (which we refer to as aggregated group values; Schwartz, 1999) and another approach is defining group values as individuals’ perceptions of a group’s values (which we refer to as perceived group values; Bouman & Steg, 2019; Bouman et al., 2020; Hanel et al., 2018; Jans et al., 2018). We argue that perceived group values most powerfully guide individuals’ actions. Perceived group values reflect an individual’s personal perception of the ingroup, which makes this type of group values most likely to be considered when deciding to support or engage in an action or not (Bouman & Steg, 2019; Bouman et al., 2020; Jans et al., 2018). Accordingly, we argue that the stronger a group member perceives the group to endorse self-transcendence values, in particular biospheric values, the more likely this member is to support and undertake climate actions when this specific identity is activated.

Perceived biospheric group values seem particularly powerful in promoting climate actions among individuals who strongly identify with the group and among individuals who do not strongly endorse
biospheric values themselves (Bouman & Steg, 2019; Bouman et al., 2020). As discussed above, identification signifies ‘the positive emotional valuation of the relationship between self and ingroup’ (Postmes et al., 2013, p. 599). Therefore, the stronger someone identifies with an ingroup, the more likely this person is to positively evaluate and relate to the ingroup’s values and, in turn, to engage in actions that are congruent to the group’s values (Bouman et al., 2020). In addition, perceived biospheric group values seem particularly powerful in motivating climate actions among individuals who are not strongly personally motivated to support or undertake climate actions. For these individuals, perceived biospheric group values likely strengthen a value-base for climate actions (Bouman, Steg & Johnson-Zawadzki, 2020; Ruepert et al., 2017), whereas this value-base is already strong—and arguably unlikely to be strengthened much further (Bouman et al., 2020; Ruepert et al., 2017)—for individuals who already strongly prioritise biospheric values (Bouman et al., 2020).

Importantly, given that many individuals strongly endorse biospheric values (Schwartz & Bardi, 2001; Steg, 2016, 2018) and that groups represent collections of individuals, there seems to be a relatively strong group value-base for climate actions. Yet, research suggests individuals systematically underperceive the strength with which others—including ingroups—endorse self-transcendence values (Bouman et al., 2020; Hanel et al., 2018), which could reduce and sometimes even reverse the positive impact groups could have on individuals’ climate actions. For instance, when ingroups are perceived to weakly endorse biospheric values, this could initiate the feeling that others do not care much about climate change, are unsupportive of climate action and are unlikely to take climate action, which might in turn demotivate (rather than motivate) individuals to engage in climate action, even those who have a strong personal value-base for it. It therefore appears critical to correct misperceptions about the biospheric values of others and strengthen the perceived endorsement of biospheric values within groups, as this may facilitate and promote individuals’ climate actions. Moreover, showing that most group members are unified in their strong endorsement of biospheric values likely enhances feelings of identification with the group and individuals’ well-being (cf. Bleidorn et al., 2016), which may in turn expand and accelerate the positive influence that perceived biospheric group values have on climate actions.

**Promoting Perceived Biospheric Group Values in Cities**

We propose that city administrations can play a key role in strengthening the perceived biospheric group values of important groups within the city context and thereby promote climate action among residents. Notably, individuals are likely to identify with the place where they live and the people who live there, and individuals often live there for a long period of time. Accordingly, many important and stable ingroups originate within the city context, and the values these ingroups are perceived to endorse are likely to drive group members’ actions. For instance, an individual’s perception of the strength in which biospheric values are endorsed by fellow city, district or neighbourhood residents and the perceived importance of biospheric values to the city, district or neighbourhood identity itself could influence how strongly this individual supports or undertakes climate actions. Critically, since perceived group values often appear biased and malleable, cities could also aim to influence and improve the perceptions residents have about these ingroups’ values, and thereby promote and accelerate residents’ climate actions, which we will discuss in this section.

The most straightforward way of promoting perceived biospheric group values among city residents is by clearly communicating that biospheric values are strongly endorsed by members of relevant ingroups within the city context, such as by city or neighbourhood residents. In most cases, individuals’
perceptions of group values are based on many, often indirect, observations, and individuals generally recognise a certain margin of error or uncertainty in their judgements. Accordingly, they are likely to use new information, if credible, to further attune the perceptions they have about relevant ingroups. For instance, some initial findings suggest that presenting individuals with descriptions and quotes (e.g., based on city monitors or polls) stating that fellow group members care about nature and the environment could strengthen perceived biospheric group values and, in turn, motivate individuals’ climate actions (Bouman & Steg, 2017, 2019; Jans et al., 2018).

In addition to providing direct information about the values endorsed by city residents, cities could also highlight the more concrete climate actions that city residents undertake based on biospheric reasons (e.g., community sustainable energy initiatives within an individuals’ district). Whereas research has indicated that observing others’ pro-environmental actions could create social norms that promote similar actions among observers (Keizer et al., 2008, 2013), we argue that such observations could also strengthen perceived biospheric group values and thereby promote individuals’ engagement in climate actions more broadly, at least when the action was perceived to be performed for biospheric reasons. For instance, cities could present local cases in which residents engage in climate actions or could design urban spaces in ways that make residents’ climate friendly behaviours clearly visible to others (e.g., design ‘green’ bicycle paths and parking facilities that highlight frequent use as well as biospheric motives).

Next to focusing on perceptions about the members of an ingroup, one could also directly focus on the perceived importance of biospheric values to the ingroup’s identity. That is, instead of highlighting that biospheric values are strongly endorsed by city residents, one could also highlight the importance of biospheric values to the city’s identity itself. For example, research in organisational contexts showed that clearly communicating that an organisation has environmental ambitions (i.e., corporate environmental responsibility) and pursuing policies to reach these ambitious—which could be seen as proxies for biospheric values—could motivate employees to also act in more environmentally responsible ways (Ruepert et al., 2017). Applied to the city context, this could mean that clearly communicating that a city values nature and the environment and pursues pro-environmental policies could strengthen perceived biospheric group values and, in turn, enhance residents’ engagement in climate actions. More concretely, cities that have joined prestigious climate networks (e.g., C40 Cities, Covenant of Mayors or Lighthouse Cities) could clearly communicate their membership, and the biospheric values that underlie this membership, to the general public. Alternatively, the importance of biospheric values to a city identity could be highlighted through the design of buildings and spaces (Bouman & Steg, 2017). For example, a landmark building that is visibly designed to be sustainable (e.g., with green terraces, visible renewable energy technologies) might signify to residents (as well as tourists and visitors) that the city values nature and the environment, thereby strengthening the value-base that could engage individual residents in climate actions.

**Closing**

In summary, in this article, we discussed how better understanding individuals’ motives, particularly the personal and group value-base that underlies individuals’ climate actions, could enhance the promotion of climate actions in cities. We argue that city residents play a critical role in achieving cities’ climate targets, often holding the key to climate actions’ success, as they typically have to accept, adopt, undertake and participate in these actions. Accordingly, knowledge on what drives residents’ climate actions as well as knowledge on how climate actions could effectively be promoted among residents could be central to the development of climate strategies and trajectories. Importantly, a vast amount of
literature within social and psychological sciences has indicated the relevance of personal biospheric values in this respect. Personal biospheric values motivate individuals’ climate actions, and strategies appealing to biospheric values are comparatively likely to result in enduring and wide-ranging climate actions, at least among the relatively large group of individuals who strongly endorse such values. Additionally, novel insights suggest that individuals’ perceptions of the extent to which biospheric values are endorsed within a city (e.g., by the city itself or its inhabitants) can be a powerful motivational source for individuals’ climate actions, particularly for those who lack a strong personal motivation to engage in climate actions. Moreover, these perceived group values can be relatively easily targeted by cities, providing unique opportunities to strengthen the biospheric value-base behind individuals’ climate actions, which can help accelerate wide-scale behavioural change. Our reasoning implies that next to being dependent on their residents to reach climate targets, cities also have a strong and unique potential to engage residents in climate actions. This may even be more significant given the pivotal role cities play in reaching global climate targets.

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