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*Published in:*  
Current Opinion in Psychology

*DOI:*  
[10.1016/j.copsyc.2021.04.010](https://doi.org/10.1016/j.copsyc.2021.04.010)

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*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2021

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*  
Bouman, T., Steg, L., & Perlaviciute, G. (2021). From values to climate action. *Current Opinion in Psychology*, 42, 102-107. <https://doi.org/10.1016/j.copsyc.2021.04.010>

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Review

## From values to climate action

Thijs Bouman, Linda Steg and Goda Perlaviciute

### Abstract

To mitigate anthropogenic climate change, it is important to know what motivates individuals to support and take climate action. Values reflect universal, general, desirable goals which guide individuals' preferences and actions. Stronger biospheric values (caring about the environment), in particular, predict stronger engagement in climate action. Although many individuals have strong biospheric values, contextual barriers can inhibit their climate actions. Notably, policies and contextual changes that reduce contextual barriers can motivate and enable individuals to act on their biospheric values. In addition, public participation may better engage public values in climate policies and actions as to increase their acceptability. Finally, correcting biases that others have weaker biospheric values than oneself may also motivate individuals to support and take climate action.

### Addresses

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**Current Opinion in Psychology** 2021, **42**:102–107

This review comes from a themed issue on **Psychology of Climate Change**

Edited by Katherine **Mark A. Ferguson** and **Michael T. Schmitt**

For a complete overview see the [Issue](#) and the [Editorial](#)

Available online 1 May 2021

<https://doi.org/10.1016/j.copsyc.2021.04.010>

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### Keywords

Values, Climate action, Biospheric values, Group values, Participation.

### Introduction

Climate change is one of the most pressing issues of our times. To mitigate and adapt to the adverse consequences of climate change, urgent action is needed by different actors (e.g., citizens, companies, governments) at an unprecedented scale. Such climate actions strongly depend on individuals' willingness to support and adopt climate policies and contextual changes, and to adjust their behaviours and lifestyles [1–3]. Hence, to effectively mitigate and adapt to climate change, and to

promote society-wide climate action, it is important to know what motivates individuals to support and take climate action [4].

### Human values

A well-established line of research shows that individuals' preferences and actions are generally rooted in their values. Values reflect general, desirable, life goals that people strive for in life. Values are relatively stable over time, transcend specific situations and function as important guidelines where actions, persons and groups are evaluated on. Values are considered to be largely universal, meaning that most people in the world endorse all values to some extent. Yet, people differ in how strongly they endorse and prioritise specific values, with more strongly endorsed and prioritised values being more decisive for individuals' preferences and actions [5–7].

### The values behind climate action

Within the context of climate action, four values appear most relevant: biospheric, altruistic, egoistic and hedonic values [8–11]. Biospheric values reflect goals to care for nature and the environment. Because climate actions have clear benefits for nature and the environment, stronger endorsement of biospheric values promotes support for and engagement in climate action. Moreover, biospheric values are relatively strongly and consistently related to climate action compared with other values. Altruistic values reflect goals to care about others, social welfare and society. Stronger endorsement of altruistic values also often encourages people to support and take climate action, as many climate actions benefit the wider society [12–14].

Egoistic values reflect goals to care about possessions, money and status, whereas hedonic values make people focus on pleasure and comfort. Because many climate actions are seen as financially costly (e.g., a price premium for green electricity or organic food) and/or inconvenient (e.g., taking shorter showers, lowering thermostat), stronger endorsement of egoistic and hedonic values oftentimes discourages (support for) climate action [15]. However, exceptions occur, with some climate actions for instance being associated with financial savings (e.g., cycling instead of driving a car) or comfort gains (e.g., insulation). In such cases, stronger egoistic and hedonic values may also encourage people to support and take climate action [16,17].

## Value-based evaluation of climate actions and policies

Specific climate actions typically have mixed implications for different values [9,17,18]. For instance, travelling by train instead of airplane is more pro-environmental (i.e., benefits for biospheric values), but also consumes more time (i.e., costs for hedonic values). In case of such “value conflicts”, individuals particularly focus on, and give weight to, costs and benefits for the values they prioritise, and are likely to make choices that best support these values. Hence, someone who prioritises biospheric over hedonic values likely focuses on the environmental benefits of travelling by train, and is less influenced by the inconveniences this may cause. Similar processes influence the acceptability of climate policies and contextual change. Specifically, people are more likely to accept policies and changes that they perceive as supporting their core values, and resist policies and changes that they perceive to threaten their core values [19,20]. Noteworthy, when people evaluate an action, policy or change favourably because of its positive consequences for their prioritised values (e.g., favouring renewable energy sources because of expected benefits for biospheric values), they are also likely to more favourably evaluate outcomes of this option for less endorsed values (e.g., perceive renewable energy sources as less costly and thus to benefit egoistic values) [19].

## From biospheric values to climate action

Given that climate behaviours and policies intrinsically benefit the environment, widespread climate action seems most likely when biospheric values are endorsed strongly throughout society, and when people act on these biospheric values. Interestingly, research suggests that many individuals endorse biospheric values relatively strongly [21–24]. Hence, many individuals seem to find environmental sustainability important, and accordingly there appears to be a strong “value base” for climate action. Yet, why then is there still not enough action to combat climate change?

One reason for why individuals may not consistently engage in climate action is that acting on biospheric values can seriously threaten other values that are also important to them [8,25]. For example, even if one prioritises biospheric values over egoistic values, investment costs of sustainable technologies can be too high, which may prevent individuals from adopting such technologies. Similarly, someone who prioritises biospheric values may be willing to travel by train if this takes a bit longer but not if the travel time would increase substantially. Various policies can be implemented to remove such barriers by changing the context in which decisions are made, including for instance pricing policies (e.g., subsidies, cost deductions),

regulations (e.g., ban on unsustainable products), changes to infrastructures (e.g., improve cycling infrastructure) and institutional changes (e.g., change in governance) [1]. Interestingly, the overall strong endorsement of biospheric values in society suggests that the support for such policies and contextual changes may be higher than many decision makers seem to expect [21,26].

Another reason why many people do not consistently act on their biospheric values is because they may be unaware of the climate impacts of their current actions, do not know about more climate-friendly alternatives, or make decisions without much conscious awareness (e.g., habits) [14,27–29]. Climate actions can therefore be promoted by making people aware of such actions for biospheric values. Indeed, research found that activating (e.g., through product labels) [18,30,31] or appealing to (e.g., by communicating benefits for) biospheric values can promote individuals’ engagement in climate actions [32–35], in particular among individuals who strongly endorse biospheric values [30,32,33].

In addition, strong biospheric values may not always lead to climate action because values influence actions mostly indirectly [10,24,36]. For instance, in accordance with the Value Belief Norm theory [37–39], strong biospheric values make individuals more aware about the impact of their actions on climate change. This makes them more likely to see that they can contribute to the mitigation of climate change (i.e., self and outcome efficacy), which can strengthen personal norms to take climate action (i.e., feeling responsible and morally obliged to act). Stronger personal norms, in turn, motivate individuals to actually perform climate actions. In this process, personal values are at the very start of a chain to climate action, and all variables in between can be influenced by other factors as well, which could make individuals not always act on their biospheric values [36,40].

## Accommodating other, nonbiospheric values

Although people generally strongly endorse biospheric values [21,24,41], clearly not all individuals do so, and individuals may prioritise other values. Accordingly, it may also be worthwhile to promote climate action through nonbiospheric values. Indeed, many interventions focus on highlighting benefits of climate actions for egoistic (e.g., cost savings) and hedonic (e.g., comfort) values, or aim to offer such benefits (e.g., financial incentives, gamification) [42]. Although such approaches can promote climate action [43], their effects can be weaker and less consistent than approaches targeting biospheric values [33,44–46]. One reason for this is that egoistic benefits of many climate actions are small and therefore considered less worth the effort than

acting on biospheric values [44], particularly because the latter is perceived to be meaningful, which makes people feel good [47]. It may therefore be more fruitful to more strongly focus on biospheric benefits (instead of merely benefits to other values) when promoting climate action.

### Incorporating values in policies and changes

As indicated above, people may not act on their values when they perceive major barriers to change. Such barriers can be removed by implementing climate policies and contextual changes. Yet, such policies and changes need to be acceptable to people, which is more likely when the policies and changes accommodate the diverse values that are prioritised by the public [48]. One way to engage with people's values is through public participation in the decision-making about policies and changes [48,49]. Public participation provides a possibility to discuss and explicate on the implications of policies and changes for diverse public values. This may be an effective way to create a mutual understanding on the implications of policies and changes, and on the public values involved, which may be critical to finding compromises [48]. Moreover, public participation also assists in developing policies and changes that better accommodate to diverse public values, which is likely to enhance public acceptability [48,50,51]. This contrasts common decide-announce-defend approaches, which may leave people the impression that their values and interests have not been considered, and likely fuel polarisation and public resistance [48,52,53]. Engaging the public in decision-making might therefore be an effective strategy to develop climate policies and implement changes that better accommodate different values and, as such, are more socially acceptable [50,54].

### Perceptions of others' values also matter

Whereas most research focused on the influence of personal values on climate action, individuals may also be influenced by the perceived values of others [21,55].<sup>1</sup> Intriguingly, individuals tend to perceive most others to have weaker biospheric values than themselves, and weaker biospheric values than those others self-report [23,56–58]. This “bias” could be explained by a better-than-average effect, which reflects people's tendency to overestimate their socially desirable

characteristics, including being concerned with others and the environment [56,58,59]. Alternatively, this bias can be due to people underestimating others' biospheric values. Such underestimations may originate from pluralistic ignorance: as nobody consistently acts environmentally friendly, people may erroneously conclude that others do not care about the environment [60,61]. This is particularly likely because relatively much attention is given to unsustainable actions and actors in public discourse and media, easily leaving the impression that people are more egoistic and less biospheric than they actually are [60]. Such underestimations may also be caused by polarisation, making individuals perceive group values in stereotypical ways. That is, individuals likely overestimate the biospheric values of a limited set of prototypical “green” groups (e.g., green political parties, activists), while they underestimate the biospheric values of most others (e.g., political conservatives, people in general) [23,62].

The perception that others generally have weaker biospheric values than oneself can have important implications for individuals' climate actions. Notably, the perceived values of ingroups—the groups an individual identifies with and belongs to—seem to have a similar influence on individuals' climate actions as their personal values [23]. Specifically, in accordance with the social identity theory and self-categorization theory, ingroups form an important part of individuals' self-concept: their social identities [63,64]. Individuals are motivated to act consistent to their social identities, and thus the values they perceive their ingroup to endorse. Hence, when an individual perceives fellow group members to have weaker biospheric values, this may lower this individual's motivation to support and take climate action. Interestingly, perceived group values seem to particularly influence climate actions among individuals who strongly identify with the group and who do not strongly endorse biospheric values themselves [23,65]. This suggests that perceived biospheric group values may be particularly critical for the actions of individuals with relatively weaker biospheric values. Whereas individuals appear motivated to act in line with the values of ingroups, the opposite may happen for the perceived values of outgroups where individuals do not identify with. Indeed, perceiving oneself as having stronger biospheric values than others may affirm an environmental self-identity, reflecting the perception that one is a relatively pro-environmental person. Individuals with stronger environmental self-identities are, in turn, more likely to support and take climate action [66–68]. Hence, the perception that one has relatively strong biospheric values compared with an outgroup may promote climate action through affirming an environmental self-identity [24]. Similarly, perceiving one's ingroup to have stronger biospheric values than an outgroup likely fosters an environmental social identity. Such stronger environmental social

<sup>1</sup> Group values seem on first sight similar to the more frequently studied social or group norms, but these constructs differ in important ways. Group values reflect a universal set of generally important goals that a group strives for. It is assumed that all values are endorsed by all groups, are hierarchically ordered by importance, and transcend specific contexts and situations [21,78]. Group or social norms reflect what is commonly done or approved and hence typically focus on more concrete actions or beliefs [79,80]. Group or social norms are therefore more context dependent, are not necessarily universally endorsed, and are not part of a hierarchical ordered system. In fact, group or social norms can be considered an application of individuals' or groups' values to a specific context, object or action [78]. Accordingly, perceived group values are likely to exert a wider range of actions than the more concrete norms, although the group values impact on a single behaviour may be smaller [21].

identities likely motivate climate action, particularly among those who strongly identify with the ingroup [23,69].

Furthermore, the perception that others in general have weaker biospheric values than oneself may inhibit climate actions by lowering individuals' beliefs that their actions will be effective in mitigating climate change. For effective climate mitigation, widespread action is needed. Accordingly, if people feel others are not motivated to take such actions, their own climate actions may feel rather useless, which may demotivate them from taking action [21].

### Changing perceptions of others' values

From the previous, it seems advisable to emphasise that ingroup members (e.g., colleagues, neighbours, fellow citizens) also rather strongly endorse biospheric values. This likely reduces pluralistic ignorance, and motivates widescale support and engagement in climate action. Interestingly, emphasising that ingroup members also have strong biospheric values may also increase perceived value overlap, which is associated with more group cohesion and may enhance individuals' wellbeing [70]. In addition, it may be fruitful to make individuals aware that outgroups with diverging norms, actions and attitudes do not necessarily endorse different values, which may reduce value conflicts [71], strengthen groups' willingness to collaborate towards shared goals [72,73], and could, over time, improve intergroup relations [74]. This may also be critical to public participation processes, reducing the risks of polarisation and value conflicts that could make people unwilling to negotiate and may result in a stalemate [72,75–77].

### Conclusion

In sum, personal and group values are often at the heart of individuals' climate actions. Individuals who strongly endorse biospheric values themselves, and/or perceive fellow group members to endorse biospheric values strongly, are more likely to support and engage in climate actions. Although many individuals appear to strongly endorse biospheric values, they may face several barriers that prevent them from acting on these values. Policy and contextual changes can counter these barriers, thereby empowering people to act on their biospheric values. These policies and changes are likely more acceptable when they accommodate to the public's diverse values, which could be achieved through public participation. Furthermore, individuals often perceive others to have weaker biospheric values than oneself, which may demotivate climate action when these others represent an ingroup. Increasing awareness about the extent to which others—in particular ingroup members—endorse biospheric values may therefore be critical to promote society-wide climate action.

### Author contributions

Thijs Bouman: Conceptualization, Writing – Original draft, Writing – Review & Editing; Linda Steg: Conceptualization, Writing – Review & Editing; Goda Perlaviciute: Conceptualization, Writing – Review & Editing.

### Funding

This work was supported by the Netherlands Organisation for Scientific Research [grant numbers 651.001.011, 651.001.022].

### Conflict of interest statement

Nothing declared.

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Papers of particular interest, published within the period of review, have been highlighted as:

- \* of special interest
- \*\* of outstanding interest

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