Contested climate policies and the four Ds of public participation: From normative standards to what people want

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Abstract
Stimulating public participation in decision making is heralded as a way to get climate policies accepted by the public. Yet, little is known about whether and when public participation can increase policy acceptability. This is true in particular of practices organized by responsible parties to engage the public in decision making. Based on a vast body of interdisciplinary literature, four types of normative standards for effective public participation can be distilled, which I call the four Ds: dialogue, decision-making power, diversity, and deliberation. However, normative standards may not be enough for reaching socially acceptable climate policies, if people do not want to participate, or want to participate too late in decision making, and are not open to different perspectives. The result can be fake participation, exclusion, and polarization—all which may reduce, rather than increase, public acceptability of climate policies. Understanding public preferences for participation is therefore critical for the implementation of the four Ds and for reaching socially acceptable climate policies. This Perspective article is relevant for scientists, policy makers, NGO’s, businesses, interest groups, and other parties wanting to understand how to engage the public in climate decision making.
1 | INTRODUCTION

Climate change is one of the biggest challenges ever faced by humankind, calling for immediate policy measures to reduce greenhouse gas emissions (IPCC, 2018) and for countries worldwide to realize their pledges to have net-zero emissions around mid-century (IEA, 2021). Climate policies are conceptualized broadly in this paper to encompass general agreements, visions, and programs (e.g., the Paris Agreement, national climate policies), as well as specific measures that derive from them (e.g., renewable energy siting in specific locations), aimed at mitigating climate change and its negative consequences. Particularly important are policies targeted at energy production and use (e.g., reducing energy use, transitioning to low-/zero-carbon energy sources), since energy generation from fossil fuels takes a lion’s share in global carbon emissions (IEA, 2021; Perlaviciute et al., 2021).

Climate policies need not only to be feasible from a technological and economical point of view, but need also to be acceptable to the public, in order to be successfully implemented. Although most people acknowledge the problems related to anthropogenic climate change and support climate policies (e.g., increasing the share of renewable energy sources; [Steg, 2018]), the way climate policies are currently developed and implemented nevertheless elicits public resistance. The yellow vests movement in France and anti-wind-turbines protests in many countries are just a few examples. Decision making on climate policies is therefore in need of transformation and innovation in order to deliver climate policies that are effective in reaching climate goals and acceptable to the public.

People seem to particularly resist climate policies when they feel excluded from decision making (Carattini et al., 2019; Gross, 2007). Public participation in decision making has therefore been flagged as a possible remedy for public resistance against climate policies. Specifically, more public engagement in the planning, development, and implementation of climate policies has been advocated (Bidwell, 2016; Devine-Wright, 2005; Dietz & Stern, 2008; Wolsink, 2007), as well as echoed in legal frameworks, most notably the United Nations’ Aarhus Convention on public participation in environmental matters (United Nations, 1998). Here, I focus on public participation practices organized by responsible parties (e.g., elected officials, government agencies, other public- and private-sector organizations) to deliberately engage the public in decision making on climate policies (Dietz & Stern, 2008). It encompasses people directly participating in decision making and as such is different from representative democracy (i.e., elected officials and/or stakeholder groups representing public interests), the latter often criticized for its top-down, decide-announce-defend approach, which might fuel public resistance (Devine-Wright, 2005; Wolsink, 2007). Other forms of direct public participation exist, including social movements (e.g., public protests and demonstrations) and people taking decisions in their own energy production and use (e.g., community energy schemes, everyday energy practices), yet they are beyond the scope of this paper. Given that responsible parties are increasingly urged to organize public participation, it seems especially timely to zoom into the effectiveness of such practices in facilitating socially acceptable climate policies. Indeed, despite the increasing pledges for public participation, little is known about under which conditions it can actually lead to more public support for climate policies.

Climate policies are formed though a chain of decisions: from setting carbon reduction targets and envisioning low-carbon transitions in general policy visions, to anchoring them in more concrete programs and strategies, to realizing them through specific policy measures (e.g., tax, subsidies, building infrastructure, introducing technology), possibly traversing (inter)national, regional, and local levels (Perlaviciute & Squintani, 2020; Squintani & Perlaviciute, 2020). In practice, public participation is mostly organized at the latest stages of the decision-making chain, oftentimes when concrete policy measures face public resistance. Yet, organizing public participation earlier could possibly prevent that people are faced with already prebaked decisions that can fuel public resistance (Devine-Wright, 2011). In other words, public participation needs not to be limited to a specific level of the decision-making chain—considering different policy levels is important for understanding whether, when, and how public participation can lead to socially acceptable climate policies.

2 | NORMATIVE STANDARDS: THE FOUR Ds OF PUBLIC PARTICIPATION

People are typically more positive about decision making and its outcomes when citizens or civil society organizations can participate (Arvai, 2003; Bernauer et al., 2016; Bernauer & Gampfer, 2013; Hoen et al., 2019; Walker & Baxter, 2017). This is likely because public participation is seen as a fair process that takes public interests into account, which increases public acceptability of the respective policies (Liu et al., 2020b). However, not all public participation procedures are seen as fair, and they sometimes may be seen as not transparent, not inclusive, and not taking public input seriously, which can evoke public resistance (Colvin et al., 2016; Gross, 2007; Wamsler et al., 2020). Across many
different disciplines, including political sciences, philosophy, law, and sociology, theories have emerged on how to make public participation more democratic, legitimate, and generating better-quality outcomes based on public input. Based on this literature, I distil four key themes, which I call the four Ds of public participation (see Figure 1). Next, I will offer a novel perspective on public participation, which is the first to incorporate normative standards and public preferences for participation in decision making on climate policies.

2.1 | Dialogue

In practice, public participation is often limited to information provision, including information meetings, drop-in sessions, public exhibitions, websites, and newsletters (Aitken et al., 2016; Barnett et al., 2012; Devine-Wright, 2011). While open and transparent information is an important basis for public acceptability of policies (Bernauer et al., 2020; Firestone et al., 2012; Gross, 2007; Walker & Baxter, 2017), it does not yet qualify as public participation. Notably, information provision reflects one-way communication, from developers to the public. For it to be public participation, the communication has to go both ways, from developers to the public and the other way around (Arnstein, 1969; Habermas, 1984).

2.2 | Decision-making power

If people can participate, but the decisions are already fait accompli and people cannot influence the decisions, this can be experienced as fake participation and can fuel public resistance (Colvin et al., 2016; Gross, 2007; Reilly et al., 2016; Terwel et al., 2012). Indeed, perceived ability to influence decisions on energy projects was more strongly and positively associated with acceptability of those projects than only perceived information and consultation (Firestone et al., 2018; Walker & Baxter, 2017). The seminal participation ladder (Arnstein, 1969) ranks citizen power from no power (e.g., information only) to some power (e.g., partnership) to full citizen control over decisions—higher ranks represent effective public participation whereas lower ranks can lead to fake participation.

2.3 | Diversity

In practice, public participation is often dominated by homogeneous privileged groups, such as white men with relatively high education and income (Entradas, 2016; Hall et al., 2011; Squintani, 2017). Yet, it is at the heart of modern democracy that people from different backgrounds can equally participate in decisions that affect them (Dworkin, 2002). Furthermore, diversity has the potential to improve the quality of decisions, due to increased access to more multifaceted information and the possibility to incorporate a greater range of perspectives (Ellemers & Rink, 2016; Koontz & Johnson, 2004). For instance,
engaging lower-educated and indigenous peoples in participatory budgeting in Porto Alegre, Brazil, resulted in more funds being allocated to poor, problematic neighborhoods (Pateman, 2012). People also evaluate decision making more positively if they think that all affected interests have been involved (Ernst, 2019).

### 2.4 Deliberation

Deliberation entails actively processing balanced information, weighing and reflecting on different perspectives, and justifying people's own preferences (Dryzek & Niemeyer, 2019). Proponents argue that learning about diverse interests and having to justify one's own position transforms people's opinions and motivates them to accept less simplistic and more common-good orientated policies (Fishkin, 1995). Indeed, deliberation resulted in more liberal attitudes toward immigration (Grönlund et al., 2015; Sanders, 2012) and led to more cosmopolitan (vs. nationalistic), egalitarian (vs. hierarchical), and collectivistic positions on a range of public issues (Gastil et al., 2010). In the context of climate decision making, deliberation reduced participants' skepticism about anthropogenic climate change (Hobson & Niemeyer, 2011) and increased their support for measures to combat climate change (Sanders, 2012), including increasing gas tax (MacKenzie & Caluwaerts, 2021). Yet, deliberation might not always enhance support for any type of climate policy (Dietz et al., 2009; MacKenzie & Caluwaerts, 2021), for example, if the arguments that people discover through deliberation are not in favor of the proposed policy (Dietz et al., 2009).

### 3 Public Preferences for Participation

The four Ds are embraced in the literature as normative standards for effective public participation, assuming the more the better: more dialogue, more decision-making power, more diversity, and more deliberation. Or, “If everyone is included [dialogue and diversity], if they weigh the reasons for and against alternatives [deliberation] (...), if they make a choice among those alternatives and their choice has impact [decision-making power], then they have exercised popular control on the questions posted” (Fishkin, 2018, p. 160). Yet, normative standards alone, albeit important, may not be enough to fully understand effective public participation. It has been increasingly acknowledged in the literature that public participation is not a static, pregiven process, but rather a dynamic and emergent process of co-creation between those participating (who?), the issues they are participating about (what?), and the ways in which they are participating (how?) (Chilvers et al., 2018; Chilvers & Longhurst, 2016). This eschews reliance on predefined, universal set of normative principles to orchestrate and assess public participation, and calls for a better understanding of interactions between the who, what, and how in shaping public participation procedures (Chilvers et al., 2018; Chilvers & Longhurst, 2016). In line with this new approach, I propose that one key factor overlooked in dominant normative theories on participation is public preferences for participation, namely whether, when, and how people want to participate in decision making on climate policies.

This does not mean that public preferences alone determine the effectiveness of public participation. On the contrary, it largely depends on the motivation and abilities of responsible parties (e.g., elected officials, government agencies, other public- and private-sector organizations) to implement climate policies and to engage the public in decision making (e.g., Devine-Wright, 2011), as well as on wider political, social, market, and scientific contexts of climate policies and public participation practices (Chilvers et al., 2018). However, while normative theories on public participation already target responsible parties, namely by prescribing the four Ds, and the wider contexts are being addressed in system-based approaches to public participation (e.g., Chilvers et al., 2018), the present effort is the first to zoom into public preferences for whether, when, and how to participate. While currently constituting a blind spot in public participation literature, public preferences for participation can be essential for whether the four Ds can be implemented and lead to more socially acceptable climate policies. Specifically, while the implicit assumption underpinning the four Ds is that the public will participate if given a chance, a closer inspection of public preferences unveils a different picture: people may not always want to participate, not everyone might participate, and people may not be open to different perspectives.

### 3.1 Whether and when to participate?

People do not want to participate everywhere and all the time, as they often do not show up in participation procedures (Irvin & Stansbury, 2004; Janhunen et al., 2018) and sometimes favor information provision (e.g., visiting websites) over...
a dialogue (Langer et al., 2017). Furthermore, different from what is implied by the traditional participation ladder (Arnstein, 1969), more decision-making power might not (always) be what people want. For example, once people could decide together with responsible parties about a wind energy project, adding more power by letting people take the decisions themselves did not lead to higher acceptability of the decision-making process nor the wind energy project (Liu et al., 2021). One reason for this could be that people think ordinary citizens are not competent enough to decide on climate policies—a decision-making panel consisting only of citizens was indeed evaluated as having less expertise and less able to take high-quality decisions than a decision-making panel consisting of both citizens and experts (Liu et al., 2021). The findings substantiate wider critique of the assumption underlying the Arnstein’s ladder that the more power the better (e.g., Hurlbert & Gupta, 2015).

Importantly, people want to participate more in decision making on specific local projects (e.g., wind energy projects in their neighborhood) than on general strategies and visions on a municipal, provincial and—the least—on a national level (e.g., how much CO₂ a country should reduce and how; Perlaviciute & Squintani, 2020). This is probably because general policies seem abstract and remote to people, whereas specific projects have tangible consequences, which people may want to shape through public participation. However, local projects are at the bottom of the decision-making chain and are largely determined by major decisions taken earlier in the chain; for example, a national energy policy can determine which energy sources will come where, which will guide local projects (Perlaviciute & Squintani, 2020; Squintani & Perlaviciute, 2020). While, one the one hand, people find projects more acceptable when they can influence major decisions (e.g., how many solar panels would come where) rather than minor decisions (e.g., the type and the color of solar panels) (Liu et al., 2019), on the other hand, they prefer to participate at the level of local projects when they can no longer influence those decisions (Perlaviciute & Squintani, 2020). If people choose to participate too late in decision making, they may consequently experience public participation as fake, because they can no longer influence the decisions they want to influence, which might fuel public resistance (see Figure 2).

3.2 | Who participates?

Various strategies have been identified to enable marginalized groups to participate, such as random sampling from the population into representative mini-publics, purposed sampling of particularly marginalized groups, accessible participation events at different times and in different locations, and information provision through different channels and forms that are digestible for different societal groups (Dietz & Stern, 2008; Fishkin, 1995). Such strategies are laudable as they can enable different people to participate. Yet, they are also limited, because they rarely consider what motivates people to participate—or who will actually participate given the opportunity.

People are risk averse and more motivated by the prospect of losses than gains (Kahneman & Tversky, 1979). Therefore, people may be more motivated to participate when they feel threatened by and dissatisfied with a policy than when they are happy with it (Bell et al., 2005; Perlaviciute, 2019). Indeed, people with stronger negative (vs. positive) attitudes toward nuclear energy reported a stronger intention to participate in decision making on nuclear research installations (Turcanu et al., 2014) and decommissioning of nuclear power plants (Hoti et al., 2021), and opponents of nuclear energy were more willing to take action against nuclear energy than proponents were willing to take action in favor of nuclear energy (De Groot & Steg, 2010). If opponents participate more than supporters, this can have negative effects on public acceptability of climate policies, in two ways. First, counterarguments may dominate decision-making and stall policies despite possible good reasons to implement them (Dryzek & Niemeyer, 2008). Second, unequal representation of opponents and supporters can be perceived as unfair, reducing public acceptability of the decision making and its outcomes (e.g., Gross, 2007). Thus, it takes more than equal opportunities to achieve diversity: even if diverse groups can participate, the paradox of exclusion might remain, if not everyone is equally motivated to participate (see Figure 2).

3.3 | How to deal with different perspectives?

Deliberative theory rests upon the assumption that when different people come together, they will discuss different perspectives and incorporate them in their final positions. This implies that people are open to different perspectives, which, however, might not always be the case. Exposure to different perspectives on controversial energy issues (e.g., phasing out fossil fuels, expanding nuclear energy, more renewables in people’s backyard) comes with a risk—
polarization. It means that people’s pre-existing opinions can become more extreme and opinion divides can become deeper during public participation (Sunstein, 2002).

People have the tendency for confirmation bias or, more generally, motivated cognition, meaning that they typically come to a conclusion that they had wanted to come to (Kunda, 1990). This means that in deliberation people may selectively adhere to arguments that support their initial position, while neglecting or disqualifying competing views (e.g., Corner et al., 2012). Especially when people perceive others as holding different values than their own, they are less likely to negotiate and more likely to end in a stalemate (Harinck & De Dreu, 2004; Schuster et al., 2020). Exposure to different perspectives through deliberation might therefore not be enough for reaching socially acceptable climate policies, and can even aggravate conflicts and lead to impasses, if people polarize more than they are open to different perspectives (see Figure 2).

4 | FROM NORMATIVE STANDARDS TO WHAT PEOPLE WANT

The four Ds are valuable normative standards, but their successful implementation is challenged by public preferences for participation. Specifically, public participation is susceptible to fake participation, exclusion, and polarization if people participate too late, not everyone participates, and if people are not open to different perspectives (Figure 2). The four Ds can be of more practical value if they better grapple with public preferences for participation; I outline some promising directions below.¹

4.1 | What motivates people to participate?

Early in decision-making chain, the discussion about climate policies is rather abstract, technical, and full of uncertainties (e.g., climate goals, CO₂ emission targets). As a result, it might not be clear to people what implications climate policies will have for them, reducing their motivation to participate at this early stage (Dietz, 2013; Perlaviciute, 2019). When policies turn into projects, their consequences become more evident, which could explain why people want to participate later rather than earlier. Furthermore, oftentimes especially the negative consequences become evident (e.g., shadow flicker and noise from wind turbines), which could explain why opponents, rather than supporters, want to participate.

People may be more likely to participate earlier if they see the consequences of climate policies for their core values (Dietz, 2013; Perlaviciute, 2019). Values are general goals or ideals that people find important in their lives (Schwartz, 1992). Climate policies can have implications for people’s biospheric values (caring about nature and the environment), altruistic values (caring about the well-being of others and society), egoistic values (caring about personal resources), and hedonic values (caring about one’s pleasure and comfort) (Perlaviciute et al., 2018). Initial evidence suggests that explicating the consequences of climate policies for these values, such as impacts on the economy, employment, and personal finances (egoistic values), local and global environment (biospheric values), everyday comfort and quality of life (hedonic values), and social justice and democracy (altruistic values), could motivate people to participate early in decision making, such as on national climate policies (Demski et al., 2015; Keeney et al., 1990). Innovative participative tools, such as future energy scenario building (e.g., my2050) and value elicitation activities (e.g., viewsthegame.com), can facilitate the discussion about the implications of climate policies for people’s values (see Figure 3).
4.2 | How to incorporate different perspectives?

If opponents are more likely to participate than supporters, the question is how to achieve a better representation of diverse perspectives in public participation practices. Values could potentially play an important role here too. Opponents may participate because they perceive climate policies as threatening their core values, whereas supporters may refrain from participation if they think that their values are anyway supported by the proposed policies (Perlaviciute, 2019). However, other forms of public participation, in particular social movements in favor of climate policies (e.g., Fridays For Future), seem to also stem from perceived value threats—primarily caused by the absence of ambitious climate policies (Martiskainen et al., 2020; Wallis & Loy, 2021). For example, people engage in climate protests because they are concerned about the planet, environment, and climate change (i.e., perceived threats to biospheric values) and future generations, vulnerable populations, and their families being negatively affected by climate change (i.e., perceived threats to altruistic values) (Martiskainen et al., 2020). Future research could investigate whether also public participation practices that are organized by responsible parties could attract people with different values. For example, studies could test whether emphasizing not only the possible outcomes if climate policies are implemented (e.g., increased energy costs), but also if they are not implemented (e.g., failure to reach climate targets) could motivate both opponents as well as supports of climate policies to participate in decision making.

4.3 | Deliberation without polarization

A set of guidelines have been developed to facilitate effective deliberation, such as providing balanced information, establishing discussion rules (e.g., respect the opinion of others, justify own opinion), and having neutral moderators to ensure that different people get a word and the different perspectives are brought into the discussion (Grönlund et al., 2015). Furthermore, explicating to participants that diversity is a valuable resource could strengthen the positive effects of diversity on group’s performance and the quality of outcomes. Indeed, when group members believed that diverse insights, experiences, and skills are important resources that can inform and enhance group’s work, this facilitated conflict resolution and enhanced group functioning (Ely & Thomas, 2001). While considering diversity solely as a tool to increase the group’s legitimacy or as a moral imperative—albeit could increase diversity—did not reap its full potential to facilitate the group’s functioning (Ely & Thomas, 2001; see also Homan, 2019).

Emphasizing shared values is another promising route to free deliberation from polarization (Perlaviciute, 2019). Specifically, biospheric, altruistic, egoistic, and hedonic values are important to most people, only the way they prioritize these values might differ (Sargisson et al., 2020; Steg & de Groot, 2012). This provides a unique possibility to emphasize shared values, which could in turn instigate superordinate goals (Kenter et al., 2016) and motivate people to collaborate, for example in achieving better climate policies (Frielings et al., 2014; Kovacheff et al., 2018). More research is needed to test the effectiveness of such value-based deliberation in reaching socially acceptable climate policies.
5 CONCLUSION

Public participation is heralded as a way to get climate policies accepted. Normative theories on participation prescribe (more) dialogue, decision-making power, diversity, and deliberation in order for public participation to lead to more democratic, qualitative better, and more legitimate climate policies. Evidence suggests, however, that normative standards may not be enough to reach socially acceptable climate policies if they do not account for whether, when, and how people want to participate. This can create a gap between how public participation is organized and what the public wants, potentially inflating—rather than reducing—controversies around climate policies.

The aim of this Perspective article was to demonstrate that understanding public preferences for participation is critical for successful implementation of the four Ds and for preventing fake participation, exclusion, and polarization. It outlined promising avenues for aligning normative standards and public preferences for participation, such as through incorporating people’s core values in public participation procedures. Moving from normative standards to what people want can enhance the potential of public participation to facilitate climate policies that are widely accepted in society.

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Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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ENDNOTE
1 The focus here is on how to improve public participation that is organized by responsible parties. Future research is needed to investigate which (other) forms of public participation, including representative democracy, social movements, and people’s everyday energy decisions, are most effective in reaching socially acceptable climate policies, and under which conditions.

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FURTHER READING
Beierle, T. C., & Cayford, J. (2002). Democracy in practice: Public participation in environmental decisions. Resources for the Future.
Bobbio, L. (2019). Designing effective public participation. Policy and Society, 38(1), 41–57.
Chilvers, J., Bellamy, R., Pallett, H., & Hargreaves, T. (2021). A systemic approach to mapping participation with low-carbon energy transitions. Nature Energy, 6(3), 250–259.
Liu, L., Bouman, T., Perlaviciute, G., & Steg, L. (2020a). Effects of competence- and integrity-based trust on public acceptability of renewable energy projects in China and The Netherlands. Journal of Environmental Psychology, 67(January), 101390. https://doi.org/10.1016/j.jenvp.2020.101390
Ruospetsaaari, I. (2017). Stealth democracy, elitism, and citizenship in Finnish energy policy. Energy Research and Social Science, 34, 93–103. https://doi.org/10.1016/j.erss.2017.06.022
Smith, P. D., & Mcdonough, M. H. (2001). Beyond public participation: Fairness in natural resource decision making. Society & Natural Resources, 14(3), 239–249. https://doi.org/10.1080/08941920120140
Tyler, T. R. (2000). Social justice: Outcome and procedure. International Journal of Psychology, 35(2), 117–125.
REFERENCES

Aitken, M., Haggett, C., & Rudolph, D. (2016). Practices and rationales of community engagement with wind farms: Awareness raising, consultation, empowerment. Planning Theory and Practice, 17(4), 557–576. https://doi.org/10.1080/14649357.2016.1218919

Arnstain, S. R. (1969). A ladder of citizen participation. Journal of the American Institute of Planners, 35(4), 216–224. https://doi.org/10.1080/01944366908977225

Arvai, J. L. (2003). Using risk communication to disclose the outcome of a participatory decision-making process: Effect on the perceived acceptability of risk-policy decisions. Risk Analysis. An Official Publication of the Society for Risk Analysis, 23(2), 281–289.

Barnett, J., Burningham, K., Walker, G., & Cass, N. (2012). Imagined publics and engagement around renewable energy technologies in the UK. Public Understanding of Science, 21(1), 36–50. https://doi.org/10.1177/0963662510365663

Bell, D., Gray, T., & Haggett, C. (2005). The ‘social gap’ in wind farm siting decisions: Explanations and policy responses. Environmental Politics, 14(4), 460–477. https://doi.org/10.1080/09644010500175833

Bernauer, T., & Gampfer, R. (2013). Effects of civil society involvement on popular legitimacy of global environmental governance. Global Environmental Change, 23(2), 439–449. https://doi.org/10.1016/j.gloenvcha.2013.01.001

Bernauer, T., Gampfer, R., Meng, T., & Su, Y. S. (2016). Could more civil society involvement increase public support for climate policy-making? Evidence from a survey experiment in China. Global Environmental Change, 40, 1–12. https://doi.org/10.1016/j.gloenvcha.2016.06.001

Bernauer, T., Mohrenberg, S., & Koubi, V. (2020). Do citizens evaluate international cooperation based on information about procedural and outcome quality? Review of International Organizations, 15(2), 505–529. https://doi.org/10.1007/s11558-019-09354-0

Bidwell, D. (2016). Thinking through participation in renewable energy decisions. Nature Energy, 1(5), 16051. https://doi.org/10.1038/NENERGY.2016.51

Carattini, S., Kalibekken, S., & Orlov, A. (2019). How to win public support for a global carbon tax. Nature, 565(7739), 289–291. https://doi.org/10.1038/d41586-019-00124-x

Chilvers, J., & Longhurst, N. (2016). Participation in transition(s): Reconciling public engagements in energy transitions as co-produced, emergent and diverse. Journal of Environmental Policy and Planning, 18(5), 585–607. https://doi.org/10.1080/1523908X.2015.1110483

Chilvers, J., Pallett, H., & Hargreaves, T. (2018). Ecologies of participation in socio-technical change: The case of energy system transitions. Energy Research and Social Science, 42(October 2017), 199–210. https://doi.org/10.1016/j.erss.2018.03.020

Colvin, R. M., Witt, G. B., & Lacey, J. (2016). How wind became a four-letter word: Lessons for community engagement from a wind energy conflict in King Island, Australia. Energy Policy, 98, 483–494. https://doi.org/10.1016/j.enpol.2016.09.022

Corner, A., Whitmarsh, L., & Xenias, D. (2012). Uncertainty, scepticism and attitudes towards climate change: Biased assimilation and attitude polarisation. Climatic Change, 11(4–3), 463–478. https://doi.org/10.1007/s10584-012-0424-6

De Groot, J. I. M., & Steg, L. (2010). Morality and nuclear energy: Perceptions of risks and benefits, personal norms, and willingness to take action related to nuclear energy. Risk Analysis, 30(9), 1363–1373. https://doi.org/10.1111/j.1539-6924.2010.01419.x

Demski, C., Butler, C., Parkhill, K. A., Spence, A., & Pidgeon, N. F. (2015). Public values for energy system change. Global Environmental Change, 34, 59–69. https://doi.org/10.1016/j.gloenvcha.2015.06.014

Devine-Wright, P. (2005). Beyond NIMBYism: Towards an integrated framework for understanding public perceptions of wind energy. Wind Energy, 8(2), 125–139. https://doi.org/10.1002/we.124

Devine-Wright, P. (2011). Public engagement with large-scale renewable energy technologies: Breaking the cycle of NIMBYism. Wiley Interdisciplinary Reviews: Climate Change, 2(1), 19–26. https://doi.org/10.1002/wcc.89

Dietz, T. (2013). Bringing values and deliberation to science communication. Proceedings of the National Academy of Sciences of the United States of America, 110(Supplement_3), 14081–14087. https://doi.org/10.1073/pnas.1217240110

Dietz, T., & Stern, P. C. (2008). Public participation in environmental assessment and decision making. National Academy Press.

Dietz, T., Stern, P. C., & Dan, A. (2009). How deliberation affects stated willingness to pay for mitigation of carbon dioxide emissions: An experiment. Land Economics, 85(2), 329–347. https://doi.org/10.3368/le.85.2.329

Dryzek, J. S., & Niemeyer, S. (2008). Discursive representation. American Political Science Review, 102(4), 481–493. https://doi.org/10.1017/S000305540800325

Dryzek, J. S., & Niemeyer, S. (2019). Deliberative democracy and climate governance. Nature Human Behaviour, 3, 411–413. https://doi.org/10.1038/s41562-019-0591-9

Dworkin, R. (2002). Sovereign Virtue. Harvard University Press.

Ellemers, N., & Rink, F. (2016). Diversity in work groups. Current Opinion in Psychology, 11, 49–53. https://doi.org/10.1016/j.copsyc.2016.06.001

Ely, R. J., & Thomas, D. A. (2001). Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes. Administrative Science Quarterly, 46(2), 229–273. https://doi.org/10.2307/2667087

Entradas, M. (2016). Experimenting with distributed approaches – Case study: A ‘national-level’ distributed dialogue on bioenergy in the United Kingdom. Public Understanding of Science, 25(4), 490–498. https://doi.org/10.1177/0963662514556207

Ernst, A. (2019). How participation influences the perception of fairness, efficiency and effectiveness in environmental governance: An empirical analysis. Journal of Environmental Management, 238(Feburary), 368–381. https://doi.org/10.1016/j.jenvman.2019.03.020

Firestone, J., Hoen, B., Rand, J., Elliott, D., Hübner, G., Firestone, J., Hübner, G., & Pohl, J. (2018). Reconsidering barriers to wind power projects: Community engagement, developer transparency and place. Journal of Environmental Policy & Planning, 20(3), 370–386. https://doi.org/10.1080/1523908X.2017.1418656

Firestone, J., Kempton, W., Lilley, M. B., & Samoteskul, K. (2012). Public acceptance of offshore wind power: Does perceived fairness of process matter? Journal of Environmental Planning and Management, 55(10), 1387–1402. https://doi.org/10.1080/09640568.2012.688658
Perlaviciute, G. (2019). Public participation in decision making on energy projects: When does it lead to better and more acceptable energy projects? In L. Squintani, J. Darpö, L. Lavrysen, & P.-T. Stoll (Eds.), Managing facts and feelings in environmental governance (pp. 10–21). Edward Elgar Publishing.

Perlaviciute, G., & Squintani, L. (2020). Public participation in climate policy making: Toward reconciling public preferences and legal frameworks. One Earth, 2(4), 341–348. https://doi.org/10.1016/j.oneear.2020.03.009

Perlaviciute, G., Steg, L., Contzen, N., Roeser, S., & Huijts, N. M. A. (2018). Emotional responses to energy projects: Insights for responsible decision making in a sustainable energy transition. Sustainability, 10(7), 1–12. https://doi.org/10.3390/su10072526

Perlaviciute, G., Steg, L., & Sovacool, B. K. (2021). A perspective on the human dimensions of a transition to net-zero energy systems. Energy and Climate Change, 2(April), 100042. https://doi.org/10.1016/j.egycc.2021.100042

Reilly, K., O’Hagan, A. M., & Dalton, G. (2016). Moving from consultation to participation: A case study of the involvement of fishermen in decisions relating to marine renewable energy projects on the Island of Ireland. Ocean and Coastal Management, 134, 30–40. https://doi.org/10.1016/j.ocecoaman.2016.09.030

Sanders, D. (2012). The effects of deliberative polling in an EU-wide experiment: Five mechanisms in search of an explanation. British Journal of Political Science, 42(3), 617–640. https://doi.org/10.1017/S0007123411000494

Sargisson, R. J., de Groot, J. I. M., & Steg, L. (2020). The relationship between sociodemographics and environmental values across seven European countries. Frontiers in Psychology, 11(August), 1–13. https://doi.org/10.3389/fpsyg.2020.02253

Schuster, C., Majer, J. M., & Trötschel, R. (2020). Whatever we negotiate is not what I like: How value-driven conflicts impact negotiation behaviors, outcomes, and subjective evaluations. Journal of Experimental Social Psychology, 90, 103993.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. M. Zanna (Ed.). Advances in Experimental Social Psychology, 25, 1–65. https://doi.org/10.1016/S0065-2601(08)60281-6

Squintani, L. (2017). The Aarhus paradox: Time to speak about equal opportunities in environmental. Governance, 14, 3–5. https://doi.org/10.1163/18760104-01401002

Squintani, L., & Perlaviciute, G. (2020). Access to public participation: Unveiling the mismatch between what law prescribes and what the public wants. In M. Peeters & M. Eliantonio (Eds.), Research handbook on EU environmental law (pp. 133–147). Edward Elgar Publishing.

Steg, L. (2018). Limiting climate change requires research on climate action. Nature Climate Change, 8(9), 759–761. https://doi.org/10.1038/s41558-018-0269-8

Steg, L., & de Groot, J. I. M. (2012). Environmental values. In S. Clayton (Ed.), The Oxford handbook of environmental and conservation psychology (pp. 81–92). Oxford University Press.

Sunstein, C. (2002). The law of group polarization. Debating Deliberative Democracy, 10(2), 80–101. https://doi.org/10.1002/9780470690734.ch4

Terwel, B. W., ter Mors, E., & Daamen, D. D. L. (2012). It’s not only about safety: Beliefs and attitudes of 811 local residents regarding a CCS project in Barendrecht. International Journal of Greenhouse Gas Control, 9, 41–51. https://doi.org/10.1016/j.ijggc.2012.02.017

Turcanu, C., Perko, T., & Laes, E. (2014). Public participation processes related to nuclear research installations: What are the driving factors behind participation intention? Public Understanding of Science, 23(3), 331–347. https://doi.org/10.1177/0963662513476405

United Nations. (1998). Convention on access to information, public participation in decision-making and access to justice in environmental matters (Aarhus, Denmark, 25 June 1998, UN Treaty Series, 2161). p. 447.

Wallis, H., & Loy, L. S. (2021). What drives pro-environmental activism of young people? A survey study on the Fridays for future movement. Journal of Environmental Psychology, 74(June 2020), 101581. https://doi.org/10.1016/j.jenvp.2021.101581

Wamsler, C., Björn, H., Falck, H., Hanson, H., & Oskarsson, T. (2020). Beyond participation: When citizen engagement leads to undesirable outcomes for nature-based solutions and climate change adaptation. Climatic Change, 158, 235–254.

Wolsink, M. (2007). Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation. Energy Policy, 35(5), 2692–2704. https://doi.org/10.1016/j.enpol.2006.12.002

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