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Perspective

Public Participation in Climate Policy Making: Toward Reconciling Public Preferences and Legal Frameworks

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Climate policies require public support. But if people feel excluded from decision making, this can fuel resistance to such policies. Legal frameworks, such as the Aarhus Convention, mandate extensive obligations to engage the public in decision making on local projects, such as renewable energy siting. But such frameworks often overlook the macro-level decisions that affect local projects. Public influence at a project level may be limited by such macro-level decisions. A solution could be to engage the public earlier in the decision-making chain. But is this what people want? In this Perspective, we present a survey in the Netherlands (n = 1,121) that revealed that people want to participate most in decision making on local projects—exactly where their influence is most limited due to legal constraints. We propose a cross-disciplinary research agenda for studying how to reconcile legal frameworks and public preferences for participation to reach socially acceptable climate policies.

Introduction

Ambitious policies are needed to accelerate sustainable energy transition and mitigate climate change.[1] Polls show that many people believe in anthropogenic climate change and support a sustainable energy transition.[2] However, when climate goals turn into policy solutions, they often face public resistance. Prominent examples are the "Yellow vests" movement triggered by rising fuel taxes in France and anti-wind protests in Europe and beyond. Resistance may occur if people feel that they are excluded from decision making and perceive the decision-making procedures as unfair.[3–5] Indeed, when asked, people indicate strongly that they want to participate in decision making on climate policy and mitigation options.[3,6,7] Yet, little is known about how and when people want to participate in climate policy making. Such knowledge is critical to inform legal frameworks that regulate public participation procedures, such as the Aarhus Convention of the United Nations.[8] If legal frameworks for participation procedures are not in line with public preferences, people may not participate and/or may still perceive the decision-making process as unfair. This may undermine public support necessary to implement climate change mitigation policies.

Public participation in decision making has been flagged as a key factor for socially acceptable climate policies.[9–11] Public participation refers here to processes organized by responsible parties (e.g., elected officials, government agencies, other public- or private-sector organizations) to deliberately engage the public in the planning, development, and implementation of climate policies.[12] The commonly proposed benefits of public participation include its (1) normative function, namely democratizing the decision-making process, (2) substantive function, namely enabling the public to understand scientific facts and to advance decision making by bringing in their own knowledge, values, and concerns, and (3) instrumental function, namely increasing the legitimacy and social acceptability of the decision-making procedures and their outcomes.[9,13–18]

In climate policy in particular, public participation is rapidly being incorporated into political agendas. For example, in response to the Yellow vests movement in France, President Macron invited all citizens to express their concerns about their country's political issues in the "*Grand Débat National.*" In the Netherlands, local governments are currently developing "Regional energy strategies" where they invite the public to discuss issues, such as the development of wind parks. Yet, in the wake of such accelerated efforts to increase public participation, still little is known about how and when to best engage the public to reach more socially acceptable climate policies.[9,11] To address this knowledge gap, we study public preferences for participation in climate policy making. We concur that if public participation is done well it can have great benefits.[12,14,17] For that, we argue it is important that legal frameworks for public participation are in harmony with when and how people wish to participate. We report the findings from a combined law and psychology study to highlight a potential cleavage between legal frameworks and public preferences for participation. Based on the findings, we propose a forward-looking, cross-disciplinary research agenda for studying how to reconcile legal frameworks and public preferences to reach socially acceptable climate policies.

Early and Meaningful Participation

In social sciences, effective public participation rests on the key concepts of early engagement, namely involving people in decision making when all options are still open, and real voice, namely allowing people to shape the final decision.[3,19–22] This derives from normative theories on public participation emphasizing the importance of two-way communication between responsible actors and the public, in an iterative process of revisiting and revising policies through constructive deliberation.[23–26]

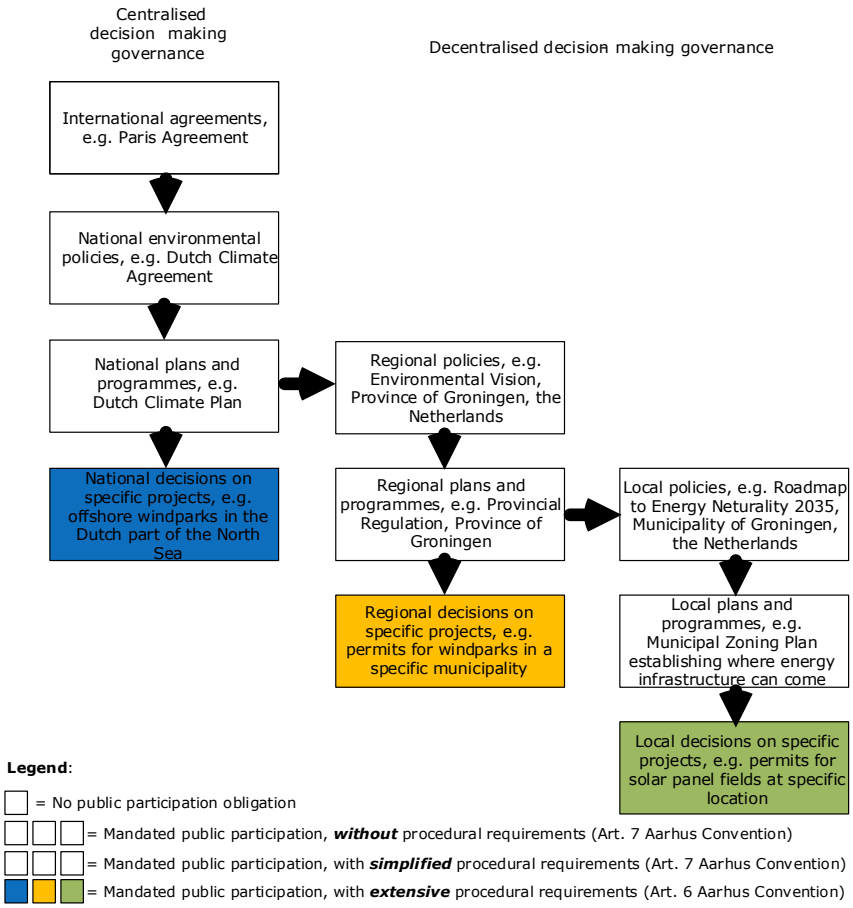

Figure 1. Decision-Making Chain
Schematic overview of the chain of decision making on climate policies, with examples from the Dutch climate policy making.

The seminal participation ladder differentiates between non-participation and tokenism, on the one hand, and partnership, delegated power, and citizen control, on the other hand.[19] Only the higher levels of the participation ladder are considered to be genuine and meaningful forms of participation that can improve decision making and produce more socially acceptable outcomes.[19] Indeed, the more people perceive that they can voice their opinions early in decision making, the higher the public acceptability of the respective climate policies.[3,27–30] Moreover, public acceptability of energy projects is higher when people can influence major decisions, such as what kind of energy projects would come where, rather than minor decisions, such as the details of the infrastructure (e.g., the type and color of solar panels to be installed).[31] In contrast, engaging people when the policy is already *fait accompli* or informing and consulting them but not incorporating their input in the final decisions, known as pseudo or fake participation, can fuel public resistance.[3,7,17,30,32] The latter may be a result of public participation being just a "box-ticking practice," when minimal public procedures are organized that do not provide real room for public input and/or may even marginalize certain groups in society.[33–35]

Public participation is therefore a grand societal and environmental challenge. If organized properly, it can enhance democracy and meet the urgent demand for action to combat climate change. In contrast, if organized poorly, it can fuel resistance and polarization, and halt climate action. Therefore, it is urgent to better understand and inform policy makers about how to organize public participation so that it is effective, rather than counterproductive, in developing more socially acceptable climate policies.

Unveiling the Chain of Public Participation

The United Nations-based Aarhus Convention is the prime legal framework that mandates access to information and possibility for citizens to participate in decision making on environmental matters.[8] This document is binding for 47 European countries and inspired similar approaches in South America, with the Escazu agreement,[36] and in China.[37] The Aarhus Convention can thus be used as a reference document for discussing the legal framework for public participation in environmental matters, including climate action.

The Aarhus Convention echoes the importance of early and meaningful public participation by mandating "reasonable time-frames" to inform the public and to allow for a response, at a time when "all options are possible" and participation can be "effective," and that responsible authorities should "take the views" expressed by the public "in due account."[8,38–42] The Aarhus Convention sets these obligations most stringently for decision making on a project level where specific policy solutions are being implemented, such as giving the authorization to build a wind park.[43] Importantly, however, such decisions are preceded by macro-policy levels, namely policy visions, plans, and programs that establish, for example, suitable locations for renewable energy siting. Policy visions, plans, programs, and eventually projects together form the decision-making chain[43] (Figure 1).

International agreements, such as the Paris Climate Agreement, and supranational laws, such as EU law (e.g., reducing CO_2 emissions in member states),[44,45] form the first tier of the decision-making chain. The next tier contains national policies—either stemming from international policies or starting on their own—and national plans, programs, and decisions. In states with decentralized governance structures on climate policy, such as the Netherlands, the chain continues with policies, plans, programs, and decisions in a regional and local tier (see Figure 1). So, the decision-making chain may traverse from international to national to regional and local tier, and within the tiers, from visions to plans and programs and to specific decisions. The decision-making chain may also encompass smaller-scale

and bottom-up actions, such as local renewable energy initiatives or city initiatives to combat climate change (e.g., c40.org). Notably, such initiatives still need to abide to macro-level regulations (e.g., national, regional, local land-use planning policies) and they may create a decision-making chain of their own (e.g., city policies, plans, programs, and local projects).[46]

The Aarhus Convention mandates public participation at all tiers of the decision-making chain, except for international agreements and regulations. Yet, while the Aarhus Convention (cf. Articles 6 and 7) mandates extensive obligations for early and meaningful public participation at the level of projects, it has less such obligations at the level of plans and programs, and no such obligations at higher policy level.[43] At the same time, it is obvious from the above that the presence of multiple levels in the decision-making chain has important implications for the effectiveness of public participation.

At a project level, many important decisions have already been made at the macro-policy levels within the chain. This puts constraints on the type of influence that the public can still have. For example, authorization to build a wind park is a specific decision on a national, regional, or local level, which may have followed from national, regional, or local energy plans and programs, which in turn have been guided by (inter)national climate agreements. In effect, this implies that even if public participation takes place early in decision making about the authorization of a wind park, important decisions that have major influence on subsequent projects, such as where the wind turbines should be located and how much energy they should produce, have already been made at a macro-policy level (hereafter macro-level decisions).[33,43] At a project level, the options left open for discussion have a less extensive impact, for example, where to locate trees to reduce the visual and sound impact of the wind turbines (hereafter micro-level decisions).

Based on the Aarhus Convention, options discussed while adopting policies, plans, and programs do not need to be discussed again when deciding about eventual projects, and comments concerning such options can be considered time barred.[38,43] Even more, the legal principle of *res judicata* means that once a legal matter has been settled, such as the content of a plan or program, that matter cannot be discussed again after a reasonable time has elapsed or after a party challenged a plan or program in court but lost the dispute.[47] *Res judicata* can stand in the way of reconsidering macro-level decisions at micro-level decisions making. The room for by-passing the principle of *res judicata* varies in accordance with legal traditions,[48] but is generally limited.[47]

All in all, the way that public participation is organized and regulated today may result in people being able to influence only minor rather than major decisions. This may limit or even reduce the quality and public acceptability of climate policies. The question is how to ensure early and meaningful public participation that is not constrained by macro-level decisions made earlier. A possible legal fix could be to mandate more public engagement at macro-level decision making. However, we argue that it is critical to consider when and how people want to participate at different levels of the decision-making chain before engaging in legal reforms that might be counterproductive. Notably, if legal frameworks mandate public participation, but the public is not able and/or motivated to participate, public participation will not be more than a "box-ticking practice," failing to produce its desired benefits.

Unveiling Public Preferences for Public Participation

So far, studies on public preferences for participation have been primarily concerned with community engagement in decisions on local projects, such as renewable energy siting.[9] Although it can be concluded based on these studies that people want to be involved early and have influence over decisions, little is known about public preferences for participation in macro-level decision making. Essentially, no study has looked at public preferences for participation throughout the entire decision-making chain on climate policies. Here, we present a case study from the Netherlands as a first step to address this knowledge gap and to spur and inform future research on this important topic.

In the Netherlands, the goals of the Paris Agreement are currently being translated into regional sustainable energy strategies. Specifically, the Dutch government has put the goals of the Paris Agreement in the national Climate Agreement[49] and Climate Plan[50] and has entrusted the country's different regions to develop their own, local strategies to meet these goals (regionale-energiestrategie.nl). As a case in point, we focus on one such region, namely the Province of Groningen in the north of the Netherlands. The Province of Groningen is an important energy region in the Netherlands, because here the country's prime energy source, namely natural gas, is being extracted. To realize the sustainable energy transition, gas extraction needs to be phased out and the region needs to develop alternative ways to generate energy. In this study, we examine how local people wish to participate in decision making on sustainable energy transition. Specifically, we conducted a questionnaire study with citizens in this region, including different age, gender, income, and education groups (for details, see Experimental Procedures).

We asked respondents to what extent local residents should be informed, have a say, and decide about the sustainable energy transition in their province, respectively. Respondents particularly wanted to be informed and have a say, and expressed a lower preference for the public being able to decide about the energy transition; these means were statistically significantly different from each other ($F(1.600, 1705.702) = 908.918$; $p < 0.001$; $\eta^2 = 0.460$; $p < 0.001$ for all multiple comparisons; Figure 2).

Next, we asked to what extent local residents should be involved in decision making about developing general visions, regional strategies, and concrete projects for sustainable energy transition. Although respondents wanted the public to be involved in all these decisions, they expressed a higher preference for the public to be involved particularly in decision making on projects, and less in decision making on regional strategies and general visions, respectively; these means were statistically significantly different from each other ($F(1.693, 1809.877) = 165.181$; $p < 0.001$; $\eta^2 = 0.134$; $p < 0.001$ for all multiple comparisons; Figure 3). Similarly, respondents wanted the public to be particularly involved in decision making about the energy transition in their direct environment and less in decision making on the energy transition in their municipality, province, and the Netherlands, respectively; these means were statistically significantly different from each other ($F(1.818, 1959.505) = 623.541$; $p < 0.001$; $\eta^2 = 0.366$; $p < 0.001$ for all multiple comparisons; Figure 4).

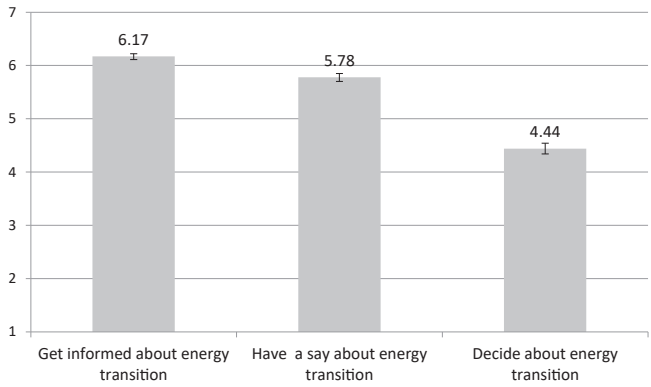

Figure 2. Preferred Type of Participation
Preferences for the public to be informed, have a say, and decide about sustainable energy transition. Error bars represent 95% confidence intervals; n = 1,067. Preferences were measured with two items, namely how desirable (1, not at all; 7, very) and necessary (1, not at all; 7, very) it is to inform residents, give them a say, and let them decide about sustainable energy transition; the scores on these two items were averaged.

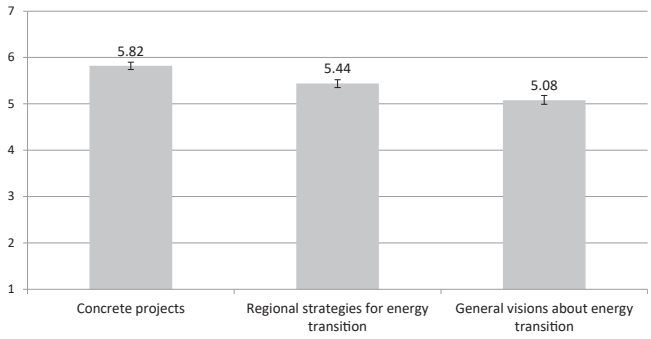

Figure 3. Preferred Level of Participation
Preferences for public participation in different types of decisions. Error bars represent 95% confidence intervals; n = 1,070. Preferences were measured with two items, namely how desirable (1, not at all; 7, very) and necessary (1, not at all; 7, very) it is to involve residents in these different types of decisions; the scores on these two items were averaged.

Overall, we find that people want to be informed and have a say about climate policies, yet are less willing to make the decisions themselves. This is in line with theorizing[5] and initial qualitative evidence[51] that people want to have a say in decision making, but they expect responsible parties to make the decisions. The highest rung of the participation ladder, namely citizen control,[19] may therefore not be the priority for the public. Yet, we found that people want to retain some control, because overall, the willingness to decide was not very low and for many participants it was high. There are some good examples of sharing the decision-making power between the governments and the affected publics in co-managing natural resources.[52] Yet, research is needed to better understand the conditions under which the public is willing and able to carry the responsibility for such shared decision making.

Most importantly, we find that people are more willing to participate in micro- than macro-level decision making. This introduces a paradox, when considering the previous findings that people accept climate policy more if they can influence major decisions, such as what kind of projects should come where, rather than only minor decisions, such as the details of the infrastructure.[31] Currently, such major decisions are made at a macro level and are no longer discussed at a micro level. Hence, by wanting to participate more in micro- than macro-level decision making, as found in this study, people may be limiting the sort of influence they have on energy projects. Taken together, the way that decision making is currently organized and how people prefer to participate in decision making may, in fact, inhibit early and meaningful public participation in climate policy making. Our case study illustrates this paradox and calls for future research into public preferences for participation and ways to incorporate these preferences in legal frameworks and governance structures on climate policy.

Research Agenda

Our key finding is that people want to influence decision making particularly on local projects, rather than climate policy making on a national and global level. This raises two important concerns. First, if people participate only in micro-level decision making, they may not have a say in major decisions. This may result in perceived low procedural fairness and public resistance against the respective projects. Second, this limits the extent to which global and national climate policy making can draw on the knowledge and insights of citizens, which could enrich policy making by substantiating and deliberating the discussed options.[17,53] Hence, an important question is how to reconcile public preferences and legal frameworks for public participation. We identify two possible directions. The first direction is to engage the public more in macro-level decision making, where people can still influence major decisions. The second direction is to provide more room for public influence in micro-level decision making, where people want to participate most.

In view of these two directions, we draw avenues for future cross-disciplinary research into legal frameworks, on the one hand, and public preferences, on the other hand, to examine when and how they could be reconciled. Next, we argue that research is needed to assess whether and when each of the two proposed directions for public participation is effective in increasing perceived procedural fairness and public acceptability of climate policy making. Our proposed research agenda focuses on reconciling legal frameworks and public preferences for public participation and does not include the preferences of decision makers. Public participation depends on the ability and motivation of decision makers to engage the public early and meaningfully and to prevent pseudo or fake participation. Although beyond the scope of the current research agenda, future research is needed to study key enablers and barriers for decision makers to effectively engage the public in climate policy making. Below, we outline the two directions for reconciling legal frameworks and public preferences, together with the respective avenues for cross-disciplinary research in the view of each direction.

Increasing Public Participation at a Macro Level

We have found that both legal frameworks and public preferences may anchor public participation downstream of the decision-making chain. Future research could study under which conditions public participation can be dispersed upward in the decision-making chain and whether and when this increases

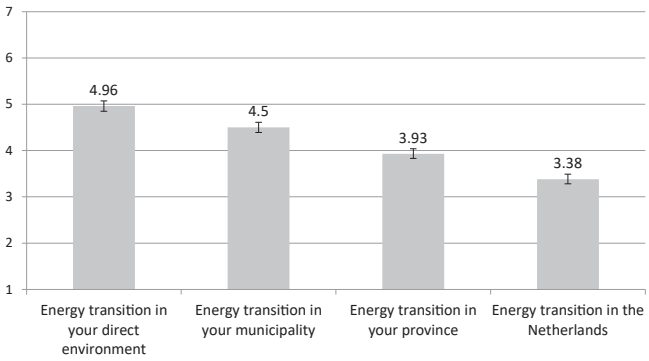

Figure 4. Preferred Scope of Participation

Preferences for public participation at different levels of decision making. Error bars represent 95% confidence intervals; n = 1,079. Preferences were measured with one item, namely how much (1, not at all; 7, very much) people want to be involved in decision making about energy transition in the Netherlands, their province, their municipality, and their direct environment.

the perceived procedural fairness and public acceptability of climate policy making.

Research on Legal Frameworks. Although the Aarhus Convention does not establish specific obligations about public participation when establishing policies, it does not prevent State parties from establishing such obligations.[43] Different countries may have their own approaches to public participation that go beyond what is mandated by the Aarhus Convention.[54] In the Netherlands, for example, public authorities must justify how they have taken public voice into consideration when establishing policies.[55] In addition, rules fostering public participation at macro level could be derived from outside the environmental law field. For example, Switzerland uses direct democracy, mostly referenda, as a form of public participation across the entire decision-making chain, including at the policy level.[56] This practice applies to environmental law,[57] but it derives from constitutional law.[58] Future research could compare rules in different countries (i.e., external comparison[54]) and different legal disciplines (e.g., environmental, administrative, and constitutional law; internal comparison) to study which aspects of (inter)national rules and institutions enable or limit public participation at macro levels, whether such regulations increase or decrease public participation at such levels, and how they may need to be revised.

Research on Public Preferences. Future studies could identify key factors that influence people's preferences to participate at different levels of decision making and particularly at macro levels. Participation procedures may require time, effort, and skills (e.g., public speaking), which may prevent people—especially marginalized groups (e.g., lower education, income)—from participating.[14,34,35,59] Particularly at the macro level, the policies, visions, and programs that are discussed may be highly abstract, complex, and qualified by many uncertainties, creating barriers for (some) people to effectively engage in the discussion.[11] Importantly, there is initial evidence that people can engage with topics, such as climate policy and energy transition, even on a national scale, if provided with balanced information and opportunities to deliberate the different options.[60,61] In addition to what enables people to participate, it is important to study what motivates them to participate, at a macro level. Given the limited time and effort they may want to invest, people may prioritize participation at a micro level, which may seem to them closer and more important, than at a macro level, which may feel remote and less important. Relatedly, people may not want to participate if it is not clear to them how macro-policy decisions will affect local projects. Future studies could test whether explicating the links between macro-level decision making and local projects increases people's willingness to participate in macro-level decision making.

Assessing the Effectiveness of Public Participation. It is important to understand what effects public participation—or the absence thereof—at macro-policy levels has on other levels of the decision-making chain. Initial evidence suggests that when civil society organizations are included in (versus excluded from) global climate governance, people perceive the decision-making process as more transparent and representative (i.e., two important facets of perceived procedural fairness).[62,63] The question is, however, how the perceived fairness of macro-level decision making influences perceived fairness and public acceptability of the relevant projects later. To our best knowledge, there has been no attempt so far to study such ripple effects of public participation across the decision-making chain. Longitudinal studies could examine the relationships between public participation, perceived procedural fairness, and public acceptability of decisions across the entire chain from policies to projects, possibly encompassing the national, regional, and local tiers. A highly novel contribution to the literature would be experimental studies that enable us to compare public acceptability of decisions that underwent public participation at different tiers and levels of the decision-making chain.

Increasing Public Influence at a Micro Level

The current study provides initial evidence that people especially want to participate in micro-level decision making. This gives impetus to a novel approach to examine whether and how the whole decision-making chain could be reconfigured to provide more room for public influence at this level.

Research on Legal Frameworks. At micro-level decision making, the Aarhus Convention only sets a general duty to ensure that participation takes place when all options are still open. It does not specify which options must be open and it actually allows State parties not to discuss options that were already discussed at macro-level decision making. However, it does not restrict State parties from allowing such possibility, therefore setting a higher standard for public participation than required under the Aarhus Convention. Again thus, countries may have more stringent obligations that go beyond the Aarhus Convention. Future comparative research could examine whether and what regulations exist across countries (i.e., external comparison) that could facilitate discussing macro options at micro-level decision making. In particular such comparative research could also establish the extents to which different countries have workable exceptions to the principle of *res judicata*, which imposes limitations to discuss macro options at a project level. As *res judicata* is a general principle of law, relevant in all legal fields, consideration should also be given to exceptions to the principle of *res judicata* developed in other fields than environmental law (i.e., internal comparison), such as general administrative law or private law. Based on the findings, future research could examine whether the rules existing in a given country allowing

to discuss macro options at micro level can be transplanted to other countries.[64,65] With regard to different legal fields within the same country, future studies could look at whether relevant rules can be applied by means of interpretation by analogy to environmental law or if legal reforms are needed.[66]

Research on Public Preferences. It is critical to understand which decisions about climate policy people see as major and want to be able to influence at micro-level decision making. Studies have shown that if people think that projects are already pre-baked and will continue despite public input, this may fuel public resistance.[7,32] Yet, these studies have not looked at which decisions people want to influence or would have liked to influence earlier. For example, people may not necessarily want to (re-)consider how much CO_2 emissions need to be reduced, but they may want to (re-)discuss why certain mitigation options (e.g., renewables, carbon capture and storage) and not others (e.g., reforestation) have been chosen. This could imply, for example, that when deciding upon authorization of a wind park, people may want to discuss whether wind energy is the best choice in the first place. Furthermore, at the level of specific decisions, such as a gasoline tax, people may want to (re-) discuss how the costs and benefits of climate policy are distributed and where the revenues go. Future studies need to examine which decisions people want to (re-)open for public participation in micro-level decision making.

Assessing the Effectiveness of Public Participation. There is initial evidence that having influence over major decisions leads to higher public acceptability of renewable energy projects than having influence over minor decisions.[31] Future experimental studies could systematically disentangle different types of decisions at a micro level (e.g., decisions over the type of technology, the distribution of costs and benefits) to study their effects on perceived procedural fairness and public acceptability of the end decisions. Also, future research could unveil possible boundary effects of (re-)discussing macro options at a micro level on effective climate policy. For example, if macro-level decisions become less certain because they can be changed at every level of decision making, this could reduce the willingness of industry and companies to invest in sustainable innovation to combat climate change.[67]

Conclusion

We have shown that there may be a cleavage between legal frameworks and public preferences for public participation in climate policy making. People want to influence major decisions, yet they want to participate particularly in micro-level decision making. Given current legal frameworks, many important decisions are made at a macro-policy level; public influence at a micro level is therefore limited. This cleavage may inhibit early and meaningful public participation and fuel public resistance against climate policy. Cross-disciplinary research is needed to find out how to reconcile legal frameworks and public preferences to develop effective public participation practices that lead to socially more acceptable climate policies.

EXPERIMENTAL PROCEDURES

The survey was conducted in November and December 2018 across 20 municipalities in the Province of Groningen, the Netherlands. We collected data door-to-door, approaching people at their homes and asking them to fill in a questionnaire. Respondents received a questionnaire, which they could fill in by themselves and which was later picked up upon appointment. From 1,142 returned questionnaires, we excluded 13 that did not have the signed informed consent, three that came from respondents younger than 16, one that did not contain any data, and four that contained only demographic data; the number of responses per question is reported in the figures. Sample demographics are as follows: 490 women, 598 men, 5 indicated "other" for gender, and 28 did not indicate gender; age 16 to 88 years (mean = 51.82 years, SD = 16.57 years), 65 did not indicate age; distribution across low, middle, and high education groups was 12.8%, 42.5%, and 41.6%, respectively (3.2% indicated other or no education, or did not indicate); compared with the general Dutch population, the current sample is more highly educated and has lower income. Preferences for the public to be informed, have a say, and decide about sustainable energy transition (Figure 2) were each measured with two items, which were averaged, namely how desirable (1, not at all desirable; 7, very desirable) and necessary (1, not all necessary; 7, very necessary) it is to inform local residents (n = 1,070; Cronbach's α = 0.821; mean = 6.17, SD = 0.922), give them a say (n = 1,068; Cronbach's α = 0.918; mean = 5.78, SD = 1.261), and let them decide about policy and take decisions about sustainable energy transition (n = 1,069; Cronbach's α = 0.951; mean = 4.44, SD = 1.677). Next, we asked about two items, which we averaged, how desirable (1, not at all desirable; 7, very desirable) and necessary (1, not all necessary; 7, very necessary) it is to involve local residents in developing general visions about energy transition (e.g., how much CO_2 should be reduced) (n = 1,074; Cronbach's α = 0.912; mean = 5.08, SD = 1.59), regional strategies for energy transition (e.g., how much solar and wind energy should be produced in their province) (n = 1,073; Cronbach's α = 0.906; mean = 5.44, SD = 1.39), and concrete projects (e.g., wind projects in my neighborhood) (n = 1,074; Cronbach's α = 0.888; mean = 5.82, SD = 1.31) (Figure 3). We measured with one item to what extent (1, not at all; 7, very much) respondents themselves would like to be involved in decision making about the energy transition in the Netherlands (n = 1,085, mean = 3.38, SD = 1.723), their province (n = 1,086, mean = 3.93, SD = 1.784), their municipality (n = 1,082, mean = 4.50, SD = 1.824), and their direct environment (n = 1,083, mean = 4.96, SD = 1.893) (Figure 4). We conducted repeated measures ANOVAs with a Greenhouse-Geisser correction, followed by multiple comparisons with Bonferroni adjustment.

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AUTHOR CONTRIBUTIONS

Conceptualization, Methodology, Investigation, Writing, Visualization, and Funding Acquisition, G.P. and L.S.; Data Curation and Analysis, G.P.

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