Examining Citizen Preferences for Participation in the Energy Transition

Aligning Central and Decentral Participation Processes in the Netherlands

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by

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Preface

This thesis marks the end of an intense yet rewarding journey, representing the result of months of research, analysis, and reflection. Undertaking this master's thesis provided me with an opportunity to delve deep into a subject that has captivated my interest. Additionally, it was a great opportunity to combine it with an internship at the Ministry of Economic Affairs and Climate Policy, allowing me to learn more about the policy-making field within the Netherlands and gain extra experience in my study direction.

The idea for this research project comes from a growing interest in the energy transition during my studies. The energy transition, climate change, and the intersection of socio-political aspects have emerged as pressing concerns. As I delved deeper into the subject, I recognized the significance of citizen participation in speeding up the energy transition and its implications for governance processes at different levels.

I am grateful to my supervisors and advisor for their guidance during the process of writing my master's thesis. Their expertise and constructive feedback have been instrumental in shaping this thesis into its final form.

I would also like to thank the participants of the interviews who contributed their time and insights, making this research possible. Their willingness to share their experiences has enriched the findings of this study and given voice to the perspectives of citizens in the energy transition.

Moreover, I am thankful to my friends and family for their understanding and encouragement, which has been a driving force behind my progress. I also very much appreciate the time you put into proof-reading this thesis.

As I present this work, I hope it serves as a meaningful contribution to the growing body of literature on citizen participation in climate policy and that it may inspire further exploration and dialogue in this critical area. Additionally, I hope it inspires readers to embrace their responsibility to participate in these processes in the future!

Finally, I acknowledge that this journey has been as much about personal growth as academic achievement. Over the course of this eventful year, my focus occasionally shifted towards personal matters. Nevertheless, looking back, I take pride in presenting the thesis that lies before you now.

Dorris Corsten
Delft, August 2023

Summary

To mitigate climate change by transforming the energy system citizen involvement is crucial. Citizen involvement can help achieve these goals as well as accelerate the transition, by harnessing local knowledge for the improvement of plans, creating a support base and the opportunity for citizens to come up with their own initiatives. Citizen participation is a form of involvement, described as the process through which individuals, groups and organisations influence and share control over collective concerns, decisions or services that affect them. Often with a redistribution of power that enables the citizens to be involved. The Netherlands recognizes the importance of citizen involvement in the energy transition and has devoted a whole chapter in the Dutch Climate Agreement to the cause. But if citizen participation is organized inadequately, this can fuel resistance and polarization. Other issues are participation fatigue, limited influence on the process, because decisions have already been made or decisions on a higher level influence the solution space. Currently, most research focuses on different forms of participation, frameworks, trends or categorization for participation. However, little attention is paid to understanding citizens' preferences for good participation. Therefore this research is evaluating the preference of citizen segments for different participation methods in the energy transition, for different governance levels. The research question answered is: *How do the preferences of citizen segments for participation methods in the energy transition align with central and decentral participation in the Netherlands?*

To answer this question the research has been divided into four smaller sub-parts: what does central and decentral participation in the Netherlands look like, when in the policy cycle are citizens' needs assessed, what participation methods do citizen segments prefer and what are challenges and opportunities for the alignment of citizens preferences with participation in the Netherlands. A mixed-method approach is used in which the questions are answered with both qualitative and quantitative research. The first two sub-parts are based on qualitative data resulting from literature reviews. The preferences of citizen segments are determined based on quantitative survey data, set out by the Ministry of Economic Affairs and Climate Policy. A Latent Class Cluster Analysis (LCCA) is applied: a method to detect not directly observable heterogeneity in samples of categorical data. The resulting classes are assessed by adding covariates such as demographics and attitude towards democracy or the energy transition. The result is a classification of respondents based on attitudes towards participation, which can be identified by some characteristics resulting from the covariates. The final part is based on qualitative data from interviews with policymakers and citizen representatives, identifying challenges and opportunities for integrating citizens' preferences with participation processes.

The first subquestion addresses similarities and differences in citizen participation on the central and decentral levels. A categorization for participation forms the basis of the analysis, including the degree of engagement, the direction of communication flows, and the rationality and objectives for participation. This part identifies that similar methods (survey, citizen gathering, citizens' assembly and referendum) are applied at different policy levels but with different objectives. For the national level, it is mainly consultation and informing, moving to decentral levels the objectives delivering and implementation are gradually increasing.

The second part focuses on when in the policy cycle citizens' needs were addressed at different policy levels. A difference between national and decentral levels was identified. On the national level participation takes place in the formulation phase, whereas on decentral levels participation focuses on the implementation phase. However, the importance of early participation is addressed for citizens to feel represented and the importance of integrating local and national participation processes to learn from each other's outcomes.

The third part identifies preferences for citizen participation of different citizen segments. This part identified no difference in preference for participation on a national level and on a local level. It identified that citizens are in general enthusiastic about participation, and have a small preference for low-threshold participation methods with little time investment. Additionally, differences in enthusiasm for

participation were identified between male and female respondents (male respondents are more enthusiastic), younger and older people (older people have a preference for low-threshold methods) and the level of education (low-educated people prefer low-threshold methods).

The final part identifies challenges and opportunities for integrating citizens' preferences for participation with central and decentral participation processes in the energy transition in the Netherlands. Challenges are related to the government structure, the citizens' attitude towards participation and the political system in which the energy transition occurs. The opportunities are related to the process of participation, the engagement with the citizen and the capabilities of the governmental body.

Previous research identified a preference of citizens to participate in micro-level decision-making rather than macro-level decision-making. A different outcome results from this research, where participation on the national level and participation on the municipal level are valued the same. This could be caused by the wording of the question, with government and municipality. It could be argued that citizens see both governmental bodies as one unified entity. Additionally, a selection bias might be resulting in the overestimation of the level of enthusiasm in the population, since the survey in which they provide their views is a form of participation itself. Moreover, there exists a disparity between the expressed willingness to participate, as indicated in the survey, and the actual ability to participate when the opportunity arises, which is for instance dependent on timing, health conditions or mobility.

When interpreting the results of the research it is important to remember that each situation for participation is different. The problem lies within its own context as well as the individual citizens have their own context. It is also important to consider that the instrument used (participation) should not exceed its intended purpose. The goal is not merely to reach the maximum number of individuals, but rather to obtain a diverse and comprehensive understanding of the perspectives in the community. Finally, there is a difference between civic participation and civic engagement. Participation is an important tool but does not automatically ensure engagement. It is crucial to acknowledge and address resistance alongside fostering active engagement.

One of the limitations of the study is the survey being conducted prior to the commencement of the study, meaning that the researcher had no control over the survey. The exploratory nature of the study and the strict time constraint limited the in-depth explanation of each relation visible in the covariate analysis. Finally, this study specifically examines the level of appreciation for participation and the variations within different citizen segments, it does not delve into the actual rates of participation or the likelihood of individuals showing up for these processes.

A primary conclusion to the question of how citizens' preferences align with central and decentral participation is that there are no fundamental differences in the participation methods applied to these levels, just as the preferences themselves do not vary significantly. Additionally, the majority of citizens appreciate being involved with participation. Therefore, the effort for participation can result in automatic alignment between the preferences and central and decentral participation. The specific preferences of citizen segments identified, such as the preference of elderly or lower-income individuals for low-threshold methods, can be utilized in participation processes in which these groups are underrepresented. One of the main barriers identified in this study is the disparity between the system world, where policies are formulated and the energy transition is planned, and the living world, which represents how citizens experience and perceive these changes. Opportunities for closing this gap are sharing results of participation processes with different governance levels, improving information provided to citizens and improving connection with the community by becoming more visible and organizing more participation.

Policy makers are advised to critically examine the challenges and opportunities identified for integrating citizens' preferences and participation processes. It is important to determine which aspects can be influenced by their respective institutions and where collaboration with other stakeholders is necessary. Moreover, considering the context is vital when organizing participation. Applying an integral approach and tailoring participation methods to the specific target audience can enhance the effectiveness and inclusivity of the participation process. Furthermore, the importance of information-sharing is reiterated. Establishing a relationship of trust with citizens through transparent communication is essential. Additionally, exchanging information with other policy levels allows for the accumulation of valuable insights and lessons learned, facilitating more informed and comprehensive decision-making.

Samenvatting

Om klimaatverandering tegen te gaan en het energiesysteem te transformeren is betrokkenheid van burgers van belang. Burgerparticipatie kan helpen om klimaatdoelen te bereiken en de transitie te versnellen. Door lokale kennis te benutten voor het verbeteren van plannen, draagvlak te creëren en burgers de mogelijkheid te geven om met eigen initiatieven te komen. Burgerparticipatie is een vorm van betrokkenheid die omschreven wordt als het proces waarbij individuen, groepen en organisaties invloed uitoefenen op en zeggenschap delen over collectieve beslissingen die hen aangaan. Vaak gaat dit gepaard met een herverdeling van macht. Nederland erkent het belang van betrokkenheid van burgers bij de energietransitie en heeft er een hoofdstuk in het Klimaatakkoord aan gewijd. Echter, als burgerparticipatie onvoldoende is georganiseerd kan dit weerstand en polarisatie aanwakkeren. Andere problemen zijn participatiemoeheid, beperkte invloed op het proces omdat beslissingen al genomen zijn of beslissingen op een hoger niveau de oplossingsruimte beïnvloeden. Momenteel richt het meeste onderzoek zich op verschillende vormen van participatie, kaders, trends of categorisering voor participatie, maar er wordt weinig aandacht besteed aan het begrijpen van de voorkeuren van burgers voor participatie. Daarom evalueert dit onderzoek de voorkeur van burgersegmenten voor verschillende participatiemethoden in de energietransitie, voor verschillende bestuursniveaus. De onderzoeksvraag luidt: *Hoe sluiten de voorkeuren van burgersegmenten voor participatiemethoden in de energietransitie aan bij centrale en decentrale participatie in Nederland?*

Het onderzoek is opgedeeld in vier subonderdelen: Hoe ziet centrale en decentrale participatie in Nederland eruit? Wanneer in de beleidscyclus worden de behoeften van burgers gepeild? Welke participatiemethoden hebben de voorkeur van burgersegmenten? En wat zijn uitdagingen en kansen voor het afstemmen van de voorkeuren van burgers op participatie in Nederland? een mixed-method aanpak wordt gebruikt met zowel kwalitatief als kwantitatief onderzoek. De eerste twee subonderdelen zijn gebaseerd op kwalitatieve gegevens uit literatuuronderzoek. De voorkeuren van burgersegmenten zijn bepaald op basis van kwantitatieve enquêtegegevens, opgesteld door het Ministerie van Economische Zaken en Klimaat. Er wordt een Latent Class Cluster Analysis (LCCA) toegepast, een methode om niet direct waarneembare heterogeniteit op te sporen in categorische gegevens. Het resultaat is een classificatie van respondenten op basis van houdingen ten opzichte van participatie. Het laatste deel is gebaseerd op kwalitatieve gegevens die voortkomen uit interviews met beleidsmakers en burgervertegenwoordigers, die uitdagingen en kansen voor het integreren van de voorkeuren van burgers en participatieprocessen identificeren.

De eerste deelvraag gaat in op overeenkomsten en verschillen in burgerparticipatie op centraal en decentraal niveau. In dit deel wordt vastgesteld dat vergelijkbare methoden (enquêtes, burgervergaderingen, burgerfora en referenda) worden toegepast op verschillende beleidsniveaus, maar met verschillende doelstellingen: op nationaal niveau gaat het vooral om raadplegen en informeren, terwijl op decentraal niveau de doelstellingen geleidelijk aan richting leveren bewegen.

Het tweede deel richt zich op het moment in de beleidscyclus waar wordt ingespeeld op de behoeften van burgers in de beleidscyclus voor verschillende beleidsniveaus. Op nationaal niveau vindt participatie plaats in de formuleringsfase, terwijl participatie op decentraal niveau zich richt op de implementatiefase. Het belang van vroegtijdige participatie wordt echter benadrukt, zodat burgers zich vertegenwoordigd voelen.

Het derde deel identificeert de voorkeuren voor burgerparticipatie van verschillende segmenten van de bevolking. Er wordt geen verschil vastgesteld tussen de voorkeur voor participatie op nationaal en op lokaal niveau. Er wordt vastgesteld dat burgers over het algemeen enthousiast zijn over participatie en een kleine voorkeur hebben voor laagdrempelige participatiemethoden. Daarnaast zijn er verschillen in enthousiasme voor participatie vastgesteld tussen mannelijke en vrouwelijke respondenten (mannelijke respondenten zijn enthousiaster), jongeren en ouderen (ouderen hebben een voorkeur voor laagdrempelige methoden) en opleidingsniveau (laagopgeleiden hebben een voorkeur voor laagdrempelige methoden).

Het laatste deel identificeert uitdagingen en kansen voor het integreren van de participatievoorkeuren van burgers met centrale en decentrale participatieprocessen in de energietransitie in Nederland. Uitdagingen zijn gerelateerd aan de overheidsstructuur, de houding van burgers ten opzichte van participatie en het politieke systeem waarin de energietransitie plaatsvindt. De kansen hebben te maken met het proces van participatie, de betrokkenheid bij de burger en de capaciteiten van de overheidsinstanties.

Uit eerder onderzoek kwam naar voren dat burgers liever participeren in besluitvorming op microniveau dan in besluitvorming op macroniveau. Dit onderzoek laat zien dat participatie op nationaal niveau en participatie op gemeentelijk niveau hetzelfde worden gewaardeerd. Dit zou veroorzaakt kunnen worden door de vraagstelling uit de enquête, met onderscheid tussen overheid en gemeente, echter, er zou beargumenteerd kunnen worden dat burgers beide overheidsorganen zien als één enkele entiteit: de overheid. Daarnaast zou een selectiebias kunnen leiden tot een overschatting van de mate van enthousiasme onder de bevolking, aangezien de enquête waarin zij hun mening geven zelf een vorm van participatie is. Bovendien bestaat er een verschil tussen de uitgesproken bereidheid om deel te nemen, zoals aangegeven in de enquête, en de daadwerkelijke mogelijkheid om deel te nemen, wat bijvoorbeeld afhankelijk is van timing, gezondheidstoestand of mobiliteit.

Bij het interpreteren van de resultaten is het belangrijk om te onthouden dat elke situatie voor participatie anders is. Als je bijvoorbeeld informatie hebt over iemands opleiding en woonsituatie, hoeven de bevindingen van dit onderzoek niet per definitie van toepassing te zijn op die specifieke persoon. Daarnaast moet het gebruikte instrument (participatie) niet verder gaan dan het beoogde doel. Het doel is niet om het maximale aantal individuen te bereiken, maar om een divers en alomvattend begrip te krijgen van perspectieven in de gemeenschap. Tot slot is er een verschil tussen burgerparticipatie en burgerbetrokkenheid. Participatie is een belangrijk instrument, maar zorgt niet automatisch voor betrokkenheid. Het is cruciaal om weerstand te erkennen en aan te pakken naast het stimuleren van actieve betrokkenheid.

Een van de beperkingen van het onderzoek is dat de enquête werd uitgevoerd voordat het onderzoek begon, wat betekent dat de onderzoeker geen controle had over de enquête. Tot slot gaat dit onderzoek specifiek over de mate van waardering voor participatie en de variaties binnen verschillende segmenten van de bevolking. Het gaat niet in op de werkelijke participatiegraad of de waarschijnlijkheid dat individuen komen opdagen voor deze processen.

Een eerste conclusie op de vraag hoe de voorkeuren van burgers zich verhouden tot centrale en decentrale participatie is dat er geen fundamentele verschillen zijn in de participatiemethoden die op deze niveaus worden toegepast, net zoals de voorkeuren zelf niet significant verschillen. Daarnaast stelt de meerderheid van de burgers het op prijs om betrokken te zijn bij participatie, waardoor de inspanning voor participatie kan leiden tot automatische afstemming tussen de voorkeuren en centrale en decentrale participatie. De specifieke voorkeuren van geïdentificeerde burgersegmenten, zoals de voorkeur van ouderen of mensen met lagere inkomens voor laagdrempelige methoden, kunnen worden gebruikt in participatieprocessen waarin deze groepen ondervertegenwoordigd zijn. Een van de belangrijkste barrières die in deze studie zijn geïdentificeerd is de kloof tussen de systeemwereld, waar beleid rondom de energietransitie wordt geformuleerd, en de leefwereld, die weergeeft hoe burgers deze veranderingen ervaren. Mogelijkheden om deze kloof te dichten zijn het delen van resultaten van participatieprocessen met verschillende bestuursniveaus, het verbeteren van de informatievoorziening aan burgers en het verbeteren van de verbinding met de gemeenschap door zichtbaarder te worden en meer participatie te organiseren.

Beleidsmakers wordt aangeraden om kritisch te kijken naar de uitdagingen en kansen voor het integreren van de voorkeuren van burgers en participatieprocessen. Het is belangrijk om te bepalen welke aspecten beïnvloed kunnen worden door hun respectievelijke instellingen en waar samenwerking met andere stakeholders nodig is. Bovendien is het van belang om rekening te houden met de context bij het organiseren van participatie. Het toepassen van een integrale aanpak en het afstemmen van participatiemethoden op de specifieke doelgroep kan de effectiviteit en inclusiviteit van het participatieproces vergroten. Verder wordt het belang van het delen van informatie herhaald. Het opbouwen van een vertrouwensrelatie met burgers door transparante communicatie is essentieel. Daarnaast maakt het uitwisselen van informatie met andere beleidsniveaus het mogelijk om waardevolle inzichten en lessen te verzamelen, waardoor een beter geïnformeerde besluitvorming mogelijk wordt.

Contents

List of Figures

List of Tables

1 Introduction

In the 21st century, the focus of the energy sector is to move away from fossil energy sources to renewable energy sources. Citizen involvement is considered crucial in the transformation of the energy system for the energy transition and is endorsed by several directives and programs from the European Union (Broska et al., 2022). To achieve climate change goals set in the Paris Agreement the energy system needs to adjust, by moving away from fossil fuels towards renewable energy sources for energy generation. Citizen involvement can help achieve these goals as well as accelerate the transition, by harnessing local knowledge for the improvement of plans, creating a support base and the opportunity for citizens to come up with their own initiatives (Broska et al., 2022; Chilvers et al., 2018; Horstink et al., 2021; Wesselink et al., 2011).

The complexity of the energy transition lies in the uncertainty and the impact on actors on multiple levels and scales (Reed, 2008; van Dijk et al., 2022), for both the implementation of renewable energy sources as well as citizen participation. National policy for renewable energy might get the approval of citizens, but the negative side effects of a wind turbine in your neighbourhood are only appearing to a few, which demonstrates the different scales a project might have an impact on. In recent years the governance model of the energy transition changed from top-down approaches towards more decentralised authority, which is more fitting for transforming climate governance due to the multi-scalar character (van Dijk et al., 2022). Additionally, the energy transition is a technical process as it requires new technologies to generate energy, but also a societal challenge as it involves changes in the direct environment of citizens. Existing models for the energy market mainly consider techno-economic solutions (such as energy flows and resource availability) (Sgouridis et al., 2022). Still, to foster this transition it is essential to consider innovative structures with socio-technical and political perspectives (Sgouridis et al., 2022; Torabi Moghadam et al., 2020). As citizens are a stakeholder as well, due to the impact on their direct environment as well as the ability to create a support base and accelerate the transition, involving them in policy-making is crucial. Moreover, complexity follows from other stakeholders besides the government and the citizens, such as consumers, energy providers, commercial companies, and the industry who are involved. Finally, the issue is impacted by the general sense of urgency for the energy transition to halt climate change and the understanding that the energy supply must remain reliable and affordable alongside this transition (Horstink et al., 2021).

1.1. Citizen participation

Participation is the process through which individuals, groups and organisations influence and share control over collective concerns, decisions or services that affect them (Visser et al., 2019). Citizen participation, specifically, is described as a redistribution of power that enables citizens to be included in political processes (Arnstein, 1969). Citizen participation is on several occasions mentioned simultaneously with deliberative democracy, due to the similar nature of both principles (F. Hendriks & Michels, 2021; Pelletier, 1999; Wesselink et al., 2011).

Deliberative democracy is described as a common commitment, with both citizens and professionals, to reason together on matters regarding public policy and decision-making (Anderson, 1993). This democracy goes beyond the aggregation of opinions of the public but actively involves parties in policy-

making. The active involvement of deliberative democracy follows from the process of discussion and reflection and can be facilitated with a genuine participatory process (Pelletier, 1999).

Citizen participation in the energy transition can contribute to higher acceptance, due to the representation of meanings and preferences of citizens in political decisions (C. M. Hendriks, 2008). Acceptance is seen as instrumental rationality for participation (Wesselink et al., 2011). Along with acceptance, citizen involvement can contribute to communicating the problem, bringing about behavioural change and mobilizing citizen action (Chilvers et al., 2018). Citizen participation can also be used to acquire local knowledge for the improvement of plans, which is more substantial of nature (Wesselink et al., 2011). A normative approach to citizen participation emphasises including everyone who is affected by the decision, by empowering marginalised groups.

1.2. Situation in the Netherlands

The Netherlands is one of the affiliated countries to the Paris Agreement and subsequently drew up the Dutch climate agreement. This agreement states the goal of being climate neutral in 2050, but preceding this in 2030 27% of the energy used should originate from renewable sources (Rijksoverheid, n.d.). There is one chapter specifically devoted to assembling public support, in which public authorities are recommended to involve citizens when formulating new policies (Paradies et al., 2021).

Currently, in the Netherlands citizen participation in the energy transition at the national level mainly takes place in the form of polling opinions and influencing policy through activism (Paradies et al., 2021). At the local level, this process is more interactive due to participation in initiatives, such as grassroots initiatives and energy corporations (Horstink et al., 2021; Oteman et al., 2017). Additionally, in the Netherlands, local and central governments are collaborating on ”the national program regional energy strategies” in which they invite the public to discuss issues, such as the development of wind parks and solar farms (Perlaviciute & Squintani, 2020), an example of regional participation.

However, citizen participation in the energy transition is gaining more attention. For instance, on the national level, a vision for citizen involvement in the energy transition has been presented by the cabinet in May (Ministerie van Economische Zaken en Klimaat, 2023). This vision identifies three priorities, strengthening citizen participation in policy development on the national level, strengthening citizen participation on the decentral level and strengthening citizen initiatives. In addition, the vision presents 10 principles that good participation in energy transition must meet. Specific attention is paid to deliberative and interactive participation methods, good interaction between national and decentralised participation and lowering thresholds for initiatives.

1.3. Problem statement

The problem with citizen participation in the energy transition is twofold: participation processes inadequately account for citizens’ expectations and attitudes, and there is insufficient integration between different levels of governance. If organized properly, citizen participation can enrich democracy and meet the urgent need for action to combat climate change. In contrast, if organized inadequately, by for instance not responding to input provided during participation, this can fuel resistance and polarization, and halt climate action (Perlaviciute & Squintani, 2020). An example of this is ’participation fatigue’, where difficulties with the design and conduct of the process result in citizens growing tired of participating (Wesselink et al., 2011). Wesselink et al. (2011) believes that the cause of this participation fatigue lies in conflicting values, expectations and attitudes about participation and therefore resulting in limited incorporation of the results in the policy process from the citizen’s perspective.

Although citizen participation results in more legitimate and democratic decision-making (Wesselink et al., 2011), it is essential to align different participation processes and share results with other actors to avoid common participation problems, such as participation fatigue and no proper follow-ups. An example of this limited incorporation of the results is different governments conducting multiple participation processes about similar topics on different levels with the same citizens. Furthermore, the differences in participation on the different levels can result in complications. For example, when citizens are involved in the decision-making process for local projects, but their influence is limited by previously made macro-level decisions (Perlaviciute & Squintani, 2020). As a result, citizens feel less heard and involved, breaking down the original goal of participation. In contrast to the complications there are also opportunities for this integration. For instance, for energy communities (a local participa-

tion strategy) it has been shown that national policies play a role in further scaling up these communities (Sciullo et al., 2022). This highlights the importance of providing clear frameworks as a national regulator to encourage energy transition at the local level (Perea-Moreno & Drewello, 2022).

1.4. Knowledge gap and research questions

Due to the increasing attention to citizen participation, many of the previously mentioned studies investigate forms (Horstink et al., 2021; Oteman et al., 2017; Paradies et al., 2021; Sciullo et al., 2022), frameworks (Chilvers et al., 2018; Perlaviciute & Squintani, 2020; Visser et al., 2019), trends (F. Hendriks & Michels, 2021) or motivations (Arnstein, 1969; Reed, 2008; Wesselink et al., 2011) for citizen participation. But so far little is known about the best way to engage citizens to participate based on their expectations and attitudes, which is a very important criterion for successful participation (Perlaviciute & Squintani, 2020).

Paradies et al. (2021) conducted a mapping of the participation landscape in the Netherlands across different levels (from national to local) and highlighted the necessity for interactive and deliberative engagement, focused on dialogue, with the public. However, the study did not assess the preferred participation methods desired by citizens for achieving this objective.

Perlaviciute and Squintani (2020) started with research on public preferences for participation in climate policy, in which the results showed that people are rather being informed and having a say about decisions than making the decisions themselves. Additionally, people are more willing to participate in micro-level decision-making than macro-level. These results introduce a paradox in which people accept climate policy more if they can influence the major decisions, yet their preference for micro-level decisions suggests people limit their influence on these macro-level decisions (Perlaviciute & Squintani, 2020).

Visser et al. (2019) conducted a literature review aimed at establishing a knowledge base for the design of participation processes. The framework primarily focuses on the perspective of the participation organizer, but also briefly addresses the motivation and attitude of citizens. According to Visser et al. (2019), key factors influencing citizens' motivation for participation include potential gains such as financial, ecological, or societal benefits, as well as considerations for the well-being of the local community. These insights are of a general nature and do not specifically focus on the energy transition. Furthermore, they do not offer in-depth knowledge regarding citizens' attitudes towards specific participation methods and differences of attitudes within the population.

Therefore this research is going to evaluate the preferences of citizen segments for participation methods in the energy transition, for both national and decentral participation processes in the energy transition. The preferences will be based on citizen segments, which will be identified based on demographic characteristics and attitudes towards the energy transition and democracy. The data for answering this question follows from a national survey on the design of the Dutch energy system. The insights following from the analysis of citizens' attitudes towards specific participation methods will add new perspectives to current participation literature.

Additionally, the alignment of citizens' preferences for participation and the practices of participation in the decision-making process on the different governance levels will be examined. Understanding the interrelations of current participation processes and the preferences of citizens will form an entry point for an integrated process for participation encompassing all governance levels.

The combination of citizens' preferences and the multi-governance level alignment leads to the following question: *How do the preferences of citizen segments for participation methods in the energy transition align with central and decentral participation in the Netherlands?*

This research question is subdivided into four smaller questions:

- SQ1: How do central and decentral citizen participation methods in the energy transition differ in the Netherlands?
- SQ2: When in the policy-cycle of central and decentral citizen participation are the needs of citizens assessed?
- SQ3: What citizen participation methods do citizen segments in the Netherlands prefer for the energy transition based on demographic profiles and governance level?

- SQ4: What are challenges and opportunities for integrating citizens' preferences for participation with central and decentral participation processes in the energy transition in the Netherlands?

To answer these questions a mixed-method approach is used with both quantitative and qualitative data following from a survey, literature review and interviews.

1.5. EPA relevance

Answering the research question relates to the master's program of Engineering and Policy Analysis due to the complexity of the problem. Being related to the energy transition, which is both a technical and a societal transition. Current approaches often focus on the technical aspects of the transition (Sgouridis et al., 2022), but these renewable energy sources often touch upon the living environment of the citizens and these societal aspects are not always sufficiently considered resulting in resistance. The alternation of the technical background and the social problem makes it a suitable study for EPA. Technical expertise is used for the quantitative part during the data analysis, whereas the qualitative part requires knowledge of both societal and political matters.

Additionally, the topic is considered from a multi-actor perspectives, because citizen participation in the energy transition relates to various stakeholders. Varying from different governmental bodies, to energy suppliers and the citizens themselves. The interviews in the qualitative analysis include these actors as well.

Ultimately, the research seeks to provide valuable insights to decision-makers, particularly within the policy domain. The data extracted focused on citizens' attitudes towards municipal and national participation processes. Along with the expertise of the interviewees who specialize in the public domain, this contributes to the research's relevance and applicability in policy-related matters.

1.6. Societal relevance

As previously acknowledged, it is important to take into account not only the techno-economic aspects but also the socio-technical and political dimensions of the energy transition (Sgouridis et al., 2022; Torabi Moghadam et al., 2020). This research specifically sheds light on the socio-political aspect, focusing on participation in climate policy during the energy transition.

The primary objective is to offer insights into citizens' preferences for participation in the energy transition, considering profiles and governance levels. By identifying these preferences and incorporating them into participation processes, more suitable and effective engagement approaches can be developed.

Moreover, the research outcomes provide a gateway for integrating participation practices across multi-level governance structures, fostering alignment and knowledge exchange between different levels of decision-making. This integration facilitates a more cohesive and informed approach to address the challenges and opportunities in the energy transition while engaging citizens more effectively.

1.7. Outline

The upcoming chapter will provide a detailed explanation of the methodology. The subsequent chapters will delve into the sub-questions. First, an examination will be conducted on the current state of citizen participation in the Netherlands. Next, the focus will shift to identifying the specific stages within energy transition decision-making where participation occurs. Following that, an analysis of citizens' preferences for participation will be conducted. Last, the chapters will address the bottlenecks and opportunities for integrating participation into the decision-making process. Afterwards, a thorough discussion of the results and their limitations will be presented. Subsequently, a conclusion with the answer on the main research question will be provided, accompanied by recommendations based on the findings and for future research.

2

Citizen participation

Participation is the process through which individuals, groups and organisations influence and share control over collective concerns, decisions or services that affect them (Visser et al., 2019). Citizen participation, specifically, is a specification of normal participation and is described as a redistribution of power that enables citizens to be included in political processes (Arnstein, 1969). Rowe and Frewer (2005) add to this, that citizen participation requires two-way information exchange, compared to one-way communication (information flow from organizer to participants) and consultation (information flow from participants to organizer).

Citizen participation is on several occasions mentioned simultaneously with deliberative democracy, due to the similar nature of both principles (F. Hendriks & Michels, 2021; Pelletier, 1999; Wesselink et al., 2011). Deliberative democracy is described as a common commitment, with both citizens and professionals, to reason together on matters regarding public policy and decision-making (Anderson, 1993). This democracy goes beyond the aggregation of opinions of the public but actively involves parties in policy-making. The active involvement of deliberative democracy follows from the process of discussion and reflection and can be facilitated with a genuine participatory process (Pelletier, 1999).

Chilvers et al. (2018) relates citizen participation to socio-technical change such as the energy transition, as it contributes to more democratic, sustainable, socially shaped, accountable and responsive (to public values and needs) transitions.

2.1. Contributions of participation

Citizen participation can contribute to higher acceptance, due to the representation of meanings and preferences of citizens in political decisions (C. M. Hendriks, 2008). By representing the interests of citizens participation contributes to existing processes of the representative democracy (Mouter et al., 2021). If these citizens' interests are accurately represented, decisions resulting from a participatory trajectory become more legitimate, thus increasing trust in authorities and enhancing democracy.

Along with acceptance, citizen involvement can contribute to communicating the problem, bringing about behavioural change and mobilizing citizen action (Chilvers et al., 2018). This brings about a feeling of public ownership, and therefore an increased commitment towards the implementation and success of initiatives.

Citizen participation can also be used to acquire local knowledge for the improvement of plans (Wesselink et al., 2011). The new perspectives that citizens bring make for better-informed decision-making. Furthermore, citizen participation promotes transparency in decision-making processes, enhancing the public's understanding of these processes and fostering increased trust in the authorities.

Some argue that citizen participation enhances efficiency, especially in matters concerning the physical environment, as it leads to shorter decision-making processes and reduces the need for extensive legal proceedings (Visser et al., 2019). Nevertheless, some critics highlight the challenges posed by lengthy processes and high expectations, which will be further discussed in section 2.6.

Finally, citizen participation in general is open for everyone, it therefore empowers marginalised groups, who are for instance affected by the decision.

2.2. Related concepts

There are several related concepts to citizen participation, which will be discussed shortly. A related concept is public participation, which can be seen as an umbrella term for amongst others citizen participation and includes citizen, stakeholder and community participation (Coenen, 2009). This definition, therefore, goes beyond the research scope by including other stakeholders and communities.

Another related concept is citizen involvement. Citizen involvement is a broad term, which indicates both participatory approaches which are mobilizing citizen action as well as plebiscitary approaches incorporating votes of citizens (F. Hendriks & Michels, 2021).

Co-creation (similar to co-production) can be seen as a synergy between citizens and (public) professionals in initiating, designing, planning and implementing public services (Brandsen et al., 2018). A difference with general participation is the focus on the output of the process (Brandsen et al., 2018) and the active involvement rather than passive involvement (Voorberg et al., 2014). Co-creation can be seen as a 'social contract' in which public administrators take over civic positions and citizens take over public tasks (Itten et al., 2021).

Finally, citizen initiatives are a more specific form of citizen participation. It is understood as a bottom-up approach in which citizens are producing, storing and participating in the energy market by selling self-produced energy, either individually or collectively (Horstink et al., 2021).

2.3. Classification of participation

Wesselink et al. (2011) and Perlaviciute and Squintani (2020) argue that there are several reasons for certain structures and procedures of participation which they call rationales. The first is instrumental where participation supports the legitimacy of outcomes. The second is substantive where citizens provide different views on problems than experts, increasing the quality of decisions. Finally, the last rationality is normative, where participation emphasizes the importance of democracy, everyone affected by a decision is allowed to influence it.

Another well-known framework for assessing citizen participation is Arnstein (1969)'s ladder of participation, in which the typology is based on citizens' power in determining the plan or program. The typology follows from the frustration for participation without the allocation of power, resulting in an empty process for the citizens. The ladder of participation consists of 8 steps, starting from manipulation and leading up to citizen control and can be found in figure 2.1.

Arnstein (1969) identifies the bottom two rungs as non-participation since they do not enable citizens to participate in the planning or conduction of plans. The bottom rung is manipulation, in which citizens are informed, advised and persuaded instead of the other way around. The next rung is therapy in which citizens are engaged with the policy-making, but the focus is on getting them to think the same way about the problem as the policymakers do.

The three rungs above are identified as tokenism, in which the citizens have a hearing or a voice in the decision-making. The third rung, therefore, is informing, one-way communication in which citizens are updated on their rights, responsibilities and opportunities. Many see this as a prerequisite for participation (Aitken et al., 2016; Rowe & Frewer, 2005), but not as participation by itself. The next rung is consultation, inviting citizens' opinions on a problem, but this is no guarantee that these ideas will be taken into account. One rung higher is placation, in which citizens begin to have some degree of influence by having hand-full representatives at the decision-making table, but they do not have enough power to influence decision-making directly.

The highest three rungs are recalled as degrees of citizen power. The lowest rung is partnership, in which power is redistributed between citizens and policymakers, by sharing responsibilities. The next rung is delegated power in which citizens have the dominant decision-making authority. The final and highest rung is citizen control, in which the community is in control over a program or an institution.

2.4. Common forms of participation

Well-known forms of participation are surveys, citizen gatherings, workshops and referendums. Each method has distinct characteristics, making it suitable for different use cases. Understanding these differences can help in selecting the most appropriate participation method for a particular situation.

For instance, surveys are a versatile and efficient way to gather data from a large and diverse

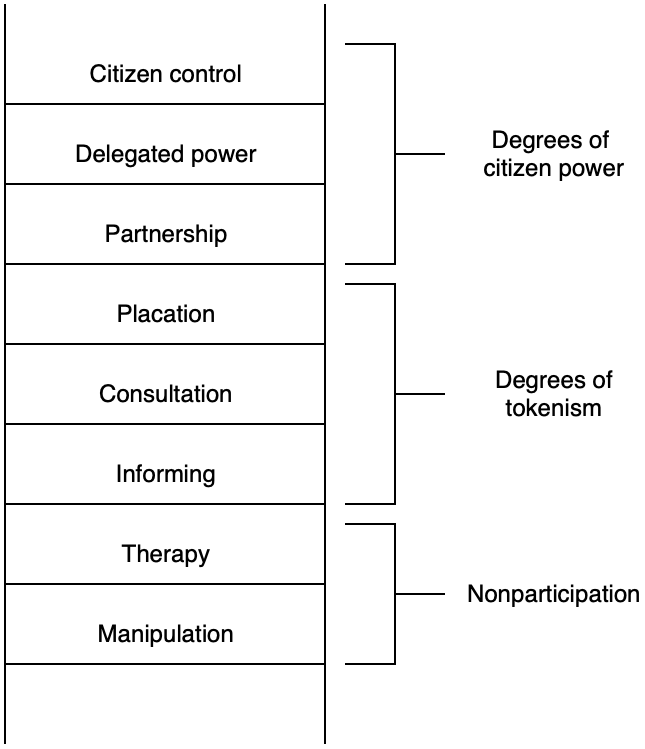


Figure 2.1: Ladder of participation by Arnstein (1969)

group of people. With a survey, it is possible to reach a broader group of people compared to a more time-consuming citizen gathering, which allows for face-to-face interactions and in-depth discussions. However, a citizen gathering or focus group acquires more qualitative and in-depth data on a citizen's perspective on a topic. These gatherings provide qualitative data, capturing the nuanced perspectives and emotions of participants on specific issues. Whereas the surveys are useful for collecting quantitative data and opinions on a range of topics, providing valuable insights into public perceptions and preferences.

A referendum involves direct (binary) voting by the public on a particular issue or proposal. It is useful for major decisions that require a clear yes-or-no outcome. However, a referendum may lack the opportunity for nuanced discussions and understanding of citizens' motivations. Workshops, on the other hand, offer a collaborative environment for citizens to actively participate in problem-solving and decision-making processes, stimulating innovative ideas, discussion and collective ownership.

When choosing a participation method, organizers should consider factors such as the scale and scope of the issue at hand, the level of public interest, time constraints, and available resources. It is essential to weigh the pros and cons of each method to ensure that the chosen approach aligns with the specific objectives and context of the participation process.

2.5. Good participation

'Good participation' is a subjective concept and relates to an individual's approach to participation, however, Chilvers et al. (2018) identifies the following concepts as criteria for good participation. Inclusive and representative, in which all citizens are provided with the opportunity to participate and be represented in the process. Impactful, which indicates a specific performance by the process related to the contributions mentioned in 2.1. Other criteria are reflexive and anticipatory participation, in which different scenarios are anticipated and adjusted responses are provided to changing situations. The final criteria are related to responsible transitions and responsiveness to emerging societal values.

2.6. Difficulties with citizen participation

Although there is undoubted progress in participation practices, common difficulties follow from approaches which are fixed and occur in discrete events, rather than considering the wider system (Chilvers et al., 2018). This fragmentation, and sometimes lacking communication between several participation processes, results in multiple similar processes in which citizens grow tired.

A common criticism of citizen participation is that it can be perceived as a mere ritual to gain support, without genuinely empowering citizens or granting them significant influence (Paradies et al., 2021). This is particularly common in processes where participation is required by law.

Another critique pertains to the prolonged and time-consuming nature of participation processes (Visser et al., 2019). Moreover, these procedures can potentially heighten expectations and lead to increased frustration among participants.

An issue arises from the fact that not everyone takes part in citizen participation processes, despite these processes being open to all. Frequently, such participation events tend to attract similar groups of people, leading to the exclusion of a significant portion of the population's perspectives from the gathered information. This well-known problem is commonly referred to as 'the silent middle' (Tonkens & Verhoeven, 2019), it highlights the challenge of engaging a broader and more diverse range of individuals in these processes to ensure a more representative and inclusive decision-making framework.

3

Methodology

The main question for this research is: *How do the preferences of inhabitant segments for participation methods in the energy transition align with central and decentral participation in the Netherlands?* To come to a conclusion to this question, four subquestions have been drawn up.

1. How do central and decentral citizen participation methods in the energy transition differ in the Netherlands?

2. When in the policy cycle of central and decentral citizen participation are the needs of citizens assessed?

3. What participation methods do citizen segments in the Netherlands prefer for the energy transition based on demographic profiles and governance level?

4. What are challenges and opportunities for integrating citizens' preferences for participation with central and decentral participation processes in the energy transition in the Netherlands?

The four subquestions indicate the observational mode of inquiry for this research. The first two questions require an analytical perspective on the current state of citizen participation in the Netherlands. The third question uses empirical results from a survey to map out citizens' preferences. The final question observes the alignment of the needs assessment in the participation process with citizens' preferences for participation.

To answer the research question, a mixed-method approach is used. This mixed-method approach is based on different quantitative and qualitative data (Creswell, 2014). The first, second and fourth subquestions are based on qualitative data, and the third question is based on quantitative data. Qualitative data is gathered by conducting literature studies and interviews. The quantitative data results from a survey conducted by the Ministry of Economic Affairs and Climate Policy about the future energy system in which specific questions about participation are included.

The research starts with a literature study on citizen participation initiatives in the Netherlands and citizens' need assessment during the policy cycle at different policy levels. This overview of the status in the Netherlands is extended with quantitative data from the survey on the preferences of citizens for participation methods compared to governance level, demographic features and attitude towards democracy. The insights gained from both these analyses is enriched with a comparison created through interviews on the alignment of citizens' preferences and the central and decentral participation processes. Eventually, the insights on this alignment, substantiated with the empirical results of citizens' preferences form the basis for answering the main research question how citizens' preferences align with participation processes in the Netherlands and provide the input for a recommendation for multi-level integration of participation.

The nature of this mixed-method approach is explanatory sequential since the qualitative nature of the first and second questions create knowledge on citizen participation in the energy transition. In contrast, the third and fourth questions enrich this knowledge with observational quantitative and qualitative data (Creswell, 2014).

This chapter presents the research methodology used in the study. The chapter begins with elaborating on the literature study, including the search strategy to establish the theoretical foundation. This qualitative part is extended with interviews which are conducted to capture valuable firsthand perspectives from knowledgeable individuals and experts in the field. Followed by the quantitative methods, a survey is employed to collect the quantitative data. The data analysis methods are further described, primarily focusing on Latent Class Cluster Analysis. Additionally, significance tests are utilized to examine relationships and associations between variables, providing valuable insights.

3.1. Qualitative research

3.1.1. Literature reviews

Literature reviews form the basis of the study, specifically for subquestions one and two. A literature review functions as a building block for research, as it synthesises literature in different fields and helps identify the knowledge gap which is essential for the theoretical framework (Snyder, 2019).

The first question provides insights into what participation methods are most frequently used or mentioned in the literature in the Netherlands. It addresses how these methods and their implementation differ for different governance levels. This question is answered by reviewing citizen participation initiatives available in the Netherlands. In order to be included in the review, the criteria required that each study specified at least one distinct form of participation and provided an explanation that allowed for categorization. The final result of this question is an overview of the most frequently used participation methods and the multi-level differences categorized on several characteristics of participation. These characteristics follow from its own literature review.

The second question is looking into participation within the policy cycle, addressing differences in timing at the policy level or accompanied by a participation method. The analysis not only focuses on the Netherlands but also includes foreign countries to provide an overview of participation processes in relation to the policy cycle in general. Selection criteria for an article to be included in this review is relating citizen participation to the policy cycle. The result is an overview of similarities and differences in participatory needs assessment for different governance levels.

The search engine used in these literature reviews is Scopus. The search strategies including the search terms can be found in Appendix A. Additionally, snowballing was used in order to find related articles. The results for the first subquestion regarding participation methods used in the Netherlands on Scopus were not exhaustive, as the majority of articles was focusing on energy collectives and less on other forms of participation. Therefore this literature review was expanded with the search engine Google, specifically focusing on the Netherlands. The identified articles and sources were stored on the reference manager Mendeley and can be found in the bibliography.

3.1.2. Interviews

Semi-structured expert interviews accompany the literature reviews from the first and the second research question. The experts for these interviews are involved in research regarding citizen participation in the Netherlands, at the research institutes TNO and the Netherlands Environmental Assessment Agency (PBL) or their own organisation. The interviews function as fact-checking and identification of new perspectives.

Semi-structured interviews are facilitating reciprocity between the interviewer and participant, by enabling the interviewer to improvise follow-up questions based on the participant's answers and giving space for the participant to respond in any direction (Kallio et al., 2016). Questions covering the main topics for the study are formulated beforehand in the so-called interview guide.

The fourth question compares the preferences of citizen segments for participation methods identified in question 3 with the central and decentral participation processes identified in subquestion 2. This comparison is evaluated with the practical experiences of policymakers on different levels and citizen representatives during semi-structured interviews. The input from these interviews are analysed by coding and labelling the transcripts based on practical experiences with citizen participation mentioned during the interviews. A code is a simple description or concept related to the interview data that relates to the research question, literature or the theoretical perspective articulated. While reading the data codes are applied, subsequently these codes are categorized based on similarities. Finally, when reviewing the categories and their content themes are derived (Glaser & Anselm, 2017). For the coding an inductive approach is used, which derives concepts and theories from raw data,

in this case interview data, based on interpretations made by the researcher (D. R. Thomas, 2006). This differs from a deductive approach that tests data for prior assumptions and theories identified by the researcher (D. R. Thomas, 2006). An inductive approach is commonly used to create meaning in complex data by summarizing themes of categories from the data.

This question results in the interrelations between participation in the Netherlands and the preferences of citizens. Additionally, this question addresses possible conflicts and trade-offs for integration.

The interviews are held via Microsoft Teams or in person, all the interviews are recorded. Afterwards, a transcript is made of the record. The interviews are conducted bearing in mind the interview guidelines which offer focus, although this is not strictly pursued (Kallio et al., 2016). The interview guidelines can be found in Appendix B.

3.1.3. Identification of interviews with a stakeholder analysis

This section presents an inventory of stakeholders involved in integrating citizens' preferences with central and decentral participation, which forms the basis for selecting the interviews.

Citizen participation in the energy transition is a broad domain. Defining specific stakeholders is based on the particular area of the energy transition to which citizen participation is applied, which can vary for the project issue, from determining the location of wind or solar panels on land to converting neighbourhoods to natural gas-free neighbourhoods, but also depends on the location of the project. The survey questions did not define a specific project and therefore the resulting preferences are not related to a specific project, but related to participation in the interpretation of the energy system. For this reason, the stakeholders in this chapter can not be specified on a project level, but are specified in a more general sense.

Participation is in general set out by **governmental bodies**. Still, the specific project, the size, the stage of the project and the geographical location define what governmental body is in charge. The size and the impact of an energy project determine the level of government, which can vary from national to local government level. The *national government* is involved with participation offering insight into citizens' wishes and concerns regarding climate change in general and policy regarding the energy transition (Paradies et al., 2021). For big projects, such as state coordination regime (RCR: Rijkscoordinatieregeling, in which the Ministry of Economic Affairs and Climate Policy is responsible for the decision-making of energy projects with national significance) projects or the location of a new nuclear power generator, the participation process is led by the national government (RVO, 2019, 2023a).

Participation in a *provincial/regional government* occurs when national guidelines with requirements and goals have been set out and the first steps towards implementation need to be made. These processes will for instance determine the general design of the project and identify areas of interest for the implementation of the project. Participation can be led by the province itself or by the Renewable Energy Strategies (RES) region. Participation processes on the regional level are set up to describe in which areas energy projects can be located and what impact these projects will have on the energy infrastructure and the environment. Additionally, there is also coordination with surrounding regions (Paradies et al., 2021).

Finally, most participation occurs on a local level, by *local governments*(Perlaviciute & Squintani, 2020). This is partially caused by the Not-In-My-Backyard (NIMBY) principle, where residents take action because they believe they will otherwise experience the disadvantages themselves (Dreijerink et al., 2008). Municipalities elaborate on the plans set out by the higher governmental bodies, participation is a necessity base on the law, but also because it touches upon citizens' direct living environment. The municipality can still sometimes feel too detached from the citizen, which is why participation sometimes takes place at the suburban or neighbourhood level.

Citizens are, as expected, also important stakeholders in each process. Citizens can adopt various profiles, as identified in chapter 6. Citizens can for instance be proponents or opponents of a renewable energy project, but citizens can also be a proponent of renewable energy projects in general but oppose a specific project as it influence their direct living environment. Other citizens might be driven by a commercial interest or climate concern. These different intentions and profiles can not be lumped together with one approach. Each project requires identification of the different perspectives and requires an eye for the context (Bouma et al., 2023). To identify these profiles and their opinions, participation is

required.

Sometimes citizens with a similar profile are organized in *citizen representative organizations*, to gain a little more leverage in the process and to voice opinions on a broader scale. An example is the NLVOW, which is The Dutch Association of Wind Turbine Neighbours. This association stands up for the interests of (future) neighbours of energy projects to deliver more weight to their interests, they do this by providing information and legal knowledge (NLVOW, n.d.).

Another important stakeholder in the energy transition is the **company developing renewable energy projects**. Their interests regarding the energy transition and their significant role in the implementation of renewable energy sources in the environment automatically ensure them as a stakeholder in the participation process. These companies can serve a commercial interest, but can also be part of a community initiative. These organisations manage participation processes as well, for example with wind parks on land (Paradies et al., 2021).

Commercial companies are encouraged by decentral governments to develop energy projects in collaboration with surrounding residents, the company itself takes the lead in this process (de Kluizenaar et al., 2022). This cooperation often takes the form of participation or financial participation. These companies possess the knowledge and the resources for these projects, but there are concerns about the balance of interests for the communital benefit and economic benefit, and the difference in power (de Kluizenaar et al., 2022).

With *energy cooperations* the leading initiative is coming from local residents, which set up the renewable energy project in their neighbourhood. Participation is also included in this process of setting up local energy projects, which can lead to higher engagement in the community due to the level playing field. There are concerns about the knowledge and capability of local residents compared to commercial companies as well as concerns about inclusion (de Kluizenaar et al., 2022). These cooperations occasionally organize participation themselves, with for instance natural-gas free neighbourhoods and windparks on land (Paradies et al., 2021).

Finally, there is a group which can be seen as **participation advocates**. These advocates vary from interest groups to NGOs regarding participation as well as researchers and research institutes.

Interest foundations or NGOs have an interest in good participation and inclusion of citizens in the decision-making process but do not necessarily participate themselves. Examples in the Netherlands are the ParticipatieCoalitie (a collaboration of several smaller organisations), HIER and the National Climate Programme. HIER is an foundation that motivates (groups of) individuals to take action against the climate problem by assisting them in generating their own energy (HIER, n.d.). The National Climate Programme (NKP) is a platform which helps accelerate climate policy by being the bridge between society and the policy process in the Hague (Nationaal Klimaat Platform, n.d.).

Additionally, there are several governmental research institutes doing regular research into citizen participation, such as PBL, SCP, TNO. Universities are also regularly conducting research about citizen participation in the energy transition.

Table 3.1 specifies the interviews conducted with stakeholders in the field of citizen participation in the energy transition. These stakeholders have experience with organizing, participating or observing citizen participation. The interviews aimed to identify similarities and differences with the results of citizens' preferences identified in chapter 6. Additionally, the interviewees were asked to identify bottlenecks and opportunities to integrate these preferences into central and decentral participation.

The only organisation not mentioned earlier is the VNG, Association for Dutch Municipalities, is a collective organization that represents municipalities in the Netherlands, prioritizing local implementation in the execution of social tasks (VNG, n.d.).

3.2. Quantitative research

After the identification of citizen participation methods in the first question, the preferences of citizens for participation methods in the energy transition are analyzed based on the results of an online survey, more specifically a Participatory Value Evaluation (PVE), conducted by the Ministry of Economic Affairs and Climate about the future energy system. Citizen segments are identified making use of Latent Class Cluster Analysis (LCCA). Both methods are discussed in this section.

Organisation	Category stakeholder
Ministry of Economic Affairs and Climate Policy	Governmental body
Ministry of Economic Affairs and Climate Policy	Governmental body
VNG	Governmental body
National Climate Platform, Ministry of Infrastructure and Water Management	Participation advocate, Governmental body
NPRES	Participation advocate
NLVOW	Citizen representative organisation
HIER	Interest foundations

Table 3.1: Interviews with stakeholders

3.2.1. Online survey

The data for the quantitative research is gathered with an online survey. There are some advantages of doing an online survey compared to a regular survey, such as ease of data entry and analysis, speed and timeliness, required completion of answers and it is manageable to obtain a large sample (Evans & Mathur, 2005). A downside, however, is that although you obtain a large sample, the respondents might not be as diverse as expected.

However, the survey is not a usual survey, but a Participatory Value Evaluation (PVE). This method, a web-based discrete choice modelling method, gives a large number of citizens an easy-to-access opportunity to provide online opinions on a government issue with a low threshold (Participatory Value Evaluation, n.d.). The respondent is informed of the policy option, the impacts of these options and the constraints related to these options on which the respondent must respond with a recommendation to the government concerning all options (Mouter et al., 2021). This method represents a solution to common problems in participation issues, such as the time-consuming process for both participant and organizer and the over-representation of strong opinions (Mouter et al., 2021).

PVE on the future of the energy system has been launched in January on a national scale by the Ministry of Economic Affairs and Climate Policy. The questions involve the demographic characteristics of the respondent, considerations of the government for the future energy system, the design of the future energy system and how respondents want to be involved (Populytics, 2022; Populytics, 2023). Specifically, the last topic is of importance for this research.

The questions used for this research measure the attitude of the respondent towards different methods of participation. The methods included are a survey, citizen gathering, a citizens' assembly and a referendum. This attitude was requested for both the government and the municipality organizing participation. A respondent had the option to answer on an ordinal scale using five choices: ”definitely,” ”probably,” ”I do not know,” ”probably not,” and ”definitely not”. Additionally, the respondent had the option to clarify how he or she wants to be involved in the future with an open question.

The resulting data from approximately 7000 respondents is compared and analyzed to identify preferences for participation based on different profiles for citizens and policy levels.

3.2.2. Latent Class Cluster Analysis

The data analysis starts with some descriptive statistics on the demographics of participants, preferences for participation methods, attitude towards the energy transition and relation to the population. Subsequently, citizen segments are determined with a Latent Class Cluster Analysis (LCCA). LCCA is used to detect latent (or not directly observable) heterogeneity in samples of categorical data (Weller et al., 2020). The subgroups resulting from this heterogeneity are referred to as classes. The LCCA model determines maximum homogeneity within a cluster and maximum heterogeneity or differences between the clusters, based on the maximum likelihood estimation (Mouter et al., 2022). The underlying hypothesis is that membership in these classes can illustrate patterns across responses (Weller et al., 2020). In this case, the patterns which are to be determined are the respondent's attitudes towards participation methods, these attitudes are the (nominal) indicators of the latent classes. LCCA has an explorative nature, as the number of classes is not known in advance. The goal is to find the most parsimonious model, with the smallest number of classes to adequately describe the patterns between indicators (Molin et al., 2016).

The first step for determining the LCCA model is identifying the observed indicators, for which the classes are appointed when a similar distribution for these indicators is observed. It is important to handle missing data and to facilitate local independence, in which the observed indicators do not highly correlate (Sinha et al., 2021). To determine the preferences of citizen segments for participation methods, the responses of participants in the PVE to the questions polling the attitude towards a citizen gathering, survey, citizens' assembly and referendum are implemented as indicators.

The next step is running a sequence of models starting from one class up to ten classes, to thereupon determine the optimal number of classes. The software used for this Latent Class Cluster Analysis is LatentGold. The submodule Cluster is used for this analysis (Vermunt & Magidson, 2016). The software is based on SPSS, and requires SPSS datasets as input. However the data cleaning and descriptive analysis were conducted in the package Pandas and Matplotlib from Python ("Matplotlib — Visualization with Python", n.d.; "pandas - Python Data Analysis Library", n.d.), so the data has been converted. LatentGold provides the model fits statistics and includes covariate analysis as described below. Additionally, LatentGold is able to work with multiple ordinal latent variables which is necessary in this study (Vermunt & Magidson, 2016).

The key measures for determining the best model fit in relation to the population are the Bayesian Information Criterion (BIC) or the Akaike Information Criterion (AIC), the p-value (Vuong-Lo-Mendel-Rubin) and the size of the smallest class (Sinha et al., 2021). It is recommended to not rely on one measure by itself, but present several measures side-to-side and consider the information one wants to acquire with the analysis (Lezhnina & Kismihók, 2022). The information criterion indicates how well a model fits in balancing the complexity of the model against the sample size and is derived from maximum likelihood values. BIC tends to perform better with a high number of observations and favours fewer classes compared to AIC (Sinha et al., 2021), for this reason, the BIC will be used hereafter. In general, the lowest BIC is seen as the best-fitting model. The Vuong-Lo-Mendel Rubin test tests the probability that a model with certain classes fits the model better than the one-class model (Sinha et al., 2021). Finally, the smallest class size should be evaluated to determine whether a single outlier or indicator is determining the class. Additionally, entropy is a measure of separation between latent classes, a higher entropy is a better separation. Entropy cannot be used on its own for model selection, since overfitted models have a high entropy as well (Sinha et al., 2021). For determining the final number of classes it remains important for the researcher to bring their own knowledge and expertise to the process, the utility of the classes is defined based on the researcher's perspective and the goal of interpretation (Sinha et al., 2021).

Once the optimal number of classes for interpretation is determined, covariates are added to assess what explanatory variables are related to class membership (Mouter et al., 2022; Vermunt, 2010). Values of explanatory variables represented within one class have a similar attitude towards participation methods. Covariates are recommended to be added in a three-step approach (Weller et al., 2020). This approach requires researchers to first determine the optimal model using fit statistics without covariates. The next step is assigning subjects to the latent classes based on posterior class membership probabilities. The final step is adding the covariates in which the measurement parameters are fixed to the obtained parameters without covariates (e.g. a number of clusters) and determining the relation between assigned class membership and the explanatory variables with a logistic regression model (Vermunt, 2010). Covariates included in this research are demographic values such as age, gender, education, place of residence, and political preference, but also less observable values such as attitude towards democracy and the energy transition. A schematic overview of the LCCA can be found in figure 3.1. The complete list with the names for the abbreviations can be found in appendix F.

Finally, the model is interpreted based on the outputs once the model is fitted. One of the primary outputs is the latent class probabilities, the proportion of individuals in each class. Another of the outputs is the probability of class membership for each observation in the sample. LCCA does not assign individuals to classes, but probabilities are generated for membership of the classes (Sinha et al., 2021). The model also delivers the conditional-response probability illustrating the chance that an individual within the class would provide a certain response (a specific combination of indicator values). The covariates are also represented as a proportion for each class, and can therefore be seen as predictors for class membership. Interpretation of all these outputs can construct an illustration of the characteristics of each cluster in the population based on their attitude towards participation methods.

For this reason, LCCA is well suited for determining patterns recommended by different groups or

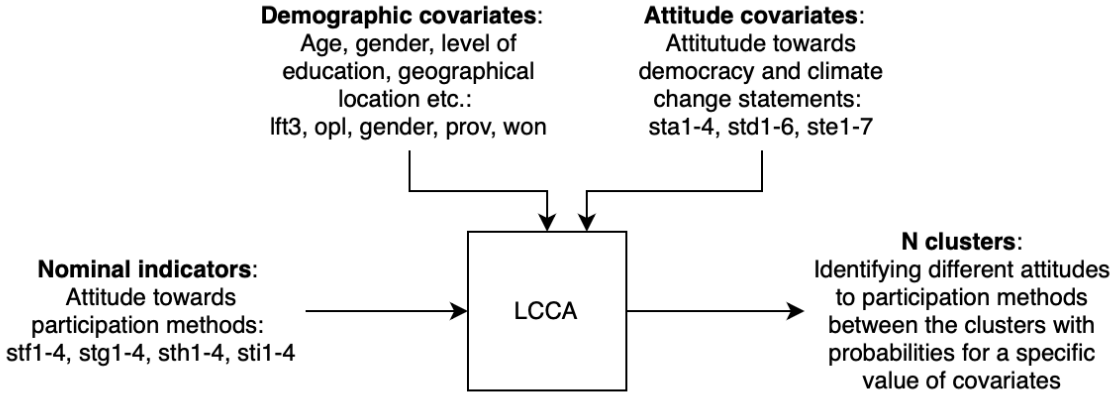


Figure 3.1: Schematic overview of LCCA

clusters of people (Mouter et al., 2022). When a policy-making institute is deciding on what method for participation they want to use, LCCA can help identify what subgroups in the population will particularly resist this decision. This allows the government to target the communication strategy or implement mitigating measures (Mouter et al., 2022). In the case of using LCCA for the attitude towards participation methods, it allows a governmental body to acknowledge the citizen segments who might resist and adjust communication strategies towards them. It also allows the public authority to identify the target group in advance and adjust participation methods to the preferences of this group.

3.2.3. In-depth analysis in relations identified

The latent class probabilities provide insights into the similarities within the individual respondents and the percentage of the respondents being part of this cluster. The covariate probabilities identify the characteristics of these clusters based on demographics and attitudes towards democracy and the energy transition. However, both of these outputs are probabilities and therefore do not guarantee a relation. To make more grounded conclusions correlation tests and significance tests are performed. Two tests are applied, based on the measurement level of the indicator.

The first test applied is one-way ANOVA (Analysis of Variance) which compares the means of two variables for one independent variable (Ross & Willson, 2017). This is applied for a nominal variable coded as an interval variable. A significant value implies a difference between the two variables.

The second test applied is Spearman's rho, which is a ranked order correlation coefficient. This test is applied to ordinal data and it measures the relationship between two variables (Prion & Haerling, 2014). It also quantifies the strength and the direction of the relation. The rho ranges from -1 to 1, 0 representing no relation at all and a positive relation indicating that the variables move in the same direction and a negative relation indicating movement in the opposite direction (Prion & Haerling, 2014). A significant value below 0.05 provides reassurance that the correlation observed is valid in more than 95% of cases (Akoglu, 2018).

Additionally, to provide some explanation for the identified relation, quotes from respondents about how they want to be involved in the energy transition are presented. These quotes have not been coded and therefore only function as an illustration of the relation rather than a full analysis.

3.3. Data management plan

Interviews incorporate data from human participants directly, and therefore this data needs to be treated carefully. Risks involved with human data are related to privacy, person identification and data breach. To limit the risks involved the interviews are anonymized, the interviews are stored on a separate drive and will be removed when the research is finished. Additionally, an informed consent form must be completed before the interview. This form informs participants of the risks involved in participating and by signing the form they tolerate these risks, the form can be found in Appendix C.

The dataset following from the survey also contains human data, and therefore has been anonymized

before it was shared with the researcher. Information in the survey is therefore impossible to trace back to an individual.

3.4. Validation

The validation process of the results employed various approaches. To validate the literature review for subquestions 1 and 2, expert interviews were conducted. Furthermore, the quantitative results were validated through interviews with policy officers and advocates, seeking their input on how the findings align with real-world scenarios. Detailed summaries of all these interviews can be found in the appendix D.

Additionally, the challenges and opportunities highlighted by these interviewees were subjected to further validation in a focus group setting with policy officers from the Ministry of Economic Affairs and Climate. In which they could reflect on the presented outcomes of the study. The summary of this discussion can be found in appendix E.

3.5. Research flow

The outputs of each subquestion contribute to answering of the main research question. However, the results of some subquestions also provide input for other subquestions, which will be explained below. Figure 3.2 provides an overview of the research flow, based on the data-collection methods, data-analysis tools and deliverables for each subquestion. The arrows indicate the output of one question becoming input for another question(s).

The final result of the first research question is an overview of the most frequently used participation methods and the multi-level differences categorized on several characteristics of participation. The characteristics of these participation methods form the input for data analysis in question 3.

The result of the second question is an overview of similarities and differences in the timing of participation in the policy cycle for different governance levels. Additionally, it addresses gaps in the alignment of citizens' preferences and participation in the Netherlands, as well as gaps in the multi-level alignment. The output of this question is required for the identification of challenges and opportunities in question 4.

The quantitative analysis in question 3 results in an overview of the preferences of citizen segments for participation methods on different governance levels based on several characteristics. The overview is based on the characteristics following question 1. The output of this question forms the core for answering the overall research question, as it provides empirical input for citizens' preferences. Additionally, the output of this question is required for the comparison in question 4.

The fourth question results in challenges and opportunities for the alignment between the needs assessment during the participation process and the preferences of citizens based on the interview. The results from questions two and three are required for the preferences and the needs assessment identified.

Eventually combining the results of questions 3 and 4 answers the main research question: *How do the preferences of citizen segments for participation methods in the energy transition align with central and decentral participation in the Netherlands?*

The integration of central and decentral participation is discussed based on the preferences of citizens and needs assessment in the implementation processes. Addressing the conflicts and trade-offs from question 4 and substantiating them with the empirical results of question three results in a recommendation for new entry points in the multi-level integration for citizen participation.

3.6. Limitations

This research design knows some limitations. The first one is the excess of literature on citizen participation. Entering "citizen participation" in Scopus results in more than 1500 documents. Clear demarcation is therefore crucial. For this research the demarcation is geographical, and the literature review is scoped down to the Netherlands in the first subquestion. It, therefore, is inevitable that not all participation methods are included in the overview. The impact is limited since the research goal is not to provide the full overview, but to provide a categorization in which other methods can be placed.

The biggest limitation of the research is that the survey has been distributed before the literature review started. The result is that the methods included in the overview of citizens' participation methods

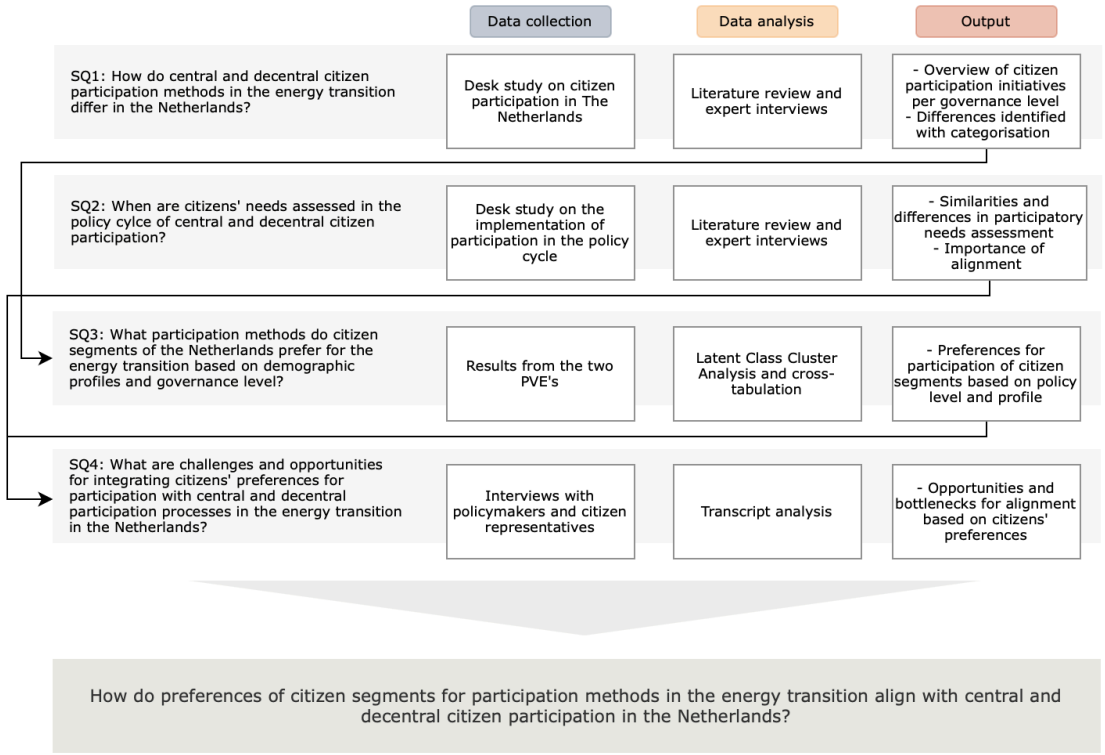


Figure 3.2: Research flow diagram

in subquestion 1 are not all represented in the survey. Therefore, the categorization of the participation methods is important, so similar methods can be compared to the results of the surveys.

Furthermore, a limitation of the online survey is that the internet is less accessible to certain segments of the population, such as the elderly, potentially resulting in an over-representation of certain groups. However, this limitation was partially addressed through a separation within the survey respondents. The closed consultation involved specifically approached individuals to complete the survey, while the open consultation allowed anyone interested to participate by filling in the survey.

A limitation of LCCA is that researchers usually assign names to the identified classes as illustrations. Because of the complexity of the classes, this can result in a “naming fallacy”, in which the name of the class does not accurately reflect the class membership (Weller et al., 2020).

Another limitation is related to the coding of the interviews. The inductive approach requires the researcher to identify concepts and theories based on their own interpretations (D. R. Thomas, 2006). It is important to notice that although the deductive approach is not applied, the researcher might be influenced by findings from the previous literature review. The results therefore might contain a confirmation bias. Additionally, the researcher’s internship at the Ministry of Economic Affairs and Climate Policy may also have an influence, potentially leading to a greater emphasis on points related to the national level in their analysis or findings. To mitigate this potential influence, the researcher conducted a total of seven interviews, with only two of them involving individuals functioning at the national level. By including a diverse range of interviewees representing different governance levels, the researcher aimed to reduce the impact of any single perspective.

4

Citizen participation in the Netherlands

This chapter provides an overview of differences and similarities in citizen participation at different governance levels in the Netherlands. Only 4 participation methods (citizen gathering, online survey, citizens' council and a binding referendum) are included in the survey for this research. The overview can function as a classification of different participation methods, to see the relation (similarities and differences) between these participation methods. The question to be answered is: *How do central and decentral citizen participation methods in the energy transition differ in the Netherlands?*

4.1. Categorization of participation

In order to classify the various participation methods, an categorization is presented below. A categorization or typology can be useful to understand differences between interpretations, approaches and contexts of participation methods (Reed, 2008). The different typologies do not compete with one another, but identify different areas of these interpretations, approaches and contexts.

Wesselink et al. (2011) and Perlaviciute and Squintani (2020) argue that there are several reasons for certain structures and procedures of participation which they call rationales. The first is instrumental where participation supports the legitimacy of outcomes. The second is substantive where citizens provide different views on problems than experts, increasing the quality of decisions. Finally, the last rationality is normative, where participation emphasizes the importance of democracy, everyone affected by a decision is allowed to influence it.

Another well-known framework for assessing citizen participation is Arnstein (1969)'s ladder of participation, in which the typology is based on citizens' power in determining the plan or program. The typology results from the frustration for participation without the allocation of power, resulting in an empty process for the citizens. The ladder of participation consists of 8 steps, each representing a rung of a ladder, starting from manipulation and leading up to citizen control. An explanation of the complete ladder of participation can be found in section 2.3.

Additionally, Reed (2008) has developed four typologies for participation to understand the distinctions between different participation methods, interpretations and approaches. The first typology is based on the degree of engagement of stakeholders, such as the previously mentioned ladder of participation and its alternatives. The second typology focuses on the direction of communication. Dissemination of information to passive recipients is reflected by the term 'communication', 'consultation' reflects the gathering of information from participants and for 'participation' two-way communication is necessary by dialogue or negotiation (Rowe & Frewer, 2000). The third typology focuses on the theoretical basis which is divided into normative and pragmatic approaches. The first one reflects public acceptance and the second one is the decision quality (J. C. Thomas, 1993). The final typology is based on the objectives for participation. This typology is subdivided into inform (provision of information and communication), design (actively engage citizens in the development phase), consult (consultation to evoke responses to plans), deliver (community is concerned in implementation and management of plans) and monitor (reviewing the effectiveness) (Tippett et al., 2007).

Basis of typology	Author	Consists of
Degree of engagement in a continuum	Arnstein (1969)	Manipulation, therapy, informing, consultation, placation, partnership, delegated power, citizen control
Nature of participation based on the direction of communication flows	Rowe and Frewer (2000)	Communication, consultation and participation
Rationality	Wesselink et al. (2011)	Normative, substantive, instrumental
Objectives for which participation is used	Tippett et al. (2007)	Inform, design, consult, deliver, monitor

Table 4.1: Typologies for categorization of participation, based on Reed (2008)

This thesis continues with this categorization but replaces the theoretical basis for the previously mentioned rationales. These are quite similar in the basis but add another category, instrumental rationality. The typology can be found in table 4.1, with the different values which will be used for categorizing participation methods.

There are some limitations to this categorization which should be kept in mind. Some typologies imply favouritism for some values over others, for instance, the participation ladder implies that higher rungs are favoured over the lower rungs. However, differing contexts and objectives for participation might favour another appropriate rung above the highest rung (Tippett et al., 2007).

Furthermore, the rationales are typically presented simultaneously in a participation process, yielding benefits for all three rationales, such as in deliberative democracy (Wesselink et al., 2011). However, these rationales comprise several contradictions, such as a normative stance involving everyone compared to the instrumental stance inviting people who can make a contribution to the project (Wesselink et al., 2011). Therefore the rationales are presented separately in the categorization, bearing in mind that there may be some overlapping.

Additionally, in this research participation methods are categorized based on a general idea about these participation methods, instead of a specific application of participation in the energy transition. Therefore the categorization is not applicable to every situation, but it is used to provide a general overview and compare different methodologies with each other.

4.2. Participation on a national level

This section provides insights in which forms of participation are most often used on a national level in the Netherlands. It provides additional knowledge on these methods to categorize them.

4.2.1. Legal frameworks for citizen participation on a national level

In the Netherlands legal experts assume the concept of the democratic constitutional state for identifying citizen participation. This notion is two-sided, democracy guarantees the opportunity to take part in the political process and the constitutional state protects citizens from arbitrary government action by providing rights and frameworks to which the government should obey (Blok et al., 2023). A citizen can exercise direct and indirect influence on democracy, indirect influence by the electoral process and direct influence with citizen participation.

Participation is on several occasions mentioned simultaneously with deliberative democracy, due to the similar nature of both principles (F. Hendriks & Michels, 2021; Pelletier, 1999; Wesselink et al., 2011). A deliberative democracy is described as a common commitment, with both citizens and professionals, to reasoning together on matters regarding public policy and decision-making (Anderson, 1993). This democracy goes beyond the aggregation of opinions of the public but actively involves parties in policy-making. At the core of deliberative democracy lies the collective conscience and generalized will which exists as the foundation of public action, and follows from the process of discussion and reflection (Pelletier, 1999). The generalized will is therefore not knowable without a genuine participatory process.

In order to encourage citizen participation in the energy transition, legislation on the European and national levels is in place. The Aarhus convention from 1998, which is the leading international agree-

ment on citizen participation (European Commission, n.d.), requires citizen engagement in decision-making for local justice and environmental projects, such as the location of a renewable energy project (European Commission, n.d.; Perlaviciute & Squintani, 2020). Since then, the attention to citizen involvement in the Energy domain has grown and it has even been added to the European strategy. As a member country, citizen involvement has also received specific attention in the Dutch climate agreement. There is one chapter specifically devoted to assembling public support, in which public authorities are recommended to involve citizens when formulating new policies (Paradies et al., 2021).

4.2.2. Characteristics of citizen participation on the national level

Citizen participation on a national level is organised by the government and is focused on broad and nationwide issues. At times, the participation initiative is coming from NGOs (Paradies et al., 2021). For the energy transition specific national participation is providing insights into citizens' wishes and concerns regarding climate change and climate policy (Paradies et al., 2021). This can for example be about the configuration of the energy system with new renewable energy sources, which has to be addressed nationally.

Participation at the national level is mainly aimed at collecting input, influencing policy with activism and creating a support base, rather than interactive and dialogue-focused methods (Blok et al., 2023; Paradies et al., 2021). A wide range of instruments are deployed at the national level, but there are no focused guidelines for the choice of instrument to use in each situation (Blok et al., 2023). Recently, attention on the national level is shifting towards more deliberative and interactive participation methods in which the citizen is actively approached by the government (Ministerie van Economische Zaken en Klimaat, 2023).

4.2.3. Forms of participation on the national level

To facilitate the constitutional state there are several structures to collect citizens' perspectives and responses to the new policies. Some of these participation efforts are structured and quantitatively collected at the central governmental level. One of these efforts is internet consultation, in which the public is informed about the new policy(changes), a mandatory component of policy-making and legislation. Citizens can respond to this information within four weeks after posting. Another structure is in the form of petitions, which is an individual filing for damages caused by public authorities, which can be seen as formal legal protection. Both these structures are in many understandings not seen as participation but as a starting principle for participation (Blok et al., 2023). Another structure is citizen initiatives, which are requests to the House of Representatives (Tweede kamer) to discuss and take a position on an elaborated proposal, these requests need the support of more than 40,000 citizens by signature. Citizen initiatives can be seen as a way of participation, as the citizens are the initiators instead of the public authority.

The above-mentioned forms of participation are mainly informing the public and providing the opportunity for a reaction to policy, with no active involvement from the governmental side. Not everyone would include this as participation since there is no delegation of power (Arnstein, 1969) or shared influence or control over collective issues (Visser et al., 2019). This thesis continues with the definition of Visser et al. (2019), in which control is partially transferred to the participant, and therefore the above-mentioned will not be included in the overview.

The following section discusses the main participation methods used on a national level in the energy transition, some methods are performed in various forms which will be discussed shortly. The classification of methods can be found in table 4.2 and the main aspects of this classification will be discussed.

1. The most well-known participation method are (online) **surveys and questionnaires** (Blok et al., 2023; Paradies et al., 2021). Surveys and questionnaires are a method for reaching a lot of people (sometimes a representation of the population) in a short period of time who provide feedback on suggested policy options. The questions are preconceived, leaving no room for two-way discussion, but with the aim to gather information from participants, resulting in a consulting communication flow. The same accounts for the degree of engagement and the objectives. A well-designed survey can measure the intensity and direction of beliefs on issues by assessing the beliefs of a broad range of individuals (Fiorino, 1990). These surveys can even incorporate

the views of the ”uninterested but affected people” (Fiorino, 1990), because of the low threshold to participate since you can do it from home and it does not cost much time. By gathering the views of these people, who provide other insights than professionals, substantive rationality is applied.

Recently a new method of polling the opinions of citizens has been developed, called a Participatory Value Evaluation (PVE). This method is similar to a survey but puts the respondent via a web-based questionnaire in the shoes of a policymaker (Mouter et al., 2021). The respondent is informed of the different policy options, their impacts and constraints and must allocate a fixed set of points to these policy options representing their importance. Additionally, a respondent can provide a comment on their choices. This provides insights into the trade-offs the citizen makes. The PVE is open to everyone and in association with the ability for the respondent to identify their own considerations, this classifies as a normative approach.

2. Other recognised methods are **public consultation sessions and workshops** in which citizens can voice their opinions (Blok et al., 2023; Paradies et al., 2021). Synonyms are hearings or citizen gatherings. They appear in a broad range of varieties but correspond in the fact that interested members of the public hear the proposals for an issue and have the opportunity to respond to these proposals (Fiorino, 1990). Because of the open invitation and the time it consumes, this form of participation does not consistently offer a representation of society (Fiorino, 1990). For many issues, hearings are the only form of interaction between the public and the policymaker, also because it is legally defined in for instance the environmental law. Various forms of these consultation sessions are deployed on the national level, such as discussion tables, field research and design and brainstorming sessions. For a discussion table, a group of people is invited to share their concerns and input on future policy. These sessions give the appearance of citizen involvement to legitimate decisions but are also in place to satisfy legal requirements (Fiorino, 1990), which identifies an instrumental rationale. The name of a discussion table insinuates a two-way communication flow. The design and brainstorming sessions are similar to the discussion tables, but for these methods input from citizens is directly implemented into proposals. This results in a higher degree of engagement, namely placation, citizens can not directly influence the decision-making but do have an influence on the proposals. The involvement of citizens' perspectives in the design phase indicates the substantive rationale. Finally, with field research, the government is asking the citizens for their input on proposals. Because it is focused on gathering input, the direction of communication is consultation, just as the degree of engagement. The objective is to inform the policymakers of citizens' opinions and the citizens with the policymakers' proposals. The rationale is instrumental since it is mainly focused on legitimate decisions, as citizens are openly invited possibly resulting in an inadequate representation of the population.

3. A vehicle for direct democracy is the **referendum**, in which all citizens can directly vote for or against a proposition (F. Hendriks & Michels, 2021). There is a difference between a binding and a non-binding referendum. The binding referendum results in a binding commitment for the government to implement the outcomes. Consequently, the binding referendum grants significant authority to citizens, although some argue that it may bestow too much influence upon an uninformed and unqualified public (Rowe & Frewer, 2000). The referendum is most commonly as a binary choice, it only provides a direction and does not reflect the intensity of beliefs or the underlying rationale. The binding referendum results in a high degree of engagement, delegated power, as it provides citizens with the dominant decision-making authority. There is no room for two-way communication, and therefore it classifies as consultation. It follows from a normative rationale, in which everyone impacted by a decision is allowed to influence it. The objective is to deliver since the decision-making is contributing to the implementation. The non-binding referendum arises from acknowledging the importance of public engagement as a goal in itself, rather than a means to an end (Rowe & Frewer, 2000). Therefore, it classifies as instrumental and consultation.

   There are other alternatives to a normal binary referendum, such as a preferendum, in which there are multiple options to choose from or you can identify your order in favour (Expert interview 2, personal communication, April 19, 2023) (Wagenaar, 2019). A multi-option referendum can result in less rejective bias, it presents a more detailed overview to the government and it allows for

approval of different alternatives, on the other side, it also becomes more challenging for voters, it can not include all different sets of options and there is no guaranteed majority (Wagenaar, 2019). To date, these alternatives have not been used in the Netherlands on a national level.

4. Recently attracting new attention is the use of a **citizens' assembly** in climate policy making (Blok et al., 2023; Brenninkmeijer et al., 2021; F. Hendriks & Michels, 2021). Characteristics of a citizens' assembly are a drawn group of citizens forming a cross-section of society with the time and resources to engage in a dialogue with each other about a societal issue with a mandate from the government (Brenninkmeijer et al., 2021)(Expert interview 3, personal communication, April 19, 2023). There are some prerequisites for an effective citizens' assembly, such as proper questioning, the connection of the mini-public with the maxi-public (the remainder of society), following up on the results and political embedding (Brenninkmeijer et al., 2021). This form of participation has a high degree of engagement since the mandate ensures that the government will undertake action with the results. The citizens in the forum do not directly have the decision-making power, therefore the degree of engagement is placation. The direction of communication is one-sided, from the citizen towards the government, the passive recipient. The government does draw up the question in advance, which the forum will address. The rationality is substantive, as it provides new (non-expert) perspectives on an issue. The objective is to design since citizens are engaged in the development phase. Thus far a national citizens' assembly has not been held yet, but the intention for a citizens' assembly regarding the energy transition has been set (NOS, 2023).

5. **Activism** is the final form of the most used participation methods for influencing climate policy (Paradies et al., 2021). Activism or volunteering is bringing attention to perspectives which are not represented by an (upcoming) decision (Taylor et al., 2010), its goal is to provide information about other perspectives. Activism is organised by citizens or NGOs themselves and not by the government. Activism is a bottom-up initiative, in which the government is not seeking participation. However, it has also been found that there is no 'crowding out' effect when government spending on a topic is increasing. This suggests that welfare delivery by activism and volunteering is also possible in partnership with the government (Taylor et al., 2010). The classification of this form of participation applies another point of view, the one from the citizen instead of the government. Therefore this can be seen as communication, due to the direction in which the information flows, from citizens to the governmental body. It classifies as normative because people affected by the decision are trying to influence it (Wesselink et al., 2011). Both the degree of engagement and the objective is informing, as the citizen does not require any power in the decision-making without governmental response.

Additionally, innovation is taking place in the field of citizen participation. For instance, the usage of digital tools is a new development for involving citizens but becoming more common in the past years (F. Hendriks & Michels, 2021). Challenges and hackathons are new ways to engage diverse groups of citizens, for instance, younger citizens. Also, the combination of several participation methods is an interesting development. For instance, the National Environmental Vision, in which an online citizens' panel is combined with citizen dialogue and focus groups (Blok et al., 2023).

4.3. Participation on a regional level

This section provides insights in which forms of participation are most often used on a regional level in the Netherlands. It provides additional knowledge on these methods to categorize them.

4.3.1. Characteristics of citizen participation on the regional level

When one considers participation on a regional level the provinces might come to mind. But there are also other organisational structures on the regional level regarding the energy transition, such as the National Programme Regional Energy Strategies. This programme supports coordination between 30 energy regions and between these regions and the state regarding sustainable energy generation, for instance by wind and solar on land, but also towards new sources of sustainable heat (NP RES, n.d.). The decisions on the regional level are influenced by the national level but also have an influence on the local level (see section 5.3.2).

Main method	Specification	Degree of engagement	Direction of communication	Rationality	Objectives
Surveys and questionnaires	Surveys and questionnaires	Consultation	Consultation	Substantial	Consult
	PVE	Consultation	Consultation	Normative	Consult
Public consultation sessions	Discussion tables	Consultation	Participation	Instrumental	Consult
	Field research	Consultation	Consultation	Instrumental	Inform
	Design workshops and brainstorming sessions	Placation	Participation	Substantive	Design
Referendum	Binding	Delegated power	Consultation	Normative	Deliver
	Non-binding	Consultation	Consultation	Instrumental	Consult
Citizens' assembly		Placation	Communication*	Substantive	Design
Activism		Informing*	Communication*	Normative*	Inform*

Table 4.2: Categorization of participation methods on the national level, *=communication flows in the opposite direction, from citizen to policymaker

4.3.2. Forms of participation on the regional level

The following section will discuss the main participation methods used on a regional level in the energy transition. The classification of methods can be found in table 4.3 and the main aspects of this classification will be discussed.

1. One of the main methods for participation on a decentral level is **financial participation** (NP RES, n.d.; Paradies et al., 2021). Financial participation can take multiple forms as identified by NP RES (n.d.). The first one is land allowances, in the process, there is jointly determined who gets what land compensation. Another is a nearby residents scheme, a way of providing opportunities to residents surrounding a project, by a discount on energy prices or by providing isolation materials. An environment or surrounding area funds is a way for transferring part of the project's proceeds to community causes in the neighbourhood identified by the neighbourhood itself. And finally, there is the possibility of financial holding, by bonds or shares. Financial is a form of partnership, because power is redistributed between citizens and policymakers by sharing responsibilities. It can be classified as participation, because of two-way communication. It can classify as substantive as citizens want to achieve different goals than for instance a commercial company and therefore the citizens bring different views to the table. Finally, the objective is to deliver because financial participation is concerned with the implementation of the renewable energy source.

2. Related to financial participation, but more focussed on the individual citizen and the community is responding to **community initiative and local ownership**. Further discussed in section 4.4. The same categorisation applies to community initiative as to financial participation. However, community initiatives tend to align more with normative rationality, as they prioritize inclusivity and the ability for everyone in the community to participate. Although, achieving this level of inclusivity is not always feasible or fully realized in practice.

3. Other well-known participation methods are the **public consultation sessions**, which can take various forms (NP RES, n.d.):

    - Area/market talk, inviting the surrounding area and stakeholders from the market to share th plans with the area early in the process. Used to inform the area in the beginning of decision-making process, therefore identifies as informing and communication (from the authority to the citizen). The rationale is instrumental because it is also focused on legitimizing plans.
    - Kitchen table conversation, visiting the citizen at home or in an intimate setting. In a comfortable setting there is more room for a real conversation, therefore this qualifies as participation

Main method	Specification	Degree of engagement	Direction of communication	Rationality	Objectives
Surveys and questionnaires	Surveys and questionnaires	Consultation	Consultation	Instrumental	Consult
	PVE	Consultation	Consultation	Normative	Consult
Public consultation sessions	Area and market talk	Informing	Communication	Instrumental	Inform
	Kitchen table conversation	Consultation	Participation	Substantive	Consult
	Consultation evening	Consultation	Consultation	Instrumental	Consult
	Area workshops and ateliers	Placation	Participation	Substantive	Design
Financial participation		Partnership	Participation	Substantive	Deliver
Energy communities		Partnership	Participation	Substantive	Deliver
Citizens' assembly	Citizens' assembly	Placation	Communication*	Substantive	Design
	Climate/energy summit	Consultation	Consultation	Substantive	Consult
Referendum	Binding	Delegated power	Consultation	Normative	Deliver
	Non-binding	Consultation	Consultation	Instrumental	Consult

Table 4.3: Categorization of participation methods on the regional level

since there is two-way communication. The authority's emphasis is on consultation, as they engage with a limited number of individuals and conduct multiple conversations to ensure comprehensive coverage, there is no delegation of power. The new perspectives retrieved make this a substantive approach.

- Consultation evening, evening in which plans for a project are shared and citizens can identify their concerns. As the name covers, this is a form of consultation. However, some also see the consultation evening as a way of the authorities to inform the public and less is done with the input provided. These sessions are mostly mandatory by the environmental law, and therefore the rationality for the session is mostly instrumental, to legitimize the decision.
- Area workshop/atelier, in which the authorities shape the implementation of a project together with citizens with a design objective. This is a form of placation, as the citizens have some representatives at the decision-making table, but they do not have any power over the decision. It is a form of participation, because there is two-way communication. Finally, this is also a form of substantive participation by implementing different views in the decision-making.

4. Similarly to the national level, the regional level also set out **surveys and online tools** to consult with citizens. Examples are general surveys, PVEs, online polling tools and participation platforms. The categorisation is similar to the categorization on the national level.

5. **Citizens' assembly**, a coproduction of randomly drawn citizens advising the government, similar to the national level, but the correct questioning is very important. The question should be related to something in the power of this governance level, so that proper follow-up is encouraged (Expert interview 3, personal communication, April 19, 2023). The categorisation, however, is similar to the categorization on the national level. A similar method is the climate/energy summit, using propositions, residents are challenged to think about the energy transition and sustainability (NP RES, n.d.), however, this method is less formal and mostly does not have a mandate. The method is specifically used to attract a particular target group, such as young people. Because

Main method	Specification	Degree of engagement	Direction of communication	Rationality	Objectives
Energy communities		Partnership	Participation	Substantive	Deliver
Financial participation		Partnership	Participation	Substantive	Deliver
Surveys and questionnaires		Consultation	Consultation	Instrumental	Consult
Public consultation sessions	Information evenings	Informing	Communication	Instrumental	Inform
	Design workshops and brainstorming sessions	Placation	Participation	Substantive	Design
	Sounding board gatherings	Consultation	Consultation	Substantive	Consult
Citizens' assembly		Placation	Communication*	Substantive	Design
Referendum	Non-binding	Consultation	Consultation	Instrumental	Consult

Table 4.4: Categorization of participation methods on the local level

the participants have to respond to propositions, this is a form of consultation, providing new perspectives on a topic and therefore substantive.

6. Similar as on the national level, a **referendum**.

4.4. Participation on a local level

This section provides insights in which forms of participation are most often used on a local level in the Netherlands. It provides additional knowledge on these methods to categorize them.

4.4.1. Characteristics of citizen participation on the local level

Participation on the local level can be described as participation by the municipality, but also on an even smaller scale, within a neighbourhood or a community. In general, most participation processes occur at the local level since this is the level where plans get implemented and it affects the citizens more (Expert interviews 1,2 and 3, personal communication, April 17/19, 2023).

Participation on the local level, for instance in natural gas-free neighbourhoods, is mainly utilised during the development or implementation plans. It raises the question of whether value would be added in using citizen participation at an earlier stage in for instance the initiation of the process (Paradies et al., 2021).

4.4.2. Forms of participation on the local level

The following section discusses the main participation methods used on a local level in the energy transition. Many methods show overlap with the previously discussed methods, therefore only the differences are emphasized. The classification of methods can be found in table 4.4 and the main aspects of this classification will be discussed.

1. The most well-known participation methods on the local level are **public consultation sessions**. These come in all shapes and forms such as information evenings, workshops, kitchen table conversations in which civil servants visit citizens in the surrounding area of a project and sounding board gatherings, in which citizens can share their concerns about a project.

2. Similar to the previous levels: **surveys and questionnaires**.

3. Similar to the previous levels: **referendum**. At the sub-national level, a referendum is a relatively common, moderately used method for public involvement, often in a non-binding consultative way (F. Hendriks & Michels, 2021). These referendums differ in design variables and technical

requirements, for instance, on the municipal level the town of Arnhem had experimented with a preferendum, in which voters had multiple options (F. Hendriks & Michels, 2021).

4. Also seen before, but very recently increased in attention is the local **citizens' assembly**. This method has attracted increasing popularity since the municipal elections in 2022 (Expert interview 1, personal communication, April 17, 2023) (Burgerberaad.nu, n.d.).

5. Finally, an upcoming participation method is the support of **energy communities and local ownership** (Lupi et al., 2021; Sciullo et al., 2022; Teladia & Van Der Windt, 2022). These energy initiatives can be seen as bottom-up initiatives functioning as renewable energy 'prosumerism'. This phenomenon describes citizens producing or storing energy and/or participating in energy markets by selling or sharing this energy (Horstink et al., 2021). Energy communities are one form of a local energy initiative. These communities are controlled and managed by actors and members, forming a legal entity, in the proximity of the renewable energy project which contributes to a fundamental shift in consumer behaviour (Horstink et al., 2021; Sciullo et al., 2022). These communities ensure access by producing and distributing renewables themselves (Lupi et al., 2021). Due to high citizen ownership in these communities, this can be seen as citizen participation. A related concept is grassroots initiatives, which are defined as networks of actors and organizations generating bottom-up sustainable solutions in this case for the energy transition, responding to a local situation and communities involved (Oteman et al., 2017). The same categorisation applies to community initiative as to financial participation. However, community initiatives tend to align more with normative rationality, as they prioritize inclusivity and the ability for everyone in the community to participate. Although, achieving this level of inclusivity is not always feasible or fully realized in practice.

The above-mentioned energy communities and initiatives are forms of collective action initiatives. They appear as a response to lack of responsibility by the institutional environment (Oteman et al., 2017). Co-creation is another form of involving citizens in the energy transition earlier on during the decision-making process. This form of polycentric decision-making, in which decisions are made in multiple, semi-autonomous centres, allows citizens to take over some public tasks. These tasks can vary from initiation, designing or producing processes (Brandsen et al., 2018; Itten et al., 2021). Co-creation can occur on multiple governance levels, which is shown by the polycentric nature. Co-creation can take place on all governance levels.

4.5. Conclusion

The question addressed in this chapter is: *How do central and decentral citizen participation methods in the energy transition differ in the Netherlands?* The insights in this chapter identify both similarities and differences in participation between the different governance levels. Similarities are visible in the methods applied, such as surveys, citizens' assemblies, referendums and public consultation sessions. However, the goals for which participation is used differ between the different governance levels. Participation on the national level is mainly providing insights from citizens on climate policy, whereas participation on the local level is mainly organized in the implementation phase (Paradies et al., 2021).

The categorization of the methods identifies that on the national level, the objective is mainly consultation and informing. At decentral levels these are also the main objectives, however delivering to implementation is gradually increasing. The main rationale for participation is substantive, gathering new perspectives on a topic, which applies to all governance levels. Another difference is the degree of engagement, this degree becomes higher for the decentral levels due to financial participation and community initiatives in which the government shares responsibilities in a partnership with citizens. The same applies to the direction of communication, on the decentral levels two-way communication increases.

The participation methods included in the survey are public consultation sessions, surveys, a citizens' assembly and a referendum because these are the methods applied to each governance level. These participation methods vary in degree of engagement, from consultation to delegated power. Also, the direction of communication is varied, from communication and consultation to participation. The same applies to rationality and objectives. An important thing to consider is that the rationality and the objective are also dependent on the goal of participation and both these categorizations are

not communicated in the survey. A participant might judge differently on a participation method compared to this classification. Additionally, as can be seen from the previous sections, there are various shapes for the public consultation sessions, but only a general description is given in the survey. The interpretation of participants might differ from one another.

Finally, energy communities, local ownership and financial participation and activism have not been included in the survey. Energy communities, local ownership and financial participation are the only methods with the partnership as a degree of engagement, therefore no interrelations can be made from other participation methods. Activism is hard to implement in the survey, as the government does not organise this and follows from community action. The other forms of participation are facilitated by the government, and therefore it is hard to compare attitudes towards other methods with activism. Future research should identify the attitude of citizens towards these methods.

5

Involvement of the public in the policy-making process

This chapter maps out where citizens' preferences are deployed in the policy-making process. It provide examples of participation methods used in different phases of the policy cycle. Additionally, insights into the interplay of national and decentral decision-making are provided with the importance of integration. The question to be answered is: When in the policy-cycle of central and decentral citizen participation are the needs of citizens assessed?

5.1. The policy cycle

This section provides an introduction to the policy cycle and how it relates to citizen participation.

The policy cycle is a process model which represents a simplification of the policy-making process. It is a series of different stages of political activities, where the last stage leads straight back to the first. These stages consist of agenda setting, policy formulation, policy adoption, implementation and evaluation (Knill & Tosun, 2008), see figure 5.1. This sequential model is a simplification of reality because actors may be involved in different processes or stages at the same time. Nevertheless, the model is helping to illustrate the process of policymaking (Knill & Tosun, 2008). For better policy outcomes with high citizen engagement it is important to include citizen involvement in each step of the policy cycle (Khatibi et al., 2021).

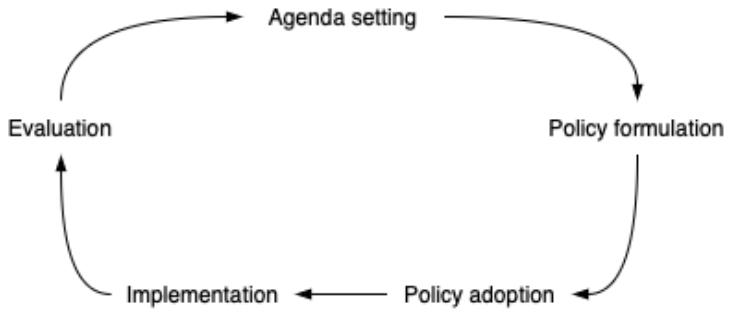


Figure 5.1: Policy cycle based on Knill and Tosun (2008)

Agenda setting is the first stage of the policy-making process in which a problem is identified by the decision maker requiring intervention and added to the policy agenda. The agenda-setting can

be influenced by elected public officials, bureaucracy (through the minister), mass media and interest groups (Knill & Tosun, 2008). Activism can be seen as a form of participation influencing this stage of the policy-making process, by bringing attention to perspectives which are not yet represented in this process (Taylor et al., 2010).

The subsequent phase is policy formulation, in which is dealt with the elaboration of alternatives for action for coping with the previously identified problems, by defining the objectives and selecting the most appropriate policy instruments (Knill & Tosun, 2008). A citizens' assembly is an example of participation during the policy formulation phase. As indicated by Brenninkmeijer et al. (2021): "with a citizens' forum, citizens are offered to be part of the policy development at an early stage by having the chance to contribute ideas and solutions, and suggest or make choices."

The next phase policy adoption is related to policy formulation, but is rather the formal process of decision-making and is generally determined by government institutions. Decision criteria such as costs and resources come into play, as well as the allocation of competencies between actors involved in the process (Knill & Tosun, 2008). In general this phase is conducted by the government itself, however, a *binding* referendum is a form of participation in the policy adoption phase.

Implementation transforms plans, laws and programs into practice, with top-down, bottom-up and hybrid processes. This relationship between legislation and its application is delicate and sometimes results in a substantial gap (Knill & Tosun, 2008). Successful implementation requires sufficient resources, the ability to translate objectives into an operational framework and accountability for one's actions (Gerston, 2010). This is the stage in which formal consultation is often explicitly included (Khatibi et al., 2021). Most forms of participation are applied to this stage in the policy-cycle, this can vary from consultation evening, surveys to forums and referenda.

The final stage is evaluation, determining if the output of the policy-making process has resulted in achieving the intended goals. The feedback loop evaluation provides, by drawing lessons from the process but also the potential to reframe the issue, results in a continuous policy cycle (Knill & Tosun, 2008). Participation is not generally conducted in this phase, however, surveys or citizen gatherings are forms useful for this phase.

5.2. Citizen participation in the policy cycle

This sections identifies manners of participation and contribution to the process in each phase of the policy cycle, with examples related to the energy transition, also from foreign countries.

The ideal situation for citizen participation is represented by involvement in all stages of the policy cycle, from identifying issues during the agenda-setting to evaluation, as each stage offers benefits for citizen engagement (Khatibi et al., 2021). Citizen engagement can contribute to building knowledge, awareness and capacity for behavioural change during the policy formulation and the policy adoption stage (Khatibi et al., 2021). Additionally, citizens can help in selecting the most appropriate policy instruments in a specific situation during the formulation phase, due to in-depth and local knowledge.

Khatibi et al. (2021) performed a systematic quantitative literature review for public participation on topics regarding climate change limited to English language. Eventually, 78 papers from around the world were included in the review. This review showed that public participation occurs most during the agenda-setting, the policy formulation and the policy adoption phase, rather than the implementation and evaluation phase.

When it comes to the moment of citizen involvement, a paradox comes into play. For effective citizen participation early engagement is very important, since the options are still open and citizens have a voice in shaping the final decision (Arnstein, 1969; Perlaviciute & Squintani, 2020). But citizens prefer being involved in decision-making in their direct environment rather than macro-decisions, caused by the familiarity with the issue and the direct consequences (Perlaviciute & Squintani, 2020). This identifies a paradox of citizen participation, early involvement can result in abstract and incomplete information, while late involvement may lead to participation with limited power or which feels like ticking off legislative boxes (Expertinterview 1, personal communication, April 17, 2023; Expertinterview 2, personal communication, April 19, 2023).

The following section identifies differences for different policy levels, however it remains important to consider the differences between entities on the same policy level also occur (Expertinterview 1, personal communication, April 17, 2023). For instance within the RES regions, one region might focus on

citizen participation and the other focuses on collaboration with other institutions and key stakeholders.

5.2.1. Examples of participation in the policy cycle

The following section identifies some use cases of participation and their execution within the policy cycle. These examples do not provide an exhaustive view of the situation. A participation method is not only applicable in the mentioned stage in the policy cycle and a mentioned stage does not necessarily needs this type of participation. Each participation process is dependent on the context of the specific situation and this requires consideration (Bouma et al., 2023). However, these examples provide a picture of application of participation in different stage in the policy cycle.

Paradies et al. (2021) identify that on a national level participation is mainly adopted in the policy formulation phase with activism and surveys. Around the theme of wind on land, regional level, citizens are involved during the formulation of policy, for instance the identification of possible locations and the technology applied, and the policy implementation phase, for the elaboration of the design and the building phase. Diverse methods of participation are applied to the formulation phase, however, most participation occurs in the implementation phase with financial participation. Finally, in natural gas-free neighbourhoods, the local level, participation processes are mainly deployed in the implementation phase, plans are made via workshops in the form of information evenings or a sounding board group.

Kinnunen (2019) describes a real-life case of citizen participation in Finland during the policy formulation phase of the policy cycle and highlights the importance of a flexible approach to the cycle. The participation method was a survey in which suggestions for secure electricity networks were collected. Through the application of a theoretical framework to a real-life case, this study identified a deviation from the basic concept of the policy cycle, as the survey not only affected the implementation phase, as expected, but also unexpectedly impacted the evaluation phase. This did not fit with the chronologically progressive process of the policy cycle and highlights the importance of flexibility. The open questions were used by respondents to reflect on earlier policies, although this was not requested. Additionally, Kinnunen (2019) identified that public concern and media attention (related to activism in 4.2.3) influenced the agenda setting and the evaluation and should be regarded as valuable input to policy preparation, despite not being a formal participation instrument.

Godinho et al. (2021) identify several relations between several stages of the policy cycle and data-driven 'e-participation', such as agenda-setting and the implementation phase. Participation methods vary from passive to active participation, passive instruments are citizens' engagement on apps to active instruments such as online forums and platforms for brainstorming. The first relation is the ability of citizen participation to decide what data is worth capturing in the agenda-setting phase. The second takes place during the implementation phase, in which citizens contribute to establishing the principles by which data is used to prevent loss of trust in data-driven participation approaches. Furthermore, Höchtl et al. (2017) identifies that including citizens in the policy evaluation stage is becoming more accessible through digital (big)data tools. Höchtl et al. (2017) also identify a role for gamification and augmented reality participation tools in the agenda-setting phase, in which citizens' wishes prioritise issues.

Co-creation, in which citizens, experts and policymakers organize themselves in defining objectives, agree on tools and set out actions to achieve a goal, is best utilised in the implementation phase of the policy cycle. It also is relatable to the formulation phase by defining objectives and agreeing on instruments (Schade et al., n.d.).

Sillak et al. (2021) identify that co-creation is divided into its own phases, based on various other scholars, they identify the initiation, design and implementation phase. These phases show some relation to the agenda-setting process, policy formulation and implementation of the policy cycle. The difference is that with co-creation multiple actors are commonly involved, such as the industry, the government, academia and civil society (the community). Co-creation relies on polycentric governance systems in which there are multiple semi-autonomous decision making centres controlled by mechanisms of coordination (Itten et al., 2021). In practice in public policy processes this is taking place in the latter phase, because time and resources do not allow an extended process (Sillak et al., 2021).

These examples identify some patterns in the policy cycle. The agenda-setting process and the policy formulation process are involved by both active and passive participation methods (Godinho et al., 2021; Höchtl et al., 2017; Kinnunen, 2019). When it comes to implementation mostly active participation methods, in which dialogue between citizen and policymaker exists, are being used (Höchtl

et al., 2017). Citizens' being involved in the adoption phase requires a high level of engagement in participation since the institutions themselves generally exercise this, see 5.1. Involving citizens in the policy evaluation stage is becoming more accessible, as for now it is mainly through one-sided participation.

5.3. Multi-level decision-making processes

This section provides insights in the multi-level decision-making processes regardig the energy transition and why alignment is important. First it addresses multi-level governance in general, then the decision-making chain for climate policy and finally the implications for the different governance levels.

5.3.1. Multi-level governance

The term Multi-level governance (MLG) originates from the 1980s to capture developments in the complex relations between actors in different sectors and at different territorial levels within the European Union (Bache, 2012). It characterizes the relationships, which can be horizontal, vertical or networked, among public actors situated on different governance levels (Jänicke, 2015). The governance levels range from the global level to the local level. The framework contributes to the interpretation of the mechanisms, procedures and democratic responsibility in contemporary politics. Multi-level governance can be seen as a mechanism of reinforcement, it allows innovation to take place at multiple locations within the governance system, it enhances peer-to-peer learning and it allows stimulation from a higher level (Jänicke, 2015).

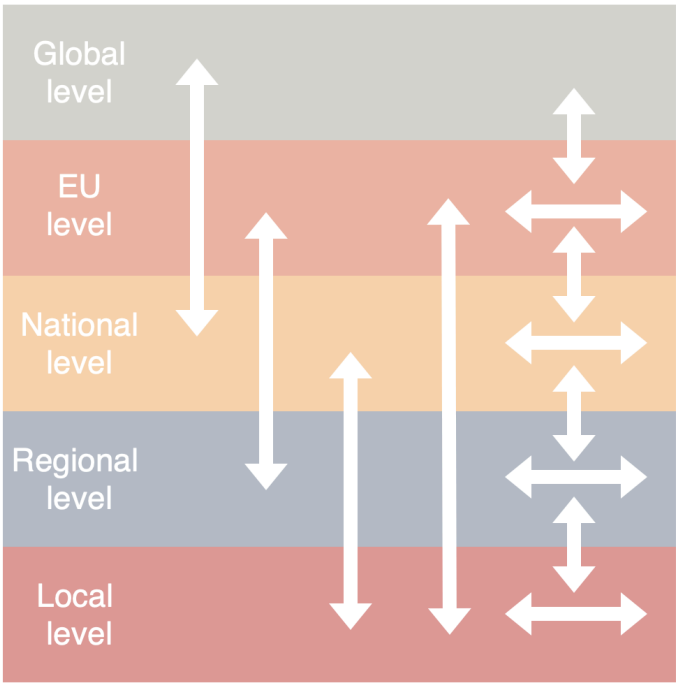


Figure 5.2: Multi-level governance interrelations by Jänicke (2015)

Hooghe and Marks (2010) have identified two types of multi-level governance to overcome conflicting interpretations. Type I governance is relatively stable due to bundling authority at a small number of levels, which are non-overlapping. Type I governance can be indicated as top-down. Type II governance is more complex and fluid. The jurisdictions are based on functionality and are flexible to changes in governance demands. The first one reflects a simplistic nature of state control, while the second one emphasizes the complex relation of overlapping competencies on different levels between both public and private actors (Stephenson, 2013).

Since the first introduction of MLG, the concept has been applied in very diverse manners, from functional problem solving to normative legitimacy and democracy cases, beyond the European Union

(Stephenson, 2013). One of the applications of the MLG is to pursue sustainability, with the goal of aligning actors from multi-level and multi-sectoral governance (Jänicke, 2017). This model combines not only governmental actors but also other actors from the industry, which interact vertically and horizontally, as visualised in figure 5.2. The model identifies global players such as the United Nations setting out a precedent, the national level introducing climate policy (for some guided by the European Union) and the decentral regions responsible for implementation and therefore very important. Even individuals can play a role by changing their behaviour or taking private ownership (Jänicke, 2017).

5.3.2. Decision-making chain for energy policy

The decision-making chain consists of policy visions, plans and programs and finally projects (Perlaviciute & Squintani, 2020). The decision-making chain crosses multiple levels represented in multi-level governance, visualised in figure 5.3. The first tier of the decision-making chain for the energy transition in the Netherlands is being formed by international agreements and European legislation. Examples are the Paris Agreement and the Aarhus convention.

National policy, plans, programs and decisions form the second tier, such as the Dutch Climate Agreement. These policies follow international agreements or come out of their own accord.

The following final tiers are subsequently regional and local. Examples on the regional level are the Renewable Energy Strategies regions and policy, programs and decisions made by the provincial states. On a local level, the project is being implemented, and the choices for instance for the specific location of wind parks are being made. Every lower tier is influenced by policies and programs made on a higher tier.

The concept of the decision-making chain, as visualised in figure 5.3, can be indicated as type I governance, in which regulations are influenced by top-down pressures.

However, this concept is a simplification of reality and has some limitations. For instance, in practice national governments establish governance conditions and instruments for local governments to achieve low carbon goals, however, there exists an essential territorial level between the national and local levels: the regional level which is not always concretised (Hoppe & Miedema, 2020). Additionally, the regional level often functions as polycentric decision-making as the regional level is subdivided into provinces, regional actors and subregional actors, which all have different authorities in different domains (Hoppe & Miedema, 2020). This polycentric nature exhibits characteristics of type II governance.

5.3.3. Implications for governance levels

The Aarhus Convention establishing regulations regarding citizen participation in the energy transition has the most pronounced impact on the project level where policy outcomes are being implemented. However, these decisions are being influenced by macro-level policy visions, plans and programs (Perlaviciute & Squintani, 2020). The frameworks established on higher governance levels limit the solution space on a subordinate level. This structure puts constraints on the influence citizens have during participation, especially on the local level. Moreover, participation is still most often deployed at the local level because the access to citizens is most direct (Expert interview 1, personal communication, April 17, 2023). Additionally, Perlaviciute and Squintani (2020) identified that people are more willing to participate in micro-policy making rather than macro-policy making. This introduces another paradox, because people accept macro-policy more if they had an influence in the formulation process, however the preference for micro-policy making limits the influence citizens have on macro-policy. This emphasizes the importance of governments to retrieve what is going on locally when formulating macro-policy.

The decision-making process identified in section 5.3.2 and figure 5.3 display links between governance levels pointing in one direction, top-down. At the national level, governments often come up with policies and ideas that are intended to be implemented at the local level. However, the responsibility for implementing these policies often falls on local governments, which can result in a significant amount of work for these institutions (Expert interview 1, personal communication, April 17, 2023). In combination with the limited solution space caused by macro-level decisions, reduces their ability to develop effective policies and engage citizens in the decision-making process. Therefore, it is important to consider how national policies and frameworks can be designed with input from local governments to allow for greater local flexibility and creativity while ensuring that the goals of national policy are met. Especially with emerging forms of policy making, such as co-creation which relies on the concept of polycentric decision making (Itten et al., 2021), this one-way top-down decision-making chain will not

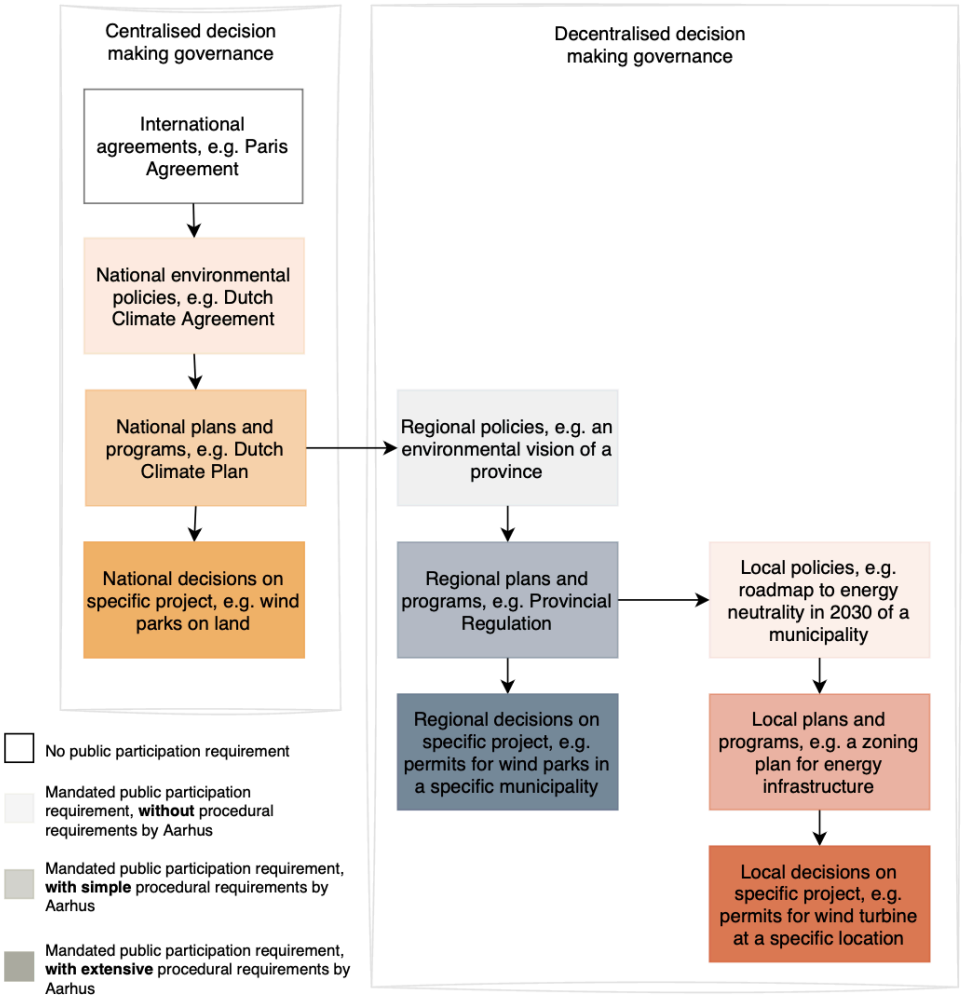


Figure 5.3: Decision-making chain by Perlaviciute and Squintani (2020)

suffice. A shift from type I governance towards type II governance, which is more fluid and dynamic might enhance the local flexibility and can help accelerate the transition.

Multiple studies emphasize the importance of early participation in the decision-making process (Paradies et al., 2021; Sillak et al., 2021) and the importance of citizens' having a significant influence on the process (Bouma et al., 2023). Aarhus' focus on project level and implementation, rather than on visions, plans, and programs, has a negative influence on the importance of early participation in the policy process (Squintani & Perlaviciute, 2019). The unidirectional, top-down decision-making chain impacts citizens' influence on the process, especially at the lower project level. These observations show the importance of the involvement of citizens along the policy cycle and the integration of participation on different governance levels.

5.4. Conclusion

The question addressed in the chapter is: *When in the policy cycle of central and decentral citizen participation are the needs of citizens assessed?*

In an ideal situation, citizen participation would take place in all stages of the policy cycle, from agenda-setting to evaluation. Generally speaking, participation processes occur mostly in the implementation phase for several reasons (Perlaviciute & Squintani, 2020; Sillak et al., 2021). One reason is that legislation mainly focuses on the implementation phase, such as the Aarhus convention (Squintani & Perlaviciute, 2019). Additionally, time and resources do not allow for early involvement (Sillak et al.,

2021) and the subject of discussion is becoming more relatable to the participant (Expertinterview 1, personal communication, April 17, 2023; Expertinterview 2, personal communication, April 19, 2023).

However, it is common for participation processes on a national level to occur during the policy formulation phase. This is logical because the implementation of these policies typically takes place at the regional or local level, rather than on a national scale.

The importance of early participation during the agenda-setting and formulation is being emphasized whereas the citizens feel heard and represented in the frameworks following these steps (Bouma et al., 2023; Paradies et al., 2021). As shown by the decision-making chain it is important for the different levels to integrate their approaches and align results from participation processes since the early stages of the policy cycle are mainly carried out at the national level, but the implementation is generally performed at the local level.

Furthermore, a study has identified a preference for participation at the micro-level, specifically in the implementation phase. However, it is noteworthy that approval for macro-level policies stems from having a say in the development process, thereby highlighting a paradox (Perlaviciute & Squintani, 2020). Therefore, it is crucial for the national government to actively listen to the information gathered at the local level and incorporate it into policy-making processes.

6

Preferences of citizen segments for participation methods

The goal of this chapter is to determine the preferences of different citizen segments for participation methods on different governance levels (local and national) based on quantitative analysis of the results from the survey. Additionally, it is providing insights into what characteristics these citizen segments exhibit. The question to be answered is: *What participation methods do citizen segments in the Netherlands prefer for the energy transition based on demographic profiles and governance level?*

6.1. Data-cleaning and preparation

The data used to perform the Latent Class Cluster Analysis (LCCA) is coming from survey data. More specifically, a Participatory Value Evaluation (PVE), named the Energy Consultation 2023, set out by the Ministry of Economic Affairs and Climate Policy to use the results in the development of policies for the energy system in 2050 (Rijksoverheid, 2023).

The consultation comprised four parts. In the first part, participants were shown 10 goals about the future energy system on which they had to divide a limited set of points. The second part looked comparable, but in this part, the goals were related to nuclear power. The third part of the consultation presented participants with some concrete choices that the government could focus on when putting together the energy system of the future where respondents could fill in their suggestions. The final part made the respondents reflect on how they would like to be involved by their government in future energy transition choices, by reflecting on different participation methods. Unsurprisingly, the latter part is the main input for this research.

In total more than 10,000 persons had started the consultation. These respondents were divided into open and closed consultations. Closed consultation is a representation of the population and these people were invited to fill in the consultation and rewarded with a small financial compensation, the open consultation could be filled in by anyone who was interested.

Not all data from respondents was usable for the data analysis, therefore the data had to be cleaned with the following steps. Firstly, the people who did not provide consent to work with their responses, and therefore did not continue with the consultation, were removed. This resulted in the removal of 33 responses. Secondly, people who did not complete the survey were removed, since they did not provide a response to the questions about demographic values and the questions regarding citizen participation. This resulted in the removal of 2746 responses.

Finally, people who finished the survey very rapidly were removed, as the responses would not follow a reflective thought process. The mean duration for filling in the survey was 50 minutes, and the median was 29 minutes. This difference is caused by some very big outliers, as can be told from the boxplot in figure 6.1. The outliers with a high duration can be caused by opening and starting with the survey, followed by taking a break and finishing the survey at a later moment in time. Since this would not impact the results negatively the upper outliers are not removed. To determine if people did not seriously fill in the survey, straightliners are identified. Straightliners are respondents giving the same response to a series of grouped questions (Reuning & Plutzer, 2020), for instance, all questions on one

page. The respondents finishing the survey in under 5 minutes and straight lining their answers are removed, due to the non-reflective thought process.

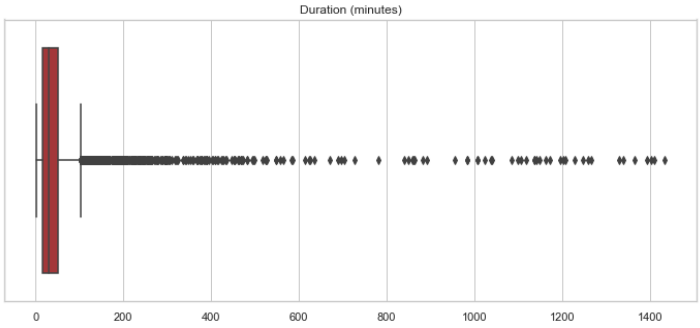


Figure 6.1: Boxplot of duration completion of the survey with high number of outliers

These data-cleaning steps resulted in the final sample size of 7655 respondents. This is divided into groups of respondents for the open and closed consultation, as explained above. The closed consultation is subdivided into two groups, as the answer categories were varied. Each group, therefore, has at least 1400 respondents. It has been shown that LCCAs conducted with sample sizes larger than 500 consistently result in high accuracy for models and fit statistics (Sinha et al., 2021). The three groups are represented in figure 6.2 including the differences in answer categories which results in different versions.

Amongst the answer categories of the questions ”I do not know” and ”I do not want to tell” were also included. Both of these answers do not provide much insight attitude of people towards participation but cannot be removed because for some questions the sum of both answer possibilities goes up to 35% of the respondents. To limit the number of classes, both answer possibilities are combined into one.

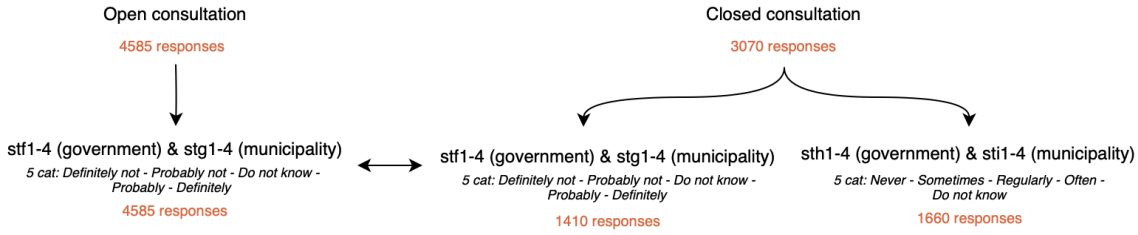


Figure 6.2: Final datasets for data analysis

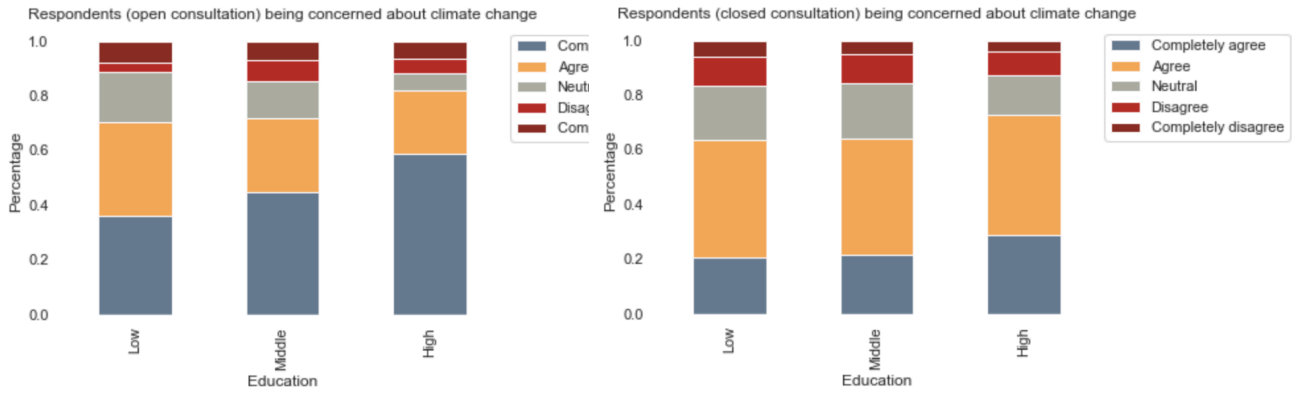
6.2. Descriptive statistics

6.2.1. Socio-demographic characteristics

Table 6.1 represents the demographics for the two datasets (open and closed), compared to the numbers for the population. It can clearly be told that the closed consultation is a better representation of the population than the open consultation. Open consultation is overly represented by men and highly educated people. The number of average and low-educated people is alarming, but may also inform us about the people who *really do* participate. One of the advantages of a PVE, with adequate communication, is the possibility of attracting a more diverse range of citizens, especially younger people (Mouter et al., 2021). However, this diversity is not represented in the demographics of the open consultation, which raises questions about the promotion of this specific PVE. PVEs that involve extensive communication and promotion tend to yield a more diverse group of respondents. Additionally, this PVE was very complex and lengthy, encompassing multiple parts with questions related to the energy system, which may have influenced the diversity of respondents.

Demographic	Closed	Open	Census
Gender			
Male	47.8%	70.1%	49.7%*
Female	51.9%	26.5%	50.3%*
Other	0.3%	3.4%	
Age			
Younger than 35	29.1%	17.3%	30.2%*
35 - 64	50.0%	58.7%	46.7%*
65 and older	20.7%	22.7%	23.1%*
Education			
Low education	20.5%	1.8%	25.8%*
Middle education	43.4%	10.4%	37.9%*
High education	36.1%	87.8%	35.5%*

Table 6.1: Demographic characteristics of respondents (* data retreived from CBS statline 2021 (CBS, n.d.))



(a) Open consultation

(b) Closed consultation

Figure 6.3: Respondents being concerned about climate change for level of education

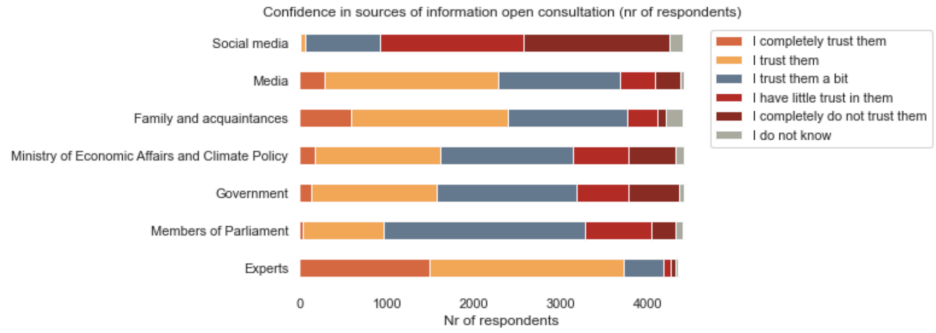
The closed consultation also shows some (small) differences from the population. Females are represented by a small majority, and low education is still underrepresented.

6.2.2. Getting to know the dataset

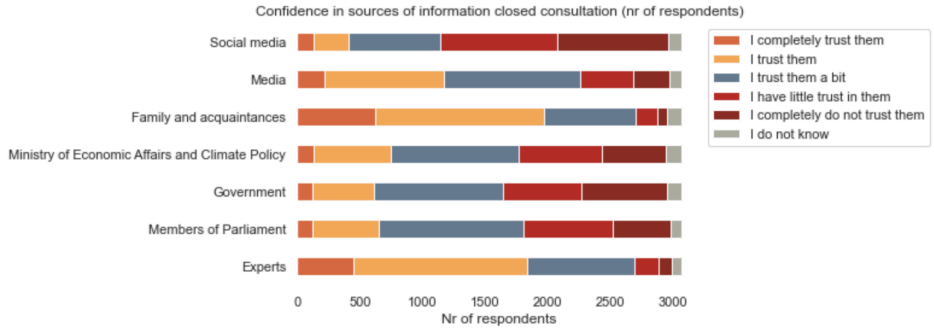
Before the actual Latent Class Cluster Analysis is applied to the data, it is convenient to get a feeling for the dataset by applying descriptive analyses. These analyses included pointing out correlations within responses to methods of participation with a chi-square test and the visualisation of responses for different subsets.

One assumption for Latent Class Cluster Analysis is 'local independence' within a class, this means that the observed indicator values are independent of one another (Sinha et al., 2021). Violation of this may result in misclassification errors, lower accuracy and overestimation of the number of classes. It however remains unclear how big this effect is and what correlations are tolerable (Sinha et al., 2021). In this dataset indicators values are correlated, as identified using a chi-square test for nominal values. Especially the similar question differing for municipality and government, but also the questions for different participation methods. To identify if the high correlation between municipality and government has an effect on the clusters this has been compared, but resulted in the same number of clusters and similar proportions in the answer categories. Therefore it was decided to include both municipality and government questions in the same LCCA model.

In order to get to know the dataset and the respondents, additional statements were analyzed to gauge citizens' attitudes towards the energy transition and their preferred sources of information. A comparison was made between the open and closed datasets to gain insights into the distinctions between the representative group of people and those who participated voluntarily.



(a) Open consultation



(b) Closed consultation

Figure 6.4: Respondents' attitude towards sources of information they trust

The initial statement investigated was related to citizens' concerns about climate change, where they were given the option to agree or disagree. This information was then further examined in relation to the respondent's level of education and is visually represented in figure 6.3.

In both consultations, it is evident that over half of the respondents (at least 60%) express concern about climate change. However, there are notable differences between the two groups. The open consultation participants are more vocal in their opinions, with a majority completely agreeing with the concern, while the closed consultation respondents mostly agree without being as outspoken.

The open consultation is more outspoken in general, and the percentage of completely disagreeing is also higher compared to the closed consultation. However, the percentage of people disagreeing with being concerned about climate change is a bit higher for the closed consultation, although it does not differ much. Finally, both consultations reveal that highly educated individuals exhibit a slightly higher level of concern about climate change compared to those with lower or middle-level education.

Additional statements were examined concerning the trust respondents place in different information sources, including family, media, and the government. The outcomes of this analysis are graphically represented in figure 6.4.

Two statements stand out prominently in opposite directions: social media and experts. Social media emerges as an untrusted source, while experts are highly trusted. Notably, the open consultation participants are more vocal about these findings compared to the closed consultation respondents.

Moreover, the government, the Ministry, and members of Parliament receive relatively low levels of trust, particularly in the closed consultation. In this group, a greater number of people express distrust in these entities compared to those who trust them.

Additionally, a first impression of the data regarding participation methods is provided by visualisation of different subsets for the responses to different participation methods. Figure 6.5 provides a first glance at the preferences towards different participation methods on the national level (government) and the local level (municipality). From the pattern of the bars in the figures, it can be told that there are no big differences in the preferences for the municipality and the government. The prevalent pattern of the bars is very similar for both the municipality and the government. The small differences visible are in

the advantage of the municipality, where people are slightly more likely to participate in a gathering and citizens' assembly.

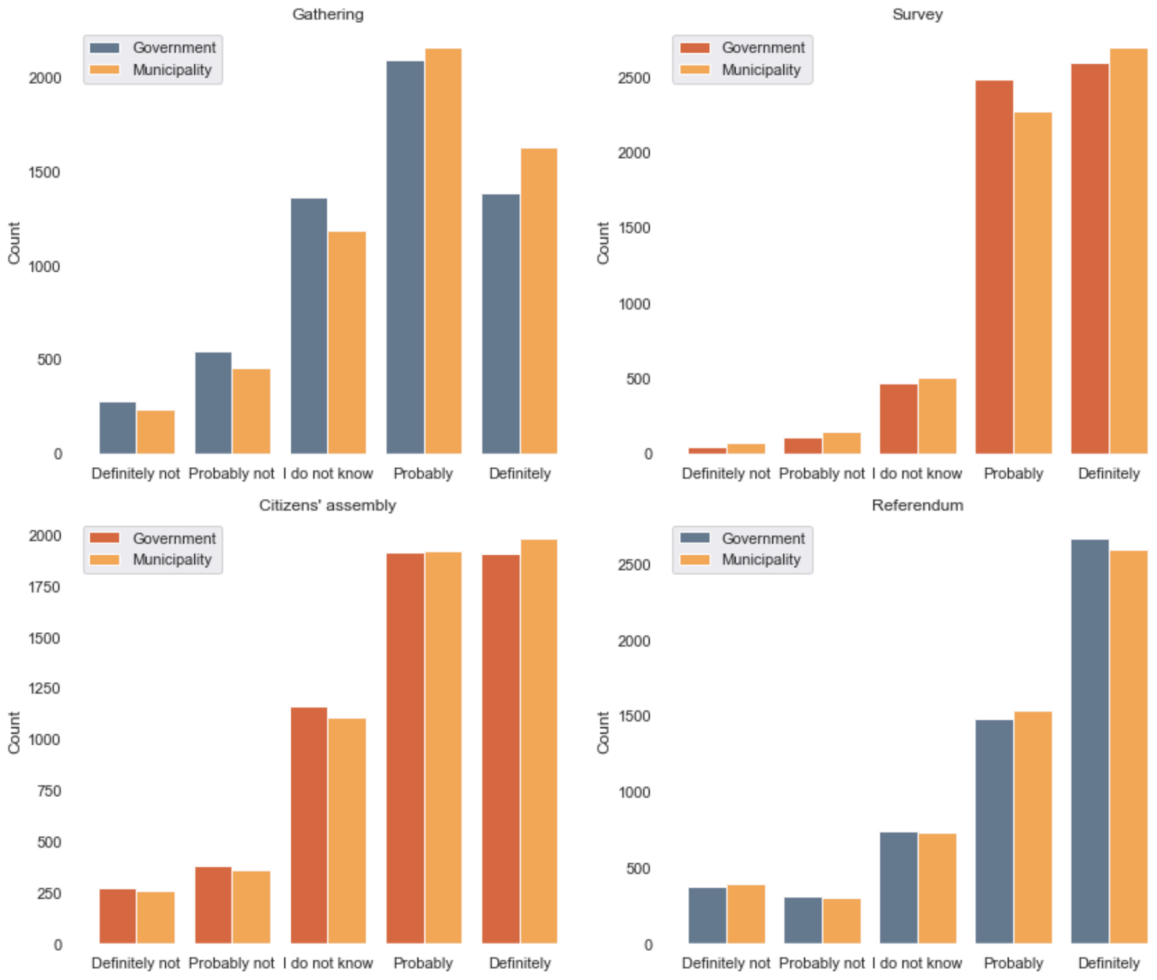


Figure 6.5: Attitudes towards participation methods per governance level based on the complete dataset (both open and closed)

6.3. LCCA

6.3.1. Setup of the LCCA

The Latent Class Cluster Analysis (LCCA) will be executed with three different LCCA models: One for the open consultation and two for the closed consultation due to the variation of response options. The eight indicator values included are the same for each subset, but the difference lies in the response options, which will be explained below. The indicator values are all answering the following question: Would you participate in the examples presented below?

- A **meeting** for residents where you hear how plans related to the energy system are progressing from the *government*
- An internet-based *government* **survey** in which many residents can give their views on the energy system
- A **drawn group of residents who advise** or help the *government* decide on a societal issue concerning the energy system
- A **referendum**, giving residents a decisive vote on a choice around the energy system on a *governmental* level

- A **meeting** for residents where you hear how plans related to the energy system are progressing from the *municipality*
- An internet-based *municipality* **survey** in which many residents can give their views on the energy system
- A **drawn group of residents who advise** or help the *municipality* decide on a societal issue concerning the energy system
- A **referendum**, giving residents a decisive vote on a choice around the energy system on a *municipal* level

The first closed consultation (henceforth named: closed 1) includes the following ordinal response options: definitely, probably, I do not know, probably not, definitely not (originally: zeker, waarschijnlijk wel, weet ik niet, waarschijnlijk niet, zeker niet). These are the same response option the closed consultation got, and therefore these two subsets can be compared. The second closed consultation (henceforth named: closed 2) had a variation on the previously mentioned response option, to some extent it quantifies the attitude towards participation but it remains ordinal: often, regularly, sometimes, never, I do not know (originally: vaak, regelmatig, soms, nooit, weet ik niet).

The indicators are defined as ordinal and are therefore scored, with an equal distance between the indicators, in the software Latent Gold to emulate the correct sequence in the LCCA (Vermunt & Magidson, 2016). To identify the optimal number of classes for each dataset, models ranging from one to ten classes were subsequently estimated making use of Latent Gold.

6.3.2. Determining the number of clusters

For selecting the number of clusters it is important to keep in mind that the more classes incorporated in the model, the better it will fit the data, but also grows towards overfitting. The result is a model which becomes more distinctive to the sample and less generalizable and replicable for the population (Sinha et al., 2021).

As explained in the methodology chapter, see section 3.2.2, there are some key measures for determining the optimal number of classes, the Bayesian Information Criterion (BIC), the p-value (Vuong-Lo-Mendel-Rubin) and the size of the smallest class (Sinha et al., 2021). As it is recommended to not rely on one measure by itself (Lezhnina & Kismihók, 2022), the key measures are presented side-to-side in table 6.2. The information criterion indicates how well a model fits in balancing the complexity of the model against the sample size and is derived from maximum likelihood values. In general, the lowest BIC is seen as the best-fitting model. The Vuong-Lo-Mendel Rubin test tests the probability that a model with certain classes fits the model better than the one-class model (Sinha et al., 2021). Table 6.2 shows that the BIC value is the smallest for the ten classes model for each dataset. The Vuong-Lo-Mendel Rubin test, indicated by its p-value, is significant for each model and therefore these models fit better than the one-class model.

Since we work with quite a large dataset varying from 1400 to 4500 responses and with many indicators (8), it can often lead to a consistent decrease in information criterion (Sinha et al., 2021). This would consistently favour the more complex model but with a small difference in the information criterion. This is also visible in these models in which the model with ten classes is the best model indicated by the BIC, see table 6.2. A solution to this is plotting the information criterion and identifying a point of plateauing, named an elbow plot (Lezhnina & Kismihók, 2022; Sinha et al., 2021) (See figure 6.6). The result is less complex models with 5 or 6 classes, which are easier to understand. The difference between the BIC value of 10 classes compared to the preferred class is small, the p-values are all small and the entropy (representing the class separation) is also more than sufficient. An entropy higher than 0.8 is seen as sufficiently high (Weller et al., 2020).

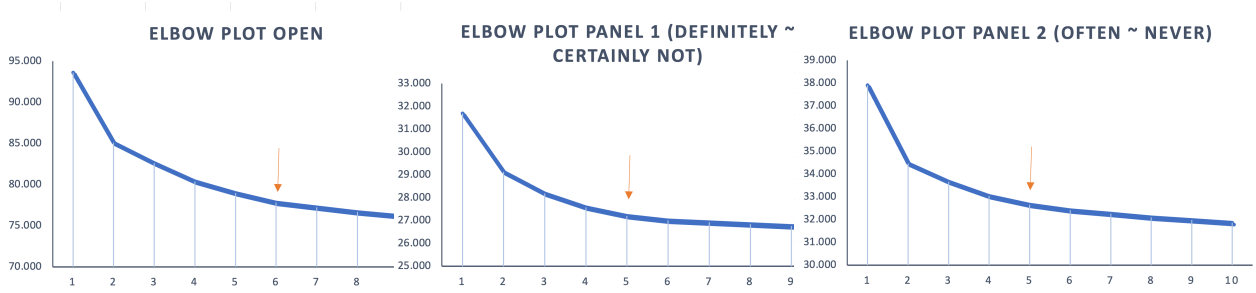
As a final check, the smallest size of the classes is being checked. The smallest size of the clusters is for Closed 1, in which the smallest cluster is representing about 90 respondents. This number is high enough to not be an abnormality in the data (Sinha et al., 2021).

6.3.3. Interpreting the classes

Figures 6.7 to 6.9 represent the output of the three LCCA models. The y-axis represents the different classes and the x-axis represents the question. The colours in the bar plots represent one of the answer

Nr of classes	Open (N = 4585)			Closed 1 (N = 1410)			Closed 2 (N = 1660)		
	BIC	p-value	Entropy	BIC	p-value	Entropy	BIC	p-value	Entropy
1	93625	6.5e-5037	1.000	31698	3.5e-2033	1.000	37909	2.6e-2381	1.000
2	85105	8.1e-3433	0.840	29131	2.6e-1528	0.805	34472	6.9e-1710	0.858
3	82610	2.3e-2970	0.844	28194	3.0e-1342	0.829	33675	1.1e-1550	0.811
4	80391	1.0e-2565	0.851	27579	1.3e-1218	0.835	33049	8.3e-1425	0.833
5	78964	1.7e-2306	0.875	*27205*	*1.2e-1140*	*0.824*	*32665*	*6.5e-1345*	*0.836*
6	*77812*	*2.5e-2098*	*0.881*	27012	1.2e-1096	0.832	32418	1.3e-1290	0.832
7	77231	1.4e-1989	0.879	26928	9.5e-1073	0.837	32260	5.6e-1253	0.808
8	76654	2.5e-1882	0.884	26847	2.0e-1049	0.824	32102	2.3e-1215	0.819
9	76197	4.9e-1796	0.876	26768	1.3e-1026	0.840	31991	2.1e-1186	0.814
10	**75847**	4.3e-1728	0.874	**26760**	7.4e-1017	0.845	**31870**	1.1e-1155	0.832

Table 6.2: Key measures for determining model fit



(a) Open consultation (b) Closed consultation 1 (c) Closed consultation 2

Figure 6.6: Elbow plots containing BIC-values

possibilities, as can be told from the legend. Names for the classes are added to illustrate information from the bar plots. These names are determined by the researcher and therefore may include some form of bias.

As described in section 3.2.2, the clusters were labeled by the researcher to enhance result interpretation, replacing the generic class numbers with descriptive labels that convey relationships. However, it is important to acknowledge that these labels are subject to potential bias and should not be solely relied upon for analysis. The names are based on the proportions of each response option for that cluster.

Clusternames for subset closed 1
Cluster 1, is called the *moderate enthusiasts* because the majority of the response probability (75%) is probably or definitely, the other 25% is a chance for not knowing if the respondent would participate. Due to this doubt and the highest probability for probably this cluster is identified as moderate enthusiasts.
The second class are identified as *the doubting*. This cluster has the most varied probabilities, each response option is represented, however, the I do not know response has the highest probability (50%). Therefore this cluster is identified as the doubting.
The third class are identified as the *enthusiasts*, with a high probability for definitely participating. The remaining probability is filled by probably participating, which is both a positive attitude towards participation.
The fourth class are described as the *low-threshold enthusiasts*. These show a similar pattern as the enthusiasts for low-threshold participation methods, such as a survey and a referendum, which does not cost the participant a lot of time. However, the pattern for the high-threshold methods is similar to the doubting cluster, leaning a bit more to the negative perspective.
The final class is identified as the *less willing*, due to the high probability of definitely not participating (especially, for the high threshold participation methods). The respondents, however, are more enthusiastic (on the level of the doubting) about a survey in which they have participated by responding.

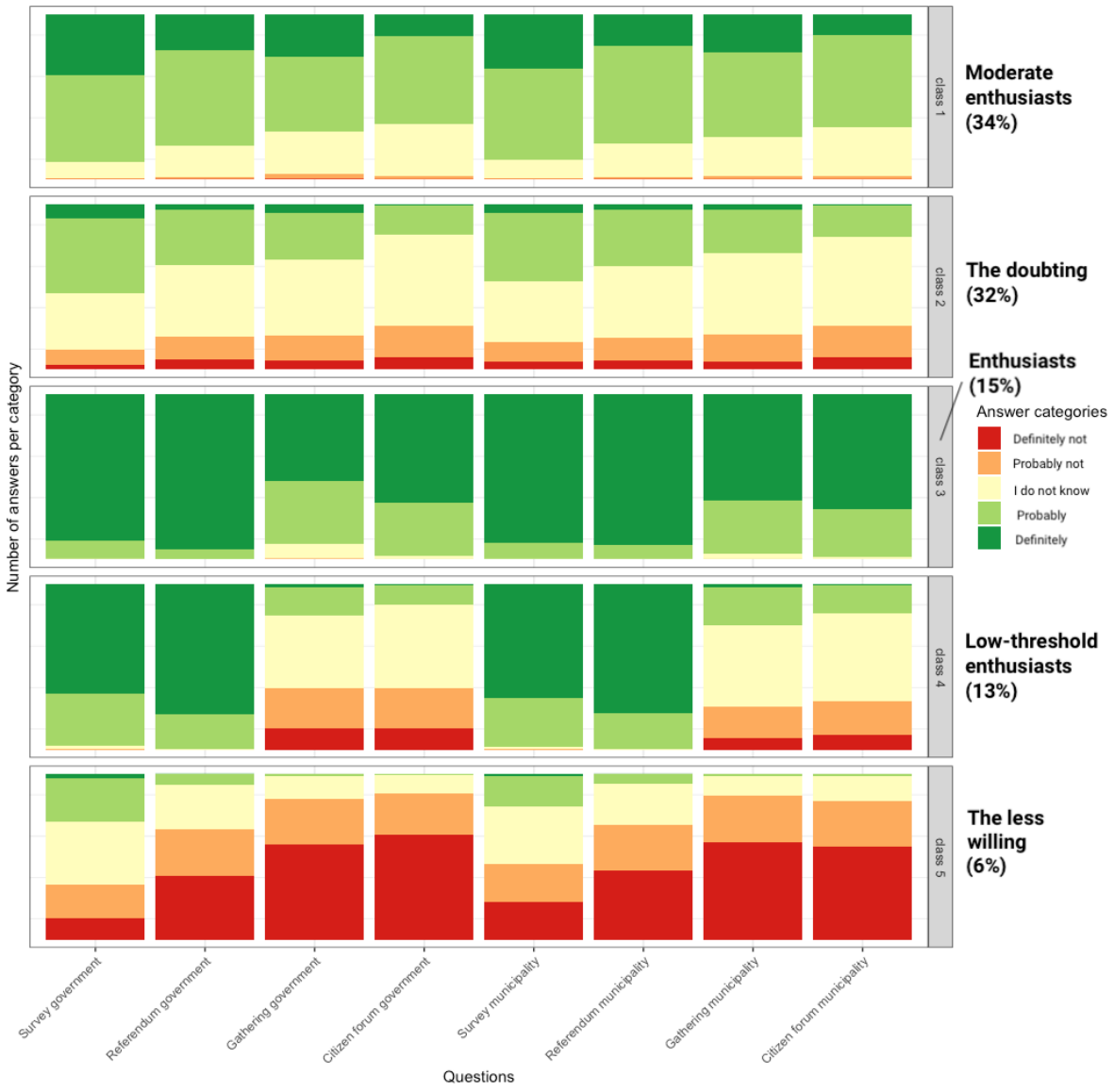


Figure 6.7: 5 classes for subset closed 1 (N=1410)

For the closed (closed 1) consultation with the varying responses between definitely and definitely not (figure 6.7, N=1410), it can be told that overall people are relatively enthusiastic about participation, which is also identified in section 6.2.2. This can be told from classes 1 and 3, which account for almost half of the dataset. Additionally, the less willing class (class 5), which is the only class with a significant amount of 'definitely not' answers, is the smallest class consisting of only 6% of the dataset.

Additionally, a clear preference for low-threshold participation methods is visible. These low-threshold participation methods require less time and effort. This pattern is most apparent for class number 4, the low-threshold enthusiasts, because of the high bars for definitely participating in a survey or a referendum. The respondents in this class are less enthusiastic about participating in a citizens' assembly or a gathering, which requires more effort. This preference is to a lesser extent also shown in all the other classes.

The open consultation can be compared with the first closed consultation since they have the same response options. The differences are the number of respondents (N=4585) and the representation of demographics from the population. The outcomes of the open LCCA can be found in figure 6.8.

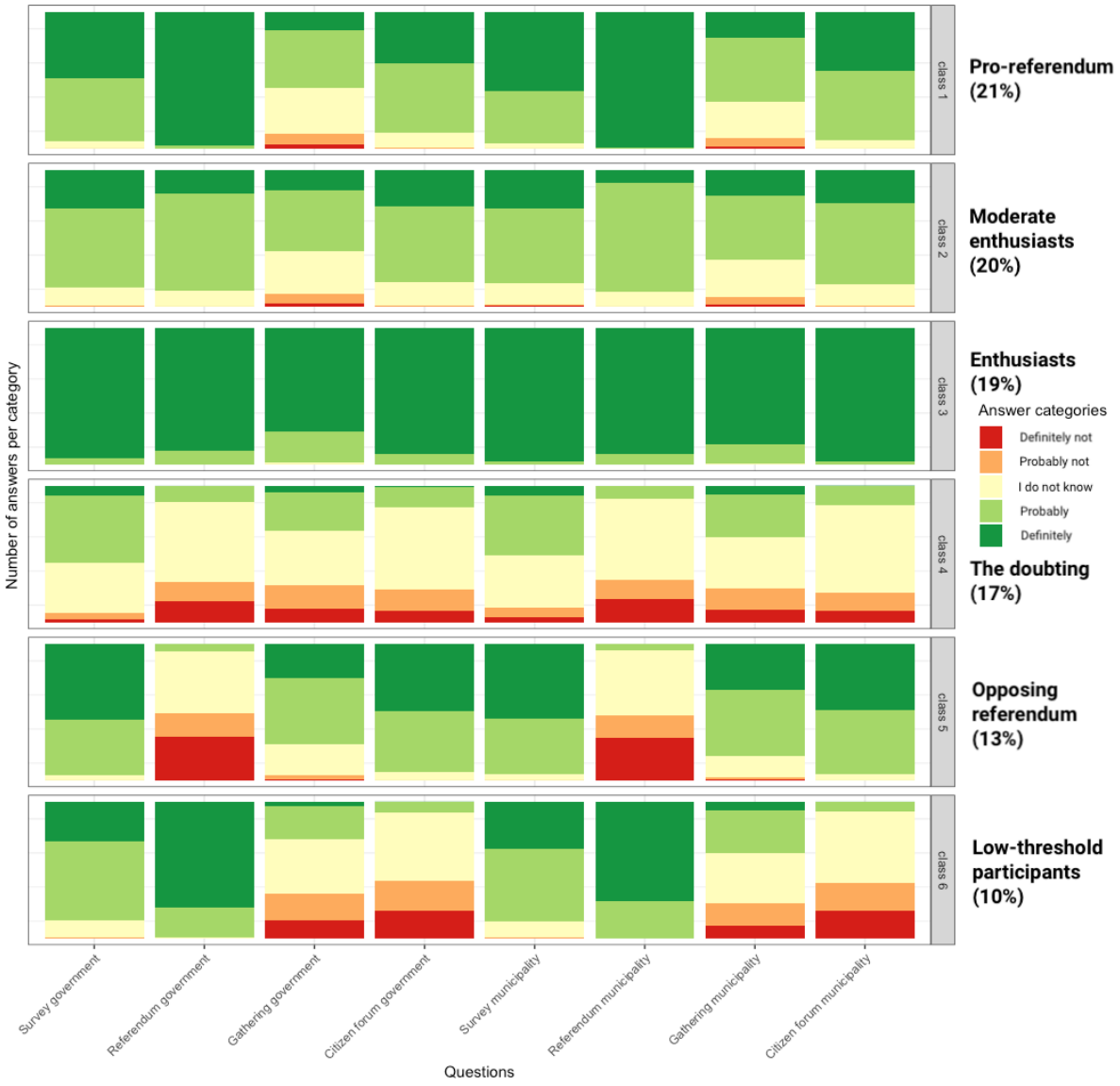


Figure 6.8: 6 classes for subset open (N=4585)

Clusternames for subset open
The cluster names identified for the open consultation are very similar to the first consultation. However, the less willingly are not visible in this cluster and two additional clusters have been added, the pro-referendum and the opposing referendum clusters. The *pro-referendum* cluster has similar probabilities as the moderate enthusiasts, however, with a referendum the respondents would definitely participate (100%). The *opposing referendum* cluster has a similar profile, however, these respondents are more doubtful about the referendum, with a higher probability to not participate (50%).

The open consultation has even more enthusiasts for participation than the closed consultation, which can be told from the amount of red in the figure. This makes sense since they are participating in this survey of their own accord, which is a form of participation by itself, the survey.

One of the biggest classes has a clear preference for the referendum, as almost every individual within the class would definitely participate in a referendum, for both the municipality and the government. Within this same dataset, an opposing group is clearly visible in class 5, although this group is smaller. This group would probably participate in all other participation methods, but is doubtful or sure it will not participate in a (binding) referendum.

Within this dataset, a preference for low-threshold participation methods can be seen for the sixth class, which is the smallest class. In contrast to the closed consultation, this preference is not as apparent for the other classes.

Another striking difference compared to the closed consultation is the lower preference for a gathering on both the municipal level and the governmental level. This is visible for the first class, the third class, the fifth and the sixth class.

The doubting class (class 4) shows a small preference for participation methods with a lower degree of citizen control.

The final LCCA model is for the closed consultation (closed 2) with the response option varying from 'often' to 'never' (N=1660). The outcomes are represented in figure 6.9. The patterns identified in this consultation are quite similar to the other closed consultation. This validates the identified patterns since it is a different group of individuals.

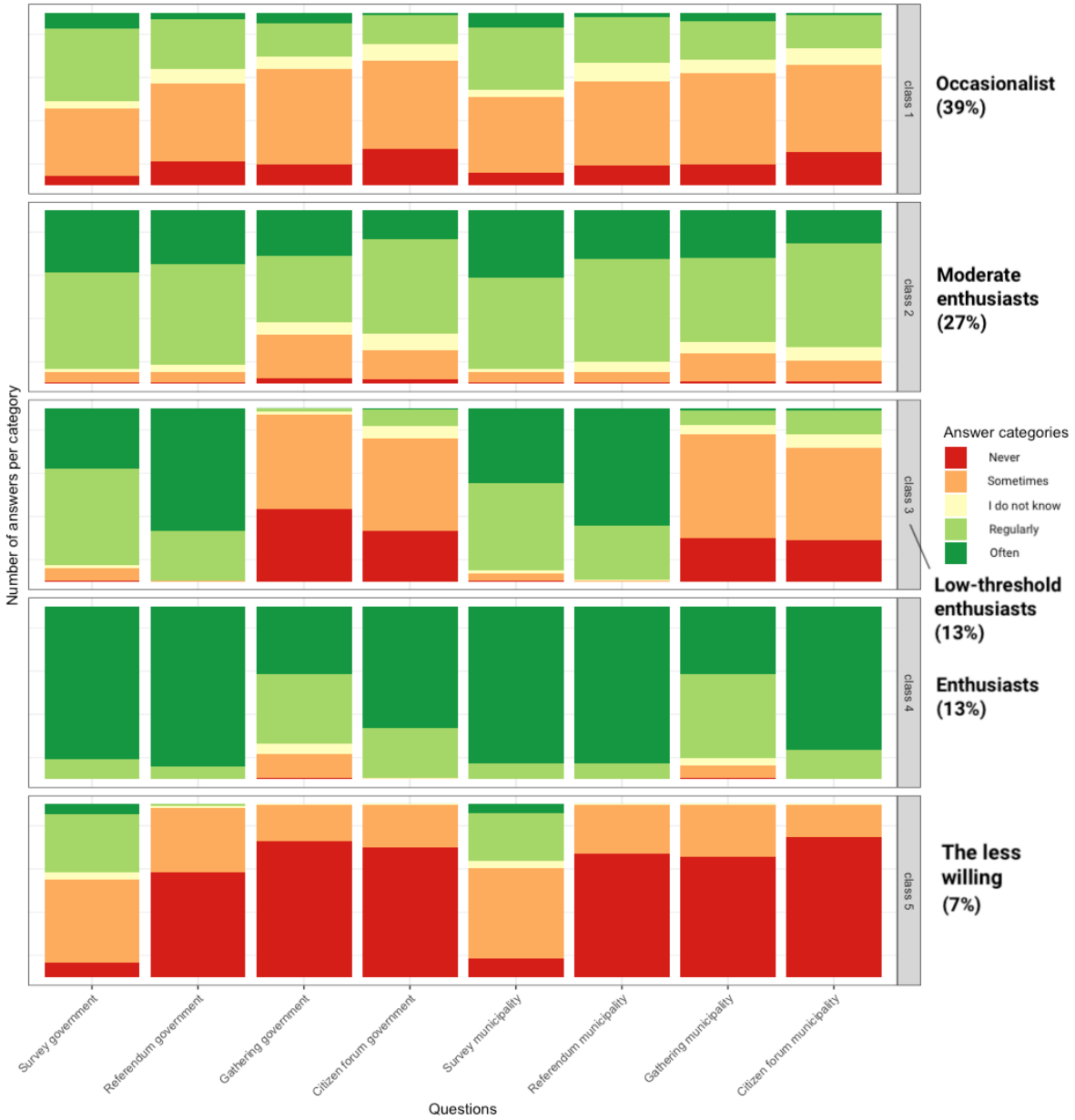


Figure 6.9: 5 classes for subset closed 2 (N=1660)

Clusternames for subset closed 2
The same applies for the cluster names, which are almost identical to the clusternames in subset closed 1. However, the doubting are replaced with occasionalists, as the majority of the probabilities (50%) identifies to sometimes participate.

The majority of the respondents are moderately enthusiastic and would occasionally or a bit more frequently visit a participation moment. The preference for low-threshold participation methods is visible again for especially the third class, but also to a lesser extent for classes 2, 4 and 5. The name for the third class is derived from this. The enthusiasts are less enthusiastic about the participation gathering, which is a similar pattern as for the open consultation. Finally, the less willingly are clearly less pessimistic about a survey. This makes sense since they are participating in similar participation methods, although they do receive a (financial) incentive.

For each LCCA model applies that there is a minimal difference between the municipality and the government. This is not completely unexpected, as we also indicated a minimal difference in the descriptive analysis (see figure 6.2. This finding is in contradiction with the key finding from Perlaviciute and Squintani (2020)'s study, in which citizens want to influence decision-making on local projects, rather than on a national level, due to the impact it has on their direct environment. A difference in these results might be caused due to the fact that it is unclear to the respondent that the governance levels for participation differ. The government does not necessarily associates with participation on the national level. On the other hand, the municipality does imply the local level. Moreover, the respondent's views could be influenced by earlier questions posed during the consultation, some of which may pertain to national-level concerns but have a significant local impact.

6.4. Explanatory relations

The following sections are going to identify some explanatory relations for the patterns identified in the clusters based on the covariates added to the models. The procedure of adding these covariates is shortly discussed in the next section after which some surprising relations are highlighted. These relations will be tested on significance for the population and some illustrative quotes with the reasoning of participants in this cluster will be presented.

6.4.1. Adding covariates

For adding the covariates a 3-step approach is used, see section 3.2.2. Firstly, the classes are identified, then the posteriors are created and finally, the covariates are added. Two separate analyses for covariates are done, one focuses on the demographics of the classes and the second focuses on attitude towards democracy, trusting sources and political preferences. The complete list of covariates added can be found in Appendix F. All the covariates are added at once, after which the new model is determined which provides insights into the probability someone in a cluster is represented by a value of the covariate. Before the insights can be obtained the significance needs to be tested, with a p-value at the 95% significance level. Covariates with a p-value higher than 0.05 are removed and the model is estimated again until all covariates are significant.

The covariates added are related to both the demographic features of the respondents and their attitude towards democracy and the energy transition. These two categories are added separately in order to prevent the covariate categories from taking away explanatory value from each other. The demographic variables added are age, gender, education, housing situation (bought or rental property), financial situation (insufficient to more than enough money), the province a respondent lives in, the municipality size and the working situation (full-time, part-time, retired etc.). The variables added to indicate a respondent's attitude towards democracy and the energy transition were mainly based on statements, to which respondents could reply with the range of strongly agree to strongly disagree. Examples are statements related to doubting climate change, worrying about climate change, the government doing too little to combat climate change, being content with democracy, and understanding the subject. Additionally, the attitude towards trusting different people and media is requested, such as the government or social media. The complete list of covariates added to the models can be found in appendix F.

The same covariates are added to all LCCA models, only the attitude towards voting and on which party respondents are going to vote is not requested in the closed 2 subset and therefore not added as

covariates.

To establish the model with significant covariates, insignificant covariates are to be removed and the model is estimated again. The closed 1 consultation resulted in the removal of the financial situation, the province, the municipality size, the attitude towards voting at the next election and the attitude towards how the government should deal with the advice of citizens compared to experts. For the open consultation, this process resulted in the removal of age, housing situation, the province, the statements regarding doubting climate change, worrying about climate change, the government which should do more about climate change. Trust in family and acquaintances and social media were also excluded. Finally, the closed 2 consultation resulted in the removal of the statements with quick decisions the citizens' opinion can be excluded and the government is doing well with taking action towards climate change. additionally, the trust towards the ministry and the attitude towards how the government should deal with the advice of citizens compared to experts were removed.

The complete results of the analysis can be found in Appendix F. However, a figure functioning as an example of how to interpret the results for the first closed subset, is presented in figure 6.10. The numerical values need to be interpreted as the possibility of someone in that cluster being represented by that specific value. For instance in figure 6.10 the top left number of 0.58 represents a probability of 58% that someone in cluster 1 is male. The assigned number identifies the scoring of this particular characteristic with the same characteristic in the other clusters. The top left score is 1, representing the highest probability for being a male respondent in cluster 1 compared to the other clusters.

6.4.2. Influence of gender to enthusiasm for participation

Considering the probabilities for the gender covariates, it can be told that the probability for a male respondent is highest for the enthusiastic clusters, whereas the opposite is visible for female respondents who have a higher probability to be part of the doubting or the less willing cluster. This is also visible in figure 6.10, in which the enthusiasts receive the highest score for the enthusiasts and the lowest scores for the doubting, the low-threshold enthusiasts and the less willing. The differences for gender in closed 1 are not very big (probabilities around 45%-55%), but the probability for a participant being male is highest in clusters 1 and 3. Which are the (moderate) enthusiasts. The less willing cluster has the highest overall probability (>65%) for the respondent being female. The open consultation has a similar conclusion, although the probability for male respondents is higher due to the fact that more male respondents participated in this consultation. Therefore each cluster has the highest probability for a male respondent (<65%). But the clusters 4 and 6 (the doubting and the low-threshold participants) have the highest probability of a female respondent (around 30%). The second closed consultation substantiates this relation since clusters 4 and 6 (the less willingly and the low-threshold participants) have the highest probability of a female respondent (around 60%)

The demographic characteristics of the open consultation (see 6.1) confirm this pattern as well, since this consultation was open to everyone but the number of male respondents is not representative for the population.

The relation between gender and enthusiasm for participation methods has been tested for statistical significance with an ANOVA test. Because gender is subdivided into three categories, including a non-binary response option, a t-test was not applied. ANOVA compares the variation within a groups on average to the equivalent variation based on group means' variation (Ross & Willson, 2017). The results of the ANOVA test can be found in table 6.3. A significant p-value identifies a statistical difference between the averages of the compared groups (in this case the males, females and the non-binary).

The relation is significant for most of the participation methods, at the 5% significance level. This endorses the relation which became apparent in the cluster analysis by adding covariates, that women are less enthusiastic about participating than men.

For the closed consultations it is observed that the survey results in some insignificant relations, this identifies that the difference between gender in enthusiasm for this method is not significant and does not differ as much as for the other methods. The open consultation results in insignificant relations for the referendum, which identifies that gender does not effect the attitude towards a referendum.

Figure 6.10: Scoring covariates for the classes for subset closed 1 (1 = highest probability, 5 = lowest probability) *vertical scoring instead of horizontal scoring

Demographic	Closed 1		Open		Closed 2	
Participation method	F-statistic	p-value	F-statistic	p-value	F-statistic	p-value
Gov. gathering	11.73	0.000	21.26	0.000	12.50	0.000
Gov. survey	3.72	0.024	3.73	0.024	2.60	0.074*
Gov. citizens' assembly	8.40	0.000	8.59	0.000	10.32	0.000
Gov. referendum	7.11	0.001	1.07	0.342*	3.03	0.049
Mun. gathering	7.09	0.001	10.37	0.000	13.91	0.000
Mun. survey	0.15	0.864*	3.76	0.023	2.68	0.069*
Mun. citizens' assembly	10.08	0.000	4.07	0.017	7.95	0.000
Mun. referendum	4.77	0.009	1.59	0.204*	2.83	0.060*

Table 6.3: Significance with ANOVA test for gender and attitude towards participation. *=non-significant at 5% significance level

6.4.3. Elderly and retired people more often represented in the low-threshold clusters

The covariates for both age and occupation identify a relation between enthusiasm for low-threshold methods and elderly (older than 65) and retired people. For instance, in the first closed consultation, a difference is observable between the oldest segment and the youngest segment, especially in cluster 4 (the low-threshold enthusiasts). Figure 6.10 substantiates this with the scoring of 1 of 5. It can be told that the probability of being younger than 35 years old is the smallest for this cluster compared to the other clusters (<10%) and the probability of being older than 65 is the highest for this cluster compared to the other clusters (>30%). This illustrates that older people have a higher probability to be part of cluster 4, the low-threshold enthusiasts, compared to the other clusters. The reverse applies to the segment younger than 35. This is confirmed by the second closed consultation as well. Additionally, the probability of being retired is for each consultation highest in the low-threshold cluster. This is logical since these groups exhibit overlap.

The statistical test applied to test the significance of this relation is Spearman's rho. This statistic is applied to measure the relationship between two ordinal variables and identifies both strength and direction of the presumed relation (Prion & Haerling, 2014). The Spearman's rho returns a value between 1 and -1, the closer the number comes to 1, the stronger the relationship. A positive correlation identifies that the variables move in the same direction and the negative correlation identifies contradicting directions (Prion & Haerling, 2014). The p-value indicates the significance of this relation.

The relations identified between the age of a respondent and the attitude towards participation methods are weak between 0 and ±20 but do identify a relation between the age and low-threshold methods, especially the first consultation. The ordinal data is coded from young to old and from not enthusiastic towards enthusiasts, a positive relation identifies a relation moving in the same direction, so for an increasing age an increase in enthusiasm is expected and the other way around. A positive relation is observed for both the survey and the referendum which substantiates that older people prefer low-threshold methods.

The open consultation shows negligible relations, which makes sense since the covariate was not included in the model due to insignificance. The second closed consultation identifies different relations, a negative relation for the high-threshold participation methods. The preference for low-threshold methods is not significant, but disapproval of high-threshold methods is indicated for the older segment.

Finally, some quotes from respondents on the question of how they would like to participate, provide an insight into the reasoning for being more enthusiastic about low-threshold methods. This is only an illustration of some of these thoughts, this is not representative or scientifically based.

- "I am too old for meetings, but I have ideas to spare, but the Party for the Animals articulates all my ideas."
- "I once attended an online education on energy transition. As such, asking questions via chat is a very good option. I found that very enjoyable to do."
- "Pointless question in a political system where lobbyists and interest groups have far too great an influence"

Demographic	Closed 1		Open		Closed 2	
Participation method	Rho	p-value	Rho	p-value	Rho	p-value
Gov. gathering	-0.17	0.000	0.08	0.000	-0.20	0.000
Gov. survey	0.20	0.000	0.03	0.075*	-0.02	0.337*
Gov. citizens' assembly	-0.07	0.010	-0.09	0.000	-0.13	0.000
Gov. referendum	0.14	0.000	-0.05	0.001	0.00	0.985*
Mun. gathering	-0.03	0.317*	0.09	0.000	-0.11	0.000
Mun. survey	0.19	0.000	0.05	0.002	-0.01	0.767*
Mun. citizens' assembly	-0.03	0.344*	-0.07	0.000	-0.10	0.000
Mun. referendum	0.14	0.000	-0.04	0.004	-0.02	0.520*

Table 6.4: Significance of relation between elderly and attitude towards participation based on Spearman's rho. *=non-significant at 5% significance level

Demographic	Closed 1		Open		Closed 2	
Participation method	Rho	p-value	Rho	p-value	Rho	p-value
Gov. gathering	0.08	0.002	0.01	0.452*	0.10	0.000
Gov. survey	0.10	0.000	0.04	0.006	0.06	0.025
Gov. citizens' assembly	0.15	0.000	0.10	0.000	0.11	0.000
Gov. referendum	0.07	0.005	-0.01	0.631*	0.05	0.050*
Mun. gathering	0.06	0.020	0.02	0.241*	0.08	0.002
Mun. survey	0.08	0.003	0.02	0.124*	0.05	0.051*
Mun. citizens' assembly	0.13	0.000	0.09	0.000	0.09	0.000
Mun. referendum	0.08	0.004	-0.01	0.609*	0.05	0.063*

Table 6.5: Significance of relation between education and attitude towards participation based on Spearman's rho. *=non-significant at 5% significance level

- "Through an existing or yet to be established energy cooperative, which will have at least as much say as the commercial energy companies."
- "My health won't allow that."
- "Public scientific discussions (also in writing)."

6.4.4. Education and enthusiasm for participation

For the closed consultations a relation between education and enthusiasm for participation can be distinguished. The differences are not very big, but the probability for high education is the highest for enthusiastic classes compared to the other classes and the probability for low education is highest for the doubting and the less willing for both consultations. This can also be told from the visualisation in figure 6.10, in which these classes receive scores 1 and 2.

Education is not a significant covariate for the open consultation, but the demographic characteristics of the open consultation (see 6.1) endorse this relation, with the high percentage of highly educated people participating in this consultation.

The relation between education and enthusiasm for participation methods is again tested with a Spearman's rho, because of the two ordinal variables, education (coded from low to high) and attitude towards participation (coded from definitely not to definitely) (see table 6.5).

The results of this test identify a relation, but a weak relation. This is a positive relation which substantiates the insights of higher educated people being more enthusiastic about participation. This relation is significant for closed 1 and for most values in closed 2. The relation for the open consultation are mostly negligible and mostly not significant, which is logical due to the insignificant covariate.

The highest Spearman's rho is visible for the citizens' assembly, even for the open consultation which is also a significant relation. This identifies the strongest relation for education and the attitude towards a citizens' assembly, in which higher educated people are more enthusiastic for this participation method and lower educated people are less enthusiastic about this method.

6.4.5. Attitude towards a referendum and municipality size

In the clustering for the open consultation two different views on the referendum emerge (see figure 6.8). The covariate analysis reveals that respondents from larger municipalities have the highest probability of holding different viewpoints on the referendum. Additionally, the respondents of the opposing referendum cluster have the highest probability of strongly disagreeing with citizens making the most important decisions, which can be their reasoning for opposing.

The relation between a big municipality and statements regarding a referendum is hard to test, since both opposing and supporting respondents are part of the same group (the big municipality). A Spearman's rho or ANOVA therefore do not provide the insights substantiating this relation. Visualisation does provide some insights in this relation.

The visualization (see figure 6.11) reveals that there is no prominent correlation between the size of the municipality and attitudes towards a referendum (after normalization for comparison). This is evident from the similar curves observed in the plotted lines.

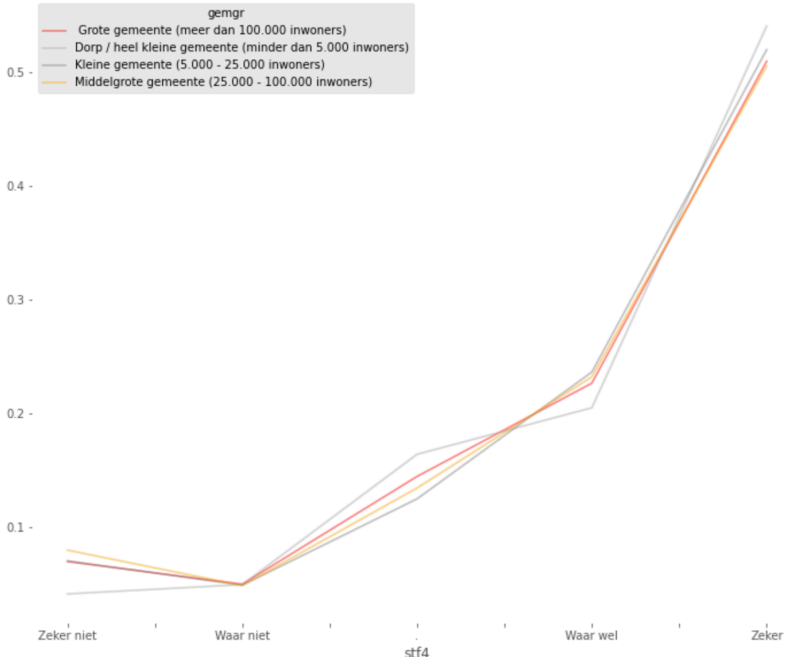


Figure 6.11: Relation between municipality size and attitude towards a referendum for the open consultation

6.4.6. Financial resources and enthusiasm for low-threshold methods

Another relation visible for the closed consultations is the enthusiasm for low-threshold participation methods and the financial state of a respondent. For instance in the closed 2 consultation, where individuals with limited financial resources have the highest probability to be part of the low-threshold cluster. Additionally, people in clusters 4 and 5, the low-threshold enthusiasts and the less willing have the highest probability of living in a rental house (>45%).

To identify a relationship between someone's financial state and enthusiasm for low-threshold participation methods, the relation of a survey and a referendum (low-threshold methods) with the financial state of a respondent is compared with this relation with a forum and a gathering making use of a Spearman's rho test.

Examining the results, it becomes apparent that there are predominantly positive rho values, indicating a positive correlation between financial status and attitudes towards participation. As the financial position improves, there is an increased preference for participation. However, the relations in general are very weak (<0.12). A clear difference does not become visible between the low-threshold and the high-threshold participation methods.

Demographic	Closed 1		Open		Closed 2	
Participation method	Rho	p-value	Rho	p-value	Rho	p-value
Gov. gathering	0.11	0.000	0.01	0.389*	0.12	0.000
Gov. survey	0.09	0.001	0.04	0.007*	0.07	0.007
Gov. citizens' assembly	0.04	0.176*	0.10	0.000	0.06	0.010
Gov. referendum	0.02	0.419*	0.01	0.658*	0.01	0.773*
Mun. gathering	0.12	0.000	0.00	0.788*	0.09	0.001
Mun. survey	0.06	0.033	0.02	0.119*	0.07	0.006
Mun. citizens' assembly	0.05	0.075*	0.08	0.000	0.08	0.002
Mun. referendum	0.01	0.663*	0.00	0.807*	-0.03	0.217*

Table 6.6: Significance of relation between financial state and attitude towards participation based on Spearman's rho. *=non-significant at 5% significance level

6.4.7. Both enthusiasts and less willing are concerned about climate change

As expected, the enthusiastic respondents in closed 1 (cluster 3) for participation, have the highest probability compared with the other choice option of completely agreeing with the question of being concerned about climate change. Clusters 1 and 2 also have the highest probability to agree with begin concerned about climate change. On the contrary, the reverse relationship does not hold true. Even the less willing cluster has the highest probability of agreement with concerns about climate change compared to the other choice options. This is in line with the results from the descriptive analysis, which identified that the majority of respondents are concerned about climate change (see figure 6.3. Visualisation 6.10 identifies that this relation is not as strong for the less willing compared to the enthusiasts, however, it is still the highest probability from all the choice options identifying that the majority agrees with being concerned about climate change.

The probability of having doubts about climate change is highest for the doubtful and the low-threshold and the less willing. A partially different impression is presented in closed 2, in which the probability to be doubting climate change is highest in clusters 2 and 4, the enthusiasts (although this is a different question). The less willing have the highest probability of not doubting climate change. The probability of being worried about climate change is also the highest for less willing.

In both consultations, the enthusiasts have the highest probability of strongly agreeing with being able to participate in politics, while the other clusters are more doubtful. The enthusiasts think that citizens should make the most important decisions, whereas the less willing disagree with this.

For this particular insight, there is no significant relationship to be tested, as there is no clear association apparent but an empirical insight. Concerns about climate change appear to be similar among individuals with different attitudes towards participation.

To provide additional insights behind the reasoning of respondents who are concerned about climate change, but are enthusiastic or less willing about participation methods, some quotes are presented.

People who are concerned about climate change and want to participate have provided the following responses.

- "Ideas among the population and within companies could be asked i a more creative manner. I am sure there are people with great ideas that are not being heard."
- "I would like to see a monthly press conference, similar to covid press conferences, where the government explains what they are doing about climate change and what the progress is in reducing CO2 emissions. We are in an emergency situation, emphasize that. By doing so, you also create support."
- "Given the serious issue, keep informing and listen to one another"
- "An undefined enquiry. What you don't ask, you don't get an answer to."

The reasoning for people who are concerned about climate change but are less willing about participation is:

- ”I would like to engage directly with Minister Jetten. And if that is not possible, with regional administrators.”
- ”Inform in writing if plans are going to take place in someone’s direct environment”
- ”Anything online is welcome if they can use my help...”
- ”If they would actually listen to it”
- ”No, just make a good law that nature and environment must be compulsorily improved through solar and wind farms, then the whole circus will be unnecessary.”

6.4.8. Trust in the government

Other covariates included in the analysis are what sources of information the respondent trusts. For the first closed consultation, the highest probability is to trust experts and family and acquaintances in all clusters. The trust in politicians and the government is a bit more lacking overall. The government, the ministries and the chamber members have the highest probability of a little trust in classes 1 and 2 (the moderate enthusiasts and the doubtful). Classes 3, 4 and 5 (the enthusiasts, the low-threshold enthusiasts and the less willing) have the highest probability of almost no trust. This is also visualised in figure 6.10. In the second closed consultation, similar relations are observed, since the enthusiasts and the low-threshold enthusiasts have the lowest trust in the government. The trust in the government and the politicians is higher for open consultation. Trust in social media is very low in all clusters for open consultation. This difference in trust for the open and closed consultation is also apparent in figure 6.4.

The most interesting insight from these covariates is that the enthusiasts for participation have a high probability of not trusting the government. In closed 1 both the enthusiasts and the less willing do not fully trust the government and its politicians. Their different attitudes towards participation can be explained by the enthusiasts wanting to share their voices and the less willing thinking nothing will be done with the input, which will only decrease the trust even more.

Below, several quotes are presented which indicate this reasoning. First the respondents with low trust in the government and who are less willing about participation:

- ”In the current situation of what I call the dictatorship of ineptitude, I do not see any chance for change or any possibility of being able to make a useful contribution for me.”
- ”If they would actually listen to it”

Then, the respondents with low trust in the government but are enthusiastic about participation:

- ”They could have citizens sign up for speaking time with concerned politicians, who can look at it from different angles. For example, getting some people who live next to wind turbines to speak about what it means to them, spending a night with people who live next to wind turbines.”
- ”Provide more information on why the government is making certain choices the way they are making them now, for example, continuing to invest in fossil industries.”

6.4.9. Other insights

Finally, there are some other insights which only became apparent for one of the models and therefore are not separately discussed, but shortly mentioned in this section.

The moderately big municipality has the highest probability for enthusiasts, whereas a small municipality has the highest probability for occasionalists in the second closed consultation. Additionally, the full-time employed people have the highest probability of being part of the enthusiasts and the moderate enthusiasts.

For the open consultation were almost all statements regarding climate change insignificant as covariates, this may be due to a very similar view on this topic by the respondents. Additionally, the respondents from the open consultation perceive themselves as being able to participate and understand the issues, since all the clusters have the highest probability to agree with their ability to participate in politics and understand the issues. This is not as clear for the closed consultations.

A reason for the doubtful and the less willing to have this attitude towards participation is because they have the highest probability to disagree or be neutral with their ability to participate in politics or understand political topics in the first closed consultation. The enthusiastic have the highest probability to agree with both, and the low-threshold enthusiasts do not really see themselves participating in politics but do understand the topics. Additionally, the low-threshold enthusiasts in this consultation have the highest probability to disagree with skipping citizen involvement with urgent decisions. They want to be involved in the decision-making, but it should not take too much time.

The low-threshold enthusiasts in closed 2 have a very high probability to agree with understanding political issues, although they do not want to often participate in time-consuming participation methods. Finally, the occasionalists and less willing are neutrally satisfied with democracy. But, they also do not really agree with the most important decisions being made by citizens.

6.5. Conclusion

This chapter identifies various insights about citizens' attitudes towards participation based on citizens' characteristics. The similarities in the clusters between the different models with different groups of respondents identify relations which will probably hold for the population as well. Follow-up research on each of these relationships will have to reveal this.

The question to be answered in the chapter is: *What participation methods do citizen segments in the Netherlands prefer for the energy transition based on demographic profiles and governance level?*

The first and foremost conclusion is that the differences between the national government level and the municipal governance level are minimal. This is different from what the theory implies, that citizens rather participate in micro-level decision-making processes that touch upon their direct living environment than macro-level decision-making (see chapter 5.3.3).

The three different models resulted in similar clustering, in which there were enthusiasts, moderate enthusiasts, low-threshold enthusiasts, doubting and less willingly for participation. The less willing were not represented in the open consultation, but pro-referendum and opposing referendum were added. The similarities highlight and reinforce the outcomes because the respondents are different individuals.

The majority of the respondents are enthusiastic about participation, as they indicate that they would probably or definitely participate in each participation method. The group of less willingly for participation is small (below 10%) in each model. The consultations do indicate a small preference for low-threshold participation methods, which are the methods less time-consuming for the participant such as the survey and the referendum. This relation is the strongest for retired and older people (older than 65 years old).

There is a difference in enthusiasm for participation methods between men and women. The males have a higher probability to be part of the enthusiastic clusters, whereas women have a higher probability to be part of the doubting or the less willing clusters.

The demographics of the open consultation were not representative of the population, however, the differences do provide insights about the participation behaviour indicated in the closed consultations. For instance, more men participated in the closed consultation which substantiates the conclusion that men are probably more enthusiastic about participation in the energy transition than women. Additionally, a relation between education and participation is indicated in the closed consultation, the higher the education the more enthusiastic people are to participate. This is also substantiated by the high number of highly educated people participating in the open consultation.

Overall, in the open consultation, people are more enthusiastic about participation than in the closed consultation, which makes sense as they are already participating by filling in the survey. A difference is that the open consultation shows some polarisation surrounding the referendum, which is not visible in the representative closed consultation.

Another striking insight from the closed consultations is that both less willing group and the enthusiasts are concerned about climate change and have low trust in the government. Although their perceptions on these issues is similar, their attitude towards participation is differing.

7

Integration of citizens' preferences with central and decentral participation

This chapter compares the results in chapter 3 with the preferences of citizen segments for participation and the insights in central and decentral participation from chapters 1 and 2. Based on interviews with policymakers and citizen representatives challenges and opportunities for integrating these preferences with central and decentral participation will be identified. The question to be answered is: *What are challenges and opportunities for integrating citizens' preferences for participation with central and decentral participation processes in the energy transition in the Netherlands?*

7.1. Comparison of results with reality

This section addresses how the results of the quantitative analysis from chapter 6 relate to participation on central and decentral levels in practice. It is important to consider that the following insights are general conclusions, not every individual in a identified citizen group will think the same.

7.1.1. Enthusiasm for participation

One of the main insights from the data analysis is the overall enthusiasm for participation since the group of less willing is clearly the smallest in each dataset. This result did not surprise many of the interviewees (Interviews 2/3/4/6, personal communication, June 7/8/9, 2023). This is in contrast with previous research, which identified that the majority of Dutch citizens are less motivated to participate in general (Dreijerink et al., 2008). The reasons mentioned for this overall enthusiasm are that people appreciate being involved in interventions in their environment. Since almost everyone has some engagement with their direct environment (Interview 6, personal communication, June 9, 2023). Another driver can be that people want to learn something about the topics (Interview 5, personal communication, June 9, 2023). Additionally, people get enthusiastic about participation while participating (Interview 2, personal communication, June 7, 2023), and since the PVE is a form of participation the enthusiasm might increase due to the gained insights in participation. Additionally, people are in general enthusiastic to share their opinions, but not everyone wants to take a proactive stance, and rather be facilitated with a participation process (Interview 3, personal communication, June 7, 2023). In contrast, enthusiastic people may drop out due to the lengthiness of the participation process (Interview 3, personal communication, June 7, 2023).

There are also some considerations about this result. For instance, no information is available for the people not included in the survey. The non-respondents might be less enthusiastic about participation since they also did not want to participate in this survey. The respondents are already participating in the energy transition and therefore might be more enthusiastic (Interview 7, personal communication, June 14, 2023). Another consideration is the difference in the intention of respondents and the way they act upon them. There is a difference between being open to something and actually showing up (Interview 4, personal communication, June 8, 2023). There is a gap between wanting to do something and being able to do something, caused by for instance a lack of time, knowledge and financial resources (Interview 1, personal communication, June 6, 2023).

7.1.2. No differences between central and decentral partipation

Another insight from the data analysis was the absence of differences between the appreciation of participation at the national governmental level and the municipal governmental level. Most of the interviewees were not surprised with this result (Interviews 1/2/3/4/6, personal communication, June 6/7/8/9, 2023). An explanation might be that citizens do not see the difference between the different levels, they see one government, which includes all governmental levels (Interviews 2/3, personal communication, June 7, 2023). Citizens are not aware of the different responsibilities of different governments and the problems at municipal and national levels are comparable for citizens (Interview 3/4, personal communication, June 7/8, 2023). A difference might become visible between participation on the municipal level and the neighbourhood level, as participation on the neighbourhood level has a significant influence on the direct living environment with for instance natural gas-free neighbourhoods (Interview 4, personal communication, June 8, 2023). Participation becomes more important for citizens when it touches upon the direct living environment and might involve direct consequences for the environment (Interview 6, personal communication, June 9, 2023). This relates to the earlier mentioned NIMBY effect (Dreijerink et al., 2008). Consequently, the similarities in responses can also be interpreted as a compliment for national participation, because with national participation you approach residents from a certain distance (Interview 4, personal communication, June 9, 2023).

7.1.3. Influence of gender

A difference between the enthusiasm for participation became apparent for gender. The different datasets showed that male respondents were on average more enthusiastic about participation than female respondents. Experience identifies that in general, more older men appear in participation sessions or in energy cooperations (Interview 2/5, personal communication, June 7/9, 2023). An explanation for this emerging pattern is the higher affinity of men with technical problems in general (Interview 2/3/4/5, personal communication, June 7/8/9, 2023). This statement is reinforced by the theory that to participate, people must be convinced that they can add (knowledge) value to the problem (Bryson, 2007). The results are presumed to be reversed on topics around health and family (Interview 3, personal communication, June 7, 2023).

7.1.4. Older people more often represented in the low threshold class

Another interesting insight from the data analysis is that older and retired people are more often represented in the low threshold classes. This insight resulted in different responses among the interviewees. Some were surprised since older retired men are sometimes overrepresented at participation gatherings (Interview 2/3/4/5/6, personal communication, June 7/8/9, 2023), because they have more spare time or own a house. Paradies et al. (2021) and Tonkens and Verhoeven (2019) also identify a pattern of middle-aged, higher-educated, native men being overrepresented in participation processes.

Grounds for older people to be more enthusiastic for low threshold participation methods can be that they want to be facilitated (Interview 1, personal communication, June 6, 2023) or because they feel less affection for the topic of participation, the energy system in 2050 (Interview 3, personal communication, June 7, 2023).

7.1.5. Similarities between enthusiasts and less willing

Both the enthusiasts and less willing are concerned about climate change but have low confidence in the government and politicians. This can be seen as an indicator of the overall low trust in the government within different segments of the population and does not necessarily has to be related to the energy transition (Interview 2/3/4/7, personal communication, June 7/8/14, 2023). The enthusiasts believe they can do better and therefore want to participate to express their views, and the less willingly at some point may have been the enthusiast but now are disengaged due to a lack of response to their input (Interview 2/6, personal communication, June 7/9, 2023).

The less willingly might be disengaged citizens, but the attitude also shows some level of engagement (Interview 2, personal communication, June 7, 2023). The less willingly might also be driven by the short amount of time available for the energy transition, resulting in a positive attitude towards doing something immediately and not having the time for lengthy participation processes (Interview 5, personal communication, June 9, 2023).

7.2. Challenges for integration of preferences with central and decentral participation

Challenges and bottlenecks for the integration of citizens' preferences for participation and central and decentral citizen participation have been identified by applying coding to the interviews to subsequently cluster these codes into categories. The challenges and bottlenecks have been identified because they were mentioned multiple times during the interviews. They can be divided into three broader areas consisting of different categories. The indicated areas are the government, the citizen and the system, which are subdivided into challenges and bottlenecks for these areas. A systemic overview is visualised in figure 7.1. The number on the right top indicates how often concepts related to this challenge were mentioned by the interviewees. The different areas are also connected with each other, but first, the areas will be addressed separately. The interrelations between challenges are based on the interpretation of the researcher if not indicated otherwise.

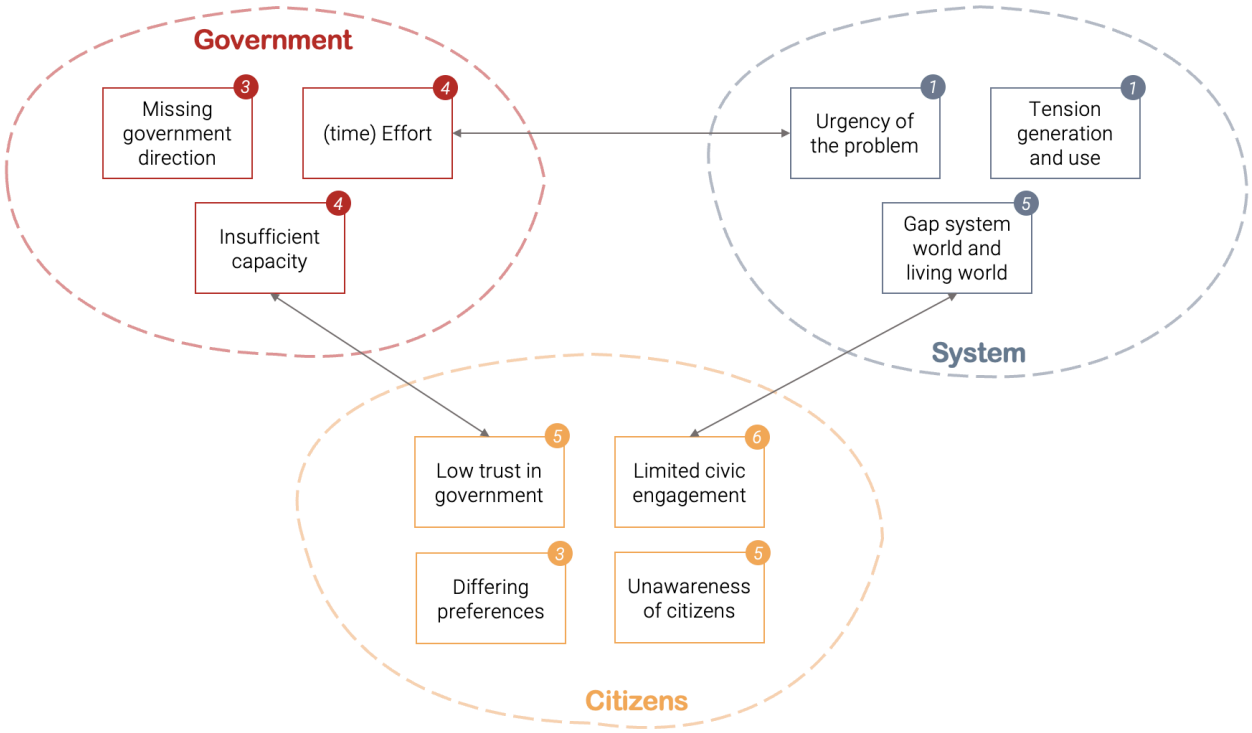


Figure 7.1: Challenges for integration of citizens' preferences and central and decentral participation based on interviews

7.2.1. Area 1: Government

Challenges in the first area are related to government structures. The first challenge is a *missing government direction*, in which the government fails to take the lead in the organization but is focused on content-related procedural steps of the participation process (Interview 3, personal communication, June 7, 2023). Government direction can be established through agreements on the quality of participation. These agreements may encompass aspects such as administrative commitment and rights or resources fostering a level playing field between citizens and the government (Bouma et al., 2023). The missing government direction is a consequence of a lacking decisiveness of administrators. In order to streamline participation processes and avoid unnecessary delays, administrators must reach a point where decisions are made based on citizens' inputs, enabling progress to the next phase (Interview 5, personal communication, June 9, 2023). It is essential to communicate this decision clearly and adhere to it consistently. Furthermore, numerous aspects are important in the residents' living environment, leading to various government entities competing for citizens' participation time (Interview 2, personal communication, June 7, 2023). As a result of this competition for citizens' time, there is a lack of interest

from the public, as they may feel unsure about where to direct their attention.

The second challenge is the *insufficient capacity* of the authorities for both employees and finances. A well-organized participation process requires both human and financial efforts from the government in charge, the lacking capacity is challenging good participation practices. Especially the shortage of competent employees results in a missing connection with the citizen and therefore the community. Another challenge is that sometimes the employees carrying out participation processes in the energy transition are technically and theoretically skilled but have less of an ability to connect with people (Interview 6, personal communication, June 9, 2023).

Finally, the time effort required for good participation is a bottleneck (Interview 4/5/6, personal communication, June 8/9, 2023). The time pressure related to the energy, the mentality of 'we need to act now', is influencing this challenge as well. It is thought that we do not have time for long participation processes, at the expense of diligence (Interview 6, personal communication, June 9, 2023). The time effort is strongly related to the capacity bottleneck, if the capacity increases the effort becomes more allowable.

7.2.2. Area 2: Citizens

Challenges in the second area are related to citizens' attitudes. One challenge is the *low trust in the government*, which is a broader issue than just the energy transition (CBS, 2023). One of the causes is the lack of clarity and transparency on reasonable choices without any policy changes impacting these choices in the coming years (Interview 4, personal communication, June 8, 2023). This is also related to the inadequate provision of information, which is a prerequisite for good participation (Arnstein, 1969; Dreijerink et al., 2008; Rowe & Frewer, 2000). Another cause for this low trust is the feeling of injustice, in which residents suppose their interests are not adequately considered in lacking participation processes or no participation at all (Interview 3, personal communication, June 7, 2023). Eventually, this low trust is resulting in an overflow of expressions of discontent during participation processes, distracting from the goal for participation (Interview 2, personal communication, June 7, 2023).

The next challenge in the citizen area is the *narrow civic engagement*, as a result of difficulties with attracting the entire society, especially 'the silent middle' (Interview 2/5, personal communication, June 7/9, 2023). The silent middle is most often described in theories regarding polarization, as the group of people in the middle of the poles that do not take sides, it is a diverse group of people who are not guided by the statements of the pushers (Van De Wijngaert, 2022). In the context of participation, the silent middle comprises individuals who feel less emotionally connected to a specific topic, thus refraining from expressing their opinions. Nevertheless, their perspectives can be valuable in enriching participatory discussions by providing alternative viewpoints beyond the polarizing stances of the advocates and supporters. Furthermore, every participation method has its limitations that may exclude certain citizens, such as the timing of participation during the day (Interview 1, personal communication, June 6, 2023). Daytime participation may hinder those who have work commitments, while evening participation may pose challenges for parents who need to arrange for babysitters.

Another challenge is the *differing preferences* of citizens, which is strongly related to the context the citizens live in (Interview 1/7, personal communication, June 6/14, 2023). 'The citizen' in general does not exist, citizens are a diverse group influenced by different factors in their environment and background (Bouma et al., 2023). Mansuri et al. (2004) identifies that collective action is contextually embedded in structures of culture, power and politics influencing the trust and norms of that specific population. For citizen participation, it therefore is important to consider the characteristics of a individual or a group of individuals, since the rich for instance may have better access to internal and external networks compared to the poor (Mansuri et al., 2004).

Finally, citizens do not fully *realise their own needs* in different trade-offs (Interview 2/5, personal communication, June 7/9, 2023). Particularly when discussing a topic unrelated to their daily interests, an uninformed citizen might struggle to grasp the breadth of the subject they are discussing. Without adequate information, it becomes challenging for citizens to comprehend the full scope and implications for their personal circumstances of the topic at hand. Sometimes this is caused by not being fully informed about the room for voicing their opinions (Interview 4, personal communication, June 8, 2023).

7.2.3. Area 3: The political system

The final area for the challenges regarding the integration of citizens' preferences and participation are challenges related to the political system surrounding the energy transition. For instance, the *urgency*

of the problem (Interview 5, personal communication, June 9, 2023). To limit climate change the energy transition needs to move fast, which adds extra time pressure on the projects initiated. The desire for speedy progress also places pressure on the authorities to implement efficient participation practices. However, opting for shorter and less qualitative participation processes may ultimately lead to longer processes due to legal proceedings (Visser et al., 2019).

There is a *tension between the generation and use* of renewable energy, especially on a geographical level (Interview 7, personal communication, June 14, 2023). For example, a city may have a significant energy demand but lacks the necessary space for installing renewable energy generators, such as wind parks and solar parks. Consequently, these renewable energy installations need to be located in rural areas, which can impose negative consequences on the citizens living there. It results in a skewed cost-benefit distribution.

Finally, there is a *gap between the system world of the administrators and the living world of the citizens*, the difference between how government operates and how people live. Despite a city council being democratically elected, for example, this does not mean that what they decide actually reflects what a neighbourhood desires (Interview 4, personal communication, June 8, 2023). The interaction of authorities with the implications of decisions in practice is not always sufficient (Interview 6, personal communication, June 9, 2023). The gap between the system world and the living world serves as a visual representation of the disconnect between the government and the citizens. Additionally, it leads to the government receiving viewpoints that are unrelated to the subject of participation, because it is not sufficiently connected to the citizen's living environment (Focus group, personal communication, July 6, 2023).

7.2.4. Interrelations between the areas

The arrows between the different areas indicate the interrelations of these challenges. For instance, the challenge faced by administrators is the time and effort required for effective participation, which can often be in conflict with the urgency of the problems that need to be addressed swiftly. Additionally, the lacking capacity at governmental institutions can contribute to a lack of confidence in the government. When participatory sessions are poorly coordinated, citizens may become dissatisfied, especially if the outcomes of those sessions are not effectively acted upon or incorporated into decision-making processes. Finally, the gap between the system world and the living world can result in limited civic engagement. For instance, the topics being discussed do not match what the resident wants to discuss, so they become increasingly distanced from these kinds of processes (Bryson, 2007).

7.3. Opportunities for integration of preferences with central and decentral participation

Based on coded interviews the repeatedly mentioned opportunities/barriers are discussed.

The previous section identified the challenges to the integration of citizens' preferences and central and decentral participation processes. This section identifies the opportunities for this integration, visualised in figure 7.2. The opportunities are also combined into three bigger areas, with some interrelations identified by the arrows. The number on the right top of each opportunity indicates how often concepts related to this opportunity were mentioned by the interviewees.

7.3.1. Area 1: Process

The first area is composed of opportunities related to the participation process. The first opportunity related to the process is an *integral approach*: combining different areas of expertise and geographical areas in an integrated approach, considering more than one isolated area. By adopting an integral approach, the risk of overlooking crucial contextual factors and conducting redundant participation processes is minimized. This can be achieved with a collective approach, with other governments (Interview 7, personal communication, June 14, 2023) or with an area-based approach (Interview 2/4/7, personal communication, June 7/8/14, 2023). An area-based approach offers a different perspective on the energy transition compared to the isolated energy innovation and takes into account linkages with the physical and socio-economic landscape making a connection with other innovations as well (De Boer & Zuidema, 2015).

The second opportunity is the government taking the lead in the organisation of participation, in

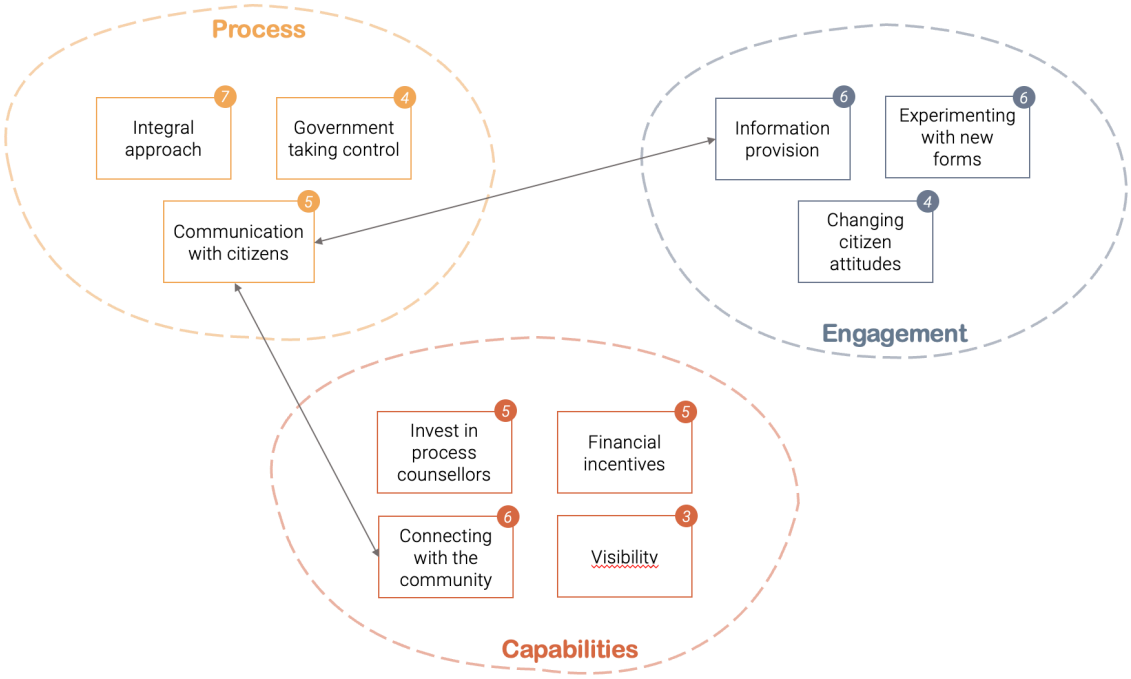


Figure 7.2: Opportunities for integration of citizens' preferences and central and decentral participation based on interviews

which the government provides structure but does not directly engage in the content of the process (Interview 3, personal communication, June 7, 2023). Content is ideally derived from citizens' concerns and perspectives rather than being directed towards a predefined outcome.

The final opportunity related to the process is communication with citizens from the authorities, consisting of early citizen engagement (Interview 4, personal communication, June 8, 2023), clarity at the forefront (Interview 2/4/7, personal communication, June 7/8/14, 2023) and reporting back on the results (Interview 2, personal communication, June 7, 2023). The significance of early engagement is emphasized by Paradies et al. (2021), highlighting the importance of involving citizens prior to the implementation phase and before decisions are finalized. By engaging citizens early on in the process, surprises and discontent can be minimized, as they have been involved in the process. Clarity at the forefront emphasizes informing citizens in what part of the process they are being involved in and what will be done with the results. Reporting back on the results of participation is one important requirement for good participation processes to make citizens feel heard.

7.3.2. Area 2: Capabilities

The second area is related to the capabilities of the government to organize participation processes. Decentralized authorities are expected to have more funding available for climate and energy policy in the coming years through the CDOKE scheme. This increased funding can be utilized to allocate resources towards deploying experts and hiring new employees (RVO, 2023b). One of the opportunities with these additional resources is investing in process counsellors. These process counsellors focus on organizing good participation processes and are not bound to one topic, they organize participation on a regular basis throughout the organisation (Interview 3, personal communication, June 7, 2023). By organizing multiple participation trajectories they build their own knowledge base, and can share best practices from within the organisation. Not every team that wants to participate has to start from scratch and they can benefit from lessons learned from previous engagements. Additionally, the resources following from the CDOKE scheme can be used to make financial contributions to initiatives and provide a financial incentive to participate (Interview 6, personal communication, June 9, 2023).

The final opportunities are related to building a relationship of trust with the citizen. This relationship is twofold, you need to build a connection with the community (Interview 2/4/6/7, personal communication, June 7/8/9/14, 2023). One way to build this relationship of trust is by providing follow-up on

participation trajectories in which it is explained what results from participation have been adopted. Other opportunities are explained in the subsequent section, engagement of the citizens. However, policy must also be supported nationwide (Interview 4/7, personal communication, June 8/14, 2023), which goes beyond the community. To build this relationship the government had to increase their visibility for citizens by organizing more participation in general giving residents more direct points of contact within the different governments to share their concerns (Interview 4, personal communication, June 8, 2023). Citizens place value on perceiving a cohesive government that integrates both national and decentralized processes. Further details on this integrated approach will be provided in section 8.2.

7.3.3. Area 3: Engagement of the citizens

The final area is the engagement of citizens with citizen participation processes in the energy transition. Research has identified that similar groups of citizens (middle-aged, higher educated men) appear at participation moments and a silent middle who does not appear (Tonkens & Verhoeven, 2019). As a consequence, the perspectives gathered are predominantly limited to those of the participating groups, failing to represent other segments of the population. It is important to address opportunities related to engaging citizens with the societal cause of the energy transition and stress the importance of participation for democracy (Interview 2, personal communication, June 7, 2023).

The first opportunity is experimenting with new forms of participation and the combination of more participation methods next to each other (Interview 5/6/7, personal communication, June 9/14, 2023). Examples are PVEs, hackathons, the national citizens' assembly, and dialogue tables with feedback groups. By applying innovative methods, other groups of people might feel addressed. Another opportunity is the combination of mini- and maxi-publics (Itten & Mouter, 2022). Mini-publics, like citizens' assemblies, offer the benefit of fostering dialogue and in-depth discussions. However, they face challenges such as potentially losing touch with the wider public and favouring expert opinions. To address these challenges and enhance engagement with the broader public, a combination of mini-publics and online participation tools can be employed.

Another crucial opportunity lies in information provision, which involves not only providing citizens with relevant information about the topic but also ensuring transparency regarding when and how they can participate and the extent of their influence in decision-making processes (Interview 1/4/5/7, personal communication, June 6/8/9/14, 2023). This enables citizens to have a clearer understanding of their role and the scope of their input in participatory processes. This is in line with Bryson (2007)'s reasoning, to participate people must be convinced that they can add (knowledge) value to the problem.

Finally, changing citizen attitudes, by asking the citizens beforehand how they want to participate and adjusting the process to this (Interview 1/4, personal communication, June 6/8, 2023). Additionally, by organizing more participation processes in general and providing more opportunities for citizens to engage, their perspectives and attitudes may evolve over time. Since they become more familiar with the concept of participation and gain a better understanding of how it influences decision-making processes (Interview 2, personal communication, June 7, 2023). This growing familiarity with participation can lead to more active and informed citizen involvement, thereby enhancing the overall effectiveness and legitimacy of participatory initiatives. Consequently, addressing citizens' responsibility to share their views on their environment is important (Interview 2, personal communication, June 7, 2023).

7.3.4. Interrelations between the areas

The interrelations for the opportunities have to do with the communication with citizens. This clearly is one of the most important opportunities because successful participation does not exist without citizens. Effective communication with citizens is crucial for the participation process (area 1) and is directly linked to the government's capability to connect with the community (area 2). Effective communication serves as a prerequisite for establishing a strong and trusting relationship with citizens, facilitating meaningful engagement and a productive participation process. Additionally, to increase engagement of the citizens (area 3) information provision from the government is crucial, which can be seen as part of the communication with citizens in the process area.

7.4. Conclusion

This chapter provided insights on the question: *What are challenges and opportunities for integrating citizens' preferences for participation with central and decentral participation processes in the energy transition in the Netherlands?*

First of all, this chapter addressed the results of citizens' preferences following the quantitative research and compared these outputs with the practical experiences of interviewees on central and decentral participation. Although the results sometimes identified some new insights, such as older people being enthusiastic about low-threshold participation, the significant difference between men and women in attitude towards participation and the similarities regarding climate change and trust in the government, nevertheless, the interviewees were able to arrive at corresponding explanations for these results. Such as some older people wanting to be facilitated, men having more affinity with technical issues and the less willing probably being disengaged. The overlap in responses of different stakeholders identifies the explanatory capacity of the data in relation to practical experiences.

Additionally, the interviews identified challenges and opportunities for the integration of citizens' preferences and central and decentral participation. Challenges are related to the government structure, the citizens' attitude and the system in which the energy transition occurs. The opportunities are related to the process of participation, the engagement with the citizen and the capabilities of the governmental body. Being aware of the challenges and adequately responding to the opportunities might result in reducing the gap between citizens' preferences and participation practices. Especially since the challenges and opportunities show resemblances in for instance information provision, government direction and the connection with the community. The overlapping challenges and opportunities can function as entry points for this integration.

8

Discussion and limitations

8.1. Reflection on the results

One of the surprising findings of this study is that there is no difference in preference between participation on the national level and the municipal level. Previous research identified a difference in enthusiasm to participate in micro-level decision-making compared to macro-level decision-making (Perlaviciute & Squintani, 2020). Nevertheless, it is also possible that the distinction was not effectively communicated in the question due to the wording, which referenced ”the government and the municipality”. It is important to note that the government does not directly encloses participation at the national level. Alternatively, it could be argued that the absence of differentiation between participation at the national and local levels is understandable since residents perceive the government as a unified entity.

Moreover, since the questions regarding citizen participation were the final part of the consultation, the respondent's views could be influenced by earlier questions posed during the consultation. Some of these questions pertain to national-level concerns but have a significant local impact, for instance with the choices regarding the energy system, which includes solar and wind farms on land and local energy networks (Populytics, 2023). This local impact of the presented national choices influences the opinion of respondents in their interest or ability to participate at the national level.

An important aspect to consider is that rationality and objectives can be influenced by the specific goal of a participation process, and these categorizations are not explicitly communicated in the survey. Each citizen may have their own perspective on a particular participation method, leading to differing attitudes compared to someone else with different experiences. While the survey asked about participation in a session related to the energy transition, it did not provide specific information about the session's content. Consequently, participants' perceptions of specific participation methods may vary widely among the respondents.

One notable discovery indicates that male citizens exhibit a greater likelihood of showing enthusiasm towards participation, in contrast to female citizens. Previous studies have pointed out that the attraction to being part of a renewable energy cooperative is especially strong among (highly educated) males (Fischer et al., 2021; Fraune, 2015). However, this specific appeal has not been observed in other types of citizen participation until now. This finding raises new questions about the true egalitarian and democratic nature of citizen participation, highlighting the significance of carefully assessing its social implications in relation to for instance the distribution of benefits and costs (Fraune, 2015). However, as indicated in the interviews, men in general have a higher affinity with technological problems compared to women. The heightened enthusiasm can therefore be attributed to the idea that people are more likely to participate when they believe they can contribute value to the problem at hand (Bryson, 2007).

The number of sources pointing out the attraction of highly educated people to participation moments (Fischer et al., 2021; Paradies et al., 2021; Visser et al., 2019), further supports the findings of this study, indicating a correlation between enthusiasm for participation and the level of education. This relationship is particularly prominent in the context of citizens' assemblies, which raises concerns about

the representativeness of such assemblies when not adequately addressing this issue. To enhance the representativeness of citizens' assemblies, it is crucial to focus on attracting individuals with lower and middle levels of education, as the highly educated demographic tends to have more enthusiasm for this form of participation.

This consultation stands out from other Participatory Value Evaluations (PVEs) due to its extended duration, receiving particularly high praise from participants. While previous PVEs typically lasted around 30 minutes (Geijsen et al., 2023), this one has an average lead time of 50 minutes. Notably, this specific PVE received the highest rating compared to others of its kind (Populytics, 2023). Surprisingly, the closed consultation receives a higher rating compared to the open consultation, where participation is voluntary. The perception of the consultation therefore might influence the attitude towards participation in general.

The overall enthusiasm for participation, as observed in both the open and closed consultation, might lead to an overestimation of the level of enthusiasm within the population. It is important to recognize that the survey itself serves as a form of participation, enabling citizens to express their views and opinions on the future energy system. Consequently, a selection bias may arise as a result. In the case of open consultation, a self-selection bias is particularly evident. The survey relies on individuals voluntarily choosing to participate, and the survey owners do not have control over this selection process (Bethlehem, 2010). Participants in the closed consultation were invited to complete the survey through representative sampling methods. However, it is worth considering that non-respondents might exhibit lower enthusiasm towards participation compared to those who did respond. Furthermore, it is important to note that individuals may experience an increase (or decrease) in enthusiasm for participation while participating in the survey and being involved with governmental choices (Interview 2, personal communication, June 7, 2023), which could potentially influence their responses to the survey.

There exists a disparity between the expressed willingness to participate, as indicated in the survey, and the actual ability to participate when the opportunity arises. Various factors can influence one's ability to participate, such as the timing of the participation request, the participant's health condition, their mobility, or other commitments (Jha & Bhalla, 2018). While this study identifies certain preferences among citizen segments, it is important to note that the application of these insights does not guarantee a specific participation rate.

This research focuses on the context of the energy transition, specifically the survey examining attitudes towards participation in the energy transition. However, it is possible that some of the insights derived from this study could be applicable to other topics as well. For instance, one notable finding is that different segments of respondents exhibit low trust in the government, and this distrust can impact their willingness to participate, which may extend beyond the energy transition domain (Interview 7, personal communication, June 14, 2023).

The challenges and opportunities posed in chapter 7 are not all new insights in the field of participation, however, the relation to citizens' preferences and to one another provides new perspectives. The Ministry of Economic Affairs and Climate Policy has shared a vision for citizen involvement in the energy transition (Ministerie van Economische Zaken en Klimaat, 2023), which provides a response to several challenges identified. For instance, the ten guiding principles mentioned in the vision are a great step into providing government direction because it contributes to the quality of participation and creates a certain basis that participation should meet. In addition, attention is paid to connecting with the citizen, which is an important part of the opportunities. Examples include making clear agreements in advance, early involvement, transparency and experimenting with new forms of participation.

8.2. Multi-level integration

Despite the absence of differences in citizens' preferences for participation between the national and municipal levels, there is still room for improvement in terms of integrating central and decentralized participation processes. In Chapter 4, it was highlighted that the methods employed at various governance levels differ. For example, at the national level, there is a need for more direct participation,

utilizing interactive and deliberative forms of engagement (Paradies et al., 2021).

Other challenges for this integration indicated during the interviews are the opportunity to be overruled by a higher governance level, competition between authorities and challenges, no clear responsibilities, neglect of existing information and ad hoc questions. Section 5.3.2 underscores the challenge of participation processes being superseded by higher governance levels. It emphasizes the significance of aligning participation processes with the specific problems that can be addressed by each respective governance level [ADD source]. One of the causes of overruling is the lack of clarity regarding the responsibilities of each governance level, leading to potentially shifting tasks back and forth. A similar challenge to the challenges for integration between citizens' preferences and participation is the competition between authorities and projects for the time of citizens. An integrated approach can combine similar projects on different governance levels, which helps prevent citizens from being overwhelmed by numerous participation processes. A crucial issue that arises from the lack of integration is the neglect of existing knowledge and information [ADD source]. For instance, the knowledge acquired at the local level is not effectively incorporated into national participation processes, leading to duplication of efforts. Lastly, time pressure plays a significant role in hindering integration efforts. The majority of questions and tasks are often ad hoc in nature, and the process of collecting knowledge and information within a non-integrated system can be time-consuming.

Opportunities for overcoming these challenges and integrating the central and decentral governance levels are the sharing of data and experiences, investing in (local) administrators and establishing a framework that delineates responsibilities and promotes forward-thinking. Sharing data and experiences, for instance, knowledge gathered at the local level is beneficial on a national level. Additionally, sharing factors for success can contribute to high-quality participation processes. An area-based approach involving various levels of government can provide a structured framework for facilitating this collaborative exchange. This approach goes beyond the new innovative technology but relates it to other socio-economical innovations in the area taking a more holistic view of the energy transition (De Boer & Zuidema, 2015). The aim is to create a sense of unity, where citizens perceive the government as a cohesive entity, working together towards common goals. Part of achieving this goal involves investing in (local) administrators who play a crucial role in the participation processes. Additionally, in the long term, it is essential to cultivate steadfast administrators who are willing to make (bold) decisions when needed which are not guided by societal events. This is substantiated by previous research which identified that people want to be informed and have a say about climate policies, however, they are less willing to make decisions themselves, they expect the responsible authorities to make the (hard) decisions (Perlaviciute & Squintani, 2020).

8.3. Reflection on the broader participation landscape

Each situation for participation is different, the problem lies within its own context as well as the individual citizens have their own context. For instance, having information about someone's education and housing situation does not necessarily make the findings of a study applicable to that specific individual. Similarly, insights about an individual cannot be generalized to the broader population with similar characteristics. However, the study can provide valuable insights about segments as a whole. When organizing participation, if it is noticed that there is a limited representation of elderly people, it may be beneficial to employ a low-threshold method that appeals more to this demographic, as there may be a relatively higher level of enthusiasm among elderly individuals for such approaches.

It is important to consider that the instrument used (participation) should not exceed its intended purpose. The goal is, for instance, not merely to reach the maximum number of individuals, but rather to obtain a diverse and comprehensive understanding of the perspectives. It is important to acknowledge that it is impossible to capture every single perspective on a given issue. At some point, the organizer must conclude the procedure and transition to the next phase, which may involve a new participation process with a different objective.

There is a difference between civic participation and civic engagement. Participation is an important tool but does not automatically ensure engagement (Bouma et al., 2023). Despite methods improving,

a portion of the silent middle still does not actively participate. Merely organizing participation is insufficient when it comes to addressing environmental tasks, like sustainable energy generation. It is crucial to acknowledge and address resistance alongside fostering active engagement.

8.4. Scientific added value

Due to the exploratory nature of this study, it provides a lot of entrypoints for future scientific research. Some new identified relations are the higher enthusiasm of men to participate in energy transition participation processes, the higher enthusiasm of highly educated people to participate, older people having a preference for low threshold participation methods.

Another interesting finding is the similarity in citizens' attitudes which are part of the clusters enthusiasts and less willing, being both concerned about climate change and having a low trust in the government, however their attitude towards participation is completely different.

Moreover, this study sheds a new light on citizens' preferences for citizen participation on a local and a national level. It identifies that citizens attitudes towards participating do not differ significantly as identified earlier.

Finally, it addresses the integration of citizens' preferences with citizen participation processes in the Netherlands, which combines quantitative data with practical experiences in the participation field. The identified opportunities and challenges are particularly useful in the field of the energy transition. It contributes to the understanding of how to effectively involve citizens in energy transition policy.

8.5. Limitations of the study

There are also some limitations to the study. As mentioned in chapter 3, the survey was conducted prior to the commencement of the study, meaning that the researcher had no control over the survey design. As a result, citizen initiatives were not incorporated into the survey, although this is an important method for participation on the decentral levels as identified in section 4.4.2. The characteristics of this participation method are different from the other methods included, the degree of engagement is partnership and the objective is to deliver, and therefore it is not possible to adopt any conclusions for citizen initiatives.

Another limitation is the subjectivity represented in the naming of the clusters following from the Latent Class Cluster Analysis. The names assigned to the clusters are based on the researchers' interpretation of the probabilities represented by the classes, aiming to illustrate the observed patterns. However, because of the complexity of the classes, there is a potential for a "naming fallacy", in which the name of the class does not accurately reflect class membership (Weller et al., 2020). The underpinnings of the names can be found in the various boxes in section 6.3.3. Nonetheless, it is important to remain cautious when using these names for further analysis, given the inherent subjectivity involved in the naming process.

The research identifies relations between national citizen participation processes and decentral participation processes. However, the quantitative part only focuses on citizen participation on the local and the national level. The local and regional participation processes show several resemblances as identified in chapter 4, however, the conclusions cannot automatically refer to decentral participation in general.

Given the exploratory nature of the study, various rationales for citizen behaviour were examined, but in-depth explanations for all these relationships were not provided. Future research could focus on specifying the coverage of the population and exploring exceptions to better understand these dynamics.

Furthermore, given the exploratory nature of this study, its objective was not to present an exhaustive overview of each individual's attitude towards participation methods within the population (which would be impractical considering the diverse contexts of each person). Accordingly, a comprehensive examination of all opportunities and challenges for integrating these preferences and participation processes is outside the scope of this study. Instead, this study serves as a foundational starting point for further research and a source of inspiration for future investigations. Reviewers and researchers can potentially uncover additional relationships based on the clustering analysis or identify new oppor-

tunities. It is essential to acknowledge that the opportunities and challenges discussed in this study primarily stem from seven interviews, supplemented with relevant literature to support the identified relationships. However, due to time constraints, a complete literature review or a larger number of interviews was not conducted.

Another limitation is related to the coding of the interviews, specifically impacting the identification of challenges and opportunities. An inductive approach has been applied, which requires the researcher to identify concepts and theories based on their own interpretations (D. R. Thomas, 2006). It is important to notice that although the deductive approach is not applied, the researcher might be influenced by findings from the previous literature review. The results therefore might contain a confirmation bias. To mitigate this potential bias, the researcher focused on topics that were repeatedly mentioned by the interviewees, giving them specific attention. This approach aimed to avoid relying on background knowledge and instead prioritize the insights directly derived from the interview data.

Additionally, the researcher's internship at the Ministry of Economic Affairs and Climate Policy may also have an influence, potentially leading to a greater emphasis on points related to the national level in their analysis or findings. To mitigate this potential influence, the researcher conducted a total of seven interviews, with only two of them involving individuals functioning at the national level. By including a diverse range of interviewees representing different governance levels, the researcher aimed to reduce the impact of any single perspective.

The analysis did not include the combinations of multiple participation techniques, such as the macro uptake of mini-publics, or the public's attitudes towards these combinations. Wesselink et al. (2011) suggests that for the results of participatory projects to be effectively integrated into wider policy-making processes, establishing linkages between the mini-public included in some participation methods and the broader public is crucial. An example is the citizens' assembly, for which it is very important that there is a strong connection to the macro public not part of the forum (Brenninkmeijer et al., 2021).

This study specifically examines the level of appreciation for participation and the variations within different citizen segments, aiming to provide insights for organizing participation processes. The study is based on stated choices by the respondents. However, it does not delve into the actual rates of participation or the likelihood of individuals showing up for these processes.

9

Conlusion and recommendations

The main research question for this research is: *How do the preferences of inhabitant segments for participation methods in the energy transition align with central and decentral participation in the Netherlands?* This question has been divided into four smaller parts, the conclusions of which are addressed first.

9.1. Conclusions subquestions

9.1.1. Conclusion differences in citizen participation on central and decentral level in the Netherlands

The first subquestion addresses differences in citizen participation on the central and decentral level in the Netherlands in chapter 4. The question answered is: How do central and decentral citizen participation methods in the energy transition differ in the Netherlands?

Based on a categorization for participation methods on the different levels, this question identifies that similar participation methods, such as the survey, citizen gathering, citizens' assemblies and referendums) are applied but with different objectives. In general the national participation methods are applied to gather insights from citizens on climate policy, whereas on the decentral levels participation is mainly organized to gather insights for the implementation of plans. Moving from national to decentralized participation processes, there is a gradual shift in objectives, moving from primarily informing and consulting to a stronger emphasis on delivering outcomes.

9.1.2. Conclusion citizens' needs assessment in the policy making process

The second part (chapter 5) was focused on the policy-making process and the decision-making chain, with a focus on where in these processes citizens' needs were assessed. Answering the following question: When in the policy cycle of central and decentral citizen participation are the needs of citizens assessed?

A difference between the participation processes on the national level and decentral levels was identified, on a national level participation mainly takes place in the formulation phase, whereas on a decentral level participation mainly focuses on the implementation phase. This makes sense, because the implementation of national climate policies typically takes place on the regional or local level. However, this chapter emphasizes the significance of integrating participation outcomes across different policy levels. For instance, when citizens have a say in the development process, their approval for macro-level policies tends to increase. Therefore, ensuring alignment and cooperation between national and decentral levels in the participation process becomes crucial to enhance policy acceptance and effectiveness.

9.1.3. Conclusion citizens' preferences for participation methods

The third part identified preferences for citizen participation of different citizen segments in chapter 6. Answering the question: What citizen participation methods do citizen segments in the Netherlands prefer for the energy transition based on demographic profiles and governance level?

This part identified no difference in preference for participation on a national level and a local level. It identified that citizens are in general enthusiastic about participation, and have a small preference for low-threshold participation methods. Additionally, differences in enthusiasm for participation were identified between male and female respondents, younger and older people and the level of education. A striking observation from the study is that while citizens may hold similar views on issues like concern about climate change or trust in the government, their attitudes towards participation can vary significantly. Some individuals may exhibit great enthusiasm and willingness to participate, while others may show less interest or be more hesitant to engage in participation processes.

9.1.4. Conclusion challenges and opportunities for the integration of citizens' preferences with central and decentral participation

The final part, chapter 7, answered the question: What are challenges and opportunities for integrating citizens' preferences for participation with central and decentral participation processes in the energy transition in the Netherlands?

The challenges identified for this integration are related to the government structure, the citizens' attitude and the system in which the energy transition occurs. Government structure focuses on challenges related to missing direction, insufficient capacity and the time effort. The trust in the government, the limited civic engagement and the differing preferences are related to the citizens' attitude. Finally, the urgency of the climate problem, the tension between generation and use of energy and the gap between the system world and living world are challenges related to the system. The opportunities are related to the process of participation, the engagement with the citizen and the capabilities of the governmental body. The process relates to an integral approach, government taking control and communication with citizens. The capabilities involve investing in process counsellors, financial incentives and visibility. Finally engagement increases with information provision, experimenting with new form and changing citizens attitudes. Being aware of the challenges and adequately responding to the opportunities might result in reducing the gap between citizens' preferences and participation practices.

9.2. Main conclusion

One of the primary conclusions related to the central question of how citizens' preferences align with central and decentral participation is that there are no fundamental differences in participation methods, just as the preferences themselves do not vary significantly. This suggests a natural alignment between the preferences and central and decentral participation. However, alignment between the different governance levels is also important to decrease participation fatigue, as citizens may be asked to participate multiple times on similar subjects.

In general, the majority of citizens appreciate being involved with participation, therefore the efforts for participation can result in automatic alignment between citizens' preferences and participation. Good participation processes were mentioned to improve enthusiasm for participation, which is also visible in the higher appreciation of surveys for the less willingly. On the contrary, participation not carried out in the right way can cause a decline in enthusiasm, when for instance it is not communicated what happened with the results.

The preferences identified in Chapter 6, such as the preference of elderly or lower-income individuals for low-threshold methods, can be utilized in participation processes where these segments are underrepresented. Overall, the low-threshold participation methods receive slightly more appreciation, which could be an entry point for participation to attract diverse perspectives on a topic, however, it is harder to gain in-depth knowledge via these methods.

One of the main barriers identified in this study is the disparity between the system world, where policies are formulated and the energy transition is planned, and the living world, which represents how citizens experience and perceive these changes. Opportunities for closing this gap are sharing results of participation processes with different governance levels, improving information provided to citizens and improving connection with the community by becoming more visible and organizing more participation.

9.3. Recommendations for future research

Several recommendations for future research are outlined below, some of them continue on the limitations identified in section 8.5. The first recommendation is to identify the preferences of citizen segments for the participation method of citizen initiatives, as this method was not included in the survey. As identified by Fischer et al. (2021), citizen initiatives tend to attract a specific group of people, generally highly educated men. Research on the preferences of citizen segments for this particular method could help identify opportunities to overcome specific barriers and increase the attractiveness and representativeness of initiatives to a broader audience.

Due to the exploratory nature of this study, which covered a broad range of indicators, it is not yet possible to generalize the results to the entire population. To validate and further investigate the findings regarding the relationships identified in Chapter 6, more in-depth research should be conducted in these relations. For example, the study identifies a relation between the level of education and the enthusiasm for participation. However, this finding raises questions about its implications for specific participation methods, such as a citizens' assembly, and whether it can be generalized to the entire population. For instance, would lower-educated citizens require different prerequisites for participation, and if so, what might those prerequisites be?

Furthermore, the opportunities and challenges highlighted in chapter 7 are also a result of the exploratory nature of this study. Subsequent research endeavors could delve deeper into any of these specific opportunities or challenges and assess their impact on aligning citizens' attitudes towards participation processes. For instance, one potential avenue for future investigation could involve implementing an integrated approach to participation processes in the energy transition, incorporating multiple authorities at both the local and national levels. Researchers could then evaluate the citizens' experiences with such an approach, seeking insights into its effectiveness and implications on citizen engagement.

The survey conducted in this research has a specific focus on the energy system, which means that the insights obtained are primarily related to the energy transition. Future research could explore the generalizability of these insights to other areas of interest. By examining whether the findings and patterns observed in this study hold true in different contexts or domains, we can gain a better understanding of the broader applicability for citizen participation of the insights obtained.

A potential strategy for enhancing citizen participation is the combination of multiple participation techniques, which has not been addressed in this research. This could involve integrating both low-threshold methods, which are easily accessible and inclusive, and higher-threshold methods, which may require more commitment and involvement. By adopting a combined approach, it becomes possible to engage a broader range of citizens, including both elderly and younger individuals for instance.

9.4. Recommendations for policy-makers

The recommendations for policy-makers can be subdivided in three categories: general recommendations, recommendations for policy-makers on the national level and recommendations for policy-makers on decentral levels. The recommendations are two-folded and related to both integration of preferences and participation and multi-level governance integration and therefore will be discussed separately for the three categories.

The first general recommendation is to critically examine the challenges associated with integrating citizens' preferences into both central and decentral participation processes, specifically considering the challenges that are relevant to the specific tasks in your organisation. It is important to identify which tasks can be directly influenced by your institution and for which tasks you need to collaborate with other actors.

Another general recommendation is to consider the context of a specific participation process and the aspired participants. Each participation process is different, due to the scale, the location, the participants etc., therefore there are no ready-to-use participation trajectories. Best practices are important for inspiration, however, considering the context of the anticipated participation process is necessary when applying participation methods. Examining the challenges as described in the previous point needs to be done considering the context as well.

The same can be applied to the opportunities, it is recommended to examine which opportunities apply to your organisation specifically and to the anticipated participation processes considering the context. Certain opportunities are valuable to be considered in general, including ensuring effective communication and providing sufficient information to citizens which can both be seen as a prerequisite for meaningful participation. Additionally, implementing an integral approach can bring more structure to the process and enable the utilization of existing knowledge.

One of the most important recommendations for the integration of multi-level participation processes is the sharing of data and experiences. Sharing data and experiences is an important opportunity for the neglect of information what has been retrieved at one administrative layer but is also relevant to another. Sharing data might the decrease the number of similar participation processes, contributing to minimizing participation fatigue.

9.4.1. Recommendations for policy-makers on the national level

An opportunity for missing government direction for the national government is to take control, by providing structure to participation processes and address direction for long-term participation. The role is mainly on facilitating a structure for participation, rather than being concerned with the content of participation processes, which should come from participants themselves. Due to the top-down governance structure for energy policy as explained in section 5.3, it is important for the national government to take the first steps in taking more control in participation processes. Insights gained can be adopted by decentralised authorities.

A similar opportunity applies for the multi-level governance integration. By establishing clear guidelines for long-term engagement, responsibilities and participation processes in the years ahead, and effectively communicating these with relevant stakeholders and governance levels, we foster the exchange of valuable data. This facilitates a comprehensive understanding of ongoing activities among various parties involved. Good example leads the way.

One significant challenge at the national level is the disconnect between the system world and the living world. As mentioned in section 6.4, there is a notable lack of trust in the government. This divide is particularly pronounced due to the distance separating citizens' immediate surroundings from the national policy-makers in The Hague. To address this issue, a key recommendation is to enhance visibility and accessibility for citizens. This can be achieved by actively organizing more participatory events across various regions in the country or by actively participating in processes organized at different governance levels. By doing so, the government can bridge the gap and engage more effectively with its citizens, fostering a sense of trust and cooperation.

Specific attention should be paid to the tension between generation of renewable energy and the usage of this energy. The disparity arises when energy generated in a particular location does not necessarily benefit the people in the surrounding areas, leading to an unequal distribution of burdens. These challenges primarily relate to the national level, where a comprehensive overview is essential, while local governmental bodies often have a narrower focus limited to specific geographical locations.

9.4.2. Recommendations for policy-makers on decentral levels

Due to capacity shortages especially at decentral levels, it is important to invest in good participation process counsellors. People who have knowledge on organizing participation, and can be deployed on multiple participation processes, rather than in-depth knowledge on the situation. Moreover, these process counsellors can distribute best practices among the organisation.

At decentralized levels of government, accessibility to the citizen is significantly improved due to shorter distances, making communication with citizens all the more crucial. Remaining open to citizens' input and acknowledging the importance they place on various matters, beyond just participating in specific processes, becomes essential. This underscores the government's role as a facilitator rather than a mere moderator. By actively engaging with citizens and considering their perspectives, decentralized authorities can better serve as a bridge between the public and policymaking, fostering a more inclusive and responsive governance approach.

To integrate multi-level participation processes, decentral institutions must proactively consider how the information gathered in their own participation processes can be effectively communicated at the national level beforehand. This entails staying informed about processes taking place on other governance levels and recognizing the significance of a framework that encourages forward-thinking approaches.

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A

Literature review strategy

A.1. Subquestion 1: How do central and decentral citizen participation methods in the energy transition differ in the Netherlands?

The literature review for the first subquestion was actually divided in two separate searches, one for the categorization and one for participation methods applies in the Netherlands.

Search engine Scopus is used to answer this first subquestion, with search terms regarding categorization and citizen participation, and citizen participation and the energy transition. Table A.1 identifies the search queries and the results provided.

Criteria to be included in the review for the categorization was the identification of different categories for participation, not specified to a specific case, but general categories. Additionally, it had to be specified wat values were part of this categorisation.

Criteria to be included in the second review, was that it had to specify at least one specific form of participation and providing a explanation from which the categorization could be derived. This means the article had to provide information on the level of engagement, the direction of communication and the goal of participation. Rationality, can often be derived from the other categories and background information. Because search engine Scopus resulted mostly in in-depth research on specific participation methods, rather than an overview and comparison of participation in the Netherlands, the bigger search engine Google Scholar was used additionally. This review resulted in 11 informative articles, applying snowballing other articles were derived.

Search term	Search engine	Results	Included
”categorization” AND ”citizen participation”	Scopus	19	4
”citizen participation” AND ”energy transition”	Scopus	80	-
”citizen participation” AND ”energy transition” limited to “the Netherlands”	Scopus	12	5
Burgerparticipatie in Nederland	Google Scholar	3370	-
Burgerparticipatie in Nederland AND energietransitie	Google Scholar	227	6

Table A.1: Search strategy subquestion 1

Search term	Search engine	Results	Included
‘citizen participation’ AND ‘policy cycle’	Scopus	10	6
‘public participation’ AND ‘policy cycle’	Scopus	6	2
‘citizen participation’ AND ‘needs assessment’	10	0	

Table A.2: Search strategy subquestion 2

A.2. Subquestion 2: When in the policy cycle of central and decentral citizen participation are the needs of citizens assessed?

For the second subquestion the search engine Scopus is used again. A literature review will provide insights in the relation of participation processes with the policy cycle. For this question a filter for the Netherlands has deliberately not been applied. The search terms applied, with the number of results and the sources included, can be found in table A.2.

Selection criteria for these articles were that it had to relate citizen participation to the policy cycle, e.g. what participation looks like in a particular step. Additionally, information about participation in a specific part of the policy cycle is provided which can function as an example.

B

Interview guides

B.1. Expertinterview guides (SQ 1 & 2)

Structure:

1. Introduction & introduction research (5 min)
2. Background interviewee (10 min)
3. Participation in the Netherlands (20 min)
   (a) Most common forms (10 min)
   (b) Categorisation of participation (10 min)
4. Participation moment in the policy cycle (15 min)
   (a) Policy cycle
   (b) Differences between policy levels
   (c) Differences from abroad
5. Points for consideration for the continuation of the study (5 min)
6. Closing (5 min)

Background interviewee (10 min)
Description of how work involves citizen participation

- Can you briefly describe your background?
- How does your work involve citizen participation?

Participation in the Netherlands (20 min)
Definition of citizen participation

- There are many different views of civic participation, how would you define civic participation?

The ideal image of citizen participation

- What would citizen participation at national and decentralised level look like in an ideal world?
- What tools would fit this?
- How does this differ from reality?

Forms of citizen participation in the Netherlands

- What are the most common forms/tools of citizen participation in the Netherlands at the national level?
- What are the most common forms/instruments of citizen participation in the Netherlands at regional/provincial level?
- What are the most common forms/tools of citizen participation in the Netherlands at the local/municipal level?
- Are there clear differences between administrative levels in terms of participation?
- How does citizen participation in energy transition differ from general citizen participation?

Categorisation of civic participation: Categorisation adopted from Reed (2008), incorporates the degree of involvement (participation ladder), direction of communication, rationality and purpose of participation.

- Based on what characteristics would you classify civic participation?
- Does this paint a complete picture or are distinctive characteristics missing here?

Participatory moment in the policy cycle (15 min)
Policy cycle: Agenda setting -> Policy formulation -> Decision making -> Policy implementation -> Evaluation -> Agenda setting... (Howlett and Ramesh, 1995)

- Where in the policy cycle are citizens' needs considered through participation?
- Does this differ by policy level?
- How do citizens' needs and expectations feed through into decision-making?
- Do these processes in the Netherlands differ from those abroad?

Points for attention for follow-up research (5 min)
Follow-up research will use data analysis to investigate citizens' preferences for participation methods (for the methods citizens' meetings, questionnaires, citizens' forum and referendum). Next, interviews with policymakers at different administrative levels will be held in which these results will be fed back and how incorporation can lead to integration. This is framed as an open question for new perspectives.

- From your perspective, are any specific points of interest relevant here?

B.2. Interview guides (SQ4)

Structure of interview:

1. Introduction research (5 min)
2. Background interviewee (5 min)
3. Participation in the Netherlands (5 min)
   (a) Most common forms at governance level
   (b) Most experience with which forms
4. Importance of integration (10 min)
5. Preferences for participation of citizen segments (10 min)
   (a) The identified clusters
   (b) The covariates
6. Identification of opportunities and bottlenecks for integration (20 min)
   (a) Integration of preferences resident segments and participation in the Netherlands

(b) Integration of participation at central and decentralised levels

7. Closure (5 min)

Background interviewee (5 min)
Description of how work involves citizen participation

- Can you briefly describe your background?
- How does your work involve citizen participation?

Participation in the Netherlands (5 min)
Description of which forms of participation the interviewee deals with

- What forms of participation are used at your [administrative level]?
- Which form do you deal with the most?

Importance of integration (10 min)

- Why is integration between citizens' preferences and participatory processes important?
- Why is integration between central and decentralised participation important?

Preferences for participation of citizen segments (10 min)
Identify similarities and contradictions of patterns from data and practice.

- Do you recognise the pattern presented in the clusters?
- Did you expect that there was no difference between participation at the national level and at the local level?
- Did you expect men, on average, to be more enthusiastic about participation than women?
- Did you expect that, on average, older people and retired people are more often represented in the low-density clusters?
- Did you expect both pessimists and enthusiasts to have little trust in politics and government?

Identification of opportunities and bottlenecks for integration (20 min)
Integration of citizens' preferences with central and decentralised participation?

- Do you see challenges for integrating the above results on citizens' preferences with central and decentralised participation?
- Do you see opportunities for integrating the above results on citizens' preferences with central and decentralised participation?

Integration of central and decentralised participation processes?

- Do you see challenges for integrating the central and decentral participation processes?
- Do you see opportunities for integrating central and decentral participation processes?

Closure (5 min)

- From your perspective, are any specific points of interest relevant here?

C

Informed consent form

The following pages include the informed consent form to be completed before the interview is conducted, to identify the interviewees of the attached risks and consequences of participating in this research. All the data from interviews mentioned in this research have been provided permission to be included by signing this form.

Beste deelnemer,

U wordt uitgenodigd om deel te nemen aan een onderzoek genaamd Master Thesis “Preferences of citizens for participation in the energy transition in the Netherlands” ter afronding van de Master Engineering and Policy Analysis. Dit onderzoek wordt uitgevoerd door Dorris Corsten van de TU Delft in samenwerking met het Ministerie van Economische Zaken en Klimaat.

Het doel van dit onderzoek is om voorkeuren van burger segmenten voor participatiemethoden inzetbaar op verschillende bestuurlijke niveaus in kaart te brengen, wat de integratie tussen deze bestuurlijke niveaus kan stimuleren. Dit interview fungeert om ervaringen en kennis op te halen over burgerparticipatie in Nederland op dit moment ter achtergrond van het onderzoek en zal ongeveer 60 minuten in beslag nemen. De data zal gebruikt worden voor verdiepende kwalitatieve inzichten op de literatuurstudie en de kwantitatieve data-analyse voor de voorkeuren. Deze inzichten zullen leiden tot onderbouwingen en conclusies voor deze master thesis van de TU Delft. U wordt gevraagd om bestaande kennis te onderschrijven en nieuwe invalshoeken aan te kaarten, die niet uit de literatuur of data naar voren zijn gekomen.

Zoals bij elke (online) activiteit is het risico van een databreuk aanwezig. Wij doen ons best om uw antwoorden vertrouwelijk te houden. We minimaliseren de risico’s door alle data (audio-opnames, transcripten en samenvattingen) veilig te bewaren op de TU Delft OneDrive waartoe alleen ik toegang heb. Het interview zal worden opgenomen met behulp van Microsoft Teams en automatisch worden getranscribeerd. Deze data zal niet publiek toegankelijk worden gemaakt. De audio-opnames en transcripten zullen maximaal 1 maand na het afronden van de masterscriptie worden verwijderd. De audio-opname en het transcript zullen gebruikt worden om een optioneel geanonimiseerde samenvatting van het interview op te stellen. Deze samenvatting zal u worden toegestuurd en u zal toestemming moeten geven voordat de samenvatting gebruikt wordt in het onderzoek. Deze samenvattingen zullen de basis vormen voor het onderzoek en zullen publiek toegankelijk zijn op de thesis repository van de TU Delft indien u hiervoor toestemming geeft. Ik zal geen naar u traceerbare data in mijn thesis delen als daar geen toestemming voor is.

Uw deelname aan dit onderzoek is volledig vrijwillig, en u kunt zich elk moment terugtrekken zonder reden op te geven. U bent vrij om vragen niet te beantwoorden.

Graag wil ik u vragen om de vragen op de volgende pagina’s te beantwoorden en ondertekend naar mij terug te sturen. Indien er onduidelijkheden zijn of u vragen heeft, dan heeft u de gelegenheid deze te stellen. Dit formulier zal eveneens veilig worden opgeslagen tijdens de periode van het onderzoek.

Dorris Corsten

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
A: GENERAL AGREEMENT – RESEARCH GOALS, PARTICPANT TASKS AND VOLUNTARY PARTICIPATION		
1. Ik heb de informatie over het onderzoek gedateerd [*DD/MM/YYYY*] gelezen en begrepen, of deze is aan mij voorgelezen. Ik heb de mogelijkheid gehad om vragen te stellen over het onderzoek en mijn vragen zijn naar tevredenheid beantwoord.	☐	☐
2. Ik doe vrijwillig mee aan dit onderzoek, en ik begrijp dat ik kan weigeren vragen te beantwoorden en mij op elk moment kan terugtrekken uit de studie, zonder een reden op te hoeven geven.	☐	☐
3. Ik begrijp dat mijn deelname aan het onderzoek de volgende punten betekent: • Dit interview zal worden opgenomen (in audio, of met behulp van Microsoft Teams) en er zal een automatische transcriptie worden gemaakt. • De opnames van het interview worden veilig opgeslagen tot maximaal één maand na de afronding van mijn thesis op een door de TU Delft beheerde locatie. Daarna zullen de opnames worden verwijderd. • De (geanonimiseerde) samenvatting die op basis van het interview wordt opgesteld, kunnen gepresenteerd worden in mijn thesis. Hiervoor moet de geïnterviewde toestemming geven.	☐	☐
4. Ik begrijp dat mijn deelname aan het onderzoek niet wordt gecompenseerd.	☐	☐
5. Ik begrijp dat de studie augustus 2023 eindigt.	☐	☐
B: POTENTIAL RISKS OF PARTICIPATING (INCLUDING DATA PROTECTION)		
6. Ik begrijp dat mijn deelname betekent dat er persoonlijke identificeerbare informatie en onderzoeksdata worden verzameld, met het risico dat ik hieruit geïdentificeerd kan worden.	☐	☐
7. Ik begrijp dat binnen de Algemene verordering gegevensbescherming (AVG) een deel van deze persoonlijk identificeerbare onderzoeksdata als gevoelig wordt beschouwd, namelijk naam, emailadres, andere contactgegevens voor digitale communicatie, functie en werkachtergrond en geluidsopnames van dit interview.	☐	☐
8. Ik begrijp dat de volgende stappen worden ondernomen om het risico van een databreuk te minimaliseren, en dat mijn identiteit op de volgende manieren wordt beschermd in het geval van een databreuk: • Alle data wordt opgeslagen op de TU Delft OneDrive waar alleen Dorris Corsten toegang tot heeft. • Op basis van het interview wordt een (geanonimiseerde) samenvatting gemaakt. • Alleen de (geanonimiseerde) samenvatting wordt, indien u daarvoor toestemming geeft, gebruikt in het onderzoek. • Alleen de geanonimiseerde samenvatting wordt publiek toegankelijk gemaakt.	☐	☐

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
• Niet geanonimiseerde data (opname en transcript) worden in een aparte map opgeslagen en zullen niet buiten de door de TU Delft beheerde map worden opgeslagen. • De data (opname en transcript) wordt maximaal één maand na afronding van de thesis verwijderd.		
9. Ik begrijp dat de persoonlijke informatie die over mij verzameld wordt en mij kan identificeren, zoals naam, contactinformatie en geluidsopnames, niet gedeeld worden buiten het studieteam.	☐	☐
10. Ik begrijp dat de persoonlijke data die over mij verzameld wordt, vernietigd wordt één maand na afronding van de thesis, verwacht augustus 2023.	☐	☐
C: RESEARCH PUBLICATION, DISSEMINATION AND APPLICATION		
11. Ik begrijp dat na het onderzoek de geanonimiseerde samenvatting gebruikt kan worden voor verder onderzoek en onderwijs.	☐	☐
12. Ik geef toestemming om mijn antwoorden, ideeën of andere bijdrages anoniem te quoten in resulterende producten.	☐	☐
13. Ik geef toestemming om mijn naam te gebruiken voor quotes in resulterende producten	☐	☐
D: (LONGTERM) DATA STORAGE, ACCESS AND REUSE		
14. Ik geef toestemming om de geanonimiseerde data (samenvatting van de gesprekken) die over mij verzameld worden gearchiveerd worden in thesis repository van de TU Delft opdat deze gebruikt kunnen worden voor toekomstig onderzoek en onderwijs.	☐	☐
15. Ik begrijp dat de toegang tot deze repository open is.	☐	☐

Figure C.1: Informed consent form interviews

D

Interview summaries

D.1. Expertinterview 1

What would citizen participation at national and decentralised levels look like in an ideal world?

The person stresses the importance of strong government policies that address the diverse interests and ideas of citizens in environmental matters. They suggest considering different forms of participation, ensuring accessibility for all, and providing practical support to ensure engagement from various groups. It is essential to go beyond average citizens and consider the specific needs and limitations of different groups.

What are the steps to be taken to achieve this ideal vision?

Cultural change within the government is necessary to create an environment where learning from both successes and failures is encouraged. Communicating information in an understandable and accessible way is crucial, including visualizing data and providing clear action steps for citizens. Balancing participation at different stages of decision-making is also important, as is addressing the tension between local, regional, and national levels of governance.

What are the most common forms/tools of citizen participation in the Netherlands

There is no one-size-fits-all approach to citizen participation. Various methods, such as physical and digital meetings, surveys, and forums, are employed in different contexts. However, there is a lack of comprehensive evaluation, making it important to consider local and regional factors when determining the most effective approaches.

Are there clear differences between administrative levels in terms of participation?

Participation is primarily initiated at the local level, with regional facilitation occurring in different ways. The level of coordination and alignment between local and regional governance varies, with some regions having more experience and others lacking proper coordination. This influences the effectiveness of the participation processes.

Do you see differences between participation in different environmental themes?

There are differences in participation based on the subject matter. For example, mobilization and energy transition involve both personal and collective interests, whereas climate change is primarily a collective issue. Different scales of impact, such as local versus global, also affect the level of personal engagement.

Based on what characteristics would you classify civic participation?

The person suggests considering the legitimacy of policies and including those who may not want to participate but still desire effective government action. They recommend studying the concept of legitimacy, acceptance of policies, and broader perspectives on participation, as these aspects influence citizen engagement.

The person emphasizes the need for a comprehensive approach that includes a wide range of citizen initiatives and perspectives. They mention specific organizations and movements that represent

different perspectives, such as energy cooperatives, NGOs, and groups against wind energy. They urge researchers to cover the entire spectrum of participation.

The person highlights the narrow focus on citizen participation, which does not necessarily reflect the actual desires of citizens. They mention the importance of addressing information asymmetry and the need for more open and transparent communication between government and citizens. They also stress the significance of understanding the needs and concerns of less vocal groups in society.

Where in the policy cycle are the needs of citizens considered through participation?

Participating early in the process means the issue at hand is still abstract while participating later leaves little room for discussion. It's important to understand that participation always comes with tension, and it's difficult to get it right.

Participation often occurs during the implementation phase. In this case, it is crucial for officials and policymakers to be honest about what can still be discussed and what cannot. For example, when it comes to choosing the colour of street lamps, further involvement may not be necessary. However, when it concerns the location of street lamps or wind turbines, participation is still relevant.

Does the timing of considering citizens' needs differ per governance level?

Yes, the timing of considering citizens' needs does vary by governance level. There is often a one-sided focus on local interests, while there is insufficient knowledge about implementation in the national government. The lack of feedback between national and local levels leads to issues. Local authorities often have to do a lot of work without adequate consideration for the implementation aspects devised at the national level.

An often overlooked step is the distribution of benefits and burdens, which may not be favourable for everyone. It is essential to be honest about this and take appropriate action, although it doesn't always happen. For instance, in Groningen, gas extraction occurred for a long time, and now the region is told to deal with the problems on its own. However, everyone benefited from the gas. Similarly, when it comes to placing wind turbines in Drenthe, it is important to address the shared responsibility and the interests of all stakeholders. Failing to consider this transition from national to regional to local levels creates tension and resistance.

How do citizens' needs and expectations feed through into decision-making?

Mobilized and informed citizens who are capable of organizing themselves can have a certain level of impact on the current system. However, less empowered groups face greater difficulties. The person emphasizes the importance of addressing different perspectives, engaging in open dialogue, and fostering a shared sense of urgency regarding environmental issues.

Specific attention for follow-up research: The person suggests covering the entire spectrum of citizen initiatives and perspectives, including those who face barriers to participation. They mention specific organizations and experts to consult. Additionally, they recommend studying citizen needs, including aspects related to energy security and economic positions, and how they affect engagement and decision-making.

D.2. Expertinterview 2

Background Description: I am a writer who focuses on how individuals, as citizens, can contribute to societal change. Over the years, I have written extensively on various forms of activism and their impact on residents. My work is intended for a general audience rather than academic circles. Additionally, I have founded an organization called Bureau Burgerberaad, which offers services to governments, ministries, NGOs, and other interested parties. Our goal is to promote knowledge and expertise in citizen deliberation. It is a non-profit bottom-up initiative that started with a group of concerned citizens three years ago. We wanted to bring citizen forums to the political agenda in the Netherlands, inspired by a similar initiative in France.

While my work covers a range of topics, the energy transition is a recurring theme. I have been involved in initiatives such as the Inwoner Raad Energie (Citizen Council on Energy). This council was initiated by the expert team on the energy system in 2050. They recognized the importance of involving citizens in the energy transition and organized a smaller-scale version of a citizen forum. The input

from citizens was included in their scientific advice. Although not an official citizen forum, it followed the same principles of a diverse group of citizens engaging in dialogue with each other and experts.

How would you define citizen participation and a citizen forum?

Citizen participation is a complex concept that encompasses a wide range of engagement levels. It can vary from casual input, such as surveys, to more substantial forms of participation, like citizen forums.

A citizen forum is a robust and empowering form of citizen participation. It involves a diverse group of randomly selected citizens representing a cross-section of society. These citizens are given time and resources to engage in dialogue with each other and experts, ultimately formulating recommendations. What sets a citizen forum apart is the clear mandate it receives from the political entity sponsoring it.

What have been the developments in citizen forums in recent years?

In recent years, there has been significant progress in establishing citizen forums, especially at the local level. After the municipal elections, many municipalities included citizen forums or citizen deliberation in their coalition agreements. Our role at Bureau Burgerberaad is to help clarify what these municipalities mean by citizen forums and ensure alignment with the principles we advocate for. We provide advice, knowledge-sharing sessions, guidance, and oversight to support their efforts.

What distinguishes citizen forums from other forms of citizen participation?

Citizen forums are distinct due to their comprehensive and empowering nature. They involve a randomly selected group of citizens who form a cross-section of society. These citizens are provided with the time and resources to engage in dialogue with each other and experts. The forum's recommendations are formulated through deliberation, and they operate under a clear mandate from the political entity. This sets them apart from traditional public consultations or hearings that often lack the same level of citizen empowerment and decision-making authority.

Why are citizen forums particularly suitable for the energy transition?

The energy transition affects everyone and entails significant changes to how we live, our transportation systems, and our heating methods. Given its wide-reaching impact, it is crucial to involve as many citizens as possible. Citizen forums offer a platform to include diverse perspectives, values, and experiences from society, ensuring a comprehensive approach to the energy transition. By involving citizens, blind spots in purely technical or policy-driven approaches can be avoided, making citizen forums highly suitable for the complex challenges of the energy transition.

What would citizen participation at national and decentralised levels look like in an ideal world?

In an ideal world, citizen participation would go beyond occasional consultation evenings and voting every four years. It would involve a democratic conversation where citizens and politicians engage in dialogue, thinking, talking, and deciding together on major societal issues. This includes the energy transition, where society collectively discusses and utilizes the knowledge, creativity, and life experience of its members. The goal is to achieve an inclusive, effective, and widely supported energy transition.

The emphasis would be on dialogue rather than debate, fostering understanding and reducing polarization. Citizens would have more influence and ownership, whether through citizen councils or other forms of participation. The vision is for politicians and citizens to see each other as equal partners, working towards a fair and decent society.

What are the steps to be taken to achieve this ideal vision?

Although there are positive changes happening, there is still apprehension and a distorted view of citizen participation among some government officials. There is a perception that citizen involvement only leads to opposition, based on encounters with angry citizens in public consultations, opinion polls, and social media. However, in practice, when citizens are approached respectfully and given responsibility, their engagement and sense of ownership increase. It is essential to create opportunities for meaningful participation and to give citizens time and space to contribute.

What are the differences in a citizen forum between Governance Levels?

At different levels of governance, citizen councils share common features such as a clear mandate,

random selection, and deliberation. However, the main difference lies in the mandate of the political sponsor. For example, regional citizen councils should focus on questions that regional authorities can address, while national citizen councils should tackle issues falling under the jurisdiction of the national government.

The number of participants can vary, with 100 to 150 participants being an optimal range for a citizen council. However, the composition of participants should be a representative reflection of society. Interactions between citizen councils and the broader public are crucial, ensuring that the wider population is aware, can learn, contribute, and stay informed. This can be facilitated through public campaigns and online platforms to create resonance within society.

At which stage of the policy cycle should a citizen forum be implemented?

Ideally, a citizen forum should be initiated during the agenda-setting phase, at the early stages of the policy cycle. This allows for better alignment with subsequent steps in the cycle. Late-stage implementation can be challenging, as it becomes more difficult to incorporate the forum's recommendations effectively. It is important to provide sufficient time for the preparation, conduct, and implementation of citizen forums to ensure their meaningful impact.

How do these processes in the Netherlands differ from those in other countries?

The Netherlands has learned valuable lessons from experiences in other countries, particularly from France. We have applied those lessons at both the national and local levels to improve the design and implementation of citizen forums. However, the true impact and the extent to which we can overcome any hesitations surrounding citizen participation will become evident only through actual implementation and the outcomes that follow.

D.3. Expertinterview 3

Background Description: The interviewee describes their work at TNO in the Department of energy transition studies, focusing on the social aspects of the energy transition. They discuss their involvement in social innovation projects related to consumer engagement in various industries, with a particular focus on energy-related issues. Their work revolves around understanding the perspective of residents and the effects of other stakeholders on them.

How would you define citizen participation? The interviewee explains that the definition of citizen participation is an ongoing aspect of their research. They mention two key aspects: involving residents and the timing of their involvement. They also highlight the need to consider the goals of participation and how it relates to other project objectives, such as building consensus or achieving public support.

What would citizen participation at national and decentralised levels look like in an ideal world? The interviewee discusses the challenges of citizen participation at the national level, emphasizing the importance of involving residents earlier in the policy cycle. They suggest the concept of a national citizen council as an ideal form of participation. At the local level, they emphasize the significance of tailoring participation methods to the specific preferences and needs of residents.

How does this ideal vision differ from current participation? The interviewee notes that the current reality often falls short of the ideal models of citizen participation. They mention time constraints and fears among local governments and initiatives about involving residents, which can lead to apathy or resistance. They emphasize the importance of overcoming these challenges and highlight the need for earlier and more meaningful involvement of residents.

What are the most common forms/tools of citizen participation at the national level in the Netherlands The interviewee mentions that at the national level, common forms of citizen participation include surveys, the Public Welfare Energy (PWE), and the concept of a citizen council. They also note that referendums and preferendums are used to some extent but are not yet widespread in the Netherlands.

What are the most common forms/tools of citizen participation at decentral levels in the Netherlands At the decentralized level, the interviewee mentions various forms of citizen participation, including public

information sessions, wind safaris, questionnaires, kitchen table conversations, diary studies, and visualizations. They highlight the importance of adapting methods to the local context and preferences of residents.

Based on what characteristics would you classify civic participation? The interviewee mentions that their research includes additional categories beyond the four D's (dialogue, deliberation, diversity, and distribution) commonly used to categorize participation. They mention the importance of considering diversity, capacity or capability, and distributive justice in participatory processes. They highlight the need to expand the understanding of citizen participation to capture these characteristics fully.

Where in the policy cycle are the needs of citizens considered through participation? The interviewee notes that citizen needs and expectations can influence decision-making processes, although the extent of their impact varies. They mention that public input, such as surveys or citizen councils, can inform decision-making, even if it involves making unpopular decisions. They emphasize the importance of understanding underlying needs and interests, rather than solely relying on public opinions.

The interviewee discusses the timing of citizen participation in the policy cycle, noting the challenges of early involvement due to limited information and abstract policy discussions. They mention the efforts to involve citizens earlier, such as through initiatives like the Foodvalley Citizen Council. They also emphasize the need for evaluation of participatory processes to ensure their effectiveness.

Does the timing of considering citizens' needs differ per governance level? Yes, for instance, the Regional Energy Strategies (RES) experiments, highlight their abstract nature and the challenges of gathering public opinions. The concept of place attachment is mentioned, emphasizing the importance of involving citizens in decisions that directly impact their living environment. The implementation phase of policies is identified as an opportunity for citizen engagement, but it is often delayed in practice. At the local level, there is a shift in democratic dynamics, making it complex for officials to ask residents what they want. The concept of a "burgerberaad" (citizen council) is mentioned as a way to involve residents earlier in the policy cycle, although progress in citizen participation may still be uneven.

How do participation practices in the Netherlands differ from other countries? The interviewee briefly compares the Netherlands' practices with other countries. They mention that countries like France, Germany, and Denmark are more advanced in citizen participation, particularly in terms of citizen councils and local initiatives. They highlight the ongoing learning and adaptation from international examples.

In what way do needs and expectations of citizens feed into decision-making? The interviewee emphasizes the importance of understanding the underlying motivations and interests of residents when considering their needs and expectations. They mention that survey results or public opinions alone may not provide a complete understanding of citizen needs. They also discuss the complexity of balancing different interests and concerns in decision-making processes.

The interviewee notes that the energy transition is highly localized, and thus, measuring and addressing the needs and interests of residents is crucial. They highlight the emergence of energy cooperatives and local initiatives as important drivers of change and emphasize the significance of considering local perspectives in decision-making processes.

D.4. Interview 1

Background Description: The speaker describes their background, which involves working on citizen participation and collaboration between citizens and the government. They have an unusual background in exact sciences, with a focus on physical geography and coastal anthropology. They have conducted research and worked in various roles related to water management, innovation, and social participation. The speaker explains their involvement in the national climate platform and their goal to accelerate and connect people with the climate transition. They work on engaging citizens and accelerating the energy transition. They also mention their work as a researcher at the Erasmus University, studying the effects of culture on participation in two neighbourhoods in Rotterdam. Additionally, they work at a knowledge hub for participation, aiming to develop and disseminate accessible knowledge on participation. The speaker discusses the dominant role of the energy transition within

the broader climate transition. They mention their previous work on citizen participation in making neighbourhoods gas-free and their research on public opinion regarding energy transition-related topics. They emphasize that citizen participation is context-dependent and varies across different regions and circumstances.

Which forms of participation are most commonly used on the national level?

The speaker explains that national programs aimed at promoting participation in the Netherlands are mainly viewed from the perspective of policymakers in The Hague. However, they argue for a more citizen-centric approach, focusing on understanding the needs and values of individuals. They highlight the importance of standing alongside citizens and exploring mutually beneficial collaborations rather than solely inviting them to participate within predefined frameworks. The speaker mentions that they primarily encounter consultation and information-sharing as the dominant forms of participation. They believe that consultation is the most prevalent, followed by the provision of information. They emphasize the need to move beyond information-sharing and communication to genuine dialogue and understanding of different perspectives.

Do you recognize a visible pattern within the clusters?

The speaker suggests that citizen engagement follows a pattern that progresses from awareness (knowing) to willingness (wanting) to ability (being able to) and finally to action (doing). They acknowledge that there is often a gap between willingness and ability, which can be attributed to various personal circumstances. They also mention that survey results may provide an overly positive picture of willingness, while the reality of taking action is more challenging.

Did you expect that for the open consultation the opinions regarding the referendum are more opposing compared to closed consultation?

The speaker discusses how citizens with a strong desire for participation seek greater influence and control. However, the level of participation varies among individuals and can be influenced by personal circumstances, location, and age. They note that older individuals may require more facilitation and support in their participation due to limited energy and a preference for guidance and reliable information.

Did you expect that there was no difference between participation at the national level and at the local level?

The speaker mentions that recent research does not indicate significant differences in participation methods between national and local levels. They note that within a specific context, the variation within a city can be greater than the differences between urban and rural areas. The complexity arises from the diversity of attitudes and preferences among citizens, making it challenging to develop national policies that cater to all circumstances.

Did you expect that, on average, older people and retired people are more often represented in the low-density clusters?

The speaker acknowledges that older individuals tend to have a desire for participation but may prefer to be more facilitated in their involvement. They mention that older adults, especially those who own property, are interested in taking action but require information, guidance, and assurances regarding costs, returns on investment, reliable contractors, and other practical considerations.

Do you see opportunities for integrating residents' preferences with central and decentralized participation?

The speaker suggests that the primary goal should be to allow citizens to have influence over specific aspects, such as climate policy. They emphasize the importance of conducting research to determine the desired outcomes of participation before selecting the appropriate methods. The text also mentions the potential forms of participation, including citizen assemblies and referendums. The text acknowledges the challenges and complexities associated with citizen participation. It mentions the variation in participation levels among individuals and the local context as significant factors. It also highlights the difficulty in developing national or regional policies that cater to diverse circumstances. The text emphasizes the need for further research to understand the reasons behind people's decisions

to participate or not.

Do you see obstacles to integration between central and decentralized governments?

The text addresses the integration between central and decentralized participation and identifies potential challenges. It mentions the issue of multiple government entities approaching citizens for participation and the concept of ”sham participation” where local or regional efforts can be overridden by national decisions. It suggests the importance of aligning participation processes across different levels of government. The text points out the complexity of selecting specific participation methods based on a limited number of variables such as income, housing type, or education level. It suggests that multiple methods can be used simultaneously or sequentially to ensure inclusivity. The text also highlights the limitations and exclusions that can occur with different methods, emphasizing the importance of considering diverse forms of participation.

Do you see opportunities to integration between central and decentralized governments?

The text emphasizes the importance of transparent participation processes and adhering to certain principles, such as providing feedback on participants' contributions. It mentions the existence of universal rules for proper participation, regardless of the specific form or level of participation. Following these rules can help mitigate the significance of selecting a particular participation method.

The text concludes by emphasizing the need for more research and understanding in the field of citizen participation. It suggests that integrating participatory processes across various levels of government can be challenging and complex. Additionally, it highlights the importance of considering the individual and local context when designing participatory processes and the potential trade-offs between efficiency and inclusivity.

D.5. Interview 2

Background Description: The interviewee describes their role as collecting and disseminating insights related to participation and the energy transition. They mention that while some of this information is shared on a website, not all of it is published there. The interviewee engages in various activities, such as addressing topics like the application of behavioral knowledge or dealing with misinformation. They mention the significance of citizen deliberations and emphasize the importance of gathering and spreading knowledge, sometimes through sessions and the utilization of an expert pool.

Which forms of participation are most commonly used on the regional level?

The interviewee points out that citizen deliberations are popular, but they personally observe a greater use of process participation instruments. However, they note that citizen deliberations have gained attention due to the combination of Public Welfare Experimentation (PWE) and citizen deliberation. They believe that people in municipalities are seeking ways to engage in deliberative discussions without having to establish extensive citizen deliberations. The interviewee also highlights the value of digital participation tools as complementary means of reaching different groups.

Do you recognize a visible pattern within the clusters?

The interviewee associates participation in engagement processes with increased enthusiasm among participants. They believe that people enjoy being asked for their opinions and that it is not surprising to see one large group being more or less enthusiastic. They mention that the ”silent center” group presents a challenge, as their inclusion is essential for obtaining a nuanced view through participation processes. However, it can be difficult to reach this group effectively. The interviewee also mentions the presence of pessimists who may have different reasons for being skeptical about participation. They express curiosity about the extent to which pessimists can be engaged or motivated to participate.

Did you expect that, on average, older people and retired people are more often represented in the low-density clusters?

The interviewee acknowledges the cliché of white, highly educated pensioner men dominating cooperative initiatives. They state that both statements could be true, noting that some older individuals may not feel physically capable of participating in person, while many highly educated retired men are actively involved.

Are there minimal differences between participation methods at the national and local levels?

The interviewee speculates on the reasons behind potential differences, noting that many people do not make a clear distinction between levels of government. They express surprise at the possibility of differences and state that, in their view, there is no fundamental distinction in how people want to participate or make decisions at regional, local, or national levels.

Both pessimists and enthusiasts have little trust in politics and government. Do you recognize this?

The interviewee agrees with this observation and believes it is understandable. They highlight the discrepancy between people's expectations of the government to solve problems and the government's often distant nature. They suggest that engaging pessimists in constructive dialogue may reveal deeper levels of concern and ultimately lead to a more nuanced understanding.

Did you expect men, on average, to be more enthusiastic about participation than women?

The interviewee mentions that they have recently come across stories from colleagues suggesting that men tend to be more enthusiastic about participation. They speculate that this gender difference might be related to the technical aspects of the energy transition. They also mention the existing imbalance in leadership positions within cooperatives, emphasizing the importance of further research on this topic.

Do you see obstacles to integrating residents' preferences with central and decentralized participation?

The interviewee identifies two key obstacles. Firstly, there is a competition among various governmental bodies and their respective participation processes for citizens' time and attention. Secondly, they highlight the challenge of including the "silent center" group to achieve a comprehensive view through participatory processes. They suggest that methods like Public Welfare Experimentation (PWE) can contribute to addressing these obstacles.

Do you see opportunities for integrating residents' preferences with central and decentralized participation?

The interviewee believes that adjusting the participation approach to suit specific target groups is possible. They mention an example of a municipality organizing an afternoon event with childcare services to encourage young parents to participate. They emphasize the need for effort and customization to involve different groups effectively. They also mention the benefits of a comprehensive and integrated approach and express the importance of scalability.

Do you see obstacles to integration between central and decentralized governments?

The interviewee discusses the competition and conflicting responsibilities between different levels of government and various challenges related to governance structures and dynamics. They mention the need for coordination and the potential benefits of a structured and experience-based approach. They note that the process requires ongoing adaptation and an understanding of the impact on citizens' lives. The interviewee reflects on the idea of citizens being held accountable or asked to contribute to society. While they are unsure about their personal opinion, they mention that it may lead to a more collective and societal perspective, rather than an individualistic one. They also suggest that as participation increases and positive experiences grow, people may recognize the value and meaningfulness of participation.

What challenges and opportunities do you see for integrating residents' preferences with central and decentralized participation?

The interviewee highlights the challenge of competing demands on citizens' time and the importance of explaining how the results of participation are implemented to maintain trust. They mention the vulnerability of the process and the need for responsiveness from the government. They express optimism about the potential for constructive dialogue and the role of citizen engagement in improving plans and decisions.

D.6. Interview 3

Background Description: The speaker is involved in a national organization for residents affected by wind parks. They emphasize the importance of citizen engagement and the need for a good participatory process in the development of wind parks. They also highlight the role of misinformation and the changing dynamics between the government and society due to increased access to information through the internet.

Which forms of participation are most commonly used on the local level?

Regarding the types of participation methods used in onshore wind projects, the speaker mentions that initially, there was little official participation from the government. However, they mention the use of participation models based on public input or submissions during the legislative process. They explain that different phases of a project require different forms of participation, such as citizen forums, advisory boards, or dialogue tables. The speaker notes that dialogue tables, specifically the Omgevingsraad (Environment Council), have become more commonly used for consultation during the project implementation phase.

Why is integration between citizens' preferences and participatory processes important?

It allows for better understanding and acceptance of decisions. The speaker mentions that many residents feel their interests are not adequately considered and want to be involved in the decision-making process. However, they also acknowledge that some residents may not fully understand the complexities of the decision-making process. They emphasize the importance of providing information and facilitating discussions to help residents comprehend the trade-offs and reach a level of acceptance.

Why is integration between central and decentralised participation important?

The integration between central and decentralized participation is discussed in terms of the relationship between national, regional, and local governments. The lack of consistency and clarity in the roles and responsibilities of different government levels can lead to confusion among residents. The speaker points out that as resistance to wind projects grows, there is a tendency for populist discourse to emerge, further complicating the decision-making process and creating challenges for all levels of government.

Do you recognize a visible pattern within the clusters?

The speaker mentions that older individuals and pensioners tend to be more actively involved in low-threshold participation methods. However, they note that this observation may be skewed due to the specific topic of sustainable energy transition, which may be less relevant for older generations who won't see the long-term impacts of these projects. They also mention that there is a difference in participation rates between men and women depending on the format of participation, with online platforms attracting a more diverse group.

Did you expect that there was no difference between participation at the national level and at the local level?

People see no difference between one government and another. They do suffer that when you move from local to national, the government becomes more and more distant from the citizen.

Both pessimists and enthusiasts have little trust in politics and government. Do you recognize this?

The speaker mentions a complaint against the Dutch government's compliance with the Aarhus Convention, highlighting issues related to early citizen engagement, timely provision of information, and access to justice. They argue that more genuine participation is needed to restore trust in the decision-making process. The speaker provides an example of their organization's involvement in the regional energy strategy and the need for meaningful engagement throughout the process.

Do you see obstacles to integrating residents' preferences with central and decentralized participation?

One of the challenges is the lack of early involvement, which leads to getting stuck in a later stage of the process. For example, in the climate agreement, it is stated that developer participation should be implemented. However, this is not feasible because entrusting the developer with participation creates

mistrust, as they have their own economic interests in the outcome. The government should take the lead in the process, as mentioned in the 2016 handbook. However, the government itself is also not trusted. Although there may not be an alternative to government involvement, it needs to regain trust by assuming a leadership role. Currently, the government tells the developer to handle participation, but instead of acting as a leader, the government focuses more on procedural aspects. The government needs to learn to take on an increasing role as a leader and provide space for the process to involve participating parties. This transition is challenging for the government as it feels a loss of control, but the control lies in assuming the leadership role, not in the execution.

Do you see opportunities for integrating residents' preferences with central and decentralized participation?

To address this integration, capable process mediators need to be involved. This requires capacity-building within municipalities and provinces, as well as the inclusion of individuals who can facilitate such processes effectively. Increasingly, these processes involve environmental management, and it is important to focus on conducting them properly. The required qualities for these mediators include empathy, the ability to understand and relate to others' perspectives, even if they don't agree with them. They should be able to comprehend why someone holds a certain viewpoint, opinion, or interest. Dialogues, such as discussion tables and environmental councils, play a crucial role in laying out different interests and finding a middle ground where conflicts can be resolved. The aim is to create win-win situations for multiple stakeholders through methods like the Multiple Gains Approach (MGA) tables and the Multiple Crunching Process.

What challenges and opportunities do you see for integrating residents' preferences with central and decentralized participation?

The primary challenge is the shifting of responsibilities without sufficient capacity. Another challenge arises when one level of government becomes populist toward the other level when it lacks the authority. For example, when a wind park falls under a national coordination regulation, the local government is often left with various sub-permits to handle. This creates resistance within the local communities, leading to a lack of cooperation with the central government. Opportunities lie in implementing well-structured processes that are feasible and align with societal needs. However, it requires a change in government practices to create space and openness for these processes and to establish a distinct role. Overall, there is a need to bridge the gap between the system world (government functioning) and the living world (people's lives). Addressing populism, enhancing capacity, and ensuring that government representatives truly fulfill their role as representatives are important steps toward achieving integration.

D.7. Interview 4

Background Description: The interviewee works at the climate foundation HIER, which is one of the parties in the participation coalition. Our main focus is on knowledge exchange programs and making the energy transition and related matters more manageable and accessible for people. We develop products and online content to help individuals take steps towards the transition. We provide information and support for residents, as well as for community initiatives and municipalities. The main target groups are individual residents, organized residents' initiatives, and municipalities. Residents and municipalities can be seen as intermediaries in driving action at the local level. A knowledge manager ensures the development and dissemination of relevant knowledge and information.

Although we are not directly involved in the participation process, we support municipalities in their engagement efforts. We assist municipalities in approaching and engaging residents, making their communication appealing to different target groups. Our goal is to ensure that everyone can participate and contribute to the energy transition. We organize events, webinars, and sessions to address the practical challenges of citizen participation. For example, one challenge is achieving sufficient participation rates for district heating projects, where many residents may not understand the benefits or feel motivated to participate. We help identify successful examples and share them with municipalities to facilitate learning and improvement.

Which forms of participation are most commonly used on the local level?

Various forms of participation are used at the local level. These include organizing residents' meet-

ings, providing information through letters, websites, and local newspapers, setting up advisory groups or working groups, conducting surveys or polls, and supporting residents' initiatives. The methods vary depending on the municipality and the specific context. Some municipalities establish smaller groups of residents to gather feedback, while others involve residents in decision-making processes for feasibility studies. These methods aim to involve residents in shaping local policies and projects. Residents' initiatives play an important role as well, where the municipality acts as a facilitator to support and strengthen these initiatives.

Why is integration between citizens' preferences and participatory processes important?

Integration between residents' preferences and participation processes is crucial for the success of the energy transition. To achieve the goal of decarbonization, it is essential that everyone participates. Residents have diverse preferences and needs regarding their involvement in the transition. Therefore, it is important to align the participation methods with residents' preferences to ensure meaningful engagement and to avoid excluding certain groups.

Why is integration between central and decentralised participation important?

Integration between central and decentralized participation is important because both levels play a role in the energy transition. While decentralized participation focuses on local actions and engagement, central participation involves broader policy and decision-making processes. A well-integrated approach ensures that both levels align with each other and with the preferences and needs of residents. It allows for effective coordination and ensures that local actions contribute to the broader goals of the energy transition.

Do you recognize a visible pattern within the clusters? The patterns identified in the clusters are somewhat recognizable, but there are also nuances to consider. The analysis indicates that there is a small group of individuals who are strongly opposed to participation, while a larger group may be more willing to participate in surveys or referendums. Enthusiasm for participation may vary among different demographic groups, such as older adults being more actively involved. However, it is important to note that individual preferences and behaviours can differ significantly within each cluster.

Did you expect that, on average, older people and retired people are more often represented in the low-density clusters?

In my experience, older adults and retirees do tend to be more represented in low-threshold participation clusters. They often have more time and interest in participating in activities such as information meetings and surveys. However, it is important to avoid generalizing and recognize that preferences and motivations for participation can vary among individuals within this demographic group.

Did you expect men, on average, to be more enthusiastic about participation than women?

There is a tendency for more men to participate in energy transition activities compared to women. This can be observed in various settings, including surveys and events. However, it is important to note that this is a general observation and there can be significant variation among individuals. Women may have different priorities or may feel less informed about the topic, which can influence their level of engagement.

Both pessimists and enthusiasts have little trust in politics and government. Do you recognize this?

Yes, it is not surprising that both pessimists and enthusiasts have limited trust in politics and government. This lack of trust can stem from various factors, including scepticism about the effectiveness of policies, concerns about the decision-making process, or previous negative experiences. Building trust between residents and government is crucial for effective participation and collaboration.

Do you see obstacles to integrating residents' preferences with central and decentralized participation?

The lack of clarity regarding sensible choices poses a significant challenge. Homeowners, in particular, are uncertain about making informed decisions regarding their houses and what would be considered a prudent choice. The absence of a clear long-term plan from municipalities adds to this uncertainty. Residents need a clear understanding of future infrastructure developments, such as the implementation of a district heating system, in order to make informed choices about their homes.

Do you see opportunities for integrating residents' preferences with central and decentralized participation?

There are opportunities for integration by engaging with residents and providing them with relevant information. One approach is to create neighbourhood-specific plans for energy-efficient renovations. In the interviewee's own neighbourhood, for example, energy advisors have prepared reports for common types of houses, outlining steps homeowners can take to prepare their homes for various energy sources. These reports do not dictate specific actions but provide guidance for future-proofing homes. Information sessions are organized for each housing type, where residents can express their preferences and interests. Based on this feedback, collective procurement initiatives are pursued with businesses.

While residents themselves organize initiatives, financial support from the municipality and province is crucial for making them feasible. The interviewee mentions that the municipality and its partners provide financial assistance to cover expenses like energy advisor fees. However, information sharing could be improved. The municipality is involved in the implementation of a district heating system in the neighbourhood, and the interviewee's neighbourhood organization collaborates closely with the municipality to stay informed and pass on relevant information to other residents.

A challenge lies in ensuring effective communication reaches all residents and that information is understood correctly. Despite efforts made, some residents may misinterpret or overlook important communications, leading to misinformation spreading within the community. However, there are opportunities for improvement. The interviewee highlights the importance of proactive and tailored communication strategies. In the example of the municipality of Purmerend, building trust and maintaining regular contact with residents was key to successful participation.

What challenges and opportunities do you see for integrating residents' preferences with central and decentralized participation?

At the neighbourhood level, integrating centralized and decentralized participation is a new territory for municipalities. Learning from successful neighbourhood experiences and applying those lessons in subsequent areas is essential. However, overall participation at the municipal level remains low, emphasizing the need to increase the engagement and involvement of residents.

The central theme of the interview is how to involve residents and meet their preferences for participation. Effective communication strategies that cater to different target groups are essential. The interviewee references a study by HIER that explores how to transition from early adopters to the broader population, emphasizing the importance of communication strategies tailored to different groups within the community.

D.8. Interview 5

Which forms of participation are most commonly used on the national level? Informing the community at an early stage, sharing plans with direct neighbours, seeking input on how the community wants to be involved, engaging with energy cooperatives, promoting collaboration with stakeholders, providing financial compensation to communities, establishing area funds, and working closely with local governments.

Why is integration between citizens' preferences and participatory processes important? Engaging citizens and incorporating their preferences helps create better projects and increases local support. However, it is noted that asking citizens what they want doesn't always yield practical answers, so professionals need to use their expertise and make informed decisions.

Why is integration between central and decentralised participation important? The challenges lie in aligning national and local interests, as well as the limited decision-making capacity of local officials due to their focus on local interests. Balancing these perspectives can be time-consuming and requires coordination between different levels of government.

Do you recognize a visible pattern within the clusters? There is a mix of opinions among participants. While opponents of the energy transition appreciate having a platform to express their views, it is noted

that constructive dialogue is important. It is also mentioned that engaging with critics can sometimes lead to surprising connections and finding common ground.

Did you expect that there was no difference between participation at the national level and at the local level? The national level is seen as more professional, and there is recognition that being perceived as an outsider from the central government can create a sense of distance. However, the collaboration with Tennet (a national grid operator) is praised for its professionalism and effectiveness.

Did you expect that, on average, older people and retired people are more often represented in the low-density clusters? Seniors and retirees are generally more represented in participation in general because they have more time available to participate.

Did you expect men, on average, to be more enthusiastic about participation than women? Yes, the person agrees with this observation based on their experience. They mention that men often have a technical background and are more interested in discussing and understanding the topic. Women, on the other hand, tend to approach participation from an emotional perspective rather than a technical interest.

Both pessimists and enthusiasts have little trust in politics and government. Do you recognize this? The person suggests that while enthusiastic groups like the young climate movement might be supportive of participation, they may lack trust in the government due to perceived slow progress. Generally, it is expected that those who are enthusiastic about participation would also be enthusiastic about the energy transition.

Do you see obstacles to integrating residents' preferences with central and decentralized participation? There is a sense of urgency in the energy transition, but the person recognizes the challenge of aligning all stakeholders. The process of participation can be time-consuming, and decisions sometimes take longer due to the desire to ensure all stakeholders are on board. The person also mentions the need for decisive action and clear communication in the process.

Do you see opportunities to integrate residents' preferences with central and decentralized participation? Taking more control from the national level and overriding local decisions is not favoured. The person hopes that the urgency of the energy transition is not as critical as sometimes portrayed. They mention the importance of knowledge and willingness to accept the consequences of the energy transition. It is also suggested to have a broader perspective beyond just energy transition and consider the integral aspects.

What challenges and opportunities do you see for integrating residents' preferences with central and decentralized participation? The person mentions that recent political changes can create confusion and make it difficult to establish a consistent position at the provincial level. They emphasize the need for reliable and transparent local leaders who can convey both positive and negative aspects of projects. Additionally, the complexity of participatory policy-making is highlighted, along with the potential for shortcuts or misuse of participatory input.

D.9. Interview 6

Which forms of participation are most commonly used on the local level?

Common forms of participation at the municipal level include sending out online questionnaires and organizing residents' meetings. Participatory tables and citizen forums are also being used more frequently. The interviewee acknowledges that they have not been directly involved in citizen forums but has heard positive feedback about them being valuable addition.

Why is integration between citizens' preferences and participatory processes important?

The integration of residents' preferences and participation processes is important to strike a balance between accessibility and engagement. While surveys are accessible, they do not lead to significant engagement. Meetings and forums where people can provide input are more appreciated. The inter-

viewee cites the citizen forum as a good example of meaningful participation.

Why is integration between central and decentralised participation important?

Local participation is considered more important than central participation because it directly impacts people's lives and communities. However, the interviewee acknowledges that national participation is also desired. They highlight the challenge of bridging the gap between national and local decision-making and suggest learning from local experiences to improve national policies.

Do you recognize a visible pattern within the clusters?

The interviewee is not surprised by the positive perception of participation among residents. They mention an example of people feeling honored to contribute their thoughts during a citizen forum. However, they note the risk of participation not leading to tangible results, which can contribute to cynicism.

Did you expect men, on average, to be more enthusiastic about participation than women?

Men are generally more enthusiastic about participation than women, and men are often overrepresented in participation activities. However, the interviewee believes the gender balance in surveys is usually quite even.

Did you expect that, on average, older people and retired people are more often represented in the low-density clusters?

The interviewee agrees that older people tend to participate more, not only in participation meetings but also in broader terms. However, they cannot confirm if younger people are more inclined to participate in more intensive forms of engagement.

Both pessimists and enthusiasts have little trust in politics and government. Do you recognize this?

Both pessimists and enthusiasts have little trust in politics and the government. Enthusiasts believe they can influence policies through participation, while a group of citizens has lost trust and no longer wants to be involved.

Do you see obstacles to integrating residents' preferences with central and decentralized participation?

Capacity is a significant obstacle, as some forms of participation require considerable time, personnel, and financial resources. Time pressure within projects can also compromise the quality and thoroughness of participation efforts. Furthermore, the capabilities of those involved in participation, as well as the connection between the government and local communities, need to be considered.

Do you see opportunities for integrating residents' preferences with central and decentralized participation?

The interviewee suggests involving professionals such as area managers and advisors to establish better connections with local communities. They also mention that the availability of more resources, such as funding for personnel, can provide opportunities to enhance participation. Planning participation processes in advance and integrating them more structurally into projects can also be beneficial.

What challenges and opportunities do you see for integrating residents' preferences with central and decentralized participation?

The integration between central and local participation faces the challenge of not comparing and utilizing the abundance of information and data from different levels, which hampers understanding and practical implementation. However, there are opportunities for integration by aligning data and experiences, sharing good examples, conducting national-level verification with input from local research, and having ministry staff actively participate in local engagement processes to gain firsthand experience and improve the interaction between policy and practice.

D.10. Interview 7

Background Description: The interviewee acknowledges that their background is not specifically related to participation but emphasizes the importance of participation in policymaking. They state that good policy cannot be formulated without involving people and reject the notion of policy being imposed

from an ”ivory tower.” They mention various forms of participation, including stakeholder consultations and internet consultations, used by the national government. The interviewee highlights that genuine participation in energy transition projects involves engaging with the local community and addressing their concerns. They mention the presence of NIMBY elements due to the potential inconvenience caused by energy infrastructure. The interviewee expresses the necessity of engaging in dialogue with the affected communities to minimize negative impacts and promote acceptance.

Do you recognize a visible pattern within the clusters? The interviewee acknowledges the general enthusiasm for participation among people but suggests that the level of enthusiasm may vary depending on factors such as gender and technical background. They find it challenging to provide a generalized statement about people's attitudes towards participation and emphasize the need for tailored approaches.

Both pessimists and enthusiasts have little trust in politics and government. Do you recognize this? Regarding the link between trust in politics and concerns about climate change, the interviewee suggests that this sentiment may not be specific to the energy transition. They mention the existence of a silent majority that trusts the government to handle matters adequately and may have fewer grievances. However, those who feel less in control or have limited agency may express more scepticism and disappointment.

Do you see challenges and opportunities for integrating residents' preferences with central and decentralized participation? The interviewee discusses the challenges and opportunities related to preferences influencing participation. They highlight the distinction between policy-making and project implementation, with local participation being the most crucial. They emphasize that effective participation can lead to acceptance, accelerated projects, and the prevention of legal conflicts. The interviewee also suggests that collective solutions are preferable to individual ones.

The interviewee identifies challenges and potential conflicts in citizen participation related to wind and solar energy. For wind energy, they mention the tension between national distance norms and local preferences for customized approaches. Regarding solar energy, the interviewee notes the challenge of timely connection but suggests opportunities in identifying preferred locations on a national level while considering the preservation of agricultural land.

What challenges and opportunities do you see for integrating residents' preferences with central and decentralized participation? The interviewee differentiates between involving citizens in national policies and local project implementation. They emphasize the importance of local participation, especially when citizens directly experience energy infrastructure in their communities. The interviewee mentions the need to invest in effective communication, align national and local interests, and address the concerns of local leaders and residents to bridge the gap between national and local perspectives.

Additional Remarks The interviewee concludes by providing additional remarks. They highlight the importance of distinguishing between policy-making and project implementation. They suggest that involving citizens in policymaking requires a focus on informing and explaining the energy transition process. The interviewee emphasizes the significance of listening to the concerns of local leaders, investing in effective communication, and aligning national and local perspectives for successful projects.

E

Summary focus group with policy-officers

This appendix presents the results of a conversation during a strategy session attended by 10 policy officers from the Ministry of Economic Affairs and Climate, who deal with participation in climate policy.

First, the clusters for the first closed consultation were presented, then the different opportunities and challenges (using the figures) were presented. The conversation below is in a reaction on these findings.

Policy officer 1: What are the reasons that people would especially not want to participate? Does that prompt you to adjust your forms of participation (such as childcare in citizens' forum) etc. have you asked that out?

Researcher: This has not been asked specifically. However, the opportunity was given to indicate with an open answer how you want to participate? In quotes following from this, pessimists indicate, for example: "I don't want participation, because without those lengthy processes we can do something faster against climate change". Childcare was not looked at specifically, but could also have been mentioned in the quotes.

Policy officer 2: You mentioned that men are more enthusiastic than women about participation in the energy transition. Do you think that addition is influential? That women are more enthusiastic when it comes to care?

Researcher: That is indeed one of the explanations that came out of interviews.

Policy officer 2: Do you see this with nuclear power as well?

Policy officer 3: Not necessarily, at information evenings the distribution is mostly the same, but no research has been done like here.

Policy officer 4: You mention one of the clusters of pessimists, is there broader research on it? You don't have to be a pessimist to want more measures.

Researcher: names its own interpretation, but comes from reactions I read in the quotes and the distribution within the clusters. Is really about pessimistic towards participation, so not pessimistic from energy transition. However, this is still being looked at.

Policy officer 4: About the difference between the system world and the living world, I do recognise that. With the Energy Main Structure Plan, a system vision where there was a submission of the research approach. This was at the same time as all the RES search areas where residents revolted about participating around the location of wind turbines. While residents wanted to participate about nuclear power, offshore wind etc., So I did like the fact that the submission for inspection of research approach PEH took place at that time. But we eventually received 42 views, which is really very few for the whole of the Netherlands. So a lot of criticism was that people were wondering what their direct interest was.

So I was wondering: from your research, do you have any advice on that for us, to do it in a different way that better suits them?

Researcher: So what you're saying is that people are more interested if it's about a direct interest. So not necessarily whether it's about local or nartional issues, but direct interest. The most important thing is to show that every opinion matters, and inform about the option they have and what the effect is. Doing that handson is difficult, though.

Policy officer 3: Not a question but observation. In Borssele, we encounter many projects at that location, such as hydrogen, wind-on-sea landfall, etc. People have information evenings there three times a week, so they go crazy with all the participation. We always go there from our bubble. In Borssele people think: we're done with it, constantly being overcharged. Kern is now going to map out what is going on and what the relationship is.

Researcher: This is a great example of where an integrated approach can be useful.

Policy officer 5: We say: the risk is, little or low trust in government. But at the same time, people want the government to take more control in participation processes. Isn't the fear then that everything is predetermined? Do you have any tips on that? That it really is an opportunity and you don't bring back distrust?

Researcher: part low trust comes from idea that people's influence is limited. People want a process where the government does organise the process, but has less influence on the content of the process, so in the long run the citizen might see that what came out of the process is followed upon.

F

Covariates

F.1. Covariates added to LCCA

label	model	question
lft3	dem	lft3
gender	dem	gender
opl	dem	opl
sta1	att	Ik twijfel aan hoe erg klimaatverandering is
sta2	att	Ik maak me zorgen om klimaatverandering
sta3	att	Ik vind dat de Nederlandse regering meer zou moeten doen om klimaatverandering tegen te gaan
sta4	att	Ik vind het goed dat de Nederlandse regering ervoor probeert te zorgen dat we in
std1	att	Ik acht mijzelf in staat actief deel te nemen aan de politiek
std2	att	Ik begrijp de belangrijkste onderwerpen waar politici beslissingen over moeten nemen
std3	att	Ik ben tevreden met de democratie in Nederland
std4	att	Als er snelle beslissingen genomen moeten worden door de regering, dan mag burge
std5	att	De belangrijkste politieke beslissingen zouden gemaakt moeten worden door het volk
std6	att	Politici moeten zich laten leiden door de mening van het volk
ste1	att	Deskundigen zoals wetenschappers en experts
ste2	att	Tweede Kamerleden
ste3	att	De regering (o.a minister Rob Jetten)
ste4	att	Het Ministerie van Economische Zaken en Klimaat
ste5	att	Familie en kennissen
ste6	att	Nieuwsmedia zoals NOS, RTL, en landelijke kranten
ste7	att	Sociale media
won	dem	Type woning
fin	dem	Financiele gesteldheid
prov	dem	provincie
gemgr	dem	Gemeentegrootte
werk	dem	werk
advies	att	Advies
partij	att	Welke partij
stemmen	att	Ben je van plan te stemmen

Figure F.1: Covariates added to LCCA

F.2. Results of the covariates

Covariates	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5		
lft3						p-value	2,0e-34566
35-64 jaar	0,5358	0,4861	0,6414	0,5734	0,5164		
65 jaar of ouder	0,1523	0,1617	0,1866	0,3279	0,2239		
Jonger dan 35 jaar	0,3119	0,3434	0,172	0,0987	0,2595		
Zeg ik liever niet	0	0,0088	0	0	0,0002		
gender						p-value	1,1e-1782272
Anders/ zeg ik liever niet	0	0,0066	0	0	0		
Man	0,5791	0,4401	0,5477	0,442	0,3226		
Vrouw	0,4209	0,5532	0,4523	0,558	0,6774		
opl						p-value	1,6e-3577
Hoog	0,4157	0,3319	0,4878	0,3518	0,2669		
Laag	0,1386	0,2369	0,1611	0,1589	0,2478		
Midden	0,4412	0,4135	0,3511	0,4742	0,4728		
Zeg ik liever niet	0,0045	0,0176	0	0,0151	0,0125		
won						p-value	0,0045
Ik woon bij iemand in huis	0,0441	0,1254	0,0296	0,0389	0,1121		
Ik woon in een huurwoning	0,334	0,3506	0,3578	0,4647	0,4956		
Ik woon in een koopwoning	0,6131	0,4939	0,6093	0,4878	0,3814		
Zeg ik liever niet / Weet ik niet	0,0088	0,03	0,0033	0,0086	0,0109		
werk						p-value	7,0e-746333
Anders	0,03	0,0476	0,0549	0,0692	0,0677		
Combinatie studie en parttime baan	0,0153	0,034	0,005	0	0,0144		
Fulltime werkzaam in loondienst (?35 uur)	0,3506	0,2401	0,3511	0,2103	0,1872		
HBO/WO student	0,0288	0,0436	0,0257	0,0031	0,0861		
Huisvrouw of huisman	0,0516	0,0634	0,0575	0,1004	0,1152		
MBO student	0,0762	0,0784	0,0097	0	0,0245		
Middelbare scholier	0,0201	0,041	0,0143	0	0,0221		
Ondernemer (ZZP)	0,0568	0,0441	0,027	0,0459	0,0432		
Ondernemer (met	0,0131	0,0105	0,0044	0	0,0234		
Parttime werkzaam in loondienst (< 35 uur)	0,1784	0,1991	0,1961	0,1984	0,1646		
VUT/Gepensioneerd	0,1406	0,1385	0,1902	0,281	0,1908		
Vrijwilliger	0,0106	0,0231	0,0258	0,0423	0,0486		
Werkzoekend	0,0169	0,0195	0,035	0,0421	0,012		
Zeg ik liever niet / Weet ik niet	0,011	0,0171	0,0033	0,0073	0		

Figure F.2: Demographic covariates added to closed 1

Covariates	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5	
sta1						p-value
	0,001	0,0137	0	0,0025	0,0115	
Eens	0,1667	0,2887	0,2105	0,2713	0,1911	
Hel eens	0,1198	0,0882	0,1646	0,071	0,1474	
Hel oneens	0,2237	0,1328	0,3912	0,4176	0,2107	
Neutraal	0,1641	0,2243	0,0389	0,0599	0,256	
Oneens	0,3247	0,2523	0,1948	0,1778	0,1833	
sta2						p-value
	0	0,0092	0	0	0,0113	
Eens	0,5217	0,4633	0,2874	0,2995	0,3139	
Hel eens	0,2175	0,1503	0,4825	0,2876	0,1529	
Hel oneens	0,0165	0,0327	0,0479	0,1256	0,1215	
Neutraal	0,1846	0,231	0,0603	0,1736	0,2345	
Oneens	0,0597	0,1135	0,1219	0,1137	0,1659	
sta3						p-value
	0,0001	0,014	0	0	0,033	
Eens	0,4515	0,3667	0,2847	0,2757	0,2649	
Hel eens	0,1865	0,1146	0,4284	0,2239	0,1157	
Hel oneens	0,0296	0,0115	0,0676	0,1148	0,089	
Neutraal	0,2482	0,3733	0,1209	0,2539	0,2912	
Oneens	0,0842	0,1199	0,0985	0,1317	0,2063	
sta4						p-value
	0	0,0139	0,0055	0	0,0113	
Eens	0,464	0,4655	0,2883	0,3589	0,4191	
Hel eens	0,3189	0,1677	0,4655	0,3221	0,1447	
Hel oneens	0,0132	0,0365	0,0336	0,0619	0,0343	
Neutraal	0,1386	0,2634	0,0943	0,1994	0,2785	
Oneens	0,0653	0,0531	0,1128	0,0577	0,1121	
std1						p-value
	0,0039	0,0371	0,0165	0,0298	0,0565	
Eens	0,4265	0,1611	0,4667	0,1259	0,1025	
Hel eens	0,115	0,0915	0,2907	0,0484	0,0279	
Hel oneens	0,0339	0,1166	0,0571	0,1895	0,4323	
Neutraal	0,303	0,3225	0,1206	0,3064	0,1643	
Oneens	0,1177	0,2711	0,0484	0,3	0,2165	
std2						p-value
	0,002	0,0414	0	0	0,0458	
Eens	0,669	0,3757	0,4792	0,6235	0,2328	
Hel eens	0,1289	0,0414	0,3628	0,1639	0,023	
Hel oneens	0,0021	0,042	0,0256	0,0113	0,123	
Neutraal	0,1894	0,3848	0,0849	0,1305	0,3134	
Oneens	0,0087	0,1147	0,0475	0,0708	0,2621	

std3						p-value
	0,006	0,0511	0,0054	0	0,1114	
Eens	0,3395	0,2389	0,1845	0,3967	0,2347	
Hel eens	0,0729	0,0213	0,1594	0,0419	0,0285	
Hel oneens	0,0264	0,1183	0,1451	0,1632	0,231	
Neutraal	0,3714	0,36	0,2565	0,1817	0,3149	
Oneens	0,1838	0,2105	0,2491	0,2164	0,0796	
std4						p-value
	0,0292	0,051	0,0056	0,0252	0,1827	
Eens	0,2935	0,2102	0,1706	0,1842	0,1059	
Hel eens	0,0916	0,0323	0,1013	0,0318	0,0544	
Hel oneens	0,0678	0,0913	0,3007	0,2726	0,1696	
Neutraal	0,2457	0,3358	0,1949	0,1408	0,3212	
Oneens	0,2722	0,2794	0,2269	0,3455	0,1661	
std5						p-value
	0	0,0531	0	0,0101	0,147	
Eens	0,323	0,2363	0,1807	0,2509	0,1577	
Hel eens	0,094	0,0894	0,3857	0,1844	0,1203	
Hel oneens	0,0713	0,0549	0,0439	0,0398	0,1383	
Neutraal	0,3268	0,3635	0,178	0,2772	0,2044	
Oneens	0,1848	0,2028	0,2117	0,2376	0,2323	
std6						p-value
	0,0008	0,0821	0	0	0,0562	
Eens	0,5003	0,3529	0,2864	0,4808	0,3567	
Hel eens	0,1381	0,1028	0,4729	0,3354	0,1871	
Hel oneens	0,0083	0,0501	0,0109	0	0,1258	
Neutraal	0,2929	0,287	0,1642	0,1607	0,2286	
Oneens	0,0595	0,125	0,0656	0,0231	0,0456	
ste1						p-value
Bijna niet	0,0116	0,0904	0,0544	0,108	0,1301	
Een beetje	0,2664	0,3205	0,2458	0,2695	0,1528	
Hel niet	0,0041	0,0488	0,0704	0,0051	0,1812	
Helemaal	0,1771	0,0953	0,2406	0,1681	0,0978	
Ik vertrouw ze	0,5388	0,3571	0,3888	0,4393	0,3151	
Zeg ik niet/weet niet	0,002	0,088	0	0,01	0,123	
ste2						p-value
Bijna niet	0,2317	0,2419	0,2973	0,2174	0,2062	
Een beetje	0,4541	0,358	0,2737	0,4087	0,287	
Hel niet	0,0496	0,1571	0,244	0,2542	0,2911	
Helemaal	0,0189	0,0211	0,0673	0	0	
Ik vertrouw ze	0,2337	0,1316	0,1175	0,1197	0,0825	
Zeg ik niet/weet niet	0,0119	0,0904	0,0001	0	0,1333	

ste3						p-value
Bijna niet	0,2017	0,2482	0,2051	0,2279	0,1967	
Een beetje	0,4404	0,3559	0,2297	0,2837	0,1824	
Hel niet	0,1243	0,1418	0,3822	0,3448	0,4116	
Helemaal	0,0335	0,0289	0,0794	0	0,0004	
Ik vertrouw ze	0,1828	0,1115	0,0981	0,1332	0,0632	
Zeg ik niet/weet niet	0,0172	0,1137	0,0056	0,0105	0,1458	
ste4						p-value
Bijna niet	0,1864	0,2382	0,2742	0,2295	0,2897	
Een beetje	0,4216	0,3685	0,2137	0,2863	0,1869	
Hel niet	0,0706	0,1182	0,3001	0,3114	0,2524	
Helemaal	0,0257	0,0323	0,0709	0	0,0346	
Ik vertrouw ze	0,284	0,1181	0,1355	0,1674	0,0891	
Zeg ik niet/weet niet	0,0116	0,1246	0,0056	0,0054	0,1473	
ste5						p-value
Bijna niet	0,0373	0,0849	0,0055	0,0929	0,1108	
Een beetje	0,2419	0,2464	0,1799	0,2632	0,1854	
Hel niet	0,0083	0,0523	0,0174	0,0241	0,0811	
Helemaal	0,2565	0,1306	0,2993	0,1944	0,2062	
Ik vertrouw ze	0,4281	0,4271	0,4867	0,3794	0,3242	
Zeg ik niet/weet niet	0,028	0,0588	0,0111	0,0461	0,0922	
ste6						p-value
Bijna niet	0,131	0,1516	0,1654	0,1239	0,1827	
Een beetje	0,3754	0,376	0,2916	0,3551	0,2585	
Hel niet	0,0238	0,1097	0,1269	0,1215	0,2279	
Helemaal	0,051	0,0555	0,1298	0,0473	0,0116	
Ik vertrouw ze	0,4066	0,2173	0,2844	0,3438	0,1977	
Zeg ik niet/weet niet	0,0122	0,09	0,0019	0,0085	0,1216	
ste7						p-value
Bijna niet	0,3539	0,2628	0,2898	0,2699	0,3194	
Een beetje	0,2353	0,3416	0,2363	0,1547	0,0759	
Hel niet	0,2162	0,2041	0,3184	0,5618	0,431	
Helemaal	0,061	0,0167	0,0816	0	0	
Ik vertrouw ze	0,1077	0,0993	0,0554	0,0002	0,0485	
Zeg ik niet/weet niet	0,026	0,0755	0,0185	0,0135	0,1253	

partij						p-value
	0,0586	0,1604	0,0157	0,0258	0,2694	
50Plus	0,0059	0	0	0	0,0227	
BBB (BoerenBurgerBeweging)	0,1288	0,0489	0,0689	0,1049	0,0575	
BIJ1	0,0118	0,0023	0,0055	0	0,0114	
BVNL (Belang van Nederland)	0,0205	0,0357	0	0	0,0466	
CDA (Christen-Democratisch Appèl)	0,0302	0,0481	0,0452	0,0145	0,0312	
CU (Christen Unie)	0,017	0,03	0,0436	0,0674	0,057	
D66 (Democraten	0,0717	0,0235	0,0183	0,0257	0,0225	
DENK	0,0102	0,0085	0,0056	0,0052	0,0012	
Een andere partij	0,0088	0,0057	0,0162	0,0056	0	
Een regionale partij	0,0079	0,0139	0,0272	0,005	0	
FvD (Forum voor	0	0,0269	0,0514	0,0201	0,0337	
GroenLinks	0,042	0,0513	0,1054	0,074	0,0511	
JA21	0,0215	0	0,0481	0,0573	0,0447	
PVV (Partij voor de Vrijheid)	0,1095	0,0595	0,1045	0,123	0,0471	
PvdA (Partij voor de Arbeid)	0,0474	0,0467	0,0662	0,0426	0,0362	
PvdD (Partij voor de Dieren)	0,0416	0,0176	0,0395	0,0405	0	
SGP (Staatkundig Gereformeerde Partij)	0,0043	0,0121	0,0371	0,014	0	
SP (Socialistische Partij)	0,0502	0,0467	0,0849	0,0621	0,0284	
VVD (Volkspartij voor Vrijheid en Democratie)	0,0849	0,0499	0,0612	0,0361	0,0342	
Volt	0,0032	0,0133	0	0,0132	0	
Weet ik niet	0,169	0,2357	0,1214	0,197	0,0983	
Zeg ik liever niet	0,0548	0,0634	0,0341	0,0659	0,1067	

Figure F.3: Attitude covariates added to closed 1

Covariates	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5	Cluster6		
gender							p-value	0,00069
Anders/ zeg ik liever niet	0,0314	0,0308	0,0271	0,0418	0,0297	0,0513		
Man	0,6897	0,6933	0,737	0,6556	0,7781	0,6425		
Vrouw	0,2789	0,276	0,2359	0,3025	0,1922	0,3063		
fin							p-value	8,80E-127
	0,0035	0,0032	0,0036	0,0173	0,0051	0		
Genoeg geld	0,5656	0,5927	0,5624	0,5854	0,5712	0,6226		
Meer dan genoeg	0,3718	0,3391	0,364	0,2993	0,3796	0,2763		
Te weinig geld	0,0299	0,0269	0,0416	0,0321	0,0211	0,048		
Zeg ik liever niet/ weet ik niet	0,0291	0,038	0,0284	0,0658	0,023	0,053		
gemgr							p-value	5,50E-07
	0,0056	0,0076	0,0051	0,036	0,002	0,0045		
Grote gemeente	0,4145	0,4176	0,3373	0,3229	0,4136	0,3408		
Dorp / heel kleine gemeente (minder dan 5,000 inwoners)	0,0207	0,0268	0,0302	0,0305	0,0213	0,0431		
Kleine gemeente	0,1703	0,1936	0,2376	0,1974	0,1675	0,1963		
Middelgrote gemeente (25,000 - 100,000 inwoners)	0,3694	0,3353	0,3692	0,3473	0,3755	0,3665		
Zeg ik liever niet/ weet ik niet	0,0195	0,0192	0,0206	0,066	0,02	0,0487		
werk							p-value	7,70E-11
	0,0024	0,0029	0,0036	0,0227	0,0042	0,008		
Anders	0,0193	0,0299	0,0285	0,0287	0,0265	0,039		
Combinatie studie en parttime baan	0,0116	0,0127	0,0119	0,0043	0,0044	0		
Fulltime werkzaam in loondienst (?35 uur)	0,4158	0,4408	0,3952	0,345	0,3819	0,3044		
HBO/WO student	0,0224	0,0206	0,022	0,0099	0,0101	0,0216		
Huisvrouw of huisman	0,003	0,0059	0,0048	0,0067	0,0021	0,011		
MBO student	0,0009	0,0032	0,0012	0,0207	0,0001	0,0022		
Middelbare scholier	0,0022	0,0043	0,0032	0,0027	0,0001	0,0002		
Ondernemer (ZZP)	0,1115	0,1098	0,1356	0,1242	0,1362	0,1027		
Ondernemer (met	0,0329	0,0441	0,0414	0,035	0,0321	0,0251		
Parttime werkzaam in loondienst (< 35 uur)	0,1704	0,1484	0,1345	0,1422	0,1306	0,1646		
VUT/Gepensioneerd	0,1725	0,1312	0,1511	0,1947	0,2047	0,2563		
Vrijwilliger	0,0218	0,0251	0,0399	0,0174	0,0423	0,0227		
Werkzoekend	0,0029	0,0063	0,0043	0,0052	0,0115	0,0077		
Zeg ik liever niet / Weet ik niet	0,0103	0,0151	0,0229	0,0408	0,0131	0,0346		

Figure F.4: Demographic covariates added to open

Covariates	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5	Cluster6		
sta4							p-value	3,8e-301562
	0	0,0032	0	0,0013	0,0016	0		
Eens	0,1837	0,2471	0,1474	0,2689	0,187	0,2346		
Hel eens	0,6402	0,6542	0,7127	0,5613	0,7638	0,4803		
Hel oneens	0,0523	0,0144	0,0471	0,0462	0,0057	0,1102		
Neutraal	0,0604	0,05	0,0438	0,0617	0,0227	0,0805		
Oneens	0,0634	0,0311	0,049	0,0605	0,0192	0,0944		
std1							p-value	1,10E-14
	0,0067	0,0089	0,0076	0,0441	0,0091	0,0137		
Eens	0,4026	0,4753	0,3778	0,3823	0,4416	0,369		
Hel eens	0,3243	0,2615	0,4853	0,2181	0,37	0,2222		
Hel oneens	0,0218	0,0115	0,0087	0,0457	0,0098	0,0755		
Neutraal	0,1722	0,1719	0,088	0,2116	0,1094	0,1999		
Oneens	0,0724	0,071	0,0326	0,0983	0,0602	0,1196		
std2							p-value	2,1e-96818
	0,0055	0,0037	0,0063	0,1172	0,0015	0,004		
Eens	0,552	0,6474	0,4158	0,5144	0,5255	0,5617		
Hel eens	0,3981	0,29	0,5449	0,244	0,4342	0,3284		
Hel oneens	0,0036	0,0033	0,0031	0,0021	0	0,0091		
Neutraal	0,0361	0,0474	0,022	0,1061	0,0346	0,0833		
Oneens	0,0046	0,0082	0,0079	0,0162	0,0042	0,0135		
std4							p-value	2,70E-05
	0,0124	0,0132	0,0093	0,1575	0,0138	0,0179		
Eens	0,31	0,3352	0,2501	0,2989	0,3115	0,2522		
Hel eens	0,074	0,0939	0,1087	0,1377	0,1642	0,1145		
Hel oneens	0,1692	0,083	0,1967	0,0607	0,1042	0,2156		
Neutraal	0,1898	0,2473	0,1833	0,1812	0,2049	0,1848		
Oneens	0,2446	0,2274	0,2518	0,164	0,2014	0,215		
std5							p-value	3,30E-16
	0,0108	0,0113	0,014	0,1653	0,0168	0,0102		
Eens	0,1958	0,1425	0,1729	0,0715	0,064	0,1612		
Hel eens	0,1257	0,0307	0,1197	0,0354	0,0141	0,17		
Hel oneens	0,1375	0,1423	0,1618	0,2343	0,3424	0,122		
Neutraal	0,2271	0,2557	0,2164	0,1825	0,1514	0,2168		
Oneens	0,303	0,4174	0,3152	0,3111	0,4114	0,3198		
std6							p-value	0,00047
	0,0079	0,0063	0,0096	0,1781	0,0074	0,013		
Eens	0,3245	0,3272	0,3136	0,2372	0,1894	0,3092		
Hel eens	0,1512	0,0474	0,1628	0,0556	0,0429	0,177		
Hel oneens	0,0419	0,0497	0,0605	0,0674	0,1388	0,053		
Neutraal	0,2775	0,3189	0,2575	0,2547	0,3398	0,2769		
Oneens	0,1971	0,2506	0,1961	0,207	0,2818	0,1708		

ste1							p-value	4,8e-713
	0,016	0,0238	0,0221	0,2013	0,023	0,0254		
Bijna niet	0,0177	0,0092	0,023	0,01	0,0102	0,05		
Een beetje	0,1213	0,0805	0,0854	0,1247	0,0362	0,177		
Hel niet	0,0081	0,0034	0,0125	0,0141	0	0,0406		
Helemaal	0,3538	0,3112	0,3783	0,2071	0,4082	0,2673		
Ik vertrouw ze	0,4778	0,5659	0,4764	0,4265	0,5213	0,429		
Zeg ik niet/weet niet	0,0053	0,0061	0,0023	0,0163	0,0011	0,0108		
ste3							p-value	1,20E-05
	0,0059	0,0064	0,0044	0,1893	0,0034	0,0108		
Bijna niet	0,1476	0,1163	0,1322	0,1197	0,1004	0,1678		
Een beetje	0,3481	0,4339	0,3154	0,3155	0,3663	0,2898		
Hel niet	0,1699	0,0814	0,1589	0,0931	0,0335	0,2717		
Helemaal	0,0266	0,0279	0,0423	0,0155	0,0482	0,0042		
Ik vertrouw ze	0,2973	0,3232	0,3344	0,2477	0,439	0,2332		
Zeg ik niet/weet niet	0,0046	0,0108	0,0124	0,0192	0,0093	0,0226		
ste4							p-value	4,70E-06
	0,0073	0,0071	0,0047	0,1992	0,0037	0,0065		
Bijna niet	0,1537	0,1195	0,1535	0,1002	0,1245	0,1834		
Een beetje	0,344	0,3918	0,3296	0,2951	0,3512	0,2517		
Hel niet	0,152	0,0724	0,1399	0,0951	0,0481	0,2281		
Helemaal	0,029	0,0451	0,0531	0,0229	0,0497	0,0189		
Ik vertrouw ze	0,3043	0,339	0,308	0,253	0,403	0,2727		
Zeg ik niet/weet niet	0,0097	0,0251	0,0113	0,0346	0,0198	0,0388		
ste6							p-value	0,028
	0,0069	0,0064	0,0032	0,1958	0,0034	0,0065		
Bijna niet	0,0999	0,0818	0,0738	0,0841	0,0685	0,1381		
Een beetje	0,3039	0,3488	0,2973	0,2789	0,3115	0,2792		
Hel niet	0,08	0,0212	0,0697	0,0438	0,0264	0,1821		
Helemaal	0,0636	0,0531	0,0931	0,0388	0,0777	0,0499		
Ik vertrouw ze	0,4417	0,4803	0,4582	0,3391	0,5028	0,3327		
Zeg ik niet/weet niet	0,004	0,0084	0,0046	0,0195	0,0097	0,0115		
ste7							p-value	5,10E-162
	0,0086	0,0068	0,0084	0,1999	0,0036	0,0096		
Bijna niet	0,3696	0,4139	0,3775	0,2805	0,3724	0,3045		
Een beetje	0,1924	0,2253	0,1979	0,1557	0,1522	0,1784		
Hel niet	0,3843	0,311	0,3686	0,3166	0,4294	0,4428		
Helemaal	0,0007	0,0042	0,0051	0,0016	0,0062	0		
Ik vertrouw ze	0,01	0,0081	0,0173	0,0036	0,0061	0,0211		
Zeg ik niet/weet niet	0,0345	0,0307	0,0252	0,0421	0,0301	0,0437		

advies							p-value	1,60E-18
	0,0366	0,0548	0,0348	0,1464	0,0349	0,0329		
De overheid moet het advies van experts overnemen	0,0663	0,0534	0,0805	0,1062	0,091	0,127		
Het advies van de inwoners is belangrijker dan het advies van de	0,8811	0,8731	0,8665	0,7087	0,8371	0,8028		
Zeg ik liever niet / Weet ik niet	0,0159	0,0187	0,0182	0,0387	0,037	0,0373		
partij							p-value	5,2e-62316251
	0,0461	0,0593	0,0367	0,2565	0,0251	0,0861		
50Plus	0	0	0,0012	0,0013	0	0		
BBB (BoerenBurgerBeweging)	0,0378	0,0297	0,0414	0,0245	0,0141	0,0596		
BIJ1	0,0043	0,0063	0,0012	0,0003	0,0035	0,0035		
BVNL (Belang van Nederland)	0,0051	0	0,0062	0,0039	0	0,0042		
CDA (Christen-Democratisch Appèl)	0,0186	0,0212	0,0141	0,0151	0,031	0,0037		
CU (Christen Unie)	0,0225	0,0113	0,0138	0,0205	0,0311	0,0069		
D66 (Democraten	0,0698	0,0727	0,0814	0,0588	0,1004	0,0394		
DENK	0	0,0001	0	0	0,0013	0		
Een andere partij	0,0048	0,0014	0,0055	0,0094	0,0027	0,0033		
Een regionale partij	0,0167	0,0108	0,0124	0,0109	0,0047	0,0223		
FvD (Forum voor	0,0075	0,0029	0,0097	0	0	0,0216		
GroenLinks	0,1801	0,1789	0,2116	0,1111	0,2347	0,1191		
JA21	0,0413	0,0123	0,0266	0,0189	0,0044	0,0486		
PVV (Partij voor de Vrijheid)	0,0082	0,0016	0,0116	0,0011	0	0,0197		
PvdA (Partij voor de Arbeid)	0,0303	0,0499	0,0464	0,0405	0,0714	0,0469		
PvdD (Partij voor de Dieren)	0,1014	0,1003	0,1346	0,0463	0,096	0,0703		
SGP (Staatkundig Gereformeerde Partij)	0,0044	0,0039	0,0133	0,0105	0,0032	0,0234		
SP (Socialistische Partij)	0,0167	0,0054	0,0209	0,0118	0,0083	0,0111		
VVD (Volkspartij voor Vrijheid en Democratie)	0,0386	0,056	0,0288	0,0401	0,0597	0,0425		
Volt	0,0475	0,054	0,0463	0,0293	0,0554	0,0134		
Weet ik niet	0,1784	0,2	0,1211	0,15	0,1366	0,183		
Zeg ik liever niet	0,12	0,1217	0,115	0,1391	0,1166	0,1715		
stemmen							p-value	2,4e-31135
	0	0	0,0035	0,1547	0	0		
Ik twijfel of ik ga stemmen	0,0225	0,0485	0,0059	0,0661	0,0195	0,0524		
Ja, ik ga zeker	0,9685	0,9368	0,9786	0,7493	0,9763	0,9259		
Nee, ik ga zeker niet stemmen	0,009	0,0147	0,012	0,0299	0,0041	0,0217		

Figure F.5: Attitude covariates added to open

Covariates	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5		
lft3						p-value	1,5e-29769
35-64 jaar	0,44	0,43	0,55	0,54	0,46		
65 jaar of ouder	0,26	0,15	0,28	0,17	0,28		
Jonger dan 35 jaar	0,30	0,41	0,17	0,29	0,26		
Zeg ik liever niet	0,00	0,00	0,00	0,00	0,00		
gender						p-value	1,0e-58204
Anders/ zeg ik liever niet	0,00	0,00	0,00	0,00	0,01		
Man	0,45	0,52	0,41	0,53	0,31		
Vrouw	0,55	0,48	0,59	0,47	0,68		
opl						p-value	3,4e-4370
Hoog	0,31	0,37	0,29	0,42	0,28		
Laag	0,24	0,16	0,25	0,20	0,31		
Midden	0,42	0,46	0,46	0,37	0,41		
Zeg ik liever niet	0,02	0,01	0,00	0,01	0,00		
won						p-value	3,6e-2693
Ik woon bij iemand in huis	0,05	0,05	0,04	0,03	0,04		
Ik woon in een huurwoning	0,39	0,40	0,41	0,42	0,39		
Ik woon in een koopwoning	0,54	0,55	0,55	0,53	0,55		
Zeg ik liever niet / Weet ik niet	0,02	0,00	0,00	0,02	0,02		
fin						p-value	0,03
Genoeg geld	0,61	0,60	0,64	0,61	0,66		
Meer dan genoeg	0,13	0,20	0,07	0,20	0,18		
Te weinig geld	0,19	0,18	0,26	0,16	0,12		
Zeg ik liever niet/ weet ik niet	0,07	0,03	0,03	0,04	0,05		
prov						p-value	2,8e-63031
Drenthe	0,05	0,03	0,03	0,07	0,01		
Flevoland	0,03	0,06	0,02	0,02	0,06		
Friesland	0,04	0,06	0,03	0,09	0,01		
Gelderland	0,12	0,11	0,09	0,14	0,12		
Groningen	0,04	0,05	0,02	0,03	0,04		
Limburg	0,07	0,08	0,06	0,05	0,04		
Noord-Brabant	0,14	0,12	0,19	0,10	0,19		
Noord-Holland	0,15	0,13	0,16	0,11	0,11		
Overijssel	0,06	0,06	0,09	0,08	0,06		
Utrecht	0,06	0,08	0,05	0,07	0,07		
Zeeland	0,03	0,03	0,02	0,03	0,02		
Zeg ik liever niet / Weet ik niet	0,00	0,00	0,00	0,00	0,00		
Zuid-Holland	0,20	0,20	0,23	0,20	0,26		
gemgr						p-value	0,02
Grote gemeente	0,24	0,28	0,29	0,27	0,31		
Dorp / heel kleine gemeente (minder dan 5,000 inwoners)	0,17	0,13	0,12	0,15	0,12		
Kleine gemeente	0,27	0,26	0,22	0,16	0,26		
Middelgrote gemeente (25,000 - 100,000 inwoners)	0,29	0,31	0,35	0,42	0,25		
Zeg ik liever niet/ weet ik niet	0,03	0,02	0,02	0,01	0,06		
werk						p-value	4,4e-3906
Anders	0,04	0,04	0,12	0,08	0,08		
Combinatie studie en parttime baan	0,02	0,02	0,00	0,02	0,00		
Fulltime werkzaam in loondienst (?35 uur)	0,26	0,36	0,24	0,36	0,20		
HBO/WO student	0,04	0,05	0,02	0,02	0,01		
Huisvrouw of huisman	0,08	0,05	0,08	0,05	0,11		
MBO student	0,04	0,04	0,00	0,01	0,03		
Middelbare scholier	0,01	0,03	0,00	0,02	0,01		
Ondernemer (ZZP)	0,03	0,04	0,05	0,06	0,05		
Ondernemer (met	0,01	0,02	0,01	0,02	0,01		
Parttime werkzaam in loondienst (< 35 uur)	0,18	0,17	0,16	0,19	0,20		
VUT/Gepensioneerd	0,24	0,14	0,25	0,15	0,24		
Vrijwilliger	0,02	0,03	0,04	0,02	0,02		
Werkzoekend	0,01	0,03	0,01	0,02	0,01		
Zeg ik liever niet / Weet ik niet	0,02	0,00	0,00	0,01	0,03		

Figure F.6: Demographic covariates added to closed 2

Covariates	Cluster1	Cluster2	Cluster3	Cluster4	Cluster5		
sta1						p–value	1,7e-2310
	0,00	0,00	0,00	0,01	0,00		
Eens	0,25	0,24	0,18	0,25	0,20		
Hel eens	0,07	0,19	0,09	0,23	0,05		
Hel oneens	0,21	0,26	0,27	0,25	0,28		
Neutraal	0,20	0,13	0,16	0,08	0,19		
Oneens	0,25	0,18	0,30	0,18	0,28		
sta2						p–value	8,5e-41565
	0,00	0,01	0,00	0,02	0,00		
Eens	0,46	0,48	0,33	0,30	0,46		
Hel eens	0,18	0,30	0,20	0,37	0,14		
Hel oneens	0,04	0,03	0,10	0,10	0,05		
Neutraal	0,23	0,09	0,23	0,13	0,17		
Oneens	0,09	0,09	0,15	0,09	0,18		
sta3						p–value	7,0e-83835
	0,00	0,00	0,00	0,02	0,00		
Eens	0,35	0,36	0,36	0,25	0,34		
Hel eens	0,17	0,28	0,16	0,34	0,16		
Hel oneens	0,04	0,04	0,11	0,14	0,06		
Neutraal	0,32	0,21	0,25	0,16	0,28		
Oneens	0,12	0,10	0,12	0,10	0,16		
std1						p–value	9,0e-3282
	0,02	0,02	0,01	0,02	0,01		
Eens	0,26	0,38	0,28	0,43	0,19		
Hel eens	0,06	0,21	0,05	0,34	0,00		
Hel oneens	0,11	0,03	0,11	0,03	0,27		
Neutraal	0,31	0,23	0,30	0,17	0,23		
Oneens	0,24	0,13	0,25	0,02	0,30		
std2						p–value	4,4e-27183
	0,02	0,01	0,00	0,00	0,00		
Eens	0,47	0,58	0,69	0,47	0,55		
Hel eens	0,06	0,22	0,10	0,42	0,02		
Hel oneens	0,02	0,00	0,01	0,01	0,06		
Neutraal	0,34	0,15	0,15	0,09	0,26		
Oneens	0,09	0,03	0,05	0,01	0,11		
std3						p–value	2,7e-45630
	0,03	0,00	0,01	0,00	0,01		
Eens	0,29	0,36	0,29	0,28	0,27		
Hel eens	0,05	0,14	0,05	0,15	0,03		
Hel oneens	0,08	0,07	0,16	0,17	0,11		
Neutraal	0,37	0,24	0,24	0,21	0,45		
Oneens	0,19	0,19	0,26	0,19	0,12		

std5						p–value	9,2e-46642
	0,04	0,01	0,02	0,00	0,01		
Eens	0,23	0,30	0,27	0,29	0,21		
Hel eens	0,07	0,22	0,13	0,34	0,03		
Hel oneens	0,07	0,03	0,10	0,05	0,16		
Neutraal	0,37	0,28	0,26	0,24	0,27		
Oneens	0,22	0,17	0,22	0,08	0,32		
std6						p–value	6,10E-05
	0,03	0,00	0,02	0,01	0,02		
Eens	0,40	0,47	0,45	0,36	0,28		
Hel eens	0,10	0,26	0,21	0,40	0,05		
Hel oneens	0,02	0,01	0,04	0,02	0,06		
Neutraal	0,34	0,21	0,25	0,19	0,40		
Oneens	0,11	0,06	0,03	0,03	0,19		
ste1						p–value	2,9e-11335
Bijna niet	0,08	0,05	0,08	0,07	0,04		
Een beetje	0,31	0,24	0,28	0,25	0,34		
Hel niet	0,04	0,03	0,00	0,04	0,02		
Helemaal	0,07	0,19	0,11	0,30	0,06		
Ik vertrouw ze	0,47	0,48	0,52	0,34	0,52		
Zeg ik niet/weet niet	0,04	0,00	0,00	0,00	0,01		
ste2						p–value	4,00E-302
Bijna niet	0,25	0,18	0,25	0,19	0,29		
Een beetje	0,40	0,35	0,41	0,27	0,43		
Hel niet	0,14	0,11	0,22	0,20	0,13		
Helemaal	0,02	0,12	0,01	0,12	0,00		
Ik vertrouw ze	0,15	0,24	0,12	0,22	0,14		
Zeg ik niet/weet niet	0,05	0,00	0,01	0,00	0,00		
ste3						p–value	2,2e-428
Bijna niet	0,22	0,14	0,21	0,16	0,24		
Een beetje	0,36	0,33	0,31	0,21	0,31		
Hel niet	0,20	0,18	0,35	0,34	0,24		
Helemaal	0,01	0,10	0,01	0,13	0,00		
Ik vertrouw ze	0,16	0,24	0,12	0,16	0,19		
Zeg ik niet/weet niet	0,06	0,00	0,00	0,01	0,01		
ste5						p–value	2,20E-13
Bijna niet	0,07	0,04	0,03	0,04	0,05		
Een beetje	0,27	0,21	0,28	0,14	0,28		
Hel niet	0,04	0,00	0,02	0,01	0,05		
Helemaal	0,13	0,24	0,18	0,33	0,17		
Ik vertrouw ze	0,44	0,49	0,45	0,44	0,42		
Zeg ik niet/weet niet	0,05	0,01	0,04	0,03	0,03		

ste6						p–value	1,7e-10675
Bijna niet	0,14	0,13	0,15	0,11	0,13		
Een beetje	0,41	0,30	0,37	0,25	0,39		
Hel niet	0,07	0,08	0,13	0,14	0,14		
Helemaal	0,03	0,15	0,04	0,18	0,03		
Ik vertrouw ze	0,29	0,34	0,31	0,31	0,31		
Zeg ik niet/weet niet	0,06	0,00	0,00	0,01	0,01		
ste7						p–value	6,2e-6790
Bijna niet	0,31	0,28	0,34	0,28	0,35		
Een beetje	0,29	0,19	0,18	0,17	0,20		
Hel niet	0,25	0,24	0,44	0,34	0,32		
Helemaal	0,01	0,09	0,00	0,13	0,00		
Ik vertrouw ze	0,08	0,19	0,03	0,09	0,09		
Zeg ik niet/weet niet	0,05	0,01	0,01	0,00	0,03		

Figure F.7: Attitude covariates added to closed 2