Energy Justice as a catalyst for Regional Energy Transitions

Understanding Governance and Decision-making in the Organisation of Equitable Participation and Local Ownership in the Regional Energy Strategy of the Rotterdam-The Hague Energy Region

By Olaf Luijk

ENERGY JUSTICE AS A CATALYST FOR REGIONAL ENERGY TRANSITIONS

UNDERSTANDING GOVERNANCE AND DECISION-MAKING IN THE ORGANISATION OF EQUITABLE PARTICIPATION AND LOCAL OWNERSHIP IN THE REGIONAL ENERGY STRATEGY OF THE ROTTERDAM-THE HAGUE ENERGY REGION

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Olaf Guy Luijk: *Energy justice as a catalyst for Regional Energy Transitions — Understanding Governance and Decision-making in the Organisation of Equitable Participation and Local Ownership in the Regional Energy Strategy of the Rotterdam-The Hague Energy Region* (2023)

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ABSTRACT

This thesis delves into the intricate challenges facing The Netherlands as it aims to fulfil its ambitious CO_2 emission reduction goals by means of the Regional Energy Strategy (RES) framework. A significant issue highlighted is the emergence of an unintended wealth gap and energy poverty affecting over 600,000 people, which restricts their involvement in the energy transition process. These concerns point to the necessity of comprehensive research to ensure marginalized groups' active involvement in the energy transition.

The core objective of this study is to scrutinize the impact of governance and decision-making practices in the Regional Energy Strategy of Rotterdam The Hague (RES-RDH) on energy justice principles. It seeks to define and understand the concepts of 'local ownership' and 'equitable participation' within the RES-RDH context. By exploring ways to incorporate energy justice principles into decision-making processes, this research aims to create a comprehensive reference tool to guide the region's energy transition towards fairness and equity.

The investigation employs a literature review, policy document analysis, and interviews to address the main research question and its four sub-questions. The sub-questions focus on defining equitable participation and local ownership in the RES-RDH context, understanding the influence of institutional governance on these aspects, identifying specific challenges in organizing equitable participation, and exploring how energy justice principles can enhance decision-making processes. The findings collectively answer the main research question and contribute to the final reference tool's development.

The theoretical framework incorporates elements of energy justice and public decision-making, enabling a thorough exploration of the equitability and inclusivity of RES-RDH's decision-making processes. It examines equitable participation, local ownership, and energy justice principles through theoretical lenses, emphasizing the importance of engaging diverse stakeholders, ensuring local community involvement, and balancing power dynamics.

The first sub-question of the research investigates equitable participation and local ownership in RES-RDH decision-making. It reveals that their operationalization requires an adaptable approach, capable of addressing inherent challenges such as balancing diverse interests and managing power dynamics. The principles derived from these concepts form a conceptual framework that can guide decision-making in the regional energy transition, aligning with the RES-RDH's goals.

The second sub-question examines how the RES-RDH's institutional governance structure influences equitable participation. It uncovers issues regarding democratic inclusion, knowledge production, empowerment, legitimacy, and benefit distribution. The study underscores the need to incorporate energy justice principles to foster equitable participation and local ownership in the energy transition, pointing to potential risks for injustice due to RES-RDH's chosen development.

The third sub-question focuses on governance challenges in organizing equitable participation within RES-RDH. Key issues identified include municipal knowledge and capacity limitations, policy and regulatory challenges, power dynamics, and representation and engagement. These challenges pose significant barriers to equitable participation and highlight the need for improvements in decision-making processes.

The final part of the study answers the last sub-question using a comprehensive reference tool. It presents specific issues in the energy transition process, potential risks, mitigation strategies, energy justice principles addressed, and suggestions for responsible authority. This tool, presented in a series of tables, guides decision-making towards equitable participation and local ownership in RES-RDH.

The research thus concludes by offering a practical, multi-tiered tool to address existing and emerging challenges in regional energy transitions, thereby fostering an inclusive and just approach to decision-making processes. This tool hinges on a series of guiding principles, directives, and processes aimed at promoting energy justice, local ownership, and equitable participation.

This study offers recommendations to decision-makers to integrate energy justice into RES-RDH decision-making processes. First, the principles of Equitable Participation should be incorporated into the RES, defining regional roles for a more balanced energy transition. A regional approach to organizing participation is crucial to minimize disparities in benefits and burdens across different areas.

Second, inter-institutional collaboration needs to be strengthened. Regional coordination among various stakeholders can address issues like limited municipal knowledge, capacity, and the collective action problem in RES-RDH. This collaboration could lead to more inclusive policies and fairer distribution of benefits.

Third, the practical guiding questions developed in this study should be used to assess how well energy justice principles are being incorporated into decision-making. These questions offer a structured approach to evaluating both the procedural and distributive aspects of energy justice.

Fourth, these guiding questions should also be applied to determine local ownership practices, as these are integral to citizen participation and decision-making in RES-RDH projects.

Lastly, Equitable Participation principles should be integrated into monitoring and evaluation processes to ensure comprehensive understanding of initiatives' impacts and to realign strategies for optimal results. By adopting these recommendations, decision-makers can facilitate more equitable and inclusive outcomes in the energy transition process, thereby contributing to more social acceptance which could act as a catalyst for the region's energy transition.

Although the study's findings predominantly focus on the Dutch context, it offers insights and recommendations that could be adapted to different geographical settings and energy transition scenarios. These adaptable strategies include localized approaches to energy project ownership, broad-based collaborative structures for decision-making, and inclusive strategies for participation.

Alongside the comprehensive reference tool that presents potential future research avenues, the study recommends that future research could employ larger samples and different methodologies, or compare different contexts. The reliance on qualitative interview data may introduce biases and could be supplemented with quantitative methods. Additionally, future studies could explore the outcomes of equitable participation or test the guiding questions presented in this study in real-world scenarios. Also, the allocation of responsibilities could be investigated further. These limitations offer productive directions for future research.

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As I look towards the future, I carry with me the valuable lessons and experiences gained from this academic pursuit. I am excited to embrace the new challenges that await, and I am confident that the knowledge and skills acquired during this research project will serve as a strong foundation for my future endeavours.

Olaf Guy Luijk

Delft, July 25th , 2023

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1 INTRODUCTION

The Netherlands is committed to reducing its CO_2 emissions by 49% relative to 1990 levels by 2030, and by 95% by 2050 as outlined in the 2019 climate agreement (Ministerie van Economische Zaken en Klimaat, 2019). To achieve this, the Dutch government launched the Regional Energy Strategy (RES) in 2019 as part of the National Climate Agreement (Gerritsen *et al.*, 2022). The RES aims to move towards renewable energy sources by establishing thirty energy regions, which bring together various stakeholders, including local residents, to collaborate on sustainable energy projects. It operates as a policy instrument for managing the spatial integration of energy transition with societal involvement, stimulates long-term collaboration among diverse regional actors, and functions as a product outlining regional energy and low-carbon goals and their realization strategies (NP RES, 2019). The establishment of the Climate Agreement and the subsequent 2019 Climate Law thereby marked a pivotal shift, offering regional energy transition governance significant recognition.

The RES approach provides a degree of autonomy to decentralized public authorities, providing them with the latitude to devise their own strategies to achieve energy transition goals while meeting their obligation towards the national target (Hoppe, 2021). At the regional level, stakeholders such as municipalities and provinces actively participate in decision-making processes, fostering the development of independent regional pathways (van der Steen *et al.*, 2020). The RES outlines essential policy objectives, primarily focused on achieving the generation of 35 TWh of renewable electricity from wind and large-scale solar parks by 2030 (NP RES, 2021). Additionally, the RES emphasizes societal involvement, including the goal of citizen participation and the creation of a supportive base. Each individual RES makes a bid of how much energy they can contribute to the 35 TWh goal of National Program RES (NP RES), as well as a plan of how and where they will achieve this (RES-RDH, 2019).

Interestingly, the degree of autonomy given to constitutionally non-existent administrative entities to create and enforce policies with substantial environmental, economic, social, and institutional consequences represents a noteworthy "constitutional novelty," which raises concerns regarding the democratic legitimacy of the RES program (Boogers, 2020). This is noteworthy, as an important tenet of the climate agreement, and consequently the RES program, is to encourage 50% local ownership in renewable energy projects (Ministerie van Economische Zaken en Klimaat, 2019). Despite this being a clearly defined objective, many energy regions have struggled to operationalize it effectively in their draft RES (Hoppe, 2021). The lack of a detailed approach towards achieving this goal is of concern, as hastily designed or ad hoc policies may lead to unintended outcomes. Such unintended consequences have already occurred within the Dutch energy sector (Nieuws, 2022; Nuland *et al.*, 2022). For instance, the netting arrangement, intended to reward solar panel owners for surplus energy, unintentionally deepens socioeconomic disparities. Lower-income individuals are unable to afford solar panels and are thereby excluded from these benefits, exacerbating the wealth gap.

These problems are particularly pressing, as more than 600,000 people in the Netherlands are experiencing energy poverty (Mulder *et al.*, 2021). These low-income households have difficulty covering energy expenses, which leads to inadequate housing qual-

ity and limits their ability to invest in sustainable home improvements (Mulder *et al.*, 2021). Moreover, municipalities have limited insight into the capabilities of their residents to engage in the energy transition (Bokhorst *et al.*, 2022). The situation is further complicated by the disparities between municipalities within the same energy region, which can create unequal opportunities for citizen participation in the energy transition (Rodhouse & Correljé, 2022).

These issues underline the necessity for more detailed research into the involvement of vulnerable communities in regional energy transition decisions. Previous studies have highlighted the barriers these communities face when attempting to engage in decision-making processes. The existing obstacles range from distrust in governmental institutions to the constant struggle for survival (de Vries & Bouma, 2023).

To solve these issues, it is essential to ensure these marginalized groups are not just involved in the energy transition but also that the transition actively helps to alleviate existing inequalities (Lelieveldt & Schram, 2023). One potential strategy is to promote local ownership, which could lead to a fairer distribution of benefits. There is evidence that suggests increased participation and support occur when project benefits are shared (Langer *et al.*, 2017). However, the current trend of offering project shares as a form of local ownership can exclude low-income households, thereby reinforcing inequality.

The understanding of decision-makers concerning fair distribution and the potential benefits of enhanced participation might be limited or ambiguous due to knowledge limitations among other governance-related challenges (Hoppe & Miedema, 2020). Moreover, there have been questions about how the support base can be structured within the RES. Boogers (2020) and Hoppe (2021) have identified fair participation as a critical area needing policymakers' focus. Considering fair participation implies a sense of justice, the emergent energy justice framework, which encompasses procedural, distributional, and recognition dimensions, could provide a useful framework to guide these policymakers. By incorporating these principles into their strategies, policymakers can foster a more just and effective energy transition.

1.1 RESEARCH OBJECTIVES AND QUESTIONS

In this section, the research objectives and questions are presented to provide a clear framework for the study. The primary objective of this research is to critically analyze and understand the impact of current governance and decision-making practices in the context of the Regionale Energy Strategie Rotterdam Den Haag (RES-RDH) on principles of energy justice.

1.1.1 Research objectives

The primary objective of this research is to critically analyze and understand the impact of current governance and decision-making practices in the context of RES-RDH on principles of energy justice. The aim is to evaluate these practices in relation to local ownership, equitable participation, and their procedural and distributive aspects. This understanding will lay a foundation for improving current practices to ensure a fair and equitable regional energy transition.

Specific objectives of this research include:

1. Defining the terms 'local ownership' and 'equitable participation' in the context of regional energy transition decision-making, specifically for RES-RDH. This objective will enable uniform interpretation of these concepts throughout the research and lay a foundation for subsequent analysis.
2. Understanding how the institutional governance structure of RES-RDH affects the organization of equitable participation. The aim is to evaluate the impact of these structures on distributive and procedural justice aspects. Insights gathered will help in suggesting improvements to said governance structures.
3. By identifying specific challenges in the organization of equitable participation within RES-RDH from a governance perspective and recognizing where governance practices fall short in delivering distributive and procedural justice, targeted improvements for RES-RDH governance structures and practices can be suggested.
4. Exploring the potential of incorporating energy justice principles into decision-making can enhance the energy transition within RES-RDH. The objective is to understand how these principles can benefit decision-making processes in relation to participation and local ownership, thereby advancing distributive and procedural justice.

The ultimate goal of this research is to develop a comprehensive reference tool that can guide decision-making discussions in RES-RDH, contributing to the justness of the regional energy transition. The tool will integrate findings from all sub-objectives, ensuring an inclusive, equitable, and effective approach to local energy governance.

1.1.2 Research questions

To effectively address the research objectives outlined above, several key research questions have been formulated. These questions provide a framework for investigating and gaining a comprehensive understanding of the complex dynamics surrounding local ownership, equitable participation, and governance structures within the context of regional energy transition decision-making, specifically in the case of RES-RDH. Hence, the main research question is formulated as follows:

How do current governance and decision-making practices in RES-RDH affect principles of procedural and distributive aspects of energy justice, particularly in terms of local ownership, and equitable participation, and how can these practices be improved?

The goal of this question is to investigate how current governance and decision-making practices within RES-RDH are influencing the equitable distribution of resources and procedural justice, particularly in relation to local ownership and equal participation. The question also seeks to identify areas where these practices can be improved by including the aforementioned principles of energy justice in discussions related to decision-making regarding local ownership and equitable participation in the RES-RDH. The aim is to do this by providing a comprehensive reference tool that can guide decision-making discussions.

The main research question will be answered by synthesizing the insights gained from addressing each of the sub-questions. The literature review will provide a foundational understanding of the key concepts related to local ownership and equitable participation. Policy document analysis will uncover the institutional structures in place that shape these aspects, while the interviews will give insight into how these structures are experienced and what issues are encountered by stakeholders. Finally, the application of energy justice principles to enhance decision-making will be explored by integrating all these insights.

Sub-questions

1. *What do equitable participation & local ownership mean in the context of regional energy transition decision-making, specifically in the case of RES-RDH?*

   The goal of the first sub-question is to understand the meanings of local ownership and equitable participation, from an energy justice perspective, focussing on distributional and procedural aspects in the context of decision-making for the regional energy transition in the RES RDH. This sub-question will provide a clear definition of equitable participation from an energy justice perspective. This will serve as a base for the rest of the research questions and will ensure uniformity in interpreting these concepts.

   This first sub-question will be primarily addressed through a comprehensive literature review. The goal is to derive an understanding of these concepts as they have been defined and used in academic and policy contexts. The aim is to ensure uniformity in interpreting these concepts throughout the research.

2. *How does the institutional governance structure of RES-RDH influence the way equitable participation & local ownership are organised within the region, focusing on distributive and procedural aspects?*

   The goal of the second sub-question is to understand how the institutional governance structure in place for RES-RDH impacts the organization of equitable participation & local ownership. This question will shed light on whether the governance structures facilitate or hinder equitable participation & local ownership, and how they influence distributive and procedural justice aspects. This understanding can serve as the basis for recommendations on how to improve these structures.

   The second sub-question will be addressed through policy document analysis and semi-structured interviews. The analysis of policy documents will allow an understanding of how the institutional governance structure is intended to function and how it structures participation. Meanwhile, the interviews will provide insights into how these structures are perceived and experienced by stakeholders.

3. *What problems are encountered in the organization of equitable participation & local ownership within RES-RDH, from a governance perspective, focusing on distributive and procedural justice aspects?*

   The goal of the third sub-question is to identify specific challenges or issues in the organization of equitable participation within RES-RDH. This will help understand where the governance practices fall short in achieving distributive and procedural justice i.e., in achieving equitable participation. In this context, local ownership is seen as a vehicle for achieving equitable participation. Identifying these issues will allow for the suggestion of targeted improvements in the RES-RDH governance structures and practices.

   This question will be primarily addressed through qualitative semi-structured interviews. The interviews will provide rich, detailed data, offering insights into participants' experiences and the issues they encounter within the governance system.

4. *How can the application of energy justice principles, specifically in terms of equitable participation & local ownership, contribute to enhancing the energy transition within RES-RDH, focusing on distributive and procedural aspects?*

   The goal of the fourth sub-question is to explore the potential benefits and improvements that could arise from considering the concept of equitable participation within the context of RES-RDH. This question aims to identify how the incorporation of equitable participation principles can enhance decision-making regarding participation and local ownership, thereby contributing to the overall energy transition, while also advancing the achievement of distributive and procedural justice. The answers to this question will play a crucial role in the development of the final reference tool that can guide decision-making discussions in RES-RDH.

   This question will be answered through a synthesis of insights derived from the literature review, policy document analysis, and interviews. The aim is to identify how the incorporation of equitable participation principles can enhance decision-making regarding participation and local ownership, thereby contributing to the overall energy transition, while also advancing the achievement of distributive and procedural justice.

1.2 RESEARCH RELEVANCE

The relevance of this study lies in its potential contributions and implications in both academic and societal contexts. Furthermore, the research holds specific relevance to the Management of Technology (MoT) program at TU Delft.

1.2.1 Research gap & Academic relevance

This research holds significant academic relevance as it addresses critical knowledge gaps in the field of energy justice, specifically focusing on the impact of governance and decision-making practices within the context of regional energy transitions (RETs). By critically analyzing current practices and their effects on principles of energy justice, this study aims to advance the theoretical understanding of equitable participation, local ownership, and the procedural and distributive aspects of energy justice in the specific setting of RETs.

Limited research currently exists on the decision-making processes and energy justice considerations within energy regions, particularly in the context of RETs. There is a lack of understanding regarding how the institutional setting, including governance structures and decision-making practices, influences the achievement of energy justice in RETs (de Vries & Bouma, 2023). The implications of the 'decide-announce-defend' model employed by local governments, as well as the instrumental use of citizen participation, remain understudied (de Vries & Bouma, 2023; Wolsink, 2007; Cuppen, 2018; Haggett & Toke, 2006).

This research seeks to fill these knowledge gaps by critically analyzing the impact of current governance and decision-making practices, specifically in the context of RETs, on principles of energy justice, local ownership, and equitable participation. By drawing on relevant literature, including the 'decide-announce-defend' model (de Vries & Bouma, 2023; Wolsink, 2007; Cuppen, 2018; Haggett & Toke, 2006), and exploring the consequences of an instrumental use of citizen participation (de Vries & Bouma, 2023), this study contributes to the theoretical understanding of energy justice and its application in the specific context of RETs.

Furthermore, this study aims to generate insights into the potential benefits and challenges associated with integrating energy justice principles into governance structures and decision-making practices in RETs. It builds upon existing research that highlights the disconnect between policy ambitions and stakeholder engagement in energy transitions (Lelieveldt & Schram, 2023; Hoppe, 2021) and emphasizes the importance of local ownership (de Vries & Bouma, 2023; NP RES, 2021). By examining the implications and potential inequities arising from the implementation of local ownership in RETs (de Vries & Bouma, 2023; NP RES, 2021), this study will contribute to a comprehensive understanding of energy justice and could potentially inform future governance and decision-making practices specific to RETs.

In summary, this research significantly contributes to academic scholarship by addressing knowledge gaps in energy justice, local ownership, and equitable participation within the specific context of RETs. By critically analyzing current governance and decision-making practices in RETs, this study generates valuable insights and provides guidance for policymakers and stakeholders aiming to foster energy justice within this specific setting. The outcomes of this research have the potential to advance the field and contribute to the development of more just and equitable regional energy strategies in RETs.

1.2.2 Societal relevance

The societal relevance of this study is underscored by its potential contributions to the fair and equitable regional energy transition, a critical aspect of global and national initiatives such as the 2015 Paris Agreement, the Climate Agreement, and the National Program for Regional Energy Strategy (NP RES) in the Netherlands.

This research investigates the impact of current governance practices in the Rotterdam The Hague Energy Region (RES-RDH) on the equitable distribution of resources and procedural justice, particularly concerning local ownership and equitable participation. By pinpointing specific challenges and inadequacies in these practices, the study seeks to offer recommendations for enhancing governance structures and procedures to reinforce energy justice within the regional energy transition (RET) context.

Understanding the existing practices in RES-RDH is crucial given the Netherlands' commitment to the Climate Agreement's goals, which entails a significant transition towards sustainable energy systems while maintaining a societal support base for these plans (Ministerie van Economische Zaken en Klimaat, 2019). The research's findings can provide actionable guidance to policymakers, energy practitioners, and other stakeholders in fulfilling the Dutch obligations to the Paris Agreement and the Climate Agreement. This study can directly contribute to the national strategies outlined in the NP RES, further underlining its societal relevance.

The outcomes of this research have practical implications for a broad spectrum of stakeholders, including policymakers, energy practitioners, and those involved in regional energy transitions. By highlighting the merits of inclusive and participatory decision-making processes, the study aims to improve the legitimacy, social acceptance, and effectiveness of energy projects. These factors are essential for fostering a just transition towards renewable energy sources in line with the Paris Agreement's goals, which seek to keep global temperature rise this century below 2 degrees Celsius above pre-industrial levels.

Moreover, the findings will inform the design and implementation of governance structures that prioritize equitable participation, local ownership, and the principles of energy justice. This is particularly crucial for the effective execution of the NP RES in the Netherlands, emphasizing the practical and societal relevance of this research.

1.2.3 Relevance to the MoT program

The research study conducted demonstrates significant relevance to the core themes and objectives of the Management of Technology (MoT) program at TU Delft. The MoT program focuses on equipping students with the understanding of how high-tech companies can continuously improve their products, services, and business models to remain competitive. A crucial aspect of achieving this lies in the deep comprehension of strategic management, effective decision-making, and the innovation process.

Aligned with the MoT program's goals, this research study critically analyzes the role of technology management, innovation, and strategic decision-making in driving energy transition strategies. It adopts a systems perspective, which enables a comprehensive understanding of the governance and decision-making processes involved in energy transitions. Specifically, it explores the integration of technological innovation and managerial activities within these processes.

Notably, courses like MOT 1524, "Leadership and Technology Management," and MOT 1412, "Technology Dynamics," have significantly influenced the direction and methodology of this research study. The course on leadership and technology management offers insights into the value of leadership and management in technology-based environments. This understanding, in turn, facilitates the analysis of the critical role of leadership and organizational strategies in advancing sustainable energy transitions.

Likewise, the course on technology dynamics provides a framework for perceiving technical innovations and technological development as outcomes of human choices. It examines the factors that shape these choices, including institutions, values, beliefs, knowledge, and legitimacy. Understanding these factors is crucial in comprehending how socio-technological change can be steered towards societal responsiveness, particularly in the context of managing the complexities of energy transitions.

By explicitly focusing on the intersection of energy transitions, technology, innovation, and strategic management, this research study makes a direct contribution to the scientific knowledge within the field of MoT. The outcomes of this study offer practical applications that align with the knowledge and skills acquired from the MoT program.

Furthermore, the analysis of governance structures, stakeholder engagement, and strategic management presented in this research study also contributes to broader discussions on technology management in society. This contribution reflects the MoT program's objective to train responsible decision-makers and leaders capable of addressing complex questions regarding technology acquisition, development, and utilization for achieving business success.

In conclusion, this research study's explicit adoption of a systems perspective to examine the integration of technology, innovation, and strategic decision-making in energy transitions showcases its relevance to the MoT program. The study's findings offer practical applications within the realm of energy transition and provide insights that extend beyond the program's scope, contributing to broader discussions on responsible technology management in society.

1.3 LITERATURE REVIEW

The literature review chapter explores key aspects of regional energy transition governance in the context of the Dutch Sustainable Energy Transition. It covers topics such as the Regional Energy Strategy's (RES) role, the National Program RES (NP RES), governance issues, decision-making processes, participation, knowledge gaps, and equitable participation. By analyzing existing literature, this chapter provides a solid foundation for the research objectives and questions.

1.3.1 Understanding regional energy transition governance

In response to the pressing need for climate action and sustainable development, governing energy transitions in regions has emerged as a critical aspect. While energy transition governance at the national and local levels has received considerable attention, the significance of the regional level has often been overlooked (Hoppe & Miedema, 2020). However, recent studies emphasize the crucial role played by the regional level in addressing the complex and interconnected nature of renewable energy projects and facilitating decision-making processes that span multiple municipalities (Hoppe & Miedema, 2020; Loorbach & Rotmans, 2010; Moss *et al.*, 2015). By exploring the dynamics and intricacies of regional energy transition governance, this section sheds light on the often-neglected yet indispensable realm of regional-level decision-making and its implications for sustainable energy transitions.

Hoppe & Miedema (2020) emphasize the significance of regional governance, highlighting the importance of establishing a separate governance level between the local and provincial levels. Regional governance involves coordination and decision-making processes that foster collaboration among multiple municipalities, provinces, and relevant stakeholders. This approach has been observed in Western European countries, where administrative reforms have led to the establishment of administrative bodies such as "mini provinces" and "city-regions" (Hoppe & Miedema, 2020).

In the Netherlands, the Act on Administrative Arrangements, enacted in 1984, provided a formal foundation for inter-municipal collaboration (Hoppe & Miedema, 2020). While such arrangements have demonstrated benefits in terms of efficient policy implementation, they have also faced criticism for creating complex and opaque structures, challenging the clarity of responsibility and democratic control (Hoppe & Miedema, 2020). Nonetheless, studies have shown that inter-municipal collaboration is essential for effective policy development, achieving local goals, improving service provision, and enhancing municipal operations (Hoppe & Miedema, 2020; Boogers *et al.*, 2016).

The shift from centrally organized governance to network governance has influenced regional energy transition governance in the Netherlands. Network governance emphasizes coordination and collaboration among interdependent actors connected through structural dependence, rather than hierarchical relationships (Hoppe & Miedema, 2020). This approach is considered more suitable for addressing complex societal issues, including energy transition, due to its capacity to handle poorly structured problems (Hoppe & Miedema, 2020).

Network governance involves various elements, such as network management, which focuses on decision-making, coordination, and goal-setting within the network (Hoppe & Miedema, 2020; Milward *et al.*, 2010). Trust among actors, resource mobilization, and actor participation in decision-making processes are key factors influencing the

effectiveness of network interactions and outcomes (Hoppe & Miedema, 2020; Klijn *et al.*, 2010a,b).

To effectively govern energy transitions at the regional level, insights from regional innovation studies and transition studies need to be integrated (Hoppe & Miedema, 2020). Regional innovation studies offer a comprehensive framework for analyzing the innovative capacity of regions, considering factors such as firms, organizations, knowledge linkages, and situational advantages (Hoppe & Miedema, 2020; Coenen *et al.*, 2018; Boschma, 2005). Transition studies provide theoretical frameworks, such as Strategic Niche Management and Transition Management, which guide the governance of energy transitions at multiple levels (Hoppe & Miedema, 2020; Kemp *et al.*, 1998; Geels, 2002).

In conclusion, effective governance of energy transitions in regions necessitates a strategic approach that acknowledges the importance of regional governance structures and network interactions. Insights from Hoppe & Miedema (2020) emphasize the value of regional innovation studies and transition studies in providing frameworks and concepts for guiding energy transition governance at the regional level. By incorporating these insights, policymakers can navigate the complexities of energy transitions and foster collaboration among regional actors, thereby making significant contributions to the attainment of sustainable development goals.

1.3.2 Governance issues in Dutch regional energy transitions

The governance of regional energy transitions in the Netherlands presents several challenges and issues. This section will examine these governance issues in the context of regional energy transitions and their implications for effective and sustainable implementation.

One of the key governance issues is the trade-off between top-down and bottom-up approaches in governing regional energy transitions. The division of the country into thirty "energy regions" under the National Program for Regional Energy Strategies (NP RES) has given provinces and municipalities a significant role in the energy transition process (Hoppe, 2021). However, the lack of formal legal status for energy regions and the potential for coercion from the central government pose challenges to regional autonomy and citizen participation (Jesse *et al.*, 2020; Rengers & Houtekamer, 2020). This trade-off between top-down guidance and bottom-up involvement needs careful consideration to ensure political legitimacy and trust in government (Hoppe, 2021).

Transparency in costs and benefits is another pressing governance issue in regional energy transitions. While the development of Regional Energy Strategies (RESs) is expected to provide insight into the costs, benefits, and risks associated with energy projects, the current RES documents often lack comprehensive information on these aspects (Jesse *et al.*, 2020). The Green Audit Office highlights the need for more transparency and a balanced assessment of costs and benefits to ensure fair compensation for citizens affected by the installation of wind turbines and solar parks (Jesse *et al.*, 2020).

The lack of governing capacity among decentralised administrative bodies, particularly municipalities, is a significant governance challenge in regional energy transitions (Vringer *et al.*, 2020). Municipalities are often confronted with novel tasks and unknowns in RES processes while facing budget cuts and limited capacity (Van den Akker *et al.*, 2019). The involvement of project organizations and consultancy agencies in implementing RES tasks may hinder the development of internal capacity within public organiza-

tions (Rengers & Houtekamer, 2020). Strengthening governing capacity at the local level is crucial to ensure effective and informed decision-making.

Fit with current institutional frameworks is another governance issue that arises in regional energy transitions. The development of RESs often encounters legal and policy barriers within existing regulatory domains (NP RES, 2019). These barriers include limitations in heating system legislation, the role of distribution system operators as outlined in the Energy Act, and conflicts with provincial and municipal policies regarding wind energy generation (NP RES, 2019). Aligning RES planning and implementation with existing institutional frameworks, including the forthcoming Environmental Act, is essential for a smooth and legally sound transition (NP RES, 2019).

Efficiency and optimization problems at the system level pose additional governance challenges. Regional energy plans sometimes focus solely on the generation of solar and wind energy, neglecting distribution, transmission, and energy system planning as a whole (Matthijsen *et al.*, 2021). This lack of attention to system integration and optimization hampers the overall effectiveness and efficiency of energy transitions (Hoppe, 2021). Coordinated planning between energy regions and consideration of energy saving alongside generation are essential for achieving sustainable and efficient energy systems (Participatiecoalitie *et al.*, 2020).

Fair participation and the role of community energy are emphasized in the governance of regional energy transitions. Renewable Energy Strategy cooperatives (REScoops) play a significant role in the development of draft RES documents and are involved in steering groups or program councils in energy regions (Hoppe, 2021). However, challenges arise in maintaining the active participation of REScoops due to the voluntary nature of their involvement and the dominance of paid employees from various institutions (Schwencke, 2021). Nonetheless, the involvement of REScoops has strengthened their position and institutional recognition within the energy transition process (Schwencke, 2021).

In conclusion, the literature shows that the governance issues associated with regional energy transitions in the Netherlands highlight the need for careful consideration of the balance between top-down and bottom-up approaches, transparency in costs and benefits, strengthening governing capacity, aligning with existing institutional frameworks, optimizing system efficiency, and promoting fair participation and the role of community energy. Addressing these governance challenges is crucial for achieving successful and equitable regional energy transitions in the Netherlands.

1.3.3 The role of the National Program Regional Energy Strategies

The understanding of governance in the context of the Regional Energy Strategies (RESs) demands an examination of their organizational structure, with the National Program for Regional Energy Strategy (NP RES) serving as a key actor. The NP RES facilitates and connects the 30 energy regions across the Netherlands, aiding in the creation and implementation of their RESs (NP RES, 2020; Hoppe, 2021). It assumes the role of a platform that encourages collaboration, identifies potential solutions to key challenges, and fosters learning communities. Through various methods, including knowledge development and process support, the NP RES addresses barriers and identifies opportunities for realizing the ambitions of the energy regions.

As depicted in Figure 1.1, the organization of the NP RES is constituted by several governance bodies, established to ensure strategic direction and efficient decision-making.

Among these bodies, the Administrative Consultation (BO) is charged with making decisions regarding the RESs' implementation. Moreover, the Commissioning Consultation (OGB) made up of representatives from relevant ministries and organizations, provides strategic direction and supervises the progress of the NP RES. The Inter-administrative Management Team (IMT) tracks the progress and course of the NP RES at a tactical level. The Program Council, comprising national organizations and regional authorities, dispenses both solicitepd and unsolicitepd advice to the NP RES (NP RES, 2020).

To accomplish its targets, the NP RES concentrates on several objectives. This includes educating regions about the energy transition's significance, fostering the creation of RESs, and supporting regions through diverse means such as regional account holders, thematic experts, and expert pools. Alongside these, the NP RES also performs regular progress tracking and stimulates knowledge sharing among national organizations and regions (NP RES, 2020).

As illustrated in Figure 1.1, the core of the NP RES is a skilled and agile team that maintains close contact with the region, societal organizations, and the various commissioning authorities and network managers. Surrounding this core is a flexible layer of individuals from the commissioning parties (Ministries of EZK and BZK, VNG, IPO, UvW), network managers, the Expert pool at the Netherlands Enterprise Agency (RVO), and the Participation Coalition, all working towards the NP RES's goal and ambition: to assist the regions in advancing the RES process in a careful and transparent manner, aimed at achieving the goals of the Climate Agreement and the established RESs 1.0. The IMT, OGB, and the BOs guide the NP RES through its principal directors. Additionally, the NP RES has a Program Council that can offer advice when requested and an educational network, united in the RES Council, which includes 30 administrative leaders from the regions, portfolio holders from the umbrellas, DGs from BZK and EZK, and an administrative representation of the Network Managers, who together make up the RES Council. The RES regions are further subdivided into five region accounts, each assigned to specific account holders who bear the responsibility for managing their respective regions.

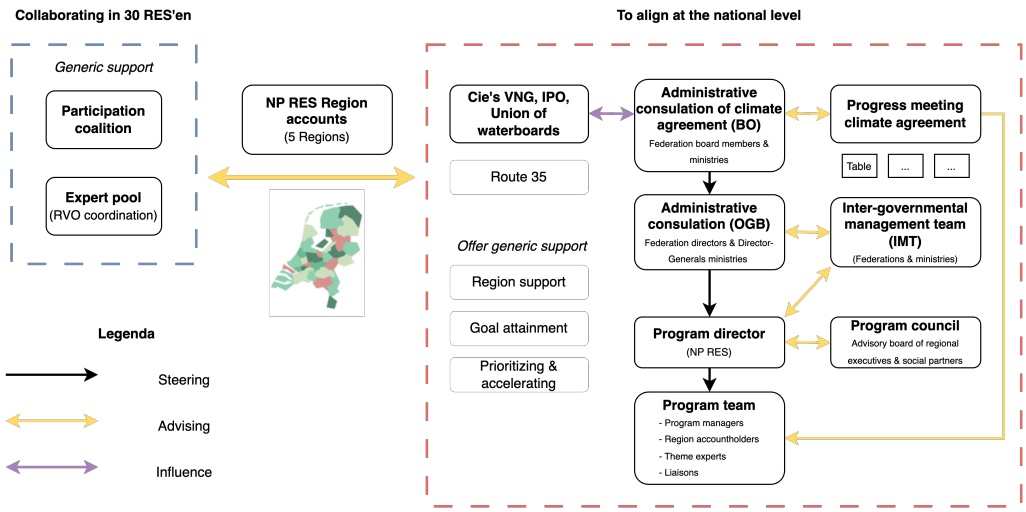

Figure 1.1: RES network showing the different parts of the NP RES organisation. [Adapted from NP RES (2020)]

By addressing potential barriers and utilizing opportunities, the NP RES aims to achieve the objectives of the RESs in relation to the Climate Agreement effectively (NP RES, 2020). This is accomplished through a strong organizational structure and a clear focus on supporting and connecting the energy regions in the Netherlands.

1.3.4 Understanding Regional Energy Strategy decision-making

In the Netherlands, policymaking takes place at three levels: municipal, provincial, and national. Local governments at the municipal level formulate and implement policies that directly impact their communities, focusing on issues such as urban planning and local infrastructure. Provincial governments have broader jurisdiction and oversee regional planning, transportation, and economic development. The national government sets the overall strategic direction for the country and handles national defence, foreign affairs, healthcare, and education. This multi-level governance approach fosters collaboration and enables the implementation of customized policies, striking a balance between centralized decision-making and local autonomy. It could effectively address specific regional and local needs. Moreover, this decision-making process is democratically safeguarded through elections held at each level, ensuring that representatives are chosen by the people to make decisions on their behalf, as enshrined in the constitution.

The RES, however, operates within a distinctive structural framework that can be best described as a "constitutional novelty" as the energy region lacks formal existence and a legal mandate for the implementation of its strategies (Boogers, 2020). The cause of this unusual situation lies in the fact that a specific energy region consists of different stakeholders including non-democratically chosen representatives of municipal and provincial level organs that together form a RES. In other words, an unofficial administrative entity is entrusted with the creation and potential implementation of strategies with extensive environmental, economic, social, and institutional implications.

The constitutional novelty of energy regions has raised concerns about their democratic legitimacy and presented a range of dilemmas. van der Steen *et al.* (2021) have identified four key dilemmas associated with this novelty. The first dilemma revolves around whether the Regional Energy Strategies (RESs) should be regarded as a final decision or an ongoing process. Some advocate for implementation, while others see it as an initial step in an ongoing movement. The second dilemma centers on the RES process's politicization, addressing the extent of political involvement and its implications for democratic representation. Some view intense political debates as integral to democratic representation, while others consider them signs of an incomplete process. Achieving broad consensus has been a goal, leading to minimal political conflict, but critics argue that it may indicate a lack of substantive political decisions. The dilemma calls for determining the appropriate level of political engagement to ensure both democratic legitimacy and meaningful outcomes. The third dilemma involves striking a balance between the decentralized execution of national policies and the need for national coordination, highlighting the tension between local autonomy and central control. Lastly, the fourth dilemma emphasizes the challenge of connecting local communities with the execution of a national issue while ensuring democratic accountability. These dilemmas underscore the complex and multifaceted nature of the constitutional novelty surrounding the RES, sparking discussions on democratic legitimacy and the future trajectory of energy regions (van der Steen *et al.*, 2021).

Hence, the complexities embedded within RES decision-making point towards the utility and need for a mixed approach that combines both top-down and bottom-up strategies. This balance allows for the synthesis of national goals and regional or local needs, ensuring that energy transition strategies are both effective and resonate with local realities.

In support of this balanced approach, Eijffinger & Hinten (2013) highlight the power of decentralized decision-making in eliciting public support. By leveraging local governments' knowledge of local conditions and encouraging citizen engagement, there is an

opportunity to foster solutions that are not only sustainable but also socially accepted (Eijffinger & Hinten, 2013). This becomes particularly critical when considering the regional specificity of RES.

Yet, this should not overlook the potential for conflicts and the necessity for strong alignment between various levels of governance. Just as the effectiveness of energy transition strategies hinges on autonomy and collaboration, so does the success of decentralized decision-making rely on clear coordination with overarching national interests. Recognizing this interplay and the inherent challenges can guide the design of governance mechanisms, ensuring they are capable of navigating the intricate landscapes of the energy transition, as exemplified by the RES.

To address the complexity and coordination required, a novel governance approach is necessary. RES governance emerges as a balanced interaction between top-down national government-initiated meta-governance and bottom-up regional projects and initiatives, relying on consensus rather than a legal framework for enforcement (Hoppe & Miedema, 2020). The development and finalization of the RES1.0 depends on approval from municipal councils, provincial councils, and the general board of the water authority. Therefore, cultivating a collaborative and harmonious approach to RES development is crucial, as the implementation of the strategy hinges on agreement rather than legal mandates.

Consequently, the voluntary nature and reliance on municipal responsibility in the RES-RDH, while offering localized flexibility, paradoxically introduces significant inconsistencies and inequities across the region. This fragmentation is underscored in instances such as the development of wind turbine parks, where municipal councils are thrust into navigating the intricacies of balancing local opposition with provincial support, all while juggling political parties' pre-existing positions. This balancing act is further complicated by the malleability of 'soft agreements' within the RES, which can be undermined by provincial intervention, thereby jeopardizing the sustainability and viability of the overall RES (de Vries & Bouma, 2023).

In de Vries & Bouma (2023)'s research, interviewees have underscored the need for a more balanced, professional approach that maintains the local control of processes while ensuring the necessary alignment and coordination with higher authorities. Without such balance, the potential for inconsistencies and power imbalances rises, risking not just the cohesion of the RES, but also its legitimacy and public acceptance.

These observations tie into the broader consequence of the voluntary nature of RES governance – its impact on inclusivity and justice in the energy transition process. As suggested by Rodhouse & Correljé (2022), without a common understanding of principles and an equitable distribution of resources and opportunities among municipalities, the energy transition may not only lack fairness but also potentially undermine its own success. This further underscores the significance of addressing these imbalances and pursuing a more harmonized, coordinated approach within the RES framework (Rodhouse & Correljé, 2022).

1.3.5 Participation in the Regional Energy Strategy

Given the integral role of participation in the Regional Energy Strategy (RES), the extent and form of this participation have been subject to considerable variation across Dutch energy regions. de Vries & Bouma (2023) found that local governments may adopt strategies to manage public perception and unrest, aligning with a 'decide-announce-defend' model as described by Wolsink (2007). This model implies that governments first make strategic decisions, delay public announcements, and then defend their decisions, often marginalizing opposition by labelling it as "Not in my backyard" self-interest. Various researchers (Cuppen, 2018; Haggett & Toke, 2006) have expressed their dissatisfaction about this, pointing to the potential for misalignment between governmental decisions and the public interest.

Fiorino (1990) helps us understand the importance of involving citizens in policy-making by identifying three primary reasons: normative, substantive, and instrumental. Normative reasons reinforce the democratic rights of citizens and their representation, substantive reasons underline the value of knowledge exchange in developing effective plans, and instrumental reasons pertain to strategic objectives such as garnering support and facilitating behavioural change (Fiorino, 1990; de Graaf & Michels, 2014).

Nonetheless, caution should be taken to avoid an overly instrumental use of citizen participation (de Vries & Bouma, 2023; Cuppen, 2018). The over-reliance on citizen participation for mere strategic gains, particularly when citizens do not feel genuinely engaged, can lead to amplified resistance. Effective management of these participation processes by municipalities is thus crucial in mitigating this resistance (Steg & Sievers, 2000). However, challenges such as lack of resources, inappropriate timing, creation of unrealistic expectations, hurried proceedings, or lack of transparent communication, can provoke frustration among citizens (de Vries & Bouma, 2023).

As de Vries & Bouma (2023) elaborate, such frustration, when left unchecked, can evolve into significant conflicts, especially in the context of projects like wind or solar park developments. These conflicts often necessitate intensive efforts for de-escalation and require innovative policy mechanisms, such as citizens' forums or dedicated platforms, to rebuild trust and foster dialogue. However, it is critical to understand that these approaches may not fit all contexts (de Vries & Bouma, 2023).

The diversity among Dutch citizens, due to various factors like political preferences, socioeconomic status, health, education level, and ethnicity, causes them to react differently to policy introductions (van rooij & Aarts, 2014; Bouma & Vries, 2020; Steg & Sievers, 2000). Each citizen's unique situation impacts their capacity to engage with their environment and partake in dialogues with the government.

As governments grapple with this heterogeneity, it becomes paramount to create policies that account for this diversity in skills, abilities, and experiences. Approaches such as target group policy, which guides various types of citizens differently according to their capacities, could prove effective. This approach aims to engage those who may be less articulate or privileged, ensuring their perspectives on policy are also considered (Steg & Sievers, 2000).

Additionally, environmental norms influence interactions between citizens and government, sometimes resulting in variations in hierarchical structures across regions. These norms, in tandem with differing 'administrative culture' among government officials, may lead to contrasting views on the degree of citizens' involvement in the RES (de Vries & Bouma, 2023).

In analyzing the participatory and local ownership aspects of the Regional Energy Strategy for Rotterdam The Hague (RES-RDH), no specific regional participation plan. While the RES-RDH claims to be aligned with the national RES's emphasis on stakeholder engagement (NP RES, 2021), the explicit execution towards achieving local ownership and equitable participation remains vague. The strategy underscores the importance of various stakeholder involvement, including residents, businesses, and organizations, and commits to inform, consult, and collaborate throughout its development process (NP RES, 2021). However, the RES-RDH primarily focuses on communication and engagement processes, with a relatively brief description of participation. Although it acknowledges "Wensen en Bedenkingen" (Desires and Concerns) from residents, the extent to which these inputs influence decision-making or foster co-ownership of energy projects is not explicitly discussed (NP RES, 2021).

This view is corroborated by an analysis commissioned by the province of Zuid Holland and conducted by +Anderen B.V. (2020). It found that there was no specific regional participation plan in place for the RES-RDH region. Instead, basic agreements regarding the purpose and design of participation and communication were made. Responsibility for the participation process was placed squarely on the municipalities, who receive regional support for effective communication with their respective target groups. Findings highlight the delegation of implementing local ownership and equitable participation to the municipalities in the RES-RDH. This differs from other RES in the province of South Holland, like RES Holland-Rijnland, which explicitly mentions that while the organisation of participation is a municipal responsibility, the energy region provides support for municipalities and organises a plan for strategic communication with inhabitants (+Anderen B.V., 2020).

Furthermore, Lelieveldt & Schram (2023) study indicates that a considerable gap exists between inclusive and participatory ambitions stated in national policy guidelines and the actual practice of stakeholder engagement in the regional energy transition. Despite the national government's goal of addressing common issues with participation, the involvement of stakeholders from civil society and individual citizens is limited (Lelieveldt & Schram, 2023). Hence, there's a need to critically examine this delegation of responsibilities, especially considering the tendency in practice towards a more technocratic approach when it comes to identifying suitable areas for renewable energy infrastructure (Hoppe, 2021). The technocratic orientation may inadvertently overlook the nuances of equitable participation and local ownership, thereby potentially compromising the procedural and distributive justice that underpins these efforts. These concerns echo the importance of a broader dialogic approach that recognizes and values diverse stakeholder perspectives in the energy transition process, which could be guided by energy justice principles.

Furthermore, Participatiecoalitie *et al.* (2020) conducted an analysis of participatory performance in the energy regions. A survey among civic and community energy organizations in all thirty energy regions found that various draft plans showed broad support for local ownership of new large-scale solar and wind projects, with most energy regions adopting the 50% local ownership target. However, concrete actions and plans to follow up on these aspirations were limited at the time. The survey highlighted the need for further work in embedding participation in RESs, with the Participation Coalition concluding that there was still much to be done in this regard (Participatiecoalitie *et al.*, 2020).

In the organisation of participation within energy regions, one major concern identified was the proper and timely involvement of residents in the RES (de Vries & Bouma, 2023).

While public and some private sector players were often included in the RES formation processes during the summer of 2020, there was limited engagement with citizens or grassroots organizations (Hoppe & Miedema, 2020). The call was made to open up RESs to a broader range of residents and social partners, such as companies, farmers, residents' initiatives/REScoops, and nature and environmental organizations, to ensure the truly social nature of the projects (Schwencke, 2021). It was acknowledged that public officials in most energy regions recognized the importance of participation but faced challenges in terms of know-how and organizational capacity to facilitate participatory processes. To address these challenges, the Participation Coalition organized masterclasses in half of the energy regions to provide training and information to civil servants and officials on citizen engagement and participatory processes (Participatiecoalitie *et al.*, 2020).

In addition to the procedural aspect of process participation in the Dutch government's plans concerning the Regional Energy Strategy (RES), there is a strong emphasis on the financial involvement of citizens in land-based solar and wind energy projects. The concept behind this approach is that when residents share in the profits of these projects, they may experience less inconvenience from the altering landscape or be more tolerant of any inconveniences due to the financial benefits they receive (Evers *et al.*, 2019).

Furthermore, in the climate agreement, a goal has been set that 50% of new wind or solar parks should be locally owned (Ministerie van Economische Zaken en Klimaat, 2019). This target has recently been further confirmed by the national government in the recent cabinets' vision (Jetten, 2023).

NP RES describes local ownership as pertaining to solar and wind projects, involving stakeholders such as citizens and businesses. Most regions have adopted this goal in their Regional Energy Strategies (RESs). Local ownership aims to give the local community influence over project development, landscape integration, and revenue distribution. It involves decision-making power and ensures a fair distribution of benefits and burdens. Local ownership also encompasses other forms of financial participation, with agreements being made during the participatory process regarding area funds, land compensation, and/or financial participation (RES, 2022).

The province of South Holland takes this concept further and categorizes financial participation into three main forms: Local ownership, financial participation, and environmental arrangements. Under this model, local ownership could mean either partial or complete control of a project by the local residents and businesses. Financial participation could manifest in the form of shares or bonds. Environmental arrangements, on the other hand, could mean setting up an environmental fund, compensating the social costs associated with land use, and providing residents with some form of compensation (Verweij *et al.*, 2021).

Although informative participation is perceived more positively than financial participation, indicating a preference for participatory information practices, the relatively low assessment of financial participation could be attributed to citizens' fears or lack of knowledge regarding such investments (Langer *et al.*, 2017). Hence, financial participation remains important. van Dam & van der Windt (2022) highlight the importance of citizen involvement in socio-technical transition processes. With citizens playing various roles ranging from consumers to co-designers and owners of innovative technologies. Mobilizing engaged citizens and linking activities to local traditions have been successful practices. Although the self-sufficiency narrative did not lead to immediate action

from all citizens, it effectively connected them psychologically to the initiative (van Dam & van der Windt, 2022).

Delving further into the concept of local ownership, de Vries & Bouma (2023) highlight the varying experiences and preferences of regions and municipalities regarding financial ownership by residents, emphasizing the importance of citizens' financial self-sufficiency and organizational ability (de Vries & Bouma, 2023). The ownership structures observed in their case study exhibit a wide range of approaches, including crowdfunding, share purchases, collective ownership, area funds, and municipal involvement as developers. These diverse options reflect the need for tailored solutions that align with the specific local context (de Vries & Bouma, 2023). The case study revealed two archetypal situations, showcasing the complexity and nuances associated with financial ownership in these regions. The first archetype involves residents investing their own capital, leading to community ownership but potentially resulting in inequality of opportunity. The second archetype entails collective ownership through a consolidated share, directing profits to a community fund for public purposes without individual compensation. These archetypes highlight the potential inequities that can arise from the implementation of local ownership (de Vries & Bouma, 2023).

The limited attention given to local ownership in the Regional Energy Strategy for Rotterdam The Hague (RES-RDH) raises the need for further investigation into its justice implications. The RES-RDH provides minimal details on local ownership, with only a single paragraph emphasizing its importance. This omission calls for a closer examination of the distribution of benefits and burdens, citizen influence, and the potential for justice in decision-making. The diverse approaches to financial ownership observed in other regions highlight the need for tailored solutions that align with principles of equity and justice. The misalignment between inclusive ambitions and stakeholder engagement practices in regional energy transitions further emphasizes the importance of investigating the delegation of responsibilities and potential technocratic approaches. Additionally, the emphasis on financial participation and local ownership in government plans underscores the need to address concerns such as knowledge gaps and ensure fair distribution. Hence, investigating the justice implications of local ownership in the RES-RDH is crucial to foster meaningful participation, fair distribution of benefits, and inclusive governance in the energy transition.

1.3.6 Understanding Energy Justice

There exists a substantial body of literature discussing the topics of justice, fairness, and equity within the realm of climate change politics, for example, (Heffron, 2021; Bouzarovski, 2018; Williams & Doyon, 2020). These three concepts, justice, fairness, and equity, all encompass the idea of "fair treatment and due reward" (Schroeder & Pisupati, 2010). Although interconnected, each of these concepts possesses distinct nuances. For instance, equity primarily focuses on evaluating changes in the relative circumstances of specific societal groups. Conversely, justice is a more comprehensive term that encompasses the fair treatment and equal rights of individuals (Walker & Day, 2012). Therefore, the concept of justice is better aligned with the objective of this study as it allows for a comprehensive analysis that covers various facets of the energy transition.

The concept of energy justice has garnered substantial attention in academic and policy discussions over the past decade. It is widely recognized as an essential framework for assessing the inclusivity and fairness of decision-making processes in energy transitions (McCauley, 2014; Sovacool *et al.*, 2013; McCauley, 2018). The origins of energy justice draw from both scholarly research and grassroots movements within the domains of environmental justice and climate change (Baker *et al.*, 2019). These diverse influences contribute to the multifaceted nature of energy justice.

Energy justice is a concept that centres on promoting equal social and economic participation in the energy system, while also addressing the historical burdens experienced by marginalized communities. Its primary goal is to rectify the disparities and inequities that have emerged as a result of previous energy practices and policies. By upholding principles such as justice, fairness, and equality, energy justice strives to foster a more inclusive and equitable energy transition. In addition to this, energy justice encompasses a range of interconnected concerns, including fairness, equity, democracy, and sustainability, all within the energy sector (Baker *et al.*, 2019).

In the realm of energy justice, various interpretations have emerged to encompass its multifaceted nature. Initially, Jenkins *et al.* (2016) found that early definitions of energy justice focused on three key dimensions. The first dimension, known as distributional justice, sought to evaluate the emergence of injustices in the distribution of energy resources and benefits within society. This aspect aimed to identify which societal sections were being neglected and deprived of adequate access to energy resources and services (Jenkins *et al.*, 2016).

The second dimension, justice as recognition, examined the societal and cultural aspects of energy justice. It aimed to shed light on the ways in which certain groups, particularly marginalized communities, have been historically disregarded or overlooked in energy decision-making processes. This dimension emphasized the need to recognize and address the specific concerns and perspectives of these communities (Jenkins *et al.*, 2016).

The third dimension, procedural justice, focused on the fairness of energy-related decision-making processes and the existence of remediation mechanisms. It sought to ensure that affected communities have a voice in energy-related decisions, and that processes are transparent, inclusive, and accountable. This dimension highlighted the importance of empowering communities and providing avenues for meaningful participation in shaping energy policies and practices (Jenkins *et al.*, 2016).

Building upon these foundational dimensions, further nuances and principles have been incorporated into the understanding of energy justice. For instance, the concepts of

prohibitive and affirmative actions, as identified by Sovacool *et al.* (2013), have been integrated to address the structural barriers and inequalities that hinder equitable energy access and opportunities. Prohibitive actions aim to remove barriers and obstacles that prevent marginalized communities from accessing energy resources, while affirmative actions strive to actively promote their inclusion and participation in energy-related initiatives.

Restorative justice, as discussed by Heffron & McCauley (2017), brings attention to the need for reparative measures that acknowledge and rectify the historical injustices inflicted upon marginalized communities within the energy sector. This aspect recognizes that past energy practices and policies have often disproportionately impacted certain groups, and seeks to redress these imbalances.

Furthermore, the concept of 'just transitions', introduced by McCauley (2018), seeks to integrate the principles of climate justice, environmental justice, and energy justice. Just transitions emphasize the need to address the social, economic, and environmental dimensions of transitioning to a more sustainable energy system. It underscores the importance of ensuring that the transition process does not exacerbate existing inequalities and that vulnerable communities are supported and empowered throughout the shift to cleaner and more equitable energy systems.

An extensive review of energy justice literature by Jenkins *et al.* (2021) shows a predominant focus on distributive justice, justice as recognition, and procedural justice, representing 38 per cent of their 155 sampled papers. While other studies may focus on one of these terms independently, this triad remains a dominant framework within energy justice literature.

While more comprehensive frameworks, such as the one proposed by Heffron & McCauley (2017), incorporate cosmopolitan and restorative justice, their applicability to the context of this research seems less direct. Cosmopolitan justice, with its focus on global responsibilities, and restorative justice, aiming at rectifying past wrongs, are undoubtedly essential aspects of energy justice. However, their scope might extend beyond the immediate concerns of equitable participation and local ownership within the specific geographic and socio-political context of the RES-RDH.

In energy justice literature, there is an emerging trend of combining the tenets of justice with the principles of a decision-making framework approach (Jenkins *et al.*, 2021). This hybrid model merges an essential conceptual perspective on energy justice with a practical orientation towards decision-making and concrete outcomes. For the purposes of this research, this combination of frameworks is particularly suitable and will guide the assessment of representation and inclusion of vulnerable groups within regional energy transitions.

Sovacool *et al.* (2016) proposed a set of eight design principles for energy justice. These principles were further supplemented by two additional principles put forth by Sovacool *et al.* (2017), as depicted below. The objective of these principles is twofold: To provide guidance for research endeavours and to facilitate the integration of justice and ethics concepts into energy decision-making processes (Sovacool *et al.*, 2016).

- **Availability** - People deserve access to high-quality energy resources suitable for their needs.
- **Affordability** - Energy services should not exceed 10
- **Due process** - Respect for due process and human rights is should be central in energy production and use.
- **Transparency and accountability** - High-quality information about energy and the environment should be accessible to all, along with fair, transparent, and accountable decision-making processes.
- **Sustainability** - Depletion of energy resources should be carried out with consideration for savings, community development, and precaution.
- **Intragenerational equity** - All individuals have a right to fair access to energy services.
- **Intergenerational equity** - Future generations have a right to enjoy a good life undisturbed by the damage inflicted by current energy systems.
- **Responsibility** - All actors have a duty to protect the natural environment and minimize energy-related environmental threats.
- **Resistance** - Energy injustices must be actively and deliberately opposed.
- **Intersectionality** - Acknowledgment of the evolving identities in modern societies, and the interconnections between energy justice and other forms of justice (e.g., socio-economic, political, environmental).

For the purposes of this research, which primarily focuses on the examination of existing governance and decision-making practices within regional energy transitions, focusing on distributive and procedural justice is arguably more pertinent, as local ownership speaks to distributive justice and equitable participation is closely linked with procedural justice. Furthermore, distributive justice, concerning the equitable allocation of costs and benefits, and procedural justice, ensuring fair and democratic decision-making processes, directly aligns with the central themes of equitable participation and local ownership. They offer a more concentrated lens to explore and analyze how energy transitions can be directed towards more equitable outcomes on a regional level. These two facets of energy justice will, therefore, guide the investigation of the Rotterdam-The Hague energy region's energy transition dynamics.

1.3.7 Knowledge gap

The existing literature on regional energy transitions and governance in the Netherlands highlights several knowledge gaps that warrant further research. First, there is a need to critically examine the delegation of responsibilities and potential technocratic approaches in regional energy transition governance (Lelieveldt & Schram, 2023). While national policy guidelines emphasize inclusive and participatory ambitions, the actual practice of stakeholder engagement often falls short, with limited involvement of civil society stakeholders and individual citizens (Lelieveldt & Schram, 2023). This raises questions about the extent to which decision-making processes in regional energy transitions align with principles of procedural justice and equitable participation (Hoppe, 2021).

Second, there is a gap in understanding the justice implications of local ownership and financial participation in regional energy transitions. While there is a growing emphasis on local ownership and the financial participation of residents in renewable energy projects, there is a need to investigate the distribution of benefits and burdens, citizen influence in decision-making, and the potential for justice in these arrangements (de Vries & Bouma, 2023). It is important to assess how different approaches to financial ownership, such as crowdfunding, collective ownership, and municipal involvement, impact equity and justice in the energy transition (de Vries & Bouma, 2023).

Furthermore, there is a knowledge gap regarding the effective implementation of inclusive participation strategies in the Regional Energy Strategies (RESs) and the specific settings within energy regions. While the importance of public participation is acknowledged, there is limited guidance on how to meaningfully involve residents, grassroots organizations, and social partners in the RES formation processes (de Vries & Bouma, 2023). Research is needed to explore best practices for facilitating participatory processes, addressing challenges such as limited organizational capacity and know-how among public officials (Participatiecoalitie *et al.*, 2020). Additionally, more attention should be given to the influence of the institutional setting, including governance structures, on decision-making processes within energy regions.

Finally, there is a need to examine the intersection of energy justice principles with decision-making frameworks in regional energy transitions. While energy justice is recognized as a vital framework for assessing inclusivity and fairness, there is limited current knowledge on how justice principles can be integrated into decision-making processes at the regional level (Jenkins *et al.*, 2021). Understanding how the institutional setting and governance influence decision-making in energy regions and how to effectively operationalize distributive and procedural justice within this context will contribute to more equitable and socially just outcomes.

1.4 THEORETICAL FRAMEWORK

This section presents the theoretical framework that underpins the study, incorporating both energy justice and (public) decision-making aspects. The framework serves as a foundation for examining the inclusivity and equitability of decision-making processes in energy transitions.

1.4.1 Equitable participation

To provide a comprehensive understanding of equitable participation, this section sheds light on relevant theoretical frameworks that align with this concept. The selected frameworks, including participation, local ownership, and energy justice, offer valuable insights into the principles and dimensions of equitable participation.

The concept of participation serves as a foundational framework for equitable participation. Cuppen (2018) emphasizes the evolution of participation as a counterpoint to expert-analytic approaches and highlights its rationales of empowerment, learning, and legitimacy. This idea emphasizes the importance of engaging diverse stakeholders in collaborative processes, with the aim of reaching a consensus and shaping policy outcomes. Building upon this foundation, Fiorino (1990) and Habermas & McCarthy (1991) provide further theoretical support by advocating for the normative, substantive, and instrumental arguments for participation within democratic decision-making processes.

The framework of local ownership contributes significantly to the understanding of equitable participation. Horsbøl (2018) provides insights into the practical application of participation within municipal settings, emphasizing the importance of co-creation, shared responsibility, role negotiation, power dynamics, dialogue, and reflexivity. These concepts highlight the need to address power imbalances, foster collaborative decision-making processes, and ensure the active involvement of local communities in shaping energy transitions. The principles of distributive and procedural justice, as outlined by Sovacool *et al.* (2017), further strengthen the theoretical framework of equitable participation by emphasizing the fair distribution of benefits and burdens, as well as transparent and accountable decision-making processes.

Additionally, the framework of energy justice provides a valuable lens for understanding equitable participation. Energy justice encompasses principles of fairness, access, and recognition of stakeholders in energy systems and transitions. The principles of distributive justice, as discussed by Sovacool *et al.* (2017), highlight the importance of availability, affordability, intragenerational equity, and intergenerational equity in ensuring equitable distribution of energy services and benefits. Procedural justice, encompassing principles of due process, transparency, and accountability, emphasizes the importance of fair and inclusive decision-making processes. Baker *et al.* (2019) further extends the concept of energy justice by emphasizing the importance of energy equity, which addresses individual disparities in access to energy resources and services.

By integrating these theoretical frameworks, equitable participation emerges as a dynamic and iterative process that encompasses dimensions of procedural and distributive justice, democratic inclusion, co-creation, shared responsibility, role negotiation, power dynamics, dialogue, reflexivity, due process, transparency, accountability, availability, affordability, intragenerational equity, and intergenerational equity. Equitable participation promotes fair and inclusive decision-making, ensures the equitable distribution of benefits and burdens, and fosters empowerment and legitimacy among stakeholders.

1.4.2 Applied Energy Justice

While energy justice presents a significant theoretical framework, its actual application and impact lie in its integration within practical contexts. Several case studies of energy transitions provide real-world instances of applying energy justice frameworks (Heffron, 2022; Bartiaux *et al.*, 2018; Korteweg, 2019). These applications vary, with some assessing justice in direct accordance with the tenets of energy justice, while others adopt a more pragmatic approach.

One such pragmatic approach to operationalizing energy justice is Williams & Doyon (2019)'s framework. Their framework consists of three rows: "Key questions," "Risks of not incorporating justice," and "Mitigation strategies to overcome risks." The framework focuses on three dimensions of justice: distributive, procedural and distributive. The "Key questions" row lists a series of questions related to these dimensions, addressing aspects such as the distribution of costs and benefits, stakeholder involvement in decision-making, power asymmetries, and engagement of non-human actors and future generations. The "Risks of not incorporating justice" row highlights the potential consequences of neglecting justice in transitions, such as unequal distribution of resources and lack of public support. The "Mitigation strategies to overcome risks" row suggests approaches to address these risks, including considering transitions as opportunities for system change, designing fair and inclusive processes, and providing space for dissenting views.

This framework offers a method to evaluate justice in system transitions. It was designed to aid practitioners and action researchers in creating and implementing processes that promote sustainability transitions and serves as a valuable tool for researchers seeking to evaluate these processes. By posing a series of questions, the framework assists users in integrating justice considerations into their work, tailoring the interpretation and application of these questions to suit the specific context (Williams & Doyon, 2019).

Importantly, the Williams & Doyon (2019)framework also acknowledges potential risks associated with incorporating justice in sustainability transitions, offering mitigation strategies to overcome these challenges. Nonetheless, while the framework offers a comprehensive and practical approach to integrating justice considerations, it does not fully encompass all the tenets of energy justice, nor does it present a universal solution.

The outline provided by Williams & Doyon (2019)'s framework will be used in the research to provide an actionable set of questions that decision-makers in the RES-RDH can use to guide their decision-making process. The main inspiration will be taken from the use of the key questions, risks, and mitigation strategies, while the questions will be focused on equitable participation, as will be defined in Chapter 3.1.

1.4.3 Decision-making in the energy transition: Phases, streams and decision-making rounds

The energy transition involves complex decision-making processes shaped by intricate social, political, and environmental dynamics. Particularly in the Netherlands, the development of RES offers a unique context to analyze these processes. This section examines three decision-making models - the Phase, Stream, and Rounds models (Teisman, 2000)- within the framework of Dutch energy transition. This chapter explores the applicability of these models, shedding light on the decision-making mechanisms, their challenges, and opportunities within the RES context.

Phases model

The phase model of policy analysis offers a structured perspective on policy processes by dividing them into distinct yet interconnected components that influence government actions. This model frames decision-making as a series of situations or stages that unfold over the policy process, namely, problem definition, policy formulation, policy adoption, policy implementation, and policy evaluation (Crosby & Bryson, 2005; Sato, 1999).

The initial stage is problem definition, where a problem or crisis emerges and gains recognition. Here, policymakers identify and acknowledge issues that require governmental intervention. It's important to note that public problems are complex and may lack definitive formulations, but the existence of problems and their subsequent definition is a necessary precursor to policy-making (Crosby & Bryson, 2005; Scharpf, 1997).

Once the problem is defined, the policy formulation stage ensues. This phase involves various governmental and non-governmental actors who gather and analyze information to develop policies tailored to the identified problem. Activities during this stage may include problem recognition, diagnosis, information search, and the design and evaluation of alternative solutions (Crosby & Bryson, 2005).

The next phase is policy adoption, which is centred around decision-making concerning the content of the policy. During this phase, policymakers determine the optimal policy proposal to fulfil the set objectives. While this process typically involves multiple parties, usually one or two actors possess the ultimate authority to decide the methods to be used to achieve the objectives (Crosby & Bryson, 2005).

Following the adoption phase, the implementation phase begins. Here, the chosen policy alternatives are carried out by administrative units. This phase emphasizes the practical application of the chosen means, with a focus on optimizing the decision maker's utility and managing any potential opposition (Butler, 1991).

The final phase in the model is policy evaluation, where policymakers assess the effectiveness of the policy in achieving its intended goals (Altman & Petkus, 1994).

The phase model acknowledges that reality often deviates from its sequential assumptions, particularly in situations where power is distributed and no single entity has control. However, despite these deviations, an organized approach is still considered vital for maintaining effectiveness (Crosby & Bryson, 2005). Even with its limitations, the phase model serves as a useful framework for reconstructing policy-making processes and allows for the development of theories focused on different stages (Hoogerwerf *et al.*, 2021; Mintzberg, 1973).

Streams model

The streams model is a concept in public policy theory that provides an alternative approach to the traditional phase model of policy-making. Developed by Cohen, March, Olsen, and further elaborated by Kingdon, the streams model proposes that policy-making consists of three independent and concurrent streams: problems, solutions/policies, and politics (Kingdon, 1984; March & Olsen, 1979).

Unlike the phase model, which assumes a linear, sequential process of decision-making, the streams model emphasizes the simultaneousness of policy-making activities. The model contends that each stream—problems, solutions/policies, and politics—operates independently and does not necessarily follow a regular temporal pattern (Koppenjan, 1992; Kingdon, 1984). Instead, these streams exist side by side, each developing according to its own dynamics and rules.

The model further posits that politicians have the agency to prioritize which problems and solutions they want to focus on, leading to swift movement from one combination of problem and solution to another. This dynamism in decision-making contributes to the unpredictable nature of policy processes (March & Olsen, 1979).

One of the central tenets of the streams model is the idea of "policy windows"—opportune moments when the three streams of problems, solutions/policies, and politics converge. During these windows, significant policy changes are more likely to occur. Understanding the extent and reasons behind these linkages can help researchers unravel the complexities of decision-making processes and increase transparency in policy-making (Kingdon, 1984; Anglund, 1999).

In the streams model, decision-making is dissociated from specific participants. Instead, the focus is on the independent development of each stream. This perspective contrasts with the vertical strands of the phase model, which represents consecutive steps over time (Kingdon, 1984).

Decision-making rounds model

The rounds model provides a powerful methodological approach for understanding complex policy processes, with a focus on the roles of various actors, their objectives, and their interactions (Schwarz, 2020; Teisman, 2000). It assumes that decision-making is a multi-actor process, where different actors introduce their perceptions of problems, potential solutions, and political judgment. Unlike the phase model, the rounds model asserts that problems and solutions are not static, nor are they confined to a single policy-maker.

This actor-centric approach holds significant value in the analysis of complex decision-making, as policies often emerge not from a predetermined course of action formulated by a single actor, but from a series of decisions made by different actors (Scharpf, 1997). Each actor has their understanding of the problem, potential solutions, self-interests, normative preferences, and action resources. Therefore, applying the rounds model can offer a comprehensive understanding of decision-making, focusing on how actors navigate their interdependencies and interactions throughout the policy process.

The rounds model merges elements from both the phase and stream models, using a vertical classification to examine a series of decisions made within specific time periods (like the phase model) and a horizontal classification to consider interactions related to the same subject (like the stream model). It emphasizes the dynamic nature of decision-making and the contingent relationships among actors. The decision-making rounds are

demarcated by retrospectively identifying crucial decisions that act as essential reference points for actors' behaviour in subsequent periods (Teisman, 2000).

The value of the rounds model lies in its nuanced understanding of actors, problems, and solutions; viewing policy adoption as an event or result rather than a fixed point; and offering alternative criteria for evaluating decision-making. Instead of viewing decision-making as single-issue focused, the rounds model underscores the dynamic interplay of problems and solutions as represented by different actors. It sees policies as a series of decisions made by various actors, beginning and ending with the adoption of problem-solution combinations by one or more actors.

When it comes to policy evaluation, the rounds model shifts focus from the fit between policy outcomes and predetermined objectives set by a single organization to consider the intentions and objectives of all parties involved. The concept of 'joint interest' becomes a more fitting evaluative tool in the rounds model, as it accounts for the objectives of all relevant actors (Teisman, 2000).

In the context of energy justice research, the rounds model can help unpack the complexities of decision-making processes. It can aid in understanding the dynamic interplay of problems and solutions as represented by different actors in the energy sector and how these actors navigate their interdependencies and interactions throughout the policy process. As such, applying the rounds model can provide in-depth insights into the governance processes involved in energy justice, offering a comprehensive understanding of the dynamics and intricacies of such processes.

Moreover, the rounds model's focus on 'joint interest' is particularly relevant for energy justice research, where various stakeholders often have divergent interests and objectives. The model's approach to evaluating decision-making based on 'joint interest' can provide a more nuanced and comprehensive understanding of the outcomes and impacts of policies related to energy justice.

Selection of the applicable framework

In the context of the Netherlands, the Stream model could be applicable due to the decentralized decision-making structure across multiple levels of governance. The model's emphasis on simultaneous, independent "streams" of problem identification, solution generation, and political manoeuvring aligns with the separate yet interrelated processes at the municipal, provincial, and national levels. Additionally, the inherent unpredictability of policy processes captured by the model resonates with the flexible and dynamic nature of policymaking in the Netherlands. However, one of the challenges with this model is its inability to account for the formal structures of decision-making prevalent in the Dutch political system. It may also inadequately capture the complex negotiations between different levels of government in the process of crafting a RES.

The Phase model also has potential applicability, given its structured and sequential approach to policy analysis. This model's delineation of distinct phases such as problem definition, policy formulation, adoption, implementation, and evaluation can be insightful in mapping the RES process. However, given the complexity and multi-level nature of governance in the Netherlands, the phase model may oversimplify the intricacies and interconnectedness of decision-making. It may also fail to adequately represent the continuous feedback and adjustments necessary in real-world policy-making processes, particularly in the unique context of the RES.

The Rounds model, which emphasizes the iterative nature of policy-making and the necessity of continuous feedback and adjustment, could potentially offer the most accu-

rate representation of the Dutch RES process. Given the iterative and multi-stakeholder approach to RES development, this model captures the dynamic interplay between different levels of governance and the ongoing adjustments made in response to shifts in political, social, and environmental landscapes. Moreover, it acknowledges the challenges and opportunities presented by the unique "constitutional novelty" of the RES.

Given the intricacies of the Dutch policy-making landscape and the specific complexities presented by the "constitutional novelty" of the RES, the Rounds model appears to be the best fit. Its acknowledgement of the iterative nature of policy-making and its ability to encompass the dynamism of the multi-stakeholder RES process make it a suitable choice for this research. Despite its advantages, the choice of the Rounds model should not ignore the insights offered by the Stream and Phase models. A comprehensive understanding of the RES process could benefit from a hybrid approach that integrates elements from all three models.

Applying the Decision-Making Models to the Research

In examining the dynamics of decision-making processes within the energy transition, this research will primarily adopt the Rounds model. As this model acknowledges the complex and iterative nature of decision-making, it is well-suited to capturing the multifaceted realities of crafting and implementing the Regional Energy Strategies (RES) in the Netherlands.

The Rounds model will facilitate a nuanced understanding of how different actors perceive problems and potential solutions in the context of the energy transition, and how these actors navigate their interactions throughout the policy process. This actor-centric perspective will provide a comprehensive view of the decision-making landscape in the Netherlands' energy transition.

Furthermore, the Rounds model's emphasis on 'joint interest' as an evaluative tool aligns with the energy transition's collaborative nature, where multiple stakeholders strive towards common sustainability goals. This shift from a focus on individual to collective outcomes will enable a broader and more balanced evaluation of decision-making processes in the context of the RES.

To conclude, the rounds decision-making model will allow us to appreciate the complexity of RES-RDH decision-making, while also serving as a tool to see when and where the application of the final decision-making guidance framework (being the end result of this research) can best be applied.

1.4.4 Conceptualisation of Theoretical Framework

The conceptualization of how each component in the theoretical framework Chapter 1.4 is used, is illustrated in Figure 1.2. It conceptualizes equitable participation using Cuppen (2018), Horsbøl (2018), and Sovacool *et al.* (2017), and additionally incorporates an as yet undefined concept of local ownership. Teisman (2000)'s Rounds Model is applied to understand the decision-making process, underlining the non-linear, iterative nature of decisions within the RES RDH. It also includes the practical element of energy justice, inspired by Williams & Doyon (2019). These components, together presenting a multidimensional view of decision-making, are later combined into an actionable tool for decision-makers. This tool encapsulates the collective insights from the conceptualization of equitable participation, decision-making processes, and energy justice, serving as a context-specific guide for decision-making in the realm of RES RDH.

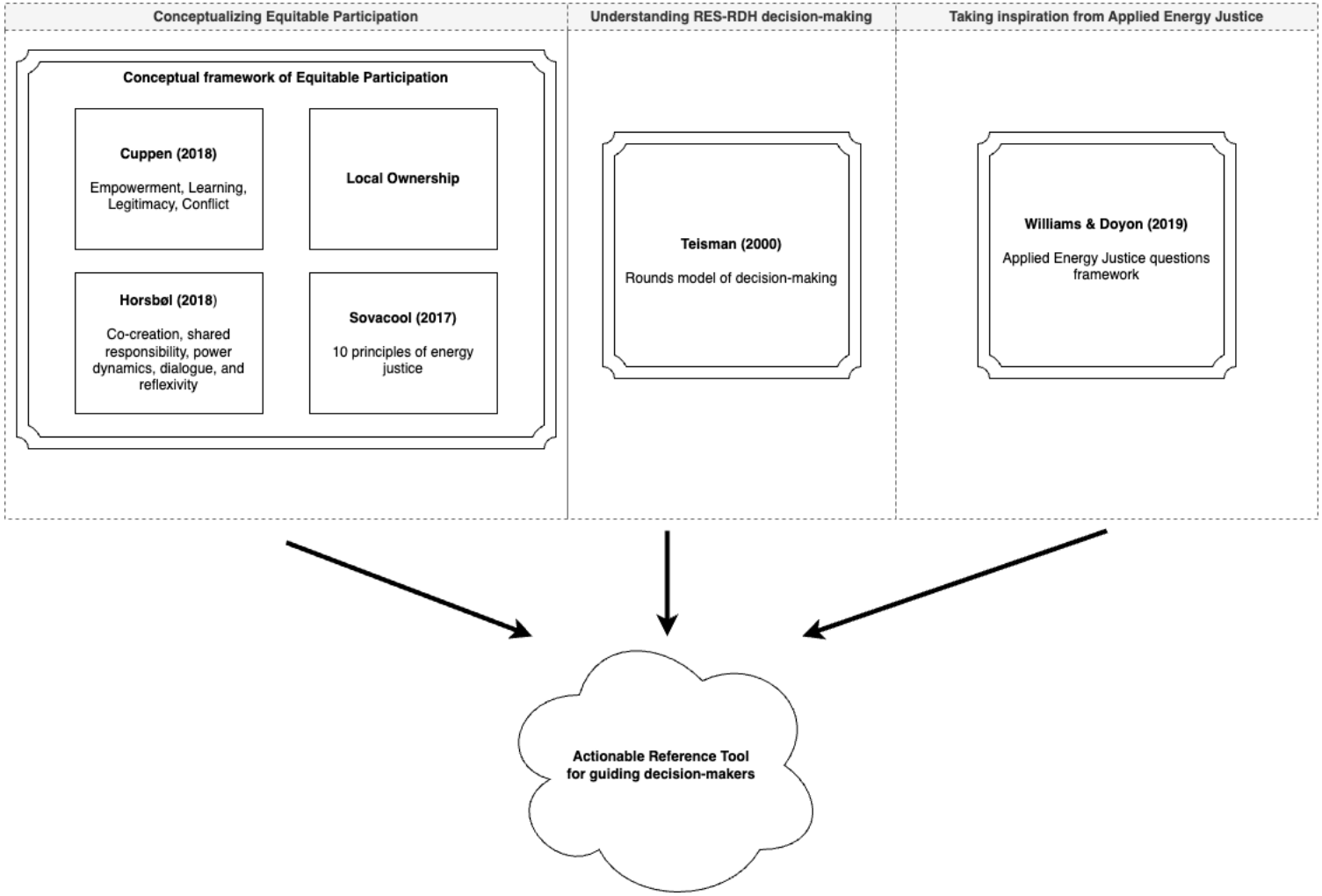

Figure 1.2: Conceptualization of the theoretical frameworks used and how they will contribute to the development of an Actionable Reference Tool for guiding decision-makers, as discussed in Chapter 1.4

2 METHODOLOGY

The methodology chapter outlines a comprehensive research design and data collection approach to investigate local ownership and equitable participation in RES-RDH energy transition decision-making. It includes the use of a hybrid deductive-abductive approach, case selection, literature review, policy document analysis, and semi-structured interviews. Data treatment, analysis procedures, ethical considerations, and study limitations are also discussed.

2.1 RESEARCH DESIGN

This study utilizes a comprehensive research design that employs diverse forms of data to provide an in-depth understanding of decision-making processes in energy transition. This design, which incorporates a thorough literature review, policy document analysis, and qualitative semi-structured interviews, allows for triangulation and confirmation of the findings.

The research design unfolds in several stages corresponding to the research questions. The initial stage of the study is geared towards conceptualizing the notions of local ownership and equitable participation within the realm of regional energy transition decision-making. The focus here is on the academic and policy definitions and usages of these concepts, which will be explored through an exhaustive review of pertinent literature.

The next stage of the research involves a detailed examination of the RES-RDH institutional governance structure. This analysis is conducted by evaluating relevant policy documents and conducting semi-structured interviews with stakeholders. This stage is crucial for comprehending the impact of governance structures on the organization of local ownership and equitable participation in RES-RDH, particularly from distributional and procedural justice perspectives.

Subsequently, the research shifts towards identifying and understanding the challenges stakeholders face in achieving equitable participation and local ownership in RES-RDH. This investigation will mainly rely on qualitative semi-structured interviews that provide in-depth insights into the participants' experiences and problems encountered within the governance system.

Following this, the study aims to explore the potential benefits of applying energy justice principles within RES-RDH. This inquiry will involve an integration of the insights derived from the preceding stages, thereby examining how principles of equitable participation and local ownership can enhance the energy transition, focusing on distributive and procedural aspects.

Finally, the main research question will be tackled by synthesizing the findings from all the stages, thereby providing a comprehensive answer to how the current practices in RES-RDH can be improved to ensure principles of procedural and distributive aspects of energy justice.

This research design employs a hybrid deductive-abductive approach to data analysis. It starts with a theoretical framework based on existing theories, which structures the collection and preliminary analysis of data. As data is collected, interpretations derived from the data are used to revise the theoretical framework in an iterative process.

The research design also incorporates strategies to enhance its validity and reliability, such as regular feedback loops with supervisors and interviewees, and the use of multiple data sources and methods—known as triangulation.

2.2 CASE SELECTION

The focus of this research is the energy region of Rotterdam-The Hague, chosen for its uniquely diverse characteristics. This region, encompassing 21 municipalities, four water boards, and the province of South Holland, offers a rich variety of landscapes, functions, and interests. This includes a global port, two large cities, extensive greenhouse horticulture, and a densely populated residential area (RES-RDH, 2019).

The Rotterdam-The Hague energy region adopted RES 1.0 in July 2021, committing to generate 2.3 TWh of renewable electricity by 2030. The majority of this energy is expected to come from solar panels installed on rooftops. Alongside this, the region has articulated a vision for heat transition, primarily involving the use of residual heat from industry and geothermal energy (RES-RDH, 2019; NP RES, 2021).

The selection of this region for the present study is driven by several reasons. Firstly, the existing literature on citizen participation in regional energy transitions appears to overlook regions that demonstrate the diversity found within the Rotterdam-The Hague energy region. For instance, de Vries & Bouma (2023) conducted a comprehensive study of smaller energy regions, mostly in the north-east of the country. While Hulsbosch (2022) examined citizen participation in the RES Holland-Rijnland, the Rotterdam-The Hague energy region is more diverse, containing the second and third largest cities in the Netherlands, as well as numerous smaller municipalities.

This research aims to fill the gap in the literature by providing a detailed examination of a region that encapsulates a broad spectrum of urban, suburban, and rural contexts. The diverse range of municipalities within the Rotterdam-The Hague energy region offers a fertile ground for studying the variation in the participation of citizens in the energy transition, given their distinct demographic, socio-economic, and political contexts.

2.3 DATA COLLECTION METHOD

The data collection for this research project consists of a comprehensive literature review, in-depth interviews, and a systematic review of the interviews. The process has been designed to yield a deep understanding of energy justice and the complexities associated with RES-RDH decision-making.

The research commences with an extensive review of the literature. This review dissects scholarly articles, policy documents, and pertinent industry reports, all of which play a vital role in unravelling the complexities associated with energy justice and RES-RDH (Fink, 2016). A particular emphasis is placed on case studies that explore the implementation of other RES initiatives in the Netherlands. Moreover, the review includes energy transition case studies from various countries in the Global North. By doing so, the research can garner a comprehensive understanding of the implications and nuances of similar initiatives in socio-political contexts akin to the Netherlands.

Simultaneously, a flexible interview protocol was developed and is detailed in Appendix A. As insights from the literature review evolved, the interview questions were continually refined. This iterative approach is a means of ensuring that the data being collected remains germane to the objectives of the research, while being able to adapt to emerging themes or areas of interest (King & Horrocks, 2010). The overall objective of conducting 16 interviews is to gain a more nuanced understanding of energy justice in the context of RES-RDH, by leveraging the experiences and perspectives of various stakeholders (Brinkmann, 2013).

Upon completion of the literature review, qualitative semi-structured interviews were conducted with a variety of stakeholders involved in RES-RDH. These stakeholders, who fulfil diverse roles as outlined in Appendix B, range from a Sr. Policy Advisor Environment to Aldermen from different municipalities. Their roles and positions provide a rich and varied tapestry of perspectives on energy justice in the RES-RDH context.

The interviews, which averaged about an hour in length, were conducted and subsequently transcribed using Microsoft Teams. This thorough approach to data collection provided a multi-faceted understanding of the complexities associated with energy justice and RES-RDH.

2.4 SAMPLING TECHNIQUES

The sampling techniques used in this study encompass both purposive and snowball sampling methods (Bryman, 2016). Purposive sampling was primarily utilized to identify and select potential interviewees based on their current or potential involvement in the Rotterdam The Hague Regional Energy Strategy (RES-RDH). This approach allows for the inclusion of participants who possess specific knowledge or experience related to the research topic, thereby offering valuable insights into the subject matter.

Purposive sampling was conducted primarily through the professional networking site, LinkedIn. The platform was leveraged to identify individuals associated with RES-RDH, including policy-makers, industry experts, and representatives from energy cooperatives. The use of LinkedIn as a primary platform for participant recruitment enables access to a wide network of professionals actively engaged in the field of energy transition, making it an efficient tool for locating relevant stakeholders.

Simultaneously, the snowball sampling technique was also employed to broaden the scope of participant recruitment. This method involves asking initial participants to recommend other potential interviewees who meet the criteria for the study. Snowball sampling proves particularly useful when attempting to reach individuals or groups that might be difficult to access directly. It also allows the research to benefit from the social networks of the participants, which may lead to a more diverse set of interviewees (Noy, 2008).

Despite the strengths of these sampling techniques, potential limitations must be acknowledged. A key risk is a potential for bias, as the use of LinkedIn as a primary recruitment platform could inadvertently exclude certain stakeholders who are not active or present on this platform (Baltar & Brunet, 2012). This could result in the sample not being fully representative of all the individuals or groups involved in RES-RDH. However, this risk was mitigated by also directly emailing potential participants through e-mail, which was found on the websites of relevant organisations like NP RES, RES-RDH De Participatiecoalitie. Furthermore, relying on participants' networks in snowball sampling might also lead to an over-representation of certain perspectives or groups (Heckathorn, 2011). Consequently, these limitations have been carefully considered throughout the sampling process, and efforts have been made to mitigate their impact on the research findings.

2.5 DATA TREATMENT & ANALYSIS PROCEDURES

The data treatment and analysis procedures for this study incorporate both inductive and deductive coding approaches, considering the research questions as well as the theoretical framework. These complementary approaches ensure a thorough and nuanced analysis of the data collected through the literature review and semi-structured interviews.

Once the data collection phase is complete, including transcribing the interviews and organizing relevant information from the literature review, the data will be imported into ATLAS.ti, a qualitative data analysis software. The answers to the interview questions are then summarized in bullet points which are then used to code specific parts of the interview transcripts.

The initial coding process involves inductive coding, where codes are derived directly from the data itself without being restricted by pre-existing categories. This approach allows for the emergence of themes and concepts that may not have been anticipated. For instance, during the analysis of interview transcripts, participants' concerns about the lack of community consultation and decision-making power in renewable energy projects may lead to the emergence of a code like "community resistance to project implementation."

In addition to inductive coding, deductive coding is employed to incorporate the theoretical framework and research questions into the analysis. In this approach, pre-defined codes are derived from the relevant theoretical concepts and constructs. These codes serve as a framework for organizing and interpreting the data in relation to the theoretical underpinnings of the research. For example, when analyzing interview data, codes such as "equitable participation" and "distributional justice" were used to examine discussions related to inclusivity and fairness in renewable energy decision-making processes.

By employing deductive coding, the analysis ensures that the data are explored within the context of the theoretical framework, providing a structured examination of the content. Theoretical concepts serve as guideposts, directing attention to specific themes and patterns that align with the research objectives. For instance, the deductive code "local ownership" can be used to identify instances where participants discuss the importance of community involvement and control over renewable energy projects.

Throughout the coding process, ATLAS.ti facilitates the comparison of data segments across different codes, enabling the identification of similarities and connections between concepts. This iterative process allows for a systematic exploration of the data, uncovering relationships and insights. The software's features also support the organization and retrieval of coded data segments, enhancing the efficiency and reliability of the analysis.

The identified themes and patterns will be analyzed and synthesized to extract meaningful insights about energy justice within the context of RES-RDH. This process ensures that the analysis remains grounded in the data while being informed by the theoretical framework. By combining inductive and deductive coding approaches, this data treatment and analysis process enables a comprehensive exploration of the collected data, capturing both unexpected insights and the integration of relevant theoretical concepts.

2.6 ETHICAL CONSIDERATIONS

In order to maintain the highest ethical standards throughout the course of this study, a rigorous plan has been developed and implemented in compliance with the General Data Protection Regulation (GDPR) and the guidelines provided by the Human Research Ethics Committee (HREC). This plan focuses on several key elements of ethical research conduct, particularly in relation to the collection, storage, and utilization of data obtained through interviews.

One of the primary aspects of this ethical plan pertains to data storage protocols. Given the sensitive nature of the data collected from participants, it is crucial to ensure that it is stored securely and is only accessed for purposes directly related to the research. Accordingly, these protocols were developed in consultation with the Data Steward at TU Delft to ensure that all data is stored in a secure and confidential manner and that all data handling practices adhere to GDPR requirements.

The plan further articulates clear guidelines for obtaining informed consent from the interviewees. Prior to each interview, participants were provided with a comprehensive overview of the study, including its objectives, methods, and potential implications. They were also informed about their right to withdraw from the study at any point.

Furthermore, assurances were made to maintain the anonymity of the participants. Personal identifiers were removed from the data during the analysis stage, and pseudonyms have been used in any publications or reports resulting from the study.

After careful preparation, the plan was submitted and subsequently approved by the HREC at TU Delft. This approval serves as confirmation that the study upholds the principles of ethical research and respects the rights and privacy of its participants.

In conclusion, this research has been conducted in accordance with stringent ethical guidelines, ensuring the protection of participants and the integrity of the data collected. This process ensures the credibility of the research and its adherence to ethical norms and principles.

2.7 VALIDITY

Research validity is crucial for ensuring the reliability and accuracy of the findings. This section discusses three aspects of validity: content validity, internal validity, and external validity.

The research project took careful measures to ensure content validity, which refers to the extent of coverage and accuracy of the data collected. This validity was strengthened by meticulous planning in developing the interview protocol, literature review, and policy document analysis.

The interview protocol was thoughtfully designed to align with the research objectives and theoretical framework. It underwent iterative refinement based on insights from the literature review, resulting in a comprehensive set of questions that covered various aspects of energy justice and the RES-RDH area. While the protocol primarily focused on qualitative and exploratory measures, it captured participants' perceptions on participation effectiveness, barriers, successes, and potential improvements. However, to enhance its definitive answer-providing ability, it could benefit from exploring how fair public participation can be better integrated into the energy transition process.

Meanwhile, the literature review and policy document analysis employed a comprehensive and inclusive approach, incorporating diverse sources like scholarly articles, policy documents, and industry reports. These sources provided valuable insights into energy justice, RES initiatives in the Netherlands, and Global North energy transition case studies, thereby contributing to the research's content validity.

However, noticeable gaps in the literature exist, particularly in relation to energy justice in citizen participation and regional energy transition. These gaps may have influenced the definition of equitable participation, which may not be all-encompassing. To address these limitations, incorporating more diverse sources such as case studies, expert opinions, gray literature, or primary data collected through interviews or surveys would be beneficial. Additionally, given the limited academic research on local ownership, deriving the definition from policy documents was deemed appropriate for the specific focus on the RES-RDH.

In conclusion, the research project demonstrated a commitment to ensuring high content validity through a diverse range of sources and a comprehensive interview protocol. However, addressing the identified limitations would further enhance the nuanced understanding of the research topic.

Internal validity refers to how well a study establishes a trustworthy cause-and-effect relationship between its variables. It ensures that the outcomes of the research are indeed a result of the variables the study manipulates and measures and not a product of extraneous factors or biases.

For this research, the internal validity was maintained by constructing a robust research design, methodical data collection, and thorough data analysis. The interview protocol, which was carefully crafted, and the comprehensively selected literature and policy documents have contributed significantly to the internal validity of the study. The interview protocol was not only based on a comprehensive review of the existing literature but also iteratively refined, ensuring that the interview questions truly measure the concepts of interest.

Moreover, it is important to acknowledge that the sample used in the study may not be fully representative of the population under investigation. As indicated in Appendix B,

only 9 out of the total 21 municipalities were interviewed, resulting in a total of 16 interviews. While efforts were made to select participants representing different stakeholder perspectives, there is a possibility that some relevant individuals were not included in the interviews. It is crucial to recognize this limitation and consider the potential impact it may have on the findings and conclusions of the study. Despite these limitations, the interviews were conducted in a structured yet open-ended manner, striking a balance between consistency and allowing respondents to express their nuanced perspectives. This approach aimed to capture valuable insights, but it is important to interpret the results with caution, considering the potential gaps in the sample coverage. Nonetheless, the end result proposes questions that can guide decision-making it is expected that that result is applicable in the entirety of the RES-RDH, probably even beyond.

The research design also integrates several strategies to enhance its validity and reliability. Regular check-ins and feedback loops with supervisors and interviewees will be incorporated into the process. These check-ins serve to enhance the reflexivity of the research, providing opportunities to reflect on the research process, challenge assumptions, and refine methods as needed. Additionally, the use of multiple data sources and methods—known as triangulation—enhances the validity of the findings, as it allows for the confirmation of findings across different types of data (Carter *et al.*, 2014).

However, there are always potential threats to internal validity in any research. In the context of this study, the participant's responses might be influenced by their understanding of the questions, their recall ability, and their willingness to provide accurate responses, all of which can impact the internal validity. The use of leading questions, the potential for interviewer bias, and the risk of data interpretation bias can also pose threats to the internal validity.

The qualitative nature of this research means that measures of reliability such as repeatability may not be applicable in the traditional sense. However, the validity of qualitative research relies on the researcher's ability to interpret the data accurately. To address this, the study used multiple coders to analyze the interview transcripts, thereby reducing the risk of interpretation bias and improving the internal validity.

Another potential limitation relating to the classification of the challenges faced, is the risk of inconsistency in coding. Despite having a well-structured coding scheme, there might be variations in the application of codes across different data points, especially since the coding process is long and complex. Over time, the researcher may unconsciously have altered the definition or application of a code, leading to potential inconsistencies. However, this is not expected to be the case as it has significant overlap with existing governance literature.

Overall, while there is always the potential for threats to internal validity in research, the design and implementation of this study have taken meticulous steps to ensure that the findings accurately represent the cause-and-effect relationships among the research variables. Nonetheless, it is important to interpret the findings within the context of these potential limitations.

External validity pertains to the generalizability of the research findings beyond the specific context and participants of the study. It relates to the extent to which the results can be applied to other settings, populations, and time periods. In other words, it's about the degree to which the conclusions drawn from this study can inform understanding and decision-making in comparable contexts.

In the context of this research, the focus is on energy justice and the RES-RDH. Therefore, the external validity is inherently tied to how the findings may apply to similar energy strategies, energy justice initiatives, and energy transition case studies in the Netherlands, the Global North, or beyond.

Given the specific regional focus on the RES-RDH area and the deliberate selection of participants, the findings offer in-depth insights into this specific context. However, this context-specificity can limit the external validity or generalizability of the results. For instance, the dynamics of public participation, decision-making processes, and the experience of energy justice might be different in other regions, countries, or socio-political contexts. Additionally, the fact that only 9 out of the total 21 municipalities were interviewed, and that participants were chosen to represent diverse stakeholder perspectives, may further constrain the generalizability of the findings.

On the other hand, the comprehensive review of literature and policy documents, which includes sources spanning energy justice, RES initiatives in the Netherlands, and Global North energy transition case studies, offers a broader context and theoretical foundation that can enhance the external validity of the research. The identified barriers and solutions could potentially inform other similar initiatives, while the identified gaps in the literature could guide future research in these areas. It is however expected that the research can be applied in similar regions that have not made explicit plans regarding the organisation of citizens.

Furthermore, the research's focus on equitable participation, local ownership, and energy justice concepts that are pertinent across various energy initiatives might enhance the applicability of the findings to other similar contexts.

Nonetheless, while interpreting the findings and applying them to other contexts, it is essential to consider the unique characteristics and specifics of the RES-RDH area and the particularities of the chosen participants. Future research could expand the external validity of these findings by replicating this study in different regional contexts or with different participant groups.

In conclusion, while the research has made concerted efforts to achieve external validity, there are inherent limitations due to the specifics of the case study area and participant selection. By acknowledging these limitations and carefully considering the context of the application, the insights derived from this research can still make valuable contributions to the broader discourse on energy justice and regional energy strategies.

2.8 SCOPE AND LIMITATIONS

The methodology utilized in this research does possess certain limitations that should be acknowledged, with each having potential impacts on the strength of the research. One such limitation concerns the use of semi-structured interviews. Though they are indeed valuable for extracting detailed and complex data, these interviews can also be time-intensive and yield diverse responses, which can complicate data comparison. Such variability in responses may, in turn, weaken the uniformity of the findings.

Further complexity is introduced by the extensive systematic approach to data collection and analysis. This procedure necessitates precision and diligence, and the labor-intensive nature of the approach might inadvertently limit the scope of the collected data. This, combined with the challenge of achieving saturation amidst a diverse range of RES-RDH stakeholders, might restrict the comprehensiveness of the findings and influence the overall robustness of the research.

Despite rigorous efforts to enhance transparency and reflexivity in the research process, the possibility of personal biases and preconceptions from the researcher can't be overlooked. This subjective influence might inadvertently steer the direction of data collection and analysis, thereby impacting the objectivity and reliability of the research outcomes.

While focusing on the RES-RDH provides a diversity of contexts to explore, it also presents a limitation. The dynamics and challenges identified in this region might not necessarily mirror those in regions or countries with different sociopolitical contexts. Consequently, this geographically confined focus may affect the global applicability of the findings.

The reliability of the data may be influenced by the quality and availability of pertinent documents and participants' willingness to share their experiences. Factors such as social desirability bias or recall bias could affect interview responses, thereby introducing elements of uncertainty to the collected data.

Sampling methods used, including purposive and snowball sampling, are designed to include participants with crucial experience and knowledge. Nonetheless, these approaches might inadvertently create a sample bias, as recommended participants are likely to be within the same networks. Furthermore, the recruitment of participants through LinkedIn might exclude stakeholders not active on this platform, consequently narrowing the range of perspectives. Both these factors might impact the diversity of the sample, and by extension, the breadth of the research findings.

Finally, the data analysis procedure, though rigorously systematic, relies on the researcher's interpretation, introducing potential bias. Despite mitigation strategies like peer debriefing and member checking, this interpretation-based approach might affect the validity and reliability of the research outcomes.

Despite the above limitations, this study endeavors to offer valuable insights into energy justice, local ownership, and equitable participation in the RES-RDH. The findings are anticipated to enrich existing literature and provide insights for enhancing decision-making processes within RES-RDH. The limitations are not insurmountable, but they serve to frame the research's applicability and serve as a roadmap for potential future research.

3 EQUITABLE PARTICIPATION & LOCAL OWNERSHIP IN THE CONTEXT OF RES-RDH DECISION-MAKING

This chapter explores the concept of equitable participation in the context of regional energy transition decision-making, specifically focusing on the Rotterdam-The Hague energy region (RES-RDH). It defines equitable participation and its connection to local ownership by synthesizing insights from literature, practical works, and theories. The chapter highlights the participatory aspects of equitable participation, including democratic inclusion, knowledge production, empowerment and legitimacy, consensus and conflict, co-creation and shared responsibility, role negotiation and power dynamics, and dialogue and reflexivity. It also examines the local ownership aspect, emphasizing community involvement and procedural and distributive justice. From an energy justice perspective, the chapter explores the equity aspect, focusing on distributive and procedural justice. The principles derived from these discussions form a conceptual framework for equitable participation, encompassing dimensions of procedural and distributional justice. This chapter establishes the foundation for examining the meaning of local ownership and equitable participation in the RES-RDH's regional energy transition decision-making process.

3.1 DEFINING EQUITABLE PARTICIPATION

In this section, various insights from a broad spectrum of literature, practical works, and theories are synthesized, with a specific focus on outlining the principles of equitable participation. The intent is to create a comprehensive understanding that captures the essence of the term 'equitable participation', particularly in the context of the RES-RDH.

3.1.1 Participatory aspects of equitable participation

Participation is a concept that is rich and nuanced, evolving significantly over the decades. Grounded in principles of democracy and knowledge production, participation involves engaging a diverse range of stakeholders in a collaborative process, often with the aim of reaching a consensus. The impact of participation goes beyond mere engagement as it can significantly shape the outcome of the policies or decisions being made (Cuppen, 2018).

Cuppen (2018) highlights that participation emerged as a counterpoint to the prevailing expert-analytic approach, criticized for its overly linear, deterministic, and exclusive nature (Stirling, 2008). Participation is propelled by three key rationales: empowerment, learning, and legitimacy (Hisschemöller & Cuppen, 2015). In the words of Fiorino (1990); The normative, substantive and instrumental views. The normative argument positions participation within a democratic framework, advocating that every citizen has a right to have their voice heard and contribute to the decision-making process. The substantive argument emphasizes the role of participation in knowledge production, leading to more integrated decisions. Finally, the instrumental argument suggests that a policy is more likely to be accepted when stakeholders are involved in the decision-making process (Fiorino, 1990).

A common assumption in participatory processes is that achieving consensus can drive progress in decision-making (Leeuwis, 2000). However, it is also important to recognize that social conflicts, where individuals pursue their individual interests, can also hold value for normative, substantive, and instrumental reasons (Habermas & McCarthy, 1991). Consequently, Cuppen (2018) presents a critical assessment of invited participation, highlighting its shortcomings in addressing diverse normative appraisals. These limitations stem from two fundamental aspects of social conflict: 1) the capacity of social conflict to disrupt established institutions, and 2) the emergence of new positions and groups during social conflict. To address these concerns, she suggests a perspective that views social conflict as a spontaneously organized form of participation. This alternative approach can effectively identify and incorporate a wide range of normative appraisals into energy policy and planning.

The discourse on participation has not been limited to theory but has extended to practical applications, with a plethora of participatory tools being developed and applied over the years. Most of these tools are inspired by Habermas' idea of the ideal speech situation, advocating for an egalitarian context where individuals can express their opinions without power asymmetries (Cuppen, 2018; Renn *et al.*, 1997; Habermas & McCarthy, 1991).

In the public sector, particularly within municipal settings, participation has assumed more nuanced and complex forms. Horsbøl (2018)'s study provides insights into how municipal representatives engage in citizen involvement, positioning themselves as agents in the process. The notion of 'co-creation' becomes prominent, marking a shift from traditional forms of communication and reflecting a change in the professional identity of municipal employees. The concept of co-creation introduces discourses of mutual responsibility, commitment to participation, and a dilution of power relations.

Horsbøl (2018)'s work also exposes the complexities and tensions inherent in participation, particularly concerning the distribution of power and responsibilities. It underscores the negotiation of roles within the citizen involvement process, highlighting the importance of dialogue and reflexivity. At the same time, it points to the challenge of balancing iterative and linear approaches to the process.

Collectively, the works of Cuppen (2018) and Horsbøl (2018) provide a comprehensive understanding of participation. They illuminate its democratic basis, its potential for knowledge production, its strategic value in decision-making, and the dynamics of power and roles in participatory processes. This understanding forms a solid foundation for exploring the application and significance of participation in various contexts, paving the way for a subsequent discussion on equitable participation. Drawing from their works, several key implications emerge on important aspects to consider when defining equitable participation.

- **Democratic Inclusion**: The principle of democracy forms the bedrock of citizen participation. It emphasizes the right of every individual to have their voices heard in the decision-making process (Cuppen, 2018). As such, all citizen participation initiatives should strive for inclusive representation, ensuring diverse viewpoints are considered.
- **Knowledge Production**: Participation is seen as an opportunity for integrated knowledge production (Cuppen, 2018). This suggests that the knowledge and experiences of citizens should be valued alongside expert analysis, with citizens' local or experiential knowledge contributing to a more comprehensive understanding of the situation.

- **Empowerment and Legitimacy**: Citizen participation empowers individuals by providing them with a stake in the process, which also enhances the legitimacy and acceptability of the resulting decisions (Cuppen, 2018; Fiorino, 1990). Hence, efforts should be made to empower citizens, ensuring they are adequately informed and equipped to engage effectively in the process.
- **Consensus and Conflict**: While consensus is often the goal in participatory processes, it is equally important to recognize and value conflicts (Cuppen, 2018; Leeuwis, 2000). Conflicts can provide insights into different interests and values, contributing to a more nuanced understanding of the issue at hand.
- **Co-Creation and Shared Responsibility**: According to Horsbøl (2018), the concept of co-creation marks a shift towards shared responsibility and ownership in the participation process (Leach & Scoones, 2007). As such, participatory initiatives should aim to facilitate co-creation, ensuring that citizens are involved not just in discussion but also in the development, implementation, and evaluation of decisions or strategies.
- **Role Negotiation and Power Dynamics**: Horsbøl (2018) also underscores the negotiation of roles and power dynamics within the participatory process (Leach & Scoones, 2007). This highlights the need to consciously address and balance power asymmetries, ensuring that the process is not disproportionately influenced by certain voices.
- **Dialogue and Reflexivity**: According to Horsbøl (2018), dialogue and reflexivity are crucial aspects of participation, facilitating the negotiation of roles and understanding of different perspectives (Leach & Scoones, 2007). This suggests the need for open communication channels and spaces for reflection, encouraging ongoing learning and adaptation.

In summary, when considering citizen participation, it's important to ensure democratic inclusion, value diverse forms of knowledge, foster empowerment and legitimacy, recognize the value of both consensus and conflict, facilitate co-creation, address power dynamics, and promote dialogue and reflexivity. These considerations can help shape more meaningful and effective participatory processes.

3.1.2 Local ownership aspect of equitable participation

Drawing from the insights shared in Chapter 1.3.5, we can identify that local ownership bears significant relevance to the regional energy transition. This section seeks to delve deeper into the concept of local ownership, extrapolating its definition and purpose from Chapter 1.3.5, while illuminating its key components and objectives.

Local Ownership represents the extent of community involvement, which includes residents, businesses, and organizations in the formation, decision-making, and benefits of renewable energy initiatives. It embodies procedural and distributive justice principles, ensuring meaningful participation from stakeholders in project planning, landscape integration, and revenue allocation. Local ownership can take on numerous forms, from partial or complete control of projects by citizens and businesses to financial participation via shares or bonds. It also extends to creating environmental arrangements and compensation mechanisms.

The aim of local ownership is to encourage inclusive and collaborative practices within the context of the regional energy transition. By amplifying the voices of local stakeholders, it tackles issues pertaining to procedural and distributive justice, ensuring an equitable distribution of benefits and burdens. It facilitates communities in actively shaping their energy landscapes, influencing decision-making processes, and nurturing a sense of ownership and engagement. Additionally, it aims to improve the financial self-sufficiency of residents, giving them the opportunity to profit directly from renewable energy projects. Such financial incentives can mitigate potential opposition or perceived nuisances tied to landscape changes, as residents are more likely to endure such alterations when they derive direct benefits.

To encapsulate, local ownership acts as a catalyst to stimulate inclusive and collaborative practices in the regional energy transition. It strengthens local stakeholders, opening a space for them to share their opinions in decision-making, and facilitates the sharing of benefits while shaping the energy landscape. By boosting self-determination and curbing opposition, local ownership fosters a sense of ownership and engagement among residents, businesses, and organizations involved in renewable energy projects.

With this understanding of local ownership in mind, the ensuing aspects can be derived that should be considered when formulating a definition of equitable participation suitable for the RES-RDH context based on (Verweij *et al.*, 2021; RES, 2022; de Vries & Bouma, 2023):

- **Participation & Engagement:** Local ownership principle emphasizes the active participation and engagement of local communities in all stages of the energy transition process. It involves involving local residents, businesses, community organizations, and local authorities in planning, decision-making, and implementation of energy initiatives.
- **Social Acceptance and Trust:** Local ownership principle recognizes that the success of the energy transition depends on gaining social acceptance and building trust among local communities. It involves fostering transparent and inclusive processes, addressing concerns, and building collaborative relationships between project developers, local authorities, and residents.

- **Economic Benefits and Well-being:** Local ownership principle acknowledges that the energy transition should bring economic benefits and enhance the well-being of local communities. It emphasizes creating opportunities for local businesses and entrepreneurs, job creation, and promoting local economic development through investments in renewable energy projects.
- **Self-determination:** Local ownership principle embodies the idea that local communities have the right to determine and shape their energy future. It emphasizes granting decision-making power and authority to local actors, allowing them to make choices regarding energy projects, resource allocation, and policy formulation that directly affect their communities.
- **Empowerment:** Local ownership principle recognizes the importance of empowering local communities with the knowledge, skills, and resources needed to actively participate in the energy transition. It promotes capacity-building programs, educational initiatives, and training opportunities to enhance the understanding and engagement of local actors.

In conclusion, the principles derived from local ownership, including Participation & engagement, social acceptance & trust, economic benefits & well-being, self-determination, and empowerment, provide a foundational basis for ensuring a just and inclusive energy transition. While these principles do not form a complete framework on their own, they offer important considerations for conceiving, planning, and implementing renewable energy projects. Incorporating these principles into energy transition efforts has significant implications.

These principles emphasize the need to cultivate a collaborative and transparent environment, establish trust, provide economic incentives, and promote self-determination within communities. Moreover, they underscore the importance of empowering communities with the knowledge and resources necessary for active participation in shaping their energy futures. By adhering to these principles, energy projects can become more socially accepted, equitable, and successful, thereby bolstering the progress of the regional energy transition.

3.1.3 Equity aspect of equitable participation: An energy justice perspective

From Chapters 3.1.1 & 3.1.2 it becomes clear that equitable participation has significant overlap with the concept of energy justice, which emphasizes equitable access to energy, fairness in energy processes, and recognition of all stakeholders involved (Baker *et al.*, 2019). This concept enriches our understanding of participation by bringing an additional dimension of justice into the discussion. Thereby implying energy justice can play an important role in participation in the regional energy transition of the RES-RDH.

Drawing from the insights of Chapter 1.3.6, it becomes clear that in the context of local ownership and equitable participation, the most relevant tenets of energy justice pertain to distributive justice and procedural justice. Distributive justice emphasizes fair and equitable distribution of benefits and burdens in energy projects, ensuring that local communities have ownership and control over renewable energy resources. Equitable participation, as a subset of procedural justice, emphasizes the importance of inclusive decision-making processes, where affected communities have the opportunity to actively participate in shaping energy policies and projects that impact them. By prioritizing these tenets of energy justice, we can address social and environmental inequalities, and address the principles as mentioned in Chapters 3.1.1 & 3.1.2.

In energy justice literature, there is an emerging trend of combining the tenets of justice with the principles of energy justice (Jenkins *et al.*, 2021). This approach, which integrates the fundamental aspects of justice with the specific principles of energy justice, aligns with this study's focus on both distributive and procedural justice.

Sovacool *et al.* (2017) presents the most comprehensive list of principles. While all 10 principles are instrumental in understanding and achieving energy justice, the focus of this research lies specifically on the distributive and procedural aspects of energy justice. These two aspects, in particular, represent the core of our study as they define the fair distribution and participatory decision-making procedures within energy systems.

Given the synergy between Sovacool *et al.* (2017)'s principles and Jenkins *et al.* (2016)'s definitions of distributive and procedural justice, a combination of both works has led to a unique perspective on energy justice. This perspective allows for a more comprehensive analysis by integrating both theoretical and practical elements of energy justice.

Consequently, only a selection of the principles that directly relate to these aspects are considered. The selected principles, their categorization under distributive or procedural justice, and the rationale for their selection are presented in Table 3.1 below. This table serves as a tool for systematically assessing the intersections between the two views, which will help determine what equitable participation means from an energy justice point of view in the RES-RDH.

Employing the principles in Table 3.1 refines our understanding of equitable participation in energy justice. Distributive justice, focusing on availability, affordability, and intragenerational equity, advocates for the fair distribution of energy services for everyone in the current generation. Conversely, procedural justice, centred on due process, transparency, and accountability, ensures fair, legal processes and promotes transparency in energy decision-making. However, these results need to be combined with equity to be able to define equitable participation.

The term energy equity, as detailed by Baker *et al.* (2019), focuses on equal access to energy resources and services while considering individual disparities. This subset of

Table 3.1: Pairing of Relevant Principles to Distributive and Procedural Aspects of Energy Justice

Energy Justice Tenets	Corresponding Principles	Justification
Distributive Justice	Availability, Affordability, Intragenerational Equity, Intergenerational Equity	The principle of availability and affordability directly speaks to the fair distribution of energy services, ensuring all people have access to sufficient, high-quality resources. The principle of intra and inter-generational equity supports the same tenet by calling for fair access to energy services across the current and next generations.
Procedural Justice	Due Process, Transparency and Accountability	The principles of due process and transparency and accountability align with procedural justice by emphasizing the need for fair, legal processes in energy production and use, as well as access to high-quality information about energy decisions.

the broader energy justice concept also addresses long-term equity issues in energy transition.

Sovacool (2014) suggests that energy justice incorporates justice, fairness, and social equity into energy systems and transitions, advocating for the fair distribution of both benefits and burdens of energy production and consumption, and promoting fairness in energy decision-making.

In essence, equitable participation in energy transitions incorporates principles of energy justice (process) and equity (outcome). It emphasises fair energy distribution, transparent decision-making, and equal participation opportunities, and is thus a key aspect of a just energy transition.

The prior sections of this chapter have been instrumental in shaping the understanding of this concept. The exploration began with the participatory aspects of equitable participation where diverse perspectives from the works of Cuppen and Horsbøl, among others, enriched the understanding of democratic inclusion, knowledge production, shared responsibility, and the balance of power dynamics. These concepts emphasized the importance of the participatory process in decision-making and the necessity for inclusive representation.

Subsequently, we ventured into a deeper exploration of the definition of local ownership and its significance in promoting the fair distribution of benefits and meaningful involvement of local communities. The idea of distributive and procedural justice emerged as fundamental to this concept, establishing a basis for the principles of equitable participation.

Further, engagement with the concepts of energy justice highlighted the inseparable link between equitable participation and justice in the regional energy transition. The principles of procedural and distributive justice brought forth considerations of fair and transparent decision-making processes and equitable distribution of energy services and benefits.

This exploration has now led to a consolidated, nuanced understanding of 'equitable participation' as a dynamic, evolving, and context-specific process. It is integrative in nature, drawing from a multitude of concepts, experiences, and principles, and is poised to be a cornerstone for just, sustainable, and community-owned energy transitions.

In Table 3.2, the principles of Equitable Participation that have been derived are presented in greater detail. These principles of Equitable Participation have been used to formulate the following definition of Equitable Participation:

In the context of energy transition decision-making within the Rotterdam-The Hague energy region, 'equitable participation' refers to an iterative and adaptive process that ensures inclusive, democratic engagement of all stakeholders, acknowledging their social, economic, or political statuses. The process involves a collaborative dialogue with the aim of knowledge production from diverse sources, empowering communities, and stakeholders while also identifying and addressing conflicts.

'Equitable participation' upholds the principles of democratic inclusion, co-creation, shared responsibility, and legitimacy. It entails diligent role negotiation to manage power dynamics and seeks consensus through dialogue and reflexivity, thereby fostering a sense of shared responsibility, empowerment, and acceptance of the resulting decisions.

Moreover, this process places great emphasis on procedural justice, particularly on establishing fair and consistent decision-making procedures, promoting transparency and accountability. It also prioritizes due process, ensuring that information about the energy transition is accessible and understandable to all involved stakeholders.

From a distributional perspective, 'equitable participation' advocates for a fair and equitable distribution of the benefits stemming from energy projects, taking into account the social and economic well-being of local communities. This extends to ensuring the availability and affordability of energy resources and services for all community members, promoting both intragenerational and intergenerational equity.

Central to this concept is the principle of local ownership, which is seen as a vital instrument facilitating equitable participation. It empowers local communities to have a substantial economic and decisional stake in local renewable energy projects. This not only includes active involvement and influence of local communities in decision-making processes but also addresses potential opposition through direct financial benefits.

In essence, 'equitable participation' encapsulates a holistic, dynamic process that respects and values diversity, fosters learning, empowers communities, facilitates co-creation, and enforces principles of energy justice. It stands as a route to achieving procedural and outcome equity in the energy transition, thereby serving as an indispensable element of a just and sustainable energy future.

To conclude, the newly defined concept of equitable participation will be fundamental to answering the research questions. It will be used as a conceptual framework that operationalises energy justice concepts, combined with participatory aspects.

Table 3.2: Conceptual framework presenting the principles of Equitable Participation

Dimension	Principles	Description and Justification	Source
Procedural	Democratic Inclusion, Knowledge Production, Empowerment and Legitimacy, Consensus and Conflict	Democratic Inclusion ensures everyone can participate, enabling diversity of thought and perspective. Knowledge Production stresses on integrating different knowledge types, including traditional and local knowledge systems. Empowerment and Legitimacy focus on empowering individuals and communities to make their own choices, thereby giving the decision-making process more legitimacy. Consensus and Conflict aim to reach an agreement that accommodates as many stakeholders as possible, while also recognizing and addressing conflicts.	Cuppen (2018)
	Co-Creation and Shared Responsibility, Role Negotiation and Power Dynamics, Dialogue and Reflexivity	Co-Creation and Shared Responsibility promote shared decision-making and ownership. Role Negotiation and Power Dynamics stress the importance of rebalancing power imbalances for fairer processes and outcomes. Dialogue and Reflexivity promote continuous engagement, self-criticality, and learning among stakeholders, supporting adaptive and responsive governance.	Horsbøl (2018)
	Due Process, Transparency, Accountability	Due Process ensures standardized and fair procedures, contributing to the predictability and credibility of the process. Transparency aids in trust-building by making the process and decisions open to scrutiny. Accountability ensures those in power are answerable for their decisions, encouraging careful and considerate decision-making.	Sovacool *et al.* (2017)
Distributional	Economic Benefit	Economic Benefit stresses that profits from energy projects should be shared equitably, considering different needs and contributions of community members. This may include job creation, local business development, and community funding, thus bolstering local economies and social equity.	Local Ownership Definition
	Availability, Affordability, Intragenerational Equity, and Intergenerational Equity	Availability and Affordability stress that everyone should have access to sufficient and affordable energy services. Intragenerational Equity demands fairness among current community members, while Intergenerational Equity ensures the needs of future generations are considered, promoting sustainability.	Sovacool *et al.* (2017)

3.2 ANSWERING SUB-QUESTION 1

Chapter 3.1 examines the concept of equitable participation, applying it to the context of regional energy transition decision-making in RES-RDH. This leads to the answering of the first research question:

"What do local ownership and equitable participation mean in the context of regional energy transition decision-making, specifically in the case of RES-RDH?"

Local ownership, in the context of regional energy transition decision-making, refers to the extent of involvement of local stakeholders, including residents, businesses, and organizations in the formation, decision-making, and benefits of renewable energy initiatives. In this context, local ownership extends beyond the mere possession of renewable energy infrastructures. It embodies the principles of procedural and distributive justice, with the objective to foster inclusion, collaboration, and equitable benefits. Notably, this concept is flexible and can take numerous forms, from partial to full ownership, from financial involvement to direct control of projects.

Equitable participation represents an iterative process that ensures inclusive, democratic engagement of all stakeholders in decision-making related to the energy transition. It is a multidimensional construct, encompassing procedural aspects such as democratic inclusion, co-creation, transparency, and accountability, and distributional aspects such as economic benefit and intra- and intergenerational equity. At its core, it revolves around the principle of energy justice and the concept of local ownership, empowering communities to actively shape their energy futures.

Reflecting critically, there are ambiguities and potential challenges that need to be addressed for effective implementation. The flexibility in the concept of local ownership may lead to variations in implementation and interpretation, possibly resulting in minimal participation disguised as ownership or exclusion of marginalized groups lacking resources to buy shares or bonds. This calls for robust regulatory measures to ensure local ownership truly facilitates meaningful participation and benefits for all local stakeholders.

Similarly, for equitable participation, the challenge lies in balancing different interests and managing power dynamics. While the definition emphasizes inclusivity and democratic engagement, putting it into practice may require confronting entrenched power structures and addressing systemic inequities. Efforts need to be made to ensure that the process of equitable participation does not become merely symbolic and that it translates into real influence and power for all stakeholders.

In conclusion, principles derived from local ownership and equitable participation provide a broad, yet targeted conceptual framework for decision-making in the regional energy transition, specifically for the RES-RDH. While their definitions provide an ideal to strive for, their operationalization necessitates a critical and adaptive approach that acknowledges and addresses the inherent complexities and challenges.

By using the conceptual framework presented in Table 3.2 as a foundation, the RES-RDH can ensure the regional energy transition takes into account energy justice considerations while adhering to the goals and targets described in the RES-RDH's goals. Hence, it becomes crucial to further delineate these concepts and provide concrete steps for their implementation, which will be explored in the forthcoming sections of this research.

4 INFLUENCE OF RES-RDH GOVERNANCE ON EQUITABLE PARTICIPATION

As the main question of this thesis is focused on how energy justice can guide decision-making related to local ownership within the RES-RDH, the scope of this chapter aims to reflect that. Therefore, this section aims to answer the second sub-question that explores the influence the institutional governance structure of the RES-RDH has on the organisation of equitable participation.

To do this, this chapter first identifies the institutional actors that are most important for the organisation of participation in the RES-RDH. Then, based on this information, the decision-making process in the RES-RDH will be investigated using the information found in earlier sections. To conceptualise the RES-RDH decision-making process, the rounds decision-making model will be applied. As these findings are mainly derived from policy documents, and therefore might not reflect reality in its entirety, subsequently, the theoretically found results will be reflected on with interview results. Finally, the second sub-question is answered.

4.1 INSTITUTIONAL ACTORS AND THEIR ROLES

While the RES-RDH consists of more stakeholders than just municipalities and the province, these two types of actors are arguably seen as the most important ones with regard to the organization of citizen participation. This is due to the facilitating role the RES organisation has, particularly regarding the organisation of participation in the RES-RDH. Hence, this chapter will focus on municipal and provincial responsibilities within the RES-RDH, as laid out in the RES itself, and based on the perceptions of stakeholders.

Based on the information provided in the book 'The Dutch Political System in a Nutshell' by the institute for multiparty democracy & voor publiek en politiek (2008), this chapter will delve into the distinct roles and responsibilities of municipalities and provincial authorities within the Netherlands.

4.1.1 The municipality

Municipal authorities bear the primary responsibility for the management and supervision of matters that directly and exclusively impact their constituents. Their jurisdiction spans across a variety of sectors, encapsulating everything from land use planning and housing provision to infrastructure management, waste disposal, and social services provision.

Their responsibilities are enumerated as follows:

- **Land Use Planning**: Municipalities are charged with the task of formulating local plans, dictating land utilization within their jurisdictions and the structures that can be built. These local plans, however, must be congruent with provincial structure plans.
- **Housing Provision**: Ensuring the availability of sufficient and acceptable housing falls within the mandate of the municipal authorities.

- **Infrastructure and Transport**: Municipalities are accountable for the construction and maintenance of local roads and streets, as well as managing public transport in urban locales.
- **Waste Management**: Oversight of domestic waste collection and disposal is within the purview of municipalities.
- **Emergency Services**: Municipalities are responsible for services such as the fire department and police.
- **Public Utilities and Facilities**: Municipalities manage utilities and public amenities such as markets, docks, sewers, and welfare facilities.
- **Recreation, Sports, Arts, and Education**: Municipalities facilitate recreational and sports facilities and foster arts and education within their jurisdictions.
- **Licensing**: Municipalities issue various licenses and permits, including those for companies, catering establishments, as well as passports and driving licenses.

Taking into consideration their general responsibilities, in the context of the RES this means that municipalities are thus primarily responsible for the formulation of energy transition plans and construction of projects within their borders, as well as being responsible for the well-being of their constituents. However, while municipalities hold a considerable degree of responsibility, they operate within a broader governance framework defined by the provincial and central governments. Notwithstanding their relative autonomy, municipalities are still reliant on central and provincial government supervision.

4.1.2 The province

The duties of provincial authorities are extensive and multifaceted, encompassing sectors such as physical infrastructure development, environmental resource management, public welfare, and economic planning. Their responsibilities are enumerated as follows:

- **Planning and Housing**: Provincial authorities are involved in the creation and implementation of comprehensive planning for towns and rural areas.
- **Environmental Management**: Provincial authorities enforce environmental laws concerning air, soil, and water, and manage pollution control, nature conservation, and waste storage.
- **Welfare**: The provision of welfare facilities, including hospitals, public libraries, schools, homes for the elderly, facilities for the disabled, and youth clubs falls under the provincial authorities' purview.
- **Water and Infrastructure Management**: Provincial authorities manage water resources within the province and supervise water control corporations.
- **Economic and Agricultural Matters**: Provincial authorities are in charge of land consolidation and employment promotion, aiming to balance job creation with environmental protection.
- **Public Transport**: Despite the privatization of public transport facilities, provincial authorities still retain supervisory roles, especially for transport between municipalities.

- **Supervising Municipal Authorities**: Provincial authorities have a significant role in overseeing municipal activities, particularly those with financial implications.
- **Administration of Justice**: Provincial authorities serve as an appeal body for conflicts with municipal authorities.

In the context of the RES, this means the province primarily has a framing role, establishing guidelines and parameters that define the boundaries and scope within which municipalities can operate. By setting these frameworks, the province ensures consistency and coordination in land use planning efforts across different municipalities.

The functioning of the province relies on the effective execution of these roles, ensuring the needs of its citizens are met, while simultaneously preserving and enhancing its physical, economic, and social environments. In this system, both municipal and provincial authorities play significant, yet distinct, roles in managing resources and facilitating public welfare.

4.2 DECISION-MAKING PROCESSES

In discussing decision-making related to the RES-RDH, an important aspect to consider is that the RES is seen as advice and strategy (NP RES, 2021). This perspective differs from the view of the NP RES, where the "form-free" RES 1.0 has established administratively binding agreements regarding sustainable energy and supra-municipal heat sources (RES, 2022).

However, the National Program RES also recognizes that the RES does not lead to changes in the existing tasks and authorities of governments (RES, 2022). Interviewees have noted that the constitutional novelty surrounding the RES has sparked intense discussions about the binding nature of the RES-RDH agreement. Nonetheless, despite the lack of changes in government responsibilities, local and regional authorities are still required to collaborate on the complex task of the energy transition.

The RES 1.0 has been approved by individual municipal councils, Provincial States, and general boards of the water authorities (RES, 2022). This approval necessitates translation into local projects and spatial policies. The RES-RDH emphasizes that it is the responsibility of the parties involved to engage with residents and local stakeholders in undertaking this process (NP RES, 2021).

As decentralized authorities determine how the RES is translated into local (environmental) policies and the corresponding actions and instruments, it is crucial to understand decision-making at the municipal and provincial level in order to comprehend RES-RDH decision-making (RES, 2022).

Hence, this section aims to provide insight into the decision-making process within the RES-RDH at the municipal and provincial levels. It will not only explore the theoretical aspects of the process but also take into account the practical considerations and observations shared by the interviewees. By delving into both theoretical frameworks and real-world experiences, a comprehensive understanding of the decision-making dynamics surrounding the RES-RDH can be gained.

4.2.1 Municipal and provincial decision-making

In the Netherlands, decision-making at the municipal and provincial levels is crucial in many areas, including infrastructure development and energy projects such as wind farms. Based on the information provided in the book 'The Dutch Political System in a Nutshell' by the institute for multiparty democracy & voor publiek en politiek (2008), this chapter will explore the decision-making processes at these two governmental levels and illustrate how they function in the context of a hypothetical wind farm project.

At the municipal level, several entities play a role in decision-making:

- **Municipal Council**: Comprising elected members, the municipal council sets broad policy lines and typically avoids involvement in administrative details. They hold monthly meetings that are open to the public.
- **Councillors**: Councillors are part-time figures who often maintain other professional responsibilities. They receive a general allowance and an expense allowance.
- **Aldermen**: The municipal executive consists of the mayor and aldermen. Aldermen are responsible for the implementation of council decisions, preparation of groundwork for council meetings, and often hold specific areas of responsibility, known as their portfolios.
- **Mayor**: The mayor chairs both the municipal council and the executive, expressing opinions but not holding a vote in council meetings. In the municipal executive, they possess the casting vote in the event of a tie.
- **Public Participation**: The municipality organizes public hearings and other citizen involvement initiatives, which become integral to the decision-making process.

In the context of a wind farm project, the council would establish general policies, such as environmental regulations and energy targets, that would affect the project. The aldermen would prepare the groundwork, including details about the proposed wind farm project, for the council meetings. Citizens would have the opportunity to voice their opinions and concerns during public participation events, potentially shaping the council's decisions regarding the project.

4.2.2 Provincial Level decision-making

At the provincial level, the decision-making process shares several similarities with the municipal level, albeit with a broader focus.

- **Provincial Council**: Provincial councils, also made up of directly elected members, establish broad policies at the provincial level.
- **Provincial Administration**: The provincial executive, elected by the provincial council members, manages day-to-day affairs of the province and is responsible for implementing the council's policies.
- **Provincial Governor**: The governor chairs both the provincial executive and council, expressing opinions but without a vote in council meetings. However, they possess the casting vote in the provincial executive in the event of a tie.
- **Public Participation**: Public participation at the provincial level includes informational activities and public hearings, offering residents a chance to influence the decision-making process.

In a wind farm project spanning multiple municipalities or of significant size, the provincial council would need to consider larger issues such as regional energy strategies, infrastructural concerns, and the project's impact on multiple communities. The provincial executive would work to implement the council's policies regarding the wind farm. Public participation would offer residents a chance to influence decisions that could significantly impact their region.

4.2.3 Understanding RES-RDH 'Decision-making' and the current state of the RES-RDH

To comprehend the approval process of the Regional Energy Strategy (RES), one must understand the steps involved in the decision-making process. This framework helps provide insight into how renewable energy projects, such as the hypothetical wind farm previously discussed, are approved and implemented.

Boogers (2020) outlines the key steps in the RES approval process:

1. **Formulating assessment criteria**: In the initial stage, key criteria are outlined, with considerations made for spatial quality and public support. This can guide the focus of the renewable energy project and help maintain the balance between infrastructure needs and public acceptance.
2. **Inventory and exploration**: A comprehensive analysis is undertaken to understand the electricity and heat demand, potential supply sources, and the infrastructure required to implement and manage these resources. Various stakeholders are involved in this process, ensuring a wide perspective is included in the exploration.
3. **Identification of search areas**: Once the inventory is complete, suitable areas for the generation of renewable energy are identified. Stakeholders are again crucial in this step to ensure the selected areas are viable and acceptable.
4. **Drafting the concept-RES**: The regional representatives evaluate the identified search areas and plans for spatial integration against the initially defined criteria. This iterative process ensures the plans are in alignment with the outlined expectations.
5. **Developing the RES**: At this stage, agreements are made regarding the specifics of energy generation, transmission, and storage. A vision for the energy transition is established, providing a roadmap for the shift towards renewable energy sources.
6. **Finalizing the RES**: In the final stage, the joint committee assesses the proposed measures. This evaluation results in a collective recommendation, leading to the approval of the RES by regional representatives.

This six-step process ensures a thorough, inclusive, and representative decision-making process. It ensures that all aspects of the project, from preliminary assessments to the final stages, are considered and approved by relevant stakeholders, ensuring a high level of consensus and acceptance. This process also fosters the adoption of RES projects, as various stakeholder inputs are considered throughout, promoting alignment and mitigating potential conflicts.

It is also important to understand the current state of the RES, as this has implications for the potential trajectory of future renewable energy projects, including the scope, implementation, and public acceptance.

Following the approval of the RES 1.0 by the municipal councils, provincial councils, and the general boards of the water boards in 2021, the onus has now shifted to the decentralised authorities entirely. These bodies determine how the RES is translated into local (environmental) policy and the associated actions and instruments.

The timeline for the implementation of the RES is linked to the agreements from the Climate Agreement. This entails the following key decision-making moments and deadlines:

- **2023**:
  - January: Commencement of determining locations and the environmental impact assessment procedure (duration 1 year)
  - January - June: Development of the Progress Document and approval in colleges
  - July 1: Delivery of the RES Progress Document. There is no need for a decision-making process and no obligation for a plan-environmental impact report
  - Continuous: Implementation of RES 1.0
- **2024**:
  - Local initiation of permit applications for large-scale wind and solar projects
  - Exploration of whether and when a RES 2.0 is desired
  - Continuous: Implementation of RES 1.0
- **2025**:
  - January 1, 2025: All permits are granted
  - January - June 2025: Development of the Progress Document and approval in colleges
  - July 1, 2025: RES Progress Document. There is no need for a decision-making process and no obligation for a plan-environmental impact report
  - Continuous: Implementation of RES 1.0

From this timeline, it is evident that the RES decision-making process is well underway, with strategic steps planned for the next several years. Furthermore, the development of a RES 2.0 is contingent on the progress of RES 1.0 and the need for new or updated renewable energy strategies, reflecting the evolving nature of the decision-making process in response to local conditions and broader climate agreements.

4.2.4 Application of the rounds decision-making model in RES-RDH decision-making

The Rounds model, emphasizing the dynamic and interactive nature of policy-making, provides a comprehensive framework for understanding the decision-making process within the RES-RDH (Teisman, 2000). As the RES-RDH has been formed as a collaborative effort among multiple levels of governance and diverse stakeholders, the Rounds model allows for an exploration of these actors' differing perceptions, interests, and resources. In Figure 4.1, a conceptualization of the RES-RDH decision-making process is shown.

Within the context of RES-RDH, the stages outlined by Boogers (2020) represent a series of decisions or "rounds," with each round demarcated by crucial decisions that influence subsequent behaviour and actions (Teisman, 2000). For example, the formulation of initial assessment criteria by various stakeholders, the identification of suitable areas for renewable energy generation, and the finalization of the RES are all examples of decisions that represent distinct "rounds" in the policy process. These decisions are contingent upon and influenced by the varying perspectives and priorities of different actors.

However, it is important to note that the application of the Rounds model in this analysis is not as extensive or thorough as in some other Master's thesis projects. The intention here was to use the model primarily as a conceptual framework to conceptualize the complexity of decision-making within the RES-RDH. The aim was to capture the iterative nature of the decision-making process, the involvement of multiple actors, and the dynamic interplay between problems and solutions.

The decision to not conduct a detailed and thorough analysis using the Rounds model in this study was based on the research scope and objectives. While a more extensive application of the model, as done in previous Master thesis projects, may provide deeper insights into the decision-making process, it was not within the remit of this research. Instead, this study sought to establish a broad structure and framework that could inform future policy development and guide participatory processes within the RES-RDH.

The Rounds model also emphasizes the dynamic interplay of problems and solutions in the RES-RDH. For instance, the issue of site selection for wind farms involves a dynamic negotiation between the problem of land-use conflicts and the solution of spatial planning. Various actors, such as municipal governments, citizens, and energy companies, have different views on this problem-solution combination, based on their individual interests and resources. This dynamic negotiation process is characteristic of the Rounds model's approach to decision-making.

Furthermore, the Rounds model recognizes the significance of "joint interest" in the evaluation of policy outcomes, which is particularly relevant in the context of the RES-RDH (Teisman, 2000). The success of the RES-RDH should not solely be evaluated against a single organization's objectives but should take into account the interests and objectives of all involved parties.

For example, the success of a wind farm project should not only be assessed in terms of energy generation capacity but should also consider its acceptance by local communities, its alignment with local environmental policies, and its contribution to the broader national goal of the renewable energy transition. This aligns with the emphasis on public acceptance and support in the decision-making process for renewable energy projects, as discussed earlier (Boogers, 2020).

As can be seen in Figure 4.1, the actors shown consist of municipalities, the province, and other actors that take presence in the decision-making rounds. Depending on the round, the exact influence and extent to which each actor actually influences the process differ. Interviewees, for example, stated that in round 1 there may have been less to no citizen involvement, while this is expected to change in round 7, where municipalities will come up with concrete plans. Boogers (2020) also notes that in round 4, there is no obligation to involve municipal councils (although he considers this wise).

Furthermore, Figure 4.1 shows two distinct decision-making processes that are identifiable within the RES-RDH. The one on the left reflects the past, culminating in the formulation of RES 1.0. In contrast, the decision-making process on the right depicts the current stage, which is primarily concerned with the translation of RES agreements into municipal policies. Each process is characterized by its unique set of decisions, actors, and problem-solution dynamics.

Although the focus of this research is primarily on the regional level, it is important to note that the RES-RDH's decision-making processes also involve a complex network of actors, including municipalities, provinces, energy companies, and local communities. However, this study does not delve into the conceptualization of decision-making processes at the individual actor level. This decision is not a devaluation of actor-level analysis; rather, it reflects a research focus geared towards understanding the regional-level dynamics.

Therefore, while the specifics of the decision-making rounds at the actor level could provide additional granularity, the scope of this study considers the application of models such as the Rounds model as merely instrumental in capturing the intricacies at the regional level. Hence, further detailed analysis at the actor level, beyond the overview provided in Chapter 4.2.1, is not within the remit of this research.

When the Rounds model is applied to the RES-RDH's decision-making process, it results in a conceptual framework that aids in untangling the complexity of the policy process within the RES-RDH. While this chapter does not delve into the minutiae of each decision-making round, it establishes a structure that could inform the development of future policy and guide participatory processes. It provides a platform to draw out salient lessons from the RES-RDH's trajectory, particularly in terms of ensuring equitable participation and meeting regional and national renewable energy objectives.

In conclusion, the Rounds model serves as an instrumental tool for comprehending the RES-RDH's decision-making dynamics. It recognizes the intricate interplay among multiple actors, each with their unique perception of problems, potential solutions, and vested interests. By emphasizing the iterative nature of decision-making and the ongoing negotiation of problem-solution combinations, the Rounds model provides a nuanced view of the policy processes within the RES-RDH. It enables a shift in perspective from viewing policy as a linear, predetermined pathway to understanding it as a series of decisions made by a multiplicity of actors, thereby offering a more holistic view of the decision-making process in the RES-RDH.

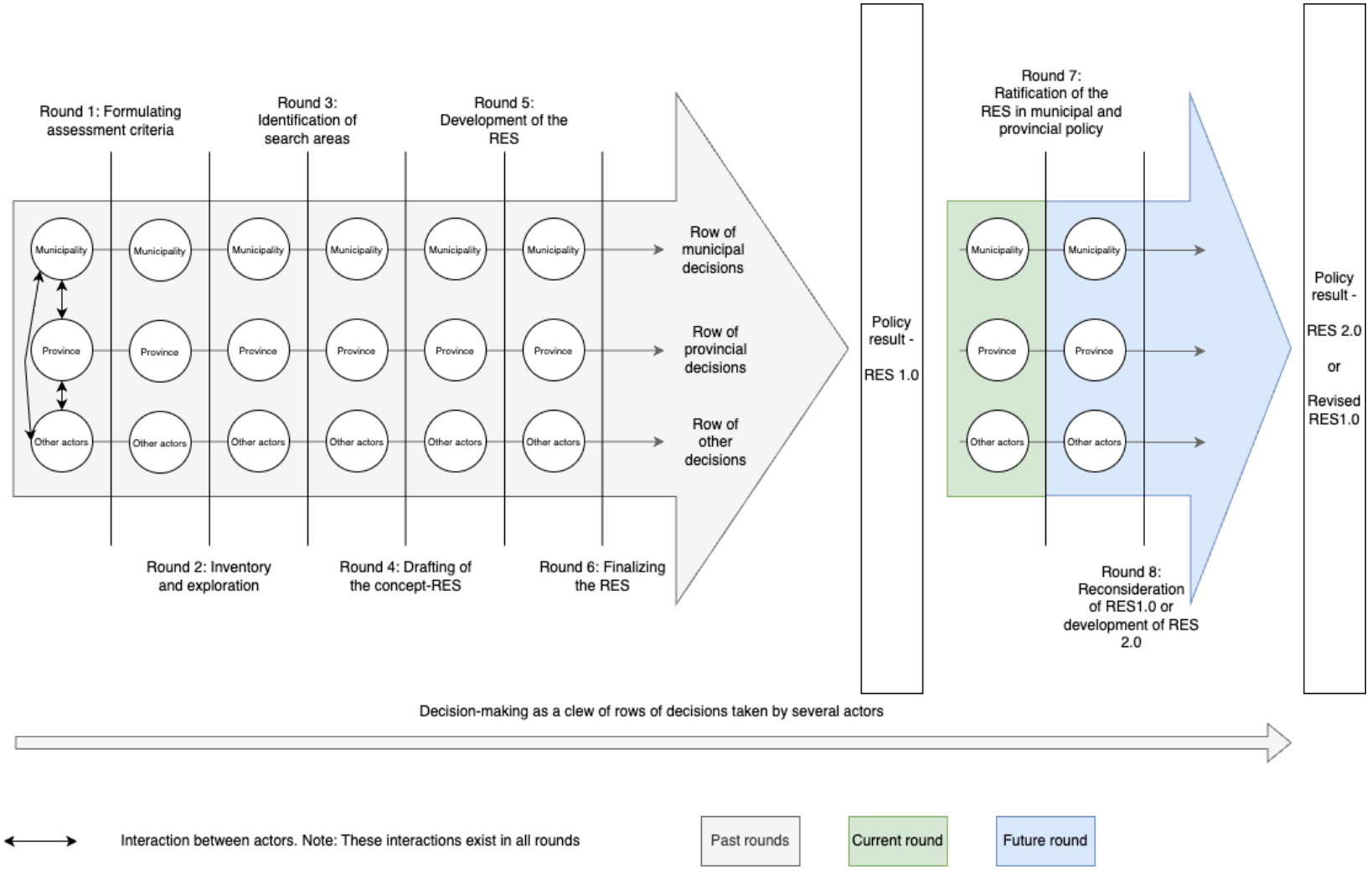

Figure 4.1: Conceptualisation of RES-RDH Decision-making process, taking inspiration from the rounds model conceptualisation of Teisman (2000)

4.2.5 Reflecting on the RES-RDH decision-making process

The investigation into the distinct roles and responsibilities of municipalities and provinces in the Dutch constitutional governance framework has led to a better understanding of the regional energy strategy (RES) decision-making process, particularly in the Region Den Haag (RDH). The RES-RDH decision-making emerges as a multi-tiered, iterative process requiring the active engagement of various stakeholders, especially at the municipal level.

The insights of Chapter 3, combined with analysis in Chapter 8, and the interviews performed within the energy region paint a vivid picture of the municipality's role, crucial to this engagement. It involves monitoring social signals and averting financial or significant adversities among the local populace, thereby reflecting municipalities' roles in both energy and social policies. This dual role underscores the interconnectedness of these domains and aligns with the municipalities' responsibilities of ensuring public participation, aligning interest in policy decisions, and maintaining the social well-being of their communities (institute for multiparty democracy & voor publiek en politiek, 2008).

In addition to the municipalities' functions, a key aspect that surfaces from the interviews is the 'escalation ladder' principle. This principle, as discussed by Boogers (2020), posits that if a municipality fails to meet its objectives or is inactive in achieving them, responsibility may shift to the provincial level. However, the direct intervention of the provincial government in projects is considered undesirable and is rarely employed, emphasizing the significance of the division of responsibilities across the different government levels and the principle of subsidiarity in policy-making within the RES.

Despite the clarity of roles across the municipal and provincial governance levels, the RES structure appears to diverge from this framework. This divergence prompts questions about the binding nature of agreements and the democratic legitimacy of the RES process. These questions are particularly acute in the RES-RDH, where some municipal councils view the RES as an external imposition from larger cities that restricts their autonomy. Indeed, in RES-RDH, one of the most diverse and largest RES regions in the Netherlands, the RES is often seen more as a statement of ambition rather than a binding agreement. This perception has led to a strategy that leaves many aspects, especially those regarding participation and local ownership, open and to be decided at the local level.

As such, the success of the RES-RDH is contingent on the interplay of inter-municipal politics, with municipalities and provinces exerting necessary pressure where needed. Given the semi-voluntary nature of the RES, consensus is a major factor, often leading to less detailed, non-binding agreements concerning participation, as seen in the RES 1.0 of the RES-RDH. The role of consensus in this context suggests a kind of 'poldering away' of detailed agreements.

The institutional governance structure of the RES-RDH, therefore, involves and requires extensive collaboration. While some regions may naturally lend themselves to such collaboration, it appears to be less straightforward in the RES-RDH. Although the need for collaboration is widely recognized, there is a myriad of opinions on when and how it should take place, leading to a 'collective action problem' (Rodhouse & Correljé, 2022). This challenge is further recognized by many participants.

To mitigate these challenges, decision-making within the RES follows a highly collaborative process. Initial documents, drafted by regional organizations based on discus-

sions and inputs, are reviewed by municipal representatives who provide feedback to ensure alignment with shared objectives as conceptualised in the rounds decision-making model seen in Figure 4.1. This collaboration and the consistent engagement of municipal representatives underscore the inherently collaborative nature of the RES decision-making process, thereby ensuring the successful implementation of regional energy strategies.

From the interviews conducted, it became evident that there exist varied opinions on the timing of public participation in the development of the RES. This divergence particularly manifests in the RES development phase, a point of contention among different stakeholders. While some perceive the RES as too abstract to warrant meaningful participation from their citizen populations, others recognize the value of early engagement. Regardless, these variations in the organization of participation during the RES 1.0 formulation have notable implications. As recognized by participants, this divergence always presents a trade-off.

A common thread amongst interviewees is the prevailing focus of the RES on monitoring the progress of the RES 1.0 program and assessing the achievement of agreed-upon targets and milestones. This emphasis aligns with the strategic planning timeline previously discussed, further reinforcing the vital role of monitoring and review stages in the RES decision-making process (Boogers, 2020).

In terms of public communication, the interviewees suggest that the focus should be on elucidating the plans, articulating their necessity, and rallying public support, given that it's too late to redraw plans. This viewpoint underlines the need for clear communication and public engagement to facilitate the successful implementation of the RES. It also mirrors the earlier highlighted importance of public acceptance and support in decision-making for renewable energy projects (Boogers, 2020).

Additionally, the interviewees clarify that the RES is not an independent organization but a collaborative entity composed of various parties. The RES project team's function is to support and facilitate the process and the parties involved. This collaborative ethos, coupled with the comprehensive nature of the RES 1.0 document, encapsulates the multilateral approach necessary to tackle the complex and interrelated issues encompassing renewable energy development.

4.3 ANSWERING SUB-QUESTION 2

Based on the results and information collected so far, this section aims to answer the second sub-question:

How does the institutional governance structure of RES-RDH influence the way equitable participation is organised within the region, focusing on distributive and procedural aspects?

To understand the implications of the RES-RDH institutional governance structure on equitable participation, we will focus on the procedural and distributive aspects as guided by the framework presented in Chapter 3.1. This focus will enable us to delve into how this governance structure influences the fairness of participation in decision-making processes and the distribution of benefits and burdens associated with renewable energy development.

From a procedural perspective:

The current institutional governance structure of RES-RDH, while designed to engage a range of stakeholders, raises concerns regarding democratic inclusion. The RES's decision-making power often resides at a level not explicitly represented within the Netherlands' constitutional governance structure, posing significant questions about the process's democratic legitimacy.

Knowledge production, empowerment, and legitimacy appear constrained by the diverse approaches across municipalities, largely stemming from the RES-RDH's governance structure. Certain municipalities, veering towards technocracy, consider the RES as being too abstract for citizens, leading to a gap in role negotiation and power dynamics.

Even though dialogue and reflexivity are prominent within the RES and municipalities, as illustrated by the rounds model, they aren't universally extended to citizens. There seems to be a conflict-avoidant tendency within the institutional governance, with citizen participation occasionally viewed more as an obstacle than as a contribution.

This perspective conflicts with the principle of due process, advocating for fairness and consistency in decision-making. The RES-RDH's diversity and the absence of robust mechanisms to ensure uniformity in decision-making contribute to inconsistencies across the region, challenging the concept of equitable participation.

Transparency is another concern. The lack of clarity in RES-RDH's place within the constitutional governance framework means there are no formal checks and balances, which can render the decision-making process opaque. This lack of transparency, in turn, compromises the accountability principle as it hinders the ability to hold individuals accountable for their decisions.

From a distributive viewpoint:

The economic benefits arising from projects might not be equitably distributed due to the diverse approaches and perspectives across the region. However, this diversity has also stimulated debates around equitable benefit distribution, affordability, and local ownership, particularly evident in discussions surrounding the warmth net.

Yet, despite these discussions, principles of intragenerational and especially intergenerational equity do not seem to be central to the dialogue. These considerations are integral to truly equitable distribution and need to be brought to the forefront of decision-making within the RES-RDH.

In conclusion, while the RES-RDH appears to strive towards equitable participation and the principles of energy justice, potential risks for injustice persist due to the choices made in developing the RES-RDH. These issues are symptomatic of the wider challenges highlighted in existing literature (Rodhouse & Correljé, 2022; Hoppe, 2021; de Vries & Bouma, 2023; +Anderen B.V., 2020). This analysis underscores the necessity of integrating energy justice principles into the decision-making processes of the RES-RDH, thereby fostering more equitable participation and justice in the region's energy transition. It provides a compelling case for future research to delve deeper into the dynamics of participation within the RES-RDH and ways to effectively address these challenges.

5 PROBLEMS AND CHALLENGES IN ORGANIZING EQUITABLE PARTICIPATION

In the context of a decentralized decision-making approach like the RES-RDH, fostering equitable participation among various stakeholders is of utmost importance. Achieving this equity, however, comes with its own set of challenges. This chapter delves into the exploration of the challenges that obstruct equitable participation within the RES-RDH. Identified through an inductive analysis of interviews using ATLAS.ti, these challenges portray a complex network of issues demanding careful understanding and strategy to promote justice in the energy transition process.

Upon careful inductive analysis of the issues faced by stakeholders in RES-RDH, it is possible to categorize these challenges into five primary categories. Each of these poses significant hurdles to the effective formulation and implementation of equitable participation strategies, and their implications range across various facets of the decision-making process.

In this chapter, each theme is scrutinized, highlighting the specific challenges, and underlying factors. This chapter will offer an understanding of the complexities involved in fostering equitable participation within the RES-RDH and will contribute to developing recommendations for justice in the energy transition process. The aim is to answer the third sub-question of this research.

5.1 MUNICIPAL KNOWLEDGE AND CAPACITY LIMITATIONS

As one of the main issues identified, municipal knowledge and capacity limitations can form a significant barrier to the organisation of equitable participation for obvious reasons. Therefore, it is important to create a thorough understanding of these limitations to find solutions. This section will delve into the interviewees' experiences regarding this matter.

5.1.1 Regional disparity in knowledge and capacity

The capacity and knowledge at the municipal level play a pivotal role in shaping citizen participation in the energy transition process. As suggested by the interview data and confirmed by Rodhouse & Correljé (2022), municipalities significantly differ in terms of their administrative capacity and familiarity with participatory processes.

Disparities in addressing challenges related to the energy transition were found to be influenced by the size of the municipality, with larger municipalities often having better resources for tackling these issues. When discussing the knowledge and capacity disparities, interviewees broadly categorized them as administrative capacity, experience, knowledge gap, and financial resources.

During the interviews with various stakeholders, valuable insights into these disparities were obtained. Concerns were raised by some interviewees regarding the use and allocation of resources. It was also highlighted that there is a clear disparity between municipalities with different administrative capacities. The experience of municipalities

in participating in other projects was identified as an important factor by some interviewees, while others admitted unfamiliarity with the participation guide, Handreikingen burgerparticipatie.

Furthermore, challenges related to overlapping sessions and events associated with the energy transition process were expressed by one interviewee. This implies that smaller municipalities may face similar issues due to a lack of resources.

Overall, these interviews shed light on the disparities in addressing energy transition challenges, with factors such as administrative capacity, experience, knowledge gap, and financial resources playing significant roles. The size of the municipality appears to be a key influence on these disparities, with larger municipalities generally having more resources available to them.

5.1.2 The Role of knowledge and capacity

The successful organization of equitable participation in energy transition initiatives within a municipality relies heavily on knowledge, capacity, and efficient resource management. Valuable insights from interviewees shed light on these factors and their impact on the process.

Interviewees shared their experiences, highlighting the advantages enjoyed by larger municipalities like Rotterdam, which have well-established energy transition teams. These municipalities are able to effectively organize larger participatory projects. However, this advantage does not always extend to smaller municipalities due to their limited capacity and, in some cases, lack of experience.

A significant aspect that emerged from the interviews was the importance of specialist knowledge. Larger municipalities tend to possess a wealth of expertise in energy transition, which enables them to implement effective participation initiatives. In contrast, smaller to medium-sized municipalities often face challenges in accessing this knowledge, resulting in a gap that may hinder their implementation efforts.

Another crucial finding was the significance of decision-makers' familiarity with the Regional Energy Strategies (RESs) dossier. The lack of understanding among decision-makers can impede their ability to effectively support participation initiatives. To address this, interviewees stressed the importance of upskilling and continuous professional development for staff involved in energy transition initiatives.

The challenges in achieving equitable participation go beyond knowledge availability and extend to knowledge diffusion within municipalities. One interviewee highlighted the tendency for departments to operate in silos, failing to share their experiences and knowledge with others. This inhibits the broader organization from benefiting fully from their expertise. Additionally, the rapid pace of developments and crowded agendas further complicate the task of finding suitable platforms for knowledge sharing, making the organization of equitable participation even more challenging.

Interviewees note that participation is inherently resource-intensive. Coupled with the challenges of knowledge and capacity, this puts significant strain on municipalities, particularly those with fewer resources. Time management becomes an additional hurdle, with complex participation activities often relegated to the end of agendas, potentially compromising their effectiveness. Similarly, budgetary constraints can deter municipalities from fully embracing local ownership concepts, and the resource-intensive nature

of an individualised approach to participation may be overwhelming for those with limited resources.

One interviewee illustrates the limited municipal capacity and the resource-intensive nature of organising participation. This participant highlights that their municipality heavily depends on volunteers, with an estimated 90% of individuals engaged in participatory projects being volunteers. However, according to the interviewee, this dynamic creates a problematic relationship characterized by exploitation, leading to what they refer to as 'participation prostitution'.

Further exacerbating the challenges is the sheer volume of complex information municipalities need to process in the context of the energy transition. Additionally, a lack of supportive infrastructure in the form of guidance, data, or even clear instructions when funding is received, creates further obstacles. This lack of support could hinder municipalities' efforts to address issues such as energy poverty effectively.

In conclusion, the insights provided by the interviewees highlight the multifaceted challenge of knowledge and capacity in organizing equitable participation in energy transition initiatives within municipalities. The inherently resource-intensive nature of participation, coupled with limited resources, strains municipalities, particularly those with fewer resources. Time management becomes an additional hurdle, and budgetary constraints may deter the full embrace of local ownership concepts. The lack of supportive infrastructure, coupled with the overwhelming volume of complex information, further complicates the process. It is evident that continuous learning, knowledge sharing, efficient resource management, and supportive infrastructure are crucial for municipalities to navigate these challenges successfully. By addressing these obstacles, municipalities can ensure meaningful and inclusive participation, promoting effective energy transition initiatives while addressing issues such as energy poverty.

5.1.3 Regional disparities and their impact on participation

The regional disparities in capacity not only create challenges for municipalities but also contributes to unequal citizen participation opportunities across the region. Such disparities can manifest in numerous ways, including variations in funding and capacity to organise participation, a more generalist approach taken by smaller municipalities due to resource constraints, and difficulties in executing plans due to insufficient staff.

Financial resources are integral in shaping the approach to organising participation. Differences in available funding may lead to variations in how municipalities approach and structure their participation processes. For example, larger municipalities with more resources often have the capacity to conduct more extensive and inclusive participation efforts. This disparity creates a dynamic where residents in larger municipalities may have greater opportunities for participation compared to their counterparts in smaller municipalities.

Smaller municipalities face the challenge of limited capacity. Due to constraints on resources and staff, these municipalities often resort to a more generalist approach in their efforts, which can limit the extent and effectiveness of participation. The strain on resources further compounds when municipalities have to implement complex plans, such as those related to the energy transition. The lack of necessary staff and resources can hinder the practical implementation of these plans.

The challenges presented by capacity disparities also extend to the implementation of specific initiatives, such as those aimed at addressing energy poverty. The practical execution of such initiatives can be intricate, often necessitating partnerships with organizations familiar with specific neighbourhoods and the issues faced by residents. This complexity presents an additional hurdle for municipalities already grappling with limited resources.

Therefore, the role of experience and knowledge cannot be understated. These factors play a significant part in shaping participation processes. Municipalities with more experience and knowledge are likely to be more adept at organising participation efforts, overcoming challenges, and implementing local ownership policies. However, these capacities are often concentrated in larger municipalities, which have more administrative resources, further accentuating the disparities in equitable participation across the region.

5.1.4 Need for building regional capacity

The disparities in regional capacity further underscore the need for capacity building at the regional level. This view is echoed by interviewees who believe in the value of sharing experiences and stories for learning and generating ideas. Such sharing can serve as a mechanism to build local capacity, fostering the development of expertise in the region.

However, a lack of knowledge sharing in the region has been observed, leading to a situation where each municipality is focused on, for example, building its own sustainability teams, further complicating the knowledge-sharing process. Knowledge-sharing is crucial for fostering effective participation, and barriers to this can contribute to the 'reinvention of the wheel,' where municipalities encounter similar obstacles and develop similar solutions independently. This situation represents an inefficient use of resources and undermines the collective effort to foster equitable participation.

It has also been suggested by some interviewees that justice considerations also warrant attention. Procedural justice, and particularly distributive justice though occasionally mentioned, often receives less attention than other aspects of RES policy formation. This could be due to a lack of understanding or awareness among municipal stakeholders, but more often it is contributed to a lack of capacity, rather than knowledge. When following up on these subjects, and asking what participants understand by 'Energy justice', most participants were unable to provide an answer that reflects energy justice literature, suggesting a need for greater knowledge and expertise in this area. As one interviewee notes, the current level of understanding and awareness may not be sufficient for establishing comprehensive guidelines or frameworks for energy justice within the RES-RDH.

The influence of capacity and resources at the provincial level on citizen participation is also recognised as it is seen as the province's responsibility to help municipalities. This however creates a dilemma, as the ultimate responsibility for facilitating citizen participation falls on the municipalities themselves. It could therefore be implied that this emphasises the need for building capacity not only at a regional level but also at the municipal level.

Highlighting the importance of regional collaboration, one interviewee underscores the potential of knowledge and resource sharing. Such collaboration could serve to bridge the gap in regional disparities, allowing for more balanced and equitable citizen partici-

pation across different municipalities. This reinforces the necessity for a more concerted effort towards regional capacity building, to ensure a more equitable and just energy transition process across all municipalities, irrespective of their size or resources.

5.2 POLICY AND REGULATORY CHALLENGES

This section delves into the policy and regulatory challenges encountered in organizing equitable participation in the RES-RDH. From the conducted interviews, several challenges have emerged relating to the policy and regulatory landscape, impacting the equitable participation in RES-RDH.

Four main categories of policy and regulatory challenges have been identified:

1. **Legal and Regulatory Barriers:** These relate to the existing laws and regulations that may limit or hinder equitable participation in RES-RDH. Legal and regulatory barriers can often be difficult to navigate, with the potential to discourage stakeholder involvement and dampen progress towards equitable energy transition.
2. **Policy Complexity and Implementation:** This encompasses the complexities associated with understanding, interpreting, and implementing policies relating to RES-RDH. The complicated nature of energy policies and their implications on various aspects of the energy transition can pose significant challenges for stakeholders.
3. **Regional Approach vs. Local Contexts:** This category captures the tension between regional policy frameworks and local contexts. As energy transition strategies are often formulated at a regional level, their application at a local level can create conflicts due to discrepancies in local circumstances and capacities.
4. **Policy Dynamics:** This entails the changes in policy over time and the impact these changes have on equitable participation in RES-RDH. Policy dynamics can influence the stability and predictability of the energy transition process, which in turn affects stakeholder involvement and overall project outcomes.

Each of these categories presents unique challenges to the organization of equitable participation in RES-RDH, underscoring the multifaceted and complex nature of policy-related barriers in the energy transition process. In the following sections, we will discuss each of these challenges in greater detail, shedding light on the critical role of policy and regulation in shaping the equity of participation in RES-RDH.

5.2.1 Legal and regulatory barriers

A crucial factor in the organization of equitable participation in RES-RDH is the complex and challenging legal and regulatory landscape. Legal and regulatory barriers pose a significant obstacle to facilitating equitable participation, and these barriers consistently emerged as key themes in the interviews conducted.

At the forefront, stakeholders struggle with the uncertainties surrounding future legislation. The anticipation and adaptability to potential policy changes can stall the progress of planning and executing equitable participation strategies. This state of flux can lead to hesitation and delay in implementation, creating an environment of uncertainty for stakeholders.

Another salient issue is the perceived inadequacy of current legal instruments to ensure an equitable energy transition. Stakeholders reported feeling that the existing laws and regulations do not cater sufficiently to the complexities and unique requirements of equitable participation in RES-RDH.

Privacy regulations pose a specific concern when it comes to understanding and addressing Energy Poverty (EP). The stringent privacy laws make it arduous to compile comprehensive overviews of EP, which are instrumental in crafting targeted strategies to enhance equitable participation.

The potentiality of forthcoming laws and regulations also exerts influence on the process. Stakeholders are acutely aware that any plans made today could be significantly impacted by future regulatory changes. This awareness further compounds the uncertainties and complexities in the planning process.

Further, the lack of a legal foundation for RES was identified as a significant hindrance to achieving effective regional coordination. This absence can undermine efforts to facilitate equitable participation across different regions, resulting in fragmented and inconsistent approaches.

Collectively, these legal and regulatory barriers present a daunting landscape for stakeholders to navigate in their pursuit of equitable participation in RES-RDH. The implications of these challenges on organising equitable participation are far-reaching. The uncertainty and inconsistency in the legal and regulatory environment can lead to hesitation in implementation, and potentially, the perpetuation of inequality. Furthermore, the disparate impact of these barriers across different regions could exacerbate regional disparities in participation. It underscores the necessity for regulatory reform that specifically addresses the unique requirements and challenges of equitable participation in the energy transition.

5.2.2 Policy complexity and implementation

In addressing the policy complexity and implementation challenges in the equitable energy transition, several thematic categories emerge. They are community-government interaction and complementarity, complexity and challenges in national programs, the inherent complexity of the energy transition process, the disconnect between the energy transition and the social domain, equity and allocation challenges, and inter-municipal cooperation and coordination.

A major challenge lies at the intersection of community initiatives and government policy. Balancing these distinct entities and discerning how they can mutually enhance and supplement one another requires meticulous strategizing. The interaction dynamics between government and community-based efforts have significant implications for the effectiveness and acceptability of energy transition policies.

Furthermore, the plethora of national programs designed to support the energy transition can be dauntingly complex. Participants in the interview process frequently remarked on difficulties navigating the programs' landscape. There were frustrations regarding fund distribution inconsistencies and the lack of clear directions for utilizing these resources. Such complexity and confusion can hinder the smooth implementation of RES at a regional level.

A perceived disconnect between the energy transition and the social domain presents another challenge. This disconnect is particularly poignant in addressing energy poverty

and ensuring an equitable distribution of benefits. While not all interviewees recognise this disconnect, stating that it is a mere consequence of the governance structure in The Netherlands, this disconnect could be perceived as a call for greater emphasis on energy justice and equitable citizen participation within RES-RDH.

Another critical category of challenges pertains to equity and allocation. Within this domain, difficulties arise in consistently and fairly implementing measures across various areas. Moreover, the allocation of limited resources often requires prioritizing specific groups or regions, further complicating the situation. Sometimes, an arguably unjust distribution is seen as unavoidable by interviewees, stating this is the result of the 'administrative reality' administrators face in their work. While this may be the case, this perspective carries a risk for justice, particularly when such practices become standardized. Given the inherent complexities associated with equity and allocation, careful strategising and decision-making become essential to ensure the attainment of just outcomes.

5.2.3 Regional approach versus local contexts

One of the central issues that emerged from the interviews is the tension between a uniform regional approach to energy transition and the specific contexts of individual municipalities. This tension arises due to the diverse characteristics of each region, affecting energy needs, public perception, and the opportunities for citizen participation.

Regions differ significantly in terms of their organization, language, and format. Understanding these unique characteristics is crucial when addressing energy poverty or making energy transition plans. The participants highlighted that the region's diversity, encompassing urban, rural, and industrial areas, poses distinct challenges. These disparities necessitate specific and flexible strategies for each area.

Public perception and citizen participation are closely tied to the local context and characteristics of each municipality. For instance, one interviewee proposed that smaller municipalities in rural areas may present more opportunities for participation, particularly in sectors like wind energy. Another interviewee nuanced this view by stating that their success often depends on regional support, making it essential to align local and regional goals.

The challenge lies in developing a participatory framework that is both specific enough to be meaningful to each local context and broad enough to be applicable across various projects and municipalities. This challenge underscores the need to balance between a uniform regional approach and customization to local contexts.

Most interviewees noted considerable variation among municipalities in their approaches to incorporating citizen input and decision-making. This variation further reflects the unique contexts of each municipality and the need for flexibility in policy implementation. This poses challenges in the coordination and cooperation between municipalities. Effective inter-municipal cooperation is crucial for the successful implementation of the RES, given the involvement of multiple municipalities. While this is recognised by interviewees, coordination and cooperation on a regional scale are seen as challenging and sometimes plain undesirable. The complexity of this lies in the constitutional novelty of the RES organisation, as well as the large normative diversity in the region. Many interviewees made clear that they as a municipality want to remain in control of the energy transition in their borders.

Given the complexity and size of the regions, it may be challenging to apply a one-size-fits-all approach to participation. Rather, a balance needs to be struck that respects the diversity of contexts while ensuring effective regional equitable participation. This balance will be pivotal in achieving successful energy transition outcomes.

5.2.4 Political dynamics

Political dynamics have a substantial impact on the policy formation process in a RES as becomes apparent in the interviews. The political discourse can dictate the degree of continuity, politicization, and commitment to participation. The interviews revealed key themes in these areas, which are discussed in more detail below.

Discontinuity within RES

Political shifts within municipalities often lead to a high degree of discontinuity within the RES. Multiple interviewees note that changes in municipal politics can disrupt the consistency and speed of the RES process. When new politicians come to power they have to educate themselves and find their way in RES agreements, combined with their sometimes diverging standpoints, this can be a cause of discussion, delaying the RES process. Other interviewees add a positive note to this idea by stating that certain developments can also act as a catalyst. This idea is exemplified by the recent Dutch energy crisis, which has for example brought about a focus on affordability. Maintaining consistency in the face of these shifts requires a commitment to the RES process, and thus to equitable participation in the region, that transcends short-term political cycles, promoting resilience in the face of political change.

Politicization of Energy Transition and Climate Change

Interviewees have noted that in their experience, the topic of energy transition or climate change can become highly politicized in some municipalities, depending on the political landscape. This politicization can influence the decisions and policies related to the energy transition, either facilitating or hindering progress. Navigating this politicized landscape is a significant challenge, requiring a nuanced understanding of the local political context and effective communication strategies to build consensus.

Variation in Political Commitment to Participation

The interviews also indicated a substantial variation in political commitment to citizen participation among municipalities. The level of participation depends significantly on the importance given to it by the relevant alderman. Therefore, political will can directly impact the degree of citizen involvement in the energy transition process.

Moreover, under interviewees, it is widely recognised that each municipality has its preferences and circumstances, influencing the trade-off between regional and local organization of citizen participation. Hence, the approach to participation can vary greatly, underscoring the need for flexibility and adaptation to local political dynamics.

In conclusion, political dynamics play an important role in shaping the energy transition process. Understanding these dynamics and finding ways to navigate them effectively is crucial for ensuring robust, equitable, and participatory energy transition.

5.3 POWER DYNAMICS AND CITIZEN INFLUENCE

The dynamics of power and influence in the energy transition process pose distinct challenges, particularly regarding citizen participation. While often overlooked, these challenges warrant attention due to their significant impact on shaping the transition. Throughout the interviews, several key aspects emerged as noteworthy factors in understanding these dynamics. These include the perceived distance between citizens and the RES process, the level of citizen influence in decision-making, and the role of profit-driven private sector entities. Despite their importance, these aspects are not commonly discussed, making them a notable consideration that deserves closer examination.

Perceived Distance between Citizens and RES

Interviewees notice a perceived distance exists between citizens and the RES process. This distance is due, in part, to the complexity of the energy transition and the dominance of the energy sector by large companies. Interviewees feel citizens see the RES as 'too abstract', describing it in Dutch as a 'Ver van mijn bed show', or a concept that feels distant and detached from their daily lives. The lack of direct involvement and understanding among citizens is seen as a result of limited information, inadequate communication channels, and a perceived lack of influence over the decision-making process. This perceived disconnection poses a significant challenge to fostering public acceptance and support for the energy transition. Overcoming this perceived distance requires innovative strategies to engage citizens and increase their understanding of and involvement in the energy transition.

Level of Citizen Influence

Determining the level of influence citizens should have in the energy transition is a complex challenge. Large-scale initiatives often necessitate collaboration between the market, government, and community. While the importance of citizen input is recognized to some extent, opinions vary regarding the specific level of involvement they should have. One argument against a higher level of citizen participation is grounded in the principle of representative democracy in the Netherlands. According to this perspective, as citizens elect their representatives, they should place trust in their ability to make informed decisions on their behalf, given their deeper understanding of broader issues. Conversely, opposing views emphasize the significance of citizen inclusion, as it is believed to enhance the support base for decisions. This conflicting stance has sparked discussions and is among the factors contributing to the lack of a clear definition of participation in the RES-RDH.

The importance of these discussions is recognised as well, as the selection of participants or stakeholders in steering groups and working groups can significantly influence the final outcome of the RES. However, conflicting views and potential biases among decision-makers can complicate the determination of citizen influence and thus the degree of equitable participation.

Profit-Driven Private Sector

The role of the profit-driven private sector in the energy transition also raises several challenges. For example, private landlords may resist efforts to improve energy efficiency leaving their tenants in energy-poor housing raising equitability concerns. Additionally, some interviewees expressed their concern regarding private sector companies prioritising the most profitable areas, potentially leaving less affluent areas and residents behind, while other market initiatives focus on individual efforts without a broader com-

munity benefit. Some therefore see a role for energy cooperations in organising some parts of the energy transition.

To address these challenges, there is a need for regulatory measures and incentive structures that ensure equity and inclusiveness in the energy transition. This is recognised by some participants with one stating that their municipality is currently working on a plan to tackle these issues, focussing on issues related to rental properties.

5.4 TRADE-OFFS IN THE DECISION-MAKING PROCESS

Trade-offs are an inherent part of decision-making in any complex undertaking, and the energy transition process is no exception. Based on the interviews conducted, several key trade-offs emerged as crucial elements in shaping the direction and outcomes of the energy transition in different municipalities.

Participation Willingness and Ability

One of the acknowledged trade-offs in the energy transition is the recognition that not everyone will have the willingness or ability to participate. The barriers to participation are multifaceted, encompassing factors such as lack of interest, limited awareness, and structural constraints, including financial limitations. These disparities can potentially compromise the fairness of the energy transition, underscoring the imperative for targeted strategies that foster broader and more inclusive participation.

This trade-off, however, is sometimes taken for granted, as one participant astutely points out, "However, the democratic legitimacy lies with the municipality." This observation sheds light on the fact that the municipality plays a crucial role in decision-making. Consequently, the approach to addressing issues like insulation and energy poverty may, unfortunately vary, resulting in potential disadvantages for individuals in certain areas, such as The Hague, while other neighbourhoods may benefit.

Equity and Speed of Energy Transition

There is a recognized trade-off between the speed of the energy transition and equity considerations. While urgency might necessitate swift actions and decisions, this pace may overlook equity considerations, potentially leaving vulnerable or disadvantaged groups behind. Regarding this matter, one participant states that the goal of the RES is to realise the energy generation targets, not to organise participation. While this statement may miss some nuance, it does emphasise the need to balance these two factors, recognizing that an equitable transition is also a sustainable and socially accepted one.

Financial Participation Risks and Benefits

Multiple participants stated their concerns regarding another trade-off associated with the risks and benefits that come forth with financial participation in renewable energy projects. While such participation can enable community ownership and yield financial returns, it may also expose citizens to financial risks, particularly if project outcomes are uncertain or market conditions fluctuate. While there have been initiatives that take away the risk from citizens by the municipality, which for example buys shares in a project and redistributes the profits in a surroundings fund, this trade-off remains an important consideration, especially in the context of equitable participation.

Resource Allocation Trade-offs

A commonly hear challenge is the resource allocation trade-off, particularly concerning assistance programs aimed at addressing energy poverty or promoting energy efficiency. Given the limited resources, municipalities must decide how to distribute them most effectively, which often means making tough choices about which areas or groups to prioritize.

Municipal Value Trade-offs

Finally, the importance of certain values in the decision-making process may also involve trade-offs, which may vary depending on the municipality. For example, some municipalities may place a higher emphasis on economic efficiency, while others may prioritize social equity or environmental sustainability. This normative diversity underscores the diversity of contexts and perspectives across different municipalities, further complicating the energy transition process.

Therefore, when looking at how equitable participation can contribute to the energy transition, the consideration of normative diversity should be taken into account.

5.5 REPRESENTATION AND ENGAGEMENT

Representation and engagement are pivotal components of a successful energy transition process. The experiences and viewpoints shared during the interviews highlight multiple challenges that municipalities face in ensuring broad, inclusive, and meaningful public participation in the decision-making processes.

Engaging a Representative Sample

One significant challenge that emerged is the difficulty of engaging a representative sample of the population. Participants state that the complexity and abstract nature of the RESs often deter early participation, with more engagement observed when concrete projects exist. Furthermore, municipalities struggle to involve certain target groups, such as individuals who struggle to pay their bills, those less inclined towards the energy transition, and different generations.

Addressing Concerns and Conflicts

When developing and implementing RES policies, most participants prioritize conflict avoidance as a crucial starting point, emphasizing the importance of achieving consensus. While it is acknowledged by some that conflict cannot always be entirely avoided, minimizing conflict is generally regarded as beneficial. However, striking the right balance can be challenging. In addition, addressing the concerns of various groups and managing social conflicts that may arise during participation processes is another critical aspect. These challenges underscore the necessity for effective communication and dispute-resolution mechanisms to navigate different perspectives and ensure that all voices are heard, rather than allowing a vocal minority to dominate the public discourse, the latter being another concern that has been noted by participants.

Trust and Participation

As some participants have experienced, the level of trust in the government and the influence of neighbourhood dynamics can significantly impact public participation in energy transition initiatives. Participants note that building trust is key to public acceptance,

they note that certain citizens may have had terrible experiences with the government and therefore distrust everyone related to said government.

Furthermore, it has been noted that when people perceive a lack of meaningful action or follow-through on citizen input, distrust may rise, and engagement may decline. Hence, building and maintaining trust through transparency, accountability, and responsiveness are crucial.

Participatory Processes and Policy Formation

The task of integrating citizen initiatives into policy formation presents an additional challenge. It points to the need for a clear framework and processes that enable citizen input to influence policy outcomes meaningfully.

Time Constraints

Finally, the issue of time scarcity, both politically and societally, can hinder collaboration and participation. One participant notes that when organising participation it is of key importance to consider the needs of target groups and how one can support them, whether it be citizens or government employees. Creating time and fostering consensus becomes necessary to ensure that all stakeholders can engage and contribute effectively.

Overall, these insights underscore the need for thoughtful and inclusive participatory strategies that address these challenges and enhance the representation and engagement of diverse groups in the energy transition process. A successful energy transition requires a shared vision and effort, emphasizing the importance of everyone's voice in shaping that future.

5.6 ANSWERING SUB-QUESTION 3

After having derived the main themes from the interviews, the third sub-question can be answered:

What problems are encountered in the organization of equitable participation within RES-RDH, from a governance perspective, focusing on distributive and procedural justice aspects?

As presented in this chapter, different governance issues have been identified that all have implications on equitable participation in the RES-RDH. To be able to answer this research question, Table 5.1 has been created which shows an overview of the governance issues identified, the faced challenges that relate to the broader issues, and the implications the challenges have on equitable participation.

1. **Municipal Knowledge and Capacity Limitations:** Limited administrative capacity, experience, knowledge, and financial resources hinder municipalities' ability to actively engage in RES-RDH initiatives. These limitations may lead to regional disparities in effective engagement, a lack of technical understanding among stakeholders, and unequal access to necessary resources, creating barriers to equitable participation.

2. **Policy and Regulatory Challenges:** Legal and regulatory barriers, along with policy complexity and inconsistency, create a discontinuity in renewable energy projects. Variability between regional approaches and local contexts can politicize energy transition and climate change. These hurdles contribute to uncertainty and inconsistency in decision-making processes, undermining overall equitable participation.

3. **Power Dynamics and Citizen Influence:** Perceived distance between citizens and renewable energy sources can lead to alienation. Coupled with uneven distribution of decision-making power and profit-driven private sector involvement, this can result in unequal access and influence over renewable energy projects, diminishing equitable participation.

4. **Trade-offs in the Decision-Making Process:** Willingness and ability to participate, equity and speed of energy transition, financial risks, resource allocation trade-offs, and municipal value trade-offs lead to unequal opportunities for participation and input. These challenges could marginalize disadvantaged communities, distribute costs and benefits unevenly, create imbalances in resource allocation, and result in conflicting priorities among stakeholders, compromising equitable participation.

5. **Representation and Engagement:** Engaging a representative sample, addressing concerns and conflicts, fostering trust, and ensuring adequate time for participatory processes undermine equitable participation. Factors such as a lack of diverse and inclusive representation, exclusion of marginalized voices, limited trust and engagement between stakeholders, inadequate inclusion in policy formation, and limited opportunities for meaningful participation can hinder equitable participation.

To give a clear overview of the implications the found challenges have from a distributive and procedural point of view, the principles of equitable participation, as defined in Table 3.2 are used. After careful reflection, this resulted in Table 5.1, which shows the impact of identified governance issues, challenges faced, and their implications on equitable participation.

Table 5.1: Impact of identified governance issues, challenges faced, and their implications on equitable participation

Governance Issues	Challenges faced	Implications on Equitable Participation	Related Principles
Municipal knowledge and capacity limitations	Limited Administrative capacity, Limited Experience, Limited Knowledge, Limited Financial resources	Regional disparity in knowledge and capacity, Need for regional capacity building, Lack of expertise and understanding among stakeholders, Unequal access to resources for participation	Knowledge production, Co-Creation and shared responsibility, Dialogue and Reflexivity
Policy and regulatory challenges	Legal and regulatory barriers, Policy complexity and implementation, Regional approach vs. Local contexts, Policy dynamics	Discontinuity in renewable energy and sustainable development projects, Politicization of energy transition and climate change, Variation in political commitment to participation, Uncertainty and inconsistency in decision-making processes	Due Process, Transparency, Accountability
Power dynamics and citizen influence	Perceived distance between citizens and renewable energy sources, Level of citizen influence, Profit-driven private sector	Unequal access to and influence over renewable energy projects, Unequal distribution of decision-making power among stakeholders, Potential exclusion of marginalized groups and communities	Role Negotiation and Power Dynamics, Empowerment and legitimacy, Democratic inclusion
Trade-offs in the decision-making process	Participation willingness and ability, Equity and speed of energy transition, Financial participation risks and benefits, Resource allocation trade-offs, Municipal value trade-offs	Unequal opportunities for participation and input, Potential marginalization of disadvantaged communities, Unequal distribution of costs and benefits, Potential imbalance in resource allocation, Conflicting priorities and interests among stakeholders	Economic Benefit & Well-being, Availability, Affordability, Intragenerational equity, Intergenerational equity
Representation and engagement	Engaging a representative sample, Addressing concerns and conflicts, Trust and participation, Participatory processes and policy formation, Time constraints	Lack of diverse and inclusive representation, Potential exclusion of marginalized voices and perspectives, Limited trust and engagement between stakeholders, Inadequate inclusion and participation of stakeholders, Limited opportunity for meaningful participation	Consensus and Conflict, Empowerment and legitimacy, Democratic inclusion, Co-Creation and shared responsibility

6 HOW EQUITABLE PARTICIPATION IN RES-RDH DECISION-MAKING CAN CONTRIBUTE TO THE ENERGY TRANSITION

While participation is sometimes viewed as a barrier to the success of projects, literature suggests otherwise (Hurenkamp & Tonkens, 2020; Rodhouse & Correljé, 2022; de Vries & Bouma, 2023). This chapter embarks on an exploration of the significance of energy justice in the decision-making processes of RES-RDH. It draws upon scholarly perspectives, regional experiences, and insights derived from interviews to shed light on the challenges and opportunities tied to the integration of energy justice within the renewable energy transition. The aim of this chapter is to show policymakers, energy professionals, and communities involved in the complex landscape of RES-RDH the benefits of equitable participation. Hence, this chapter will answer the final sub-question that elucidates how equitable participation can contribute to the energy transition itself.

6.1 BENEFITS OF EQUITABLE PARTICIPATION

Hurenkamp & Tonkens (2020) identified a series of benefits for participatory decision-making within renewable energy policy and development. Their research supports the notion that participation enhances the quality and acceptance of decisions, leading to a more effective decision-making process.

Their findings outline benefits that occur at the policy level and those that impact the citizens themselves, backed by prominent literature (Tonkens, 2008; Roberts, 2004; FUNG & WRIGHT, 2001). Specifically, they suggest:

- **Policy Support:** Participation enhances support for policies among citizens. It helps them understand the complexity of balancing different interests and perspectives (Tonkens, 2008).
- **Quality of Policies:** Participation increases the quality of policies. It brings diverse perspectives, knowledge, and creativity to the table for better decision-making (Roberts, 2004).
- **Personal Development:** Participation fosters personal development. Individuals acquire democratic skills, such as weighing different interests, empathizing with other viewpoints, learning to argue, and making compromises (FUNG & WRIGHT, 2001).
- **Responsibility:** Participation enhances responsibility. Citizens take initiatives and are made accountable for the outcomes (Tonkens, 2008).
- **Power and Influence:** Participation increases power and influence. Policy decisions do not override citizens, and ordinary citizens have more direct, tangible influence (Roberts, 2004).

Deriving from the interviewees' perspectives, the benefits of participation are seen as twofold. On the one hand interviewees recognise the importance of participation from a moral point of view, but on there other hand many interviewees highlighted how participation and local ownership contributes to building public support and acceptance

for energy projects. This perspective aligns with the empowerment rationale highlighted by Cuppen (2018). Yet, it also demonstrates an instrumental view on participation, wherein participation is seen as a means to increase the acceptance of energy projects.

Furthermore, the interviewees' emphasis on trust-building, particularly in light of recent scandals, speaks to the legitimacy rationale of participation. However, a critical reflection based on Cuppen's work suggests that using participation as a tool to restore trust after incidents might lean towards an instrumental view of participation (Cuppen, 2018).

Cuppen (2018) warns against the exclusive adoption of an instrumental view of participation. Instead, she emphasizes that participation should be seen in a democratic framework that genuinely empowers citizens and facilitates knowledge production, thereby contributing to more integrated decisions. Thus, while the benefits outlined by Hurenkamp & Tonkens (2020) and the views of interviewees underscore the potential of participatory approaches, it's essential to caution against reducing participation to a tool for achieving policy acceptance or trust restoration. The ultimate objective should be to incorporate diverse voices genuinely, providing citizens with the means to influence decisions that affect them.

6.2 INEQUALITIES IN CITIZEN PARTICIPATION

Hurenkamp & Tonkens (2020) critique the traditional approach to citizen participation, highlighting the risk of inequalities in participation. They emphasize the fact that not all 'citizens' are involved equally, with higher-educated individuals often being overrepresented, while young people and people with migration backgrounds are frequently underrepresented (Tonkens & Verhoeven, 2019; Tonkens, 2008; Hurenkamp *et al.*, 2006; Boogers *et al.*, 2016). This uneven distribution of influence undermines the idea of inclusive and equitable participation, as not all voices are heard equally in the process.

Furthermore, the authors critique the laissez-faire approach to participation, arguing that leaving participation to spontaneous citizen action can exacerbate these inequalities. This approach neglects to consider who is participating, how they can contribute equally, and how their input influences decision-making (FUNG & WRIGHT, 2001).

The interviewees raised concerns about the "risk of the vocal minority", indicating a potential bias towards the views of a small but vocal group of individuals. This echoes the academic critique of participation inequality, as the louder voices may dominate, potentially pushing the political sensitivity towards their viewpoints, and sidelining the less vocal or less represented groups.

One interviewee highlighted the need to address societal divisions and ensure that the benefits of the energy transition are distributed fairly, reaching everyone, including those with lower incomes and poor energy labels.

Reflecting on the interviewees' perceptions, it is clear that they acknowledge some of the inequalities present in citizen participation, aligning with Hurenkamp & Tonkens (2020) critique. The risk of a vocal minority dominating the discussion, for example, represents a failure to ensure that all voices are heard equally in the decision-making process. This threatens the principles of equitable participation, which emphasize democratic inclusion and parity of participation (Hurenkamp & Tonkens, 2020).

Similarly, the concern about the fair distribution of benefits aligns with the principles of distributive justice, emphasizing the need for all people to have access to sufficient, high-quality resources. However, recognizing this issue is only the first step; it needs to be actively addressed in the decision-making process to ensure a truly equitable energy transition.

However, with regards to the traditional, laissez-faire approach, one interviewee notes that municipalities within the RES-RDH are 'stuck in their traditional view of participation'. This highlights a significant barrier to achieving equitable participation, where the institutional inertia and ingrained practices of municipalities perpetuate a system that allows the voices of a select few to dominate. Despite recognising the need for inclusion and fair distribution of benefits, these traditional views on participation tend to favour the educated, vocal, and resourceful sections of society, often neglecting the less represented or less vocal groups. Such traditional approach is ineffective in addressing the existing inequalities in participation and can undermine the broader goals of energy justice.

Therefore, the risk of inequality in participation highlighted by the interviewees and the academic critique underscores the need for energy justice in RES-RDH decision-making. Energy justice principles, such as distributive justice, procedural justice, and recognition, can provide a valuable framework for addressing these inequalities and promoting more equitable participation.

Specifically, a more structured approach to decision-making, as suggested by Hurenkamp & Tonkens (2020), could facilitate inclusion and systematically address the influence of different societal groups. This aligns with the principles of democratic inclusion, parity of participation, and consensus and conflict, ensuring that decision-making is not just the purview of a vocal minority, but includes diverse voices, acknowledging and valuing their different perspectives.

Overall, to ensure equitable participation, RES-RDH decision-making needs to shift away from a laissez-faire approach to a more deliberate and inclusive process, where all citizens, regardless of their education level, age, or cultural background, have an equal chance to contribute and influence the outcomes.

6.3 PUBLIC OPPOSITION AND THE SOCIAL ACCEPTABILITY OF ENERGY PROJECTS

Lennon *et al.* (2019) emphasize that public opposition can significantly hinder the successful implementation of renewable energy projects, which are key in mitigating climate change. Often criticisms arise from perceptions of high local costs in comparison to the local benefits received, inappropriate scale of development, and inadequate citizen involvement in local energy planning (Rogers *et al.*, 2008; Upham & Shackley, 2006). However, as Lennon *et al.* (2019) emphasise, this opposition is frequently oversimplified and attributed to a NIMBY (Not In My Backyard) mentality, which does not do justice to the complexity of the issue. Community support or opposition towards renewable energy projects in their vicinity is often influenced by multifaceted factors such as the principles of energy justice and social inclusion, rather than a simplistic NIMBY viewpoint. While NIMBYism can be a factor, it is not the only or even the most significant factor driving the opposition. This overemphasis on NIMBY can overshadow the valid concerns of citizens who feel marginalized or unfairly burdened by these projects (Lennon *et al.*, 2019).

Within the RES-RDH context, the need to challenge the NIMBY mentality was highlighted by interviewees. However, rather than attributing opposition to NIMBYism, it is crucial to dig deeper and understand the underlying concerns related to energy justice and social inclusion.

Interestingly, the interviewees also revealed a conflict avoidance tendency, emphasizing the importance of clear processes and early engagement for successful participation. However, this focus on conflict avoidance may inadvertently silence dissenting voices and limit the potential for constructive dialogue. As Cuppen (2018) suggests, conflict is often a crucial part of self-organised participation, and such social conflicts can hold value for normative, substantive, and instrumental reasons.

Reflecting critically on these perspectives, it is clear that participation processes should not merely serve as instruments to achieve consensus or avoid conflict, but rather as platforms for open dialogue and decision-making. This aligns with the principles of equitable participation, which emphasize the importance of inclusive representation, diverse forms of knowledge, empowerment of individuals, acceptance of both consensus and conflict, shared responsibility, and balance of power dynamics (Cuppen, 2018).

In light of this, the approach of Hurenkamp & Tonkens (2020) appears even more pertinent. They advocate for a form of participation that does not merely seek consensus but fosters substantive dialogues, facilitating the development of democratic skills and leading to more robust and inclusive outcomes. This approach, which acknowledges and addresses all perspectives including dissenting voices, ensures a comprehensive understanding of public opposition to renewable energy projects and ensures that all stakeholders have an equal opportunity in the decision-making processes. This, in turn, contributes to energy justice in RES-RDH decision-making (Hurenkamp & Tonkens, 2020).

6.4 ENHANCING DECISION-MAKING QUALITY THROUGH EQUITABLE PARTICIPATION

Hurenkamp & Tonkens (2020) posit that participation augments the quality and acceptance of decisions, reaffirming the importance of equitable participation principles in decision-making processes.

In the context of RES-RDH, several interviewees acknowledge the potential benefits of having structured guidelines or tools to engage a diverse range of residents in the energy transition. One interviewee underscores that while guidelines can be beneficial, they should not be unilaterally dictated by the region, emphasizing the necessity for flexibility and local adaptation to unique contexts and preferences.

However, it is critical to scrutinize this perspective. While flexibility and adaptability are undeniably valuable, too much latitude could lead to inconsistency in practices and potentially, inequitable participation. The challenge lies in striking a balance between uniformity and flexibility. It is also essential to consider whether the notion of "tailored approaches" could inadvertently become an excuse for excluding certain voices or marginalizing certain groups under the guise of local relevance.

Another interviewee endorses this idea of balance, asserting that while some level of structure is beneficial, not all aspects of participatory processes need to be stringently regulated or coordinated. This sentiment aligns with Hurenkamp & Tonkens (2020)'s third design principle that participation is not a one-off event but a continual process. However, this principle should not be misconstrued as endorsing a laissez-faire approach to participation but should be seen as advocating for ongoing, sustained engagement.

Reflecting on these interviewees' perspectives through the lens of the principles of equitable participation reveals some key points. First, the emphasis on flexibility and context-specific approaches echoes the principle of Democratic Inclusion, emphasizing that participation strategies need to consider the local context and diverse citizenry.

Second, the idea that participation is a continuous process rather than a one-off event aligns with the principle of Meaningful Engagement, which suggests that stakeholders should be engaged in a sustained and meaningful way throughout the decision-making process.

In conclusion, enhancing participatory decision-making in RES-RDH necessitates an approach that respects the principles of equitable participation. This involves fostering democratic inclusion through context-specific strategies, ensuring meaningful, long-term engagement of all stakeholders, and carefully balancing the need for consistency with the value of local adaptation. Rigorously applying these principles could lead to improved quality and acceptance of decisions in RES-RDH, promoting a more equitable and effective energy transition.

6.5 THE ROLE OF ENERGY JUSTICE IN REGIONAL ENERGY TRANSITIONS

Lennon *et al.* (2019) emphasize that procedural, distributional, and substantive justice play a fundamental role in determining the social acceptability of energy projects. They argue that current practices often fail to adequately consider community involvement and benefit, leading to perceptions of unfairness and injustice (Ruggiero *et al.*, 2014; Bell *et al.*, 2013). This resonates with the principles of equitable participation, emphasizing the importance of fair distribution of benefits, meaningful engagement of stakeholders, and recognition of their legitimate roles in decision-making processes.

However, to counter these negative perceptions and foster social acceptance, Lennon *et al.* (2019) suggest the necessity of developing community-focused structures and business models. Such structures need to recognize the burdens associated with renewable energy development and prioritize the values and interests of community stakeholders alongside those of the energy industry (Burke & Stephens, 2017; Lund, 2009).

These academic perspectives point to the need for greater emphasis on energy justice in decision-making processes, particularly in the context of RES-RDH. Affirming this position, insights from interviews reveal that the discourse on energy justice might not be equally prominent at all levels of decision-making.

One interviewee remarks that while energy justice may be a topic of discussion at the national level, its presence is notably less at the local government level. This discrepancy suggests a potential disconnect between national policies or goals and their translation into local practices. Such a gap could potentially undermine the principles of equitable participation and jeopardize the perceived fairness and acceptance of decisions.

Furthermore, another interviewee mentions the existence of a working group focused on energy poverty within the RES. However, he notes that the overall focus leans more towards sustainable energy generation rather than energy justice. This insight hints at a potential marginalization of the energy justice discourse, a condition that could exacerbate actual unfairness and deepen the sense of unfairness among marginalized communities.

Reflecting critically on these findings, it is clear that integrating the principles of energy justice into RES-RDH decision-making requires concerted effort. Equitable participation principles such as Distributive Justice, Procedural Justice, and Meaningful Engagement serve as critical guideposts in this endeavour. Fostering a community-focused approach that acknowledges the burdens associated with renewable energy development and promotes fair benefit distribution is crucial. In doing so, not only can negative perceptions be mitigated, but also the social acceptance and success of renewable energy projects can be enhanced.

6.6 HIGHLIGHTING THE NEED FOR ENERGY JUSTICE

Through the exploration of different aspects of citizen participation and decision-making in RES-RDH, several findings have emerged that underline the need for energy justice and equitable participation.

1. **Inequalities in Citizen Participation**: Academic insights (For example, de Vries & Bouma (2023); Lelieveldt & Schram (2023)) and interviewee perceptions highlight persistent disparities in citizen participation. Higher-educated individuals tend to be overrepresented, while young people and those with migration backgrounds are often underrepresented. The need for a structured approach to decision-making that facilitates inclusion and systematically impacts outcomes is evident. Here, equitable participation principles such as Involvement and Influence, Empowerment, and Democratic Inclusion can provide crucial guidance to ensure diverse and fair representation.

2. **Public Opposition and Conflict**: The challenge of public opposition to renewable energy projects, often misconstrued as mere NIMBYism, points to complex underlying factors including perceptions of energy justice and social inclusion. Acknowledging conflict as a form of self-organized participation and promoting dialogue and reflexivity, as suggested by Cuppen (2018) and Horsbøl (2018), aligns with the principles of Democratic Inclusion, Consensus and Conflict, and Dialogue and Reflexivity.

3. **Enhanced Participatory Decision-Making**: Interviewees' perspectives on participatory decision-making show a need for flexible and tailored approaches. General guidelines could be useful, but they should allow municipalities to adjust their participation strategies based on unique contexts and preferences. This reinforces the principles of Local Ownership, Empowerment, and Procedural Justice, emphasizing local control and meaningful community engagement.

4. **Energy Justice in Renewable Energy Projects**: The principle of energy justice, although recognized academically, seems to be less prominent at local government levels. This gap suggests potential disconnects between national policies and local practices that could undermine perceived fairness and acceptance of decisions. Principles of Procedural, Distributional, and Substantive Justice are crucial in ensuring the social acceptability of renewable energy projects.

These findings illustrate the regional experiences within the RES-RDH, all pointing towards the necessity of embedding principles of energy justice and equitable participation into decision-making processes. Such an integration can ensure a more inclusive, fair, and acceptable renewable energy transition, aligning the processes more closely with the societal values and the principles of equitable participation. This approach can also improve the quality and acceptance of decisions, empowering communities and enhancing their sense of ownership in the energy transition.

6.7 ANSWERING SUB-QUESTION 4

Based on the findings of Chapter 6, the final sub-question can be answered:

How can the application of energy justice principles, specifically in terms of equitable participation and local ownership, contribute to enhancing the energy transition within RES-RDH, focusing on distributive and procedural aspects?

To answer this research question, for each of the principles of equitable participation, the benefits found in literature are listed. This serves as substantiation for the importance of the principles. By also taking into consideration the views of the interviewees, the benefits are aimed at addressing the context of the RES-RDH. The focus on distributive and procedural aspects lies in the equitable participation principles, as previously defined, and the results found in Table 5.1 are accounted for as well.

In the context of the research question "How can the application of energy justice principles, specifically in terms of equitable participation and local ownership, contribute to enhancing the energy transition within RES-RDH, focusing on distributive and procedural aspects?", Tables 6.2, 6.3 and 6.4 serve as a comprehensive reference tool for guiding (research) questions for both researchers and decision-makers.

These tables offer valuable insights to steer decision-making processes towards achieving equitable participation and local ownership in RES-RDH. They are based on the previously outlined Equitable Participation principles and shed light on the potential risks associated with neglecting justice considerations in these processes. Additionally, they provide actionable strategies to mitigate these risks and identify the principles addressed in each case, presenting a comprehensive roadmap for advancing the energy transition within RES-RDH from an energy justice perspective.

Each row in the tables represents a distinct aspect of the energy transition process, formulated as a question that decision-makers must address. The column titled "Potential Risks of Not Incorporating Justice" warns about the negative outcomes that may arise if justice considerations are disregarded, creating awareness of the consequences of inaction.

To address these potential risks, the column titled "Mitigation Strategies" suggests possible approaches that decision-makers can adopt to prevent adverse outcomes and promote energy justice, thereby fostering a more inclusive and equitable energy transition. These strategies are derived from the principles of energy justice and are tailored to address the specific issues raised in the questions.

The column titled "Principles Addressed" highlights the energy justice principles applied in each strategy, showcasing their practical implementation in real-world decision-making contexts.

The tables also include a column titled "Responsible Authority." This column suggests the responsible entity or organization that could oversee the implementation of the strategies and actions outlined in the table. It is important to note that the assignment of the responsible authority is a suggestion, and the exact responsibility should be determined through a collaborative and inclusive dialogue among stakeholders involved in the energy transition process.

By engaging in open discussions and consultations, decision-makers can identify the most appropriate and relevant authority to take on the specified tasks. This approach

ensures that the responsible authority aligns with the specific context, local governance structures, and stakeholder dynamics associated with the RES-RDH project.

The column ”Responsible Authority” serves as a starting point for considering potential actors or institutions who can effectively carry out the proposed strategies. However, the ultimate determination of the responsible authority should involve collective decision-making and an inclusive process that includes relevant stakeholders, community representatives, policymakers, and experts in the field.

This collaborative approach allows for a more nuanced and contextually appropriate assignment of responsibilities, ensuring that the energy transition process is guided by the input and expertise of those who are directly impacted by it.

For a more actionable version specifically aimed at decision-makers, refer to Appendix C. By utilizing these tables, decision-makers can ensure that their actions align with the principles of energy justice, thus contributing to a more equitable energy transition within RES-RDH. Consequently, the tables offer a comprehensive and justice-focused approach to decision-making in the energy transition process, answering the research question in a structured manner.

Table 6.1: An overview how the application of energy justice principles, specifically in terms of equitable participation and local ownership can contribute to enhancing the energy transition within the RES-RDH, focusing on distributive and procedural aspects

Governance Issues	Implications on Equitable Participation	Related Principles	Potential Benefits
Municipal knowledge and capacity limitations	Regional disparity in knowledge and capacity, Need for regional capacity building, Lack of expertise and understanding among stakeholders, Unequal access to resources for participation	Knowledge production, Co-Creation and shared responsibility, Dialogue and Reflexivity	Quality of policies (improved by Co-Creation and shared responsibility), Personal development (fostered through Knowledge production)
Policy and regulatory challenges	Discontinuity in renewable energy and sustainable development projects, Politicization of energy transition and climate change, Variation in political commitment to participation, Uncertainty and inconsistency in decision-making processes	Due Process, Transparency, Accountability	Trust building (strengthened by Transparency), Acceptance (encouraged by Accountability)
Power dynamics and citizen influence	Unequal access to and influence over renewable energy projects, Unequal distribution of decision-making power among stakeholders, Potential exclusion of marginalized groups and communities	Role Negotiation and Power Dynamics, Empowerment and legitimacy, Democratic inclusion	Power and influence (promoted by Role Negotiation and Power Dynamics), Trust building (enhanced by Empowerment and legitimacy), Acceptance, Responsibility (fostered by Democratic inclusion)
Trade-offs in decision-making process	Unequal opportunities for participation and input, Potential marginalization of disadvantaged communities, Unequal distribution of costs and benefits, Potential imbalance in resource allocation, Conflicting priorities and interests among stakeholders	Economic Benefit & Well-being, Availability, Affordability, Intragenerational equity, Intergenerational equity	Trust building (fostered by Economic Benefit & Well-being), Acceptance (improved by Availability and Affordability), Policy support (backed by Intragenerational and Intergenerational equity)
Representation and engagement	Lack of diverse and inclusive representation, Potential exclusion of marginalized voices and perspectives, Limited trust and engagement between stakeholders, Inadequate inclusion and participation of stakeholders, Limited opportunity for meaningful participation	Consensus and Conflict, Empowerment and legitimacy, Democratic inclusion, Co-Creation and shared responsibility	Policy support (strengthened by Consensus and Conflict), Responsibility (encouraged by Empowerment and legitimacy), Trust building, Acceptance (improved by Democratic inclusion and Co-Creation and shared responsibility)

Table 6.2: Comprehensive reference tool that presents questions to guide decision-making processes regarding equitable participation and local ownership (Part 1)

Questions	Potential Risks of Not Incorporating Justice	Mitigation Strategies	Principles Addressed	Responsible Authority
How can regional collaboration address the regional disparity in knowledge and capacity, ensuring more equitable participation in decision-making processes?	Risk of perpetuating regional disparities and limiting knowledge sharing	Promote regional capacity-building initiatives and knowledge-sharing networks	Democratic Inclusion, Knowledge Production	Regional
In the face of policy and regulatory challenges, how can due process, transparency, and accountability be upheld to foster trust and acceptance in energy transition decision-making?	Risk of decreased trust, politicization, and inconsistency in decision-making	Establish transparent and accountable processes, ensure stakeholder involvement, and communicate decisions openly	Due Process, Transparency, Accountability	Provincial
What strategies can promote fair role negotiation, empower stakeholders, and ensure democratic inclusion in renewable energy projects to address power dynamics and citizen influence?	Risk of unequal access, exclusion, and imbalance in decision-making power	Implement inclusive stakeholder engagement, empower marginalized groups, and promote equitable distribution of decision-making authority	Role Negotiation and Power Dynamics, Empowerment and Legitimacy, Democratic Inclusion	Municipal
How can trade-offs in the decision-making process be addressed to ensure equitable outcomes, economic benefits, and intergenerational equity in renewable energy projects?	Risk of unequal opportunities, marginalization, and imbalanced resource allocation	Promote economic benefits, affordability, and well-being, consider intra/intergenerational equity, and engage stakeholders in meaningful participatory processes	Economic Benefit, Consensus and Conflict, Availability, Affordability, Intragenerational Equity, and Intergenerational Equity	All
How can representation and engagement be improved to ensure diverse and inclusive participation, trust-building, and meaningful stakeholder involvement in decision-making processes?	Risk of limited representation, exclusion, and lack of trust and engagement	Promote consensus-building and conflict resolution, empower stakeholders, foster democratic inclusion, and encourage co-creation and shared responsibility	Democratic Inclusion, Co-Creation and Shared Responsibility	Provincial

Table 6.3: Comprehensive reference tool that presents questions to guide decision-making processes regarding equitable participation and local ownership (Part 2)

Questions	Potential Risks of Not Incorporating Justice	Mitigation Strategies	Principles Addressed	Responsible Authority
How can democratic inclusion be enhanced to ensure equal opportunities for participation, diversity of thought, and equitable influence in decision-making processes?	Risk of marginalizing certain groups and perspectives, compromising democratic legitimacy	Implement inclusive outreach strategies, create accessible platforms for participation, and ensure diverse representation	Democratic Inclusion	Municipal
What measures can be taken to empower individuals and communities, enabling them to make their own choices and actively participate in decision-making processes?	Risk of disempowering individuals and communities, undermining the legitimacy of decisions	Provide capacity-building opportunities, information access, and decision-making authority to foster empowerment	Empowerment and Legitimacy	Regional
How can consensus-building and conflict-resolution strategies be employed to address conflicts and reach agreements that accommodate diverse stakeholder interests?	Risk of unresolved conflicts and exclusion of certain stakeholder perspectives, hindering consensus	Facilitate dialogue, mediation, and negotiation processes, recognizing conflict as participation form, ensuring equal representation and fostering understanding	Consensus and Conflict	All
What mechanisms can be implemented to promote shared decision-making and ownership among stakeholders, fostering a sense of shared responsibility and collaboration?	Risk of limited stakeholder engagement and shared responsibility, impeding co-creation and shared responsibility	Establish participatory platforms, collaborative processes, and co-design approaches that foster shared decision-making and ownership	Co-Creation and Shared Responsibility	Municipal
How can power imbalances and inequalities be addressed to ensure fair processes and outcomes in decision-making, while respecting role negotiation among stakeholders?	Risk of unequal influence, decision-making biases, and exclusion, undermining role negotiation and power dynamics	Promote inclusive participation, transparency, and mechanisms to identify and address power disparities	Role Negotiation and Power Dynamics	Provincial

Table 6.4: Comprehensive reference tool that presents questions to guide decision-making processes regarding equitable participation and local ownership (Part 3)

Questions	Potential Risks of Not Incorporating Justice	Mitigation Strategies	Principles Addressed	Responsible Authority
What strategies can foster continuous dialogue, reflexivity, and learning among stakeholders to enhance adaptive and responsive governance in decision-making processes?	Risk of stagnation, lack of learning, and unresponsive governance, hindering dialogue and reflexivity	Facilitate ongoing communication, knowledge exchange, and opportunities for reflection and learning	Dialogue and Reflexivity	Regional
How can standardized and fair procedures be ensured to enhance the predictability, credibility, and integrity of decision-making processes?	Risk of arbitrary decision-making and lack of procedural fairness, compromising due process	Establish clear rules, transparent processes, and mechanisms for accountability and procedural justice	Due Process, Transparency, Accountability	All
What measures can be taken to foster transparency in decision-making processes, enabling scrutiny and building trust among stakeholders?	Risk of lack of trust, suspicion, and secrecy, impeding transparency	Promote open information sharing, provide opportunities for public input, and ensure transparency in decision-making	Transparency	All
How can accountability mechanisms be strengthened to ensure decision-makers are held responsible for their actions and decisions?	Risk of lack of accountability, compromising transparency and responsible decision-making	Establish mechanisms for monitoring, evaluation, and oversight, holding decision-makers accountable for their actions	Accountability	All
What mechanisms can be implemented to promote shared decision-making and ownership among stakeholders, fostering a sense of shared responsibility and collaboration?	Risk of limited stakeholder engagement and shared responsibility, impeding co-creation and shared responsibility	Establish participatory platforms, collaborative processes, and co-design approaches that foster shared decision-making and ownership	Co-Creation and Shared Responsibility, Democratic inclusion, Role Negotiation and Power Dynamics	Municipal

7 DISCUSSION

Equitable participation is a critical element in regional energy transitions, as it guarantees that decision-making processes are inclusive, fair, and sustainable. It fosters democratic engagement, promoting transparency, accountability, and co-creation. This approach ensures that benefits are distributed equitably among all stakeholders, addressing intra- and intergenerational equity concerns. This chapter delves into an academic discussion comparing the findings of this study with existing literature, thereby enriching our understanding of equitable participation in the RES-RDH context. Illuminating novel insights and perspectives obtained from the research, emphasizing relevance to both theoretical discourse and practical implementation.

7.1 ACADEMIC DISCUSSION

This study's interview outcomes reveal a clear thematic overlap with the existing literature. It synthesizes the principles of equitable participation and energy justice in a novel and integrated manner, which has not been explicitly explored in previous literature within this specific context (Sovacool *et al.*, 2017; Cuppen, 2018; Horsbøl, 2018).

Significantly, each framework addresses critical aspects of energy transitions: Sovacool *et al.* (2017) focuses on fairness and equity, Cuppen (2018) delves into stakeholder engagement, and Horsbøl (2018) emphasizes collaborative approaches. While Horsbøl (2018) provides guidance for sustainable transitions, this study goes beyond by adopting a practical, participatory approach to fill perceived gaps in the framework. This contributes to a more comprehensive and coherent understanding of equitable participation's role in regional energy transitions.

The distinctive combination of theoretical frameworks in this study contributes to existing literature, as it integrates principles of energy justice and equitable participation to illuminate challenges and opportunities within the research topic's context. This study enriches the academic discourse by expanding its theoretical underpinnings and supplying comprehensive guiding questions for decision-makers, taking inspiration from Williams & Doyon (2019) to address equitable participation and energy justice challenges.

This research's findings share some commonalities with those of Hoppe (2021), particularly in the realm of governance limitations in regional energy transitions. However, there are noteworthy distinctions between the two studies, especially concerning the specific aspects of governance that impact energy justice. While both studies recognize challenges related to municipal knowledge and capacity limitations, policy and regulatory hurdles, power dynamics, decision-making trade-offs, and representation and engagement, Hoppe (2021)'s findings can be seen as confirming and reinforcing the presence of these governance limitations in the context of regional energy transitions. In the context of municipal knowledge and capacity limitations, this study and Hoppe (2021) both highlight the significance of governing capacity in effective decision-making. However, this research specifically delves into how the lack of municipal knowledge and capacity can directly impact energy justice aspects. The insufficient capacity within

local governing bodies may hinder their ability to meaningfully engage with and represent the interests of diverse stakeholders, potentially leading to unequal outcomes in the energy transition.

Regarding policy and regulatory challenges, both studies acknowledge the difficulty of aligning regional energy transition policies with current institutional frameworks. However, this research goes further to explore how these governance limitations can affect energy justice considerations. The presence of such challenges may lead to disparities in resource distribution and the distribution of benefits and costs, disproportionately impacting vulnerable communities.

In terms of power dynamics and citizen involvement, both studies emphasize the importance of inclusive decision-making approaches. Yet, this research specifically examines how governance limitations can favor top-down decision-making, limiting the participation and influence of marginalized communities. Such imbalances in decision-making power may result in unjust distribution of benefits and reduced opportunities for marginalized groups to influence the energy transition's outcomes.

Regarding decision-making trade-offs and representation and engagement, both studies recognize the complexities of regional energy transitions. While Hoppe (2021) touches on fair participation and the role of community energy, this research further explores how governance limitations can hinder diverse and inclusive representation. The underrepresentation of certain stakeholders in decision-making processes may lead to their needs and perspectives being marginalized, potentially compromising the energy transition's overall fairness and justice.

In contrast, Hoppe (2021) delves into the trade-off between top-down and bottom-up governance, lack of transparency in costs and benefits, efficiency and optimization problems with regional energy systems, and fit with current institutional frameworks. These distinctions in focus highlight the unique contributions of each study to the understanding of governance challenges in regional energy transitions.

The results of this study also align with the findings of Rodhouse & Correljé (2022), which underscore challenges surrounding cooperation and collective action in the context of RES-RDH. They emphasize the transformative, dynamic, and volatile nature of the current heat supply system's transition, highlighting the importance of concerted efforts to foster collaboration and address the collective action problem for the successful implementation of RES-RDH initiatives. This study takes the findings regarding the collective action problem and puts it into perspective, highlighting the importance of concerted efforts to foster collaboration and address the collective action challenge for the successful implementation of RES-RDH initiatives. By recognizing the transformative and dynamic nature of regional energy transitions, the research emphasizes that addressing this challenge is essential for achieving equitable participation and realizing energy justice goals. The study underscores that without overcoming the collective action problem and considering energy justice principles, there is a risk of increased conflict and a potential hindrance to the effective implementation of energy transition projects. The absence of equitable participation can lead to adverse outcomes, hampering the effectiveness and sustainability of energy transition initiatives. Therefore, this research emphasizes the significance of developing strategies that promote inclusive decision-making and cooperative approaches to maximize the benefits of applying energy justice principles through equitable participation in the context of regional energy transitions.

Hurenkamp & Tonkens (2020)'s findings provide valuable insights into the advantages of incorporating principles of equitable participation to address governance issues and achieve inclusive decision-making in regional energy transitions. Although equitable participation is not explicitly mentioned, Hurenkamp discusses design principles for better participation, which indirectly contribute to equitable outcomes. The research highlights benefits such as increased policy support, improved policy quality, personal development, enhanced responsibility, and increased power and influence for citizens (Hurenkamp & Tonkens, 2020). These outcomes underscore the importance of prioritizing equitable participation in energy transition planning and implementation, as they contribute to a more inclusive, effective, and sustainable approach to regional energy transitions. This study builds upon Hurenkamp & Tonkens (2020)'s general findings, but with a specific focus on the RES-RDH context, enriching the understanding of equitable participation's significance in regional energy transitions.

Hence, this research aligns with influential literature on the subject (Tonkens, 2008; Roberts, 2004; FUNG & WRIGHT, 2001), further validating the importance of equitable participation in governance practices. By embracing the design principles for better participation, decision-makers and policymakers can foster a more engaged and empowered citizenry, leading to increased support for policies and improved policy outcomes. Additionally, citizen involvement can spur personal growth and development, as individuals become more actively involved in shaping their communities' energy future. By specifically focusing on the RES-RDH context, this research enhances the understanding of equitable participation's significance in regional energy transitions. It validates the importance of equitable participation in governance, empowering decision-makers to foster engaged citizens, improve policy outcomes, and promote personal development for a more sustainable energy future.

As can be seen in Tables 6.2, 6.3, and 6.4, this research also provides new insights and perspectives on equitable participation and local ownership in regional energy transition decision-making, particularly considering the limited availability of peer-reviewed, scientific literature on this topic. While research exists on participation in the energy transition, most studies either lack a specific focus on energy justice aspects or concentrate solely on high-level energy justice principles. Additionally, literature often addresses governance problems without integrating all relevant aspects into a practical and actionable framework.

The novelty of this study hence lies in its comprehensive approach that combines multiple dimensions, including energy justice, equitable participation, and governance issues, into a coherent framework. Unlike existing literature, which tends to explore these aspects in isolation, this research brings them together to offer a more holistic perspective on equitable participation and local ownership in regional energy transitions. Although local ownership isn't explicitly mentioned, the principles of equitable participation encompass the values of local ownership as well. As the aim of local ownership is to foster participation, the guiding questions of equitable participation can be applied to the formation of local ownership policy as well. This is particularly important as there seems to be little scientific literature regarding local ownership. By integrating the concept of local ownership, the study highlights the significance of empowering and involving local communities in the decision-making processes related to energy transition initiatives. This inclusion fosters a sense of ownership and responsibility among community members, ensuring that the benefits and outcomes of the energy transition are shared more equitably among the stakeholders involved.

Furthermore, while some literature examines the practical implementation of energy justice, it may not explicitly focus on participation and governance issues. For instance, Williams & Doyon (2019) and Baker *et al.* (2019) explore the practical aspects of energy justice but do not provide an integrated framework for addressing participation and governance challenges. This study addresses this gap in the literature by providing a comprehensive and actionable set of guiding questions for decision-makers (Tables 6.2, 6.3, 6.4, C.1 & C.2), offering practical solutions for the implementation of energy justice principles, equitable participation, and governance considerations in regional energy transitions. By integrating these dimensions, decision-makers can navigate complexities more effectively, promoting inclusivity and just decision-making processes.

The guiding questions presented in this study take inspiration from the existing literature on energy justice, equitable participation, and governance, combining their insights into a cohesive and practical framework. By employing a set of guiding questions, decision-makers can consider the risks of not incorporating justice, identify mitigation strategies, and address the relevant principles associated with equitable participation and local ownership.

In conclusion, this study offers new insights and perspectives by synthesizing existing knowledge and filling the gaps in the literature. By integrating energy justice, equitable participation, and governance aspects into an actionable set of guiding questions, decision-makers can make informed choices and facilitate more inclusive and just regional energy transition decision-making processes. This research represents an important step towards bridging the gap between theory and practice, providing a practical tool for addressing participation and governance challenges in the context of regional energy transitions.

7.2 IMPLICATIONS OF RESULTS

The study findings have meaningful theoretical and practical implications, enhancing the academic understanding of energy justice and its implementation in regional energy transition decision-making processes, especially for the RES-RDH and potentially beyond.

The primary theoretical implications arise from identifying challenges in organizing fair participation and formulating guiding questions for decision-making within the RES-RDH framework (Tables 6.2, 6.3, 6.4, C.1 and C.2). These challenges underline the importance of integrating energy justice principles in decision-making processes, highlighting regional disparities in knowledge, capacity, legal and regulatory obstacles, power dynamics, willingness to participate, and resource allocation trade-offs. These empirical findings contribute to the understanding of justice-related barriers in the energy transition process.

In addition, this research expands upon the academic discourse on the importance of justice in sustainable development and energy transitions. By providing a nuanced perspective on the practical challenges of equitable participation, it can enrich the theoretical understanding of the trade-offs and conflicts inherent in the energy transition process.

The development of the guiding question tables marks a substantial theoretical contribution. These tables operationalize the abstract principles of energy justice into a tangible tool for decision-making, thereby bridging the gap between theory and practice.

By offering a structured way to address potential risks and providing strategies for their mitigation, the guiding questions add a new dimension to the theoretical understanding of energy justice. They contribute to the broader discourse by illustrating how theoretical principles can be transformed into guiding questions that can steer real-world decision-making processes.

The practical implications of this study are significant for stakeholders in RES-RDH decision-making processes, with the guiding questions tables offering a valuable tool for navigating energy transitions. These tables act as a roadmap to integrate energy justice principles into decision-making processes, illuminating potential risks, suggesting mitigation strategies, and stressing the need to involve diverse stakeholders in decisions, providing invaluable insights for policymakers, RES developers, and local authorities.

The research's practical implications also extend to the identification of responsible authorities. By suggesting potential actors or entities responsible for each decision point, the guiding questions tables can contribute to the existing debate around the decentralization of decision-making power in the energy transition process.

However, recognizing that the assignment of responsible authorities should be context-specific, the study promotes the idea of using collaborative and inclusive dialogues among stakeholders to determine these responsibilities. This proposal of collective decision-making could influence how responsibilities are allocated in the real-world implementation of energy transitions.

In conclusion, this research's findings substantively contribute to both theoretical and practical understandings of energy justice within the RES-RDH context. They bridge the gap between academic discourse and real-world application, providing practical tools to implement theoretical principles and thereby enriching the ongoing academic and policy conversations around equitable energy transitions.

8 CONCLUSION & POLICY RECOMMENDATIONS

8.1 CONCLUSION

In this thesis, the governance and decision-making practices in RES-RDH and their impact on the principles of procedural and distributive aspects of energy justice have been examined, with a specific focus on local ownership and equitable participation. This was achieved by dividing the investigation into four sub-questions that provided in-depth analyses:

Sub-question 1: What do local ownership and equitable participation mean in the context of regional energy transition decision-making, specifically in the case of RES-RDH?

Sub-question 1 explores the meaning of local ownership and equitable participation in the context of regional energy transition decision-making, specifically in the case of RES-RDH. Local ownership refers to the involvement of local stakeholders in renewable energy initiatives, going beyond mere possession of infrastructure and encompassing principles of justice and equitable benefits. Equitable participation ensures inclusive and democratic engagement of stakeholders in decision-making, covering procedural and distributional aspects of energy justice. However, challenges exist in implementing these concepts effectively, such as variations in interpretation of local ownership and the need to confront power dynamics for equitable participation. Hence, robust regulatory and policy measures and efforts to address systemic inequities are required.

Sub-question 2: How does the institutional governance structure of RES-RDH influence the way equitable participation is organized within the region, focusing on distributive and procedural aspects?

Sub-question 2 examines how the institutional governance structure of RES-RDH influences the organization of equitable participation in the region, with a focus on distributive and procedural aspects. From a procedural perspective, concerns arise regarding democratic inclusion, role negotiation, and power dynamics within the decision-making process. The diversity of approaches across municipalities and the lack of uniformity in decision-making challenge the concept of equitable participation. Transparency and accountability are compromised due to the absence of formal checks and balances. From a distributive viewpoint, economic benefits may not be equitably distributed, and considerations of intergenerational and intragenerational equity need to be prioritized. Despite efforts towards energy justice, potential risks of injustice persist. The analysis emphasizes the importance of integrating energy justice principles into the decision-making processes of RES-RDH to enhance equitable participation and justice in the region's energy transition.

Sub-question 3: What problems are encountered in the organization of equitable participation within RES-RDH, from a governance perspective, focusing on distributive and procedural justice aspects?

Sub-question 3 focuses on the problems encountered in the organization of equitable participation within RES-RDH from a governance perspective, specifically examining distributive and procedural justice aspects. Several governance issues have been identified,

including municipal knowledge and capacity limitations, policy and regulatory challenges, power dynamics and citizen influence, trade-offs in the decision-making process, and representation and engagement. These issues present challenges such as regional disparities, lack of expertise and understanding, discontinuity in projects, unequal access and influence, potential marginalization of communities, conflicting priorities, and limited trust and engagement. These challenges have implications on equitable participation, affecting principles such as knowledge production, co-creation, dialogue, due process, transparency, accountability, role negotiation, empowerment, democratic inclusion, economic benefit, intragenerational and intergenerational equity, and consensus-building. The analysis underscores the need to address these governance issues to enhance equitable participation in RES-RDH, ensuring fairness and justice in the region's energy transition.

Sub-question 4: How can the application of energy justice principles, specifically in terms of equitable participation and local ownership, contribute to enhancing the energy transition within RES-RDH, focusing on distributive and procedural aspects?

Sub-question 4 explores how the application of energy justice principles, specifically equitable participation and local ownership, can contribute to enhancing the energy transition within RES-RDH, with a focus on distributive and procedural aspects. Table 6.1 provides an overview of the potential benefits derived from the literature and interviewee perspectives for each principle, addressing the context of RES-RDH. These benefits include quality of policies, personal development, trust-building, acceptance, power and influence, economic benefits, affordability, policy support, consensus-building, empowerment, democratic legitimacy, and responsibility. The application of these principles can mitigate potential risks associated with governance issues and promote more equitable outcomes in the energy transition process. Moreover, Tables 6.2, 6.3 and 6.4 offer guiding questions for decision-makers, highlighting the potential risks of not incorporating justice, along with mitigation strategies and the principles they address. These tables provide a structured approach to decision-making, enabling decision-makers to align their actions with energy justice principles and enhance the energy transition process within RES-RDH. The responsible authority for implementing these strategies should be determined through inclusive and collaborative processes involving relevant stakeholders. By utilizing these resources, decision-makers can contribute to a more equitable energy transition within RES-RDH and address the distributive and procedural aspects of energy justice

Answering the Main Research Question

How do current governance and decision-making practices in RES-RDH affect principles of procedural and distributive aspects of energy justice, particularly in terms of local ownership and equitable participation, and how can these practices be improved?

The main research question of this study sought to investigate the influence of current governance and decision-making practices in RES-RDH on the principles of procedural and distributive aspects of energy justice, with a specific focus on local ownership and equitable participation. The findings of this study shed light on the challenges and opportunities in organizing participation, promoting local ownership, and addressing the principles of energy justice in regional energy transition decision-making.

The results demonstrate that current governance and decision-making practices in RES-RDH face significant challenges in achieving equitable participation and local ownership. The identified governance issues, such as trade-offs between top-down and bottom-up approaches, transparency in costs and benefits, limitations in governing capacity, fit with existing institutional frameworks, and efficiency and optimization problems (see Table 5.1), pose barriers to effective and inclusive decision-making processes. These challenges can result in unequal organization of participation, perceptions of unfairness and injustice, and the marginalization of certain stakeholders.

However, the findings also reveal opportunities for improvement. The overlap between the study's results and existing literature suggests that addressing these challenges requires a comprehensive and integrated approach that considers energy justice principles, equitable participation, and governance issues simultaneously. The synthesized framework developed in this study provides a practical tool for decision-makers to navigate these challenges and foster more inclusive, just, and sustainable regional energy transitions.

To improve current governance and decision-making practices, decision-makers should focus on enhancing regional collaboration and knowledge sharing, ensuring transparent and accountable processes, empowering stakeholders and addressing power dynamics, considering trade-offs and equitable outcomes, promoting diverse and inclusive representation and engagement, and fostering a sense of shared responsibility and collaboration among stakeholders (see Tables 6.2, 6.3 and 6.4). By incorporating these strategies, decision-makers can strive to address the principles of procedural and distributive aspects of energy justice, promote local ownership, and foster equitable participation in regional energy transition decision-making.

In conclusion, this study answers the research question by highlighting the challenges and opportunities in current governance and decision-making practices in RES-RDH regarding procedural and distributive aspects of energy justice, local ownership, and equitable participation. The findings provide insights into the limitations of current practices and offer practical recommendations for improvement. By implementing the synthesized framework and adopting a comprehensive approach, decision-makers can navigate the complexities of regional energy transitions, promote inclusive and just decision-making processes, and ultimately contribute to more sustainable and equitable energy systems.

8.2 POLICY RECOMMENDATIONS AND IMPLICATIONS

Drawing from the insights of this study, it is recommended that decision-makers utilize the practical guiding questions (Table C.1 & C.2) developed in this research as a guiding tool for integrating energy justice into RES-RDH decision-making processes. As the RES1.0 has already been published, the following recommendations are aimed at the implementation of the RES1.0, and the possible development of RES2.0.

1. **Incorporate Equitable Participation principles in the RES and define regional roles for a fairer energy transition:**

   The omission of a detailed description of the organization of participation at a regional level within RES 1.0 is likely to result in missing values, leading to divergent approaches to participation across the region and subsequently creating disparities in the distribution of benefits and burdens associated with the energy transition. To address this, it is recommended to incorporate the principles of equitable participation into RES and distinctly define the roles and responsibilities tied to these values. While acknowledging the municipality's significant role, a more regional approach to participation organization is vital. Such an approach is expected to alleviate constraints on individual municipalities and, at the same time, enhance the overall equity of the energy transition throughout the region. By prioritizing an inclusive and transparent regional framework, one can collectively ensure a fair and sustainable energy transition that fosters well-being for all communities involved. While this framework should cover all aspects of Equitable Participation as defined in Table 3.2, it is important that the way principles are incorporated into local policy is left open for municipalities. Individual municipalities can then use the practical guiding questions of Table C.1 & C.2 to implement Equitable Participation values into local policy.

2. **Strengthen inter-institutional collaboration:**

   Encouraging regional collaboration and coordination among governmental bodies, energy agencies, municipalities, and stakeholders is essential to address governance issues like limited municipal knowledge and capacity and the collective action problem in RES-RDH. Embracing equitable participation in decision-making processes is expected to lead to more inclusive policies, helping to reduce regional disparities. By pooling knowledge and resources through collaborative efforts, one can overcome individual limitations and achieve better-informed solutions for RES-RDH projects. Prioritizing collective action will ensure that the benefits of these initiatives are distributed more equitably, fostering sustainable regional development and a more balanced energy future for all.

3. **Utilize the practical guiding questions for comprehensive analysis:**

   Decision-makers should use the practical guiding questions developed in this study as a comprehensive analysis tool to assess the extent to which energy justice principles are being incorporated in RES-RDH decision-making. The questions provide a structured approach to evaluate the procedural and distributive aspects of energy justice, particularly in terms of local ownership and equitable participation.

4. **Utilize the practical guiding questions when determining local ownership practices:**

   Although the practical guiding questions are tailored towards equitable participation, they can also be used to determine local ownership practices as principles derived from the local ownership definition have been incorporated into the questions as well. Furthermore, the aim of local ownership is to stimulate citizen participation. Hence, decision-makers should utilize the framework developed in this study as a guide for decision-making regarding local ownership practices in RES-RDH projects. By doing so, the quality and equitability of decisions can be enhanced.

5. **Integrate Equitable Participation principles into monitoring and evaluation:**

   Decision-makers should integrate the Equitable Participation principles presented in the conceptual framework of Table 3.2 into their monitoring and evaluation processes. By doing so, decision-makers can ensure a comprehensive understanding of the impact of their initiatives, enabling them to track progress, assess the effectiveness of implemented measures, and make necessary adjustments to align with Equitable Participation goals.

By adopting these recommendations and utilizing the conceptual Equitable Participation framework and guiding questions developed in this research, decision-makers can effectively integrate energy justice principles into RES-RDH decision-making. This approach can contribute to more equitable and inclusive outcomes, address the challenges of local ownership and equitable participation, and foster a just transition towards renewable energy.

8.3 LIMITATIONS AND FUTURE RESEARCH

This study, while providing critical insights into the process of equitable participation in regional energy transitions, also acknowledges several limitations. These limitations, while providing a note of caution in interpreting the findings, simultaneously open up exciting avenues for future research.

Firstly, the study's sample size, comprising of stakeholders engaged in regional energy transitions, might limit the generalizability of the findings. Despite the depth and variety of perspectives gathered, the full spectrum of challenges confronted by all municipalities and RES-RDH entities might not have been captured. Future research could aim for larger sample sizes or deploy different research methodologies such as surveys or case studies to gain a more comprehensive understanding.

Secondly, the study's focus on the Dutch context may limit the applicability of the findings to other regional or national contexts. As governance structures, policy frameworks, and societal dynamics vary, so do energy transition processes. Comparative studies in different contexts could yield vital insights into the influencing factors and offer solutions to the identified challenges.

The study's dependence on qualitative interview data might introduce subjective biases and self-reporting limitations. Incorporating quantitative methods like surveys or data analysis of participation trends and results can augment the qualitative insights and offer a broader picture of the participation process's efficacy.

The study concentrated mainly on the hurdles and principles of equitable participation, and their implications for decision-making. Future work could delve into the outcomes of such participation, considering social, economic, and environmental dimensions. This research direction could offer a comprehensive understanding of the benefits and effectiveness of equitable participation in achieving just and sustainable energy transition goals.

Moreover, the guiding questions Tables 6.2, 6.3 & 6.4 presented in this study pose a significant opportunity for future research. While these tables operationalize energy justice principles for decision-making, their practicality and effectiveness in real-world scenarios warrant further exploration. Future studies could deploy these guiding questions in different energy transition settings to evaluate their influence on stakeholder engagement, decision-making, and overall project outcomes. This line of research could lead to the refinement of these tables and contribute to the wider academic and policy discourses on operationalizing energy justice principles.

Additionally, the assignment of responsible authorities suggested by the guiding questions tables provides a new research avenue. Exploring how these responsibilities are allocated in practice and the impacts of such allocations could yield valuable insights into the decentralization of decision-making power in the energy transition process.

In conclusion, this study's limitations serve as a launchpad for future research. By exploring these avenues, scholars can deepen the understanding of equitable participation in energy transitions and contribute to the development of effective strategies and frameworks that foster just and sustainable processes.

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A | INTERVIEW PROTOCOL

Introduction

- Welcome the participant and thank them for their time. The interview will last approximately one hour.
- Introduce yourself, explain the purpose of the study, the exploratory nature of the interview, and the difference between Sybren and Olaf's studies. Include the research questions:
  - Olaf: "How can fair participation in the Regional Energy Strategy of the Rotterdam-The Hague energy region be stimulated by developing a framework that integrates Energy Justice and Energy Poverty concepts?"
  - Sybren's research question: "How do the local and regional governmental bodies deal with the energy transition with regards to Energy justice and energy poverty?"
- Explain the confidentiality and anonymity of the participant's answers.
- Provide the participant with the consent form and request permission to record the interview.

Decision-making processes in the RTHER

- How are you involved in the RTHER, and what is your role in the decision-making process?
  - How do you contribute to the decision-making process? What challenges or successes have you experienced in your role?
- If you are not involved, move to perceptions of RES, EJ, EP, & Framework.
- How do you perceive the influence of political volatility on the formation and implementation of energy policies within the Rotterdam-The Hague Energy Region, considering energy justice and energy poverty in the context of citizen participation? (Or in general if you are not directly involved in the Rotterdam-The Hague energy region)

Participation in the RTHER

- How is citizen participation shaped within your organization?
  - What are the successes/challenges for participation?
- How do you think citizen participation is shaped within the energy region?
  - Do you believe all target groups (especially energy-poor households) are adequately involved?
  - What improvements do you think are possible to make decision-making fairer for (energy-poor) citizens?
  - Have citizens been able to participate in some RTHER meetings?

  - What barriers exist for citizen participation (particularly focused on energy-poor households)?

- How do you think knowledge about participation is shared within the region?
  - How do you think this can be improved?
- (How) do you see that the different capacities of municipalities influence citizen participation?
  - How do you think this can be improved?
  - How do you think academic research can help in your work to involve citizens?
  - Do you think a regional framework containing tips, tools, and guidelines for fair citizen participation would be valuable? Why or why not?
  - What aspects do you think should be considered when developing such a framework?
  - According to you, what factors can facilitate or hinder the implementation of such a framework?

Energy Poverty, Energy Justice, and Fair Citizen Participation

- According to you, which groups of citizens may face more difficulties during the transition? For example, due to energy poverty, environmental impact, etc.
- Reaching and involving the target group with energy poverty is challenging, how do you approach it?
  - What are other ways to ensure that this target group is not disadvantaged in the energy transition?
- We often hear that energy-poor people struggle with behavioural change and understanding energy, how do you see knowledge sharing as a solution?
  - We also often hear that energy-poor households often lack the mental space to, for example, apply for benefits or participate in engagement processes. How do you perceive this and how do you deal with it?
- How do you see that the gap between the rich and the poor is widening due to the current way the energy transition is being shaped within the region?
- According to you, what constitutes a fair energy transition, considering energy-poor households?
- (How) can energy-efficient households be better included in the transition?
- Based on your knowledge or experience, what is the importance of fair citizen participation, energy justice, and energy poverty in the context of the RES in the Rotterdam-The Hague energy region?
- In what ways is your organization currently addressing these issues?
- How has this approach worked in practice? Can you provide examples of successful or unsuccessful attempts at citizen participation and explain why they were successful or not?

- How is citizen participation considered in the development of RES2.0, and how does it differ from RES1.0?
- How do you perceive local ownership, and how is it implemented?
- How would you describe the difference between regional participation and local participation?
- Where do you see potential shortcomings of the current ”guidelines” for citizen participation from the RES?
- What is your opinion of such documents?
- What is your perspective on societal conflicts related to the energy transition and how do you think it influences decisions regarding organizing participation?

B | INTERVIEWEE OVERVIEW

Table B.1: Interviewee overview

Municipalities interviewed	Nr. interviewees	Population	Municipality size code 1-8 (CBS 2022)
Midden-Delfland	0	19.000	3
Wassenaar	0	26.000	4
Albrandswaard	0	26.349	4
Krimpen aan den IJssel	0	29.000	4
Maassluis	0	33.000	4
Ridderkerk	0	46.000	4
Barendrecht	0	48.807	4
Rijswijk	2	54.000	5
Pijnacker-Nootdorp	2	55.000	5
Lansingerland	1	65.000	5
Capelle aan den IJssel	1	67.000	5
Vlaardingen	1	73.000	5
Voorne aan zee	0	74.000	5
Leidschendam-Voorburg	0	76.000	5
Schiedam	1	77.000	5
Nissewaard	1	87.000	5
Delft	0	103.163	6
Westland	0	110.000	6
Zoetermeer	1	125.000	6
Den Haag	2	548.772	8
Rotterdam	0	651.446	8
Zuid Holland	2		
Hoogheemraadschap Delfland	0		
Rijnland	1		
Anders	2		
Total	17	2.394.537	

Note, the total under municipalities interviewed is higher than the total number interviewed as one of the interviewees spoke on behalf of 2 municipalities

Table B.2: Type of interviewee

Type	Count
Municipality	10
Municipality / RES	1
Independent expert	1
Energy cooperation	1
Province	2
Hoogheemraadschap	1
Total	**16**

Table B.3: Job Roles

Job Title
Sr. Policy Advisor Environment
Policy Advisor Energy Transition
Communication Advisor
Director of Energy Cooperative
Policy Advisor Wind Energy
Unit Head Sustainability and Environment
Process Director
Process Director Heat Transition
Advisor Citizen Participation
Chair of an Energy Region
Program Manager Energy Transition
Alderman of Municipality

Note: To keep interviewees anonymous, the job roles have been generalised

C | PRACTICAL GUIDING QUESTIONS FOR DECISION-MAKERS

Table C.1: Action items for equitable participation and local ownership (part 1)

Action Items	What's at Risk?	How Can We Prevent This? (with examples)	Principles Involved	Who's Responsible?
How do we enhance regional teamwork for fair decision-making participation?	Regional disparities	Encourage capacity-building (e.g., conduct workshops) and knowledge sharing (e.g., create a shared digital platform)	Inclusion and Knowledge Sharing	Regional
How can we boost transparency and accountability in energy transitions?	Loss of trust, inconsistent decisions	Set transparent processes (e.g., publish meeting minutes) and involve stakeholders (e.g., regular open forums)	Transparency and Accountability	Provincial
How do we ensure everyone gets a fair say in renewable energy projects?	Unequal access, power imbalance	Promote stakeholder engagement (e.g., town hall meetings) and fair decision power (e.g., voting systems)	Negotiation, Empowerment, and Inclusion	Municipal
How do we make fair economic outcomes from decision trade-offs?	Marginalization, resource imbalance	Enhance economic benefits (e.g., job creation) and engage stakeholders in participatory processes (e.g., public consultations)	Economic Benefit and Equity	Regional
How do we improve the diversity and engagement of stakeholders?	Limited representation, low engagement	Promote consensus-building (e.g., round-table discussions) and empower stakeholders (e.g., community leadership roles)	Inclusion and Shared Responsibility	Provincial
How can we improve democratic inclusion in decision-making?	Democratic legitimacy compromised	Use outreach strategies (e.g., awareness campaigns) and ensure diverse representation (e.g., quota systems)	Democratic Inclusion	Municipal
What steps can enhance individual and community empowerment in decisions?	Disempowering individuals and communities	Offer capacity-building opportunities (e.g., educational programs) and decision-making authority (e.g., local councils)	Empowerment and Legitimacy	Municipal

Table C.2: Action items for equitable participation and local ownership (Part 2)

Action Items	What's at Risk?	How Can We Prevent This? (with examples)	Principles Involved	Who's Responsible?
How can we ensure agreements accommodate all stakeholder interests?	Unresolved conflicts, exclusion	Facilitate dialogue (e.g., open forums), mediation (e.g., neutral third party involvement), and negotiation processes (e.g., round-table discussions)	Consensus and Conflict	Provincial
How do we encourage shared decision-making and ownership?	Limited engagement, co-creation	Set up participatory platforms (e.g., online voting) and co-design approaches (e.g., workshops for collaborative planning)	Co-Creation and Shared Responsibility	Municipal
How do we manage power imbalances for fair decision-making?	Unequal influence, decision biases	Promote inclusive participation (e.g., town hall meetings) and transparency (e.g., publish meeting minutes)	Role Negotiation and Power Dynamics	Provincial
How can we foster continuous learning among stakeholders?	Stagnation, unresponsive governance	Facilitate communication (e.g., regular newsletters), knowledge exchange (e.g., workshops), and reflection opportunities (e.g., feedback sessions)	Dialogue and Reflexivity	Regional
How do we ensure fair procedures in decision-making?	Arbitrary decisions, lack of fairness	Set clear rules (e.g., decision-making guidelines), transparent processes (e.g., open meetings), and accountability mechanisms (e.g., regular audits)	Due Process, Transparency, Accountability	Municipal
How can we improve transparency in decisions to build trust?	Lack of trust, secrecy	Encourage open information sharing (e.g., public data repositories), public input (e.g., surveys), and transparent decision-making (e.g., decision logs)	Transparency	Provincial
How do we enhance accountability of decision-makers?	Lack of accountability	Set up monitoring (e.g., performance dashboards), evaluation (e.g., project reviews), and oversight mechanisms (e.g., independent supervisory boards)	Accountability	Municipal
How can we promote shared decision-making and responsibility?	Limited engagement, co-creation	Set up participatory platforms (e.g., community forums) and collaborative processes (e.g., team projects) for shared decision-making and ownership	Co-Creation, Democratic Inclusion, Role Negotiation and Power Dynamics	Regional