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Elkjær, Lene Gjørtler

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AN INVESTIGATION OF LOCAL ACTOR PARTICIPATION IN WIND ENERGY TRANSITIONS

Lene Gjørtler Elkjær
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DTU Management and DTU Wind and Energy Systems
Technical University of Denmark

Abstract

Co-creation has received much attention and praise for its potential to reach robust solutions to complex problems and challenges. Despite its popularity in other fields of study, co-creation is only starting to find its way into research on wind energy development and transitions more generally. Currently the literature on co-creation in wind energy transitions has a loose theoretical base, and various colloquial uses of the phrase are widespread. As a result of disparate descriptions of the processes of co-creation, the potential for local actors in co-creation is often unclear, posing challenges for theory and practice. Therefore, this thesis seeks to explore what co-creation means and does for wind energy transitions in research and practice with a focus on the possibilities for local actors to co-create wind power projects.

The aims of the thesis are threefold. First, it collates and synthesises the different understandings of co-creation found in the literature on wind energy by conducting a systematic literature review. It thereby increases the conceptual clarity by distinguishing three different perspectives on co-creation and discussing how it differs from the literature on participation. It does this particularly by seeing participating actors as active and creative, and by empirically focusing on the governance of particular projects alongside innovation in socio-technical systems, identities and representations. Second, the thesis investigates empirically a specific case of co-creation in wind energy transitions to demonstrate how local actors forge relations to position themselves as co-creators. It argues that to become co-creators of the project, and more specifically its shared ownership model, local actors need to become a new actor. The thesis demonstrates how this shift has consequences for how local actors can shape a project, as well as in creating tensions among the actors involved and with other participatory mechanisms. Third, the thesis

investigates how a landowner, local opponents and supporters all try to position themselves as the most local of actors in order to ensure their inclusion in the co-creation of the solution to a contentions wind power project. I demonstrate how they construct narratives of epic change, tragic degradation and historical continuity by drawing on different pasts, presents and futures and thereby positioning themselves to promote their own preferred solutions.

The thesis employs qualitative methods throughout, the aim being to acquire an in-depth understanding of a concept and phenomenon that is currently only loosely conceptualised and empirically investigated in the context of wind energy transitions. The thesis includes a systematic literature review and two in-depth empirical case studies employing situational analysis and narrative analytical strategies respectively. The findings of the thesis demonstrate that there are distinct differences between co-creation and participation in terms of the rights and possibilities for participating, of what can be influenced in co-creation and of more procedural approaches to participation. Furthermore, the thesis demonstrates that wind power projects are situated, ongoing cumulative processes that go beyond the immediate present of the development of a particular project by drawing on and co-producing different pasts, presents and futures together with other conditions and the technical configuration of the wind power project itself.

Resume

Samskabelse, som ide og praksis, har været genstand for stor opmærksomhed de seneste år grundet dets, efter sigende, store potentiale for at skabe og levere robuste løsninger på komplekse problemer og udfordringer. Samskabelse er en vidt udbredt metode indenfor andre felter, som produkt udvikling hos private virksomheder eller udvikling og levering af offentlige ydelser. På trods af jævnlige konflikter i forbindelse med vindmølleplanlægning og projektudvikling, er samskabelse kun så småt begyndt at få opmærksomhed indenfor dette og tilstødende felter, som bæredygtig energi produktion generelt. Den akademiske litteratur omhandlende samskabelse af vindenergi projekter har for nuværende en svag teoretisk forankring og begrebet bruges ofte som hverdagssprog, hvorfor potentialet af at anvende samskabelse til at inkludere lokale aktører i vindmølle projektudvikling er uklart. Derfor afsøger denne afhandling mulighederne for at anvende samskabelse til at inkludere lokale aktører i vindmølleprojektudvikling. Afhandlingen anvender kvalitative metoder og bygger på et systematisk litteratur review og to empiriske case studier af et stort landbaseret vindmølleprojekt.

Målet med afhandlingen er tredelt. Indledningsvist samler vi op på den akademiske litteratur og dens brug og fremstillelse af samskabelsesbegrebet, for at skabe en bedre teoretisk basis for at bruge og yderligere udforske begrebet og dets anvenvelse i praksis. Dette gør vi gennem et systematisk litteratur review. Gennem den systematiske gennemgang af litteraturen afklarer vi tre forskellige perspektiver på samskabelse i relation til vindenergi udvikling og diskuterer hvordan disse forholder sig til det bredere deltagelsesbegreb. De tre perspektiver definerer samskabelse som henholdsvis en måde at forstå relationen mellem det tekniske og sociale som altid allerede sammenvævet, en måde at forstå innovation i socio-tekniske systemer og som et instrument eller

en metode til at facilitere borgerinddragelse i konkrete vindmølleprojekter. Dernæst undersøger afhandlingen samskabelse empirisk i en konkret case. Afhandlingen demonstrerer hvordan lokale aktører skaber relationer til andre aktører og positionerer dem selv i mere aktive roller end den som borger, for at får mulighed for at samskabe projektet og specifikt dets ejerskabsmodel. De gør det ved at trække på forskellige kulturelle og situationsspecifikke resourcer og tidsligheder for at positionere dem selv som legitime og centrale aktører i relation til projektet og dets deltagelsesmekanismer. Denne positionering af de lokale aktører har konsekvenser for deres evne til at opnå indflydelse, men også for relationerne til andre lokale aktører, der ikke er interesserede i ejerskab, aktiv deltagelse eller vindmølleprojektet i dets helhed. Samskabelse som metode og praksis formår ikke at inkludere alle, og opleves af nogle lokale aktører i højere grad som marginaliserende end inkluderende. Derfor konkluderer afhandlingen at samskabelse kan anvendes som et supplerende værktøj i konfliktprægede udviklingssituationer, hvor der er behov for at finde nye måder at tilgå relationer mellem invovlerede aktører og konfigurere projektet på for at finde en løsning, der kan komme alle involverede aktører til gode. Samskabelse fokuserer på og fremhæver involverede aktørers evner til at forhandle baseret på deres respektive interesserer og behov og kan derfor udgøre en effektfuld måde til at afsøge synergier mellem forskellige løsninger og visioner for fremtiden. Afhandlingen konkluderer desuden, at samskabelse ikke kan erstatte de generelle procedurale planlægnings og deltagelsesmekanismer, hvor alle aktører har lige rettigheder og muligheder uanfægtet deres evner til at forhandle eller interesse i de konkrete vindmølleprojekter. I arbejdet med at skabe en ansvarlig og bæredygtig omstilling af vores samfund og herunder energiproduktion, vil det være en styrke at anskue de konkrete projekter og interventioner som samskabte gennem fortløbende processer af interaktion og relationsdannelse mellem menneskelige og ikkemenneskelige aktører, der trækker hele

områder, derboende mennesker og deres for- og fremtidige historier ind i sig. Samskabelse kan være en måde at anskue udviklingen af tekniske infrastrukturprojekter generelt, i konkrete situationer og lokalmiljøer og samtidigt et blandt de mange redskaber, vi kan gøre brug af for at sikre en omstilling, der er både miljømæssigt og socialt bæredygtig.

Preface

This thesis builds on the nearly four years (inclusive of maternity leave) of research and educational activities that were undertaken at my academic home institutions DTU Management and DTU Wind and Energy Systems at the Technical University of Denmark, during my external research stay at ISCTE – University Institute of Lisbon as well as in the courses and conferences across other European universities.

However, the genesis of my interest in this topic can be traced to my master's studies at Roskilde University, where I began to study facets of energy transitions during my master's in global studies. Back then, I was interning at the Danish Embassy in Nairobi while the Danish representation was involved in the Lake Turkana Wind Power project. I was intrigued by not only the case but also the manner in which it coalesced global investments, energy transitions, and a large-scale technical infrastructure project being carried out at the margins of the Kenyan state inhabited by tribal communities, nomadic pastoralists, and some of the most impoverished people in the world. Along the way, I began hearing about the numerous demonstrations, roadblocks, and instances of investors' withdrawals attributed to concerns about their public image. Furthermore, I was informed it was a near-perfect site from a technical standpoint, with strong, stable wind and a large area with a very low population density. I recall thinking, if not there, where?

Interestingly, while conducting my research on Denmark's (planned to be) largest wind power project in Northern Jutland, I encountered many of the dynamics that I had confronted during my master's thesis work in Northern Kenya. These themes encompass opposition and contention, co-creation and bargaining, the role of the public in transitions, and the underlying frictions between local/global dynamics. In this thesis, I unfold my narrative of my research of this project and its associated concepts. I hope you enjoy reading it.

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First and foremost, I would like to thank my academic home institutions DTU Management and DTU Wind and Energy Systems for funding this research and providing me with the requisite support to pursue this PhD. I would also like to take this opportunity to thank Susana Batel for hosting me during my external research stay at ISCTE University Institute Lisbon in the tumultuous months in the aftermath of the COVID outbreak in Europe.

A heartfelt thanks to my main supervisor Maja, for supporting me in research-related and personal crises, for discussing my cases and analyses repeatedly, entertaining a shared interest in Mary Douglas' cultural theory, as well as for maintaining that research and going to work is supposed to be fun. I am very grateful that I ended up under your supervision. Sophie and David, thank you for believing in me as a candidate for the position, for making me curious about co-creation, social acceptance, planning, and public participation in transitions and for discussing and co-authoring papers with me.

In the wake of numerous reorganisations, I have had the pleasant opportunity of interacting with many interesting and kind colleagues and sharing offices with many talented young researchers. A special thanks to JJ, Tanya, Guangtao, Wenbo, Marie, Nelda, Gro, Jesper, Cris, Corinna, and Daniel for making everyday work life much more fun. For inviting me into your disciplinary worlds and subjects and for sharing when doing research was exciting, but even more so for sharing when it was difficult.

I would also like to express my gratitude, especially to my mother, sister, and grandfather, for supporting me, being curious about what I do and for always being there for me and my little family. Also a big thanks to all my friends who are excellent company and are always ready to pick me up in difficult times.

Last but not least, thank you, Mikkel, for always supporting me. I cannot thank you enough for positively contributing to my life with your vibrancy and knowledge, music, movies, and all your other passions. You have been with me when it is fun and when it is not. Margrethe, having and being with you is my greatest joy. The two of you continue to remind me what is important in life.

Abbreviations

ANT: actor-network-theory

CE: Community energy

EIA: Environmental impact assessment

EU: European Union

GT: Grounded theory

I/S: partnership

KL: KL – Local Government Denmark

LE: Local energy

MW: Megawatt

MWh: Megawatt hour

NGO: non-governmental organisation

NIMBY: Not in my backyard

RE: Renewable energy

SA: Situational Analysis

SME: small and medium-sized enterprises

TSO: Transmission system operator

UK: United Kingdom

VVM: Danish version of an environmental impact assessment

Content

1 Introduction

Throughout the 2010s, co-creation emerged as a vital concept in research, innovation, and public governance and policy (Ansell & Torfing, 2021; Delvenne & Macq, 2020; European Commission, 2016; Ramaswamy & Ozcan 2014). Co-creation's concepts and practices are suggested as a problem-solver of challenges as grand as the ramifications of austerity policies as well as demographic developments on public budgets (Voorberg et al., 2015), ensuring competitiveness in global markets for businesses (Ramaswamy & Ozcan 2014), or "revitalizing the public sector and rejuvenating democracy" (Ansell & Torfing, 2021). Due to its generic implementation flavoured with a sometimes idealised use of the term, some researchers have referred to the concept as a "magic concept" (Voorberg et al., 2015). This, in turn, is emblematic of a broad scope, great flexibility, positive "spin" and claim to a near-universal application (Pollitt & Hupe, 2011).

Broadly speaking, co-creation enunciates a process of a diverse set of actors coming together to find mutually beneficial solutions for problems (Elkjær et al., 2021; Ramaswamy & Ozcan 2014, 2018; Voorberg et al., 2015). A co-creation approach to service and product development repositions the end-user from just providing insights to being an active part in determining the problems and co-creating solutions to these problems. The repositioning of citizens or users into active and (in principle) equal relations with other actors, signifies one of the central features of co-creation, which is also at the core of its grand promises. Interestingly, a co-creation paradigm has been called in business and management studies (Ramaswamy & Ozcan, 2014) which compares the shift in the user configuration with the departure from a geocentric to a heliocentric viewpoint. In the past, it was opined that the designer or company

offering a product or service tended to know better what the users needed and wanted , or, at the very least, was better equipped to catalyse the creation of inputs from users (Hippel, 2005).

Public participation and the stance of citizens herein have been matters of sustained interest to scholars in the literature related to wind energy development. Scholars postulate that meaningful participation is premised on the ability to affect not only the processes but also the outcomes of renewable energy planning in one's vicinity (Aitken, 2010a; Haggett, 2009) to have projects and plans consider local concerns, values, and place attachments, among other things. Renewable energy projects – in particular wind power projects – continue to stir local contention and opposition, despite intensive research into matters related to public participation and social acceptance of renewable energy innovation alongside practitioners' attempts at formulating and implementing more citizen-inclusive approaches to planning (KL et al., 2009; Vest et al., 2015).

Over the past few years, the development of wind power projects has been well below average in Denmark. This is attributed to the fact that many projects have been halted due to local debates and opposition[1]. The combination of an urgency to transition our energy systems to sustainable resources, coupled with the fact that local opposition to wind power projects is known to defer, stall and halt projects worldwide makes it critical to understand such contention from a societal standpoint. Furthermore, opposition and contention (local and otherwise) also signify an interesting phenomenon for social science studies because it represents moments in which "interactional scripts break down, are pushed to their limit, or require repair or adjustment" (Marres, 2020; Woolgar & Neyland, 2013). According to this postulation, opposition is one (among other) expression(s) of a *situation* (Clarke, 2003) wherein disagreement over "what is going on" surfaces because shared understandings, assumptions and

[1] https://winddenmark.dk/node/6947 accessed 29.06.2022

ways of doing are called into question (Latour 1993). In such situations, it becomes impossible to maintain the status quo. Therefore, contention opens up avenues for reconfiguring constellations and coalitions of actors whilst offering valuable insights into local and societal tensions.

If the political aim of reducing the total number of onshore turbines by repowering already existing wind farms with fewer and bigger turbines is realised (Klima- Energi- og Forsyningsministeriet 2020), the number of local communities to be affected by wind power projects might decrease. At the same time, the local impacts might increase due to the increase in turbine size (Sperling, Hvelplund, and Mathiesen 2010). Therefore, understanding how local actors can participate in finding solutions to the problems occurring in their locality is as crucial as ever. This thesis takes the need to transition to more sustainable energy production in the face of climate change as a given. Furthermore, it does not question whether the production of power from the wind is the right way to go about sustainable energy production in Denmark or other countries. Considering the fact that many countries intend to increase both on- and offshore wind power capacity in the years to come, the thesis takes the empirical situation as a point of departure and seeks to provide a nuanced view on the question of how we go about this increase in RE capacity in a manner that does not disregard the viewpoints and ambitions of local actors to affect their own life situations.

Owing to the aforementioned acclamation of co-creation as idea and practice, the thesis attempts to examine if and how co-creation could be a worthwhile approach to local actors' participation in wind energy development. While co-creation as a concept is starting to elicit growing scholarly attention when it comes to wind energy transitions, the potential of co-creation for theory and practice is still ambiguous. Moreover, very few empirical studies have attempted to decipher how co-creation unfolds in wind energy projects and transitions more generally and

the accompanying potential complications and benefits. Against this backdrop, the thesis and its three papers, seek to provide answers to such questions.

Adopting a place-based approach, the empirical studies focus on the local as a "level of analysis" because it is generally in the local encounter between project plans and people living in the vicinity of the proposed project that the public in their various forms can, in addition to voting at general and municipal elections, participate in the energy transition, (Marres, 2005). Nevertheless, the thesis adopts a processual and relational view to investigate wind energy development and co-creation as a situation (Clarke, 2005). In doing so, it examines the relationships among actors cross-cutting "levels of analysis" and dimensions of social acceptance, an approach that has been called for by scholars (Devine-Wright et al., 2017). I seek to understand the various stances assumed by local actors in a situation of contention and how the grievances can be addressed by (provisional) solutions by taking a situational analytical approach to the study of wind power development. Consequently, as opposed to putting my hopes on harmony and consensus as ideals, I am more interested in how things progress despite a lack of harmony and consensus

The energy transition will include technologies other than wind turbines. Due to the different technical configurations of, for instance, wind and solar in terms of size, land needed, and cost, among others, it is not possible to transfer all of the insights derived from studies of wind power cases to other RE technologies. However, scholars have argued that studies on wind energy are capable of functioning as a research laboratory of questions concerning social acceptance (or acceptability) of RE technologies because it is the most advanced among other emerging RE technologies (Elliott 2012) and the past decades have witnessed an abundance of academic work on this subject (Fournis & Fortin, 2017). Hence, it is assumed that the insights

obtained from this thesis can be relevant beyond the realm of wind energy planning and development. In the following section, I introduce the research aim and questions of the thesis and three individual papers, respectively, before outlining the thesis structure.

1.1 Structure of the thesis, research aim and questions

Probed by the empirical conditions of the surging belief in co-creation tools and frameworks coupled with the stagnation of wind energy development (European Commission, 2016; Ramaswamy & Ozcan, 2014), this thesis attempts to understand if and how co-creation can be a beneficial framework for the involvement of local actors in wind energy development. Accordingly, the thesis aims to answer the following overall research question:

How can local actors co-create utility-scale wind power projects? What are the potentials and implications of co-creation in wind power project development?

Since the thesis has been organised as a paper-based thesis, I have divided the overall research question into sub-questions, which I present and answer in the three papers. I briefly present them here to underscore their pertinence to the overall research question and then elaborate on their interlinkages.

The first study, the foundation for Article l, is a systematic review of the manner in which co-creation has been applied in relation to wind energy. The data comprises papers that have been published in academic journals and the search strategy is based on the co-occurrence of the concepts of co-creation and wind energy. In addition to presenting the central concepts used in the thesis, the paper explicates and discusses their interrelations. The first step in the research process was to figure out the extent to which co-creation had already been employed in the context of wind energy development and the second if and how the concept – and processes and

practices related to it – differed from participation. Through the research process, it occurred that involved actors were configured in other roles than citizens, which is the typical configuration in public participation literature. For this reason, the paper also outlines and elaborates on the manner in which involved actors are configured in co-creation. While the terminology of co-creation and co-production is used in the context of wind energy development, it is not explicit how this approach differs from participation, thereby resulting in a lack of conceptual clarity and possibly, unrealised avenues for research. Therefore, the first paper addresses the following research questions:

RQ1a: How is co-creation used in the literature on wind energy development?

RQ1b: Who are the central actors?

RQ1c: What are the objectives of co-creation?

The empirical study investigates co-creation in practice focusing on both the process and its outcomes. Co-creation research typically investigates the process in and of itself, why studies of implications of co-creation constitute a relevant contribution to the literature. I conducted one study wherefrom I wrote two papers based on different approaches to the data and varying analytical approaches. The first of these articles, namely Article two, empirically examines what happens in a situation of (emergent) co-creation. Based on the review's findings, the study was designed to explore how local actors could become part of co-creating the project and its technical configuration. This sort of influence could not be achieved in the formal procedural spaces; hence, the local actors had to move to other arenas and assume other roles than citizens as owners and developers. The paper places the emphasis on a local actor group looking to claim co-ownership of the project, the relationships they had to draw to assume a position wherein they

could do so, as well as the ramifications of such kind of participation on themselves and other local actors who are uninterested in this sort of participation. Hence, the second study investigates:

> **RQ2a:** How might local actors co-create onshore wind power projects in their area?
>
> **RQ2b:** What are the consequences in terms of participation and controversy of this type of engagement?

The empirical study revealed other insights about co-creation than insights related to processes. Although I, (as has been the case with other studies on co-creation and participation), directed my attention to the process throughout the data production, the interviewees did not confine their storytelling to the particular situation of the wind power project. Instead, they drew on the area's historical developments, and local actors' lives, projecting very different futures. Thus, I decided to make space for these stories and investigate how local actor identities, through narrative analysis, co-produce and are co-produced by the new ownership model of the wind power project. Through this narrative analytical approach, I was able to pluralise the understanding of time within the literature on community energy and contribute to the understanding of local actor diversity and how wind power projects affect local citizens in different ways. The paper also makes an empirical contribution to the existing body of literature by studying an ownership model that involves a combination of corporate ownership, local private and local collective community ownership, and how this has come to materialise despite the focus of the national policy on large-scale corporate ownership. To accomplish this task, the third paper addresses the following research question:

RQ3: How do local actors position themselves to (re)gain a stake in utility-scale wind energy development?

The three papers and the questions guiding them are formulated to answer aspects of the overall research question. The papers, however, adopt different approaches to do so. Asking how co-creation has been used thus far, the first paper considers the academic articles using co-creation to single out different perspectives on co-creation. Papers two and three ask about an empirical situation and highlight varying aspects of co-creation and the role of local actors in it (the process *and* outcomes). The papers collectively contribute to a better understanding of how local actors can co-create wind power projects, and with what consequences and benefits. Having been submitted to different journals, these papers are currently at different stages in their lives as articles. Table 1 presents publication details of the three articles.

	PhD Thesis		
	How can local actors co-create wind power projects? What are the potentials and implications of co-creation in wind power project development?		
	Journal article 1	**Journal article 2**	**Journal article 3**
Title	Identities, innovation, and governance: A systematic review of co-creation in wind energy transitions	Seeking solutions through market means: A situational analysis of co-creation in wind energy transitions	Different pasts, contested presents and desired futures: Local narratives and identities in the co-production of a hybrid wind energy ownership model
RQs	How is co-creation used in the literature on wind energy development? Who are the central actors? What are the objectives of co-creation?	How might local actors co-create onshore wind power projects in their area? What are the consequences in terms of participation and controversy of this type of engagement?	How do local actors position themselves to (re)gain a stake in utility-scale wind energy development?
Methods	A systematic review of academic literature	Single in-depth case study	Single in-depth case study
Analytical approach	Systematic literature review	Situational mapping and analysis	Narrative analysis
Journal	Energy Research and Social Science	Energy Research and Social Science	Local Environment
Co-authors	Maja Horst and Sophie Nyborg	Maja Horst	David Philipp Rudolph and Maja Horst
Status	Published	Under review	Under review

Throughout the thesis, I use “I” when referring to reflections or choices made in the thesis and overall research process. Meanwhile, I use “we” when referring to specific articles because all papers are co-authored. When I refer to the articles, I use Article one, Article two and Article three, or refer to their overall framing, e.g., the systematic literature review when relevant. The three articles figure in their full length at the end of the thesis.

The thesis is structured in the following manner: To begin with, I present and discuss the central concepts and ontological position together with my methodological approaches and analytical strategy. Second, I briefly discuss the history of wind energy development in Denmark together with the empirical and regulatory situation of the case study and present the case. Third, I discuss the potentiality as well as implications for local actor involvement in wind energy development in five sections. Fifth, in addition to concluding on the joint contribution that the journal papers make to respective pieces of literature, theory, and practice, I discuss my work’s limitations and present potential avenues for future research and recommendations for practice. Subsequently, I present the three articles that comprise the foundation of this thesis. The table below visualises the thesis structure.

1 Introduction

Positions of the thesis in the academic literature

Introduces research aims and questions

↓

2 Concepts, methods and analytical strategy

Introduces the methodology

Introduces central concepts and the analytical strategies

↓

3 Historical and empirical situation

Introduces the empirical situation and the case

Introduces the legal framework and policies governing public participation in RE

↓

4 Discussion

Discusses how local actors can co-create wind power projects

Discusses co-creation in relation to participation and dynamics of in- and exclusion

Presents and discusses the contributions of the research to research and practice

↓

5 Conclusion

Summarises the central arguments contributions and implications for theory and practice

Presents suggestions for future research

↓

6 Article one

Identities, innovation, and governance: A systematic review of co-creation in wind energy transitions

↓

7 Article two

Seeking solutions through market means: A situational analysis of co-creation in wind energy transitions

↓

8 Article three

Different pasts, contested presents and desired futures: Local narratives and identities in the co-production of a hybrid wind energy ownership model

2 Concepts, methods and analytical strategy

Both theory and methods are intertwined in the work involving the thesis and individual papers. The situational analytical approach adopted in Article two is explicitly configured as a theory/methods package whereby the researcher moves back and forth between data production and analysis, the field, and theory building. Similarly, the performance of narrative analysis is based on the production of narrative interviews (Czarniawska, 2004a). For this reason, I integrate the methods and the conceptual framework (theories) into one paragraph, discussing the analytical strategy utilised to analyse co-creation and wind energy development in a specific situation. The three papers include detailed literature reviews, theoretical sections and methodology descriptions. Therefore, in this thesis, I only include more overall considerations and reflections and refer to individual papers for elaborate reflections concerning individual studies.

2.1 Conceptual clarification and construction of analytical categories

The earliest mention of the concept of co-creation can be traced back to 2008 (Schweizer-Ries, 2008). Since then, its usage has increased steadily. The term appears to often be used in a "colloquial language" meaning or at least without situating or defining it by reference to extant theories or definitions, while others position it more explicitly, for example, with respect to understandings of participation and innovation. We conducted a systematic literature review to take stock of the literature produced to date and create a better understanding of what co-creation means in this context. The literature review comprises a systematic search strategy inspired by social science guides (Petticrew & Roberts 2006; Tranfield et al., 2003). Initially, I explored the possibility of carrying out a narrative literature review; however, the lack of conceptual clarity and the flexibility with which co-creation was used in other fields of study (Verschuere et al.,

2012; Voorberg et al., 2015) made me opt for a systematic review to develop the "evidence base" of the field and ensure that my decision to employ this term and the identified gaps to be filled in the subsequent papers were well-founded in the relevant literature. Moreover, the fact that I am a relatively inexperienced researcher and new to the fields of study meant that having the protocol and requirements to replicability and reproducibility, which are central parts of performing a systematic literature review (Moher et al. 2009; Tranfield et al., 2003), were good holding devices throughout the research process.

Prior to peforming the systematic search for literature, I made a scoping study as recommended by Tranfield et al. (2003), to assess the study's relevance and decide on the key terms. The scoping study encompassed literature from associated fields as social acceptance of renewable energy innovation, spatial planning, public participation, public service delivery, and public sector innovation, as well as other reviews on co-creation from other fields of study (Agger & Tortzen, 2015; Verschuere et al., 2012; Voorberg et al., 2015), and related terms such as co-production, co-design, co-management, and co-governance. The scoping study made me familiar with different conceptualisations of co-creation and informed my understanding of the term as I have presented it in both the *Introduction* and three articles.

According to this scoping study, processes, practices, and dynamics seemingly similar to those coined as co-creation and co-production are conceptualised using other terms. Utilising a conceptually focused systematic search strategy, these studies were excluded from the review owing to the assumption that the literature's inclusion based on the researcher's subjective knowledge of the field corresponds to a biased assessment or data production (Hammersley, 2020). Including related terms such as participatory innovation (Papazu, 2016), innovative democracy (Hvelplund, 2014), and some portions of the literature on community energy sharing

some of the same dynamics and ideals would have yielded interesting insights on the possibilities for local actors' participation in wind energy transitions. However, because they were not related to the concepts chosen for review, these were outside the scope of the study..

To start the literature search, I developed a research protocol, which I reproduce in Appendix 1. The protocol makes the research process appear linear and straightforward; however, the process was iterative and time-consuming. As a case in point, literature searches were performed multiple times based on the exclusion of terms, the inclusion of new selection criteria, or other vital changes. In hindsight, the time spent searching for an "exhaustive sample" is probably not commensurate with the purpose of this review, which was to particularly investigate how this literature viewed the role of involved actors and the relations between approaches and practices related to "participation" and "co-creation", respectively. Therefore, the review's objective was to qualitatively investigate relations among actors and concepts to develop analytic categories or ideas that capture the complexities of the social world in the studies (Hammersley, 2020). The exhaustive sample is pivotal to studies that aim to evaluate the efficiency of, for example, health-care treatments by statistically evaluating *all results* (often produced through randomised controlled trials) in such studies and produce a meta-analysis in order to support policy interventions or other recommendations (Moher et al., 2009). As opposed to creating evidence, the intention of this review was to explore an emerging concept. In doing so, the literature review employs strict systematicity, which signifies an ideal approach in both natural and social sciences. However, the understanding of co-creation and the role of local actors in it might change as more studies empirically investigate co-creation as a concept and practice.

2.2 Case selection rationale and data production

In parallel with carrying out the literature review, I commenced my search for empirical cases to facilitate a study on co-creation in practice. Initially, I searched for cases with citizen involvement and/or ownership beyond legal stipulations, and then went on to explore potential cases with other researchers familiar with the concerned field and practitioners engaged in developing/promoting community-driven and –owned RE projects. I had detailed engagement with Denmark's (planned to be) largest wind power project in Nørrekær Enge, the three turbines at Hvide Sande Northern beach, the offshore project at Samsø, the four turbines at Hirtshals harbour, a large offshore project off the coast in Bornholm, and project at the manor Vennerslund in Falster.

The Hvide Sande project was complete in 2012 prior to the commencement of my studies and received a European price in 2013 for its locally based ownership model, referred to as the Hvide Sande model. The remaining four projects that were either in the planning or pre-phase showed intent of doing things differently, which could constitute a possibility to study co-creation as it unfolded. During my visit to Hirtshals and Hvide Sande, I engaged with a large number of local citizens, small- and medium-sized business representatives, neighbours, municipal staff, a representative of the Danish society for Nature Conversation the respective tourist associations, as well as other actors. Furthermore, I oversaw the erection of turbines in Hirtshals, attended citizen meetings regarding specific projects in different municipalities, and visited wind power project sites across the country. I even got stuck in the nacelle of a wind turbine on a particularly dramatic Saturday in Thy. Finally, I opted for two Danish cases, intending to identify a complementary case in Portugal where I was supposed to conduct field research during my external research stay.

The cases were theoretically sampled as (potentially) unusually revelatory (Eisenhardt & Graebner, 2007; Yin 1994) examples of more citizen-inclusive, potentially co-creative ways of doing wind energy development at both a smaller-scale (Hvide Sande) and utility-scale (Nørrekær Enge 2). The cases that were to constitute the multi-case study were sampled because they had local ownership (in different configurations) beyond legal mandates and were organised with local actor participation as a central constituent and driving force of the projects.

Unfortunately, it became impossible to conduct field research in Portugal due to the pandemic, which started spreading globally in the weeks following my arrival at my external research stay at ISCTE in Lisbon. Returning home five months later to resume my Danish fieldwork, the pandemic also introduced complications in interviewing and making in-person visits in Denmark, thus impelling me to change my plans and research strategy. In the Hvide Sande case, I had engaged in hours of conversations with relevant actors, some un-recorded interviews with detailed note-taking, and informal visits to most relevant sites, businesses, and organisations. However, I had no taped interviews. On the other hand, I did have taped interviews with many central actors in the Nørrekær Enge case, which explains why I ended up focusing on the Nørrekær Enge case. However, throughout the research process, I could utilise the other cases as well to compare with and ensure that I did not get caught by initial impressions when doing interviews, fieldwork, and analyses.

I opted for what can be called a "cross-case searching tactic" (Eisenhardt, 1989, p. 541) to select proper cases for my planned multi-case study. According to Eisenhardt, the idea underpinning cross-case searching tactics is that it serves as a means “to force investigators to go beyond initial impressions, especially through the use of structured and diverse lenses on the data” (Eisenhardt, 1989, p. 541), thereby facilitating a more nuanced and objective understanding

of the case. Notably, while I do not share the understanding that this tactic can lead to more objective knowledge, I did find that the methodological approach enabled me to continually distance myself from the situation I was investigating, ask new questions, and revisit my data in different ways. Accordingly, the two empirical papers primarily draw from one case, including interviews with 15 central actors, 81 documents of various types, social media posts and pages, webpages, observations, pictures, maps, and other artefacts. However, as mentioned in the previous section, the engagement with multiple other wind power-related events, actors, and situations shapes the way in which I compose and understand the situation.

Owing to the long duration of data production (from November 2018 to March 2022) I was able to obtain a detailed understanding of the case and its actors, and return to interviewees on several occasions to ask clarifying questions and undertake follow-up interviews. The interviewed actors were identified through snowball sampling, which signifies a helpful approach to reaching "hidden populations" for which no immediately available "sampling frame" exists (Heckathorn, 2011). Importantly, some parts of the relevant actors were indeed hidden since this study concerns an emergent model, and certain aspects and social relations are shrouded in secrecy in the initial phases owing to confidentiality agreements. When some actors were unwilling to participate in my project, this became part of my understanding of the case and its actors. Some would later return to me, willing to participate because they had talked to other actors who had vouched for me, again informing my understanding of actors and their relations. I include my own position as part of the analytical process and reveal it through the situational maps produced to make apparent how I compose the situation.

2.3 Situational mapping and abductive research

I created what I first conceived of simply as an overview of potentially relevant actors (non-human and human) and interviewees in November 2018, shortly after assuming the PhD position. This became the first situational map of the situation of inquiry. I prepared this situational map based on various types of documents (e.g. environmental impact assessments, different maps of the areas with planned projects, planning approvals, visualisations and conversations with experts). I made the last map in April 2022. Continually adding to and redoing my situational maps allowed me to tailor my studies and research to improve my understanding of the situation and all its elements by becoming aware of the inadequacies of my understanding of the field. Therefore, the situational analysis guided my study program and research and gradually helped me develop a better understanding of the empirical field and its constituents, by moving back and forth between concepts, theories, and the empirical field. An implication of the abductive approach to research is the continuity of data analysis and the formulation of concepts and understandings throughout the research process. This approach is congruent with the research process starting with the literature review and subsequently empirically investigating concepts, tendencies and dynamics, without an ambition to "test" established concepts from the literature review.

During data production, I have used the co-creation concept in myriad ways. In the cases that I have investigated for this thesis, none of my interviewees or interlocutors used the term co-creation. Accordingly, I use co-creation as an "etic" term in the thesis: a theoretically informed concept that fits with the empirical phenomenon I encountered in the field, as opposed to an emic concept stemming from within their culture. This allowed me to use it as a useful tool in the research process. Armed with the awareness that my presence in the field "distorts and disturbs"

and that the way "[a] social order reveals itself [is] in the way it responds to pressure" (Burawoy, 1998, p. 17), I was able to utilise the concept of co-creation to evoke intuitive reactions and reflections on the process of developing the wind power project. Sometimes my interlocutors were pleased with the characterisation and at other times they were not. To illustrate, one of my interlocutors approached me after gaining access to records of correspondence I had with municipal staff to convey the message that they (her and her partner) did not view it as a case of co-creation. Others referred to other projects that they believed had a stronger resemblance to the term or practices underlying it. This, in turn, helped me derive a more nuanced understanding of how my interviewees understood it as well as the process they were involved in. Circular reasoning is one of the risks arising from the use of etic concepts in research. Nevertheless, I am of the view that the cross-case searching tactic and my intense engagement with other cases – many of which I would not define as co-creation – supports my positioning of the case.

2.4 Situations, "contexts" and coding tools

Starting my empirical analysis, I continued with the analytical strategy that had served me well during the data analysis for my first paper, the literature review. Methodologically and analytically, the systematic review methodology has many resemblances with grounded theory in its detection of in vivo codes, which are aggregated into subthemes and subsequently in the more overarching themes. The literature review sought to establish a clearer understanding of the conceptual meaning and underpinnings of co-creation and therefore looking for similarities and themes across the literature was a helpful strategy. After a period of coding my empirical data in Atlas.ti (and a period of maternity leave that enabled me to distance myself from the project), it dawned upon me that the tool was not serving me well. Rather than making themes clearer and more concise, this analytical strategy led me into a complete mess of endless codes and no

success with systematizing or finding coherence in the data. Furthermore, it made me doubt my data (and myself) and my ability to produce a meaningful analysis.

Conceptually, co-creation implies a focus on diverse actors and as a consequence, on the plurality of perspectives and positions. Therefore, my empirical sampling strategy sought to include many different actors and perspectives on the same matter, why my data was characterised by multiplicity, inconsistencies, and contrasting viewpoints. The grounded theory approach and many other approaches to theory-building makes it possible to seek and explicate commonalities (Clarke et al, 2016, p.20). Realising that tools for coding are not neutral in their conceptions of the world and how it works, I skipped Atlas.ti and its coding in favour of a more rudimentary approach using excel and word. At a later stage, I supplemented excel and word analyses with mapping exercises performed using Miro, a whiteboard-like digital tool typically used for presentation, which helped me perform the analytical work of creating and working with the various situational maps.

Instead of establishing a priori which elements make up the situation and then proceeding to investigate it, I gradually mapped an increasing number of actors (human and non-human) to better understand the details relating to the situation. Through the choice of cases I was able to discern that something relevant was occurring, but I was unable to pinpoint what it was. Situational analysis also helped me include positions that work against "the way things are" (Clarke et al., 2016, p. 20). In the articles, we utilise this approach to analysis to demonstrate how wind power projects, dependent on the actor, the position, and relations, are simultaneously highly participatory and innovative, and controversial and marginalizing.

Assuming this analytical strategy, I emphasise that wind energy development and co-creation are situational, thereby implying that what would normally be alluded to as “context” is

an inextricable part of the situation. Hence, all situations (and wind power projects or co-creation activities) are individual and unique (Clarke et al., 2016, p. 69). In the thesis, understanding co-creation as an instrument means that it is possible to delimit its implementation in time and space. Nevertheless, I view co-creation as inseparable from its situation of application, implying that the instrument co-produces and is co-produced by the situation. Accordingly, co-creation is (at least part of) an ongoing process of creation of relations among actors to position themselves and others in negotiations over actor roles, identities, pasts, presents and futures. How actors are related to each other makes their networks stabilise in (stronger and/or) weaker coalitions. The situational maps powerfully visualise these relations and make the situation (especially its already negotiated relations ("context") come to life visually in the analysis, thereby yielding powerful insights.

Throughout this thesis, I use different terms to signify the individuals, groups, non-human entities, etc. involved in the situations of concern. Given the analytical strategy of empirically constructing the unit of analysis, I, from the outset, refer to involved actors as actors, which could be anyone or anything that is the source of an action (Latour, 1999). This action denotes the actors' influence on other actors, in other words, an actor is deemed an actor only in relation to a network of relations (Latour, 1999). When actors are entangled in various situations and action-nets, I refer to them as the identity, position, or role in which the action-nets temporarily stabilise them (Czarniawska, 2004b). Central arguments of all articles involve showing how different action-nets, narratives, and situations co-produce identities and roles, as we demonstrate how local actors become, for instance, owners or opponents. Thus, in addition to the empirical construction of actors, the categorisations (e.g., as opponents) are one of the outcomes and not the starting point for the analysis. This relational ontology is consistent

throughout the thesis and the three articles, despite some tensions with the narrative analytical tools employed in Article three, which I will discuss in the following and final section of this chapter.

2.5 Polyphony, stories and identities

Narrative analytical strategies and theories have shaped the work with the thesis in important ways. While I explicitly employ concepts from narrative and literary theory in Article three, the way of thinking has shaped much of the work with the thesis. In addition, the relational ontology is shared between my narrative analytical strategy and that of situational analysis.

Despite narrative theory's structuralist roots and much of the employed terminology's origin in structuralist analytical approaches, the use of narrative analytical strategies in Article three shares the agenda of emphasising and giving space to a multitude of voices and perspectives with situational analysis. The article analyses the co-production of identities and a utility-scale wind power project in a situation of ownership model innovation. It focuses on three local actors: a landowner, an association organised to obtain co-ownership of the wind power project and a group of opponents organised to halt or drastically reduce the size of the project. To detect heroes, villains, and helpers, in this article, we employ concepts known from Vladimir Propp's theory of the *Morphology of the Folktale* (1968). In addition, we analyse the structural characteristics of different literary genres, in particular, the epic, tragic ironic, and tragedy genres (Frye, 1957). All of them have their origins in structuralist theory. However, when positioning the three narratives in parallel, something that we do as part of the polyphonic analytical strategy (Bakhtin, 1984; Belova et al., 2008) employed in the paper, we do not search for universal structures or seek to understand where the stories fit with, e.g., the morphology of the folktale, where it does not and why. At the same time, we do not position ourselves or any one actor as

all-knowing and capable of representing the true version of a line of events. On the contrary, we present a polyphony of voices, whereby no one voice ends up dominating the narrative. Consequently, we consider the analytical concepts drawn from literary and linguistic theory to be cultural resources that actors (can) draw on in their positioning in relation to each other (and others). In this manner, the utilisation of narrative analytical tools distances itself from the structuralist tradition in understanding these constructions of stories as well as other actors as part of an ongoing negotiation and interaction among the local actors (and the author/researcher), and not as representing or revealing the actors' true characteristics or identities.

A narrative analytical strategy is a powerful approach when it comes to singling out multiplicity because it recognises that in stories, the same events can be interpreted and conveyed in drastically different and even contrasting ways. This particular approach to analysis makes it clear that it is the plot of the stories that make them powerful in interactions, not the truth or falsity of claims, events or storylines (Czarniawska, 2004a). Drawing on this perspective, we, as a case in point, detect how several *versions* of actors and the project exist (Czarniawska, 2004b) and how varying conceptions of time are at play in the narratives. Drawing on Morson's (1994) *Shadows of time*, we demonstrate that the constructions of pasts, presents and futures intersect in stories and shape local actors' identities, perceptions of selves as well as their abilities to influence the project and their own life at large in significant ways.

Summing up, the relational approach to conceiving technology, science, society and other non-human actors, as ontologically equal and co-produced (Jasanoff, 2004) is shared between the situational analytical approach implemented in Article two and the polyphonic construction of the unit of analysis in Article three. The commitment to emphasizing multiplicity and seeing from the actors' perspective the existence and relations they are positioned in, is particularly

explicit in Article three, while the study of the process of forging these relations is the object of analysis in Article two. The relational ontological stance cuts across the thesis overall, in its focus on how it is worthwhile to see actor positioning and storytelling as an ongoing process of relation-making, wherein actors create coalitions by enrolling other actors into their networks and thereby seek to stabilise the stronger/winning coalition.

3 Empirical, historical and regulatory elements

This section presents the central empirical, historical and regulatory elements in the situation of inquiry. Since this case study is located in Denmark, this section details the historical development of the wind power sector with a focus on participatory mechanisms and ownership formats, the regulations governing wind power planning and development, and procedures for participation.

3.1 Wind energy, participation and ownership in Denmark

Internationally, Denmark has earned a reputation as a pioneer in wind turbine development and transitioning its energy system to the production of renewable energy (Johansen 2021; Petersen, 2018). In 2020, 50% of the electricity consumed in Denmark was accounted for by variable RE sources – a large majority of which is wind (Danish Energy Agency, 2021). The development of a sector/cluster for wind energy has been described as emerging via the "co-creation of heterogeneous resources" (Karnøe & Garud, 2012), encompassing a bottom-up approach wherein actors come together and co-create RE solutions by combining efforts. The history of wind turbines, the industry as a whole and project development is completely intertwined with questions of ownership due to the cooperative roots of Denmark's wind power cluster (Karnøe & Garud, 2012). Historically, the strength of the cooperative way of organizing was that joint production generally reduced costs and ensured competitiveness. However, projects and the sector, in general, were locally intertwined since local (often rural) communities themselves took up the initiatives (Mordhorst, 2008). The cooperative movement was integral to the Danish wind turbine cluster's development and still today more than 50% of the wind turbines sited in Denmark continue to have some kind of citizen ownership, much of which are individual cooperative ownership (Gorroño-Albizu et al., 2019). A cornerstone of the cooperative

movement is that ownership secures all owners, regardless of the size of their share, one vote, which means everyone is provided equal opportunities to influence decision-making in the cooperative.

While the initiatives to develop wind power projects in Denmark have traditionally come from local individuals and cooperatives, the market's liberalisation in the early 2000s coupled with an upscale in turbine size, price and the innate complexity of project development has resulted in a change in the actors' configuration. Today, the initiative to develop, and by extension, own projects usually is taken by private corporate actors like commercial utilities or developers (Kirkegaard et al., 2020). Such projects generally allow local actors participation in congruence with legal provisions. Nevertheless, bottom-up and collective approaches to project-development, do also take place, albeit in the form of smaller-scale projects than those led by the developers (Gorroño-Albizu et al., 2019; Sperling 2017). This development from small projects and cooperative ownership to large and commercial project development and ownership has been described as a paradigm shift due to the changing market-configuration (Kirkegaard et al. 2020).

3.2 Planning and participation in wind power project development

In Denmark, the development of wind power projects and other renewable energy technologies can be catalysed via different routes, with a distinction being made between onshore and offshore. Permits to develop offshore wind power projects are given either based on a site-specific tender process led by the state or through the so-called open-door procedure where a private developer takes the initiative[2]. The responsible authority in offshore projects is the Danish Energy Agency, regardless of the route taken.

[2] https://ens.dk/ansvarsomraader/vindenergi/aaben-doer-ordningen-havvindmoeller accessed 24.06.2022

The responsibility to plan for and approve proposals for onshore projects is decentralised and nested with the 98 Danish municipalities. The municipalities formulate strategic (municipal) plans for a period of 12 years, in which they usually designate areas deemed suitable for wind turbines. Throughout this 12-year cycle, the municipal council can also make addendums to the strategic plan, referred to as wind turbine plans, to designate additional areas for RE planning. Owing to the maturing state of photovoltaics in Denmark, a few municipalities have departed from their previous approach of appointing wind turbine areas to appoint RE-areas wherein it is possible to place wind turbines, solar, and potentially other RE-installations. Although no direct requirements or obligations to develop specific capacities of RE exist from the national side, many municipalities have started formulating sustainability strategies with targets for reducing greenhouse gas emissions of their own to support the transition targets formulated by the National government (and international and global institutions). Some municipalities also include targets for the amount of RE to be produced as part of these strategies. For example, Aalborg Municipality has set a specific target of 600 MW wind power capacity and 500 MW solar power capacity in 2050[3]. Such targets and strategies co-produce specific wind power project development situations, as we demonstrate in Article two.

Project planning usually (officially) starts when the developer applies for the right to develop a project at a specific location with the relevant municipality. The municipality then makes a screening of the project, deciding whether or not it requires an environmental impact assessment that is to be made by the developer. At the same time, the municipality establishes a local project plan where it specifies the technical and spatial requirements of the project and an addendum to the strategic municipal plan situating the wind power project as part of the strategic

[3] See e.g., Aalborg Municipality's sustainability strategy 2020-2024: Pdf.aspx (aalborg.dk) accessed 24.06.2022

planning. The Planning Act secures the right of the public to participate in spatial planning processes secured (Planloven, 2018). If legally-determined minimal requirements for public participation, are complied with, the public is involved in awareness-raising and consultation activities in two phases. The first one denotes an idea phase based on the strategic plan, wherein they are allowed to contribute inputs to the overall wind power strategy and share comments on the designated wind turbine areas. Later, citizens are invited to a public hearing phase, including public meetings to obtain information concerning the specific project and its environmental impacts after the completion of EIA and formulation of proposals for specific projects and their local plans. In this phase, the public is allowed to make consultation responses to the municipality. The city councils of the relevant municipalities treat the consultation responses and, based on the public hearing phase, either approve or reject the project proposal and its EIA granting the developer permission to construct the project or not. Subsequently, citizens have the right to complain about the decision made by the municipality.

Since the Promotion of Renewable Energy Act was implemented in 2009, wind power projects have had more measures for public participation via support schemes targeting local citizens in particular. This Act, which has been amended several times, was last amended in 2020. My focus in this section is on the schemes applied to the project used as a case study, which was approved in 2018, but also introduces recent developments in the compensation schemes. Notably, the Promotion of Renewable Energy Act introduces four mechanisms for participation or compensation targeting local actors (Anker& Jørgensen 2015; Jørgensen et al., 2020; VE-Loven 2018). These are

The property value-loss scheme, obliging developers of wind power projects to compensate for value losses above 1 percent, suffered by neighbours living within six times the turbine height distance from the wind power project;

The co-ownership scheme, obliging the developer to sell up to 20% shares in the project to citizens, prioritising those living within a 4.5km distance of the project and next to the rest of the municipality;

The green scheme (or community benefit fund) allocating approximately 88.000DKK per installed MW into a fund created to support local initiatives;

The guarantee fund, supporting local ownership initiatives with up to 500.000DKK to undertake preliminary investigations and support the local ownership of wind power projects

The latter two are administered by the Danish transmission system operator (TSO) and financed through general energy taxes (Anker & Jørgensen, 2015). The co-ownership scheme was terminated in 2020; instead, the government introduced direct cash payment to citizens living within a distance of four to eight times the turbine height and 0-200 meter distance from solar projects. The level of payment is premised on the specific project's production and the electricity price[4]. Apart from the property value-loss scheme, an "option to sell scheme" was introduced, which allowed house owners living within four to six times the turbine height to sell their estate (if they suffer a loss of value above 1%).

Following the above mentioned steps and legal requirements for participation, the developer had initially planned the case researched for this thesis, as a "conventional project."

[4] https://ens.dk/ansvarsomraader/stoette-til-vedvarende-energi/fremme-af-udbygning-med-vindmoeller accessed 28.06.2022

Approved in 2018, the value property-loss scheme, co-ownership scheme, and guarantee fund support for local ownership investigations apply. However, the developer agreed to cover the (at the time) recently terminated green scheme with a corresponding amount for local development initiatives. These different participatory mechanisms are underpinned by different rationales. The rationale underlying the right to participation as established by the Planning Act is normative, as participation is considered a democratic right and value in and of itself (Fiorino, 1990). The schemes supporting financial participation in RE projects, in various ways focus on compensation, and studies find that they represent an explicitly instrumental rationale (Fiorino 1990) in seeking to facilitate local support of RE projects by "redressing the perceived imbalances between the impacts and advantages from wind energy projects" (Jørgensen et al., 2020, p. 2). The co-ownership scheme offers an individual share ownership option reminiscent of the cooperative ownership format, albeit without one vote per shareholder, and as a consequence, without the ability to influence decision-making or other details concerning process or outcomes.

The approaches to participation mandated by national laws and support schemes present fixed pre-given configurations of what participation in transitions means and entails. According to studies, the co-ownership facilitated by the co-ownership scheme – despite its similarities with cooperative ownership formats – does not necessarily include the values of local actors or facilitate acceptance (Johansen & Emborg, 2018). In a similar manner, consultation and awareness-raising, do not provide local actors with adequate opportunities to significantly influence RE projects, which has been found to be pivotal in facilitating meaningful participation (Aitken et al., 2016; Clausen et al., 2021). I will revisit some of these areas of conflict in the discussion. However, before doing that, I present the project's development in greater detail as a foundation for the following discussion of key themes.

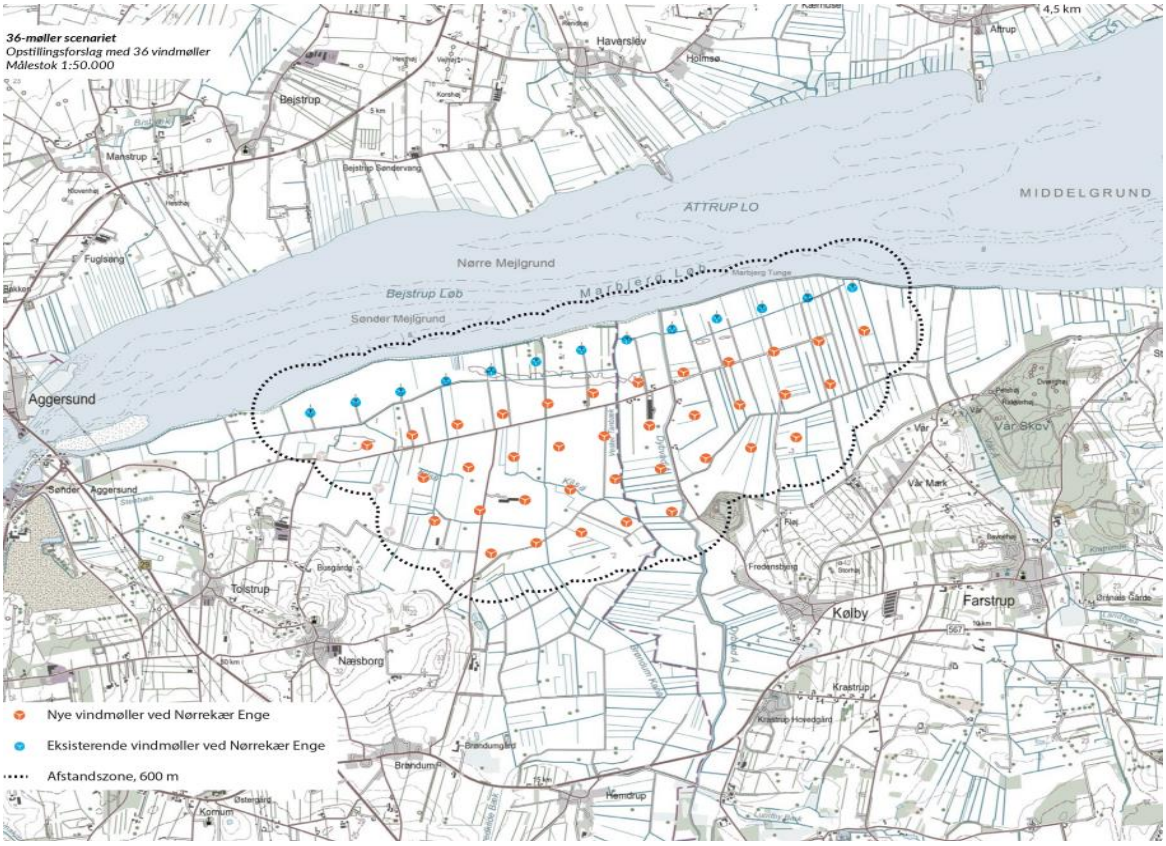
3.3 Nørrekær Enge 2 as case study

The Nørrekær Enge 2 project, located in Northern Jutland, south of the Limfjord, crosses the borders between Vesthimmerland and Aalborg municipalities. The rural area is situated in a part of Denmark that has witnessed depopulation for decades, which is estimated to continue in the future as well[5]. The project is located in a low-lying embanked meadow area of around 15 km^2, which was drained to create farmland back in the 1950s. Today, the area is not only used for factory farming, and agriculture but also hosts several large-scale farms including chicken and pig farms.

The meadows has hosted wind turbines since 1981, when Denmark's then-largest wind farm was erected by Nordkraft I/S, encompassing 77 turbines with an annual production of approximately 55.000 MWh. These 77 turbines were decommissioned as part of a repowering project creating the Nørrekær Enge 1 project, and were then reused to produce electricity in Cuba. Today the area hosts the Nørrekær Enge 1 project, which encompasses 13 turbines with 2.3 MW capacity and attained completion in 2009. The Nørrekær Enge 2 project is being planned as an extension to Nørrekær Enge 1 by the same developer who developed and owns Nørrekær Enge 1. The proposed project is expected to consist of 36 turbines in addition to the existing 13 with a maximum of 3.5 MW and a maximum height of 150 m. The implementation of this project would make it Denmark's largest onshore wind power project and among the largest onshore projects throughout Northern Europe. Figure 1 visualises the project's layout and

[5] https://www.dst.dk/da/Statistik/nyheder-analyser-publ/nyt/NytHtml?cid=19248 accessed 28.06.2022

the distance zone of 600 m (four times turbine height). Figure 2 illustrates how it would be seen from a nearby road with several estates.



Deciding exactly when the project and its preparations started is a difficult task, as we unfold in Article three. The developer commenced preparations for the Nørrekær Enge 2 project around 2012-2013. In this initial phase, the developer made assessments of the potential project's technical feasibility, attempted to make contacts and land lease agreements with landowners, and entered into agreements to purchase houses in or in very close proximity to the meadows with house owners to clear the largest possible area for the project. In 2014, parts of the local community became aware that the developer was buying up houses as preparations for an extension of the Nørrekær Enge 1 project. This awareness was brought about during an art fair organised by local artists. However, their familiarity with these plans was a matter of coincidence since a writer engaged in the art fair goes from door to door to engage with people as part of a creative process, thus igniting rumours that some local house owners had made agreements to sell their estates. This sparked local awareness of the project and made citizens start organising in different groups.

Official planning of the project commenced in 2014 when several developers (including the utility-scale developer and several local farmers acting as developers) applied for approval with municipalities to initiate a pre-debate concerning the making of an environmental impact assessment for a potential project and a municipal plan to approve it. The pre-debate continued for five weeks and included a public meeting organised by the municipalities. Following the meeting, some citizens expressed concerns about the plans to get the project extended and created a petition against it. Another group organised a workshop followed by public meetings to discuss the ways in which they could obtain co-ownership of the project to channel some of the revenue into the local area and its development. The latter group established an association uniting local citizens to seek co-ownership and reduce the size of this project. The association received assistance from a research institution, a NGO, consultants, as well as many more interested parties coming from the outside, who expressed their interest in the association's attempts to obtain co-ownership. However, the association later split since the strategy primarily began to focus on ownership. The citizens interested in reducing the project left the association to pursue a reduction or complete halt of the project. These different groupings engaged in debate in local and national media and tried to mobilise support from politicians in attempts to further their respective agendas. The association negotiated with the developer to obtain a right to own or develop parts of the project.

Simultaneously, the developer negotiated with local farmers to obtain the right to develop the entire project themselves. In particular, two farmers were dissatisfied with the bids made to them by the developer. In 2016, the landowners and developer reached an agreement, after which the latter sought approval for one collated wind power project with the two municipalities. After receiving this application, the municipalities sent the project for public hearing and sought

consultation responses and other input from affected citizens. During this period, they organised a public debate at which the developer and other technical experts presented and defended the project as applied for. In 2018, the developer and the local association signed a cooperation agreement stating that the association would be offered a number of turbines for them to own through an ownership configuration centred on a foundation[6] for the common good. Thereupon, the municipalities approved the project. However, a group of immediate neighbours submitted complaints to the appeals board for planning and the appeals board for environmental and food-related issues immediately after the issuance of the approval.

At the beginning of 2021, based on the complaints, the relevant appeals boards overruled the project's planning approval[7]. The issue that prompted the appeals boards to overturn the planning approval was an insufficient concern for a rare bat species and its patterns for flying. The developer officially stated that they would update the impact assessment's consideration of the bat and seek re-approval of the project. In the meantime, the developer made a strategic decision to withdraw from Denmark's onshore wind power market and divest their unrealised projects. Accordingly, they sold the "project" (i.e., its approvals, land-lease agreements, etc.) to another developer at the beginning of 2022[8]. The new owner intends to realise this project.

This account of the process primarily builds on publicly available materials such as, information from municipalities, newspaper articles, meeting minutes from municipal council meetings, and minutes from association meetings in the local association. My initial attempt was to prepare a timeline based on the interviews and conversations with participating actors. However, conveying a chronological line of events proved to be more difficult than expected.

[6] Also known as a trust fund (Gorroño-Albizu et al. 2019).
[7] https://naevneneshus.dk/nyhedsarkiv/2020/november/vindmoellekompleks-plan/ accessed 27.04.2022
[8] Eurowind Energy overtager udviklingsportefølje fra Vattenfall | Wind Denmark accessed 28.06.2022

For example, the interviewees presented very different beginnings and structured their narratives following different storylines, due to which some events were presented in different sequences. Some of this is most likely a matter of interviewees' memories mixing things up with the majority of events asked about that unfolded years back. However, when completing the storylines as constructed by each actor, as opposed to a single concerted timeline building on all interviewees' stories, it occurred that the way actors chose different beginnings was also ascribed to the fact that "it is the ending that chooses its beginning, not the other way around" (Czarniawska, 2004b, p. 774). By following the way in which different actors constructed their stories of the project, the wind power project began to focus on the local area and its development, social relations, and private family and business histories, among others, in its narratives. Article three explores these different constructions of the project and the process of developing it at length. In the following section, I present and discuss five central themes.

4 Discussion of contributions and perspectives

This paper-based thesis contains three journal articles, presented as chapters six to eight. The papers are independent studies aiming to shed light on aspects of the overall research question. Accordingly, despite being independent studies, several key themes unite them. The papers all concern various forms of participation in transitions. They all share the aim of understanding how participation can be done in other ways than stipulated by planning regulations and than the standard "residual realist" approaches (Chilvers et al. 2018) that focus on consultation and awareness-raising (Aitken et al. 2016). They also investigate the aspects and consequences of co-creation and co-production in wind energy transitions. As outlined in detail in the section on concepts, methods and analytical strategy, they also centre on relations and actor positions as fundamental to negotiations and the co-creation of wind energy developments. In this chapter, I summarise the results of the three articles, discuss them in relation to the relevant bodies of literature on co-creation, participation, community energy and the social acceptance of renewable energy innovation, and present the theoretical and empirical contributions the thesis makes to these bodies of literature. Based on these findings, I outline four limitations of the thesis, supporting recommendations for future research and practice.

4.1 Co-creation as relational and situated

As stated in the introduction, the thesis investigates *how local actors can co-create utility-scale wind power projects, and with what potentials and implications?* In the thesis and the three papers, I adopt a relational approach and argue that local actors can co-create wind power projects by being positioned in the "right" positions and networks, bearing the situation in mind. The "right" relations could be part of a co-creation process that is facilitated as such from the outset. Such situations are central in the literature on public governance and investigations in

innovation studies of experiments and co-creation instruments such as living labs, test-beds and the public procurement of innovation (Engels & Münch 2015). In such situations, actors' participation is facilitated, for example, by relations with funding for research projects (European Commission 2017) or local politicians (Røiseland 2021; Sørensen & Torfing 2019). This thesis demonstrates that, despite not having these opportunities from the outset, local actors can still co-create wind power projects, though how they do so is contingent on the situation. As such, the thesis contributes with a perspective on how co-creation can unfold when emerging outside facilitated spaces.

Furthermore, the thesis argues that the situation of development and all its elements and conditions co-produce what are seen as possible and legitimate processes, participants and outcomes. In Article three, we analyse how actors draw on different cultural resources and literary genres to position themselves as the "most local local", accordingly identifying the local actor and perspective that should be prioritised in the project before all other actors. We argue that these cultural resources, such as constructions of other involved actors as heroes and villains and viewing the project as tragic or epic, serve interactive purposes by creating representations of other actors, the project and its process as such, which can mobilise sympathy and helpers to further the respective actors' visions for the future. Using a relational approach, perspectives on or attitudes to wind power projects can be seen as a product of social processes in which the actors position themselves in ways that can have an effect (or not) on the situation.

The focus on relation-making and the in principle unlimited possibilities for relations among actors could give the impression that the established networks are arbitrary. However, in practice not all relations are possible or have much influence. For example, positioning oneself against wind power projects based on personal preferences and interests does not create much of

an impact on the formal procedural planning systems, as much literature has demonstrated (Clausen et al. 2021). At the same time, creating a network of twelve local citizens, a layperson, a rare bat species, an insufficient environmental impact assessment and an environmental appeals board can effectively halt a project. And a network of multiple consultants, lawyers, loans, guarantees, limited private partnerships, the signatures of more than 50% of the local community, local politicians, municipal strategies and so on, can give local actors the ability to co-own a utility-scale wind power project and maybe innovate the socio-technical system's relations of ownership. This is, of course, an over-simplification, and in reality the networks are much longer and more challenging to pin down. However, it illustrates how the situation and its elements, such as environmental law and rights, not only govern projects but constitute actors on which other actors can and do draw and forge relations with to position themselves in the best possible way, thus co-producing the project and the situation of development.

Accordingly, positions (or perspectives or attitudes) are not inherent characteristics or qualities of actors; they are created through negotiations among actors and co-produced by the situation. Similarly, select actors do not have influence or power in and of themselves: they are positioned in relations in order to have influence. Singling out how different actors come to have the ability to influence a wind power project, its configuration and outcome are central findings of the empirical analyses, revealing possibilities for local actors in energy transitions. By taking this relational approach to the field, the thesis answers a call for more research applying an "ANT lens" to studies of the social acceptance of renewable energy innovations and investigating how stakeholders and their concerns come into being (Kirkegaard & Nyborg 2021).

4.2 Citizens, co-creators, owners, opponents and other actors

The relational approach makes the temporary stabilizations of particular positions or solutions a result of negotiations. In the articles, for example, we disentangle how the relations that association members forge with other actors gradually make them more and more stable as actors. First, local actors take the initiative to discuss the project and make relations among themselves. They formalise these in an association, and with some difficulty convince local politicians to support them by proving that they have the capabilities to manage the role of owner that they are aspiring to. They then go on to make more relations with a majority of local citizens, investors, capital, ownership model configurations, etc. and gradually come more and more into being as representatives of the local community, a private limited partnership, representatives of a "foundation model" and eventually co-owners of the wind power project and reinvigorators of their local area.

In Article three, we demonstrate how different local actors use different strategies to legitimise their own position and participation in the project. The landowner, for example, uses private property rights and historical continuity to argue for his central position. He uses this as a lever to support arguments for more significant returns than those offered by the developer. The landowner's narrative also reveals that, while he does not see himself as part of the same community as the local citizens in the association, he considers himself to be part of another local community of landowners. We also show how local positioning towards the project and actors involved started, as it often does, with opposition. We reveal how this initial local opposition fragments into different positions towards the project to shape it and its socio-technical configuration in different directions. Thus, local opposition is not a fixed position but one that is shaped by relations with the project in various present and future configurations, other

local actors and the situation at large. In these papers, and as part of the processual and relational perspective, I emphasise and analyse opposition as a productive force, part of the constantly ongoing negotiations over how we should live together. Thus, I follow other studies asserting the potential in social conflict (Cuppen 2018) and agonistic approaches to wind energy development (Barry & Ellis 2011; Batel & Devine-Wright 2015) in trying to understand how contention can reach at least provisional solutions without a search for consensus. The relational perspective means that the local actors, characterised as opponents, are local in relation to the matter at hand. They are also a range of other things simultaneously, such as place-protectors (Bell et al. 2013; Devine-Wright 2009), citizens participating in wind power planning (Clausen & Rudolph 2019; Clausen et al. 2021) and complainants, to mention but a few. All these actors and their positions co-produce the project and its ownership model, as we reveal in Article three.

Whereas passively receiving information and even refusing to participate (Clausen 2017) co-produces the situation in its own ways, we find that one of the central differences between the theory of co-creation and participation is that co-creation (as a participatory governance approach or innovation model) configures citizens as active in creating solutions and diagnosing the problems that need solutions. The active role of citizens and end-users is not only to debate, for example, potential projects or planning processes, but to create them in a more material sense (Marres 2012). This distinguishes co-creation and co-production from concepts of participation, where citizens and end-users *can be* configured as passive receivers of technology or information and even as non-participants (Aitken et al. 2016; Clausen 2017; Devine-Wright 2011). But also from the more deliberative participatory and collaborative planning approaches, in which citizens deliberate in an ideal speech situation without power differences or conflict, intending to reach a consensus on the best solution that serves the common good (Habermas 1985; Ottinger et al.

2014). The co-creation concept does not emphasise deliberation to reach a consensus because working towards a consensus means that citizens should leave their personal (economic, political etc.) interests behind before entering into deliberation in the public sphere (Horst 2003). Instead, co-creation constitutes a way of including the various interests in the attempt to create socially robust (Nowotny 2003) solutions. Such solutions are not necessarily based on trust, consensus or agreement, but on negotiations and compromises. Accordingly, differences and special interests are natural and legitimate, constituting a productive force that can mobilise actors to co-create and negotiate across differences.

This also means that actors have different positions and possibilities when engaging in the different forms of participation. We find that the ability to co-create is based on resources, the ability to negotiate and a willingness to find solutions. On the other hand, participation is a pre-given right to voice concerns and potentially engage in deliberation. Thus, we demonstrate that local actors have more of a possibility to shape the socio-technical configurations of a project when co-creating than when participating as citizens in formally established procedures for participation. We also argue that a willingness to accept some configuration of the solution is a prerequisite for participating in co-creation. Therefore, not all actors or perspectives can be part of co-creation. This emphasises the need for other participatory spaces in which it is possible to be in opposition and express it. Furthermore, the only actors that can participate in co-creation are those capable of representing their perspectives and interests and negotiating solutions with other relevant actors. This excludes some human actors and (to the best of my knowledge) all non-human actors. In the procedural formats, actors such as bats, flora and fauna have rights that other actors can help protect.

Article two also demonstrates that deliberation and competitive bargaining can be seen as two strategies that are both involved in the same project and process in different relations and at different points in time. In the early days of the process, association members went from door to door to talk to local citizens; hosted public debates to discuss what the local people wanted; debated in local and national newspapers; made art projects and workshops about the potential of local wind power projects; engaged in discussions with their local politicians over the future of the area; and so on. In relations with the developer, deliberation did not get them particularly far, so they entered into negotiations to further their own interests. In their relations with the developer, their position as opposing was a strategy that they used effectively to open up the situation to their involvement and concerns. Thus, local actors engaging in co-creation can inhabit different roles in addition to those as citizens engaged in deliberation, based on the interests and possibilities of the situation.

4.3 Nuancing the idealised representation of co-creation

As I have mentioned previously, the literature on co-creation in other fields of study has been accused of idealising the concept and its ability to solve various grand challenges and problems (Plotnikof & Pedersen 2019). The literature referring to co-creation as participatory governance also appears to use it as an ideal when suggesting how participation could have been done differently and in more inclusive ways. They might present an empirical study of a participatory process that did not include local citizens thoroughly and subsequently suggest that citizens ought to have the possibility to be active partners in co-creation to ensure better and more locally compatible solutions. In this understanding, co-creation represents a “higher” or “better” form of participation.

One central pillar of its idealisation is potentially the vagueness of its definition. In participation studies, one proposal for avoiding such vagueness (and confusion and discontent) is "'clarity through specificity' – spelling out what exactly people are being enjoined to participate in, for what purpose, who is involved and who is absent" (Cornwall 2008, p. 281). Article two demonstrates that one of the things that made local actors come together in the beginning was a shared concern and opposition to the utility-scale wind power project as then planned. Different actors had different ideas about the solution to the discontent. One central solution was to reduce or halt it, another to obtain co-ownership and use the revenue to address other local problems.

Who was involved in the process ended up as a function of who could form a coalition with other actors in pursuit of a mutually beneficial solution. Repositioning the wind power project was an exploratory process in which possibilities emerged along the way. Deciding a priori who are the participants and who are not would most likely limit the creative potential and robustness of the solutions that emerge from the negotiations. Another way to counter the idealised depiction of co-creation can be to analyse and represent its consequences and limitations and show it in all its messiness. The articles included in this thesis try to do this in different ways. First, we demonstrate that not all perspectives and interested actors can be part of co-creating the solution. This does not mean that they cannot be part of the process, but as articles two and three demonstrate, several local actors left the association and process because they felt that their perspectives were not being sufficiently included. The same, however, applied to their participation in the formal procedural spaces.

Second, the thesis and articles analyse the project at a point in time when the story of the project was not yet fixed, if ever it will be. Stabilised, ideal-typical representations of local transition stories – as, for example, that of the Samsø energy transition (Papazu 2018; Sperling

2017) – constitute important mechanisms of mobilization to catalyse climate action by showing the way forward. Still, such singular narratives tend to mute other stories and empirical realities (Papazu 2018). In Article three, we foreground three different stories and put them on the same footing to show how struggles over defining and participation in a local energy project are also struggles about the future and the composition of socio-technical systems. Meanwhile, in Article two, we demonstrate that who(se perspective) is in the winning position continues to change. We therefore argue that wind power developments are ongoing cumulative processes in which the experiences and stories constructed locally draw on past, present and future events. Events that happened fifty years ago can shape local perceptions and ways of participating in wind power projects, as can future events that have not yet materialised, because perceptions of how the future will unfold casts shadows on to the present (Morson 1994).

This thesis presents some of the narratives about a potentially impactful innovative ownership model before the process and narratives are closed down. Once the project plans either materialise or are abandoned, the winning coalition will most likely come to dominate the project's narrative. Accordingly, the thesis contributes by researching a process of innovating the socio-technical systems of wind power production through a reconfiguration of the relations of ownership applying to utility-scale wind power projects. Researching such processes while they unfold is important regardless of the outcome, because it reveals insights into the dynamics of co-creation, action and initiative, acceptance and unacceptance. At the same time, I suggest, they provide insights into wider issues of inclusion and marginalisation, agency and stuckedness.

4.4 Marginalisation and agency

The three narrative constructions of the project and process of co-creating it, which we present in Article three, reiterate that perceptions of wind power projects differ, as research has

demonstrated time and time again. They also show that, no matter the configuration, the wind power project is not a desired solution for everyone. In the situation, opposition to the project exists in both unsettled and relatively stabilised forms. The local actors opposing the project attempt to participate in the local association with the objective of halting the project or agreeing to reduce it drastically to maybe five new turbines. This is not viable for the developer, nor a solution that local politicians want either. Accordingly, co-creation does not include everyone and is no guarantee against opposition to it, nor a solution. This position makes it easy to forget that opposition to the project's configuration was widespread at the beginning of the planning phase. Initially, opposition was the force that led local actors to engage themselves in the project with the aim of transforming it in a direction that better matches local needs and values, as well as being a condition leading local politicians to support their cause.

What ends up bringing the local association to the table is the positioning of the project as a solution to other local problems. Wind power projects are typically situated in rural areas, often located in the margins of the state. Research has demonstrated how developers use derogatory rhetoric and forecasts of rural decline to make space for wind farms (Rudolph & Kirkegaard 2018). This way of actively using territorial stigma as a strategy co-produces local areas and furthers the decline of already challenged areas, which is why understanding this nexus is critical to ensuring a socially responsible and sustainable transition. Research and practice has sought to better understand how the development of renewable energy infrastructure can function as a "lever for local development in outskirt areas" (Rambøll 2013). For example, much attention has been given to future local job creation from RE project development (Clausen & Rudolph 2020), though very few academic studies have assessed the actual impacts of such projects on job creation. Community energy and community benefits can also be seen as ways of maintaining

value creation from wind power projects in local rural areas. The same goes for the upgrading of industry through local content requirements, a strategy commonly employed in developing countries (Bazilian et al. 2020; Hansen et al. 2020). The underlying rationale for all these development efforts is that the areas in which wind power projects or other RE infrastructure are to be developed are, in the first place, in need of development.

Article three illustrates how this perception of the area is not shared by all local actors. The empirical analyses reveal that, from some local actors' perspectives, the central problem is not necessarily the wind power project itself. For the local actors involved in co-creation, the wind power project becomes a potential solution to problems arising from the depopulation of their area, such as the closure of schools, shops and long distances to health-care services. The proposition that their ownership of a wind turbine or wind power project could generate revenues for local development allows them to integrate the project into a progressive narrative line (Downing 1997, p. 34) in which they are the agents of epic change. Thus, their interest in and willingness to co-create the project is formed by the situation and their understanding of it. This construction of the situation makes it possible for them to position themselves as the agents of change and the future as potentially epic.

On the other hand, those local actors who oppose the project see the latter itself as the problem because it ruins a year-long improvement of the area that had removed technical infrastructure, such as electric power lines and 77 turbines, from the first wind power project established in the early 1980s. This trajectory is turned around with the coming of the new wind power project. When constructing stories about the project, they present a regressive narrative line (Downing 1997, p. 34) in which changes for the worse are imposed from the outside, and their life circumstances and fortunes are declining. Accordingly they construct stories of

complete decay with (almost) no possibilities of a cathartic or liberating outcome, which tragic stories – though tragic – usually have (Brown & Humphreys 2003). One reason for this lack of coherence could be that "[l]ived chaos makes reflection, and consequently storytelling, impossible" (Boje 2001, p. 7; Frank 1995). It could also signify a more general experience of a lack of existential (and physical) mobility and thus the ability to affect central aspects of their own lives. The desire to migrate is a typical response to such experiences (Hage 2009; Kleist & Jansen 2016), one that is also presented as a potential solution by some opponents.

By now, many studies of the social acceptance of renewable energy innovations have revealed how local perceptions and positions are diverse and shaped by, for example, place-attachments (Devine-Wright 2009) and perceptions of procedural (Hall et al. 2013; Ottinger et al. 2014) or distributional justice (Johansen & Emborg 2018; Leer Jørgensen et al. 2020) and trust (Aitken 2010b; Goedkoop & Devine-Wright 2016; Gross 2007). In Article three, we present three local actors' narrative constructions of a process of ownership model innovation in a polyphonic analysis. We argue that local actors' constructions of the process are shaped by different perceptions of time as closed and open. By including things that did not happen, as well as things that are projected to happen, the future and past become actors in the present shaping how local actors understand their possibilities to act and influence the wind power project and their life-situations more generally. In including time as a factor in the analysis, the paper and thesis contribute theoretically to the literature on community energy (and the social acceptance of renewable energy innovations more generally) by demonstrating how different temporalities shape the way local actors construct the process of developing the project differently, some positioning themselves as agents behind epic change while others position themselves as

marginalised and unable to move. Despite being a central condition of social acceptance, time has so far not been examined in much detail (Rudolph & Clausen 2021).

The local actors' different constructions of the process and themselves suggest that creating wind power projects comlletely free from dissatisfation is, at best, a difficult task. Therefore, the democratic foundation of projects, co-created or not, is critical. In this project the decision to plan for the wind power project has been made by the respective city councils almost in unison. In addition, local politicians established a requirement that more than 50% of local citizens living within 4.5km from the project should support the association in their attempts at obtaining co-ownership. Therefore association members canvassed the local area to enrol members, discussed their aims and wishes and ended up representing a majority of the local population. Accordingly, the wind power project and the local actors' engagement in the co-creation process are governed by additional democratic measures than other political decisions and initiatives. The wind power project is contentious both as problem and solution, which is why local politicians seek to legitmise the (decision to co-create the) solution through further democratic measures. This suggests that co-created solutions will not necessarily be appreciated by everyone, despite solutions being robust and processes and decisions democratically founded.

4.5 An innovative shared ownership model

As its main empirical contribution, this thesis investigates a process of co-creating an innovative model of shared ownership. The novelty of the ownership model is that it combines collective community ownership facilitated through a foundation for the common good with local private business ownership and corporate developer ownership. As such, it situates itself in between local energy (LE) and community energy (CE) approaches to involvement and ownership (Devine-Wright 2019). This combination of co-ownership, which is nested with different local

actors and a utility-scale developer, opens up utility-scale wind power projects to local actor ownership. The literature on community energy[9] and local ownership demonstrate that multiple ownership configurations involving local actors exist (Gorroño-Albizu et al. 2019). Some research demonstrates that community energy projects produce higher levels of acceptance (Warren & Mcfadyen 2010), but other studies reveal that CE is a fragile ownership configuration, for example, because of reliance on a volunteer workforce and vulnerability to changes in policy and funding landscapes (Seyfang et al. 2013; Seyfang & Smith 2007).

Like CE, shared ownership constellations come in different configurations, some collectively organised, others with individual shareholders. Shared ownership is no guarantee of local support, as research on the Danish co-ownership scheme has demonstrated (Johansen & Emborg 2018; Leer Jørgensen et al. 2020). This thesis and articles two and three contribute to the literature on CE and local ownership by investigating the reconfiguration of a shared ownership model with individual share ownership into a collective foundation model combined with local private business ownership. Article three also touches upon questions concerning who the local actors and communities participating are in its inclusion of a landowner perspective on the ownership model and wind power project. The landowners and citizens involved were both indifferent to each other's participation in the project because they did not consider each other the most relevant local actors for participation. Thus, this research suggests that including a

[9] In the literature there is a diversity of different ways of referring to wind power projects with citizen ownership (Gorroño-Albizu et al. 2019) and much debate over different concepts (Creamer et al. 2019; Walker & Devine-Wright 2008). In the thesis and papers, I take community energy as implying active citizen ownership held by an aggregate or collective group of citizens. I refer to local ownership as the variety of kinds of local ownership present, most importantly for this case including community and landowner ownership.

diversity of communities (or local actors) in ownership models is possible and beneficial if inclusive energy transitions are to be created with local support.

Bearing in mind the promotion of large-scale developments that many national governments pursue, shared ownership configurations might constitute important avenues for the financial participation of many local communities that could also apply to offshore and maybe particularly nearshore developments. Research has shown that community-centred projects have difficulties entering this market (Krog et al. 2018). This is why shared ownership, as presented in this thesis, might be a viable approach to establishing local ownership with a collective sharing of benefits. In Denmark, several attempts at developing or facilitating similar models are underway, e.g., in the community-driven nearshore 100 MW wind power park off the shores of Bornholm[10] and the politically driven attempts at creating co-ownership in Tønder municipality[11]. Learning from the Nørrekær Enge project might be of great importance to these and future projects.

4.6 Limitations and recommendations for future research

The choice of methods for the individual papers clearly has consequences for what they can reveal. As I discuss some of these issues in relation to concepts, methods and analytical strategies, I will refrain from going into too much depth with the individual papers here. Instead, I include overall reflections about alternative perspectives as suggestions for future research, thereby implicitly revealing some limitations of the present research.

[10] https://www.bornholmshavvind.dk/ accessed 27.06.2022
[11] https://www.toender.dk/din-kommune/nyheder-og-presse/nyheder-og-pressemeddelelser/tonder-tager-et-stort-skridt-mod-en-gron-fremtid-438087964825813/ accessed 27.06.2022

Process or outcome?

Research on co-creation typically focuses on the process: systematic attention to the outcomes and effects of co-creation is rare. Because this thesis researches a co-creation process of an innovative ownership model, it is impossible to determine whether it is the process or the outcome that affects local support to the project. In the thesis, I analyse some of the consequences of co-creation in focusing on co-creation and identity as co-constitutive and in analysing how the process leads different actors to see different futures and possibilities for action. However, studies explicitly engaging with the more quantitative aspects of co-creation outcomes could be of interest, for example, to investigate to what extent the ownership model fulfils the visions of supporting local development, or whether similar ownership models implemented without the co-creation process also come with high levels of local acceptance. Tønder municipality has stated a political wish to integrate a seemingly similar ownership model into municipal wind power projects from the top down. This could be used as the basis for a comparative study.

Case-study design

In the thesis I focus on only one renewable energy source and project, despite inspiration from and comparison with other cases, as described in the section on concepts, methods and analytical strategy. Using other case-study designs would, of course, elicit other perspectives. For example, conducting a multi-case study would make it possible to contrast and compare different aspects of co-creation more systematically. This might improve the generalisability of the results or provide interesting insights into the dynamics and situatedness of co-creation practices. In the in-depth study of co-creation presented as Article two, we argue that making the situation a matter of shared concern (with central local actors), local actors' relations to resources and their ability

to negotiate in a market arena are central aspects of the co-creation of the project configuration. A multi-case study of the central actors, of the resources that are relevant and of how the object of co-creation shapes these aspects and relations could help facilitate a deeper understanding of the dynamics of co-creation and how implementation may shape the possibilities for local actor participation.

How representations of RE-project ideals co-produce transitions

One of the emerging themes in researching and writing Article three and this thesis was the role of stories and narratives in shaping specific project developments. Individual wind power projects are not only important to their local surroundings and the relevant actors: transition stories travel and can have an effect on, for example, transition trajectories globally, nationally (Papazu 2018), regionally and locally in relation to other wind power projects (Borch et al. 2020; Munk 2014). I have briefly touched on this question in the part of the thesis that discusses transition narratives, but further research into how individual projects co-create wider innovations in socio-technical systems could be of value. Transition stories concerning, for example, the Samsø renewable energy island and the Hvide Sande model travel and shape the way actors involved in the wind energy sector and specific projects, such as local communities, politicians, developers and national policy-makers, think of and co-produce RE transitions.

Co-creation of socio-technical systems perspective

As the second perspective of the literature review, we argue that co-creation is used to describe innovation in socio-technical systems. Whereas this thesis has researched the two other perspectives – namely co-creation as participatory governance and the co-production of representations and identities, in articles two and three – it has not systematically explored the

dynamics of co-creation as innovation in socio-technical systems. The Hvide Sande case could constitute an interesting research intervention, as the development of the three turbines sparked a transition of the local energy system and a redirectioning of the local economy centred around wind power production on and offshore.

These four recommendations for future research are only some of the many research directions worth pursuing. Understanding in further depth how we can create locally inclusive transitions is of the utmost importance to ensure that the transition to sustainable energy production happens at the speed and on the scale needed to keep climate change within the planetary limits while supporting social cohesion. This task includes all of us across our various roles and positions in society and other relations. Before I conclude this thesis, I will offer a few recommendations for practice, based on the research for the thesis.

4.7 Recommendations for practice

In the introduction to this thesis, I talk about co-creation as a solution to grand challenges and suggest it could be applicable in the context of energy transitions. Bearing this argument in mind, as well as the many delays and more than eight years of development, it might seem unsuitable to use this case to investigate the potential for co-creation in transitions. However, I believe that this example and local actors' engagement with it is still encouraging. Contention and conflict are not necessarily destructive of society but may be part of the ongoing development of public opinion, positions, institutions etc. In this case a lot of what we think of as the fabric of local democracy is active locally; debates in local and national media, public meetings, discussions with politicians in meetings and in the local co-op shop, associational life, art fairs, workshops involving children in envisioning the future, and a lot of other aspects of civil society that we normally cherish. All of this activity and debate centred around the energy transition is, in my

opinion, one of the central aspects of creating locally acceptable and socially responsible transitions because we are in it for the long run. Forcing something through or suppressing perspectives might win the individual battle but jeopardise the transition in the long run.

Therefore, we ought to provide local governments with more authority and flexibility to decide between and perhaps co-create different solutions if they see the need, and not just ask them to implement a set of fixed models for participation and development. To do so effectively and creatively, they need more time and the resources to support them in the enormous planning tasks that various climate-mitigation strategies and interventions will place on local areas across the country. Some of these could be channelled into the various municipalities, while others could be nested with cross-cutting or travelling organizations to ensure that experiences from one situation are used to inform others.

For local actors to be positioned as co-creators and owners, resources and relations are central. As our analyses demonstrate, the local community groups' ability to position themselves as part of co-creating a project configuration acceptable to them was dependent on the voluntary unpaid work of multiple actors agreeing to do what they usually charge others for, based on idealism and expected payment in arrears. Acknowledging the importance of including diverse voices in co-creating robust solutions to social contention and problems should also mean acknowledging the enormous work and number of hours citizens and other actors put into doing good for their local areas. Wind power development and other engineering tasks are difficult and time-consuming tasks, but so is creating and maintaining social cohesion. Supporting local community initiatives when they arise, whether politically or financially, is key to securing participation in transitions. The energy agency supports technical assessments in preparation for potential citizen-owned RE projects with up to DKK 500,000. This support has been critical for

the present citizen's initiative. However, support could also target citizens more directly by acknowledging voluntary activities in RE associations with a level of income for themselves and by allowing them to spend more time in associational activities and less in the formal labour market.

The very different positions of local groups also suggests that different policy tools are important in countering the marginalisation that some local actors experience when their preferred solutions are not implemented. Technically defined boundaries – for example, deciding whose houses will be bought and whose will not – is often experienced as arbitrarily affecting some while benefiting others. The ability to move can be a cathartic solution to a tragedy and should be offered to more local citizens, preferably in combination with other initiatives supporting the transition, such as the development of eco-villages or other alternative ways of living.

5 Conclusion

This PhD thesis is about innovative participatory mechanisms and ownership formats in renewable energy project planning and development. But it is also about how we choose to live together on a more general plane, that is, about relations, storytelling, identities and responsibilities. These matters are thoroughly intertwined with energy transitions, and if we are to understand either, we have to understand how they intersect. A central ambition of this thesis has been to investigate how people can play a part in shaping renewable energy projects in their local areas and make productive relations with and from it. "The local" is a central level of intervention because this is where citizens meet the materialisations of energy transitions. This is where they have the possibility to engage with it, but also where support for the transition and the different national and international strategies that drive it are, perhaps, most at risk.

I suggested as part of the framing that co-creation might be a beneficial approach to wind power project planning and development, and set out to investigate what it means and does, both theoretically and empirically. The thesis finds that co-creation does not just mean one thing but is a flexible concept in the literature on wind energy. Sometimes applications of the concept are theoretically informed, and sometimes scholars make a more common-sense use of the term. This thesis has contributed to a more theoretically informed and nuanced understanding of co-creation by detecting three perspectives on co-creation in the literature: co-production of representations and identities, co-creation of innovation in socio-technical systems, and co-creation as participatory governance. These three perspectives emphasise how co-creation is not only an instrument (i.e., a way of making participatory governance or innovating socio-technical systems with wind power), but also a way of understanding the relations between the world, social relations and technologies. All three papers included in the thesis concern co-creation or

co-production in different ways. Whereas the first article discusses the terminology and literature, the second and third articles investigate co-creation empirically, based on the understandings presented by two of the three perspectives. Article two investigates co-creation as participatory governance in a specific case, while Article three investigates how the development of the wind power project and a shared ownership model co-produce representations and identities locally, which again co-produces the project.

A central interest for this thesis has been to understand how co-creation differs from other approaches to participation. In Article two, we compare co-creation to the standard procedural mechanisms and find that there are central differences between the two approaches to engagement. The thesis finds that local actors participating in co-creation can shape the project more directly and materially than those actors engaging in standard procedural formats. Still, the procedural system offers possibilities if the actors are capable of finding the "right hearing partners". We also demonstrate that, for local actors, wind energy planning and development in their vicinity is not a discrete event, but an ongoing process that draws their pasts and projected futures into narratives that position themselves and others in new relations and identities.

As the energy transition unfolds, many local communities will have encounters with materialisations of the transition. Understanding how these encounters affect publics in their various forms is central to creating a socially responsible transition and a balanced society. Co-creation can be a useful method to pursue and produce solutions to problems in a way that includes a diversity of actors in the co-creation of robust (and for many) acceptable solutions. At the same time, it designates an understanding of transitions as ongoing cumulative events of relation-making among human and nonhuman actors that all need to be taken into consideration

if to create a transition that is both environmentally and socially sustainable and can thus be an important part of the energy transition.

Appendix 1. Systematic review protocol

Research questions to be answered

How is co-creation used in the literature on wind energy development?
Who are the central actors?
What are the objectives of co-creation

The first step is to decide which search terms will be included in the review and which will not. This step involves a review of a purposive sample (Cooper 1988) of literature on co-creation and co-production to identify other relevant terms used within the literature. The review will use database search and "snowball sampling" by looking through references and reference lists, to locate the terms used to describe seemingly similar processes or phenomena but maybe within a different field, following another strain of thought, etc. Throughout this process the following concepts were considered for inclusion:

- Co-creation
- Co-production
- Co-design
- Co-management
- Co-governance
- Participatory design
- Participatory innovation

I read literature reviews about the different concepts and selected literature using the different terms. We follow the example of other reviews from other fields (Agger and Tortzen 2015; Verschuere, Brandsen, and Pestoff 2012; Voorberg, Bekkers, and Tummers 2015) and include co-creation and co-production as search terms because these are often used as umbrella terms covering wider processes while the rest are more often used as elements/ parts of these processes.

- Co-creation
- Co-production

And

- Wind energy
- Wind power
- Wind park
- Wind farm

The second step is to decide on the search strategy.
Since the amount of literature on co-creation (and related terms) in relation to wind energy is quite limited, this review will opt for an *exhaustive* coverage (Cooper 1988). In order to obtain this coverage, literature will be searched for using appropriate search engines. The following

search engines will be used as a point of departure due to their good coverage within social science and energy literature and topics.

Search engines used in the literature search

- Scopus
- Web of science
- Ebsco
- Science Direct

The third step is to perform the searches using all the different combinations of terms using all the different search engines and systematically record the results. For this purpose, an excel sheet showing each combination of terms and the resulting number of publications for all search engines is produced.
All the listed search terms above were coupled with “wind energy” or “wind power” or “wind park” or “wind farm”.

The fourth step is selecting between publications to be included in the analysis. Selection is performed by reading through the abstracts manually while discarding the publications that do not concern the type of co-creation or co-production relevant to this review. All relevant publications are saved to Mendeley, and details are recorded in an excel sheet showing author(s), year of publication, title and name of publication outlet.

Criteria for in- and exclusion.

- Records should deal with co-creation etc. as a social phenomenon (i.e. not co-production of methanol and energy)
- Records can be both empirical and theoretical.

The fifth step is analyzing the literature and grouping it into thematic clusters while defining and discussing relevant specific characteristics of each of the clusters. For the purpose of the analysis the literature was imported into ATLAS.ti and coded qualitatively.

The sixth step is to relate and discuss the findings to answer the research question.
The seventh step is writing the review into a coherent text that answers the problem statement.

6 Article one

Title:

Identities, innovation, and governance: A systematic review of co-creation in wind energy transitions

Authors

Lene Gjørtler Elkjær, Maja Horst, Sophie Nyborg

Journal

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Keywords

Co-creation, co-production, participation, social acceptance of renewable energy innovation, wind energy, renewable energy

Abstract

The concepts co-creation and co-production increasingly find their way into research on renewable energy development. As an innovation paradigm “co-creation” is believed to produce more legitimate and inclusive innovation processes, however, in the context of energy transitions there is still no consistent understanding of what the concept means and implies. This paper investigates the links between co-creation and wind energy development to explore the (potential) role of co-creation for research and practice. We do that through an exploratory systematic review of 51 papers that refer to co-creation and co-production in relation to wind energy development. The review identifies three different understandings of co-creation in the literature, namely co-production of identities and representations, co-creation of innovation in sociotechnical systems, and co-creation as participatory governance. The three perspectives capture how co-creation comes about and how it shapes relations between actors present in the sociotechnical assemblages of wind energy development. We show how the use of the concept of co-creation suggests new roles for citizens as co-creators and co-producers of electricity and planning decisions. We subsequently discuss what these roles suggest for the understanding of participation in renewable energy development and transitions more broadly.

6.1 Introduction

A transition to renewable energy production is key if we intend to reduce greenhouse gas emissions by 80–95% by 2050[12], as promised by the European Union (European Commission 2012). The implementation of renewable energy generation capacity has risen steadily since the turn of the millennium, and in 2019, renewables accounted for almost 25% of global power output (IEA 2019). Nevertheless, further expansion of renewable energy continues to face local contention, and many attempts at developing greater capacity (particularly for wind power) are still curtailed before these attempts can reach implementation. Scholarly literature on wind energy development often investigates this as a matter of (lacking) social acceptance at a community, market, or socio-political level (Wüstenhagen et al. 2007). In particular, the public has been seen as a barrier to wind development, and early research on social acceptance has particularly focused on finding ways to overcome this "roadblock" (Barry & Ellis 2011; Wolsink 2018b). Subsequently, research on social acceptance has diversified to include perspectives more nuanced than the "not in my backyard" (NIMBY) characterization of opposition (Bell et al. 2013), with an increased focus on the relations among the involved actors (Fournis & Fortin 2017). This implies that the object of study is not simply a question of social acceptance or rejection but rather one of innovation and of sociotechnical relations and processes more generally. To grasp these processes fully, we must investigate a number of different coexisting dimensions, such as community life and everyday experiences, socio-political configurations of power structures and governance, and market formation and exchange mechanisms (Chilvers et al. 2018; Devine-Wright et al. 2017; Fournis & Fortin 2017, p. 14).

[12] Compared to 1990 levels.

However, as Devine-Wright et al. (2017) state, only rarely do empirical studies of renewable energy projects actually engage with more than one of these dimensions—community, markets and socio-political aspects—at a time, and public participation approaches focused on information and consultation are still the most predominant in actual development practices (Aitken et al. 2016). Furthermore, fixed, pre-given meanings of what it means to participate (Chilvers & Longhurst 2016) and the traditional focus on overcoming barriers to social acceptance arguably still echo in the research due to the literature's sustained attention to the public and its perceptions and responses (Batel & Devine-Wright 2015; Brennan et al. 2017; Wolsink 2019) and its participation (Aitken et al. 2016; Devine-Wright 2011; Haggett 2009). In the face of controversy over wind power development, it is somehow still assumed that "more," "better," or "deeper" participation, with a focus on deliberation and grounded in a better understanding of justifications for opposing particular wind energy developments, will lead to socially acceptable outcomes, although some papers have discussed the implicit assumption that consensus is to be the outcome of such deliberation (Aitken et al. 2016; Barry & Ellis 2011).

In this paper, we start from the observation that various attempts at adjusting the understanding and practice of public participation in the face of controversies over wind energy have not solved the problem of public discontent. We propose that these difficulties are related to the way by which social relations of participation continually conceptualize the engagement of one party (publics[13]) in something (development projects) by another party (developers) based on

[13] "Public(s)" is a much-debated concept in the social sciences. In this paper, we primarily use "publics" to designate the collective of citizens in a given democratic constituency, whether that be local, national, or along other lines of demarcation (Horst & Irwin 2010). Many years of research in science and technology studies have demonstrated the necessity of representing the public not as singular but rather as multiple and as particular to specific issues, and of representing it as processual and emergent in the sense that issues spark publics into being (Marres 2005).

the interests of this latter party or of society at large. This conceptualization is an obvious fit with the current planning systems of many countries that assign the initiative and the responsibility of wind energy development to authorities and/or developers. However, this conceptualization has two important limitations: first, it tends to treat the social context (including various publics) as separate from technical development, and second, it does not necessarily consider the interests on behalf of groups of publics and other stakeholders in sufficient depth. The research thereby misses an opportunity to understand how publics, in their various forms, can constitute an integrated and value-adding part of the development of wind energy rather than remain mere onlookers who only react to technical developments.

We have therefore turned to the concept of co-creation, which we broadly understand as the coming together of actors across organizational boundaries to create mutually beneficial outcomes, to explore how co-creation might be conducive to wind energy development (and energy transitions more generally), as some scholars have suggested (Borch et al. 2018; Chilvers & Longhurst 2016; Wolsink 2018a). Studies in other fields have argued that co-creation widens the space for innovative developments by including additional and more empowered actor roles and institutional arrangements (Ramaswamy & Ozcan 2014; Verschuere et al. 2012; Voorberg et al. 2015). We therefore suggest that a focus on co-creation might also prove to be beneficial in relation to wind energy development.

The concept of co-creation has been employed in relation to wind energy, but there is a lack of systematic attention to what it means in this context and how it can be employed. We have therefore conducted a systematic review of the literature on co-creation in wind energy development. During the initial scoping phase of this review, we found that the concept of co-

production is often closely related to the use of co-creation (Vargo & Lusch 2004) and that systematic reviews in other fields have found that these two concepts are often used as interchangeable (Agger & Tortzen 2015; Voorberg et al. 2015). We have therefore chosen to include both co-creation and co-production in this review, and we view them as overlapping to the extent that we can investigate them together. While some scholars use co-production in a distinct and specific way (Jasanoff 2004), others do not distinguish systematically between the two concepts. One differentiation is found in Torfing et al. (Torfing, Sørensen, and Røiseland 2019), who suggest the conceptualization of co-production as the process through which providers and users of a product or service work together in its production and delivery (Lusch & Vargo 2014; Torfing et al. 2019); this study also advises the view of co-creation as a more general concept that designates processes in which different actors come together to solve a shared problem in a way that adds value for all (Ramaswamy & Ozcan 2014; Torfing et al. 2019). However, we do not find this differentiation to be clear-cut in the reviewed literature and have therefore chosen to include both terms in the search parameters. In the analysis, we refer to the concept used by the particular literature discussed, but in the methodology and discussion section, we use the concept of co-creation to be consistent.

The paper and review has two objectives: first, we consolidate current research on the topic, its applications and objectives, and second, we discuss how a focus on co-creation can be useful in responsible wind energy innovation. In doing this, the paper answers the following research questions guiding the literature review: *How is co-creation used in the literature on wind energy development? Who are the central actors? What are the objectives of co-creation?* The overall purpose of the paper is to investigate the usefulness of the concept of co-creation for

the study and practice of wind power development and, particularly, how co-creation adds to the theoretical understanding of social acceptance and participation.

In the next section, we present the context and background for the concepts of co-creation and co-production. Second, we present the systematic review methodology and the research strategy employed in the data production. Third, we present the results of the literature review and establish a shared understanding of how the concepts are applied in the context of wind energy development. Fourth, we discuss what this means for our understanding of agency and actor roles within wind energy development. Our conclusion summarizes how co-creation can improve the study and practice of wind energy development.

6.1.1 Conceptual and methodological framework

The concept of co-creation has gained traction over the last two decades, and in 2014, it was proclaimed as a new paradigm in business and management studies (Ramaswamy & Ozcan 2014). Simultaneously, the European Union has promoted co-creation as an innovation paradigm (European Commission 2017), and co-production has been suggested as an approach to create higher quality in public service delivery (Verschuere et al. 2012) and in public sector or social innovation (Voorberg et al. 2015). The introduction of these concepts addresses the fact that many attempts at innovation in science and technology fail because societal values and needs are not substantially integrated into products and services. As a way toward more responsible and inclusive innovation processes, the co-creation paradigm suggests that actors come together across organizational and institutional boundaries jointly to create innovations that are mutually beneficial.

Within business and management studies, the shift to co-creation entails that private sector innovation is changed from an intrafirm exercise to a creative collaboration that involves both insiders and external stakeholders, particularly end-users (Ramaswamy & Ozcan 2014, xvii). This shift serves two purposes. First, companies and organizations face increasing challenges to produce goods and services more efficiently if they are to maintain competitiveness in global markets. To overcome this challenge, consumers, as user-innovators, overtake parts of the production activities (Hippel 2005; Prahalad & Ramaswamy 2000; Vargo & Lusch 2004). Second, co-creation provides a possibility to add extra value to the products and services, thereby improving an organization's competitive advantage (Grissemann & Stokburger-Sauer 2012). Hence, customers are not only involved as test subjects who can react to product developments controlled and managed by a designer, but rather as people with insiders' knowledge of how products should be developed to fit their own needs. In this way customers can provide organizations with insights that can feed directly into product and service innovation.

In public service delivery and public sector innovation, co-creation is understood to aid the public sector in times during which many countries face demographic challenges and budget austerity by improving the effectiveness of and satisfaction with public services through solutions tailored to meet the wishes and values of its users (Voorberg et al. 2015). In the context of renewables, this could mean that the aim of project development is for developers and local communities to explore possibilities together to ensure a form of cooperation that local communities experience as meaningful (van de Grift et al. 2020). Simultaneous satisfaction of citizens' expectations and adherence to tight budgets requires new methods, and when subscribing to the approach of co-creation, some activities can be redistributed for citizens to manage. The prospects of delivering services with lower costs and higher level of satisfaction

among citizens, has also been a motivation factor in local government support for community ownership of energy projects (Creamer et al. 2018). The literature on public service delivery and the use of co-creation and co-production in public innovation typically has its roots in the work by Nobel laureate Elinor Ostrom and colleagues (Parks et al. 1981), who define co-production as "the process through which inputs used to produce a good or service are contributed by individuals who are not 'in' the same organization" (Ostrom 1996). In this way, the processes behind public service delivery obtain a sensitivity toward different groups of actors, develop an improved focus on achieving jointly desired outcomes, and alleviate some of the pressure on public budgets.

In summary, co-creation can be understood as the coming together of groups of diverse actors across organizational divides with the aim of creating, producing, or improving products (Hippel 1987; Prahalad & Ramaswamy 2000), processes, and services (Ostrom 1996) or more generally create value (Ramaswamy & Ozcan 2014, p. 14) that is desirable for all involved parties. It is a central characteristic of co-creation that end-users are not only involved in providing input to the design-process of the producer but also take part (ideally with all actors as equals) in defining both problems and solutions because a shared outcome is perceived to add the most value for all. In light of the widespread appraisal of co-creation, the concept may also be useful in the development of wind energy where questions of acceptability and public participation have been central. Although the research on public participation in general is expansive, co-creation, as a particular form of participation, has not received as much attention. Accordingly, this review engages more deeply with the emerging theme of co-creation and its use and uptake in the literature.

6.1.2 Methodology

To examine how co-creation is used in relation to wind energy development, we have conducted a systematic literature review that improves the evidence base of a field through compilation of existing knowledge (Sovacool et al. 2018). Tranfield et al. (Tranfield et al. 2003) recommend a preliminary scoping study to assess the relevance of the review and establish proper search terms. The scoping study for this review included literature on related concepts, including social acceptance, public participation, spatial planning, co-creation and co-production in public service delivery, and public sector innovation and management. The scoping study supported the need for a systematic review specifically focused on wind energy. Due to inspiration from literature reviews from other fields, such as public sector innovation and service delivery (Agger & Tortzen 2015; Verschuere et al. 2012), the scoping study also involved initial test searches using the terms "co-design," "co-management," and "co-governance." We found that the concepts of co-creation and co-production were the most comprehensive and that together they included various forms of citizen involvement discussed under the heading of the other terms (Voorberg et al. 2015). Following the preliminary scoping study, we developed a protocol to guide the review and ensure it was performed in a transparent and replicable manner, as is central for systematic reviews (Petticrew & Roberts 2006; Sovacool et al. 2018). The protocol is summarized in Table 1.

Search terms	Co-creat* OR cocreat* OR "co creat*" OR co-produc* OR coproduc* OR "co produc*" AND "wind energy" OR "wind power" OR "wind park" OR "wind farm"
Databases	Web of Science, Scopus, EBSCOhost, and Science Direct
Period of data collection	May 7, 2019, to October 1, 2019
Study eligibility criteria	
Inclusion criteria	Full-length, peer-reviewed, published articles of studies - Using co-creation and co-production in relation to social phenomena[14] - Focusing on all aspects of wind energy development - With all kinds of research designs
Report eligibility criteria	
Period of data publication	No restrictions
Publication outlets	Peer-reviewed journals
Language	English
Results	
Initial sample size	1517[15]
Papers included in review	51

Table 1. Review selection criteria

[14] Wind energy and co-creation/co-production does not have to be central to the arguments of the studies but the co-production aspect had to relate to social phenomena and not to technical aspects.

[15] The same search terms are run in four different databases, meaning that the initial sample includes a large number of duplicates that have been discarded manually.

Data was produced by searching the electronic databases using the search terms and combinations mentioned above. The last search was performed on October 1, 2019. Because the literature sample on co-creation and co-production in relation to wind energy development is relatively small, the second keyword search string (“Wind power” OR “wind energy" OR “wind park” OR “wind farm”) was kept broad to catch as many results as possible. There was one disadvantage of this decision: because co-production is also used to describe the simultaneous production of two or more specific products, such as forms of energy, the searches returned a large share of false-positive results, which were discarded manually by reading through the titles and abstracts. The screening process resulted in the inclusion of 51 records, 25 of which featured “co-creation,” 22 of which featured “co-production,” and four of which featured both terms. The process of inclusion and exclusion of records is visualized in the flowchart in Appendix 1.

6.1.3 Synthesis method

Because the aim of the review is to investigate the potential usage of a concept that is loosely defined and only just starting to be present in wind energy development, we follow a thematic synthesis approach, which is useful for understanding the relation among different themes and a specific analytical unit (Barnett-Page & Thomas 2009). The analysis was performed by importing all 51 documents into a qualitative coding program (ATLAS.ti) and coding each mention of co-creation in vivo. Thus, a number of first-order concepts were produced, such as “co-creation as a way of establishing impact assessment guidelines by/for a diverse community.” We then grouped the first-order concepts into more generalized second-order themes (e.g., “co-creation of guidelines” and “co-creation of/for decision-making”), which we then again aggregated into the more overarching “perspective” of “co-creation as participatory governance.” The process was iterative, shifting back and forth among first-order codes, themes, overarching

perspectives, and the original literature. A visualization of the data structure can be found in Appendix 2. In the following, we unfold the results of the analysis by describing the three overarching perspectives that we identified.

6.2 Analysis: Three perspectives on co-creation

In this section, we first present overall characteristics of the body of literature on co-creation in wind energy development and subsequently describe each of the three perspectives, which collectively summarize our in-depth thematic analysis. The systematic review resulted in inclusion of 51 papers distributed across 28 journals. Journals on different aspects of energy account for almost 50% of the publications; the rest of the papers are spread across journals that cover a broad range of subjects, such as ocean management or volunteering, thus indicating that co-creation cuts across and involves themes relevant to different disciplines. An overview of the included papers is found in Appendix 3, where we have categorized each paper according to its dominant perspective on co-creation. Some of the papers fit within more than one category, but our final categorization is based on a judgment of what perspective is most dominant in light of the research questions. The three perspectives on co-creation found in the literature are the following: co-production of representations and identities (Perspective one), co-creation of innovation in sociotechnical systems (Perspective two), and co-creation as participatory governance (Perspective three). These three themes are interrelated and partly overlap. Approximately one-sixth of the papers are grouped under the first perspective, one-third are categorized under the second perspective, and roughly half of the papers reflect the third perspective.

The position of "wind energy" in the literature varies; sometimes, wind energy is central to the analysis, as in cases concerning collaborative planning of wind energy projects, while other studies refer to a larger framework and engage, for instance, with changes in energy systems and consumer relationships as facilitators for integration of more wind energy into the energy system. Further studies use co-creation to describe more overarching phenomena, such as

changes in the role of voluntary work in civil society, and draw upon examples related to wind energy. This difference reflects one of the overall outcomes of the analysis, showing that co-creation is an approach that can work at different levels. In the following three sections, we present an in-depth analysis of the three overarching perspectives on co-creation, and we start with the literature that incorporates the first perspective.

6.2.1 Perspective one: Co-production of representations and identities

A relatively small component of the reviewed literature primarily uses co-production in alignment with more general theories on the relationship between technology and society for instance by Jasanoff (2004) and Law and Callon (1992). According to this approach, an understanding of knowledge generation should not give primacy to social or to techno-scientific knowledge but rather treat them as integrated and mutually constituting knowledge and society. On the basis of this principle of symmetry, the papers critically dissect how place, people, representations, identities, and experiences are co-produced in the context of wind energy developments (Dentoni et al. 2018; Hill & Connelly 2018; Kim & Chung 2019; Rudolph & Kirkegaard 2018; de Sousa & Kastenholz 2015).

The literature analyzes how landscapes with wind energy developments and experiences of them are co-produced by the technology in question, a particular socioeconomic situation, the representation of various actors, and numerous more aspects. A central argument is that wind energy developments not only alter the landscape and the technical infrastructure but also co-produce particular representations of communities and identities of actors and influence the way by which these actors live and understand both themselves and the landscapes that they inhabit. Wind energy is shaped by the local network of material configurations and social representations, but it simultaneously alters this network in the process of co-production.

The introduction of these technologies can create particular kinds of (empty) landscapes (Rudolph & Kirkegaard 2018) as well as individual and collective identities (Dentoni et al. 2018; Kim & Chung 2019). They can, for instance, support "green" tourist experiences (de Sousa & Kastenholz 2015) but also configurations of "the public" (Hill & Connelly 2018) that shape the way in which local areas, life-trajectories, and the energy transition develop. One paper argues that the development of wind farms in rural areas, legitimized through the mobilization of the derogatory image of "outskirts Denmark," reproduces structural inequalities through the clearing of more land and the displacement of more people (Rudolph & Kirkegaard 2018). Another paper describes how wind energy co-produces a noise-polluted landscape of unsellable property alongside residents who start to self-identify as "tied pigs" (tied by unsellable property) (Kim & Chung 2019).

The literature also shows how the planning of wind farms and the models behind nature conservation, which guide some aspects of wind energy planning, do not constitute representations of the truth but rather work as "serviceable truths" that are highly contingent upon estimates and predictions (Lee et al. 2018, p. 429). Rather than laying a foundation for a governance regime founded in a general objective truth, what laws and models (co-)produce is a "good enough" approximation of the truth that can provide a basis for legitimate governance and decision-making (Lee et al. 2018, p. 429). Thus, the measures laid as foundation for planning provide actionable knowledge in the form of models used for prediction and governance. These models, the literature argues, inform decision-making, shape planning, law, and governance and thereby play a role in co-producing technological advancement and society more generally.

In summary, the application of co-production in these articles argues that wind energy development not only comes with physical, technical, or spatial implications but also equally

implicates peoples' identities and the way that they understand their social and material conditions. The physical, technical, spatial, social, epistemological, and democratic dimensions cannot be separated but instead co-evolve (Ingeborgrud et al. 2020). Accordingly, the literature subscribing to this perspective demonstrates how assemblages with wind energy-producing technologies and distribution markets do not emerge in a vacuum. These assemblages are instead intertwined in a multitude of diverse and often conflicting economic, social, and political forces; as Delina (2018, p. 49) states, navigating these sociotechnical realities should be expected "to be turbulent and highly contested." The literature representing this perspective is predominantly descriptive, a quality that distinguishes it slightly from the second and third perspectives, which are at times prescriptive and pose suggestions for how co-creation can be operationalized in practice.

6.2.2 Perspective two: Co-creation of innovation in sociotechnical systems

A number of papers in our collection focus on the co-creation of sociotechnical systems. This can be focused on technological innovation and development of market mechanisms, the preparation of sociotechnical transitions, and the uptake of wind energy technology in existing markets. In most cases, the literature takes a retrospective approach and analyzes how wind energy markets and industries were established, but the literature also features examples of future-oriented pieces that present suggestions for how new trajectories for energy systems should be co-created.

This group of papers uses co-creation to describe the sociotechnical relationships at the core of changes in industrial sectors and markets. As an example, it is argued that co-creation of heterogeneous resources (e.g., technology design, supplier competencies, user preferences, and support for research and development) and collective learning processes were central in the

emergence of the Danish wind turbine cluster (Karnøe & Garud 2012). Other papers assert that active users co-create value and adjust energy systems by informing about "needs, desires, habits and plans" (Barrios-O'neill & Schuitema 2016) and that the co-creation of a German feed-in tariff by NGOs and industry associations became a backbone for technology development in Germany (Markard & Hoffmann 2016). A third group of papers describes how co-creation between large enterprises and small and medium-sized enterprises, or SMEs, can lead to enhanced competitiveness of the offshore wind sector by lowering the levelized cost of energy (Brink 2017b, 2017a). While the argument about the German feed-in tariff and competitiveness of the offshore wind industry concerns how institutional structures positively affect wind energy technology, the primary focus of the Danish wind energy cluster example is on micro-processes to show how innovation processes are not linear but are rather shaped through bottom-up initiatives and participation. Such analyses are focused on the institutional level of wind energy developments, how ingrained ways of doing things in energy systems or markets can be altered, and how processes of co-creation can add value (Brink 2017b, 2017a).

Many of the papers point to institutional barriers (such as carbon lock-in, contract periods, risk-taking profiles, and lack of openness (Brink 2017b)) and a lack of trust as conditions that increase the difficulty of transitioning to more collaborative forms of interaction and organization. This is true in connection to relations between industry-actors but also more generally with regard to the organization of the entire energy system. One example of how these barriers are managed is the study of the emergence of the Danish wind turbine cluster. In this connection, "translation" of disinterested and hostile forces alongside the enrollment of outsiders led to changes in identities and relations that resulted in an ability to imagine alternative futures (Karnøe & Garud 2012). This development was facilitated by bottom-up initiatives that were

weaved together with existing industries, actors, and other resources in arenas, or "hybrid forums," making space for all.

It is not uncommon for parts of the literature on sociotechnical systems also to be prescriptive and to suggest alternative perceptions of how markets and sociotechnical systems of energy production, delivery, and consumption could be organized and co-created in the future. These alternatives aim at creating new markets (Kolk 2015), balancing the relation between production and consumption in (distributed) energy systems (Wolsink 2018a), assisting central institutions in service delivery, (Hoppe et al. 2016) or creating economic and productive systems focused on alternative values such as de-growth and communitarian principles (Kostakis et al. 2018; Mey et al. 2016). This reconfiguration of the mode of production both in terms of electricity and infrastructure typically serves as a means of empowerment for citizens, more autonomy in the system, and new forms of value creation.

The papers grouped under this perspective thus present different roads to such future co-created systems, for instance, household production of energy in distributed generation systems (Wolsink 2012) or groups of citizens coming together to produce energy locally through cooperative ownership of a wind turbine (Dekker 2019; Hoppe et al. 2016). Another example is a "design globally, manufacture locally" movement, which gives practical instructions for how locally to manufacture small turbines for off-grid electricity generation by following simple design guidelines (Kostakis et al. 2018). Despite the different scales and approaches, all the suggestions focus on processes of co-creation that are material by nature and include the active involvement of citizens in production and/or delivery of a product or service. These alternative forms of participation and ownership also imply that the roles of citizens change from mere consumers, users, or citizens to co-producers, co-creators, or prosumers (i.e., producer

consumers) who actively shape products and services rather than just use or accept them (or the opposite) (Kostakis et al. 2018; Van Der Schoor & Scholtens 2015; Wolsink 2018b).

Overall, the literature representing this perspective shares the idea that co-creation can be a facilitator of innovation by involving alternative actors in the system and by creating the possibility for new relations and roles, which reconfigure the sociotechnical system. The change from a passive consumer to an active co-creator of energy production could materially involve local citizens and give them a constructive stake in the development of the energy system. The literature expands the networks of wind energy development to include a broader configuration of actors, expanding the available roles to feature more than just publics and citizens, and encourage co-creation because it distributes agency. Integration of the specialized knowledge and various interests, creativity, and skills of different actors is expected to add substantively by creating more socially robust and successful innovations that create value for all. Hence, co-creation not only concerns knowledge production but also development of renewable energy systems and the configuration of the sociotechnical assemblages of the future.

6.2.3 Perspective three: Co-creation as participatory governance

The remaining and largest component of the literature focuses on how governance (structures) can be co-created among different actors. In this context, co-creation is usually defined in a pragmatic and operational manner and oriented toward problem-solving efforts in specific situations where actors try to create more legitimate, socially just, and efficient processes (Brink 2017b; Partidario & Sheate 2013) or to remedy conflicts and problems (Jansen et al. 2016; Krupa et al. 2015) by applying co-creation as a governance instrument. One exception to this pragmatic

use is Chilvers et al. (2018), who propose a whole new conceptual framework for participation in sociotechnical change based on co-production. We return to this framework in our discussion.

The areas of application of co-creation as a tool for governance vary and include spatial planning and siting of projects (Klain et al. 2017a; Ottinger et al. 2014; Piwowarczyk et al. 2019), multi-use of offshore space (Chen et al. 2015; Dalton et al. 2019; Jansen et al. 2016), community energy and benefits (Devine-Wright & Sherry-Brennan 2019; Krupa et al. 2015; Slee 2015), collaborative research (co-)production (Bishop 2019; Lennon et al. 2019; Scherhaufer et al. 2018; Serrano-Tovar et al. 2019), and climate prediction models (Christel et al. 2018). The papers representing this perspective all concern processes connected to wind energy development that are eased or optimized through co-creation. This is often related to perceptions of justice exemplified by an increased focus on recognition and inclusion of (all kinds of) people living in proximity to wind energy developments (McCauley et al. 2016; Ottinger et al. 2014); trust in processes and institutions (Dwyer & Bidwell 2019; Krupa et al. 2015); sensitivity to and alignment with social values, norms and beliefs (Jansen et al. 2016; Krupa et al 2015); or social learning and the ability to exert influence (Krupa et al. 2015; Krzywoszynska et al. 2016; Schweizer-Ries 2008). Around one-third of the papers included in this perspective have an explicit focus on social justice and consider the employment of co-creation as closely connected to the creation of a socially just energy transition. However, we also find a reasonable amount of papers emphasizing the value-adding aspects of co-creation, such as improved business-models, (Chen et al. 2015; Dalton et al. 2019; Jansen et al. 2016) in addition to justice-oriented arguments.

Ubiquitous among the papers is a recurrent theme of attempting to improve social acceptance by co-creation, and we find that some of the literature considers co-creation as a

particular kind of participation. For instance, Chen states that, in connection to the planning and development of offshore wind farms in Taiwan, stakeholders (traditional ocean users, aquaculture farmers, and fishers) were only involved in consultation and therefore "did not completely participate in the launching and pre-planning of OWF projects to be co-creators" (Chen et al. 2015, p. 48). Others refer to co-creation as a foundation for *more* participative models (Partidario & Sheate 2013) without directly mentioning what this "more" entails. However, it seems to refer implicitly to the status of knowledge in the participatory processes; many authors stress how models based on co-creation establish more equal relationships among contributions from all involved parties (Fast 2017; Klain et al. 2017a; Krupa et al. 2015). The rationale is that citizens who have been involved as co-producers of decisions in open planning processes will be less opposed to renewable energy infrastructures when they have taken part in creating the frameworks for planning, implementation, and development because their values are considered and included in decisions, plans, and processes (Dwyer & Bidwell 2019; Wolsink 2018a).

At the same time, however, the papers exhibit a diverse set of objectives behind co-creation and its explicit or implicit relationship with social acceptance of wind farms. Some papers seem to focus on instrumental (Fiorino 1990) reasons and see co-creation as a useful way of creating legitimacy (Chen et al. 2015; Durning & Broderick 2019), while others focus more on normative reasons, believing that co-creation and particularly citizens' ability to exert influence are inherently valuable (Krupa et al. 2015; McCauley et al. 2016). Additional papers focus on substantial reasons, asserting that co-creation creates better sociotechnical solutions because the utilization of the special capabilities of all involved actors will create better results

with more value added (Brink 2017b; Lyakhov & Gliedt 2017). Importantly however, many papers conflate and only indirectly reveal these reasons.

The literature is also diverse in providing specific descriptions of how co-creation supports acceptance. While some papers only mention co-creation as a possible approach, without delving into further detail (Koirala et al. 2016), others argue that the ability to "exert influence and correct decisions" improves satisfaction (Schweizer-Ries 2008, p. 4133) or that involvement must occur earlier, in the initial phase of deciding the framework (Chen et al. 2015). Some papers describe how to orchestrate the process to increase trust in institutions (Dwyer & Bidwell 2019) and suggest specific improvements, such as the implementation of a collaborative governance model focused on ongoing deliberation and inclusion of "even the least powerful stakeholders" (Ottinger et al. 2014) or active participation in co-producing boundaries for inclusion in community benefit schemes (Devine-Wright & Sherry-Brennan 2019). The themes and discussions are similar to those found in literature on social acceptance focused on public participation (Aitken et al. 2016; Haggett 2009). In this context, it is possible to argue that some uses of co-creation are comparable to the idea of optimizing participation by fine-tuning the processes of participation and, thereby, reaching a new top rung of the ladder(s) of participation (Arnstein 1969; Cornwall 2008; Pretty 1995).

However, compared with existing literature on public participation and social acceptance, the literature on co-creation differentiates itself by employing a broader focus than simply "the public" and including a more diverse group of actors, such as companies (Dalton et al. 2019), (non-profit) organizations (Lyakhov & Gliedt 2017), and (environmental justice) movements (Scheidel et al. 2018). This is related to a wider perspective that includes value creation and business models alongside the question of social acceptance. For example, it is argued that

acceptance of cumulative impact assessment guidelines was the result of co-creation (Durning & Broderick 2019) and that co-creation between companies and sector experts led to robust assessments and improved business value propositions in the offshore wind sector (Dalton et al. 2019). The reason behind these benefits is that different actors have different capabilities, which are all relevant for the innovation process, and that these capacities will be best utilized if all actors with an interest in the process or project are included equally in the innovation network.

The papers representing the governance perspective, however, also acknowledge problems with the integration of different kinds of actors and their various backgrounds, interests, and approaches to knowledge production. Many authors therefore suggest the involvement of mediators and analyze cases in which such mediators have made a difference. A mediator can come in many forms, such as boundary organizations, knowledge brokerage institutions (Partidario & Sheate 2013), or community liaison committees, but are all supposed to help overcome the barriers between different interests and kinds of expertise to create more robust foundations for decisions (Fast 2017; Klain et al. 2017a). A central element in connection to such boundary organizations seems to be these organizations' level of engagement; sometimes, boundary organizations are allowed to help run participation initiatives actively (i.e., facilitate co-production), (Klain et al. 2017b) while mediators have been used in other cases only for one-way communication from developer to communities (Fast 2017). However, boundary organizations are often considered helpful in building trust among local communities because these third-party organizations are seen as more objective and disinterested in the outcome.

In summary, the literature on co-created governance of wind energy developments revolves around many of the same themes as those found in the public participation oriented part of the literature on social acceptance of renewable energy innovation. We see this particularly in

the analysis and discussion of procedural justice, the extent to which procedural justice is present, and in the attempt to do participation differently. However, the literature has a particular focus on sensitivity toward values, norms, interests, and publics' ability to exert influence as a lever for social justice. Inclusion of citizens (and other actors) is encouraged to occur before particular projects are conceptualized so that these actors become part of the formulation, conceptualization, and design instead of mere occasional consultants.

6.3 Discussion of the three perspectives on co-creation in wind energy development

Broadly defined, the concept of co-creation can denote the creation or production of something with input from people "who are not 'in' the same organization" (Ostrom 1996), though many authors specify this external someone to be the end-user of the product or service (Parks et al. 1981; Ramaswamy & Ozcan 2014; Voorberg et al. 2015). Just as Ostrom describes, the literature included in this review focuses on how innovation can result from "crossing great divides" (Ostrom 1996) between the social and technical, experts and lay people, and prosumers and systems of centralized energy production. The first perspective on the co-production of representations and identities shows how the social and technical are inextricably intertwined and co-produced. We find this argument running through the papers representing the other perspectives as well, for instance in the commitment to assigning equal weight to different kinds of knowledges in the co-created governance of specific projects. It is also fundamental in the sustained attention to all the heterogeneous, human, and non-human elements that co-create system innovation and in the focus on more material ways to participate, as evident in the idea of prosumption or local ownership of energy infrastructures. These new roles for citizens reconfigure the sociotechnical system, and vice versa. Table 2 summarizes the findings of the analysis and constitutes the foundation for our subsequent discussion. In the remainder of this section, we will consider how the three perspectives can add to literature on public participation in wind energy development.

	Representations and identities	Innovation in sociotechnical systems	Participatory governance
What does co-creation mean?	A way of understanding the sociotechnical world where knowledge, values, and material things are intertwined.	A(n analytical) tool to understand how changes in sociotechnical systems (can) happen.	An approach to organizing social relations in concrete project development.
Who co-creates?	All (human and non-human) actors who can be included in the network as relevant.	Incumbent and alternative/"outside" actors. Citizens often take part based on their capabilities and skills as owners, co-operative members, activists, and prosumers—not simply as citizens being consulted.	Most commonly developers, authorities, and local communities. Focus not only on involving "the public" in participation processes but rather on a wider set of actor groups such as movements, companies, organizations, and other actors with an interest in the project/process at stake.
How and why do they co-create?	Continually: explicitly and implicitly, intentionally and unintentionally.	Creating a new configuration of sociotechnical systems by materially producing or creating something (e.g., electricity or small-scale turbines). Based on individual interest in performing different tasks related to the energy system.	Attempting to give equal weight to incumbent and alternative values/perspectives and focusing on social learning and what is mutually beneficial. Often concerns knowledge formation and can involve boundary organizations.

Table 2. Overview of the different understandings of co-creation and actor relations.

6.3.1 Co-creation, legitimacy and the inclusion of various interests

The first aspect we wish to draw forth from the literature concerns how co-creation can be beneficial in relation to specific projects or facilitation of processes related to wind energy development. The argument in this section primarily relates to the literature clustered under the third perspective, co-creation as participatory governance, and also has commonalities with public participation literature. In comparison to more traditional participation processes in which citizens are invited to "closed" (Gaventa 2006) deliberative spaces characterized by a technical-regulative framing (Clausen & Rudolph 2019), we suggest that a co-creation approach can be more sensitive to—and better include—different interests and values. A central difference is that actors should be involved earlier (Dwyer & Bidwell 2019) and that efforts should be made to treat various actors and the kinds of knowledge and perspectives that they contribute more equally than in the traditional participation processes. Comparison with Callon's (1999) three models of participation (of laypeople in science) might help to elucidate this.

The three models describe different approaches to the formation of knowledge through public education (M1), public debate (M2), or co-production (M3) (Callon 1999). Instead of looking at local knowledge as something that has to be improved through education (M1) or something that is activated with the sole purpose of enriching scientific (or expert) knowledge (M2), the co-production model suggests that, to overcome the gap between experts and laypeople, knowledge has to be the product of one single process involving collaboration among all actors (Callon 1999, 90). Instead of simply adding laypeople's knowledge as an extra layer to decision-making (M2), relevant knowledge must be negotiated from the outset, treating knowledge of the social context (e.g., landscape values and representations (Batel et al. 2015) or social relations, justice, and trust (Goedkoop & Devine-Wright 2016; Hall et al. 2013)) as

equally important as technical competences in finding the "right" solutions. This approach is evident in several of the studies that emphasize how power dynamics need to shift so that, instead of being recipients of information (M1) or deliberating publics (M2), "publics" act as (co-)producers of knowledge and governance structures (Brink 2017b; Klain et al. 2017b; Krupa et al. 2015; McCauley et al. 2016; Ottinger et al. 2014).

As such, co-production can be seen as a particular way of attending to different interests, values, knowledge, and practices that create robust compromises by focusing on (partly) shared goals and benefits. While the traditional notion of participation has connections to an ideal of democracy in which citizens come together to deliberate on issues of common interest, the notion of co-creation more directly addresses citizens as actors with different kinds of interests guiding their participation. Actors should not, as sometimes suggested in participation literature, set aside their personal interests to agree on the common good (Horst & Irwin 2010). Rather, it is precisely because they have different interests that the local residents, businesses, communities, and organizations should be integrated into the process. Here, we align with Chilvers et al.'s (2018) ambition of challenging traditional conceptions of the subjects, objects, and models of participation to articulate systemic understandings of participation based on the notion of co-production. In this endeavor, the potential roles of actors are important, a point upon which we elaborate in the next section.

6.3.2 Citizens, users, and other competent co-creators

Instead of regarding relevant actors as "supporters" and "resisters," or as "adopters," "consumers," and "users," as social acceptance literature tends to view these parties (Van Rijnsoever et al. 2015), our review suggests that we might benefit instead from looking beyond

these usual subjects when listing potential participators. Rather, we should focus on how actors actively shape technologies, procedures, and other elements to fit better with their reality. According to the literature, this often happens "not by deliberating, voting or bargaining" but rather by actively participating in realizing specific projects, such as by financing a wind turbine through a cooperative (Dekker 2019; Van de Wijdeven 2012) or compiling design manuals for small-scale turbines and helping others with constructing these turbines (Kostakis et al. 2018). In this way, citizens can affect their individual and collective life situations by participating in society through various roles.

In the literature, this manifests in the variety of different actor positions involved in co-creation related to aspects of wind energy. Examples are non-governmental organizations (Markard & Hoffmann 2016), SMEs (Brink 2017b, 2017a), small-scale aquaculture farmers and fishers (Chen et al. 2015), prosumers (Koirala et al. 2016; Wolsink 2012, 2019), wind turbine owners (Dekker 2019), and manufacturers (Kostakis et al. 2018) who all take part in processes based on their interests and capacity (and wish) to add value to a given process or project. Focusing on co-creation of robust compromises highlights that identities, interests, and roles in a network are not "pre-given and static" (Chilvers et al. 2018), such as the "citizen" or "consumer" labels and standard procedures for public participation have a tendency to imply. Instead, when negotiating a robust compromise, an actor can assume many identities and interests contingent on each situation and how the process develops. Actors' roles continuously shape and are shaped by the networked relations such that the actor is more than a "citizen," "neighbor," or "user," dependent on what kinds of relations and resources they can mobilize. This approach also enables actors to pursue their interests openly because these interests are acknowledged as legitimate.

Thus, the actors involved in co-creation all represent particular interests, capacities, and material practices. Emphasis is placed on the capabilities of different actors and how they will be best utilized if actors are included equally into the innovation network. Importantly, actors' roles and identities can change over time. For instance, it is possible to turn opposition groups into collaborators, co-creating a solution that is sensitive to local contexts and values. Another example is that actors opposed to values inherent in centralized energy production co-create a system more fitting to them by producing a new set of turbines suitable for off-grid household energy production, thereby changing their own roles from end-users to prosumers. This diversification of actor positions has implications for the ways in which actors engage with wind energy development such that co-creation can be seen as attempts at opening other spaces for participation in sociotechnical systems. We expand on this in the following section.

6.3.3 Material participation, bottom-up initiatives, and the performance of alternative systems and futures

The literature on co-creation demonstrates how actors attempt to create new and diverse spaces for participation, which allows them to assume a variety of identities and roles. Actors accomplish this, for example, by creating alternatives to large-scale corporate ownership through cooperatives (Dekker 2019; Hoppe et al. 2016), promoting distributed generation and prosumption (Koirala et al. 2016; Wolsink 2012), or creating alternative parallel systems of off-grid energy production (Kostakis et al. 2018). Our second perspective illustrates how it can be a struggle to configure the sociotechnical relations of future energy systems and for actors to be involved in making and performing these systems in material ways. Such actors attempt to carve out niches for themselves and their peers, which allow them to co-create and perform the energy system development from below. This also reconfigures the relationships between suppliers and

consumers: suppliers become dependent on consumers as potentially competing energy distributors, and consumers and suppliers become dependent upon the same (grid) systems for delivery, market structures, and other institutions.

The literature on co-creation has a strong focus on these sociotechnical aspects and illustrates how technical hardware (Leary et al.2019; Sovacool et al. 2011) constitutes critical nodes in the networks of wind energy as a technology, a sector, and a social practice. Concurrently, the literature stresses the argument that non-human entities have agency and can be conceived of as actors (Bridge 2018) and shows how this perspective obliges us to ascribe "equal importance to the role of technicians, politicians, and end-users as [well as to] the functionality of generators, inverters, and batteries" (Leary et al. 2019, p. 157). Technical factors such as landscapes, wind resources, small or large-scale wind turbines, and energy systems affect the possibility for energy delivery, but so do social infrastructure and the configuration of identities. The literature demonstrates that residence in isolated rural areas engenders the manufacturing of off-grid household wind turbines that are better suited to local needs than those available on the market, while simultaneously promoteing a political economy rather different from that of growth-oriented mass production (Kostakis et al. 2018). Thus, the literature emphasizes that co-production is always-already there as a factor in wind energy developments, as shown in the first perspective.

To take part in actively co-creating the systems of wind energy development, actors need to mobilize certain capabilities and networks, and therefore, certain sociotechnical configurations facilitate alternative (e.g., small-scale) actors to emerge, while other configurations hinders them (Kirkegaard et al. 2020). Taking part in wind energy development under the politico-economic, technical, and industrial circumstances connected to large-scale turbines, projects, and

production requires that actors are capable of mobilizing far longer networks (e.g., accessing capital, lawyers, and technical expertise) than those that were required when the sector was in its infancy. Several of the cases described in the analysis point to the importance of actors emerging outside existing institutions and networks, thereby suggesting that opening up networks to new actors might serve as a catalyst for innovation in these sociotechnical systems (Karnøe & Garud 2012; Markard & Hoffmann 2016).

In summary, understanding sociotechnical systems as co-created suggests that publics should not primarily be seen as consumers or as citizens to be consulted but rather as creative, capable, and skillful co-creators and innovators in the transition toward more sustainable energy futures (Hyysalo et al. 2013; Nyborg 2015; Seyfang & Smith 2007). This appreciation of competent co-creators is also evident in the EU's recent ambition to explore the "new wave of public engagement, where co-creation is the key notion" (European Commission 2016) and in the intensified focus on collective experiments with or by the public in, for example, living labs (Engels et al. 2019; Leminen & Westerlund 2019), emphasizing that participation can take many more forms than those imagined in traditional planning systems and policies.

6.4 Conclusion and further research

Throughout this review, we have shown how co-creation and co-production are used in relation to wind energy development by focusing on how actors can come together across differences and create projects, processes, and services that are of more value and benefit to a wider set of actors. Co-creation is not yet widely applied in relation to wind energy, but in taking stock of the literature, we have attempted to create a foundation for future work. The review demonstrates that the literature employs co-creation in three different ways: first, to capture the formation of representations and identities in the context of wind energy development; second, to understand (potential) innovations in sociotechnical systems; and third, to account for a governance approach that promotes collaborative knowledge generation and decision-making.

Co-creation distinguishes itself from participation in important ways. The concept emphasizes the need for co-production of knowledge and social learning and points to alternative modes of organization with diverse actor positions in relation to wind energy development. Accordingly, actors represent particular interests and capacities and inhabit roles other than those of citizens or publics who are consulted on already-finalized plans or are engaged in deliberation and consensus-making. This calls for developing governance models that unveil the different interests at play (e.g., those of developers, neighbors, local politicians, landowners, social movements, and local businesses) and allow for the development of robust compromises between all these different and equally legitimate interests. The co-creation perspective also underlines that actors can participate in multiple and material ways by having competences, interests, and skills that enable them not only to co-create the planning agenda (Borch et al. 2018) but also co-create and improve technology designs through, for instance, making

modifications to heat pumps or smart home equipment (Hyysalo et al. 2013; Nyborg 2015) and thus co-creating the sociotechnical system from the bottom up. We suggest that this might be key to unlocking the potential for increased value generation and collaborative wind energy development.

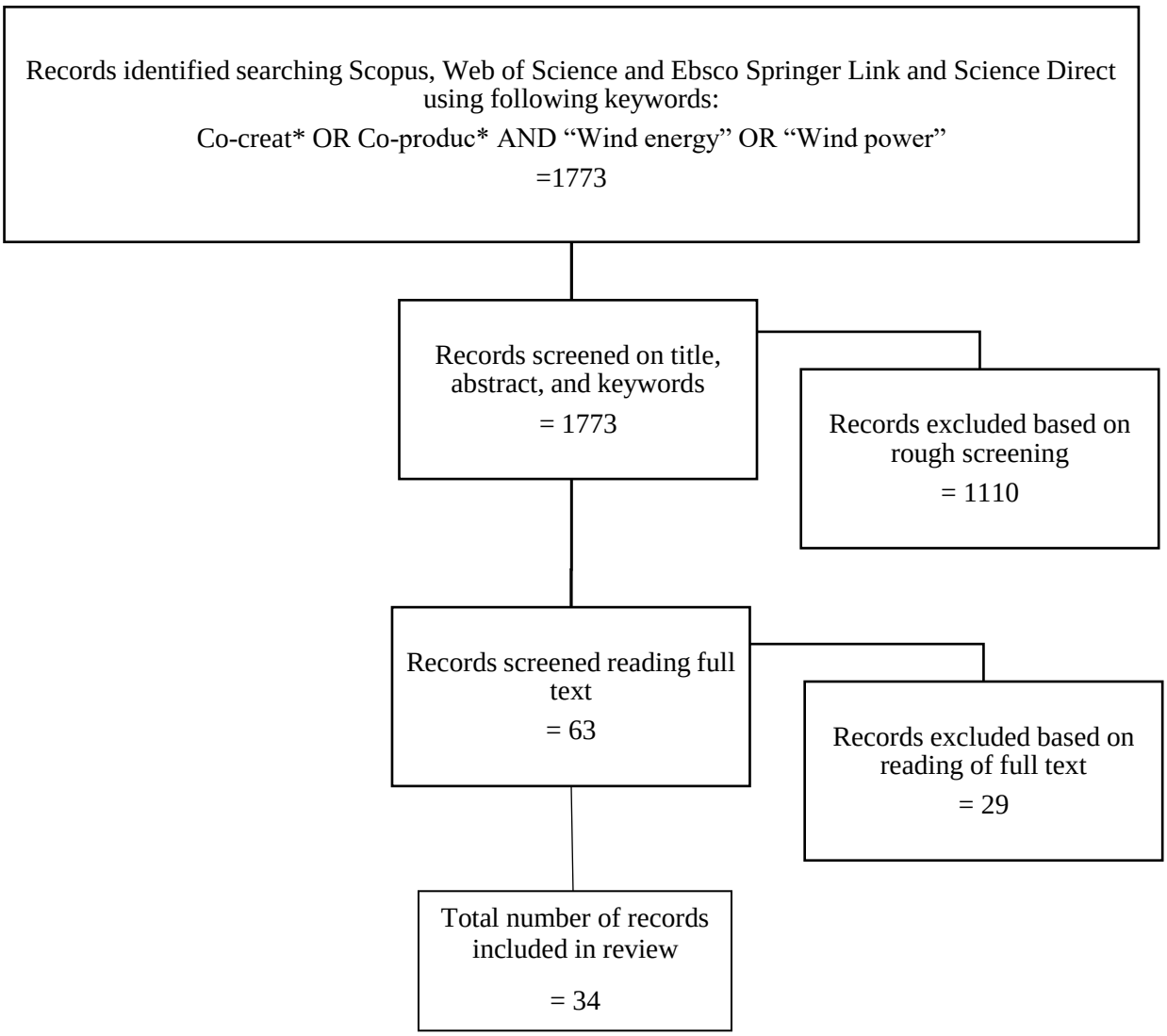
In considering what a co-creation perspective could add to energy policies or future research endeavors, we would like to offer a couple of suggestions. Participation through formally established spaces (e.g., those stipulated in planning regulations) is only one way of integrating alternative visions, perspectives, and competences into wind energy development. The creation of spaces for such alternative actor positions and the granting of permission for citizens to co-create the system actively constitute political tasks that necessitate a reconfiguration of the sociotechnical assemblage to include initiatives coming from below. An important precondition is to consider citizens not only as potential co-creators of knowledge, decisions, and governance structures but also as capable of adding to energy transitions in a more material manner.

Longitudinal studies of how bottom-up initiatives unfold could potentially provide insight into how and under what circumstances actor roles change over time and affect the trajectories of project development and sociotechnical systems as well as the ways in which we think about wind energy development and social innovation more generally. Moreover, understanding these forms of co-creation requires attention to the interrelations of actors, interests, practices, and institutions involved in the energy assemblage. This could occur through ethnographic fieldwork; participant observation; following the day-to-day practices of different actors engaged in setting up cooperatives and creating community energy projects or distributed energy systems; and

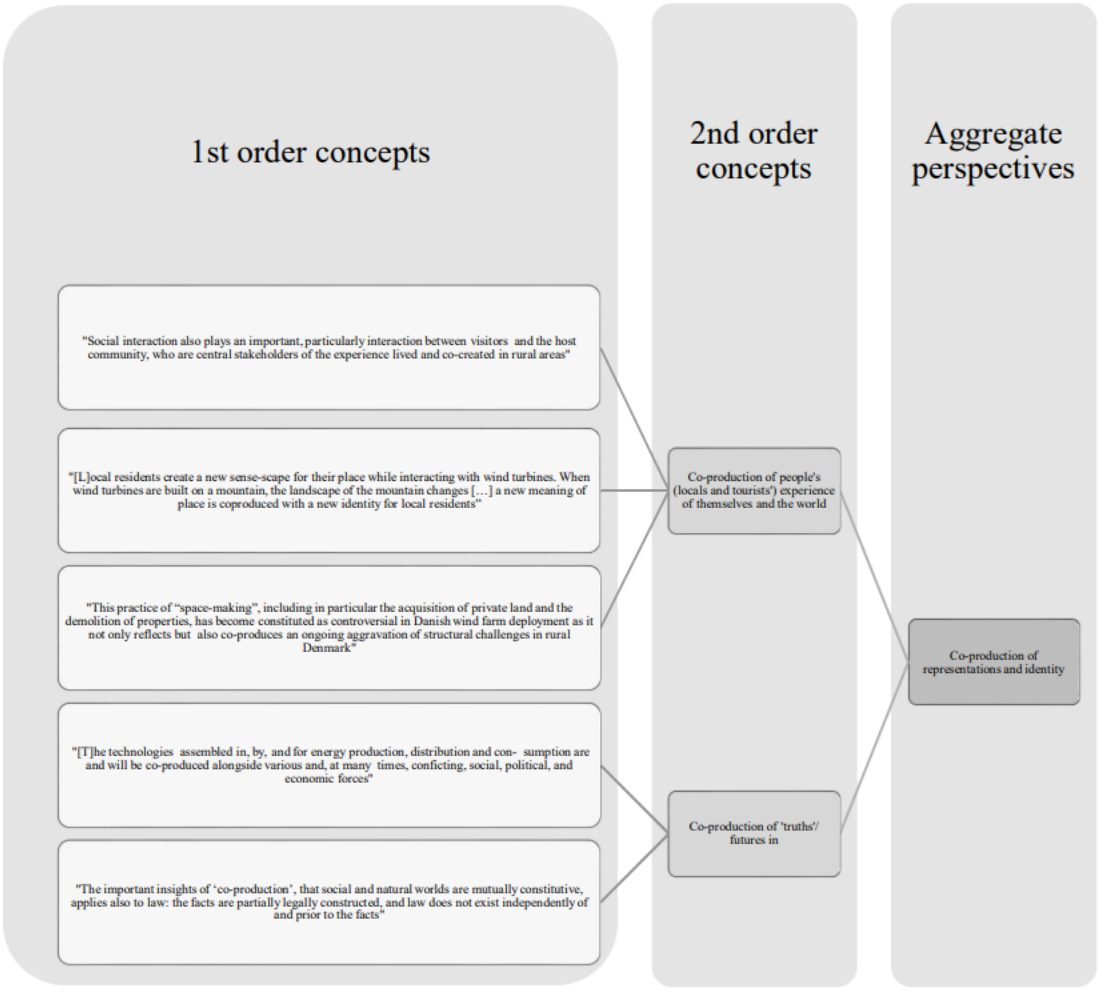
tracing the continuous translations of rules, regulations, and technologies across space and time. Such research approaches might reveal how co-creation and innovation happens; if and when actors feel empowered and when they do not; and how projects and systems are co-produced in between values, visions, and the material affordances of technologies. Other approaches attentive to the same factors could entail action-research or future workshops that could also provide insight into how transformative engagements could be achieved by challenging the constitution of the space in which different actors meet. Moreover, because part of the literature explicitly links co-creation to social justice, it could also be relevant to further investigate if and how co-creation supports the pursuit of a socially just transition; some studies suggest that this is not necessarily the case (da Silva et al. 2018).

It is crucial to move beyond dichotomous thinking in the forms of social acceptance versus opposition, experts versus laypeople, and technical versus social. Instead, we should give sustained attention to all the interrelated, often contrasting elements that constitute energy transitions. As we wrote in the introduction, much literature on participation and social acceptance has had a tendency to separate participation—or the social—from these sociotechnical entanglements. While this literature has provided valuable insight into the reasons for local opposition toward specific wind farm developments, additional perspectives are needed to understand wind power controversies (Kirkegaard et al. 2020) or how publics, in their various forms, can become a value-adding element in wind energy development. The co-creation perspective can be a suitable tool for this task because it simultaneously attends to ontological questions about the entanglement of the social and the technical to understand how the world is as well as to normative considerations about what the world could and should be.

Appendix 1. Flow chart of search strategy



Appendix 2. Visualization of data structure



Appendix 3. Literature included in the review

Co-production of representations and identities 7 papers constituting 16% of the literature	Co-creation of innovation in socio-technical systems 15 papers constituting 27% of the literature	Co-creation as participatory governance 29 papers constituting 57% of the literature
Delina, 2018 Dentoni, Pascucci, Poldner, & Gartner, 2018 Hill & Connelly, 2018 Kim & Chung, 2019 Leary, Schaube, & Clementi, 2019 Lee, Natarajan, Lock, & Rydin, 2018 Rudolph & Kirkegaard, 2018 de Sousa & Kastenholz, 2015	Barrios-O'neill & Schuitema, 2016 Brink, 2017 Brink, 2017 Dekker, 2019 Hoppe, Coenen, & van den Berg, 2016 Karnøe & Garud, 2012 Koirala, Koliou, Friege, Hakvoort, & Herder, 2016 Kolk, 2015 Kostakis, Latoufis, Liarokapis, & Bauwens, 2018 Markard & Hoffmann, 2016 Mey, Diesendorf, & MacGill, 2016 Wolsink, 2012 Wolsink, 2018b Wolsink, 2019	Bishop, 2019 Chen, Liu, Chuang, & Lu, 2015 Chilvers, Pallett, & Hargreaves, 2018 Christel et al., 2018 Dalton et al., 2019 Devine-Wright & Sherry-Brennan, 2019 Durning & Broderick, 2019 Dwyer & Bidwell, 2019 Fast, 2017 Jansen et al., 2016 Klain, Satterfield, MacDonald, Battista, & Chan, 2017 Krupa, Galbraith, & Burch, 2015 Krzywoszynska et al., 2016 Lennon, Dunphy, & Sanvicente, 2019 Lyakhov & Gliedt, 2017 McCauley, Heffron, Pavlenko, Rehner, & Holmes,

		2016 Ottinger, Hargrave, & Hopson, 2014 Partidario & Sheate, 2013 Piwowarczyk et al., 2019 Sauter & Watson, 2007 Scheidel, Temper, Demaria, & Martínez-Alier, 2018 Scherhaufer, Höltinger, Salak, Schauppenlehner, & Schmidt, 2018 Schweizer-Ries, 2008 Serrano-Tovar et al., 2019 Slee, 2015 Stepanova, 2015 Van Der Schoor & Scholtens, 2015 Van Rijnsoever, Van Mossel, & Broecks, 2015 Wolsink, 2018a

7 Article two

Title: Seeking solutions through market means: A situational analysis of co-creation in wind energy transitions

Authors: Lene Gjørtler Elkjær and Maja Horst

Journal: Energy Research and Social Science (submitted)

Keywords: Co-creation, participation, wind energy transitions, local actors, situational analysis

Abstract

Co-creation has been heralded as a potential solution to the oftentimes controversial implementation of renewable energy projects, so in this paper, we investigate how such co-creation processes work in practice. We present a case study of a specific wind power project in Denmark that developed into a nexus of interaction among a range of actors seeking to materialise their preferred configuration of the project. By applying situational analysis, the paper demonstrates how *the situation* conditions what actions and roles are (im)possible to perform by local citizens. While the co-creation situation allows new actors to become involved in new ways, it also produces tension with regard to other participatory formats employed in the governance of wind power projects. Local actors engaging in co-creation were able to shape the project more directly and materially than actors engaged in the standard procedural spaces typically offered in wind energy transitions. However, the co-creation process did not manage to include all local perspectives and local actors who did not engage with the co-creation format, but resorted to the standard procedural spaces of “hearings”, and felt increasingly marginalised during the process. Consequently, whether co-creation is a "better" form of participation is dependent on the perspective taken.

7.1 Introduction

In light of recent international events, the European Union (EU) and member states have emphasised the urge to transition to renewable energy (RE) sources for supporting sustainable transition and ensuring European energy security. The EU proposes that planning approvals should be issued faster and within 1 year max, when placed in RE suitable areas (Commission 2022). Simultaneously, many already wind turbine-rich countries propose to speed up the implementation of both on- and offshore projects to accelerate the transition. Denmark, for example, suggests quadrupling its onshore wind and solar capacity before 2030 (Statsministeriet 2022). These tendencies echo across the EU in many countries where implementation of wind power projects has been challenged during recent years.

The stagnating rate of implementation has been linked to the framing of decision-making as solely a matter of spatial planning and (technical) energy policy (Wolsink 2007). Scholars suggest that such a framing impedes RE implementations because it makes participatory systems and mechanisms incapable of taking the citizens' concerns into consideration (Clausen & Rudolph 2019; Clausen et al. 2021). As a solution or mitigator of the discontent, scholars suggest that procedural formats ought to be strengthened and citizens included earlier or better to secure the possibility for creating more substantive changes based on the engagement (Aitken et al. 2016). Some argue that to facilitate this type of public or local actor engagement, new approaches, such as co-creation, are needed altogether (Elkjær et al. 2021; Sillak et al. 2021).

Co-creation is considered a viable approach to public involvement in wind energy transitions due to its openness to different actor roles and the inclusion of citizens in setting the boundaries for what is at stake, instead of merely making decisions or stating opinions within

already decided boundaries (Elkjær et al. 2021). The wind power project researched was (by the developer) originally planned as a top-down developer-led utility-scale project, with citizen participation corresponding to what is required by law in Denmark—primarily consultation through formal hearing processes. However, local dissatisfaction with the prospects of hosting a project configured after these principles led to the formation of a local association seeking influence on the project and its socio-technical configuration. Specifically, the association sought to obtain ownership of parts of the project with an aim of using the revenue from electricity sales to support local (rural) development. To obtain such ownership, the association entered into year-long negotiations with the developer to ensure and define their role in the project. At the same time, another group of local citizens tried to halt the project by employing different strategies. Based on our interest in the way co-creation might work to alleviate controversies around RE projects, our guiding research questions have been: How might local actors co-create onshore wind power projects in their area? What are the consequences in terms of participation and controversy of this type of engagement?

With a focus on the local groups, the paper analyses how the association attempts to co-create the project, and later how the local opponents seek to halt it. We take a relational approach to the field and analyse the relations and positionings that make the respective local actors capable of pursuing their goals. Subsequently, we discuss the tensions that arise between the different types of participation emerging in the planning and development of the specific wind power project.

In what follows, we first introduce our conceptual framework by applying situational analysis in the study of co-creation, action-nets, relations and coalitions among actors. We then outline our methodology, involved materials and analytical strategy of mapping the situation

empirically. Subsequently, we present our analysis as four acts drawing on the different situational maps, followed by a discussion of the relations between the different participatory formats, their conditions and possibilities. Finally, we conclude with the possibilities local actors have for co-creating renewable energy projects.

7.2 Conceptual framework

7.2.1 Co-creation, actor roles and arenas

Since the proclamation of co-creation as an innovation paradigm (Ramaswamy and Ozcan 2014), research on co-creation has increased steadily. The vagueness in its application and often idealising use of the term (e.g., Ansell & Torfing, 2014; Hartley et al. 2013; Torfing et al. 2019) has led some to refer to it as a "magic concept" (Agger & Tortzen 2015), indicating a watering down of the concept's explanatory value. This has, then, led to a blossoming of papers seeking to define what co-creation means and entails (Becker et al. 2017; Elkjær et al. 2021; Sillak et al. 2021; Voorberg et al. 2015), alongside another strand of literature investigating the empirical complications, e.g., resistance (Plotnikof & Pedersen 2019), challenges and difficulties (Mangan et al. 2018), or struggles in having multiple roles (Plotnikof 2016) in collaborative initiatives, in an attempt to create a more nuanced representation of co-creation as a tool or approach.

Broadly defined, co-creation describes or facilitates a diverse set of actors coming together to find mutually beneficial solutions to problems (i.e., creating value) based on their respective resources, interests and stakes in the problem (Ramaswamy & Ozcan 2018; Voorberg et al. 2015). In the context of wind energy transitions, it has been argued that the concept has different meanings, i.e. as an approach to innovation in socio-technical systems, as a way of understanding relations between wind energy technology and the co-production of identities and representations and finally as a way of doing participatory governance (Elkjær et al. 2021). While the three perspectives on co-creation overlap, this paper is mainly concerned with co-creation as a governance approach. Conceptually there is a degree of overlap between the two concepts, co-creation and co-production, with reviews finding that the terms are often used interchangeably (Verschuere et al. 2012; Voorberg et al. 2015). In this paper, we use co-creation

because we have found this term to be the most commonly applied when referring to participatory governance in wind energy transitions.

The understanding of co-creation, shared across both public sector innovation (Parks et al. 1981; Torfing et al. 2019) and business-oriented (Grissemann & Stokburger-Sauer 2012; Ramaswamy & Ozcan 2014) works of literature, is the configuration of end users or citizens as active partners in (co-)creating solutions on par with other relevant actors. While the business-oriented literature has been concerned with understanding how co-creation creates opportunities for increased value creation and competitiveness (Saarijärvi et al. 2013), the public sector literature has been particularly concerned with the different roles of the citizen and the institutional factors shaping the co-creation process (Voorberg et al. 2015). Generally, these theorisations, examples and empirical investigations of co-creation tend to analyse the interacting actors (individuals or organisations) as disconnected from the broader contexts. Recent theoretical development suggests linking (co-) creation to interaction among actors (human and nonhuman) and their "system-environments" (Ramaswamy & Ozcan 2018).

This paper responds to this suggestion by seeking to understand both the entanglement of co-creation with the wider context and the question of whether co-creation can help avoid controversy in RE development projects in ways that traditional forms of participation cannot. Instead of looking at tensions among the involved (often limited to human) actors, we analyse the tensions arising when different social arenas are inhabited by different local actors in attempts to co-create the wind power project. However, while Ramaswamy and Ozcan (2018, p. 196) explicitly linked their focus on "interactive system-environments" to digital platforms, which they considered central facilitators of co-creation, we do not limit our attention to the digital sphere. Rather, since our focus is on the negotiations between actors of various kinds and

in various spheres of engagement, we will employ the terminology of relations and social arenas borrowed from situational analysis (Clarke 2003, 2005). Thus, we situate the unfolding participatory engagement in their broader situation and unfold the arenas, negotiations and forging of relations that condition the actors through situational analysis.

7.2.2 Situationally mapping arenas for participation/co-creation

Situational analysis (SA) builds on grounded theory (GT) but seeks to, paraphrasing Clarke (2005, p. xxi), more fully push GT around the postmodern turn by emphasising positionality and relationality and foregrounding complexity, contradictions, instability and multiplicity (Clarke 2005, p. xxviii). SA maintains GT's approach to analysis as moving back and forth between analysis and the empirical data. Instead of coding and synthesising codes into aggregate themes and theories, SA works with maps that are gradually abstracted by grouping actors into social worlds and arenas, and subsequently, abstracting them into a positional map outlining discourses and positions taken (Clarke 2005, p. xxii).

SA (drawing on actor-network theory) considers technical, human, discursive, mediated, environmental etc., entities as on par in their participation in the situation (Clarke 2005). These entities are mapped in situational maps that include all elements found in the situation and emphasise the relations among entities and the relational contingency on the questions asked about the situation. SA abandons the idea of context as something that surrounds or provides a background for events, situations or other research objects. Instead, it considers all mapped elements to be part of and conditional to the situation (Clarke et al. 2016, p. 198). By employing a situational analytical approach, we assume that when something changes, the entire situation changes. However, in the analysis, we focus on the association and how their position, relations

and possibilities change, to investigate the potentials for local actors to participate in specific RE-developments.

Having defined the situation, we present the maps and mapping process involved in the analysis. The situational analytical approach outlines three types of maps: the situational map (which comes in three different versions: messy, ordered and relational), the social worlds/arenas map (where we focus primarily on arenas rather than social worlds) and the positional map. The messy situational map includes all elements that matter to the situation. The ordered and relational maps are more focused; in the ordered map, the elements are categorised, omitting some of the less essential elements from the messy map, while the relational map has a single actor at its centre and depicts all the relations between this and other elements/actors. The social worlds/arenas maps are based on the relational maps and outline all collective actors, negotiations and their arena(s) of commitment (Clarke 2003, p. 559).

The social worlds/arenas maps visualise which groups "are centrally involved in an arena and which are not" (Clarke et al. 2016, p. 175). Social worlds are collective groups with shared perspectives and identities (relative to the situation and issues); individuals typically participate in different social worlds simultaneously. Arenas are constituted by social worlds committed to particular issues and prepared to (in some way) act on them. Negotiations, contestation and controversy over the issues drawing social worlds together unfold in arenas. We apply the idea of arenas to disentangle how negotiations among collective actors over particular issues are conditioned by the arenas in which they take place. When entering into negotiations (with human, nonhuman etc., actors), not everything is possible, nor are all solutions open and available.

These maps can help us distinguish why some groups might be more central (and maybe powerful) than others by looking at the technologies and discourses that different groups use and engage with. Notably, the social worlds/arenas maps make the organisational and institutional situation and constraints on actors and the situation visible. Borrowing from Foucault (Foucault 1975), Clarke refers to this as the "conditions of possibility", which she explains as "Given the givens, what can – and perhaps cannot – be done?" (Clarke 2016, p. 179). One of our central aims in mapping the arenas of interaction is to show how different possibilities are conditioned—by constraints, opportunities and resources—and how this makes some positions and ways of interaction possible and others impossible (Clarke et al. 2016, p. 154). In mapping and elucidating the key elements, materialities and conditions that characterise the situation, we have constructed the situation, and thereby the unit of analysis, empirically. Throughout the research process, we have used situational messy and relational maps to keep an overview of data and find new directions for data production. The social worlds/arenas maps were active in writing up the paper, to single out and present central arguments concisely.

In the words of Marres (2020, p. 4), "a situation is first and foremost marked by the possibility of dispute about 'what is going on here'". Accordingly, one of the aims of mapping the situation is precisely to figure out what is at stake in the situation and who is involved in assembling it. Taking the planning system and the formally outlined participatory spaces as the (starting point and) unit of analysis would potentially exclude other participatory activities happening simultaneously. However, by empirically constructing the situation and unit of analysis, we attempt to avoid letting such assumptions steer the data production and analysis.

Therefore, SA is a fruitful approach to studying emergent participatory practices because it allows us to include multiple positions at once and investigate how different coalitions and

participatory spaces/modes of interaction co-occur. SA builds on conflict theory and focuses on the negotiations of various kinds[16] activated to navigate differences among actors (individual/collective, human/nonhuman etc.) (Clarke 2016, p. 73). Accordingly, it does not have consensus or consensus-seeking as an underlying script (as much participatory theory has), but instead often ends up analysing situations of "cooperation without consensus" (Strauss 1993 in Clarke et al. 2016, p. 73).

[16] "persuasion, coercion, bartering, educating, discursively and otherwise repositioning, and so on" (Clarke et al. 2016, p. 73).

7.3 Methodology

The first author did desk and field research between November 2018 and January 2022. Based on discussions with colleagues and experts who had theoretical and empirical knowledge of the subject, the first author started the first messy situational map in November 2018. She used this map to guide the research process by continually adding elements and using it to think about relations among actors, blind spots and silences in new ways. Among other things, this engagement probed the inclusion of more actors and the pursuit of additional interviews late in the research process.

The materials involved in the analysis include documents, 15 semi-structured interviews and 10 days of observations at different project-related sites. The first author detected relevant documents by systematically searching through websites of involved public and private institutions and international, national and local media outlets, and applying for the right of access to documents at municipal and governmental institutions. The documents included environmental impact assessment, local and strategic plans, visualisations, citizen consultation responses and complaints, strategic and communication material from organisations' websites, debate pieces by citizens and organisations' representatives in newspapers and social media debates on Facebook. These materials were used to map actors, organisational discourses and relations among actors. In parallel with the desk research, the first author performed 15 semi-structured interviews with key actors, some detected through the document analysis and others using snowball sampling (Heckathorn 2011). The interviewees were chosen to represent actors who try to influence the trajectory of the project and are described in Appendix 1, where we have also provided a short description and made clear how we refer to them in the analysis.

In the analysis, we include an ordered situational map, an example of a relational map and an arenas/social worlds map, all of which are built on the messy situational map. The latest iteration of the messy map contains 877 elements and is too large to be meaningfully represented in this article. It is important to note that the production of maps might create an illusion of fixity and stability that we know from street or country maps: this is not the case for situational maps. The situation will continue to evolve; some elements will become more and others less central. Some will probably cease to be important, and therefore, be excluded from maps produced at later points in time (and by other researchers). We concluded the work with the situational and relational maps when they reached a point of saturation, meaning that iterations of mapping did not reveal new elements that significantly altered the situation, but this is, of course, a temporal construction.

The first author compiled all of the elements detected during fieldwork by producing the messy map, and by going systematically through all data in individual sticky notes in Miro. During this process, she made memos about the characteristics of relations between elements to help the relational mapping exercise performed as step two, and also to save initial analytical insights. Having the elements on sticky notes eased the creation of relational maps as we could move elements around to visually represent relations among them through proximity and clustering. Also, importantly, we could quickly make copies and duplications of the iterations of the maps to ensure we kept a history of the development of the analysis. The first author produced relational maps over select actors including the association, opponents, municipality, politicians 1, 2 and 3, developer, “participation” and “market”; the relational map of the association is reproduced in Appendix 2 to visualise parts of the research process. Lastly, we drew the social arena map in Miro.

7.4 Analysis: situational actor positions and relations

In support of the insights presented in the analysis, we include situational maps as appendixes to illustrate parts of the research and analytical process. The maps have been central in singling out when and where different actors and elements make a difference in the situation and shape it accordingly. The messy situational map, including all actors, is excluded from the paper due to its size, its incomprehensibility and the representation of names and other person-related information. Instead, we include an ordered map in Appendix 3 as an overview of the situation, which includes the elements most important to the analysis.

The wind power project we investigate for this paper is a utility-scale onshore wind power project situated in Northern Jutland, Denmark. The project was designed as an extension of an older project by the same developer. When research for this paper commenced in 2018, the project had been underway for four years. Our analysis outlines how local citizens participate in and reshape the project, and we have chosen to represent this as a narrative in four acts that together describe the development of the situation (for now). The first act describes what the association did to open the initial situation to be able to include their concerns. The second act shows how they position themselves as co-creators and owners, and the third act shows how this new role (and arena) puts requirements on the association's way of acting and defining their own role. The fourth act presents a twist in the narrative by focusing on how the opponents manage to halt the project despite their limited networks. Accordingly, one outcome of the analysis is the detection of three conditions of emergent co-creation. In the fourth act, we show how co-creation is not the only participatory activity taking place and discuss the relationship between the extra-procedural co-creation and the more traditional, procedural approach to participation in the situation.

7.4.1 First act: setting the scene for co-creation

The developer initially proposed the wind power project as a "regular" top-down project, not meant to involve actors beyond what is stipulated in the planning regulations. At that time (at the beginning of the 2010s), this meant citizen involvement in the ideation phase, consultation on the specific project proposal, the possibility for locals living within 4.5 km from the project to buy 20% of the project as individual shares, the provision of a community fund for the municipality and the possibility to sell houses located within a distance of four times the height of the turbines (Planloven 2018; VE-Loven 2018).

When deciding on the technical design of the wind power project, the developer describes that they "go to the limit [defined by noise and distance regulations] of what can possibly fit within the site, and then we reverse a bit, maybe buy a few houses to create a larger distance to neighbours. […] because no one is interested in us being too close to the limit. We like to have a bit more distance than what is required by law" (Developer 1). Accordingly, already before the project is presented to the public, the developer has made the—in their opinion and based on their expertise—necessary adjustments to the technical design. Therefore, the developer considered the project configuration and citizens' possibilities for participation to be fixed along these lines.

However, concerns posed by local actors, including talks about democracy and fairness, the relationship between the social and technical aspects and the state and market, created a situation in which the developer's proposed project plan came to appear illegitimate and in need of alteration in the local public debate. For example, many local actors highlighted that the project would be the largest onshore project in Denmark, and thus, have a significant impact on the landscape and area more generally (Association 2; Opponent 1; Opponent 2). They

also expressed discontent with the fact that a "Swedish corporation" should harvest all the benefits from "our wind" (Association 4), "our area" (Opponent 1) and "our land" (Landowner) and leave them with only the downsides. Therefore, local actors mobilised to form a common front (taking the form of an association) and together attempted to shape the project to be more acceptable to them by working to obtain local co-ownership in order for the development to propagate funds they could channel into the local area.

In addition, there were several other elements in the situation that worked to produce the general impression among the local actors that the project would be implemented one way or the other (Opposition 1). For example, strategic plans of the municipalities were already designating a large expansion of the capacity in the wind turbine compatible sites (Politician 1) and there was talk of a new political economy of land, where "large companies already occupy all land plots relevant for wind energy development" (Association 1). Such perceptions of the situation made the local citizens form an association in order to pursue a relation of co-ownership with the developer. Very importantly, they were helped in this endeavour by local politicians, who defined local acceptance as a condition for their approval of the project.

> "If we had to go through a storm with citizens, you know the citizens who live out there, being against the project [it would be difficult]. But maybe there was another way whereby we, with local co-ownership, could clear the way for the project. So, we chose the latter. It was not that the developer was… really, they thought we were bloody annoying that we could think of making this kind of demand. […] but we said: that's a condition and if you don't work with it you can – by and large – forget about the project. That was pretty much the message to them because I could see that politically […] it

would be damned difficult to vote that big a project through without local support" (Politician 1).

These conditions of possibility create a situation in which the developer and the association enter into negotiations with each other because they need to in order to reach the solutions (or outcomes) they pursue. Probed by the perception that the wind power project can be a possibility to (some) local actors, the association works within these conditions to tweak the constellations and configurations of actors and resources to their benefit. When local politicians support these initiatives by stating that they can only formally approve the project proposal if it is acceptable to local citizens living in the area, the existing interactional scripts of consultation procedures in the form of hearings etc., are rendered useless to the developer because they cannot provide the requested support. At this point, the involved actors start positioning themselves in other ways in order to make the project move forward. This is the focal point of the next act.

7.4.2 Second act: making the association competent for co-creation

Local politicians and council employees continually stress that their role in planning specific RE projects is administrative. The municipality receives an application from an actor wishing to develop a wind power project, most likely at a site laid out in the strategic plan, and thus designated by the municipality. Questions concerning ownership are outside their sphere of influence due to legal constraints; however, by sharing the perspective that wind power projects ought to be locally acceptable and benefit rather than drain and marginalise the local areas of implementation, the local politicians work on the boundaries of the question of ownership. They creatively set requirements for the planning by stating that they will only approve a single composite project, thus probing the developer to cooperate with the local association.

> "So that's where we told the developer, you have to reach an agreement with the association. It was about to come to nothing many times; I have been sitting with the Mayor from the other municipality, and we could not interfere because we are the planning authority, so we have just kind of served the purpose of entering the room to say: 'come on, reach an agreement!' and then leave again. 'We will wait down the hall and then you will reach an agreement'" (Politician 1).

The municipal administration also makes specific requirements of the project planning such as requesting harmony in turbine type and layout. Setting up these constraints for the project provides the local association with the support needed to negotiate with the developer. At the same time, the local politicians also condition their support to the association by requiring proof that they represent a majority of the citizens living within the catchment area. Therefore, leading association members canvass the area to have more than 50% of citizens enrol in the association. They also promote themselves in art projects, debate in social, local, national and international media, gain support and interest from consultants, investors, NGOs, a French radio program and a wind turbine seminar "far up in Norway" (Association 3).

To effectively negotiate with the developer, the association needs expertise and the financial capacity to develop and own a wind power project at the given scale. This is secured through the enrolment of an investment fund, who has its own interest in taking part in locally inclusive wind power projects, and plans to integrate the co-ownership model suggested in future projects in their portfolio (Association 6). The investor gave an assurance that they would support the association, "of course contingent upon different things like an agreement with someone who would purchase the produced electricity" (Association 3). The association uses this

relation to pressure the developer and local politicians to take them seriously and enter into the situation with bargaining power.

> "I attended the meeting with the mayor [in one of the municipalities], and they sat there lecturing us: 'Are you aware of the price of such wind turbines? […] It is not something that you just put up! This is a massive project'. They were simply (sighs)… they really talked down to us. 'And are you aware how much it costs and that sort of things, you know'. And [consultant's name] just sat there calmly:' Well, we have the money'. Because we had the assurance from those investors… I don't remember their name […]. So the mayor, he was about to tilt off his chair […] But then [t]he [mayor] had to start taking us seriously" (Association 2).

To obtain a position from which they can negotiate with the developer, the association needs resources and relations that make them competent in the arena of concern. Despite politicians' initial concerns about the association's ability to participate as owners, they end up supporting the association in co-creating their role in the project, and consequently, tipping the situation around. This shift is effectively a shift in roles such that the members of the association stop being 'merely' citizens and rather become co-owners or co-creators.

7.4.3 Third act: navigating a new role in a new arena

Having achieved a legitimate position from which they can become owners, the association needs to realise this new situation by becoming a new type of actor. This shift has consequences that we will unfold in this act. The arguments drawn from a mapping of social worlds and arenas are reproduced in Appendix 4.

Initially, the association worked with two models, one in which they sought to develop their part of the project, corresponding to seven turbines, unilaterally, and another in which they bought the project from the developer at cost price (Association 3). Their wish of developing the project was made impossible by ministerial interference, resulting in a model in which the corporate developer plans for, develops and constructs the project and sells the association's share to them at cost price, to make them co-owners of the project. This agreement was made after years of negotiations involving many different actors and resources.

Because the local association seeks to obtain ownership of the project, they need to establish themselves as a new form of actor—an owner—by making relations with resources such as capital, knowledge of ownership constructions, technical knowledge of wind power project development etc. All of these resources are located in a market arena, and hence the association has to develop its own role as a market actor. They pursue access to capital (in the form of loans and responsible capital), which they attempt to reach through different types of investors and banks. In this new development of the co-creation situation, they have to devote almost all their attention to understand the different types of loans and organisational formats and make relations with institutional organisations and actors that work professionally with investments and consultancy. For example, one association member goes to great lengths in our interview to describe the difference between organisational formats based on limited partnership and private limited partnership, and how this shapes responsibilities and risks that local actors have to take upon themselves (Association 5).

> "We founded a limited partnership, and that is related to co-ownership. It has something to do with the ownership, that the ownership of the turbines needs to be located in the limited partnership. The association cannot own the turbines, but the limited partnership

can. Then, the association can own the limited partnership. It is something purely technical, […] and the trick is that there is *no risk* involved" (Association 3).

Talking about the project and explaining the role and objectives of the association, members are very attentive to unknown factors, such as the turbine price—unknown because turbines are to be procured through an EU tender—and costs related to construction. These factors can potentially increase the total project price and make the investment so unattractive that it will become impossible to raise investments for the association. In such a situation, the developer would have the right to develop and own the entire project, and all the working hours invested by local actors as well as their dreams and visions of returns to go into local development would be wasted.

At this point, we notice a shift in the focus of the association members. The intense engagement with technical and economic factors and questions that facilitated their transition from citizens to owners and allowed them to negotiate as market actors appears to diminish or overshadow their original dreams, values and ideals. If prompted, they will still justify their commitment with the central dream of community development and local life, but their time and resources seemed to be completely focused on the negotiation of contracts, ownership structures and technical knowledge of wind turbines, such that their perceived role can be seen to have changed from local citizen engagement to economically guided market behaviour.

This is all the more visible because, at the time of writing, the project and all involved actors are in a waiting position due to complaints made by other local actors that forced a pause in the project. This pause has been interpreted in diverse ways by different members of the association. Some association members perceive the lacking communication about the project to be a result of discretion clauses in the agreements made with the developer and suggest that the

relations with the developer make the association ("leadership") compromise their commitment to associational democracy to please the developer. Others think that since there is still no project, and therefore no revenue to spend, there is nothing for association members to meet about and thus, no need for communication between members. These differences present a schism between different understandings of the democratic and communitarian aspects of the association's engagements: is it the process or the outcome that is meant to reinvigorate the local rural area? Co-creating the project has been made possible by creating a coalition of willing actors who use their resources based on situations of mutual concern, but also by making compromises. According to the central actors of the association, they had to become market actors in order to realise the project and the bigger dream despite multiple intra- and extra-organisational challenges. However, not all members of the association understand this in the same way. More importantly, at the same time, another group of local actors worked to make their vision for the local area matter by halting the project altogether.

7.4.4 Fourth act: interfering with co-creation

Despite the association's success in obtaining the possibility to co-create the project's configuration and own parts of the wind power project, not all local actors are pleased with the project (or the association). In this paragraph and the following discussion section, we will refer to them as the opponents. At the beginning of the project, local actors of all kinds started discussing the project, which had emerged as a situation of shared concern for many citizens living in its vicinity. They made petitions against it, posed consultation responses when the process allowed, sent emails to local politicians across political affiliations and enrolled in the association when it was formed.

> "Actually, many of us [immediate neighbours] enrolled initially, but almost everyone resigned because the objective [of the association] was not what we thought it would be. […] We were under the impression that we might have had different starting points, but maybe we could collaborate to find a reasonable solution [for us all]. Maybe if they had said we would get [a total of] five turbines, we could negotiate where to site them. So that there was some *dialogue*" (Opposition 2)

The local people opposing the project mainly talk about spatial, environmental and health impacts and inconsistencies in the decisions made by the municipal administration. Furthermore, they situate the project in more overarching discourses and transition strategies by, for example, questioning the capacity of technical infrastructures to support more wind power capacity, questioning the feasibility of wind power altogether. However, in the specific project planned for in their local area, they target landscape values, flora and fauna, and the handling of these matters in the casework leading up to the project's approval because they see this as their only chance of making an impact.

> "We have received help from someone who has been involved in similar cases in other locations. He detected what he believes to be errors and mistakes in the casework and the assessment of impacts on the environment […] you know, that is the only thing we can complain about. We cannot complain and say that we think the project is a nuisance… or we *could* do that, but it is not really what is at stake here. That's the handling of the case" (Opposition 1).

This layperson, who was "also just tired of wind turbines" (Opposition 1), helped them compile complaints to two relevant appeals committees, pointing out inconsistencies in the

casework and deficiencies of the VVM approval[17] issued by the municipalities (Opposition 3). Based on the complaints, the appeal committees annulled the planning approval issued by the municipalities, stating that the assessment of impacts on the environment has not considered a rare bat species sufficiently. Accordingly, the opponents end up making their interests and voices heard by enrolling a different type of actor into their networks: a rare bat species. Due to its classification as threatened, the rights of the bat are elevated, making it an ideal partner for the opponents. The same goes for the church, which, opposite to the local opponents, manages to reduce the size of the project by four turbines, arguing for the protection of cultural heritage. With the annulment of the planning approval, the situation changed again, with the opponents in the (for now) winning coalition. At the time of writing this article, this is where the negotiations had ended, but another act might very well be unfolding in the coming years.

[17] The Danish version of an environmental impact assessment

7.5 Discussion

In the analysis, we trace three moves that made the co-creation of a wind power project possible. First, the association makes the project a shared concern by expressing discontent through their pre-given right to be heard about specific project plans and arguing that the project could potentially add value if configured differently and if it included more partners. Second, they position themselves as competent in the arena of concern by enrolling actors and resources into their networks based on mutual interests and/or shared concerns. Third, they enter a new arena, adopt a new role (a market actor rather than a group of citizens) and pursue their interests by negotiating with other actors central in this arena. Simultaneously, as the analysis shows how the association takes the initiative and action, it also shows that co-creation was, in the first place, made necessary by the situation created through an interplay between a suitable site, a developer with interest in it, a municipality with strategic plans and ideological beliefs in sync with the configuration posed by the association. The situation's circumstances force the association to handle the wind power project and—given their decision to make something from the project instead of merely opposing it—co-create with particular actors and conditions. Accordingly, co-creation is not set in a constraint-free milieu but co-produced by and co-producing all the entanglements of the situation, including the formal procedural spaces. In the remainder of the paper, we will discuss what this means for how we understand co-creation and participation in transitions.

7.5.1 Rights or resources: co-creation and participation as different approaches

Public participation in wind energy development generally focuses on consultation and awareness-raising (Aitken et al. 2016) happening in pre-established procedurally defined spaces

of participation (Chilvers et al. 2018). Research has shown that the concerns that can be made relevant within these participatory formats are not necessarily the concerns held by local citizens (Clausen et al. 2021). Neither the association's wish to become collectively organised co-owners[18] nor the opponents' wish to dramatically reduce the size of the project materialises through their participation in the formally established procedures. Therefore, both groups try to form coalitions to exert pressure on politicians outside of these procedures.

When suggesting a change in the project's configuration, the association suggests that local acceptance can be facilitated through local direct and collective ownership (not individual share ownership as offered through the co-ownership scheme). By doing this, they seek to position themselves as participators in a financial market arena that is not available to them from the outset. This shift of arena away from the formal procedural arena of commitment towards the market-based arena is also, as we showed in section three of the analysis, a shift in roles. In the formal procedural arena, local actors are configured as citizens with pre-established rights and possibilities for being heard (not to be mistaken with a right to choose/decide). In the market arena, the association first tries to position itself in the role of a developer, but fails. Second, they position themselves as owners by establishing an action-net that can support this actor role and gain a position from which they can co-create with the developer.

In this shift in roles, we observe a shift in the form of participation. In the formal procedural arena, citizens have the right to information and deliberation, and locally elected politicians can act on and affect the wind power project based on the citizens' inputs to the project plans. Citizens do not have the right or possibility to shape the project's configuration

[18] Not individual share owners as facilitated by the co-ownership scheme

directly. By relocating to a market arena, the association leaves their pre-established rights as citizens behind to negotiate based on capabilities and resources. In negotiations concerning ownership formats, local actors do not have any pre-given rights. Furthermore, the local politicians who usually represent them cannot accompany them in this arena and support them in any way other than helping them achieve access to the arena. In this situation, what matters is the resources and capabilities they can mobilise, not their formal roles as citizens.

While participation in the planning procedures is pre-given, co-creating the technical and economic configuration of the project via the market arena is facilitated by a willingness to cooperate with the developer and ultimately say yes to (some configuration of) the project. Therefore, the opponents who are unwilling to accept (most) project configurations are left out of negotiations and relegated to participating in the formal procedural spaces; the arena conditions which solutions are available, and thus who can participate and where. In co-creation, participation is a matter of willingness and making the most out of the actual options, while in the formally established participatory system, rights are pre-given through citizenship in the relevant jurisdiction, but the formally established processes also condition possibilities. The opponents cannot make the project go away because they don't like it, but only through discrediting the procedures of the case work.

7.5.2 Co-creation and marginalisation: forming the winning coalition

In this case, local actors are drawn together by a common concern about the local impacts of the utility-scale wind power project planned in the vicinity of their homes. Whereas the association sees a possibility of creating local value from the project, the local opponents only see a possibility of mitigating harm by reducing the project size.

The local association takes it upon themselves to create a situation in which the incoming wind power project is not only tolerable but maybe even a positive contribution to the local community. They not only take responsibility for the situation but also take action to alter it by enrolling other actors with the relevant resources and networks into their networks (Callon 1986), thereby convincing decision-makers—in this case, particularly local politicians and investors—to support their cause. Acting in the market sphere, local actors get the chance to pursue solutions that can soothe concerns not related to the project's potential physical impacts (e.g., noise, flickering, killing of birds) but broader structural and long-term issues such as depopulation and emptying of rural areas. Those who manage to partake in co-creation are those who can find synergies between their different private concerns and interests.

On the other hand, the local opponents continuously express discontent towards the system but still seek alleviation through the established systems. Though this is the formalised and "right" way of doing things, they express dissatisfaction with going through these routes because they and their actual concerns are not "listened to." Though they showed up for meetings aimed at co-creating a solution and also presented themselves as willing to compromise, they found that they or their opinions were not legitimate or practically possible participators in the process. Instead, they find themselves confined to the participatory spaces produced by a system they do not trust and which is also not attuned to handle the issues they raise. To manoeuvre this situation, they enrol a hearing partner that has rights in this system (the bat) and holds the possibility to create the solution they seek, namely halting the project. Paradoxically, those who express the least sympathy for "the system" end up using the system's formal procedures to advance their interests.

The different actors try to stabilise "their" segments of an action net by establishing powerful Actor-Networks (Callon 1986). Which of the local groups and participatory formats "win" depends on which of the groups mobilises the strongest networks. We also see that this positioning and creating the "right" action nets create new actor roles (and potentially identities) for the local community actors. For the association, relations with investors and consultants open up the possibility that they become "co-owners" and entrepreneurs (behind a new responsible wind energy development model). In contrast, the local opponents' inability to forge ties means they become even more entrenched in the position as opposed and marginalised. Accordingly, the situation makes them opponents due to the exclusion from the coalition behind the solution. Thus, we see that at the same time as actors make relations, relations simultaneously make actors and situations.

When employing co-creation in wind energy development, some actors will most likely gain more influence, while others will experience their opinions and positions as more marginalised. Accordingly, whether co-creation is "good" or "bad" (Irwin et al. 2013)—or a higher form of participation (Arnstein 1969)—is dependent upon whose perspective we take.

7.5.3 Local empowerment or democratic deficit?

In his theory on the acceleration of society, Hartmut Rosa argues that today democratic processes work as brakes rather than accelerators of social change (Rosa 2013). This shift is expressed in that "decisions across increasing numbers of societal domains are relocated from democratic and political domains (e.g., parliaments and municipal councils) to faster systems such as the legal system, markets, and the private companies that populate them" (Skjølsvold & Coenen 2021, p. 3). For some, this relocation of decisions from the formally established procedures in which all citizens, animals, streams and other nonhuman actors have rights and a voice will constitute a

loss and a slippery slope toward private interests and actors monopolising decisions and resources that ought to belong in the commons.

Throughout this paper and the situational analysis, we have attempted to show how two participatory tracks were active and how different people and points of view were admitted to different participatory spaces with different possibilities. We have referred to one as a formal procedural arena of participation and the other as a market arena. The analysis shows that, in some ways, the choice to approve the project or not (by local citizens and finally politicians) moves from the planning and formal procedural arena to the market arena. However, we also see that, though separate from the procedural space, this arena is not outside democratic control. Without support from locally elected politicians and a majority representation of all citizens of age within the catchment area, the association's engagement would not be possible.

By requiring that the association represents a majority of local citizens living within the project's catchment area, the politicians create a situation in which the very local encounter between RE-infrastructure and citizens is governed by additional democratic manoeuvres (than those of electing city councils who approve projects and the formal participatory procedures). We also see that the approval and development of this project are by no means faster than usual. A discussion about how local actors can participate in sustainable transitions and specific RE-development is of utmost importance for responding to the calls for urgent climate action. The case analysed for this paper suggests that it might be worthwhile to work with a plurality of approaches to participation—some more deliberative, some more material (Marres 2012) or at least make space for and support emergent approaches driven by local communities when they arise. Rosa suggests that relocating decision-making to legal systems or markets presents an acceleration of society making democratic processes brakes. In this paper, we demonstrate how

these “systems” are completely intertwined in the situation and mobilised by different actors to serve different purposes and ideals; intertwinement here, in itself, produces slowness rather than speed.

7.6 Conclusion

In this paper, we analyse co-creation and public participation in the planning and negotiating of a utility-scale wind power project. We find that two participatory tracks have been active: one following the standard procedural format with idea phase, consultation, possibilities for complaining etc. and another focused on negotiating and co-creating the ownership structure and technical composition of the project. All citizens are invited to the first consultation-oriented participation, while co-creation of the project's technical configuration takes place between the developer and a local association organising a majority of the local citizens living in the project's catchment area. These activities concern matters of ownership and resources to the local community. We find that the shift from engagement through established procedures to co-creation happens in three acts.

First, the local association communicated to the developer, relevant municipalities and local politicians that the project as proposed was unacceptable to them. Instead of merely opposing it, they suggested that changes to the project and distribution of roles in it could soothe local sentiments, thus suggesting co-creation of the technical composition of the project as a possible way forward. Second, the situation was reopened as a situation of shared concern by exerting pressure and showing a willingness to engage and compromise. However, their possibility to do so was conditioned by relations with other actors. Third, the association enrolled relevant actors and resources into their networks to position themselves to have something to negotiate with in relation to the developer and, as a result, substitute their position as citizens with one as owners. We see how this shift marginalises some of the citizens living in the catchment area, who, after experiencing that their perspectives and interests will not be included in the association's position and coalitions, make their own networks; the enrolment of a

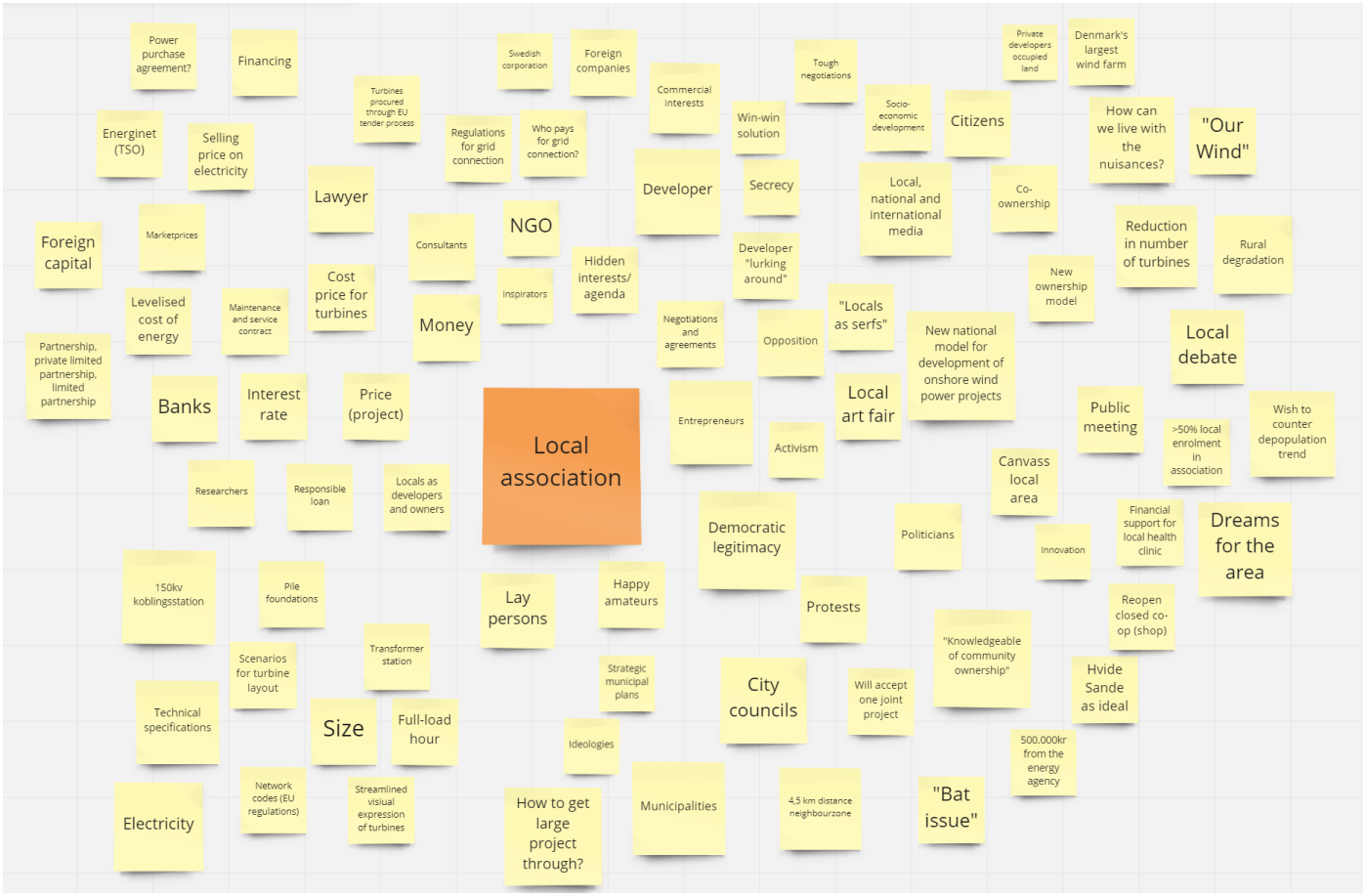
nonhuman actor—the bat—into the opponents' networks made it possible for them to (at least temporarily) place their coalition in a winning position and stall the project. Accordingly, co-creation does not occur without costs, and despite an ideal of broad inclusion, the differences between actors can be too large to reconcile.

Employing situational analysis allows us to zoom in on these differences and negotiations and see how local actors participate in the project to further their (and what some believe to be shared) interests. These interests materialise in an interplay with the interests of the developer, the municipality, local politicians, the market, etc. Accordingly, we show how co-creation can be assumed throughout a project's development, despite continued differences between the underlying rationalities for engaging in the project. In short, we show how things can happen without (a pursuit of) consensus. We also see that ideas, perceptions, economic preconditions etc., are not merely contextual elements but integral aspects of the whole situation, the ways of participation and the way these come into being. The many situated perspectives involved in situational analysis reveal that whether the co-creative activities and outcomes are positive depends precisely on the perspective taken.

Appendix 1. Overview of data

Respondent codes	Brief description
Planner from municipality 1	Interview with planner
Planner from municipality 2	Written communication with planner
Planner from municipality 3	Interview with planner
Local politician 1	Interview with local politician
Local politician 2	Interview with local politician
Local politician 3	Interview with local politician
Association 1	Interview with association member
Association 2	Interview with association member
Association 3	Interview with association member
Association 4	Debate article by association members
Association 5	Interview with supporting actor
Association 6	Interview with supporting actor
Association 7	Background interview with supporting actor
Developer 1	Interview with project manager
Developer 2	Informal conversation with communications and public affairs manager
Developer 3	Debate article by developer
Opposition 1	Interview with an opponent who was previously a member of the association
Opposition 2	Interview with an opponent who was previously a member of the association
Opposition 3	Document, official complaints to appeals committees
Landowner	Interview with landowner with plans for a private wind power project

Appendix 2. Association relational map



Appendix 3. Ordered situational map

Individual human actors	**Non-human actors**
Municipal planners	Wind turbines (size, type, number, siting, logo on nacelle)
Developer's project manager and communication manager	Related technical infrastructure (power lines, transformer station, buildings)
Leading political figures (alderman/mayor)	Environmental reports and appraisals
Particular project opponents taking part in the public debate	Visualizations
Activists involved in advocacy on behalf of nature and local citizens	Scenarios for wind farm layout
Members of the local wind turbine association	Houses/homes
Consultants	The pond bat (rare species) and models predicting its pattern of flying
NGO representative	Capital (money, financing, investments, private finances, rents, benefits)
Researchers	Creeks, streams, the fjord
National politicians	The meadows
Me as a researcher	Land
Local farmers leasing land to the developer	Map of the area depicting cultural heritage sites
Local farmers developing a private wind power project	Map of the area depicting different landowners' lands
Investors	Schemes for public participation in RE transitions
Lawyers	4,5km distance
	Facebook (groups and pages)

	Laws (in particular the Law on planning and the Promotion of Renewable Energy Act) Responsible loan/capital Levelised cost of energy Subsidies Plans and models for ownership Limited partnership, private limited partnership Projections of revenue Cost price of turbines EU tender system Power purchase agreement Regulations for grid connection

Appendix 4. Arenas map

8 Article three

Title: Different pasts, contested presents and desired futures: Local narratives and identities in the co-production of a hybrid wind energy ownership model

Authors: Lene Gjørtler Elkjær, David Philipp Rudolph and Maja Horst

Journal: Local Environment

Keywords: community energy; local energy; shared ownership; narrative; time;

Abstract

Previously local actors have often had a stake in renewable energy projects through cooperative ownership and other variants of community energy configurations. However, the increase in project size and investments and policy shifts towards auctions and "local energy" have made it difficult for communities to obtain a stake in such developments, thereby increasing the potential for controversies. This paper investigates the construction of a shared ownership model of a utility-scale wind farm from the perspective of three local actors. The article identifies three narratives presented by local actors, positioning themselves to shape the ownership configuration of the project to their advance. We show how local actors' stories construct the development in the local area as business as usual, tragic degradation, or potentially an epic turn-around. These different constructions of the wind power project draw on different historical developments, present different presents and envision different futures as a result of the proposed wind power project. Furthermore, we disentangle how this and different perceptions of time employed by the actor groups legitimise different ownership formats and project configurations, thus co-producing the project and the trajectory of local development. We end by arguing that such narratives and their legitimation (or not) of renewable energy projects are important for the ability to continue the renewable energy transition.

8.1 Introduction

In the "good old days" of cooperative wind energy development, a wind turbine or small wind power project could be produced by the joining of forces of local actors (Karnøe & Garud 2012). Today renewable energy (RE) projects are large technical infrastructural projects with most of the expertise and capital needed to plan and develop projects located outside of the locations of development. Under these circumstances, local citizens are often reduced to neighbours who do or do not accept the proposed RE-development, while landowners and other local businesses lease land or sell services to project developers, thus making the developer the main owner and recipient of rents from utility-scale RE projects.

Simultaneously, community ownership of wind power projects – known as community energy[19] (CE) – has received much attention in research and practice in attempts to understand and produce socially acceptable RE developments and provide more attractive roles for local residents (Baxter et al. 2020; Creamer et al. 2019; Walker & Devine-Wright 2008). In frontrunner countries of CE projects, such as Denmark, the UK, and Germany, the number of RE initiatives with (at least partial) community or cooperative ownership has increased steadily from the 90'ies onwards and accounts for a significant share of the overall proportion of wind power projects (Becker et al. 2017; Gorroño-Albizu et al. 2019; Kooij et al. 2018; Seyfang et al. 2013).

However, CE has been increasingly challenged by political shifts towards large-scale commercial developments and market-based support instruments, like auctions (Grashof 2019;

[19] We distinguish between community energy and community benefits and understand community energy to imply active citizen ownership, while benefits imply a passive receipt of shared revenues or compensations to account for local host communities.

Kirkegaard et al. 2020; Krog et al. 2018), and by the urgency to produce capacities at the scale needed to meet global and national targets for sustainable transitions. Simultaneously, the level of investment required in modern wind farm development is out of reach for many communities located in wind energy suitable locations often found at the margins of the state (Rudolph & Kirkegaard 2018). As community ownership of large-scale wind energy projects is, at least for now, not common practice, a pragmatic approach could be the development of projects combining community and commercial interests in shared ownership of projects.

Shared ownership of RE has been politically called for (Community Energy Strategy 2014; VE-Loven 2018) and intermittently implemented in several countries, including Denmark, the UK, Germany, and Belgium (Goedkoop & Devine-Wright 2016; Gorroño-Albizu et al. 2019; Maly 2014). Despite policy support, shared ownership faces specific challenges in the practical formation of relations between communities and developers. A lack of trust among involved parties (Goedkoop & Devine-Wright 2016), demographic factors, and value mismatches affecting citizens' willingness to invest (Johansen & Emborg 2018) are examples of tensions that can arise when local communities and commercial actors try to join forces.

In this paper, we investigate these tensions by analysing how local actors in Denmark struggle to obtain a stake in (co-)producing the future of the large-scale wind power project. For some actors, the struggle involves obtaining ownership as local business partners or collective activist owners, while for others, it involves reducing the size and maybe even halting the project. By unfolding these struggles, we emphasise the plurality of local actors and illustrate the role of different narratives of wind energy development in establishing ownership configurations, the local actors' stake, and the wind power project more generally.

We advance the temporal dimension of CE literature by providing an analysis sensitive to time, exploring how past events and envisioned futures act in and shape the present. Furthermore, we empirically contribute to the CE literature by investigating how communities strive to (re)gain a stake in large-scale wind energy projects in light of an overall policy shift from CE to local energy (Devine-Wright 2019) and increased policy focus on individual shareholders and the provision of benefits and compensation. In particular, we answer the following research question:

How do local actors position themselves to (re)gain a stake in utility-scale wind energy development?

In the following, we start by discussing our analytical approach, applying narrative analytical tools and strategies. We then present our methodology, empirical data and results. Finally, we discuss how different actors draw past events, desired futures, and ideas of localness together in narratives questioning dominant approaches to owning and developing wind power projects. In doing this, the local actors co-produce a hybrid co-ownership model leading us to situate the case in and discuss the recent policy shift from community to local energy.

8.2 Analytical perspectives and conceptual framework

Narrative analysis distinguishes itself from other "language-based" perspectives, such as rhetoric and discourse analyses, in its explicit focus on time (Vaara et al. 2016, p. 6). This temporal ordering of events makes accounts of events or actions into narratives by creating particular connections between them, thus conveying comprehensible meaning(s) (Czarniawska 2004a, p. 7). When referring to narratives in this paper, we refer to a text (spoken or written) in which a narrator presents a temporally ordered account of an event or action or a sequence of events or actions. A narrative becomes a meaningful story through emplotment (Czarniawska 2004a; Polkinghorne 1987). A minimal plot structures stories with a beginning, middle, and ending. Such stories often move from one equilibrium through a disturbing event or action to another (maybe different) equilibrium which is (re)created through an intervening force (Czarniawska 2004a, p. 19). Typically, the structure of stories is more complicated; still, when we, in the paper, refer to stories, we refer to accounts with at least a minimal plot.

In investigating different local actors' constructions of the process of assembling a shared ownership model, we position ourselves in the interpretative narrative tradition. We analyse three individual narratives to see how actors construct identities to legitimise their stake in the project. All actors have been involved in the same process and have interacted. Thus, their narratives are, we expect, shaped by these interactions. Simultaneously, we assert, they are part of an ongoing interaction occurring in media, through local politicians, municipal staff and researchers (like ourselves). Therefore, this narrative analysis is part of this ongoing negotiation and positioning that all actors are part of and not a conclusion. Accordingly, narratives and stories offer a powerful medium for analysis because "[t]here is no way of deciding between different stories except by negotiation" (Czarniawska 2004a, p. 9).

When negotiating the future of the wind power project and the potential for shared ownership, actors also negotiate how to understand their own and others' identities, pasts, presents, and futures. To unfold these identity struggles, we employ literature on narratives and identity (Brown & Humphreys 2003; Czarniawska 2004a) and literary genres (Greimas 1987; Propp 1968). They assist us in seeing how the classic literary characters hero, villain, and helper (Propp 1968), and equally classic literary genres epic, tragedy, and tragic irony (Brown & Humphreys 2003; Downing 1997; Frye 1957), are drawn upon when different actors construe the process and position themselves in relation to others and the project.

The narrative approach facilitates openness to different (sometimes contradictory) interpretations of the same events or situations. It leads to the recognition that the same set of events can be structured around different plots, conveying different meanings and positioning people differently in relation to each other. Taking a narrative perspective, it is the plot rather than the truth or falsity of the elements of the story that makes the narrative powerful when conveyed in stories (Bruner 1990; Czarniawska 2004a). Thus we seek to present a more diverse picture of the local actors in RE development and the socio-material and -historical realities they utilise when facing RE developments in their local area. Actors are diverse in their perspectives and identities and how they use time in their narrative constructions of the process.

To understand how un- or not-yet-materialised events shape identities and positions, we apply two concepts, foreshadows and sideshadows (Morson 1994). Foreshadows present the future as narrated in the present. It shows how actors believe things will unfold. Foreshadows create a plot in which events occur not only because of prior events but also from events to come (Morson 1994, p. 7, p. 48). It represents a closed conception of time, in which inferred backward causation means that – for the storyteller to construct the narrative in such a way – the future is

already here (the future projects a shadow onto the present) (Morson 1994, p. 7). Sideshadows, on the other hand, represents an open conception of time in which alternative presents are projected into the present "from the side." Sideshadows show how things could have unfolded by presenting the open but not realised possibilities throughout the process. Accordingly, sideshadows restore a sense of possibility because time is a succession of fields of possibility and not only a succession of actuality. By focusing on these alternative scenarios included in the narratives, we see how different temporalities coincide in the present to shape relations and identities (Pedersen 2009).

8.3 Research context, materials and methods

8.3.1 Policy context: wind power project development in Denmark

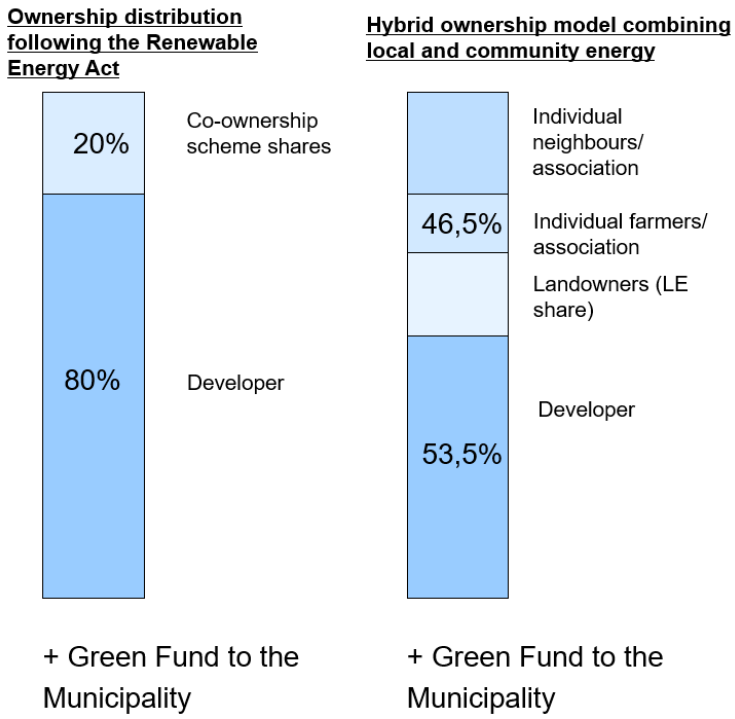
Historically the initiative to develop wind turbines in Denmark came from local individuals and cooperatives who still own a large share of the installed RE capacity (Gorroño-Albizu et al. 2019). Since the liberalization of the energy market in the early 2000s, the initiative has shifted toward utility-scale professional developers (Kirkegaard et al. 2020). More bottom-up and collaborative approaches to project development, reminiscent of the early days of the cooperative movements, do, however, also occur, although usually resulting in smaller-scale projects than developer-led projects.

In Denmark, the municipalities are the responsible authority governing strategic and local planning and approving project proposals from developers (Anker & Jørgensen 2015). The initiative to develop wind power projects typically comes from individual actors (e.g., private persons, landowners, companies) who suggest projects within areas designated for wind energy projects in the municipalities' strategic plans. The municipality then composes a local plan for the specific project, which goes through a public hearing phase with citizen meetings, and the possibility for citizens to file complaints. In 2008, the Promotion of Renewable Energy Act introduced four policy measures targeting local populations by introducing compensation for impacts and possibilities for financial involvement in RE projects (Leer Jørgensen et al. 2020; VE-Loven 2018). One of these was the co-ownership scheme, which obliged the developer to offer at least 20% of ownership shares to individuals in the vicinity of the wind farm site.

8.3.2 The case and its local context

The wind power project analysed in this paper is located in the Northern part of Jutland, Denmark. The area in which it is planned has a long history of wind energy generation that also shapes the local actors' positions and roles. In 1981 Denmark's then-largest wind farm was erected in the area containing 77 turbines. In 2009 a large commercial developer replaced the 77 turbines with 13 new 2.3 MW turbines creating the Nørrekær Enge 1 project. The project we investigate here is the Nørrekær Enge 2 project, proposed as an extension to the 2009 project. It will comprise 36 wind turbines of 3.5 MW.

The developer behind the Nørrekær Enge 1 project initiated a technical screening of the area at the beginning of the 2010s to assess if an extension would be technically and economically feasible. Before applying for planning approval by the municipality, the developer bought up houses, contacted neighbours, and made lease agreements of land with some local landowners. These preliminary activities came to the attention of local activists during a local art fair in 2014, provoking their involvement in the project as representatives from the local community demanding a more significant stake than offered through the co-ownership scheme. Simultaneously, two local landowners rejected a lease proposal from the developer because the developer's rent was – in their opinion – too low. Instead, they started developing their own wind power project in the area. Thus, the commercial project was forced into a new shape corresponding to what has been termed a local energy project in terms of a partnership between a commercial developer and local actors. We visualise the ownership distribution in Figure 1. In the next paragraph, we will explain our methodology before unfolding more detail about this story from the local actors' perspective.



8.3.3 Methodology

The first author did desk research and fieldwork over two years, between November 2018 and November 2020. The work began by locating all publicly available material related to the project on public and private websites and local and national media. We also followed relevant social media fora and applied for access to records at relevant boards of appeal. The desk research left us with 81 documents of various types[20]. The first author visited the area several times, including a week of observations, where she engaged in casual conversation with local citizens and recorded pictures of the area. Concurrently the first author produced individual and group

[20] Social media posts were used as background material and to locate interviewees but are not part of the data-set.

interviews[21] with 15 actors central to developing the ownership model, including the developer, six local actors and three supporting them in their causes, three local politicians, and two municipal planners. The interviews lasted between 30 min and 1.5 hours. Some interviews were conducted face-to-face, while others were held over the phone or via video call due to the covid-19 pandemic. Based on the interviews and publicly available material, we developed a project timeline. The timeline presents the perspective of the researchers on the chronology of events and is, accordingly, a constructed plot, not offered by any one actor as presented here. However, we include it in Table 1, to help the reader obtain a rough overview of the main events and actors' roles in them.

[21] All interviews were performed, recorded and transcribed in Danish. Subsequently, the quotations used in the paper were translated into English by the first and third author together. We have translated the quotations focusing on the (by us perceived) intended meaning.

Table 1. Timeline

In reading through the publicly available material, it became clear that different actors represent the process of developing the project differently: they focus on different events, construe different relations among them, and employ different literary styles. Therefore, we conducted the interviews as narrative interviews and treated the produced data as narrative data. We do not treat the analysed texts as information about *the* process but investigate how "the same set of events can be organised around different plots" (Czarniawska 2004b, p. 7), thereby conveying different stories and meanings and ultimately different representations of the process and project. Therefore, the interviews were conducted as open-ended narrative interviews, which are more freely structured than semi-structured interviews, focusing on informants' everyday practices and experiences of events (Czarniawska 2004a). All interviews were transcribed and all data compiled in one document and structured according to actor groups.

Since the constellations of actors have shifted several times throughout the planning process, some relevant actors are no longer "officially" part of the project but still part of its (hi)stories and relevant to understanding its development. The construction of actor groups is, therefore, precisely this: constructions. For example, when referring to "the local association" or "local association members" in this paper, we mean actors who self-identify as local association members in relation to the specific story they tell. It is a temporary stabilization of an actor-net (Callon 1986; Czarniawska 2004b) that can and does shift over time based on its relational entanglements. Table 2 disguises these nuances but presents an overview of the three actor groups and data material according to the researchers' categorizations of actors in groups. When using quotations in the analysis, we refer to the overall actor group represented and number them as they appear in the text. An overview of the referenced data is produced in Appendix 1.

Actors		Data sources
Landowner		Interview with one landowner, written communication, newspaper articles, maps and observations
Association		Interviews with five former and current association members and supporting actors, public opinion pieces in newspapers, social media posts and discussions, hearing answers, meeting minutes and public communication on the association's webpage
Opponents		Interview with two opponents, written communication with several others, social media posts, letters to the editor in local newspapers, formal complaints, hearing answers and letters to politicians

Table 2. Overview of data

8.4 Results: three narratives of wind energy development

In the analysis, we present three different narrative constructions of the development of the wind power project. The narratives illustrate how local actors construct the process of RE development differently and how these understandings co-produce their ability to act and incite change.

8.4.1 The logic continuation: landowner's perspective

The landowner perspective was added to the set of studied actors when desk- and fieldwork revealed that the landowners played an essential role in negotiating a new ownership model. They do this as representatives of local business partners who are gaining more emphasis in RE promotion policies and as part of existing local social relations (i.e., the local community). In this section, the landowner we refer to tried to gather a community of landowners in opposition to the developer but ended up in partnership with one other landowner[22].

The landowner tells a story of running a business and yielding the most possible benefits from the resources manoeuvring the conditions. He constructs a narrative that grants him a legitimate seat at the table and positions him in the area more generally. His narrative about the wind power project is anchored in the land and his private ownership of it, while the use of land for wind energy is legitimised by drawing the historical presence of wind farms into the narrative.

For example, when asked to describe the course of project development, he states:

[22] Since the perspective includes two actors who work as partners, we consider the one interview to be representative of the perspective.

> Well, I think we should include a bit of the history; you see, actually, it has been a long time since we began. The history is that we erected 78 turbines in the meadow back in the 80s. […] And this is, really, the foundation for thinking that the area is attractive for wind [power] development (Landowner).

Even though the landowner did not buy the property until around the turn of the millennium, he constructs himself as part of a "we" established through the ownership of the farm and land on which turbines were and will be placed. He draws an association between himself and the previous owners and their actions due to their shared relations with the land. Furthermore, by drawing on this historical association, he makes chronological time a central unit of his story, thereby constructing coherence and a continuity-based sense of legitimacy around his role as an owner in the project.

The landowner presents an individualistic rationality focused on private profit-seeking through the market. When talking about social relations, it is typically based on who he has "done business with," and in general, his narrative is permeated by market- and business-related lingo. The landowner's narrative and the collectives involved in it are based on exchange mechanisms and competitive market principles. In his world, everyone is expected to pursue their own interests and there are no outright heroes or villains, just difficult negotiations among a range of (more or less) equal actors. He discusses business opportunities with other landowners, the developer, and the local association, despite the fact that he and the local association, as he states in an interview, "do not agree where the money in this society comes from." At the same time as he respects the local association's right to negotiate and pursue their interests, he still inserts a separation between them and himself, by emphasizing that how you legitimately make money is through "hard work" (and ownership). This protestant ethic of his is (paradoxically)

emphasised by his relatively loud discontent with the church's veto to four turbines, which they are given due to their "elevated position" in society.

At the same time as his quest is to create the most profit-yielding result for himself, he is very attentive to the relations among landowners. Through a sideshadow story, he explains how he had tried to mobilise the rest of the involved landowners to make a united front in negotiations with the developer to ensure that everyone would get their fair share of the project's benefits. However, this did not materialise because many landowners engaged in bilateral conversation and agreements with the developer instead of clustering together as a group, underlining the reigning cosmology focusing on pursuing private profit-seeking. He explains his wish to mobilise a local landowner community with previous envy and tensions stirred by differences in the level of benefits landowners receive. He mentions the different trade-offs that made the project a reasonable deal for him at the time; removal of many old turbines and roads, construction of new roads and additional compensation payments secured from being part of the local plan. He asserts that this inbuilt compensation mechanism in the local plan dampened tensions among the landowners in the area and thus made the offered agreements acceptable back then.

The sideshadow story reveals that the landowner considers the initial project proposal – as proposed by the developer – and its implied relations among actors to be unsatisfactory. Both because the compensation level is too low and due to the risk of stirring tensions in the community if some landowners end up earning significantly more than others. Thus, the landowner does not accept the position he is offered by the developer, as a sort of customer expected to accept the proposal. Instead, he wants to co-design the principles with the developer. If the developer does not accept this, he would decide to develop the project with another

landowner circumventing the developer to later sell the "project" with all permissions obtained, to the developer.

By including the sideshadow he constructs a rational explanation for his acceptance of the roles as "customer" in the Nørrekær Enge 1 project, but not in the present, by explaining how the context and system-environments (e.g., terms, compensation schemes, material configuration and infrastructure of his lands) have changed. The sideshadow also shows that multiple futures have been possible during the process. By including these different shadows of time, he presents us with the trajectories that could have been followed and what could have happened. He positions himself as foreseeing that conflicts might turn up if the landowners do not work in concert and thus positions himself as open to other cosmologies than an individualistic market-oriented one.

8.4.2 The epic turn-around: association's perspective

The second story of the project is told by members of a local association formed with the objective to organise and represent the local citizens and obtain a stake in the wind power project. The narrative is constructed in opinion pieces across different media outlets and three qualitative interviews. The interviewees for this project are or have been members of the association's board and are or have been focal points in driving the movement forward and conceptualizing the association's strategy.

The association presents two beginnings dependent on how questions are asked and what storyline they pursue: a workshop initiated by local artists and community activists at a local school threatened by closure or a biennial art fair held by a group of artists. During the art fair, an artist gleaned information that a prominent corporate developer had plans to develop a large-

scale wind power project, extending the old project. Later, after information meetings held by the municipality, local activists came up with the idea that revenue from a wind turbine could help save the local school threatened by closure.

Beginning with the art fair positions the group in opposition and their participation as a reaction to the developer's initiative, while narratives beginning with the workshop position themselves as initiators and frame their role in an entrepreneurial direction. This ambiguity is more distinct in the narratives presented by some members than by others. However, both storylines have rural marginalization, land degradation, and school closure as their pasts. The narratives continue to have two directions based on the actual outcome, i.e., the ending, which is still unknown. One foresees intensified degradation if the developer develops the project as proposed, and the other foresees a turn-around if the association fulfills its quest and obtains shared ownership of the project. In the latter case, they would obtain resources that they can use to develop the area (as one association member suggests reopening a local supermarket, starting a local health facility, or similar activities for the public good (Association 1)), thereby turning the development of the area around.

Their objective of reinvigorating their local area depends on the project and on the ownership model configured to channel all rents from the community-owned turbines into a fund managed by and for local citizens. A story about the initial workshop clearly shows the egalitarian values embedded in the quest by the association. The workshop engaged children in imagining how the revenue from a wind turbine could benefit the local area. Two association members explain how it was possible to unleash creativity and imagine a future with the local citizens at its centre, because children have no hidden (self-interested) agendas, opposite other parties involved in the project (Association 2). They associate the children and themselves with a

more pure and morally superior objective and identity. They connect to the wind as a resource and symbol encompassing the idea that everyone ought to benefit from the wind power project. In general, they talk more about commons than private property rights. When referring to private property rights and agreements about access to land, it usually associates with feelings of unfair attribution or unlevelled playing fields favouring the developer and local landowners.

Actors highlight the longevity and struggles of their engagement with this wind power project and construe the relations with the developer as the pivotal moment. They do so by presenting themselves and the developer in the archetypical roles of hero and villain and their endeavours in the form of an epic romance. The association takes on the role of the heroes who stand up against an immoral opponent and a system that has gone awry by embarking on an epic quest through which they overcome daunting obstacles to overturn the developer's unjust self-serving actions and capitalist wind energy development more generally.

The dichotomization between the stories' main characters seems to be a classic David vs. Goliath story. A far larger and more powerful actor comes from the outside to reap benefits at the expense of local communities that put up a fight for their community's life. However, at the same time as the association positions itself in opposition to the developer, they are dependent on partnering with the developer. They offer themselves as potential helpers who have to convert the developer from being an exploitative capitalist to a more socially attentive and responsible character. Accordingly, unlike in "regular" epic narratives, the hero does not seek to defeat the villain but instead to reform the political economy of wind energy development on a local and national scale. The construction of the narrative as an epic tale creates an upward emotion in which it appears that an edifying future of a new equilibrium is possible.

> For the developers working in this country, this [ownership] model means that their projects will go through the process work in the authorities without problems. Simultaneously [the developers] learn that it is better to achieve 50% ownership and return on investment than to see projects with significant investments come to nothing (Association 4).

Despite the widespread strong faith in their mission, the narrative is also characterised by ambiguity. Just as some members present dual beginnings, they also present dual objectives of obtaining ownership and reducing the number of turbines in the final project. Some of the early members of the association have left the association because the objective of reducing the number of turbines was omitted from the association's strategy during negotiations with the developer. This will to compromise among some association members is not shared by all, and some refer to the association as divided into two parts, one revolution-oriented and one reformation-oriented fraction (Association 3). This ends up marginalising parts of the association members, who start presenting decay stories of the association, referring to a glorious past in which idealism flourished and the association's ideals and practices were democratic and communitarian.

In this way, the wind power project as an event is constructed as an incoming force that reveals the true selves of the local people: some are idealistic and entrepreneurial innovators while others are, it turns out, allies of the developer with tendencies to incarnate the same characteristics. This diagnosis is based on a foreshadowing in which the future partnership between the developer and the association casts a shadow on the present. Thus, the marginalization of the communitarian and innovative features of the ownership model is not caused by present actions but by the (future) partnership itself.

The association presents two endings in the form of potential futures. They construct the choice between the two as nested with the developer and, notably, hereby renounce responsibility and agency. As the headline in a debate article published by the chairperson and deputy chairperson states: "Denmark's largest onshore wind power project will either come to nothing or become a historical success – the choice is [developer name] alone"(Association 4).

8.4.3 The tragic decay: opponents' perspective

The third narrative is presented by an antagonist couple living near the meadows planned to host the wind turbines. They state that they represent a group of people living on the meadows' fringe and destined to be fully exposed to the wind power project. The opponents have organised to coordinate their resistance to the project at public meetings, through letters and complaints to politicians and civil servants, and in opinion pieces in newspapers and social media posts.

The opponents begin with the crux of the matter without wrapping it up in stories of then and there.

> We have sent a LOT of e-mails. To both municipalities, local politicians… and yeah, it is of course both an expression of powerlessness and frustration, but also because we do not feel like we are being heard. Or, you know… of course there was the formal hearing process where you can present objections [to the project], and I am also aware that the VVM[23] meets the requirements… in principle… but that doesn't mean that us, who have to live with them [the turbines] feel we are listened to (Opponent 1).

For this group of people, the project is a major source of frustration. Their stories focus on the inconsistent strategy of the municipality, the choreography of public meetings, and the position

[23] The Danish version of the environmental impact assessment

taken by local politicians and government, and overall they focus on the injustice befallen upon them. Their strikes at the system and its injustices are constructed by drawing on the history of local development and decisions made by the local government in previous planning cases. They use this (hi)story in which the landscape and its natural values have been in focus to argue that the recent decision to approve the current wind power project compromises previous decisions and developments.

They tell that they actively chose to relocate to this area due to its natural values and the possibility of living a peaceful life away from the hustle and bustle of the big city where they previously lived. The meadow area with options for horseback riding, dog walking, and excellent goose hunting provided the perfect arena for an active life and healthy lifestyle. After the 77 original turbines had been replaced with 13 turbines, new geese returned to the meadow area to forage, creating one of the best geese hunting areas in the world (Opponents 1 and 2). EU initiatives actively worked to beautify the area by burying high voltage power lines. The municipality declined an application to build a slurry tank in the meadows because it would disturb the area's natural values (Opponent 3). These developments are now in jeopardy because of the proposed wind farm, which will heavily industrialise the area (again).

In telling these stories, they present the wind power project as the central structuring and complicating event in their narrative: before the project, things had progressed in a – for them – positive manner, then out of nowhere, the project is introduced, turning the priorities of various public institutions and their lives upside down. This turn-around event makes the wind power project a sudden and drastic event in their lives and positions the system and its representatives as unreliable. It configures the story as a tragic (sometimes showing a tendency towards ironic) plot; they suffer from an externally imposed fate, which strikes them arbitrarily not as a result of

their wrongdoing or moral weakness, but simply because they are unlucky. Whatever exceptional happens to them does not relate causally to their character, and the central emblem of their identity becomes the fact that they are isolated from society.

The local opponents face many villains in their fight for justice. Among these are the local mayor, municipal planners, the city council, other local government representatives, and the developer. They construct the role of the local government as corrupted by the developer, for example, by referring to a public meeting held by the municipalities as the "developer's information meeting" or by explicitly asking in a letter to the editor of a local newspaper: "is it [developer name] or the city council who makes decisions on how our habitats, nature, and coastal areas ought to look like, and whether we will have the opportunity to continue living here or not?" (Opponent 3).

They often mention their opponents by name when expressing dissatisfaction with their actions (or lack of it) or address them directly in debate pieces in local newspapers, possibly hoping to convert a villain into a helper and potentially a hero. Consequently, even though the frustration appears specific in its direction at particular persons, there are no outright villains or helpers. Instead, the frustration and sadness target political abstractions as "the state" or "the system," which abandons them and their perspectives in its eagerness to please other – in their opinion – less important actors. In general, their stories position other characters and events as defined by incongruence between what they pretend to be or should be and what they are.

The opponents' stories do not present one problem but a myriad. Furthermore, they often lack an ending because there are no viable solutions (and thus endings) available to them. Some of the opponents present a wish to move away, but the statement that it is "impossible to sell" because "no one wants to buy a house with wind turbines in the backyard" recurs in the data

(Opponents 1 and 2). They suggest that a government scheme for buying up houses at a larger distance than what is currently included in the option to sell scheme[24] could catalyse catharsis but quickly return to their storyline by emphasizing that they do not wish to move and should not be forced to do so anyway.

We do, however, see glimpses of a different present/future that might have been, included by some narrators through the sideshadows. Several of the actors who present narratives of opposition also – though often hesitantly or casually – refer to a time when they were part of the local association and believed it might be possible to find a shared solution (Opponents 1 and 2). The initial get-together of local actors was, by these actors, understood to have a more open, exploratory objective than "just" obtaining local ownership, again emphasizing the tragic irony of the situation in which people and events are different from what they pretend to be. Instead of becoming a lever for local integration and the pursuit of shared goals, the association's story turns into another story of decay for the present opponents. They explain how they experienced that the agenda for the citizen meetings was set in advance and that it had already been decided that what "the local people wanted" was to obtain ownership.

> I think it took a while for us to realise what it was about. They made these different groups of people where we were supposed to sit and talk to each other. And in the end, it was about how we could obtain co-ownership of this product [the wind farm]. And we were just sitting there thinking, "But we do not want the product! We are not interested in it whatever model lies behind it because we will have them [the turbines] in our

[24] The scheme gives citizens living within a distance of 4-6 times the total height of the turbine the possibility to sell their house to the developer

> backyard, and we are worried about a range of risks that we don't think are taken seriously!" (Opponent 1).

This move leaves the opponents with no other choice than to oppose the project instead of negotiating an acceptable solution.

Through sideshadows, the local opponents present themselves as searching for compromise and as willing to negotiate. They are not against wind farms in general or this one per se – a statement they repeatedly emphasise – but the way other actors imagine the project and relate to them positions them in a way that the only role they can assume is as opponents. Thus, since no one is willing to pursue compromises with them, they find themselves having no actual moments of choice: their fate is imposed on them from the outside. This understanding of others as being ill-willed recurs in the way they relate to the participatory processes and project administration more generally and emphasises their isolation from other actors, the process, and the system more generally. By ascribing agency to others and themselves as destined to passivity, they place responsibility outside themselves and cast themselves as victims of arbitrary governance and planning.

8.5 Discussion

In the analysis, we identified three narratives constructed by local stakeholders about the development and their relations to a contested large-scale onshore wind farm project. Disentangling the different dimensions of time present in the stories of actors provides us with a more nuanced understanding of how they make sense of the changes that occur when RE projects are planned locally. Focusing on the temporalities emphasises how local actors convey diverse positions and make sense of the same project and related events in different ways. Stories of wind energy development do not only revolve around technical, regulatory, or place-specific matters or issues. They also produce personal and collective histories and ideas of the self and others' identities, pasts, presents and futures.

The planning and development of a RE project in a locality probes actors to make sense of the project and their situation anew and arrange their self-perception, their area, community, government and even the social order more generally in the process of participating (or not). The way actors construct their narratives reflects their capabilities and possibilities for acting or not and illustrates their understanding of their place in the social order. The three actor groups and central arguments concerning their narrative construction and positioning of what a socially responsible RE project is, is represented in Table 3 below.

	Landowner	Association	Opponents
Narrative	Lifestory.	Epic romance.	Tragedy (with tendencies toward irony).
Wind power project model	Local energy. Wind power as part of local business development.	The most significant degree of community ownership possible.	As few turbines as possible. Preferably none.
Hero	Himself.	Themselves and potentially the developer.	None.
Helpers	Private property rights of the land. Sourced expertise from lawyers and consultants.	Local politicians, an NGO, an asset manager/investor, various media outlets. Potentially the developer and potentially themselves in relation to the developer.	Continuously searching for helpers without much luck. One layman who "knew about the bat issue," but he is not central to the plot.
Villain	Developer. The deal offered is not good enough.	Capitalist wind energy development, multinational corporation(s), developer (though ambiguous).	The system and its representatives. Local government, politicians, processes, developers, and the wind energy industry.
Agency	Yes. Reconfigures his own role in and consequently profits from the wind power project.	Yes, but only to a limited degree. They are highly dependent on helpers.	No. Their fate is imposed on them from the outside.
Time	Realist. Chronological with few sideshadows.	Adventure time. Structured around the battle.	Fatalistic. Already-told future but with many sideshadows.
Foreshadowing	The sideshadow includes a foreshadow of conflict among landowners. No foreshadows in the "actual plot."	A new era of socially responsible wind energy development VS exploitation of local resources and continued rural degradation and local opposition.	Exclusion and marginalization.
Sideshadowing	Failure to establish a collective of landowners.	No.	Many. Unity of all locals aimed at finding a shared solution (of e.g., five wind turbines). Nuclear energy. Offshore wind farms, etc.

Table 3. Central themes and findings

8.5.1 Constructing legitimate identities: how to be the most local local?

The identity positions that the different narrators construct around themselves and others differ: the local association members consider themselves as part of an entrepreneurial (social) movement with a potential to stimulate change for the greater well-being of the local area and potentially beyond. They foreshadow two futures that are either tragic and degrading or alternatively provides the possibility of change for the better while positioning themselves as the morally superior inciters of this change. Local opponents construct a ”we” defined by being neglected by the state, authorities, and other system representatives, and through sideshadows show how all their attempts at negotiating and compromising have been rejected. The intense use of sideshadows shows how they desperately search for other possibilities than the ones outlined by the other local actors, the developer, and the municipal politicians. The local landowner positions himself as central qua his ownership of land and therefore de facto ”right to involvement” according to legislation and longstanding norms of private ownership. His land has a long history of hosting wind turbines, which he uses to construct a seemingly chronological narrative and continuity-based coherence (Linde 1993) around his position in local socio-material relations of wind energy production.

Shared across the groups is the positioning of themselves as the “central locals” in relation to the project. The local opponents use proximity as a metric and construe themselves as different from the association members, e.g., by saying that “we are the ones who *actually* have to live with them [the turbines].” The association makes itself the central locus of localness by arguing that it represents a majority of *all* the local people within the relevant jurisdiction as

defined by the Promotion of Renewable energy Act[25] (VE-Loven 2018). They have acquired this symbolic power by canvassing the area and mobilizing more than 50% of locals as members of the association and used their representativeness to obtain support from local politicians in both relevant municipalities. Lastly, the landowner uses private ownership of land as a proxy.

Similarly, the narratives also differ on where they believe it all began. Despite referring to the same project, different actors begin their stories at very different times. The landowner's narrative of the project starts in the 70s with the erection of 77 turbines. The association's narrative starts at a biennial art fair or at a workshop that explored the possibilities for local gains from wind power but draws lines to longstanding depopulation trends and marginalization of the area. The opponents' narrative constructs a beginning around the developer going from door to door trying to buy houses and draws lines to nature protective actions made to beautify their local area.

More than being an example of actors unable to account correctly for the situation, this shows that the same events have different social lives: they are experienced and made sense of in different ways that structure and are structured by different principles. Events are not important in and of themselves; they are made to be important through the way they are linked to other events and constructed as part of a coherent story (Czarniawska 2004b). Their foreshadows of different endings make actors choose different beginnings (Czarniawska 2004b, p. 774). In this case, we enter the narratives while the "ending" is still in the future, represented as hopes and fears, but still something that co-constitutes the way actors perceive the project and act in relation to it.

[25] Everyone living within a 4.5km distance of the project.

We, for example, find that several versions (Czarniawska 2004b) of the local association exist. The internal conflict that made some members leave the association resulted in a division of its membership and a split of its representations. This created one version of the association, a symbol of unity and majority approval of a co-owned wind farm, and another in which the local association has diverted from its initial ideals and objectives. Both versions exist simultaneously and co-produce the narratives about the process of negotiating the ownership model, just as different events (both past and future) are seen as central to how things have unfolded. Narrative analysis allows us to be open to these competing interpretations, understand their foundations and comprehend the situation from the actors' point of view. Simultaneously, it also gives us tools to understand how responsibility and agency are unequally divided.

8.5.2 Determinism and alternative futures

The analysis shows that "local people" frame the project's trajectory in very different terms: while the local association members present epic narratives of themselves as pioneers overcoming multiple obstacles, the local opponents tell tragic tales of marginalization and decay, with no real helpers and no prospects for turning things around. The landowner constructs an undramatic stable narrative of continuity and coherence.

The epic tale is highly optimistic, filled with challenges and adventure, and with the potential to trigger a "golden age" of socially just wind energy development. It positions the association in a dichotomy between how things are usually done and tangible alternatives. The romantic epic as a narrative form builds on the preconception that all things and characters have a true meaning, which will be revealed through the quest. For those who position the developer as a villaneous capitalist, the potential success of a partnership and new ownership model may appear lost from the outset. However, from the perspective of the part of the association that

maintains the ambition for partnership it is instead an attempt at crossing great divides to unify the developer and local actors in cooperation turning the ways of wind power project developers around. Still, the association's room for manoeuvre seems somewhat limited, with only two potential (foreshadowed) outcomes.

This determinism is also present in the local opponents' narrative, and then again it is not. The only ending told is the suggestion that the developer should buy up houses at a larger distance, allowing them to move away from the area. Nevertheless, this solution is still a continuation of the tragedy and not a liberating or cathartic ending as classic tragic tales often present (Brown & Humphreys 2003). The other ending – that the wind power project is developed and they continue to live in their current home – is implicitly shaping the narrative, but it seems too tragic a situation to be told. Alternatively, so omnipresent that it needs no mentioning. Instead, the opponents cling to an open temporality and outline a number of alternatives to developing the wind power project in sideshadows., seeking to counterbalance and –act the fatalism of their narrative with their openness to alternatives.

The landowner whose mode of operation is largely in concordance with the way things are usually done presents only one sideshadow of the failure to establish a coalition of landowners. The roads not taken are close to absent, most likely because he can choose and shape his own role (and narrative) according to his beliefs and wants. His construction of the process resembles a realist genre in which the heroic and dramatic aspects ever so present in the other actors' narratives do not figure. Instead, small decisions at every ordinary moment structure the plot, his individualist identity, and his more frictionless retelling of events. In the temporality of the realist narrative, all moments are ethically potent, whereas romance and tragedy make critical moments of choice central while all other moments are ethically neutral.

Unfolding the shadows of time and the different temporalities of the narratives, we find that while some actors position themselves as having the possibility to act, others are more stuck. When foreshadows define the plot, the trajectory is pre-determined to a large degree because foreshadows reduce possibilities to the told one(s). Sideshadows, on the other hand, restores the present as a field of possibilities instead of a natural continuation of past events. Accordingly, the narratives construct and co-produce a bearable future for the narrator. Despite their many sideshadows and suggestions for potential futures, it is difficult to see how the opponents should be included in producing a final solution. In practice, their narrative id non-alignable with the other actors'. On the other hand, the landowner and association narratives both pursue futures that can be combined. The following paragraph will discuss how this relates to the observed policy shift from community energy to local energy.

8.5.3 From community energy towards local energy

Countries such as the UK, Denmark, and Germany have long been considered flagships of community involvement in RE transitions (Berka & Creamer 2018; Bolinger 2001; Gorroño-Albizu et al. 2019; Moss et al. 2015). RE policies in these countries suggest that communities have an essential role to play in energy transitions, with the support of community ownership through politically set targets, schemes for financial participation, access to loans, and other funding initiatives (Creamer et al. 2018; Johansen & Emborg 2018; Markantoni & Woolvin 2015).

However, in recent years we have seen a shift in policy and support mechanisms from focusing on and promoting CE to a focus on "local energy" (Devine-Wright 2019). This policy change reduces the potential that RE projects have to support the public good. The – on the surface – small shift in UK government policies from promoting CE to promoting local energy is

not an innocent terminological tweak but a move with ideological underpinnings that shape who participates and benefits and how. This paper echoes and supports this observation with empirical analysis and illustrates how a wind power project can constitute a possibility for local rural communities. For the wind power project to make a positive difference locally, organising benefits as a public good is critical to many local community actors involved in this project.

Furthermore, the analysis shows that while the economic benefits (potentially) yielded from community ownership are important, there is more at stake than simply the economic benefits in and of themselves. Fulfilling their quest and *doing something* about their situation and role in the utility-scale RE project is (at least) equally important. The shift from CE to local energy reconfigures the way economic benefits are configured but also reduces the number of local actors who materially participate (Marres 2005) in energy transitions by limiting the possibility for broad local inclusion. This movement foils a local embedding of energy transitions while potentially aggravating the disembedding estrangement of communities (Clausen & Rudolph 2019). This paper shows that community and local energy can profitably be combined to encompass and include (at least parts of) the plurality of local actors as active co-producers of RE transitions. While it might not be possible to include all local actors, focusing only on the landowners (or other local businesses) will exclude important actors. In this case, the involvement of the local association in the final solution will gain more than simply a RE project – it also produces a strong storyline of how a corporate developer can collaborate with locals for the greater good.

8.6 Conclusion

This study explored the narrative construction of a contested large-scale wind power project. We have identified three local actors who are part of developing a new ownership model for large-scale onshore wind power. These three local actors all frame the process of developing the wind power project and ownership model in more or less coherent narratives. They do so by positioning themselves in relation to each other and constructing heroes, villains, and helpers who play their parts in co-producing (un)wanted beginnings and endings.

For the landowner, the level of payments he receives in return for making his property available to wind turbines shapes his participation while encouraging him to develop his own project. He does not question the relations among those he considers key actors but the terms applying to these relations. When the developer does not meet him on these premises, he starts questioning the relations and seeks new coalitions with other farmers to potentially develop the project alone, sidestepping the developer and utilizing capitalist market relations. For the local association, the (lacking) level of benefits and inclusion allotted to local people constitutes the problem. The relations between those who usually create, develop and own wind power projects are problematic and constitute the cause of local social opposition. Positioning different local actors in relation to others and local actors in relation to the developer co-produces a situation in which the developer-led project becomes the cause of local degradation and contention. By opening an alternative future in which the developer is configured as a partner, the hybrid ownership model turns the situation around with great new prospects. The association accepts (though for some unwillingly) that RE development happens on market premises, but they argue in favour of democratizing the relations by expanding the circle of participators. For the local opponents, the project itself is the problem: a problem encapsulating a range of other issues.

They disagree with the foundations for public inclusion and argue that they are more critical than other locals because they live closer to the project and will be directly affected. They do not find it possible to enrol in the local association and are unwilling to compromise (enough) to be included in the negotiations with the developer.

The narrative approach has allowed us to investigate the project and involved actors from a more relational perspective and capture the stories and ”facts” that shape and produce the project in situ. We show how identities and stories are not stable, fixed entities but rather exist in flux and entail a range of different potential futures and pasts. The contingent process and emergent project have already and will continue to incite new narratives and ways of making sense of the area, wind energy development and other actors among people who are, were and will come into contact with them. We showed that exploring RE innovation using narrative analytical strategies offers nuanced insights by including time as a heuristic to analyse how different temporalities structure identity positions in drawing on and creating different conceptions of pasts, presents, and futures. The tendency of human beings to plot narrative coherence across time, despite fragmented and conflictual in-the-moment experiences, is well-known to narrative analysts (Cunliffe & Coupland 2012). Therefore, researching and evaluating RE projects without including time as a factor conceals potentials for change embedded in narrative representations of RE projects. Involving time highlights the heterogeneity of local actors and their possibilities for participating in sustainable transitions. Thus, instead of understanding RE developments as discrete episodes with clear starting and ending points, a more fruitful approach would be to understand them as continuously evolving and cumulative processes (Brown & Humphreys 2003, 123).

Transition stories are often presented in a singular fixed form to function as effective mobilisers of change (Papazu 2018). The stories underpinning the development of this wind power project and its hybrid ownership model may turn into a positive transition story of new local involvement. It may also turn into a story about local opposition halting RE projects and slowing the transition. In this paper, we have sought to give space and voice to different perspectives on the same process and project before one story (maybe) comes to dominate. The intention behind the positioning of different narrators and narratives in relation to each other has not been to deem any of them as more or less deserving of serious consideration. Instead, we intend to show that wind energy developments are assembled between a range of different understandings of the project and (hi)stories. Understanding these different positions and the consequences that different configurations of "the local" have for participation, ownership, and the trajectories of wind power projects and rural development is critical if we are to create an energy future that is environmentally just and socially sustainable.

Appendix 1 Overview of referenced data

Interviewees	Source	Interview produced or article published
Landowner	Interview	21.01.2020
Association 1	Interview	07.07.2020
Association 2	Interview	02.09.2019
Association 3	Interview	02.09.2019
Association 4	Debate article	04.01.2017
Opponent 1	Interview	08.07.2020
Opponent 2	Interview	08.07.2020
Opponent 3	Debate article	23.11.2016
Opponent 4	Debate article	02.08.2017

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