



Local collective action for sustainability transformations: emerging narratives from local energy initiatives in The Netherlands

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Received: 16 July 2021 / Accepted: 4 May 2022 / Published online: 12 July 2022
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Abstract

The phrase “local collective action” is increasingly being used to describe how civil society engages with, and acts upon, sustainability transformations. While existing research has framed local collective action as an outcome of creating a shared agenda on a local level, there have been calls for exploring the diversity of ideas, motives, and ambitions people have when they join local energy initiatives. This article aims to identify the diverse attitudes towards local collective action envisioned by those who engage in local energy initiatives. We use Q methodology to analyze people’s perceptions of the local collective action they are engaged in and how those perceptions could manifest in different pathways for sustainability transformations. Forty-seven statements reflecting various approaches to local collective action were sorted by people engaged in various local energy initiatives in the northeast of the Netherlands. Based on the analysis, we distinguish four factors—*Localism*, *Facilitation*, *Orchestration*, and *Radical Transformation*—that express the diverse aspirations, motivations, and rationales associated with local collective action in local energy initiatives. The findings emphasize that for those engaged in local energy initiatives (LEIs), local collective action means navigating among different assumptions, values, and transformation processes, which often oscillate between guiding principles that emphasize “getting things done” and “creating a pleasant atmosphere”. We argue that these four factors can serve as a starting point for developing local collective action strategies to help local communities and authorities unpack possible tensions, confrontations, and conflicts concerning local energy initiatives. These findings point out that while local energy initiatives rely on people’s energy and enthusiasm, practitioners and governments should be cautious while embracing their ambitions and values.

Keywords Local collective action · Energy transition · Local energy initiatives · Sustainability transformations · The Netherlands

Introduction

Over the past decade and a half, local energy initiatives (LEIs) have received increased scholarly attention as experimental and novel spaces allowing for societal engagement with sustainability transformations (Walker and

Devine-Wright 2008; Seyfang et al. 2013; Frantzeskaki et al. 2016; Creamer et al. 2019). In this article, we use the term local energy initiative to describe a group of engaged individuals who take it upon themselves to mobilize resources and capabilities in pursuing sustainability and energy transition (Hasanov and Zuidema 2018). Hence, we argue that the discussions around local energy initiatives are inexplicably related with sustainability transformations, as they can illuminate new practices and enable society-driven pathways for change.

Within the conceptual framework of this article, we see sustainability transformations as long-term societal changes needed to keep the human impact on the environment within planetary ecological boundaries. Elsen (2018) suggests that sustainability transformations require rethinking, amongst others, ecological, political, and social perspectives, which requires the active engagement

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of civil society. Nevertheless, there is scant knowledge of the diversity of aspirations and ideas that manifest in the ways that bottom-up initiatives pursue sustainable transformation. In response, we explore the types of sustainable transformations people aspire to by engaging in LEIs.

Extant research discusses LEIs within the context of terms such as community energy (Bauwens 2016), citizen energy (Blanchet 2015), citizen participation in the energy sector (Yildiz et al. 2015; Chilvers and Longhurst 2016), and renewable energy communities (Dóci and Vasileiadou 2015). LEIs are a critical element in depicting the role of civic society in pursuing sustainability transformations (Walker and Devine-Wright 2008; Seyfang and Haxeltine 2012; Hoppe et al. 2015; Bauwens et al. 2016; Berka and Creamer 2018; de Boer et al. 2018). Previous research has also established that LEIs incorporate dynamic processes and practices that influence the initiatives' identities (Aiken 2017, 2018a; Fischer et al. 2017).

This article aims to identify ideas held by those engaged in LEIs—ideas they hold in common as well as ideas only some of them hold—including ideas about the particular kinds of transformations society needs to undergo to become sustainable. While local collective action is getting attention in the literature, not enough is known about the different thoughts and perceptions that encompass it. A likely reason is that previous research has primarily focused on the impact of these citizens' initiatives on sustainability and energy transition rather than how LEIs arise out of certain values and assumptions. Therefore, we examine how intrinsic motivations and the values of those engaged in community initiatives can help us understand the way local collective action is perceived and valued. This article will answer the following two questions: first, what kinds of perceptions do people engaged in LEIs have of local collective action? And second, what kinds of sustainable transformation do they aspire to by engaging in LEIs? Answering these questions will provide a deeper understanding of local collective action, including the diversity of grassroots movements and the possible tensions, confrontations, and conflicts in LEIs.

This article adopts a framing of investigating how those engaged in LEIs are engaged with different actions and what perceptions they have of this. Previous research on the relevance of LEIs for sustainability transformations has often relied on large sample data sets, often large scale and with an international sample of initiatives on a national or international scale (cf. Oteman et al. 2014; Hewitt et al. 2019) or including throughout the in-depth account of a handful of initiatives (cf. Parkhill et al. 2015). To fill the void left behind by these often contrary approaches, we draw on Q methodology to highlight the in-depth experience of community members broadened out to the regional context of the present research. In doing so, while taking the case of the northeast Netherlands, we aim to identify different narratives

manifested in LEIs regarding the envisioned sustainability transformation and the role of local collective action in it.

What makes this research valuable is the combination of the loci of the research—we elaborate on that later in the article—and the novel methodological avenues it offers to explore the way people engaged in LEIs think it might be possible to reach sustainability transformations. This article, thus, argues that understanding local collective action requires embracing the diversity of actions and ideas and the way combinations of those arise in LEIs. In doing so, we examine the role of local collective action in pursuing sustainability transformations. Rather than concluding that a shared unified perspective drives it, we suggest that local collective action—in the context of sustainability transformations—encompasses actions and processes of negotiating aspirations, sharing, and decision making.

Local energy initiatives through the lens of local collective action

This section aims to discuss the relevance of local collective action for social science energy research and how it has been applied to illustrate the scope and nature of local energy initiatives.

Understanding collective action

Collective action is a concept applicable to multiple disciplines. A conventional read on collective action focuses on managing a common pool resource through various forms of social organization and institutionalization (Ostrom 1990). Collective action often refers to the involvement of people in community-based projects and developments, shared interests, values and identities, and voluntary action needed to achieve shared goals or public goods (cf. Pfaff and Valdez 2010). Meinzen-Dick et al. (2004) posit that collective action refers to understanding the role of formal and informal organizations and institutions that accommodate these developments. Agrawal (2001) suggests that collective action is highly dependent on: the type of goods involved, social relationships and social capital between the participants, the various institutional arrangements, and the relationships with external forces and authorities, including financial and non-financial contributions. Indeed, as Vanni (2014) emphasizes, collective action is carried out by both local groups, where people perform more spontaneous and bottom-up activities, and formal organizations in a top-down fashion. From this perspective, understanding local collective action requires analyzing the values and aspirations of engaged individuals and their interpretation of collective action in relation to different organizational and institutional arrangements.

The present article examines what local collective action means to those who engage in LEIs, including how the interests of people engaged in LEIs receive meaning through local collective action to enable change. We use the concept of local collective action as an analytical lens to examine the pathways of transformation that people engaged in LEIs aspire to. We conceptualize local collective action as a dynamic and fluid manifestation of what LEIs do at any given time. This fluidity and polysemic nature of community initiatives, as proposed by Aiken (2016), allow us to see LEIs as not necessarily having singular ambitions or being valued by their participants similarly. In doing so, LEIs become arenas where empowered individuals meet, share, differ and align their ambitions in some form of collective action. This point leaves open the questions of what precisely local collective action means to people engaged in LEIs and what variation lies in the local collective action that LEIs pursue. Local collective action is not a set of personal commitments bundled together to achieve a shared objective. It is a commitment to engage in LEIs in which each participant shares a subjective opinion and makes a contribution.

Local collective action in the context of local energy initiatives

The notion of local collective action is often discussed in energy social science scholarship (Walker and Devine-Wright 2008; Creamer et al. 2019; Sciullo et al. 2020). There is a widespread belief that local collective action is a unified pathway that interacting participants jointly seek to pursue—it results in a unified perspective of envisioned sustainability transformations (Verhoeven and Tonkens 2013). Local collective action is associated with the adoption of new technologies (Schreuer 2016; Nolden et al. 2020; Warneryd et al. 2020), implementing novel business models focusing on locally-generated electricity (Yildiz 2014; Herbes et al. 2017; Nolden et al. 2020), and community engagement approaches that promote citizen participation in a sustainability context (Hoffman and High-Pippert 2010; Gregg et al. 2020; Pons-Seres de Brauwer and Cohen 2020).

Sciullo et al. (2020) argue that sustainability research should consider LEIs to be innovation actors as they: empower citizens and local communities, provide knowledge and learning, improve the local economy, scale-up and diffuse collective action, and address social concerns. In addition, local collective action can lead to regulatory changes (Bauwens et al. 2016), institutional interplay (de Boer et al. 2018; Warbroek et al. 2019), multi-sector stakeholder participation and coordination (Kooij et al. 2018; Creamer et al. 2018). Similarly, de Bakker et al. (2020) argue that local energy cooperatives build on local collective action, and forge alliances with mainstream energy providers and local

governments. These observations align with earlier ideas on the facilitation of citizen initiatives by local authorities that focus on network structuration and process management (Bakker et al. 2012). A key point of reflection here is to explore how LEIs, through local collective action, enable change, creativity, and innovation in altering institutional arrangements without limiting stability.

Van der Schoor and Scholtens (2015), Soares da Silva et al. (2018) and Soares da Silva and Horlings (2020) suggest that local collective action, in the context of sustainability transformations, contributes to redrawing of the boundaries that define and redefine institutional space. The continuous interplay between LEIs and local governments, to a degree, can be seen as a characteristic of local collective action. As previous research has outlined, such an interplay often brings contextualized solutions that fit LEIs within existing administrative procedures (Frantzeskaki et al. 2016; Kalkbrenner and Roosen 2016; Stapper and Duyvendak 2020). Denters (2016) show how local collective action is embedded in policies and administrative procedures, leading to the institutionalization of citizen initiatives. However, to understand local collective action, we need to look at more than its effects on governance and explore how it is shaped by the aspirations and values of those engaged in LEIs.

Exploring the diversity of motivations and aspirations to engage with LEIs is conceptualized and defined differently. Parkhill et al. (2015) suggest that creating and maintaining shared visions, social action and social resilience are essential to those who engage in these initiatives. In this sense, there has been a significant debate on how to characterize and understand local collective action in the ways LEIs translate various values into practice (Dóci and Vasileiadou 2015; Bauwens 2016). Many studies describe local energy initiatives' involvement with issues such as saving energy (Bauwens et al. 2016), social acceptance and trust (Devine-Wright et al. 2017), climate change, and energy decentralization (Hoppe and van Bueren 2015). Research has found that people engaged in such initiatives tend to demonstrate positive attitudes towards renewable energy and hold onto strong social norms (Bauwens 2016; Bauwens and Devine-Wright 2018). The social context in which LEIs occur also matters. Sloot et al. (2019) highlight that people are motivated to engage in community energy initiatives as it enables them to connect with their local communities. Similarly, prosocial attitudes and the presence of one's networks amongst the initiative also lead to building trust, community wellbeing, and achieving local community goals (Kalkbrenner and Roosen 2016). While these factors have been linked to transitioning to renewable energy, they allude to the diverse interpretations of local collective action and its role within LEIs.

Local collective action, in fact, does not need to be seen as a static and shared set of visions. Instead, if diversity underlies local collective action, individual participants

might interpret the collective action they adhere to differently, while what is seen as local collective action might well change over time. Following the findings of Hoffman and High-Pippert (2010) that local collective action is dependent on the “intrinsic capacities” and different functions of “civic engagement,” in this article, we seek to understand the different interpretations of local collective action by those who engage in LEIs. Expanding on these capacities and functions suggests investigating further the potential dimensions of local collective action and what it can mean to those who engage in LEIs.

Materials and methods

Q methodology is a research method that allows one to systematically explore and analyze “combinations or configurations of themes preferred by the [research] participants” (Watts and Stenner 2012, p. 70). It is often used to map out value patterns to explore complex and ambiguous concepts, and to categorize those concepts by focusing on respondents’ experiences (Cuppen 2013). Knowing that Q methodology would allow us to capture a rich picture of the subjectivities involved, we chose it to explore how those engaged in LEIs interpret the actions they are part of and what goals they have in performing these actions. We continue with a description of the study context, after which we turn to how we collected and analyzed our data.

Study context

For this research, we collected data from thirty-one people from twenty-five local energy initiatives in the northeast of the Netherlands. We chose this region for several reasons. It is often featured in studies addressing challenges and opportunities related to energy transition (Hasanov and Zuidema 2018; de Boer et al. 2018; Ampatzidou and Gugereil 2018), suggesting the presence of favorable social and political conditions for the development of local energy initiatives. The favorable conditions are well documented in a series of working papers and policy documents encouraging the development of local initiatives addressing renewable energy and energy neutrality (Gemeente Groningen 2015; Provincie Groningen 2016). Simultaneously, the increasing occurrence of fracking-induced earthquakes in the region highlights the environmental, socio-economic, and political-institutional vulnerabilities of a fossil fuel-based energy system, urging local residents to transition to sustainable energy systems (Bakema et al. 2018). Given the rise of several dozen LEIs in the region, we targeted participants from a range of LEIs to capture the broader narratives and points of view embedded in this wider movement, rather than the specifics of each initiative.

The data presented here are part of a broader research project investigating the role of community-led solutions in pursuing sustainability transformations, addressing different initiatives in three countries (Atkinson et al. 2018). Given the differences among the various initiatives in the three countries, we designed the research to capture a wide range of ideas on initiatives, local collective action, and the sustainability transformation the initiatives aspire to contribute to. We did not design the Q sorts specifically to capture notions about energy transition. Instead, in this article, we targeted LEIs in general and our research participants interpreted a set of statements in the context of energy transition. Nevertheless, because we designed these statements to capture broad ideas about sustainability transformations, our research allowed us to see how individual participants frame sustainability transitions through their engagement in their initiatives. Our choice to focus on LEIs as a particular extension of community-led sustainability initiatives was informed by the rapid growth of research on LEIs in the context of sustainability transformations. Hence, it is particularly intriguing to examine how those engaged in LEIs frame their initiatives in the broader discourse of sustainable development and what sustainable transformations they envision. Furthermore, LEIs might have different dynamics, due to the specific relationships among their internal and external stakeholders, including representatives of government, industry, and civil society. We used additional interviews after the Q sorting with participants to allow us to reflect on the particularities of energy transition that participants identified.

Q methodology

Q methodology is a research technique often considered a mixed-method approach, as it combines quantitative and qualitative features (Webler et al. 2009). The application of Q follows several steps (a) the development of a so-called concourse, a broad collection of statements about the topic; (b) the winnowing of these statements to a manageable size; (c) the selection of the respondents; (d) the sorting of the statements by the respondents, and, often, a short, semi-structured interview; (e) factor analysis; and (f) interpretation of the outcome (Watts and Stenner 2012). In Q methodology, respondents are asked to sort statements on a fixed distribution answer sheet that ranges from “mostly disagree” to “mostly agree” (Fig. 1).

In this research, we asked respondents to sort 47 statements and we analyzed the results using factor analysis. The corresponding author performed exit interviews at the end of each sorting process. The aim was to elaborate on some of the statements that caught the respondents’ attention, ultimately leading to enriching our understanding of the participants’ opinions. The purpose of these interviews

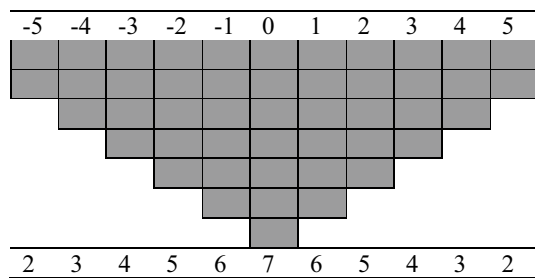


Fig. 1 The Q grid used in this research. The grid runs from -5 (most disagree), through 0 (neutral or no particular opinion) to $+5$ (most agree). The numbers at the bottom indicate the number of statements that each ranking position has

was to understand underlying reasons, opinions, and motivations based on their experience in taking part in energy initiatives. The rest of this section outlines the application of Q methodology in this research (Watts and Stenner 2012).

Concourse development

The development of a concourse is the first step in conducting a Q method study (Stephenson 1994; Watts and Stenner 2012). The concourse must be closely related to the research question. The purpose of concourse development is to build a collection of statements that respondents can relate to. In our case these statements were based on quotations from peer-reviewed articles, policy documents, and professional publications. The bulk of the statements were distilled from previous research that explores the potential of community-based bottom-up initiatives (Hargreaves et al. 2013; Smith and Seyfang 2013; Dóci et al. 2015; Kalkbrenner and Roosen 2016; Smith et al. 2016; Martiskainen 2017; Hicks and Ison 2018; Kooij et al. 2018), opportunities and limitations of community initiatives (Feola and Nunes 2014; Gernert et al. 2018; de Haan et al. 2018), pursuing sustainability transformations (Seyfang and Haxeltine 2012; North and Longhurst 2013; Araújo 2014), social movements and collective identity (Islar and Busch 2016; Hess 2018), and institutional adaptation (de Boer and Zuidema 2016; de Boer et al. 2018; Warbroek et al. 2019). We also used statements adapted from communication with the respondents and from networking events surrounding the topic.

Choice of statements

Initially, within the broad, international study, almost 300 statements were included in the concourse, and they were reduced to a manageable size, in this case, forty-seven final statements, as recommended (Watts and Stenner 2012). For this reduction, we made use of the sampling grid outlined by Skelcher et al. (2013). This allowed us to choose a range of

statements that characterized various facts and opinions. It is important to note that the selection of statements occurred within a wider international study on community-linked sustainability initiatives. Despite a similar objective across the statements we considered, some differences were also present. We had to compromise, as some statements were more applicable to our specific ambitions, while others were less so. All statements were written in English and translated into Dutch by an interpreter. The Q study was also pilot tested for troubleshooting and practicalities. The final set of forty-seven statements (Table 3, supplementary materials) was printed on cards and numbered from 1 to 47.

Selection of the participants (P set)

The number of respondents in Q methodology studies (P set) is often relatively unimportant as the focus is on the respondents' viewpoints rather than on the statistical correlation among the participants. We approached more than 60 individuals who are engaged in LEIs. The participants were selected deliberately, as it is often with Q methodology, to ensure that we cover as many as possible potential viewpoints. We strove to select study participants who had considerable experience within their LEIs and working with other initiatives or organizations. Most respondents indicated that they were volunteers. However, some indicated that they had previous professional experience in the domain of sustainable energy. Despite our effort to focus on participants with extensive experience, two of the respondents indicated that they were novices in their engagement in LEIs. Since their experiences were part of the wider picture of LEIs in the region and not that different from the more experienced counterparts, we decided to keep those respondents in our analysis. A total of 31 people from 25 LEIs completed the Q sort. List of the participants and self-reported type of engagement with the initiatives can be found in Table 1 of the supplementary materials attached to this article.

Sorting distribution

Each sorting exercise occurred in a location convenient to the respondents, often at home, in a community center, a café, or at a neutral location. The research protocol was divided into two elements: a sorting exercise and a semi-structured exit interview. The Q set was given to the respondents, who were instructed to sort the statements from “mostly disagree” to “mostly agree.” Respondents were then asked to read the statements carefully and follow their gut feeling while sorting them into three or more piles—agree, disagree, neutral, or no opinion. Next, they were asked to rank-order each pile in a forced-distribution scale (Fig. 1) based upon their personal preferences. Once the participants

were satisfied with the sorting exercise, semi-structured exit interviews took place after each sorting exercise. All sorting exercises and exit interviews were digitally documented, transcribed, and archived.

Analysis

The data was analyzed using a software tool, PQ Method, Release 2.35 (Schmolck 2014). A centroid factor analysis with varimax rotation was undertaken to reflect the relationships between the Q sorts. This process produced several factors. After careful consideration of all possible factors and based on certain guidelines developed earlier by Watts and Stenner (2012), in this study we report on four distinct factors. Each factor “represents a group of individual points of view that are highly correlated with each other and uncorrelated with others” (Van Exel and Graaf 2005, p. 8). In other words it represents what could be considered a niche narrative. An overview of the list of statements defining each factor, with corresponding Q sort values and their weighted averages (z-scores) is provided in the Supplementary Materials.

Interpretation

To develop coherent narratives for the identified factors in this research we relied on the data provided by the factor analysis and the insights gathered during the exit interviews. For the interpretation of the factors, we relied both on the factor arrays as well as on the respondents’ reflections on the sorting exercise. This also allowed us to better interpret the results within the context of energy transition, where needed. To examine the factor arrays in detail, this research used the “crib sheet method” outlined by Watts and Stenner (2012). The overall aim of this method is to ensure a consistent, genuine and holistic factor interpretation (*ibid*). Semi-structured exit interviews were also used to interpret the factors. During the interviews, we asked the respondents to reflect on how the statements they sorted resonate within them, where they see their initiatives within the wider set of statements, and what type of sustainability change they are pursuing. The narratives were communicated to the study participants and published in a newsletter on citizen participation in local energy transition and sustainability. We provide a summary of the different factors identified by the Q analysis in the next section.

Results

From our data, we constructed four sets of factors or idealized perceptions of local collective action and their associated transformation pathways. Each of the factors represents

a certain consensus or similarity regarding the role of local collective action as expressed in LEIs and the sustainable transformations they are intended to promote. The remainder of this section describes the overarching narratives for each identified factor. Where useful, comments made by participants are cited. It is important to stress that these factors need not be expressions of a distinct group of participants that mostly or fully support their narratives; they express an idealized group. Thus, although individual participants *could* identify clearly with such a narrative, they might feel affiliated with more than a single one or express nuanced readings of them. Hence, the factors should best be understood as referring to dominant narratives that express the diversity of aspirations and values of the whole group.

Localism

Factor 1 explains 14% of the study variance and has 11 significantly loading Q sorts, meaning that 11 Q sorts contributed the most to this factor array. The term “Localism” refers to the fact that this factor pertains to a range of ideas that prioritizes the *local*. Localism is concerned with direct citizen participation and tends to be critical of the government’s role in pursuing sustainability transformations. Localism suggests that community should be at the core of local collective action. In doing so, Localism also aims to transmit the demands and aspirations of those who engage with LEIs to a wider public.

One of Localism’s defining features is the belief that the exploitation of nature and society by powerful elites is the root of ecological crises. Localism tends to agree with the statement that decisions are too often made about a local community by elites far away and with no commitment to, or knowledge of, the places they affect. At the same time, Localism stresses that it is the government’s responsibility to act in people’s interest. In discussing the collaboration between their initiative and the local government, Respondent G3 mentions: “*Of course, the government has to take action. Of course... I don’t think there has to be a disagreement on this. I think the government has to help us. As long as we ask for things, they will give them to us.*” Localism supports the idea that local initiatives can create a shared sense of urgency to push the current situation in the direction of desirable future pathways. It also suggests that the environment belongs to everyone and should be off-limits to commercialization and private profit, thereby embracing the view that all human beings should collectively exist in harmony with nature.

Localism represents participants who shared a strong belief that economic growth is not necessary for pursuing sustainability. This sentiment is particularly strong in preferences that suggested that people need to accept a lower standard of living to pursue sustainability. Furthermore,

those who ascribe to Localism also pointed out that sometimes local initiatives should use bold language and messages in raising awareness for overarching social and environmental problems. It also emerged that the relevance of local collective action for Localism is mostly driven by local environmental or community concerns. As some respondents indicated, to succeed, local energy initiatives could seek inspiration from other similar projects in learning how to adapt to a specific local context. In doing so, Localism did not presume that local action is ineffective or counterproductive if others are not doing the same.

Localism explores how local collective action can help connect those who experience a problem with a solution that creates a common purpose amongst people. Thus, for Localism, local collective action is a suitable medium in the context of LEIs. By engaging in local collective action, people engaged in energy initiatives are given the freedom to act, develop the direction they desire, and take matters into their own hands. Respondent G9 associates this freedom to act and engage with sharing a common sense of place: *“It’s important because you feel connected, always. Many people feel connected with [the initiative] but it also shows the connection between people and other subjects.”* In this sense, Localism suggests that local collective action within LEIs is concerned mostly with allowing people in their communities to find solutions of finding harmony with their environment and relying on more local solutions. Thus, Localism represents a narrative in which people place local collective action within the broader framework of LEIs and how those initiatives reflect ongoing societal trends and linking those to local needs.

Facilitation

Factor 2 explains 8% of the study variance. Five Q sorts contributed the most to this array. We mean with the term “facilitation” to evoke the wide range of skills and tools needed to pull LEIs together. These skills and tools include the following: making things such as climate change or sustainability transition relatable to those who engage in LEIs; promoting the use of technology for local collective action within the context of LEIs; employing innovation and processes aiming at creating social value and socio-technological reconfigurations; combining internal ideas with external knowledge to shape LEIs; finding context-driven solutions and communicating them in an appealing way to a wider audience; and encouraging individuals, communities, policymakers, and other stakeholders to engage collaboratively in sustainability transformations.

Similarly to Localism, Facilitation shares the perception that to succeed, local collective action should reflect and draw upon local needs that cannot be met through the private market initiatives. Although aware of potential

dependencies, this factor suggests that collaboration between science, policy and business is fundamental for local collective action to succeed. For Facilitation, active and inclusive partnerships between policymakers, scientists, business people, and the public are crucial to attaining sustainable development. At the end of the day local initiatives should safeguard local needs and values. Respondent G2 expresses this point: *“I think consensus and influencing the governments is crucial. Because if we, as a local initiative, can get together with the government and other movements towards an energy transition, then we have a strong case. Local initiatives are working here, the big boys are working there, and it is crucial to get together.”* In getting local groups together with larger players, Facilitation can build bridges between abstract visions of the future and pragmatic solutions based on everyday experience. Drawing on interpersonal resources and local knowledge and following established procedures and guidelines, Facilitation can bring pressing societal issues to the attention of relevant state and market stakeholders. Facilitation highlights the need for envisioning and communicating change successfully. It also calls for carefully navigating between the possibilities and limitations of community-linked sustainability initiatives. Consequently, developing and implementing solutions to social, cultural, and environmental issues are central for Facilitation to inspire community-led solutions for sustainability.

Facilitation partly aligns with the view that sustainability transformations can be achieved based on advances in science and technology. Respondent G12 expresses this point: *“I’m sort of a techno-optimist who believes there are other problems in the world which are more pressing, but those I cannot solve, so I’ll try to contribute to those that I can solve by helping to develop local technology.”* Thus, Facilitation suggests that technology can be useful to local collective action if it inspires solutions and develops ties between industries and communities. The focus here is on maximizing social impact along with optimizing benefits for those who engage in LEIs. In doing so, for Facilitation, local collective action connects localized problems to broader audiences to create a process and an environment in which LEIs can flourish.

Orchestration

Factor 3 explains 7% of the study variance and has three significant loading Q sorts. Here we draw on Orchestration as the coordination and mobilization of different ideas and actions associated with local initiatives. It asserts that the environmental crisis needs to be solved within the context of the way society is currently organized, through a moral commitment on everyone’s part to do better. Orchestration seeks to enable, mobilize and coordinate as much support as possible to solve ecological problems, whether that support

be abstract (ideas, worldviews, activities) or concrete (specific organizations, cases, and technologies).

Central to Orchestration are statements that argue that while small local projects may seem irrelevant, the objective is to scale up each one. Yet Orchestration remains critical of the current role of local collective action in pursuing and sustaining sustainability transformations. Respondent G14 reinforces this view: *“There are officially about 500 [energy] initiatives in the country. That’s a huge number on the scale of the country. But they deliver, basically, very little.”* Orchestration prioritizes local collective action in the context of sustainability initiatives, as it makes society aware of the threats of climate change. Within the context of such initiatives, therefore, local collective action should be concerned with nurturing connections across multiple groups and organizations, and, thus, avoiding confrontations, as working together is the way to make everyone perform better.

Another feature of Orchestration is that it disagrees that local collective action must object to the status quo. As Respondent G7 shares: *“The roles of local activists and governments are quite far apart. The government has a role and we have a role but on a local level. We can achieve things independent of the government”* Hence, Orchestration seeks to build and cultivate close ties with other individuals and organizations, which can help local initiatives to develop further. In doing so, Orchestration opposes using bold language and violent protests, which might alienate not only those who engage in local sustainability initiatives but also those who work with them. Following this argumentation, Participant G7 shares: *“I am not saying that Greenpeace is wrong in what they are fighting for, but their manner and tone? No. That is far too radical for me and one-dimensional. It excludes people.”*

Some of Orchestration’s distinctive features refer to symbolic and, at times, religious or spiritual views on humanism and environmentally friendly principles. As Participant G23 commented while performing the Q sorting, *“Do we answer as believers or as people who take part in activities as an expression of optimism towards local energy initiatives?”* Later, discussing the need for taking action to achieve sustainable goals, the same participant continued, *“I am not a demonstrator, but we need strong thinkers to achieve social change and increase citizens’ resilience.”* Additionally, nurturing existing social ties, building a sense of place, and creating a supportive atmosphere are key for Orchestration. Orchestration contributes to establishing long-lasting partnerships among initiatives, governmental organizations, and private market enterprises. Nevertheless, for Orchestration, those partnerships should remain close to specific bottom-up

ideals, goals, and motives that do not necessarily have to follow global trends.

Radical transformation

Factor 4 explains 11% of the study variance. Four Q sorts contributed to this factor. The title reflects a shared thought pattern about local collective action according to which working from within the status quo isn’t enough and radical action is needed to achieve sustainability. Radical Transformation argues that local collective action should challenge dominant socio-economic and political ideologies and engage in environmental activism.

Radical Transformation seeks inspiration from radical environmentalism, green politics, social justice, and grassroots democracy. For Radical Transformation, global resource constraints pose catastrophic challenges for humanity, and the exploitation of natural resources is the cause of environmental and other crises. Radical Transformation asserts that it is impossible to achieve a transition to a low carbon economy within the existing social order. In a passionate plea, Respondent G18 says, *“Our society ... was never designed for sustainability. It has always been designed for the here and now. We have to turn it upside down and while maintaining what is good, we have to start doing new things. That is an incredible challenge. And we won’t get that with today’s debate and with today’s politicians, who are only interested in their own haircut or whatever.”*

Using both emotional and scientific arguments to call for local collective action, Radical Transformation stirs different emotions amongst different audiences. It argues that the need for social change is becoming more acute. It suggests that an overhaul of our entire way of thinking regarding the urgency and importance of pressing environmental and social issues is needed. This point is reinforced by Respondent G11, who says: *“I think if we are not having a protest, I’m not doing something.”* However, Radical Transformation is also about figuring out how to contribute to a positive change. Ultimately, it can show how local collective action can be an effective way through which civil society can respond to climate change. This nuance within Radical Transformation makes it possible to be critical toward overarching developments and prompts a reality check. This reality check allows room for listening, deliberation, and adaptation, which is much needed for those who engage in initiatives to assess their progress towards desired goals.

From distinct narratives to creative middle ways

The factor analysis suggests that four distinct perceptions of local collective action—Localism, Facilitation, Orchestration, and Radical Transformation—can be helpful to understanding how community initiatives enable change. These

perceptions express the existing narratives underlying the participants' views. They illustrate what local collective action and its role in pursuing sustainability transformations could mean to people engaged in community energy initiatives. Although the four narratives provided us with a rich description on the ways people think and feel about LEIs, it was noticeable that some narratives were more dominating than others. For example, Localism is attributed to almost one-third of participants' experiences. The other three narratives describe the rest of the field of participants, with Facilitation marking slightly higher than Orchestration and Radical Transformation. This is noticeable when we look at the correlation between factor scores. Whereas all pairs of factors linked to Localism are highly correlated, the remaining factors show very little correlation. One possible explanation for this is that Localism focuses on understanding the bigger picture and having a somewhat broader vision of the role of local collective action in LEIs. However, this does not mean that the rest of the narratives disagree. Since none of the correlations are negative, it is safe to conclude that participants had no strongly opposing views. What transpires is that each of the remaining factors—Facilitation, Orchestration, and Radical Transformation focuses on a specific niche.

While uneven factor loadings and correlations are typical in Q analysis, what is peculiar in our case is the degree to which respondents recognized these narratives. This is no surprise because all narratives emphasize the need for action and advocate similar measures. This is further corroborated by the fact that the type of engagement nor the age of the respondents had an importance on forming their opinions and attitudes regarding how LEIs engage with different actions. Therefore, instead of being a modal expression of local collective action, the narratives depicted in this article constitute creative middle ways of how participants think about their initiatives and how they position community energy initiatives in the context of sustainability issues, which in our case is specifically about energy transitions and set in the distinct context of the northeast Netherlands.

Discussion

The four factors identified in our results show the diversity of values, intentions, and interpretations present in a group of LEIs. These initiatives enact different sustainability transformation paths, in particular across the domain of renewable energy. For academics, practitioners, and policymakers, it is essential to map the similarities and contradictions among different initiatives to be better able to understand and interact with LEIs and their members. Our findings strengthen and relate to earlier research offering a more nuanced look at community initiatives' discourses and tactics (Fischer et al. 2017; Aiken 2018b). Our findings indicate that local

collective action in the context of LEIs does not necessarily evolve from a single set of characteristics. Instead, we show that local collective action represents a range of opportunities that can be traced to participants' perceptions and actions. We further illustrate that the type of sustainability transformations those who engage in LEIs might aspire to depends on their perception of local collective action and what these perceptions enable or restrict. In our view, how people perceive local collective action and what does local collective action mean, affect the ways in which community initiatives adapt to and modify their purposes. Following Aiken's (2016) suggestion that it might be the time to move beyond a simplistic understating of what is a community initiative, in this article we made the first attempts to show that local collective action in the context of LEIs in the northeast Netherlands might have a polysemic nature.

While they highlight important differences, the factors we identified suggest there are some common views participants in LEIs share. In all cases, the explicit commitment of participants to a process of change is evident. Those engaged in LEIs might be different people but they all agree that action should be taken, even if it makes only a small contribution. The descriptions of the factors suggest that within local collective action, participants can change course, tinker, and enable context-driven actionable solutions. From our conversations with the research participants, it was evident that for people across different generational groups, demographics and political beliefs, local collective action through LEIs was a way to figure out how to contribute to a sustainability transformation. The combined use of Q methodology and semi-structured interviews showed that there are wide-ranging perceptions of local collective action. This point resonates with some earlier observations on the plurality of aspirations and rationalities that can be associated with community initiatives in the context of sustainability transformation (Fischer et al. 2017).

However, a note of caution must be added here. The factors identified in this research—Localism, Facilitation, Orchestration, and Radical Transformation—were the most dominant narratives we observed. They do not explain all the variance in the study domain. Furthermore, based on our data and field observations, there may be more diversity than we illustrate in this article. Regardless, our data highlighted some major differences in what local collective action can mean. Localism, for example, calls for a local and community-oriented approach to sustainability transformations. Facilitation is concerned with translating the communities' needs to the external environment and building coalitions and collaboration between different stakeholders. It focuses on technological and pragmatic solutions for pursuing sustainability transformations while at the same time conferring high importance to the social acceptance of those solutions. Orchestration points to the importance of expectations,

deliberation, and adaptation to others' concerns. It questions the idea that more is more and bigger is better. Furthermore, it suggests that attention should be given to what could be seen as what Horlings (2015) refers to as “inner dimensions” and Ives et al. (2020) “inner worlds” in the pursuit of sustainability. As for Radical Transformation, local collective action is about translating frustrations into action at the local level. It suggests that local collective action could be particularly effective to demonstrate how the status quo can be altered. At the same time, however, it is also about reconnecting with nature for sustainability and how local collective action can have a useful role in addressing environmental and sustainability challenges.

Our findings are somewhat in line with ongoing academic debates on local collective action and mobilization processes in a broader sustainability and energy transition context (Gregg et al. 2020; Sciuillo et al. 2020). They highlight the relevance of “energetic civic culture where the majority of citizens are receptive to and willing to engage in action” (Hoffman and High-Pippert 2010). Different dimensions of what local collective action is in the context of LEIs can contextualize and relativize the emerging interaction pathways in the Dutch energy landscape (de Boer et al. 2018). LEIs are, in an academic and societal sense, engines of change that navigate in formidable discourses and visions to find out how the world is and how it should be.

Finally, the results discussed in this article call attention to the need for academics and policymakers to scrutinize local collective action and LEIs with respect to both governance and praxis. So far, the notions that populate theory and practice have been descriptive and oriented towards prescribed transformations—for example, collective purchasing of solar panels, neighborhood actions, changing consumption patterns, resource allocation, and energy self-production. This study presents a more nuanced picture, showing that academics and practitioners should not treat community initiatives as alike and consisting of like-minded people. Instead, for policy makers, practitioners and other stakeholders it would be beneficial to gauge the different dimensions of local collective action and re-adjust the intended organizational, socioeconomic and cultural outcomes.

Research limitations

Q methodology presents a snapshot of what people think, believe, feel, and want (Watts and Stenner 2012). Thus, Q works best when participants are familiar with the subject. In our case, not all respondents were familiar with the terminology around “local collective action” and “community-led sustainability initiatives.” As a result, common complaints we received were that the statements were “too abstract” or “too ideological,” in contrast to the more pragmatic nature of the initiatives in which participants were engaged, such

as collective installation of solar panels, house insulation, or upgrading heating, ventilation, and air conditioning units. Another concern relates to our request that participants sort their beliefs, a request that is based on the assumption that individuals can do so. Most of the study respondents indicated that they had already been approached and interviewed by other researchers. Some respondents may have borrowed or picked up on ideas discussed in those interviews. This research focused on participants' subjective experience and how this subjectivity influences their engagement in LEIs. Rather than confronting respondents with conventional open-ended questions, using Q methodology allowed for a judgment-free expression of opinions. Its application, often perceived as a game-like sorting exercise by the respondents, strengthened the researcher-participant relationship, resulting in a relaxed environment in which respondents could perform the exit interviews.

The findings of this research draw upon participants' experiences within distinct socio-economic and geographic contexts. Hence, it cannot be assumed that these findings are transferrable to other contexts, or that they represent larger populations. It is also possible that we may have attracted respondents who are more outspoken than average. To validate the findings exposed earlier in this research, we presented the summary of the results to the participants with an opportunity to give us feedback. We included a summary of the results in a newsletter as part of a broader engagement with people interested in the theme of local energy. Two out of the four factors, which for simplicity purposes during the presentation we called “narratives”, were recognized the most, with Orchestration and Radical Transformation not being picked up as much. Some respondents shared that it is difficult to relate to a narrative because often they see themselves, or their initiative, fitting in more than a single one. These reflections allow us to hypothesize that to people engaged in LEIs, local collective action has a fluid, diverse and polysemic nature.

Conclusions and policy implications

In this article, we highlighted activists' perceptions of local collective action and its role in supporting sustainability transformations. We used local collective action as an analytical lens to study the socio-cultural dynamics of sustainability transformation within the context of community energy initiatives. The results reveal the variegated interpretations of local collective action that people consider themselves involved in, which is also expressed in different and potentially conflictive aspirations for sustainability transformations.

The factors identified in this article—Localism, Facilitation, Orchestration, and Radical Transformation—express

the dominant narratives that illustrate what local collective action and its role in pursuing sustainability transformation could mean to people engaged with LEIs. These factors reflect specific thoughts and ideas that feed into the way people engage in LEIs and see their initiatives on the path toward sustainable transformation. Each perception combines diverse meanings and principles that sometimes overlap or diverge. By unraveling these perceptions, this article provides a first step toward understanding how participants think about their initiatives and how they position LEIs in the context of sustainability transformation. The findings emphasize that for those engaged in LEIs, local collective action means navigating among different assumptions, values, and processes of transformation.

The contribution of our study does not end with illustrating the different narratives that can—and, in our case, do—express themselves in LEIs upon local collective action and the sustainability transformations that their members aspire to achieve. First, we explicitly show how the use of Q methodology can highlight such narratives. When applied in future studies, Q methodology can help reveal similar or possibly different narratives in LEIs in other contexts. Doing so might offer a means to confirm if some of these narratives can be found more widely across regions and countries and if other relevant narratives exist. Second, illuminating these differences gives essential input to how governments, market parties and those involved in LEIs might respond to, interact with, and govern LEIs. This research suggests that it is crucial to develop communication and instruments that can simultaneously target different groups of people embedded in LEIs. Without this research, it would not be obvious that such an approach should be taken. Some LEIs might respond positively to attempts which professionalize, scale up, and innovate (Facilitation, Orchestration), whilst others might resist such attempts (notably Radical Transformation). In fact, approaching LEIs as if they consist of like-minded people sharing the same perspective might even generate conflict and be counterproductive to their performance.

We ought to make a clarification regarding the conceptual foundation of this research. We opt for the term “engaged” because it refers to both thought and action. Our respondents are engaged in thinking about doing something and, in most cases, engaged in a local collective action that leads to a clear outcome. The opinions and worldviews of people involved with LEIs are essential to determine what is the role people envision for themselves in LEIs or what is the role people envision LEIs having in society. Within this framework, local collective action refers to a specific response taken by a group of people to achieve a shared objective contributing to ongoing sustainability transformations. The assumption is that local collective action is a trigger to implement collectively expected best outcomes that reflect

different interests, organizational forms, mobilization tactics, and opportunities, as perceived by those engaged in LEIs. The question for researchers is how to investigate the dynamic nature of local collective action and how those who engage in it use it to pursue sustainability transformations.

While our study helps to highlight the need for diversifying how LEIs are governed and approached by governments and market parties, we also recognize that much more work is needed to understand precisely how this can happen. That is to say, more work will need to be done to determine (a) how to mobilize narratives and identities as tactics of socially-driven transformation and (b) how governments, non-governmental actors and market parties might adjust and attune their strategies and tactics to help such mobilization. Similarly, more research is needed to grasp better how the interplay between community initiatives, governments and market stakeholders affects and is affected by a range of different values and intentions.

We also see an opportunity for research to explore further what LEIs and their participants perceive as possible and attainable as they seek a more sustainable society. After all, sustainability transformation can significantly benefit from utilizing and learning from the diverse abilities of activists, participants and organizations to mobilize resources to propose solutions to today’s crises. Thus, rather than merely recognizing diversity, we suggest that unlocking its potential is also a worthwhile quest that can provide input for both communities and policy-makers.

What does this diversity mean for the future of community initiatives tackling sustainability issues and policy-making? This research suggests that initiatives often oscillate between guiding principles that emphasize “getting things done” and “creating a pleasant atmosphere.” Hence, it is advisable for those who engage in community initiatives to develop mobilization and recruitment strategies that emphasize that community work is not just a responsibility but can also be fun or create new forms of connectivity or cohesion. These preferences allow community initiatives to refine and recalibrate their mission and vision. They also allow some room for maneuvering while working with and managing community initiatives. Policymakers and industry partners should be aware that LEIs are polysemic, and both individual initiatives and individual participants may respond differently to different policies, stimuli, or constraints. As the results of this research suggest, community initiatives are not merely a mechanism through which people become active to achieve a clear goal. They combine, connect, and translate different societal values and social factors uniquely. In doing so, community initiatives enable diverse narratives for pursuing, in our case, energy transition and sustainability transformation, and inspire processes beyond their expertise and context. Policymakers, and further studies in this regard, should focus on how this variation is expressed

as anticipating it could be the basis for reflexive strategies supporting or accelerating the development of community-centered policies in the future.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11625-022-01175-2>.

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