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David, Martin; Schönborn, Sophia

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Bottom-Up Energy Transition Narratives: Linking the Global with the Local? A Comparison of Three German Renewable Co-Ops

Martin David [1,2,*] and Sophia Schönborn [3]

[1] Department of Urban and Environmental Sociology, Helmholtz Centre for Environmental Research GmbH—UFZ, 04318 Leipzig, Germany
[2] Institute of Sociology, Friedrich-Schiller-University Jena, 07743 Jena, Germany
[3] Social Sciences and Cultural Studies, Justus Liebig University Giessen, 35390 Giessen, Germany; sophia_schoenborn@web.de
* Correspondence: martin.david@ufz.de

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Abstract: Bottom-up transition narratives help to enable the implementation of energy transitions. Yet, scholarship shows that little light has been shed on how bottom-up transition narratives change during the course of transition. By proposing a framework that envisions bottom-up transition narratives, we analyze narratives on three German bottom-up renewable energy initiatives to address this gap. Relying on semi-structured interviews with innovators and adopters, we show that, during the establishment phase, the analyzed narratives take non-place-bound factors like climate change as a point of contention. At the same time, narratives underscore place-bound factors as, for instance, civil society's knowledge and participation as means for an alternative, non-rent-seeking energy system. During the adoption phase, the analyzed narratives travel easily. This represents a paradox because bottom-up energy transition narratives move beyond their local, place-bound origin in order to be reproduced in different spatial settings. By so doing, bottom-up energy transition narratives diverge from their original message. By falling short on the promotion of citizen's participation, they begin to promote sociotechnical systems that differ little from the sociotechnical systems from competing, rent-seeking energy industries during the innovation adoption pathway. Our comparative approach outlines how bottom-up energy transition narratives adapt to this trade-off during innovation adoption events. We discuss what this means for bottom-up energy transitions and conclude that bottom-up energy transition narratives are faced with a fixity–travel dilemma during the adoption phase.

Keywords: narrative; energy transition; space; bottom-up; adoption of innovation

1. Introduction

Narrative approaches have loomed large in environmental research [1]. Narratives—sequences of connected imagined or real events—unite qualities of language- and communication-oriented approaches and draw on notions of issue frames and discourse and influence them. They reproduce stories of the past in order to take positions on issues of the future [2–4]. In the social scientific literature, narratives have therefore been described as a means of deliberatively pushing for change [5]. Sustainability transition scholarship's interest in narratives has grown with reference to domestic transition pathways [6], sustainability education [7], sustainable architecture, food systems, or mobility [7,8] and domestic, publicly declared energy transitions [9,10]. Spatially oriented transition literature has enriched the understanding of the link between local spaces, global problems, social interactions and innovation narratives [11–13]. Actors, involved in innovative niches,

produce transition narratives about sustainable futures which adopters take up upon to reconfigure sociotechnical regimes and by so doing push sustainability transitions [14–16]. Thereby, sociotechnical transition narratives "can capture complex interactions between agency and changing contexts, time, event sequences, making moves in games, and changing identities." [13] (p. 34).

Whereas the "grand narrative of transition" [12] (p. 22) pursues a broader systemic perspective and takes narratives conceptually as a given, literature on bottom-up transition narratives differs by asking how such narratives locally emerge with different "affective attachments" [11] (p. 1620). Bottom-up transition narratives are thus normative and therefore political because they propose what the future ought to be as understood in a given place and time and as conditioned by local identity. According to Feola and Nunes [12] (p. 3), they link "spaces, places and scales of transition approaches" and yet help to materialize innovations, which transitions can build on. Scholarship on bottom-up energy transitions has described how local issues provoke innovators to produce such narratives and how "activist-adopters tend to be motivated by local issues" [17] (p. 20). Consequently, and according to Brown et al. [11] (p. 1620), transition "does not work without (local) places because those places offer the milieu—and the affective attachments—through which generic senses of responsibility, resilience, and relatedness may be most easily imagined and held together." Thereby, bottom-up transition narratives give adopters a communicative anchor point to easily assess the meaning of a specific bottom-up transition. As highlighted by a variety of scholars, this points to the issue of agency to which transition literature has largely responded with civil society's organizations [11,12,18]. In their aim to foster local sustainability, civil society's bottom-up organizations are self-servicing [19] in responsible, value creating ways, as is the case, for instance, for local energy services [12].

During the innovation adoption phase, materializing bottom-up innovations become a successful past on their own and consequently force innovators to step out into wider society [12,16]. This may present a challenge [20]. Innovators might prefer to remain "disconnected" because of downsides, resulting responsibility challenges or because of "a survival strategy due to their continuous dependence on crowd sourced [...] money to sustain their operation that occupies most of their time when not 'practicing sustainability'" [19] (p. 45). There might be, however, a point of no return where such retention becomes impossible and innovations gain momentum in different local settings. Once travelling to different places, the strong link between place and innovation may represent a challenge for bottom-up transition narratives. Contrasting with different place-bound, local issues, expectations [12] and different "affective attachments" [11] (p. 1620), bottom-up transition narratives might be perceived differently. At the same time, sociotechnical transition pathways might change and contrast the original (non-place-bound) problem orientation of bottom-up transition narratives [12]. Whereas the change of innovator's roles during transitions is well reported [21], we think, and here we agree with Feola and Butt [17], a more concentrated focus on place-bound and non-place-bound narrative factors and their relation to each other could help to enhance the understanding of changing bottom-up transition narratives. This regards the changing reference to both global (non-place-bound) [13,17] and local (place-bound) factors [11,12], mutually shaping bottom-up transition narratives.

To contribute to the above-mentioned gap, this article looks at the example of 'bottom-up energy transition narratives'. Two questions lead our analysis. What place-bound and non-place-bound factors make up for bottom-up energy transition narratives and how do they relate to each other during the establishment phase of bottom-up energy transitions? How do place-bound and non-place-bound narrative factors of bottom-up energy transition narratives change in their relation to each other during the adoption phase of bottom-up energy transitions? Whereas the first question addresses actor's perception of global pressing problems and their relation to envisioned local sociotechnical futures to achieve bottom-up energy transitions, the second question addresses the reproduction of bottom-up energy transition narratives in spatial sociotechnical contexts that differ from the originating spatial context. To help situating them better, we look at the analyzed transition narratives from a multilevel perspective and relate place-bound narrative factors to the sociotechnical niche level ("Technological

niches form the micro-level where radical novelties emerge. These novelties are initially unstable sociotechnical configurations with low performance. Hence, niches act as 'incubation rooms' protecting novelties against mainstream market selection." [15] (p. 400)). Non-place-bound narrative factors are related to the sociotechnical regime level ("The sociotechnical landscape forms an exogenous environment beyond the direct influence of niche and regime actors (macro-economics, deep cultural patterns, macro-political developments). Changes at the landscape level usually take place slowly (decades)." [15] (p. 400)) and the sociotechnical landscape level [13–15]. ("The sociotechnical regime concept accommodates this broader community of social groups and their alignment of activities. Sociotechnical regimes stabilize existing trajectories in many ways: cognitive routines that blind engineers to developments outside their focus." [15] (p. 400)).

To contribute to the understanding of bottom-up transitions and their relation to narratives, the article proposes a case study design that compares the narratives of three different German renewable bottom-up energy initiatives that emerged during the last two decades and are still undergoing processes of growth and change. We refer to the three renewable energy co-ops Elektrizitätswerke Schönau eG (EWS) (online: ews-schoenau.de), Solarcomplex AG (online: solarcomplex.de.) and Berchumer Initiative für Solare Energien e.V. (BINSE) (online: binse.org.). By analyzing multiple sources of data, a case study approach enables us to adopt comparative perspectives on what we call bottom-up energy transition narratives. What the three initiatives have in common is that they all consisted of a civil society group with intense interaction with its social life worlds. This core group discusses the initiative's ideas and standpoints as well as strategic decisions, which were taken in close circles at the beginning.

The remainder of this article is organized as follows. Based on the understanding that narratives evolve in steady communication between innovators and adopters [22], the next section lays out the framework we propose to use to analyze the narratives in question. Here we assume that, in the process, narratives are contextualized in spatial socio-cultural contexts that allow them to unleash their effects and favor innovation. The section after the framework provides insights on the sources and methods used for analysis. Drawing on different sources, Section 4 displays the narratives in their spatial relation to sociotechnical innovations. Section 5 discusses the narratives and Section 6 concludes.

2. A Framework to Analyze Energy Transition Narratives

2.1. Actors' Roles and Bottom-Up Energy Transition Narratives

2.1.1. Innovators

As a starting point, energy transition narratives originate from pressure groups (innovators) and are communicated with adopters [22,23]. Narratives can be understood as a product of direct or indirect communication, like third-party communication or even reproductions in interviews, or websites and brochures, protest banners, symbols, or brands [5,22,24,25]. Bottom-up innovators, or civil society pressure-groups as looked at in this article, might develop counter-narratives and challenge the beliefs and actions of those who contest the idea of local energy transitions [26–28].This means that, on the one hand, energy transition narratives transport stories about (key) actors supporting the idea of energy transitions [5], as for instance about heroes [25]. However, on the other hand, innovators also develop counter-narratives, directed against the beliefs and actions of actors who contest the idea of energy transitions [26–29].

2.1.2. Adopters

The adopters looked at in this article form part of the civil society. Adoption means that the initiatives which embed actor groups—the early and late majority to use the terminology of Rogers [22]—begin to adopt the newly evolving sociotechnical innovations. This leads to a spreading of newly evolving sociotechnical renewable energy landscapes on the local (BINSE), regional

(Solarcomplex), or even domestic levels (EWS). It appears that successful sociotechnical innovations comprising both the dimensions of materiality and social action [30] as basic to sustainability transitions are probably the strongest narratives themselves, given that they are brought into existence due to efforts by pioneers and adopters. This means that the energy transition narratives looked at in this article always tell a story about a community living in a city or a district. Their representative function paves the way to adoption in cognitive terms [5].

2.2. Spatial Dimensions of Bottom-Up Energy Transition Narratives

2.2.1. Non Place-Bound Factors

Global factors are out of reach for initiatives and encompass factors that determine the sociotechnical system (regime) or the global (landscape) level [13–16]. Energy transition narratives represent actors' reflection of how global issues affect places like cities or villages [25,31,32]. In this respect, energy transition narratives can be understood in two ways. First, they represent "planning techniques" for innovators, visualizing "through attention to and projections of the condition of future social spaces should current trends continue." [11] (p. 1608).

Second, global pressures symbolize compulsory, easy-to-assess metaphors [33,34] for adopters (civil society), describing global problems from a local perspective. Both understandings encompass global threats like climate or environmental changes or catastrophes, telling that the "(risk laden) future is pressing upon the present" [11] (p. 1619).

2.2.2. Place-Bound Factors

Bottom-up energy transition narratives direct a local, place-bound story to the future and acquire a new spatial contextualization [2,31,32,35–37]. This comprises two distinctive ontological perspectives. First, bottom-up energy transition narratives represent recommended local "success stories" [34] (p. 18), referring to sociotechnical innovations [35]. They contain a dramaturgical climax in their topoi as socially constructed "building blocks of reality" [5] (p. 16) to overcome barriers and global threats—scholarship on narratives has termed this plot [9]. Thereby, civil society translates bottom-up energy transition narratives into local realities [18,19].

Second, bottom-up energy transition narratives ontologically refer to the successfully established sociotechnical innovations [24,31,36,38]. Those are perceived by adopter groups in different spatial contexts who begin to highlight the meaning of an innovation and its successful establishment as a means for change [28,39–41]. Therefore, stories about successfully implemented local energy transitions create narratives about possible local energy futures and by so doing promote the actions and practices [42] of certain individuals [26–28,32].

2.3. Interdiscursivity

In later stages of development, bottom-up energy transition narratives undergo changes in regard to the relation between place-bound and non-place-bound factors [43]. Hence, bottom-up energy transition narratives begin to diverge from their original place-bound context [44]. Adoption pathways change in unforeseen ways and groups in different spatial contexts begin to adopt innovations and highlight different meanings of their innovation and its successful establishment [22]. Energy transition narratives are therefore interdiscursive [40] because they interconnect with new place-bound and non-place-bound discourses and other narratives [5]. Notwithstanding, this can cause controversy.

3. Method

3.1. Sources

To analyze energy transition narratives, we mainly rely on 45 semi-structured interviews (for the complete interview list, please see Appendix A) with innovators, adopters (e.g., early supporters,

clients), observers and experts in the SPREAD project [38] (Scenarios of Perception and Reaction to Adaptation—SPREAD. The project addressed the two overarching main questions. First, under what conditions do small sustainability innovation projects (like renewable energy co-ops, aiming at sustainable energy production, distribution, and consumption) gain traction and adopt their ideas to foster energy transitions (and if so, how can such diffusion processes be speeded up). Both authors conducted research in this project. For more information on the project, please visit the following website: www.kulturwissenschaften.de/en/home/project-70.html). Interviews were gathered between 2011 and 2014 in three steps. First, from 2011 to 2012, initiators were interviewed face-to-face and asked how activities started. Second, in 2012, experts who consulted the initiatives in the past were interviewed face-to-face reflecting on developments. Fellow campaigners of the initiator circles and also clients and investors of the initiatives were, except for four semi-structured face-to-face interviews, interviewed by telephone between 2012 and 2014. This enabled us to better understand the reproduction of narratives in different spatial contexts. The interviews are informative on how narratives are constructed with regard to global and place-bound factors which shape bottom-up energy transitions [38], as analyzed here in this article. Additionally, we draw on secondary sources, such as initiative websites, newspapers and academic publications.

Our interview interpretation is based on a so-called secondary analysis. Glaser [45] (p. 11) describes secondary analyses as studies "of specific problems through analysis of existing data which were originally collected for other purposes." This can enable rich process narratives to emerge, since the authors know the social-cultural context of the gathered data [46,47]. Furthermore, the analysis utilizes two basic comparative case study techniques. One is a within-case comparison, which "analyse[s] data to offer insight into the characteristics and causal processes of particular cases." [48] This includes a comparison of narratives with interviews conducted with adopters (late clients), living distanced to the original place of innovation, to carve out changes of narratives travelling through space and during the course of time. The other technique is the cross-case comparison of the three different cases to draw on general characteristics of the narratives analyzed here [49].

3.2. Procedure

Our analysis of energy transition narratives builds on two main steps. First, as innovation narratives [5], we propose that bottom-up energy transformation narratives spring from concrete and detectable events that take place in specific locations at specific times in the past. In this article, this refers to developing sociotechnical innovations in specific places. They emerge by being contrasted with possible futures that become manifest in the meaning of innovations and entail transitions, but also contrast to the status quo of the current energy regime. Therefore, section four starts by reflecting on the social-cultural context of narratives during the innovation establishment phase; this concerns actors and their problem orientation. Even though we highlight the interactionist perspective on the origins of narratives (namely that narratives are never a product of isolated social action), it seems that specific actors are required to articulate and communicate them in the first place. Based on the analysis of innovator interviews, local futures narratives are then displayed and then compared to the developing innovation establishment phase.

Narratives link places like cities, regions or districts; they also connect individuals and groups linked to those spaces, such as communities or families [43]. Literature has highlighted the ability of narratives to transmit memories of events by referring to specific places or infrastructures, for instance, of cities [44]. In this article, this concerns the specific sites of renewable energy producing techniques, such as biomass (e.g., wood, biogas) heating systems in houses, or photovoltaics on roof tops. It also includes wind parks or electricity grids. On account of this, second, we focus at the changes which energy transition narratives seem to undergo when reproduced during the adoption phase in spatial sociotechnical contexts which differ from the originating spatial context (Section 4.2). We thus look at protagonists, but also account for adopters' interpretations and perceptions of narratives that could influence the story told [41]. We further compare the narratives to the innovation adoption path to

highlight potential inconsistencies of narratives and critically reflect on them instead of taking them as consistent and coherent documentations of the past [13,42]. For this reason, the concepts underlying this analysis is (a) a within-case comparison and (b) a cross-case comparison of three energy transition narratives during the innovation establishment phase and the innovation adoption phase and are displayed in Table 1. This comparison is also the basis for the discussion in Section 5 and is concluded in Section 6.

Table 1. Cross-case and within-case comparison scheme.

		←Cross-Case Comparison→			
↓ Within-case comparison →	↓ Within-case → comparison	4.1.1 Case briefings: establishment phase 4.1.2 Non-place-bound narrative factors 4.1.3 Place-bound narrative factors 4.1.4 Intermediate results	EWS	Solarcomplex	BINSE	Establishment phase
	↓ Within-case → comparison	4.2.1 Case briefings: adoption phase 4.2.2 Non-place-bound narrative factors 4.2.3 Place-bound narrative factors 4.2.4 Adopters and bottom-up energy transition narratives 4.2.5 Intermediate results	EWS	Solarcomplex	BINSE	Adoption phase
		5. Discussion (non-place-bound and place-bound narrative factors)				
		6. Conclusions				

The next Section 4 turns to the compared case studies. The first Section 4.1 deals with the origin of the narratives during the establishment phase, while Section 4.2, examines changes in narratives during what the article calls the adoption phase of the three researched renewable energy initiatives.

4. Analyzing Energy Transition Narratives

4.1. Bottom-Up Energy Transition Narratives during the Establishment Phase

4.1.1. Case Briefings: Establishment Phase

- EWS. In 1988 the association Parents for Nuclear-Free Future (EfaZ; German: Eltern für atomfreie Zukunft) [50] was founded in Schönau, a city located in the South German Black Forest region in the state of Baden-Württemberg. In 1990, after a locally initiated energy saving campaign, EfaZ began articulating ambitions in the local council to repurchase the local electricity grid from the local electricity utility, since the utility's contract with Schönau was about to expire and since this would allow them to later design tariffs (interviews 16, 38). A local debate evolved over the question of whether a citizen's initiative or a professionalized firm should operate the Schönau grid (interview 17). After campaigning and two local referendums (1991 and 1996) [38], the people of Schönau voted for the experiment with the new energy initiative. The newly founded company began organizing the takeover of the grid in 1997 with Elektrizitätswerke Schönau Ltd. after a nationwide crowdfunding campaign. This ultimately brought EWS to a larger audience in Germany, spreading the success story of Schönau [38].
- Solarcomplex. Located within the Konstanz district and close to Lake Constance in the state of Baden-Württemberg, a group of sustainability-oriented people met every week in Singen Workshops (German: Singener Werkstätten), to debate issues of sustainability in light of the

Agenda 21 process that was underway at that time [32] (Agenda 21 is an action program designed by the United Nations to foster sustainable development in the 21st century. The program was agreed upon in Rio de Janeiro in 1992 and aims also at community action). Soon a firm was founded which operated less confrontationally than EWS and started as a crowd-funding initiative that promoted solar roof panels. From the beginning, Solarcomplex launched public campaigns using the narrative of citizens' participation and professionally printed brochures to inform citizens of the Western Lake Constance region about their idea to turn the region into a 100-percent renewable energy region. Further, Solarcomplex incorporated clear benchmarking goals, and internal hands-on learning processes helped to adapt the adoption pathways of renewable energy technologies as needed. This included photovoltaic system, hydro power and bioenergy generation for heating (wood and biogas) [51].

- BINSE. Initially, the motivation to set up BINSE in Berchum was the enthusiasm for photovoltaic technologies of its founder. Berchum is a district of Hagen, a city which is located in the state of North Rhine-Westphalia. In 2002, the installation of a community photovoltaic unit on the rooftop of the youth education center of the local Protestant church was successfully realized [38]. This marked the start of a close cooperation with local churches that would soon become a successful operational model. The project's success was not only due to the cooperation with the church, it was also due to the cooperation of citizens who gave loans for investments (interview 3).

4.1.2. Non-Place-Bound Narrative Factors

EWS emerged as a result of the nuclear accident in Chernobyl in 1986 [52]. Influenced by local anti-nuclear protest groups, EWS innovators articulated their strong opposition against nuclear energy production and consumption as a result of a materializing nuclear threat. Activists and associations stressed the story of parents saving the future of their children. This motive was also behind the later founding of the firm EWS. As underscored in interviews 1, 9, 10, 27, and 27, the parents were influenced in their activism by local church groups and contact with local forest rangers, who were directly confronted with the effects of Chernobyl on the natural environment [50].

Inspired by artistic work of one co-founder of Solarcomplex, the main problem orientation was climate change (interview 4). Group members already knew each other from school, from the local Boy Scouts association, and from business (interviews 2, 4, 6, 7). From 1997, after failing to set up a barter exchange network in the city of Singen, the group turned towards local economic solutions and blamed the voluntary character of the barter exchange ring for its nonproductivity (interviews 6, 36). This can be regarded a change towards regime integration.

Initially looking for a photovoltaic solution for lighting in the basement of his own house, an interviewee (interviews 3, 19, 33) from BINSE reported that he soon learned about renewable energy producing technologies with a colleague from the University of Hagen who was considered a technology pioneer and experimented with photovoltaics and e-mobility. Several of his projects were presented in Berchum (interviews 18, 34, 35). Highlighting the principle of the integrity of creation (sustainability) as emphasized by the church, a group started their first community campaign prior to the foundation of BINSE (interviews 3, 18, 19).

4.1.3. Place-Bound Narrative Factors

Local church groups and contact with local forest rangers, who were directly confronted with the effects of Chernobyl on the natural environment, fundamentally changed the discussion of nuclear energy in Schönau and provoked strong sentiments against it. When EWS tried but failed to convince the local electricity distributer and domestic policy makers to stop distributing nuclear energy in Germany, the group decided to focus more narrowly on local activity as for instance energy saving [53]. According to EWS co-founders (interviews 1, 42, 43), there was a decisive moment after one year in which attention shifted from opposing energy policy towards the option of locally supporting an energy transition: the idea of at least doing something against nuclear electricity industries by

promoting more efficient citizen-funded ways of energy production, as for instance small block heat and power plants [38] (interviews 1, 14, 15).

The desire to act instead of just talking also gained traction in the group in Singen [54,55]. Founded in 2000, the firm operated in a rather business-like manner. Solarcomplex's vision was to transform the regional electricity and heat production regime into a 100-percent renewable energy region by 2030 [56]. Since there are no fossil fuel deposits or oil, gas, or coal and no nuclear or coal power plants in the region, it imports energy and sends capital to other regions. Solarcomplex therefore linked the regional welfare and sustainability debates. The narrative promoted at the beginning picked up on the climate-change discourse and was linked to the possibility to use citizens' capital to bring about change (interviews 2, 36).

BINSE sought to install a citizen-funded photovoltaic facility on top of the roof of the Protestant Parish Hall in Berchum. Soon the local protestant church started a sustainability education program (interview 25). The idea of the integrity of creation allowed for a framing of innovative renewable energy technologies as sustainable and desirable in rather conservative circles [57]. Unlike those involved in EWS or Solarcomplex, the BINSE-actors were never part of the anti-nuclear movement or the environmental movement that had evolved in Germany since the 1970s. By envisioning a local energy transition, these actors drew rather on the idea of local resistance and strove to distinguish themselves from the rest of the city of Hagen, which Berchum was involuntarily merged with in 2002 (interviews 3, 18, 19).

4.1.4. Intermediate Results

Perceiving global pressures, the three initiatives felt the need to envision local sociotechnical solutions. All three initiatives experienced a paradigm shift from talking to acting. Consequently, as a main ingredient of their promoted bottom-up energy transition narratives, the initiatives stood not against, but for something: a local energy vision into the future. Whereas EWS started as a protest group and later offered a grid repurchasing option due to a window of opportunity, Solarcomplex and BINSE started to promote concrete sociotechnical portfolio ideas right from the beginning. The EWS case therefore strongly underscores how place-bound socio-cultural dynamics can reshape the routes of narratives.

Table 2 provides an overview of narrative factors during the establishment phase.

Table 2. Overview of narrative factors during the establishment phase.

Bottom-Up Transition Narrative Factors on Different Levels		**EWS**	**Solarcomplex**	**BINSE**
Non-place-bound	Sociotechnical landscape level	Chernobyl effects	Possible climate change	Integrity of creation
	Sociotechnical regime level	Utility contract	Feed-in tariff	Feed-in tariff
Place-bound	Sociotechnical niche level	Civil society - Church groups - Colleagues - Experts	Civil society - Friends from school - Colleagues - Business networks - Experts	Civil society - Church groups - Experts

In all of the three cases, the core group shared long-standing, strong relational bonds and used private social networks. To promote their local futures ideas, innovators of all three initiatives talked to friends, colleagues and neighbors and engaged in direct local campaigns and distributed flyers and brochures [38,58]. Using citizens' capital to finance their initiatives was seen as the central mechanism to push for local energy transitions. This linked civil society to the narratives as a cornerstone for putting more sustainable local futures into practice.

Innovators pointed to a local alternative, offering participative pathways to change local energy futures with citizens' capital that was invested in local and renewable options that symbolized a local energy transition towards sustainable futures. Almost inevitably, the initiatives became counter-narratives in their own right that stood against Germany's centralistic and top-down-organized energy policy.

At their heart, the initiatives set the conditions under which they, driven by narratives, appeal to civil society's capacities (time, funding) to democratically participate in public decision making on local energy futures. Civil society translated the global to the local. Furthermore, EWS is a good example of how civil society defends transition narratives by appealing to democratic institutions. This is a powerfully mobilizing message in itself.

Moreover, the three early initiatives have in common that they first attached themselves to public institutions. Again, this underlines the importance of place-bound social capital. This strategy aimed to help the initiatives to attract attention and to gain trust, since local public bodies enjoyed prominence but underscores their place-bound dependence during their establishment stage.

4.2. Bottom-Up Energy Transition Narratives during the Adoption Process

4.2.1. Case Briefings: Adoption phase

- EWS. From 1999, after the liberalization of the German electricity market (due to EG directive 96/92), EWS's next step was to distribute electricity not only in Schönau but all over Germany. EWS also started promoting the idea of local bottom-up energy transitions and the extension of its grid and its organization to neighboring communities and cities like Titisee-Neustadt (further, natural gas and electricity concessions started in the following small communities: on 1 January 2011, Fröhnd, Schönenberg, Tunau, and Wembach. 1 January 2012. On 1 January 2013 followed Wieden, Aitern, Utzenfeld, as well as Schönau-Aiterfeld as part of the city of Schönau [53]). Citizens from neighbor communities were given a say in the city council and participated in the capitalization of the operated electricity grid which they, like EWS, bought from the former operating utility.
- Solarcomplex. In 2005, Solarcomplex planned its first bioenergy village. The bioenergy village-series marks a new generation of projects (List of Solarcomplex' Bioenergy villages: Mauenheim 2006, Lippertsreute 2008, Grosselfingen 2008, Schlatt 2009, Randegg 2009, Renquishausen 2009, Lautenbach 2010, Weiterdingen 2011, Meßkirch 2011, Büsingen 2012, Emmingen 2013, Bonndorf 2014/2015, Hilzingen 2015, Bonndorf 2015, Wald 2015/2016, Veringendorf 2016/2017, Storzingen 2017 [59]. This concerns also the collaboration with small neighboring towns like Engen, where passive energy house settlements relying on photovoltaics and wood pellet heating were built [60].) and makes particular use of photovoltaics and bioenergy heating systems, as professionalized during the establishment phase, but also a biogas plant and waste heat utilization (2018). In August 2012, an industry representative group, IG Hegauwind, was founded to escape discursive deadlocks in the regional wind sector. Since existing regional wind zoning rules were not sufficient, their own wind measurements started in 2013 [61] (Founding members IG Hegauwind were the Bürger-Energie Bodensee e.G., EKS AG, Gemeindewerke Steißlingen, Solarcomplex, Städtische Werke Schaffhausen/Neuhausen, Stadtwerke Engen, Stadtwerke Konstanz, Stadtwerke Radolfzell, Stadtwerke Singen, Stadtwerke Stockach, Stadtwerke Tuttlingen and the Thüga Energie [61]).
- BINSE. In 2004, BINSE participated for the first time in the national solar and photovoltaic competition (German: Solarbundesliga), which aims to honor innovative communities. This platform helped BINSE to share experiences, and refine its future vision [38] (Between 2002 and 2006, BINSE realized 50 photovoltaic and solar heat projects [62]. Later in 2009, BINSE realized a 10 kWp photovoltaic project in the neighboring district of Halden-Hagen on the rooftop of the Protestant-Lutheran Peace Church Halden-Hagen [63]. In 2010, a solar recharging station

for e-mobility was installed. Furthermore, since 2012, BINSE has installed 20 wood-pellet-based heating systems and organized a platform to gather pellets). For instance, in 2012, a pioneering facility wood-pellet-based heating system was constructed in the parish house of the local Berchum Protestant church [64], which obviously became BINSE's experimental incubation room (interviews 5, 34). Soon BINSE started other projects that did not rely on cooperation with local churches.

4.2.2. Non-Place-Bound Narrative Factors

EWS-interviewees underscored that the (regime) liberalization of the German electricity market in 1998 allowed the feed-in of small quantities of electricity into the grid and free choice of utilities [53]. It potentially meant that clients who voted against EWS during the local referendums in 1991 and 1996 could decide to change their electricity distributor, which would have caused EWS to go bankrupt and lose the grid (interviews 1, 10, 20). To protect their electricity grid, the initiative's next step was to promote the distribution of electricity not only in Schönau, but all over Germany, to compensate for potential losses. Interviewees tell that, in 2011, Fukushima had a strong catalyzing effect and EWS won more clients after this (landscape) catastrophe (interviews 1, 16, 17).

From 2002, Solarcomplex has actively pushed the narrative of wind energy as the only option for Baden-Württemberg to realize its energy transition [59], since wind was seen as the most efficient and effective way to produce renewable electricity [56] (interview 6) (In 2017, three wind turbines were bought in Renquishausen which operated since 1996 and a small wind park (six turbines) was inaugurated in Verenafohren, projects are also planned in Bonndorf and Linach [59]). Wind energy projection is a serious barrier since it still faces public, NGO, and political resistance from actors aiming to protect the natural landscape in its current form as revealed in interviews. An (landscape) argument used by Solarcomplex is that Baden-Württemberg is the German state most affected by the nuclear phase-out, since it had the highest shares of nuclear energy before Fukushima [56]. In 2010, a (regime) change of governing party, from Christian Democratic to Green, was necessary to push wind energy in the region. This occurred in 2010 (interviews 4, 5, 7, 12).

Unlike those involved in EWS, the BINSE-actors were never part of the anti-nuclear movement or the environmental movement that had evolved in Germany since the 1970s. In 2006, the directors of BINSE declared their renewable energy vision for 2050. Fossil and nuclear energy production, so they said, had led to climate, environmental, and political crisis, while solar energy is free and always available, even in Berchum [65]. It seems the narrative shifted ex-post towards an anti-nuclear argument (interviews 19, 44) after Fukushima.

4.2.3. Place-Bound Narrative Factors

EWS's green energy distribution strategy broke with the narrative of the local community as a center of transition, which had been promoted during the establishment phase and was framed as the symbolic energy politics of grassroots organizations (interview 1) (As it turned out, nobody left EWS after the liberalization of the German energy market and the distribution business grew [66]). As a reaction to the criticism over the surprising diffusion pathway, EWS started to export its participative community model to neighboring communities like Titisee-Neustadt since 2011 (interview 17) (In 2015, the city of Titisee-Neustadt faced a lawsuit from the Federal Cartel Office, which claimed it ignored other regional applicants for the grid concession. In 2017 the city of Titisee-Neustadt won the case because the then consulting law firm made mistakes [67]). Further, a support program for small scale electricity production (photovoltaics) was set up by EWS to sustain private, efficient energy production; this was financed by electricity tariffs, voluntarily payed by EWS electricity customers [52]. In so doing, the company tried to stick to its original narrative to push for bottom-up transitions, financed by citizens.

Contrary to the Solarcomplex 2002 study on the potential of regional renewable energy production, the company soon hit the limits of rooftop energy generation (interviews 4, 6, 7). As a consequence,

ground-mounted photovoltaic systems with much higher energy production rates were discussed; they have been used since 2006 (interviews 11, 12). A discussion about Solarcomplex's ground-mounted photovoltaic systems led to a food versus fuel controversy with regional farmers because of the excessive use of land of these systems. As a result, Solarcomplex avoided to site on farmland to not contradict to the narrative of local value creation [38,58] (interview 26) (a similar discussion about Solarcomplex's bioenergy systems led to its stagnating regional adoption since it became too wood- and biomass-consuming (interviews 2, 4, 6)). The bioenergy village narrative faced the same barrier. As explained by an interviewee (interview 6), Solarcomplex began to forge alliances to gain support for wind energy in the Hegau region. This strategy, illustrating the narrative 'we face resistance, but together we will protect out idea', did prove effective (interviews 2, 36, 37). Nevertheless, the cooperation with IG Hegauwind represented an admission of sorts, that it would be impossible for Solarcomplex to pursue the goal of a renewable energy region alone and that cooperation with experienced municipal utilities was necessary [63,68].

Networks helped to establish contacts that later turned into projects (interviews 3, 18, 19, 35) and helped BINSE to discover new networks [57]. Later, in 2003, Berchum was already publicly called a solar village [65]. Even the mayor of Hagen and a member of the Bundestag paid BINSE projects frequent visits. This shows how the city district gained popularity. The decisive organizational change of the BINSE-diffusion pathway compared to earlier occurred, when the initiative was opened up to citizens, who furthered adoption [38]. Other German pioneer projects had demonstrated that change towards sustainable energy production is possible; the Berchum strategy was therefore to save energy and simultaneously increase energy production with renewables [65]. This Berchum narrative builds on locally gathered experiences showing that such a transition is possible with citizen's funding.

4.2.4. Adopters and Bottom-Up Energy Transition Narratives

Whereas narratives mostly circulated among the core group of innovators at the start, the narrative distribution pattern changed in the adoption phase and began to involve a broader majority—adopters. EWS clients living far away from the small city of Schönau in bigger cities like Essen, Hamburg or Cologne describe EWS as a small community, successfully rebelling against nuclear monopolies and changing the German electricity market by pushing for local change. They further stress that buying EWS-electricity contributes to the local and democratic approach of this company. This is remarkable since EWS started green electricity distribution in 1999, buying green electricity in Norway and distributing it in Germany. This is an activity which must be considered spatially detached from Schönau and which does not differ from the operational models of other utilities distributing green electricity.

Also, clients of Solarcomplex (interviews 13, 22, 29, 30, 31, 37) highlight the importance of citizen-funded regional economic circles and local value adding and local sustainable change. However, in contrast to interviewees of the other initiatives, the Solarcomplex clients strongly emphasize the benefit of green and secure investments. Therefore, these narrative reproductions shift away from a sole focus on sustainability towards green economy rhetoric via local change.

In contrast to the above example, economic motives play only a partial role in the BINSE narrative, even though one interviewee (interview 34) highlights economic motives. Another interviewee (interview 33) remembers the oil crises in the late 1970s/early 1980s, and stresses the need for more ecologically and technologically sound solutions. This strong technology focus differs to the narratives reproduced by interviewees of the other initiatives. However, rather dominating seems the reproduced narrative of citizens' contribution to the community in interviews with clients of BINSE (interviews 33, 34), which also included the local church community (interview 33).

4.2.5. Intermediate Results

What the three initiatives share is a moment in which their business models began to work and innovations gained momentum, so that the envisioned energy transitions accelerated and evolved in spatial patterns. During this process, the three initiatives share topoi of protection by adoption. Narratives have in common that they argue for the protection of their initial success with processes of innovation adoption (EWS-grid, Solarcomplex's wind energy, BINSE's new benchmarks). Finding ways to overcome material, natural, technical and bureaucratic barriers is therefore the narratives' climax stressed by innovators.

Fukushima represented a non-place-bound argument which catalyzed transitions. For EWS this catastrophe was, again, proof for its anti-nuclear strategy. Both Solarcomplex and BINSE used Fukushima as an argument to justify their newly pushed adoption pathways, whereas place-bound arguments against barriers are represented by the figure of cooperation and social networks as means to overcome barriers.

Table 3 provides an overview of place-bound and non-place-bound narrative factors during the adoption phase on different levels.

Bigger projects made new financing schemes (and bank loans) necessary. Instead of relying solely on symbolic, local, and voluntary community action like the early initiatives, the initiatives' narratives transformed. It now transmitted a vision of steadily growing and professionalizing firms that offered citizens an option to democratically contribute to the German energy transition. Citizens were offered to invest in shares, stocks or electricity products as an option to democratically choose energy visions [38,57,58].

Interviews with adopters reveal that contact, trust in, and a strong bond and identification with initiators are important factors in relation to whether the narratives of initiators are reproduced by clients. This also holds true for interviewed clients of BINSE and Solarcomplex. These findings suggest that trans-locally reproduced narratives refer to key innovators. Furthermore, all interviewees of the initiatives refer to the initiatives' democratic bottom-up character, supported by citizens' engagement. The framings of the citizens' role in local energy transitions described in interviews vary however due to initiatives' organizational differences and spatially differing patterns of adoption. At the same time, there seem to be individual differences in motives. However, the achievements themselves were crafted into a narrative of success, showing citizens that change is indeed possible [38,57,58].

Table 3. Overview of place-bound and non-place-bound narrative factors during the adoption phase on different levels.

Bottom-Up Transition Narrative Factors on Different Levels		EWS	Solarcomplex	BINSE
Non-place-bound	Sociotechnical landscape level	Argument - Fukushima - Possible climate change	Argument - Fukushima - Possible climate change	Argument - Fukushima - Possible climate change - Integrity of creation
	Sociotechnical regime level	Argument - Liberalization of the electricity market - Adopters	Argument - Liberalization of the electricity market - Adopters	Argument - Liberalization of the electricity market - Adopters
		Barrier - Unloyalty to own narrative - Local affairs	Barrier - Ecosystem boundaries - Sociotechn. boundaries - Local affairs	Barrier - Bureaucracy
Place-bound	Sociotechnical niche level	Argument - Businesses - Friends - Neighbor communities - Adopters - Politicians - Experts	Argument - Businesses - Friends - Neighbor communities - Adopters - Politicians - Experts	Argument - Adopters - Church groups - Experts
		Barrier - Liberalization of the electricity market - Professionalization - Local affairs	Barrier - Ecosystem boundaries (wood) - Sociotechn. Boundaries (rooftops) - Local affairs	

5. Discussion

5.1. Points of Contention on Landscape Level during the Establishment Phase

As highlighted elsewhere, non-place-bound narrative factors represent civil society's points of contention to engage in bottom-up energy transitions [17–20]. In this article, we identified the nuclear disaster Chernobyl and dangerous climate change as basic elements of the compared bottom-up energy transition narratives. As expected and as asserted by the cited environmental narrative literature, all interviewees picked up on such points of contention as highlighted in Section 4.1.2.

It could be assumed that it is the nature of bottom-up transition initiatives on niche level to relate to regime reconfigurations as non-place-bound factors. The case of the EWS narrative is representative for such a perception: EWS heralded its strong opposition to regime actors (government and industries) and thereby became a counter-narrative. In this article it was shown that bottom-up energy transition narratives oppose those of local traditional utilities that have been established for a considerable time period. They can therefore be understood as counterparts of the narrative of successful industrial revolution [29], even though it should not be forgotten that the growth of a centralized "energy-production systems is actually in and of itself a sociotechnical success story" [30] (p. 519). However, even though EWS employees contrast EWS to other domestic renewable electricity distributors (interviews 9, 10), there is little difference in their core activities. Identical arguments—against centralistic energy systems—were put forward by interviewees of BINSE and Solarcomplex (interviews 1–3, 7, 8, 11, 12, 36).

Nevertheless, it should be recalled that regime reconfigurations were the very reason for establishing Solarcomplex and BINSE. Only the introduction of the German feed-in tariff (on regime level) made their business model possible. We therefore assume that stressing the counter-narrative forms part of the strategic repertoire of bottom-up initiatives, whether integrated at regime level or not. Consequently, it could be argued that it is the essence of bottom-up energy transition narratives to artificially highlight the tension with the sociotechnical regime and landscape level.

5.2. Readjusting the Catastrophe during the Adoption Phase

We identified readjustments in terms of how the analyzed narratives frame global pressures. In regard to the adoption phase, our findings contrast with the argument that transition narratives are "tied together by a central theme" [69] (p. 357) for especially two reasons. First, problem orientations are not fixed. They can be adopted ex-post as arguments for local action during the adoption phase. All of a sudden, the anti-nuclear position became an argument for BINSE and Solarcomplex, as climate change became for EWS. Second, problem orientations can become discarded as was shown for the case of BINSE: the narrative shifted ex-post towards an anti-nuclear argument and the idea of integrity of creation lost ground. The same was reported by EWS interviewees for the establishment phase: the anti-nuclear idea that was basic to this early community became less prominent in attempts to make the idea attractive to other, less political Schönau citizens. This shows that bottom-up energy transition narratives can diverge from their original global problem orientation. Consequently, bottom-up energy transition narratives can be tied together by different (non-place-bound) themes at a given time.

The quality of the nuclear disasters Chernobyl and Fukushima should nevertheless be considered. Different than climate change, Chernobyl and Fukushima did not require planning techniques to predict the disasters' local effects. They immediately became real in places and affected people's daily life. This might explain why BINSE and Solarcomplex began picking up on the anti-nuclear argument. In the case of EWS, Fukushima performed as a consolidation of the firm's original narrative which originally built on the Chernobyl disaster.

However, methodologically it is difficult to assign narrative factors either as non-place bound or as place-bound. According to interviews, also adopters picked up on Fukushima. Therefore, local narrative factors—adopters, people living in places—influence the social construction of global

pressures and must therefore be understood as perceiving and articulating links between the global and the local.

5.3. Establishing Place-Bound Stories of Civil Society's Success

Bottom-up energy transition narratives metabolize global pressing problems into local, sociotechnical futures through civil society's actions [11,12,17–20]. Four central place-bound aspects were identified when comparing bottom-up energy transition narratives. First, the analyzed narratives have in common that they underscore their local materialized success. The idea of centralized electricity distribution was opposed with more sustainable, local forms of energy production and consumption. Consequently, bottom-up sociotechnical innovations became sociotechnical narratives of success in their own right. This soon drew increasing numbers of experts, celebrities, and politicians in the renewable energy communities, as interest in the initiatives continued to grow. Highlighting sociotechnical (place-bound) achievements is therefore a central strategy of bottom-up energy transition narratives.

Second, and this is related to the above made assertion, the analyzed narratives also politicize the discursive construction of sociotechnical energy transition places. Renewable energy technologies became symbolic for bottom-up transitions and developed into spatial brands of possible energy futures (e.g., solar city, renewable energy region). Such brands transmit specific meanings, politically colonizing local discourses and becoming strong narratives. For instance, Schönau was called a 'solar city' (referring to the solar roof of the local Lutheran church in Schönau); Berchum was soon described as a 'solar village'. Solarcomplex promoted a '100-percent renewable energy region' [38,56]. This shows, even though Schönau and Berchum do not generate much solar energy in relative terms, and even though the Western Lake Constance region is not yet a 100-percent renewable energy region, these framings already point to what ought to be (a tradition) in the future. This politicization-effect is also true for sites (e.g., wind parks, photovoltaic roofs), spatially indicating new ways of energy production.

Third, representing civil society and actively highlighting its role in bottom-up energy transitions, the three compared narratives have in common that they frame civil society as the main resource of success. This is in line with literature on actor roles in transition [21]. Moreover, and as likewise underscored by Frantzeskaki et al. [19], interviews highlighted social capital like knowledge and ideas as central means for successful bottom-up energy transitions. This is further confirmed by interviewee's references to social networks as seedbeds for local change.

Fourth, interviewed innovators often stressed voluntary action. For instance, BINSE owes its success to the steady and voluntary engagement of pensioners, who used all their available time to push the adoption of many projects (interview 3). The same voluntary character assigned to the analyzed narratives was reported by interviewees of EWS and Solarcomplex (interviews 1, 2) (moments of deprivation were elsewhere highlighted [38,57,58]). This stressed the narrative of bottom-up energy transitions as a public, voluntary affair without economic aims, instead of a privately mounted, rent-seeking project. We therefore see a storyline suggesting that bottom-up energy transition narratives promote niche protection by activating all available resources. Reported crowdfunding strategies speak for this. This role of protection is completely assigned to civil society in its struggle for just and democratic energy systems, as highlighted in literature [70–74].

5.4. Adopting Local Success Stories and the Fixity–Travel Dilemma

During the adoption phase, narrative plots can bifurcate from local contexts because energy transitions materialize in new emerging transition pathways, caused by newly developing and mostly unforeseen dynamics. Third parties confirm that this holds true for EWS and Solarcomplex. In an interview (interview 37), a regional energy expert and Solarcomplex activist interestingly compared Solarcomplex with EWS in this regard. He clearly states that the initial idea was to regionally gather capital, but, confronted with the need to keep up with the adoption benchmark, financial needs made

organizational changes necessary. Consequently both companies gave up their original argument of locality of change (Figure 1).

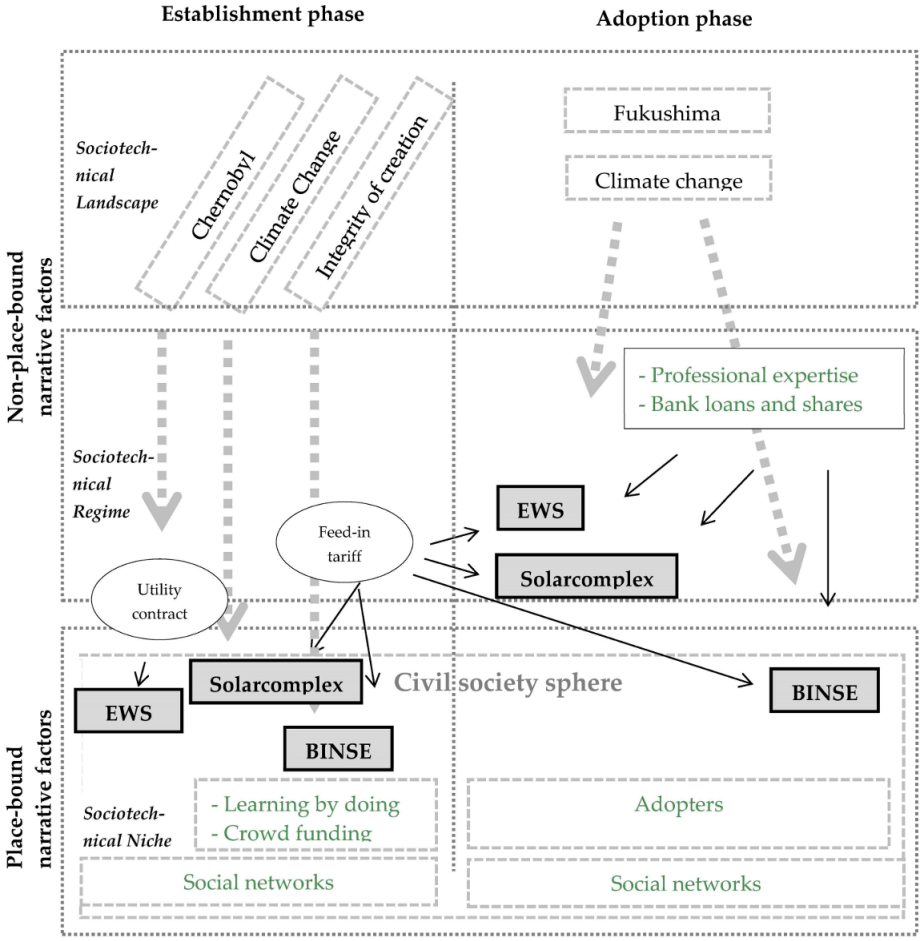

Figure 1. Place-bound and non-place-bound factors during the establishment phase and the adoption phase according to the sociotechnical landscape-, regime- and niche-level.

Comparing the adoption phase with the initial idea of bottom-up energy transitions as promoted in the analyzed narratives, a couple of controversies can be identified. First, by falling short on the promotion of citizen's participation, energy transition narratives risk promoting sociotechnical systems that differ little from the sociotechnical systems from competing, rent-seeking energy industries during the innovation adoption pathway. Therefore, by disarticulating citizen's participation, bottom-up energy transition narratives advocate de-localization: initiatives promote (place-detached) green electricity products or shares as a citizens' democratic voice for sustainable energy systems and yet a voice against the status quo of energy industries. Paradoxically, the reproduction of bottom-up energy transition narratives by adopters contrasts with these findings. All interviewees refer to the initiatives' participative character, supported by citizens' engagement. Innovators enjoy trust and status in their groups [63], identification with the pressure group seems therefore an important factor for successful adoption of bottom-up energy transitions, whether or not they are diverging from original narrative contents.

Nevertheless, BINSE should be understood as a model for enabling a local but deep energy transition, aiming at neighbor cultures but also seeking to attract regional and national attention for Berchum. Seen from this perspective, BINSE truly sticks to its original narrative of local change.

Second, the analyzed narratives were iteratively and deliberatively changed when innovators began reflecting upon barriers and specific side effects of ongoing energy transitions pathways. A good example is the cooperation of EWS with the city of Titisee-Neustadt in order to balance out the distributive activity with more local engagement as originally stated. EWS interviewees point to this controversy, expressed in company members' discomfort with the new economy of scale of electricity distribution. EWS, they claimed, only invested in Schönau but not in the surrounding region due to the small returns (interviews 9, 16, 17). EWS's support for electricity distribution, so it seems, went hand in hand with a trade-off between citizens' engagement and a locally crowd-funded financing scheme. Another example is provided by Solarcomplex's adjustments of its biomass adoption path. These examples show how reflection influenced the adoption pathways. Even though controversies are a less reported issue in BINSE interviews, interviewees describe that projects were realized in the beginning which could not be opposed by the city of Hagen or the church (interviews 3, 33, 34). We relate this to cultures of learning which become institutionalized in social contexts. Nearly all interviewees related this to interactions with adopters in social networks (interviews 1–19, 36).

To sum up, bottom-up energy transition narratives constantly face what we call a fixity–travel dilemma. Adoption pathways transform into new sociotechnical narratives. If they diverge strongly from their original spatial context and disarticulate their initial message, they ultimately run the danger to become stories of controversy. Innovators find themselves in a steady reflection upon the contradiction between what is and what ought to be. This forces them to balance reason. Innovators have to decide whether to stick to a specific adoption path or not and employ strategies accordingly. Protecting their local source of identity (the initial energy transitions success) by promoting adoption is one way to deal with changing pathways. Another way of maneuvering nimbly is re-designing transition pathways to them becoming more suitable and compatible with employed narratives. This means spatially non-emerging bottom-up transitions materialize in less-conflicting narratives of their own as is the case with BINSE.

6. Conclusions

The qualitative method proposed here, which combined within-case and cross-case comparisons, helped to understand what place-bound and non-place-bound factors make up for bottom-up energy transition narratives and how those factors relate to each other during the establishment phase of bottom-up energy transitions. It was shown how place-bound and non-place-bound narrative factors change in their relation to each other during the adoption phase of bottom-up energy transitions.

We highlighted the character of energy transition narratives in several respects. Generally, bottom-up energy transition narratives help to establish local sociotechnical innovations. During the establishment phase, non-place-bound narrative factors represent civil society's argument to engage. At the same time, narratives suggest social proximity and underscore place-bound factors which enhance transitions. They promote participative local, renewable energy futures and highlight civil society's role in "holding the future together" [11] (p. 1613). Sociotechnical artefacts become an object of opposition, material references become therefore an important ingredient of bottom-up energy transition narratives and a steady reference point of success and confirmation that change is indeed possible.

When bottom-up energy transitions gain momentum during the adoption phase, narratives travel easily beyond their local origin in order to be reproduced in different local settings. They can be understood as entrance cards for energy transitions when travelling from place to place and when attracting adopters. This makes bottom-up energy transition narratives an important link between districts, towns and areas. However, bottom-up energy transition narratives can cause path dependencies when they force innovators to follow the envisioned beaten track. At the same time, they become products of quick materializing changes and disarticulate citizens' participation. In this regard, non-place-bound factors play an important role in enhancing transitions.

During the adoption phase, bottom-up energy transition narratives might begin to discard their place-bound origins (e.g., citizens' focus vs. business focus) and indirectly begin to promote sociotechnical systems that differ little from place-detached energy systems of the status quo. This is when energy transitions step out of a niche. At this point, bottom-up energy transition narratives face a travel–fixity dilemma which forces innovators to take uneasy either/or decisions and to compromise. This can also be regarded an expression of niche-regime level tensions [13–15].

In addition, even though energy transition narratives promote to be for something, they must be understood as counter-narratives, opposing those of local traditional utilities that have been established for a considerable time period. Energy transition narratives can therefore run the danger to become polemic and polarized; here the good, there the evil. Furthermore, even though energy transition paths disarticulate original messages, adopters, when reproducing energy transition narratives, strongly refer to the original core message of the narratives: to citizens' participation. In this article, we related this to adopters' strong identification with innovator pressure groups.

Nevertheless, and in our view this is paradoxical, the detachment from the promoted political message of citizens' participation in energy questions makes narratives strong: becoming increasingly non-place-bound, bottom-up energy transition narratives become assigned to an increasing number of adopters from different places and thereby begin to "stretch policy spaces" for emerging bottom-up energy transitions [10] (p. 1026). This stabilizes domestic energy transitions which build on bottom-up energy transitions.

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Appendix Interviews in Chronological Order

1. Face to face, 3 interviewees, 24.02.2011, Schönau.
2. Face to face, 15.04.2011, Singen.
3. Face to face, 2 interviewees, 18.05.2011, Hagen, Berchum.
4. Face to face, 11.07.2011, Singen.
5. Face to face, 2 interviewees, 11.7.2011, Singen.
6. Face to face, 12.07.2011, Singen.
7. Face to face, 12.07.2011, Singen.
8. Face to face, 13.07.2011, Singen.
9. Face to face, 13.07.2011, Schönau.
10. Face to face, 13.07.2011, Schönau.
11. Face to face, 13.07.2011, Singen.
12. Face to face, 13.07.2011, Singen.
13. Face to face, 14.07.2011, Schönau.
14. Face to face, 14.07.2011, Schönau.
15. Face to face, 14.7.2011, Schönau.
16. Face to face, 15.07.2011, Schönau.
17. Face to face, 15.07.2011, Schönau.
18. Face to face, 22.07.2011, Iserlohn.
19. Face to face, 22.7.2011, Hagen.
20. Face to face, 3 interviewees, 15.08.2012, Essen.

21. Telephone, 04.09.2012, Schönau.
22. Face to face, 05.09.2012, Stuttgart.
23. Telephone, 10.10.2012, Waldshut-Tiengen.
24. Telephone, 22.10.2012,Schönau
25. Face to face, 25.10.2012, Köln.
26. Face to face, 30.10.2012, Essen.
27. Telephone, 05.11.2012, Schönau.
28. Telephone, 07.11.2012, Singen.
29. Face to face, 07.11.2012, Singen.
30. Telephone, 13.11.2012, Singen.
31. Telephone, 13.11.2012, Konstanz.
32. Face to face, 28.11.2012, Essen.
33. Face to face, 30.11.2012, Hagen, Berchum.
34. Telephone, 07.12.2012, Hagen, Berchum.
35. Face to face, 08.12.2012, Hagen, Berchum.
36. Face to face, 2 interviewees, 10.12.2012, Singen.
37. Face to face, 11.12.2012, Singen.
38. Face to face, 08.02.2013, Schönau.
39. Face to face, 08.02.2013, Schönau.
40. Face to face, 09.02.2013, Schönau.
41. Face to face, 3 interviewees, 09.02.2013, Schönau.
42. Telephone, 20.02.2013, Schönau.
43. Telephone, 01.03.2013, Schönau.
44. Face to face, 13.08.2013, Iserlohn.
45. Telephone, 06.08.2014, Hagen, Berchum.

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