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Legitimacy of Transitions – Transitions of Legitimacy: Uncovering institutionalization dynamics in sustainability transitions.

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Abstract

Legitimacy is of central importance for the establishment of technological and social innovations in sustainability transitions. The literature broadly conceptualizes the process of legitimating innovations as their *alignment* with institutionalized context structures. However, as transitions can be defined as (de)institutionalization processes themselves, they highlight the complexity of social orders. Therefore, this paper argues that legitimation not merely involves aligning with context structures, but rather the active and strategic social construction of legitimate relations between the innovation (object of legitimacy), the institutions (criteria for evaluation), and the evaluating actors. Building on this relational perspective, the paper develops a conceptual framework for analyzing *legitimacy gaps* – perceived inappropriatenesses concerning these relations – as constitutive entry points for legitimation and illegitimation strategies. The framework distinguishes two interrelated action spaces, in which these relations are dynamically constructed and stabilized: the *evaluation space* and the *transformative action space*. In these spaces, actors negotiate legitimacy gaps through a dynamic interplay of evaluation, challenge, and response, incrementally constructing (il)legitimacy relations. The framework is illustrated through the case of negotiations regarding the (il)legitimacy of wind energy installations in forested areas in Germany.

By shifting focus from alignment to the interplay of micro-level actor dynamics, this paper advances institutional perspectives in transition research. By providing analytical tools to examine situational dynamics of (il)legitimacy constructions, it contributes to a deeper understanding of how innovations become established and (de)institutionalization evolves incrementally in sustainability transitions.

Keywords

Legitimation

Illegitimation

Institutionalization

Sustainability transitions

Conceptual framework

1. Introduction

Sustainability transitions are active, strategic transformations of socio-technical systems – such as energy, water, transport, or food – toward more sustainable modes of production and consumption (Bergek et al. 2021). These processes require the breaking up and changing of hardened socio-technical structures, developing and embedding new, more ‘sustainable’ configurations, and the monitoring of these complex processes by heterogeneous actors at different levels of society (Hacker and Binz 2021; Markard et al. 2012). As transitions challenge existing institutional arrangements and socio-technical regimes, often provoking resistance from incumbent actors, regulators, or the public, *legitimacy* plays a central role in these processes (Köhler et al. 2019; Markard et al. 2016).

In this regard, legitimacy refers to a general perception or assumption about the appropriateness of (new) seemingly more sustainable socio-technical configurations, which are to be implemented in the course of transitions (Fuenfschilling 2019; Deephouse and Suchman 2008; Suchman 1995). The perception or *evaluation* of legitimacy depends on institutionalized expectations of social contexts, in which a socio-technical configuration is (about to be) embedded (Scott 2014). Hence, as innovations seek to disrupt established systems, they must be perceived not only as technically feasible or economically viable but also as normatively appropriate, credible, and socially acceptable (Bergek et al. 2021; Torrens et al. 2021; Suchman 1995). The success or failure of innovations thus frequently hinges on their ability to ‘gain’ legitimacy (Alzheimer et al. 2024; Schneider and Rinscheid 2024; Jolly and Hansen 2022). Much of the literature conceptualizes this process of gaining legitimacy, i.e., legitimation, as aligning innovations with prevailing institutional structures (e.g., Markard et al. 2016; Bergek et al. 2008a). While this alignment perspective has advanced our understanding of how innovations gain social support, it tends to treat institutional contexts as relatively stable and legitimacy as a unidirectional outcome, resource, or property (Suddaby et al. 2017). At the same time, ideas of both legitimacy and illegitimacy are evolving throughout sustainable developments, and the shifting and sometimes competing institutional orders within socio-technical systems are becoming increasingly complex (Hacker and Binz 2021). This shift results from the active and strategic (de)institutionalization in transitions, where actors engage in creating, maintaining, and disrupting institutions (Löhr et al. 2022; Lawrence et al. 2009). This emphasis on active processes of social construction of institutions in transitions poses challenges to this property perspective on legitimacy, as it highlights the relativity and dynamic character of social constructions of legitimacy and illegitimacy. This paper examines this ‘transition of legitimacy’ by addressing the research question: *How is (il)legitimacy constructed within the complex institutional contexts of sustainability transitions?*

To answer this question, this paper builds on recent work from transition studies and institutional theory to derive a novel, actor-centered conceptualization and operationalization of both legitimation and illegitimation in the institutionally unstable context of transitions. For this, (il)legitimation is re-defined and conceptualized for the transition context by emphasizing its relationality (Schoon 2022) and connection to the process of social construction (Suddaby et al. 2017; Berger and Luckmann 1966). For this, insights into the institutionally complex conditions of sustainability transitions and their impact on (il)legitimacy evaluations and constructions are discussed (Hacker and Binz 2021; Patala et al. 2019; Greenwood et al. 2011). Accordingly, it is argued here that in sustainability transitions, socio-technical configurations are exposed to and must deal with a certain level of institutional complexity (Hacker and Binz 2021). This leads to a blurring of the boundaries between (de)institutionalization and (il)legitimation, underlining the need for a more nuanced understanding of the idea of institutional complexity or instability and its impact on (il)legitimation. To this end, this paper builds on the idea of *legitimacy gaps* (Genus and Iskandarova 2020; Islam 2017). Legitimacy gaps are conceptualized in depth and defined as critical entry points for the construction, contestation, and stabilization of constructions of legitimacy and illegitimacy in transitions. It centralizes the effects that institutional change has on the

evaluation of (il)legitimacy and the resulting processes, i.e., how actors deal with them to legitimize and illegitimize certain socio-technical configurations in concrete situations. This approach enables a more nuanced understanding of how legitimacy and illegitimacy are strategically negotiated and constructed in concrete situations. The conceptualization is illustrated using a typical empirical example of a socio-technical configuration in the energy transition context: onshore wind energy projects and associated negotiations about the (il)legitimacy of wind turbines in forest areas.

The remainder of the paper is structured as follows: Section 2 reviews current applications of legitimacy and legitimation in transition studies, highlighting a conceptual gap between the analysis of innovation legitimation and broader processes of (de)institutionalization. Section 3 elaborates on the theoretical foundations necessary for analyzing (il)legitimation as (il)legitimacy constructions in transition contexts. Section 4 presents the conceptual framework and illustrates it with an empirical case study on legitimacy negotiations surrounding wind turbine installations in forested areas in Germany. Section 5 concludes by reflecting on the paper's key contributions and outlining implications for future research.

2. Legitimacy and legitimation in transitions

Legitimacy is a foundational concept in social theory (Zelditch 2001). It is often introduced by referring to the definition of Suchman (1995), according to which legitimacy is a “[...] generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (p. 574). Legitimacy thus refers to an institutionalized evaluation of an object (e.g., organizations, practices, technologies) as appropriate within a given context, based on the institutionalized criteria of that social context (Deephouse et al. 2017; Scott 2014). In this sense, legitimacy reflects “[...] embeddedness in a system of institutionalized beliefs and action scripts” (Suchman, 1995: 574), which in turn facilitates access to critical resources and societal support.

Although this perspective includes a momentum of social perception or evaluation, the definition points to a perspective on legitimacy as a property (Schoon 2022; Suddaby et al. 2017), which may be gained when the object of legitimacy aligns with institutional expectations (Alzheimer et al. 2024). This view on legitimation as alignment has dominated the discourse within transition studies for a long time (Negro et al. 2012).

2.1 Legitimation as alignment with institutions

In transition studies, legitimacy is typically applied as an explanatory concept to understand the success or failure of novel socio-technical configurations, i.e., of innovations (Rohe and Chlebna 2021; Bergek et al. 2008b; Hekkert et al. 2007). As these innovations are new to a specific context, they face a ‘liability of newness’ (Freeman et al. 1983) and they must demonstrate their desirability, propriety, or appropriateness (Binz and Gong 2022). Accordingly, legitimation – the process of acquiring legitimacy – is seen as central to overcoming this liability and enabling innovation systems to stabilize (Binz and Gong 2022; Markard et al. 2016).

Legitimation is commonly conceptualized as a process of aligning an innovation with institutionalized structures, such as laws, norms, rules, and established beliefs (Suddaby et al. 2017; Binz et al. 2016; Markard et al. 2016). Especially in the framework of Technological Innovation Systems TIS, gaining legitimacy, i.e., legitimation, is viewed as crucial for mobilizing resources for innovation, increasing market demand and acceptance, and stimulating further knowledge generation and entrepreneurial experimentation (Bergek et al. 2008b; Hekkert et al. 2007). With this perspective, legitimacy is very often understood to be something a TIS can gain or even be ‘transferred’ (Wesche and Skjølsvold

2025). Drawing on work from organizational institutionalism, some scholars, however, conceptualize legitimation further and distinguish between two broad types of legitimation strategies: (1) aligning the innovation with established institutions, and (2) strategically manipulating the institutional environments of innovations (Bergek et al. 2008b).

Despite this distinction, early empirical applications of the TIS framework predominantly emphasized the first type, i.e., *alignment* (Negro et al. 2012). For instance, Bergek et al. (2008a) highlight how renewable energy technologies in Sweden and Germany secured legitimacy by resonating with prevailing regulatory structures and policy targets. Similarly, Negro et al. (2007) explain the failure of biomass digestion in the Netherlands as a consequence of insufficient institutional alignment, especially with energy policies and market regulations. But also later work emphasized the importance of alignment strategies that involve framing the innovation so that it resonates with dominant logics and socio-political goals, thereby securing legitimacy by association with widely accepted values and problem framings (Markard et al. 2016; Binz et al. 2016). From the early 2010s onward, scholars began to broaden the conceptual scope of legitimation strategies beyond alignment and increasingly considered strategies of institutional manipulation (cf. e.g., Fuenfschilling and Truffer 2016; Binz et al. 2016). These works explicitly drew on the concept of *institutional work* (Lawrence et al. 2009), and thus emphasized how actors actively create, maintain, or disrupt institutional frameworks to create more favorable conditions for certain socio-technical configurations. Empirical studies examined, for instance, how advocacy coalitions, intermediaries, and industry associations work to establish supportive policies, create new standards, and counter negative narratives around contested technologies (Smink et al. 2015; Musiolik et al. 2012).

Despite the broadening of legitimation strategies considered in many studies, it often remains somewhat implicit that institutional work also represents a form of legitimation, as ontologically, legitimation is still viewed dominantly as a property. However, building on Johnson et al. (2006), some scholars have further engaged in an understanding of legitimation as a process of social construction in transitions and defined it as a four-stage process of *innovation*, *local validation*, *diffusion*, and *general validation* (Binz and Gong 2022; Hacker and Binz 2021). This perspective captures the non-linear, socially embedded character of legitimation and emphasizes how innovations become „[...] part of the status quo“ (Johnson et al. 2006, p. 72).

While these contributions highlight that legitimacy is strategically gained and challenged by actors with diverging interests and power positions (Geels and Verhees 2011; Johnson et al. 2006), they typically focus on the integration of innovations into relatively stable institutional contexts – into contexts with a stable ‘status quo’. It is argued here that this assumption becomes problematic in more advanced or turbulent phases of sustainability transitions, characterized by institutional change and increasing complexity.

Furthermore, while the majority of research focuses on legitimation of new, potentially more sustainable, (technological) innovations, the counter-process of delegitimation or illegitimation – the active withdrawal or erosion of legitimacy – remains less developed (Sagheim 2023). Illegitimation is often examined indirectly as part of regime destabilization (Turnheim and Geels 2012) or as a temporary challenge within legitimation processes, without further conceptualization (Dehler-Holland et al. 2022).

2.2 Institutional complexity in transitions

Transitions are understood as fundamental reconfigurations of socio-technical systems such as energy, mobility, or food (Bergek et al. 2021; Markard et al. 2012). *Sustainability* transitions, in particular, aim

at shifting systems “[...] towards more sustainable modes of production and consumption” (Bergek et al. 2021, p. 2). At the core of transition studies, thus, lies the analysis of *regime* changes, representing the ‘deep structure’ or ‘grammar’ of socio-technical systems (Fuenfschilling and Truffer 2014; Geels 2011, 2002).

Regimes comprise tightly coupled institutional elements (regulative, normative, and cultural-cognitive), actor networks, and material infrastructures that mutually reinforce one another (Fuenfschilling and Binz 2018; Scott 2014). The multi-level perspective (MLP), one of the central frameworks in transition research, conceptualizes transitions as driven by pressures from the landscape (macro-level), niche innovations (micro-level), and internal regime dynamics (meso-level) (Kungl 2023; Geels and Kemp 2012; Geels 2011). From this view, transitions involve shifts “[...] from one regime to another, i.e., from one highly structured socio-technical configuration to a new one.” (Fuenfschilling and Truffer 2014, p. 773) While regimes are often portrayed as coherent and stable, research increasingly acknowledges their internal heterogeneity and complexity (Hacker and Binz 2021; Heiberg et al. 2020; Greenwood et al. 2011). In this regard, research emphasizes different sources of this complexity.

Two components are increasingly emphasized here, which reinforce heterogeneity and complexity. First, transition studies emphasize that in transitions, new institutions are created and old ones are changed or lose their relevance and legitimacy, which leads to institutions being stable to varying degrees (Fuenfschilling and Binz 2018). Second, it is increasingly acknowledged that institutions do not exist independently of each other but are in a specific relationship to each other: a social order based on a logic (cf. e.g., Goldschmeding et al. 2025; Milosevic et al. 2023; Fuenfschilling and Binz 2018; Fuenfschilling and Truffer 2014). Institutional logics can be understood as “[...] a set of material practices and symbolic constructions – which constitutes its organizing principles and which is available to organizations and individuals to elaborate.” (Friedland and Alford 1991, p. 248) In modern (western) societies, certain institutional logics are considered central organizing principles: the state, market, professions, religion, corporation, family, and community (Thornton and Ocasio 2008; Friedland and Alford 1991). Depending on the underlying logic, the same object could thus be considered both legitimate and illegitimate at the same time. Institutional logics are, therefore, various organizing principles from which institutional orders or sectors emerge, consisting of a combination of regulative, normative, and cultural-cognitive institutions (Scott 2014). If institutions follow different logics, they are misaligned with each other. Most research emphasizing institutional complexity in transitions analyzes the prevalence and effects of different institutional logics in transitions (cf. e.g., Goldschmeding et al. 2025; Yang et al. 2024; Milosevic et al. 2023; Hacker and Binz 2021; Fuenfschilling and Truffer 2014). The institutional complexity of regimes creates ‘dynamic stability’ (Geels 2011), which opens up windows of opportunity for system change (Fuenfschilling 2019; Geels and Schot 2007). It is precisely this structural heterogeneity that enables transitions by creating room for alternative institutional arrangements and new socio-technical pathways.

Research emphasizing the role of actors in shaping institutional change is associated with the aforementioned concept of *institutional work* (Lawrence et al. 2011), which has been extended in transition studies as *transition work* (Löhr et al. 2022). Both concepts emphasize that actors actively engage in creating, maintaining, and disrupting institutional structures to influence the direction and content of regime change (Käsbohrer et al. 2024; Löhr et al. 2022; Binz et al. 2016; Lawrence et al. 2009). As outlined above, although institutional work is ultimately intended to stabilize new socio-technical systems, it produces significant structural ambiguity in the short and medium term.

Concerning legitimacy and legitimation in transitions, this results in a volatile ‘status quo’, where the boundaries of what is considered legitimate are continuously challenged and redefined (Haack et al.

2021). To analyze legitimation under these conditions, we need to refine our conceptual approaches to both legitimation and illegitimation.

2.3 Towards analyzing (il)legitimation in institutionally complex contexts

Although work on legitimation and institutional complexity in transitions is becoming increasingly differentiated through the application of institutional theories and concepts, it is above all the idea of ‘increased institutional complexity’ and the still dominant understanding of legitimation as ‘alignment’ that pose conceptual challenges.

First, we require a conceptual approach that accounts for institutional misalignments and ambiguity as a structural feature of transitions. In such contexts, legitimation can no longer be viewed as a mere matter of aligning with fixed institutional structures, since the reconfiguration of regimes unfolds over long temporal horizons – often “[...] at least one generation (25 years)” (Rotmans et al. 2001, p. 17). Whereas much of the existing literature treats legitimacy as a property that enables or constrains change, we need approaches that understand (il)legitimation as a dynamic struggle of negotiations in which the very boundaries of what is seen as ‘sustainable’, ‘acceptable’, or ‘legitimate’ are continuously redefined.

Second, the role of actors needs to be examined more clearly, not only as external observers of these dynamics but as evaluators and carriers of both legitimation and illegitimation practices. This also needs to make visible the heterogeneous and often conflicting constellations of actors involved in sustainability transitions – such as state institutions, corporations, civil society organizations, and social movements – who must actively position their technologies, decisions, or narratives within contested and evolving institutional landscapes. Yet, most existing frameworks in transition studies emphasize macro-level legitimation processes – such as diffusion or system-level validation – while largely overlooking how legitimacy is constructed at the micro-level, especially under conditions of institutional fragmentation and uncertainty.

This paper addresses these gaps by proposing a conceptual framework to analyze how (il)legitimacy is constructed, contested, and stabilized by actors in institutionally complex transition contexts ([Section 4](#)). Building on current work from transition studies and legitimacy research, this paper extends recent advances in the study of legitimacy by shifting analytical attention toward the dynamics of (il)legitimation within processes of (de)institutionalization. Therefore, this paper focuses on how legitimacy is actively constructed, challenged, and transformed through the practices of concrete actors embedded in transition processes. To this end, I conceptualize (il)legitimation as the strategic and interpretive effort to stabilize a particular construction of a social relation. This definition highlights that legitimacy is not merely granted or withdrawn but is continually negotiated through claims, performances, and counterclaims that define what counts as (il)legitimate in a given context. By introducing an actor-centered perspective, I distinguish more precisely between the roles of evaluators, legitimators, and illegitimizers. Through this lens, this paper contributes to the ongoing effort to bridge conceptual and operational approaches to legitimacy in transition studies (cf. e.g., Binz and Gong 2022; Heiberg et al. 2020; Genus and Iskandarova 2020; Patala et al. 2019; Binz et al. 2016).

The following section (Section 3) develops the theoretical foundations for this by examining how structural regime changes in transitions affect the evaluation and construction of legitimacy.

3. Theoretical foundations: (Il)Legitimacy constructions in transitions

To develop a framework for analyzing (il)legitimation as a process of social construction in sustainability transitions, this section draws on insights from institutional theory and transition research on legitimacy. Section 3.1 focuses on legitimacy evaluations, emphasizing their relativity and context-

dependency. Section 3.2 then discusses institutional misalignments and legitimacy gaps as central features of institutional complexity and their effects on legitimacy evaluations. Building on this, Section 3.3 summarizes the most important theoretical findings for and requirements of the framework presented in Section 4.

3.1 Theorizing (il)legitimacy evaluations as the construction of relations

A central aspect, when analyzing legitimacy, is the *evaluation* of (il)legitimacy, i.e., the process of “social judgment formation” (Haack et al. 2021, p. 3). Legitimacy evaluations refer to a relation that is constructed between three key components: (1) the *object* of evaluation, (2) the evaluative *criteria*, and (3) the evaluating actors, i.e., *evaluators* (Alsheimer et al. 2024).

The object, sometimes the subject or focus of legitimacy, is the entity that is actively evaluated or passively perceived as legitimate or illegitimate (Deephouse and Suchman 2008). It can include anything, for example, a socio-technical configuration, a social unit, a structure, an action, or an idea (Johnson 2004). The evaluators, sometimes audiences, or sources of legitimacy, represent the assessors who more or less consciously evaluate the appropriateness of the object concerning specific criteria (Deephouse and Suchman 2008). Evaluative criteria, in turn, are rooted in institutional structures that guide perceptions of appropriateness. Scott’s (2014) widely used framework distinguishes between regulative, normative, and cultural-cognitive dimensions of institutions. Regulative elements comprise formal rules and legal mechanisms enforced by sanctions. Normative elements define what is considered morally acceptable or expected, including values, obligations, and social roles. Cultural-cognitive elements shape how actors understand their world, comprising shared meanings, categories, and taken-for-granted assumptions. These dimensions do not operate in isolation but are deeply intertwined, with cognitive structures often underpinning normative and regulative systems (Scott 2014).

Building on work emphasizing institutionalist perspectives in transitions, this paper argues that each of the three components – evaluators, object, and criteria – can be institutionalized to a varying degree, including the relation itself (Fuenfschilling 2019). The extent of institutionalization, in turn, has an impact on what is assessed in the legitimacy evaluation (see Figure 1), which will be discussed in more detail below.

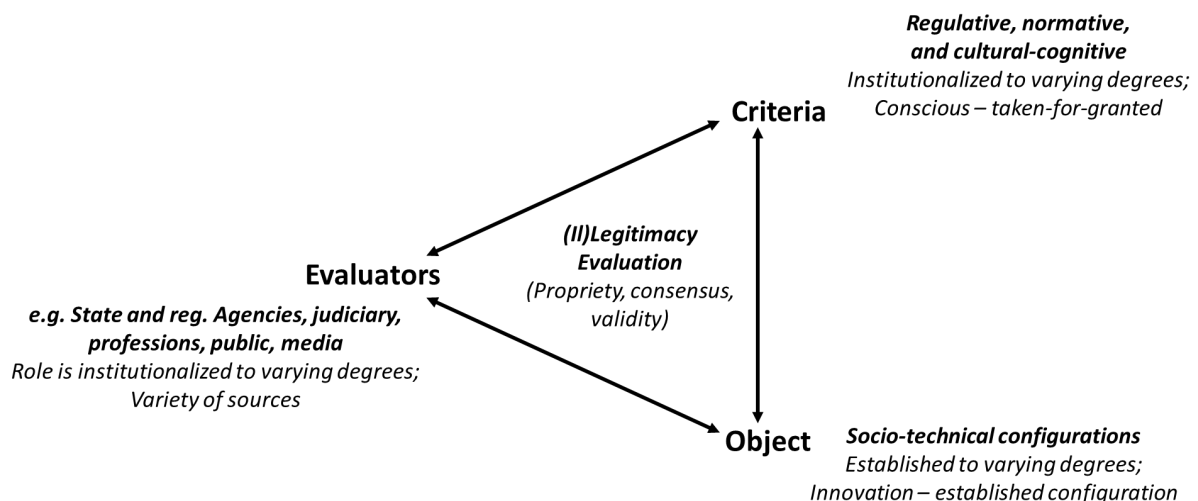


Figure 1 – Relational components of (il)legitimacy evaluations. (Own Figure, based on Deephouse et al. 2017; Scott 2014)

3.2 Theorizing the effects of institutional complexity on (il)legitimacy evaluations

Drawing on Weber (1918) foundational work, recent scholarship conceptualizes legitimacy as a multi-level concept (Haack et al. 2021; Bitektine and Haack 2015), highlighting the differences in legitimacy evaluations depending on the degree of institutionalization or stability of the context. According to the literature, legitimacy evaluations manifest at three levels: micro-level *propriety*, meso-level *consensus*, or macro-level *validity* (Haack et al. 2021; Bitektine and Haack 2015).

Micro-level evaluations of propriety are based on the individual evaluators' belief that an object is appropriate for a particular social context (Bitektine and Haack 2015). Meso-level evaluation of consensus refers to an agreement between the individual evaluations of propriety (Haack et al. 2021). Macro-level evaluations about validity are based on an institutionalized, collective-level perception of appropriateness (Bitektine and Haack 2015). Importantly, macro-level validity does not necessarily mean that all micro-level propriety evaluations are in agreement. Hence, consensus serves as an intermediate step toward validity, but once legitimacy is institutionalized, consensus is not guaranteed to persist over time. In stable institutional contexts, individuals incorporate both their propriety perceptions and broader validity beliefs into their evaluations, whereby validity dominates (Bitektine and Haack 2015). In institutionally complex contexts, like transitions, there is an increase in institutional misalignments (based on different logics and degrees of institutionalization) and the emergence of *legitimacy gaps*.

The concept of legitimacy gaps originates from organizational institutionalism and can be defined as differences between the institutionalized expectations concerning organizational actions and their actual actions (Lindblom 1994). More broadly, legitimacy gaps refer to incongruities between the object of legitimacy and specific legitimacy criteria (Genus and Iskandarova 2020). Typically, they stem from changing institutional structures or emerge due to information asymmetries (Islam 2017). Therefore, in transitions, they are the natural consequence of increased institutional complexity and concern both established socio-technical configurations and innovations. As institutions are actively transformed and institutionalized expectations change, objects of legitimacy will always be in some way non-compliant with certain criteria and therefore increasingly trigger legitimacy gaps.

This has implications for conceptualizing legitimacy evaluations in transitions, as Bitektine and Haack (2015) note that in the absence of perceived consensus, actors become skeptical of conflicting legitimacy signals and rely more on their individual legitimacy evaluations: "[...] [E]valuators are less trusting of the contradictory validity cues that they receive from the environment [...] and are therefore more likely to rely on their own, independent propriety assessment." (p. 21) This suggests that evaluations about legitimacy in transitions are more fragmented, contextual, and dependent on the 'micro-level', i.e., concrete situations. Besides the analysis of legitimacy evaluations, this also has implications for the aims of legitimating innovations in transitions.

3.3 Towards analyzing (il)legitimacy constructions in transitions

As outlined before, in sustainability transitions, where institutional complexity is high and regime structures are destabilized, validity beliefs are competing, and dominant validity beliefs may be absent. As a result, legitimacy evaluations become more individual and fragmented, as different evaluators apply different criteria to assess the same object (Bitektine and Haack 2015). Since it may be that neither the evaluators, the evaluation criteria, nor the object itself is strongly institutionalized, different evaluators may increasingly *challenge* the (il)legitimacy evaluations of others (Johnson et al. 2006). Although the idea of challenging legitimacy has been acknowledged in the literature, it mostly refers to stable institutional contexts. In stable institutional contexts, challenging means that actors must justify their legitimacy claims by linking them to institutionalized cultural norms and values. As Johnson et al. (2006)

note: “[...] actors must construe [the object] as consonant with and linked to the existing, widely accepted cultural framework of beliefs, values, and norms.” (p. 60)

However, in transitions, these frameworks are instable due to the ongoing (de)institutionalization processes (cf. Section 2.2). As a result, the evaluation, its challenges, and potential responses to them cannot be based on valid, highly institutionalized structures, but on fragmented structures that are institutionalized to varying degrees (Fuenfschilling 2019). Building on these theoretical insights, it is argued here that in the institutionally complex context of transitions, the entire relation between object, criteria, and evaluator – when challenged – is increasingly negotiated situationally and more subjectively. As a result, all components and their relationship may become objects of legitimacy evaluations and negotiations.

Therefore, this paper defines (il)legitimation as the strategic attempt by actors to stabilize, i.e., institutionalize, a construction of a relationship between an object, criteria, and evaluators that characterizes the object as (il)legitimate. The following framework (Section 4) builds on this definition, understanding (il)legitimation as the creation of legitimate relations rather than an alignment. Actors are expected to actively and strategically engage in the legitimation or illegitimation of legitimacy relations. To conceptualize the underlying dynamics of (il)legitimation in this sense of (il)legitimacy constructions, this paper builds on the concept of legitimacy gaps and outlines three actor dynamics in relation to them: *evaluation*, *challenging*, and *response*.

4. Conceptual framework and illustration: (II)Legitimacy constructions in transitions

Based on the theoretical insights presented above, the analytical framework proposed here conceptualizes the emergence of legitimacy and illegitimacy in transitions as the construction of relations between evaluators, criteria, and an object. These relations are dynamically constructed and stabilized in two interrelated action spaces: the *evaluation space* and the *transformative action space*. Figure 2 illustrates how these spaces interact within the framework.

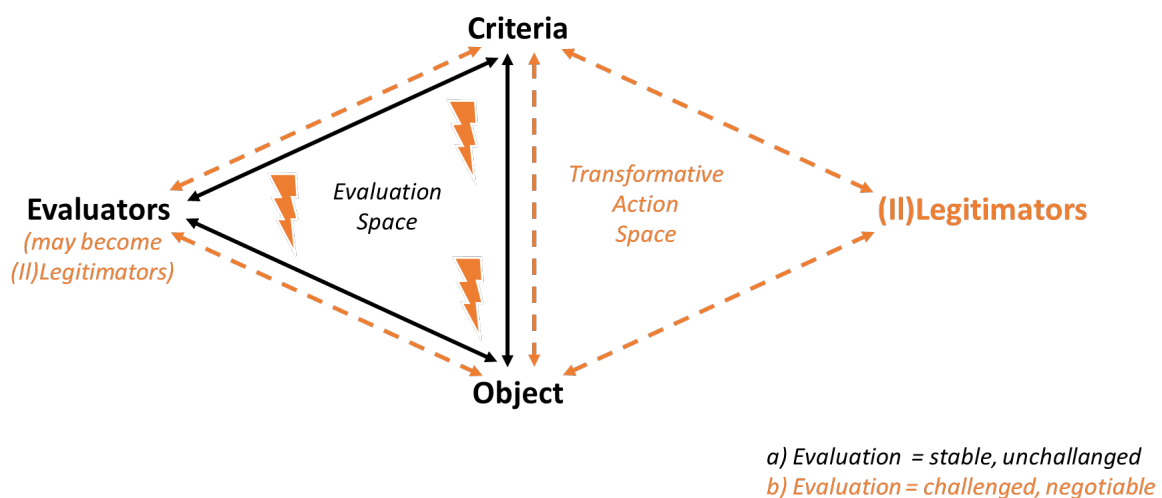


Figure 2 – Construction of (il)legitimacy in transitions. (Own Figure)

On the left side of Figure 2, an evaluation space is formed when evaluators assess an object against specific criteria, and thus create a relation that construes the object as legitimate or illegitimate. If this evaluation remains unchallenged, as in case (a), it can be considered temporarily stable. However, in case (b), the evaluation is challenged, which opens up space for transformative action.

When an evaluation is challenged, *legitimacy gaps* are addressed, which are marked in Figure 2 by orange lightning bolts. These gaps are perceived as inappropriateness in the legitimacy evaluation, concerning the components or the outcome of a relation. The presence of such gaps creates opportunities, i.e., a space, for transformative action (cf. right side of Figure 2). In this space, actors take on the roles of either *legitimizers* or *illegitimizers*, engaging in a dynamic process of challenge and response by modifying or reinforcing specific components of the legitimacy relation. Their goal is to negotiate a consensus about the (il)legitimacy of the relation and thus stabilize the (il)legitimacy evaluation concerning an object.

The following sections provide a detailed examination of the core dynamics of this framework. Section 4.1.1 focuses on the process of evaluation, outlining how (il)legitimacy evaluations emerge. Section 4.1.2 explores the role of challenging, highlighting how legitimacy gaps are exposed and contested. Section 4.2 then turns to transformative actions, conceptualizing the mechanisms through which actors actively reshape (il)legitimacy structures. To illustrate this interplay empirically, each dynamic is exemplified in a grey box using the case of legitimacy negotiations surrounding wind turbines in forest areas within a wind energy project in Hesse, Germany (cf. Box 1).

Box 1 | The case of the Hesse wind energy project

This case study illustrates the application of the analytical framework through a wind energy project in a forested area of Hesse, Germany. The data stems from an ongoing research project involving six case studies, with interviews conducted among key stakeholders, including project developers, politicians at various levels, ministry representatives, public authorities, associations, non-profit organizations, and academics. The interviews were recorded, transcribed, and analyzed using qualitative content analysis in MAXQDA (Kuckartz and Rädiker 2023). A list of the interviews and interview partners is provided in Annex 1. Annex 2 contains the analysis scheme used to code and analyze the illustrative example.

Germany's energy transition, the *Energiewende*, is an example of a more mature sustainability transition, characterized by structural changes implemented at multiple levels of society. The German government has established institutional frameworks to legitimize certain socio-technical configurations surrounding renewable energy technologies like wind and solar energy, which are central to the transition (Bundesministerium für Wirtschaft und Klimaschutz BMWK 2023). Policies such as requiring federal states to allocate 2% of their land for wind energy expansion exemplify these efforts (Bundesministerium der Justiz BMJ 2023). However, despite these institutional reinforcements, wind energy expansion remains slow, with frequent disputes over concrete wind energy projects. Such (local) debates reveal the complex context of ongoing sustainable energy transitions, highlighting institutional misalignments and legitimacy gaps. Hence, although laws appear to stabilize validity, in concrete settings such as projects, different stakeholders increasingly refer to their own (il)legitimacy evaluations, resulting in project-specific constructions of (il)legitimacy. The wind energy project in Hesse exemplifies such constructions and the underlying actor dynamics.

The analyzed project was planned on a state-owned forest area, designated by the responsible authority based on a detailed potential site analysis. A well-established, locally anchored project developer secured the site through a public bidding process and planned the wind farm (seemingly) in compliance with the relevant regulations. Nevertheless, intense debates arose during the planning and construction phases, particularly regarding the site selection and the treatment of the forest during construction. In the following sections, the applicability of the analytical framework is demonstrated based on this case. Here, (il)legitimacy constructions at the project-level are examined concerning processes of evaluations, challenges, and transformative actions.

4.1 Evaluation space dynamics

Within the framework for analyzing (il)legitimacy constructions, two key dynamics shape the evaluation space: the process of (il)legitimacy evaluation (Section 4.1.1) and the challenge of those evaluations by other actors (Section 4.1.2). Both are outlined below and illustrated using the empirical example of (il)legitimacy constructions from the case study in *Box 1*.

4.1.1 (Il)Legitimacy evaluation – Constructing relations

Legitimacy evaluations involve actors – referred to as evaluators – assessing an object against specific criteria to determine its appropriateness within a given social context. In stable systems, these evaluations are highly institutionalized, meaning that the roles of evaluators, the criteria they apply, and the expected outcomes of their judgments are well established. As Bitektine and Haack (2015) explain: „Institutions control both which norms evaluators should apply in judging propriety and what the final expressed judgment should be (validity)” (p. 61). However, as discussed in [Section 3.2](#), in transitions, these institutionalized legitimacy frameworks are weakened. As a result, actors are less likely to trust established (il)legitimacy relations and instead conduct their own evaluations based on individual criteria. Hence, the process of evaluation – whether conscious or unconscious – is defined here as the *construction of a relation* that frames an object as either legitimate or illegitimate. Therefore, the three core components of this relation – the *evaluator*, the *criteria*, and the *object* – are central to analyzing (il)legitimacy evaluations.

Evaluators can be individual or collective actors (e.g., state institutions, regulatory agencies, courts, professional bodies, the public, or the media) who assess an object against specific criteria (Deephouse et al. 2017). The role of evaluators can be more or less institutionalized, both in stable and instable systems. For instance, regulatory agencies or judiciaries are institutionally valid evaluators. The main difference between instable and stable systems lies in actors increasingly challenging the legitimacy of this evaluation and tending to rely on their own propriety evaluations. Nevertheless, a ‘micro-level’ evaluation should also be based on legitimate, i.e., somewhat institutionalized criteria, when attempts are made to stabilize them and create a consensus (Deephouse et al. 2017; Scott 2014). Haack et al. (2021) suggest that pragmatic criteria, which reflect the evaluator’s interests and strategic considerations (Suddaby et al. 2017), are particularly relevant at the micro-level of legitimacy. However, since they are closely tied to the evaluator’s self-interest, it is argued here that these criteria might also be more vulnerable to challenges, as they may be evaluated as inappropriate by other actors (cf. Section 4.1.2). Objects of legitimacy evaluations can include various types of socio-technical configurations, such as technologies, infrastructures, policies, or institutional arrangements, which attempt to establish themselves as part of the emerging sustainable regime. Unlike in stable systems, where innovations must prove their compatibility with an entrenched system, innovations in unstable contexts must navigate legitimacy challenges alongside existing structures, all competing to define the new system.

Box 2 illustrates how the three components interact in legitimacy evaluations in the case study, particularly in relation to site selection and project implementation.

Box 2 | (Il)Legitimacy evaluations in the Hesse wind energy project

In the case of the Hesse Wind Energy Project, two key (il)legitimacy evaluations played a central role in shaping micro-level legitimacy constructions. Both evaluations were conducted by institutionalized evaluators, but were later contested, triggering negotiations about the legitimacy of these evaluations:

1. *Evaluation of site selection (E1)* – The designation of the project site as appropriate.

2. *Evaluation of project implementation (E2)* – The assessment of how the project was executed, particularly regarding soil and species protection during construction.

In E1, the object of evaluation was the site selection itself. The key evaluator was a state authority, tasked with designating approximately 2% of the state's land for wind energy development. The role of the authority as evaluator is thus institutionally stabilized. The criteria applied stemmed from a potential area analysis, which combined regulatory requirements ("hard criteria") with additional normative and cultural-cognitive factors ("soft criteria") (*Int17_Government agency, Pos. 26*). Since the analysis was based on established scientific methodologies, it was reinforced by cultural-cognitive institutions that uphold the validity of scientific knowledge in policy decisions. As a result, the site was initially evaluated as legitimate according to the selected criteria (*Int17_Government agency, Pos. 8*).

In E2, the object of the evaluation is the project implementation, particularly the handling of soil and species protection during construction. The initial evaluator was the approval authority, responsible for assessing the construction plan before work commenced. Since approval was required before proceeding, this authority's role as an evaluator was institutionally formalized. Once construction began, additional evaluators – such as the soil protection authority and the forestry office – monitored compliance with the approved plan (*Int22_Citizens' Initiative, Pos. 104*). The primary criteria for legitimacy were the agreements outlined in the construction plan. The evaluations conducted by these authorities deemed the project implementation legitimate based on adherence to these predefined criteria.

4.1.2 Challenging evaluations by highlighting legitimacy gaps

In sustainability transitions, institutional stability decreases while complexity increases (cf. Section 2.2). In such contexts, actors become less influenced by established validity cues and rely more on their own, situative (il)legitimacy evaluations. This multiplicity of evaluations can lead to significant discrepancies, resulting in actors increasingly challenging the evaluations of others. This framework focuses on forms of challenge that question the legitimacy of an evaluation itself by contesting one or more of its fundamental components. In these instances, challenging does not merely express disagreement but actively *disrupts* the legitimacy of the evaluation, thereby opening a space for transformative action. In the proposed framework, *challenging* is conceptualized as the process of highlighting and actively addressing *legitimacy gaps* within an existing (il)legitimacy evaluation.

Building on the theoretical foundations discussed in Section 3.2, legitimacy gaps are here defined as perceived inconsistencies or deficiencies within an evaluation that render it inappropriate or unconvincing. Importantly, these gaps must themselves be perceived as legitimate, meaning the challenge must also be based on legitimate criteria. Thus, the act of challenging involves constructing a new (il)legitimacy evaluation – one in which the challenged evaluation is assessed against alternative criteria. As in the initial evaluation process (cf. Section 4.1.1), these criteria may be related to regulative, normative, and cultural-cognitive dimensions. The challengers in this framework are referred to as *illegitimizers*, as they aim to illegitimize the original (il)legitimacy evaluation (more on this in Section 4.2).

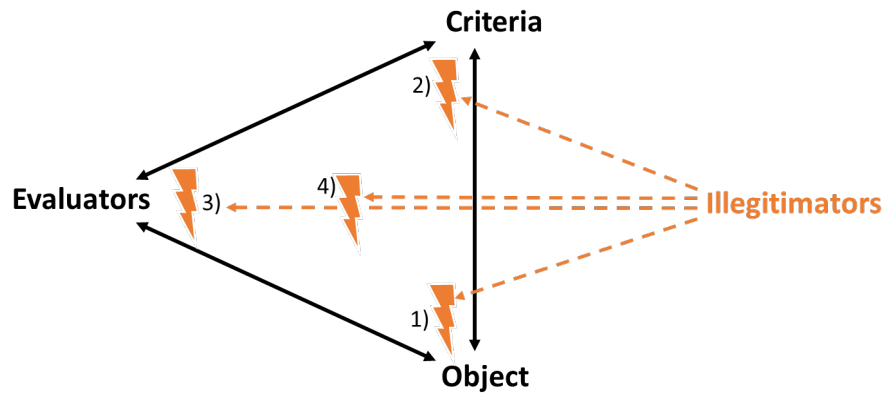


Figure 1 – Challenging (il)legitimacy evaluations by addressing legitimacy gaps in relations. (Own Figure)

Challenging can target any of the key components of an evaluation (cf. Figure 4). Hence, illegitimators challenge the relation regarding:

- 1) Inappropriateness of the criteria in relation.
- 2) Inappropriateness of the object (characteristics) considered in relation.
- 3) Inappropriateness of the evaluators in relation.
- 4) Inappropriateness of the evaluation outcome.

In all cases, the underlying legitimacy relation is contested because one or more of its components are deemed inappropriate. By highlighting legitimacy gaps, challengers seek to demonstrate that the relation is flawed and should be reconsidered.

Box 3 | Challenging (il)legitimacy evaluations in the Hesse wind energy project

In the Hesse wind energy project, both key evaluations outlined in Box 2 – E1 (site selection) and E2 (project implementation) – were challenged throughout the project course. Various actors, including citizen initiatives, political parties, and environmental organizations, acted as illegitimizers, seeking to delegitimize these evaluations. The legitimacy gaps they highlighted in both cases are summarized below.

The evaluation of site selection (E1) was challenged on multiple grounds. The role of the government authorities as evaluators was questioned, as they were perceived to be biased because the land designated for the project was state-owned. Challengers argued that this created a conflict of interest, undermining the legitimacy gap regarding the objectivity of the evaluation: *“They hoped to earn a decent income from it.”* (Int22_Citizens’ Initiative, Pos. 38) Additionally, concerns were raised regarding the criteria used in the site selection process, as nature and species conservation had not been sufficiently considered, particularly concerning the ecological significance of connected forest areas (Int22_Citizens’ Initiative, Pos. 229). Furthermore, the evaluation was criticized for its narrow focus on the areas designated for wind turbines while neglecting the land required for access routes, which was seen as a significant omission. *“This is a nature conservation area and the access road goes through it. Where we also thought, they can’t do that, it’s illegal.”* (Int22_Citizens’ Initiative, Pos. 176) By drawing attention to these legitimacy gaps, illegitimizers sought to destabilize the evaluation of the site as legitimate.

Similarly, the evaluation of project implementation (E2) was challenged concerning its core components. The legitimacy of the evaluators, specifically the government employees responsible for monitoring compliance with the approved construction plan, was contested due to perceived bias. Additionally, their expertise was called into question, particularly regarding their failure to intervene when construction activities were carried out on frozen ground, which raised concerns about soil protection. The criteria used in the evaluation were also challenged, as existing regulations on soil, water, and species protection were seen as inadequately applied or even ignored, allowing construction to proceed despite potential violations. *“An ecological construction supervision team is responsible for soil protection, and they should have said that felling is not allowed when the ground is frozen. And then the nature conservation associations immediately filed an urgent complaint.”* (Int22_Citizens’ Initiative, Pos. 104)

These challenges led to legal action, as the identified regulatory legitimacy gaps provided a basis for taking the case to court. Acting as a new evaluator, the court ultimately ruled in favor of the illegitimizers, affirming that the consideration of nature and species conservation had not been sufficiently addressed in the project’s implementation. This decision resulted in a halt to construction, effectively delegitimizing the initial evaluation (E2) and reinforcing the illegitimizers’ claims (Int18_Project Development, Pos. 92).

4.2 Transformative action space dynamics – Stabilization of (il)legitimacy relations

Challenging an (il)legitimacy evaluation opens a transformative action space, a domain where the appropriateness of the relation and its components are actively negotiated (cf. Figure 5). Within this space, actors (corporate, collective, or individual) take on the roles of *legitimizers* or *illegitimizers*, working to either reinforce or dismantle the legitimacy of a given evaluation. Hence, *legitimation* is here understood as the *stabilization of a relation*. This removes the mostly normative connotation of legitimation since it can also refer to a relation that constructs an object as illegitimate.

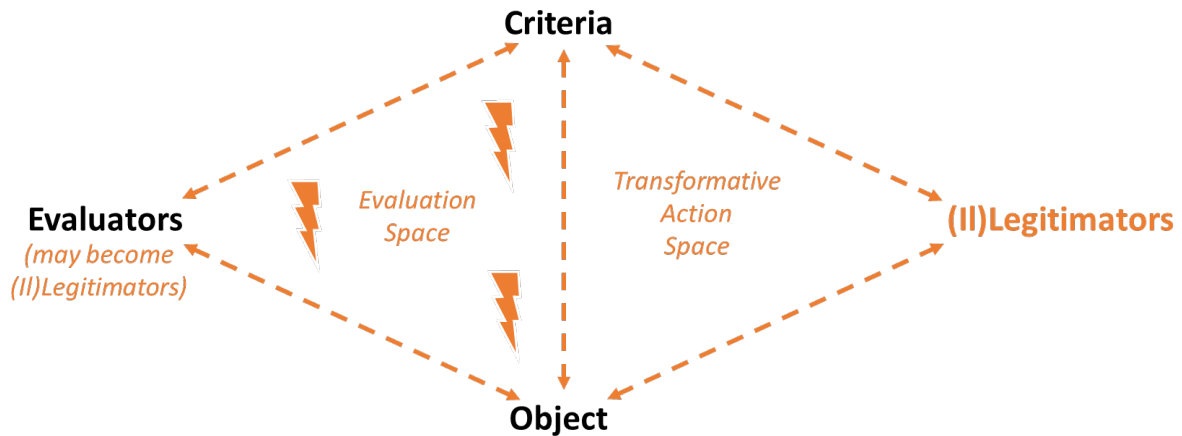


Figure 2 – Transformative actions for stabilizing (il)legitimacy relations. (Own Figure)

Illegitimizers aim to illegitimize the original evaluation, regardless of whether it initially evaluated the object as legitimate or illegitimate. Their strategy begins with challenging (cf. Section 4.1.2) and, therefore, pointing out legitimacy gaps in the evaluation. Legitimizers, in contrast, seek to reaffirm the original evaluation, either by discrediting the challenge (‘challenging the challenge’) or by closing the legitimacy gaps identified. Addressing these gaps requires modifying key components of the evaluation. To do so, legitimizers mobilize various personal and positional resources – including money, time, expertise, manpower, or social influence – to reinforce the legitimacy of evaluators, criteria, or objects. The challenge may not end with the initial response. *Illegitimizers* may further undermine the revised evaluation by identifying new legitimacy gaps. Similarly, if their own evaluation is challenged, they may re-legitimize it by adapting its components, using the same mechanisms of resource mobilization and strategic adjustment as the legitimizers.

In the transformative action space, legitimizers and illegitimizers engage in a dialogue of challenge and response. As legitimacy gaps are addressed strategically, the components of relations are negotiated and incrementally stabilized. Hence, this dialogue may lead to a ‘consensus’ or at least the relation can no longer be legitimately challenged within the specific context and situation.

Box 4 | (II)Legitimation dynamics in the Hesse wind energy project

The challenge to E1 (site selection) did not immediately impact the project. The site was auctioned to local project developers, who proceeded with planning despite ongoing disputes over its legitimacy. When a few years later (already in the planning process), precisely this area was damaged by heat and bark beetles, the evaluators of E1 used this as proof of the legitimacy of their relation and criteria (*Int17_Government agency, Pos. 42*). However, this re-legitimation was again challenged – illegitimizers contended that the term “calamity area” was misleading, as the forest ecosystem was regenerating, extending beyond just the affected trees.

The challenge to E2 (project implementation), validated by the court in E2.2, had significant long-term consequences. In response, the project developers (acting as legitimizers) pursued two primary strategies: Closing legitimacy gaps (Strategy 1) and challenging the legitimacy of the court’s evaluation (Strategy 2).

The legitimizers reviewed the complaints and took corrective measures to ensure compliance with additional criteria. This included erecting protective fences for dormice and expanding oversight to guarantee adherence to environmental regulations. In collaboration with evaluating authorities, they strengthened the legitimacy of their evaluation by demonstrating a thorough and transparent assessment: “The almost 300 pages of the approval notice alone

show that the whole thing was examined in great detail and justified accordingly.” (Int26_Land_Ministry, Pos. 7) Further, legitimators contested E2.2 by highlighting legitimacy gaps in the court’s decision. They argued that the evaluation was flawed due to incorrect object definitions (focusing on access roads rather than the project itself) and the absence of legal violations (the referenced regulations did not apply to the case). As one project developer explained: “The Hessian building regulations already outline that these access routes do not require approval. I’ve been doing wind power for almost 30 years now, and we’ve never needed a permit for access roads for wind turbines in this area either.” (Int18_Project_Developer, Pos. 46) Furthermore, the legitimacy of the judge as an evaluator was questioned. Instead of acting objectively, the judge was perceived as obstructing the project for personal reasons, raising concerns about judicial independence.

This dispute escalated, prompting intervention from the state government, which amended the Hessian building code to explicitly state that access roads for wind turbines and photovoltaic systems do not require approval: *“Politicians have reacted and have introduced an amendment to the Hessian building code, which now clearly states that access routes for wind turbines and PV systems do not require a permit.” (Int18_Project_Developer, Pos. 46) While Strategy 1 had already restored legitimacy to the project implementation, the court ruling E2.2 introduced new criteria that could not be addressed directly. Ultimately, the state government’s legal amendment invalidated the contested criteria, thereby legitimizing the project’s continuation. However, while this generated validity, it did not establish consensus. Opponents continued to challenge the project’s legitimacy, primarily based on E1 (site selection). As one local mayor observed: “But the forest is highly emotionally charged. Forest areas, per se, but here in this case, particularly. Because it was a very early phase where a counter-position formed and formed very strongly, you simply have to say that.” (Int23_Community_Mayor, Pos. 38)*

Despite legal and regulatory stabilization, broader negotiations about (il)legitimacy remained unresolved, with opposition groups continuing to challenge the project whenever new legitimacy gaps were identified.

5. Discussion and conclusion

This paper set out to develop a conceptual framework for analyzing how (il)legitimacy is constructed in the complex, dynamic, and often ambiguous institutional environments of sustainability transitions. Drawing on recent developments in institutional theory, transition studies, and legitimacy research, the paper addresses a growing need to understand legitimation not as a linear process of alignment with static institutions but as an active, relational, and contested negotiation that both is shaped by institutional complexity and shapes (de)institutionalization incrementally. The paper was guided by the question: *How is (il)legitimacy constructed within the complex institutional contexts of sustainability transitions?*

In response to this question, a framework has been proposed centered on the concept of legitimacy gaps – unconformities between socio-technical configurations and (more or less) institutionalized expectations. These gaps were further conceptualized not as barriers, but as constitutive entry points for transformative actions concerning legitimacy negotiations. The framework further conceptualized three interrelated actor dynamics – evaluation, challenge, and response – through which (il)legitimacy is constructed, contested, and potentially stabilized.

This perspective extends dominant assumptions in transition studies, conceptualizing legitimation as a process of aligning innovations with prevailing institutional structures. While this ‘alignment’ view has helped explain how new technologies and practices become embedded in existing regimes, it tends to focus on instable innovation systems aiming to get established in relatively stable institutional environments (Johnson et al. 2006). In contrast, this paper underlines current work on the institutional fluidity and complexity of transitions (Hacker and Binz 2021), arguing that under such conditions, legitimation is not merely a matter of fitting in but of strategically creating legitimate relations.

5.1 Contributions to legitimacy research

This paper contributes to the growing body of research at the intersection of sustainability transitions and institutional theory in several ways:

First, it offers a relational and process-oriented framework for analyzing (il)legitimation as processes of social construction. Rather than focusing on legitimacy as an outcome or property of innovations (Suddaby et al. 2017), the paper shifts the analytical lens to the interactions between objects, evaluative criteria, and actors in a concrete social context. This relational approach captures how legitimacy and illegitimacy are constructed through negotiation, contestation, and response within institutionally unstable settings (Patala et al. 2019; Johnson et al. 2006). Second, it extends the concept of legitimacy gaps, previously addressed in organizational theory (Genus and Iskandarova 2020; Islam 2017) and transfers it into the field of transition studies. By distinguishing legitimacy gaps from institutional misalignments more explicitly and grounding them in Scott’s (2014) tripartite institutional dimensions, the paper advances a more nuanced understanding of how claims to (il)legitimacy are problematized in transition contexts. In particular, it is examined to what extent legitimacy gaps can relate to different components of legitimacy relations – the actors, (more or less institutionalized) criteria, the object, or the evaluation outcome. This is particularly important in the instable context of transition, as all components of socio-technical configurations are part of the change and thus the ongoing (de)institutionalization processes (Fuenfschilling 2019). Related to this, the framework makes the often abstract idea of ‘increased institutional complexity’ in transitions (Hacker and Binz 2021) more concrete and analytically accessible. Third, it introduces an actor-centric framework that emphasizes situative ‘micro-level’ (il)legitimation dynamics. While macro- and meso-level approaches remain essential for understanding systemic change, this paper responds to calls for more attention to situated, context-sensitive analysis of transition processes (e.g., Binz et al. 2016; Wirth et al. 2013). The dynamics of evaluation, challenge, and response provide an analytical lens to examine how (il)legitimacy emerges in concrete socio-technical contexts. In doing so, the framework also provides a conceptual bridge that enables the analysis of the changing structures of institutions in transitions and how they are addressed in concrete situations. Furthermore, the framework conceives illegitimation as an integral part of social constructions of (il)legitimacy relations and (de)institutionalization, thereby responding to calls to conceptualize this process more concretely (Dehler-Holland et al. 2022). Finally, the empirical illustration of wind energy development in forested areas offers an example of how the framework can be operationalized. It demonstrates how conflicting institutional logics, legitimacy ambiguity, and public controversy generate legitimacy gaps – and how actors respond to them in concrete social settings.

In sum, this paper contributes to a deeper understanding of the mechanisms behind incremental (de)institutionalization processes of socio-technical systems, rather than more radical ones, which are often analyzed when examining institutional work.

5.2 Implications for transitions policy and management

The framework presented in this paper also has several important implications for both policy and management in the context of sustainability transitions.

First, it suggests that policy interventions should account for the institutional complexity and legitimacy fragmentation that characterize socio-technical transitions. Rather than assuming that implementing new laws and regulations or stakeholder participation models alone will generate support for technological or social innovations, policymakers should recognize that different actors may apply divergent evaluative criteria rooted in different institutional logics (e.g., market-based, environmental, or civic). Second, the concept of legitimacy gaps offers a conceptual tool for identifying where both established and innovative socio-technical configurations may encounter contestation. Policymakers and project managers can use this concept to anticipate areas of institutional misalignment – for example, when legal frameworks lag behind social norms or when environmental innovations conflict with cultural-cognitive expectations. This anticipatory understanding can inform targeted engagement strategies, early-stage mediation processes, or iterative governance approaches. Finally, the identification of actor dynamics – evaluation, challenge, and response – can guide policy and management practices aimed at strengthening the legitimacy of innovations. For example, public agencies and firms can design participatory processes that explicitly engage with challenges to legitimacy rather than suppressing or bypassing them.

In summary, this paper suggests that a great part of transitions includes managing instabilities, which requires competent and proactive policy and market actors. By shifting the focus from static alignment to dynamic negotiation and management, this paper provides a conceptual basis for designing more responsive, inclusive, and adaptive policies in the face of institutional complexity and instability in transitions.

5.3 Limitations and areas for future research

While the framework provides a useful tool for analyzing (il)legitimacy constructions under institutional instability, several limitations remain.

First, due to the focus on theoretical and conceptual refinement, the empirical underpinning of the framework here was limited. Hence, future research should apply and refine the proposed framework through in-depth case studies, examining variations in (il)legitimacy construction and stabilization strategies, as well as the roles that different actors play. This could involve refining the illustrative example teased here, or various other socio-technical configurations in other sustainability transitions. Second, although this paper foregrounds strategic agency, it does not fully engage with power asymmetries and resource inequalities among actors. Future research could explore the role of power asymmetries and different access to resources in (il)legitimacy constructions more explicitly. Furthermore, various theoretical assumptions about (more or less institutionalized) criteria for evaluating and constructing (il)legitimacy relations have been put forward here. Among others, the criteria in instable contexts may become more individualized but must nevertheless be institutionalized to a certain extent in order to avoid challenges. On the one hand, it would be interesting to test these theses empirically and, at the same time, gain more insight into the criteria used in different negotiations and by whom. Finally, to elaborate further on the idea of institutional complexity and instability, future work could explore empirically how legitimacy gaps evolve and in which dimensions they occur.

5.4 Conclusion

In sum, this paper contributes to transition research by offering a novel conceptualization of (il)legitimation as relational, situational, and contested dynamics of social construction. By developing a framework grounded in institutional instability, legitimacy gaps, and actor responses, it shifts the focus from alignment with stable institutions to the strategic construction of (il)legitimacy under uncertainty. In doing so, it opens up new avenues for analyzing how sustainability transitions unfold – not only through technologies and policies but in the intersection of structure and agency through evolving patterns of meaning, evaluation, and social negotiation.

Declaration of competing interest

I declare that I have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential.

Declaration of generative AI and AI-assisted technologies in the writing process

During the final preparation of the manuscript, the author used Grammarly to improve readability and refine the language. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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Bibliography

- Alsheimer, Sven; Schnell, Tamara; Chlebna, Camilla; Rohe, Sebastian (2024): Competing terms for complementary concepts? Acceptance and legitimacy. In *Renewable and Sustainable Energy Reviews* 207 (2025), p. 114960. DOI: 10.1016/j.rser.2024.114960.
- Bergek, Anna; Bjørgum, Øyvind; Hansen, Teis; Hanson, Jens; Steen, Markus (2021): Sustainability transitions in coastal shipping: The role of regime segmentation. In *Transportation Research Interdisciplinary Perspectives* 12, p. 100497. DOI: 10.1016/j.trip.2021.100497.
- Bergek, Anna; Jacobsson, Staffan; Carlsson, Bo; Lindmark, Sven; Rickne, Annika (2008a): Analyzing the functional dynamics of technological innovation systems: A scheme of analysis. In *Research Policy* 37 (3), pp. 407–429. DOI: 10.1016/j.respol.2007.12.003.
- Bergek, Anna; Jacobsson, Staffan; Sandén, Björn A. (2008b): 'Legitimation' and 'development of positive externalities': two key processes in the formation phase of technological innovation systems. In *Technology Analysis & Strategic Management* 20 (5), pp. 575–592. DOI: 10.1080/09537320802292768.
- Berger, Peter L.; Luckmann, Thomas (1966): *The social construction of reality. A treatise in the sociology of knowledge*. New York: Anchor Books.
- Binz, Christian; Gong, Huiwen (2022): Legitimation dynamics in industrial path development: new-to-the-world versus new-to-the-region industries. In *Regional Studies* 56 (4), pp. 605–618. DOI: 10.1080/00343404.2020.1861238.
- Binz, Christian; Harris-Lovett, Sasha; Kiparsky, Michael; Sedlak, David L.; Truffer, Bernhard (2016): The thorny road to technology legitimation — Institutional work for potable water reuse in California. In *Technological Forecasting and Social Change* 103, pp. 249–263. DOI: 10.1016/j.techfore.2015.10.005.

- Bitektine, Alex; Haack, Patrick (2015): The “Macro” and the “Micro” of Legitimacy: Toward a Multi-level Theory of the Legitimacy Process. In *AMR* 40 (1), pp. 49–75. DOI: 10.5465/amr.2013.0318.
- Bundesministerium der Justiz BMJ (2023): § 3 Verpflichtungen der Länder, Windenergieflächenbedarfsgesetz WindBG. In : Gesetz zur Festlegung von Flächenbedarfen für Windenergieanlagen an Land.
- Bundesministerium für Wirtschaft und Klimaschutz BMWK (2023): Windenergie-an-Land-Strategie. Available online at https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.bmwk.de/Redaktion/DE/Publikationen/Energie/windenergie-an-land-strategie.pdf%3F__blob%3DpublicationFile%26v%3D11&ved=2ahUKEwi7yu7jnr-HAXkQ_EDHcwfAowQFnoECBkQAQ&usg=AOv-Vaw369vSP1HDn8zRwczU09H6k.
- Deephouse, David L.; Bundy, Jonathan; Tost, Leigh Plunkett; Suchman, Mark C. (2017): Organizational Legitimacy: Six Key Questions. In Royston Greenwood, Christine Oliver, Thomas Lawrence, Renate Meyer (Eds.): *The SAGE Handbook of Organizational Institutionalism*. 1 Oliver's Yard, 55 City Road London EC1Y 1SP: SAGE Publications Ltd, pp. 27–52.
- Deephouse, David L.; Suchman, Mark (2008): Legitimacy in Organizational Institutionalism. In Royston Greenwood, Christine Oliver, Roy Suddaby, Kerstin Sahlin (Eds.): *The SAGE Handbook of Organizational Institutionalism*. 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd, pp. 49–77.
- Dehler-Holland, Joris; Okoh, Marvin; Keles, Dogan (2022): Assessing technology legitimacy with topic models and sentiment analysis – The case of wind power in Germany. In *Technological Forecasting and Social Change* 175, p. 121354. DOI: 10.1016/j.techfore.2021.121354.
- Freeman, John; Carroll, Glenn R.; Hannan, Michael T. (1983): The Liability of Newness: Age Dependence in Organizational Death Rates. In *American Sociological Review* 48 (5), p. 692. DOI: 10.2307/2094928.
- Friedland, Roger; Alford, Robert (1991): Bringing Society Back In: Symbols, Practices, and Institutional Contradictions. In Walter W. Powell, Paul J. DiMaggio (Eds.): *The New Institutionalism in Organizational Analysis*. Chicago, London: University of Chicago Press, checked on 1991.
- Fuenfschilling, Lea (2019): An institutional perspective on sustainability transitions. In Frank Boons, Andrew McMeekin (Eds.): *Handbook of Sustainable Innovation*: Edward Elgar Publishing, pp. 219–236.
- Fuenfschilling, Lea; Binz, Christian (2018): Global socio-technical regimes. In *Research Policy* 47 (4), pp. 735–749. DOI: 10.1016/j.respol.2018.02.003.
- Fuenfschilling, Lea; Truffer, Bernhard (2014): The structuration of socio-technical regimes—Conceptual foundations from institutional theory. In *Research Policy* 43 (4), pp. 772–791. DOI: 10.1016/j.respol.2013.10.010.
- Fuenfschilling, Lea; Truffer, Bernhard (2016): The interplay of institutions, actors and technologies in socio-technical systems — An analysis of transformations in the Australian urban water sector. In *Technological Forecasting and Social Change* 103, pp. 298–312. DOI: 10.1016/j.techfore.2015.11.023.
- Geels, F. W.; Verhees, B. (2011): Cultural legitimacy and framing struggles in innovation journeys: A cultural-performative perspective and a case study of Dutch nuclear energy (1945–1986). In *Technological Forecasting and Social Change* 78 (6), pp. 910–930. DOI: 10.1016/j.techfore.2010.12.004.
- Geels, Frank W. (2002): Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. In *Research Policy* 31 (8-9), pp. 1257–1274. DOI: 10.1016/S0048-7333(02)00062-8.

- Geels, Frank W. (2011): The multi-level perspective on sustainability transitions: Responses to seven criticisms. In *Environmental Innovation and Societal Transitions* 1 (1), pp. 24–40. DOI: 10.1016/j.eist.2011.02.002.
- Geels, Frank W.; Kemp, René (2012): The multi-level perspective as a new perspective for studying socio-technical transitions.
- Geels, Frank W.; Schot, Johan (2007): Typology of sociotechnical transition pathways. In *Research Policy* 36 (3), pp. 399–417. DOI: 10.1016/j.respol.2007.01.003.
- Genus, Audley; Iskandarova, M. (2020): Transforming the energy system? Technology and organisational legitimacy and the institutionalisation of community renewable energy. In *Renewable and Sustainable Energy Reviews* 125, p. 109795. DOI: 10.1016/j.rser.2020.109795.
- Goldschmeding, Florian; Kemp, René; Vasseur, Véronique; Scholl, Christian (2025): Institutional logics as an object of change: the experiences of a water organization using design thinking for climate adaptation in a multi-stakeholder process. In *Sustainability science* 20 (3), pp. 759–776. DOI: 10.1007/s11625-025-01660-4.
- Greenwood, Royston; Raynard, Mia; Kodeih, Farah; Micelotta, Evelyn R.; Lounsbury, Michael (2011): Institutional Complexity and Organizational Responses. In *ANNALS* 5 (1), pp. 317–371. DOI: 10.1080/19416520.2011.590299.
- Haack, Patrick; Schilke, Oliver; Zucker, Lynne (2021): Legitimacy Revisited: Disentangling Propriety, Validity, and Consensus. In *J Management Studies* 58 (3), pp. 749–781. DOI: 10.1111/joms.12615.
- Hacker, Miriam E.; Binz, Christian (2021): Navigating institutional complexity in socio-technical transitions. In *Environmental Innovation and Societal Transitions* 40, pp. 367–381. DOI: 10.1016/j.eist.2021.09.003.
- Heiberg, Jonas; Binz, Christian; Truffer, Bernhard (2020): The Geography of Technology Legitimation: How Multiscalar Institutional Dynamics Matter for Path Creation in Emerging Industries. In *Economic Geography* 96 (5), pp. 470–498. DOI: 10.1080/00130095.2020.1842189.
- Hekkert, M. P.; Suurs, R.A.A.; Negro, S. O.; Kuhlmann, S.; Smits, R.E.H.M. (2007): Functions of innovation systems: A new approach for analysing technological change. In *Technological Forecasting and Social Change* 74 (4), pp. 413–432. DOI: 10.1016/j.techfore.2006.03.002.
- Islam, Muhammad Azizul (2017): CSR Reporting and Legitimacy Theory: Some Thoughts on Future Research Agenda. In M. Aluchna, S. O. Idowu (Eds.): *The Dynamics of Corporate Social Responsibility: A Critical Approach to Theory and Practice*, pp. 323–339.
- Johnson, Cathryn (Ed.) (2004): *Legitimacy Processes in Organizations*. Bingley, U.K: Emerald Group Publishing Limited (Emerald insight, 22). Available online at [https://www.emerald.com/insight/publication/doi/10.1016/S0733-558X\(2004\)22](https://www.emerald.com/insight/publication/doi/10.1016/S0733-558X(2004)22).
- Johnson, Cathryn; Dowd, Timothy J.; Ridgeway, Cecilia L. (2006): Legitimacy as a Social Process. In *Annu. Rev. Sociol.* 32 (1), pp. 53–78. DOI: 10.1146/annurev.soc.32.061604.123101.
- Jolly, Suyash; Hansen, Teis (2022): Industry legitimacy: bright and dark phases in regional industry path development. In *Regional Studies* 56 (4), pp. 630–643. DOI: 10.1080/00343404.2020.1861236.
- Käsbohrer, Andrea; Hansen, Teis; Zademach, Hans-Martin (2024): Multi-system interactions and institutional work: Actor interactions at the interface of residential storage systems and electric vehicles in Germany. In *Environmental Innovation and Societal Transitions* 51, p. 100844. DOI: 10.1016/j.eist.2024.100844.
- Köhler, Jonathan; Geels, Frank W.; Kern, Florian; Markard, Jochen; Onsongo, Elsie; Wiecek, Anna et al. (2019): An agenda for sustainability transitions research: State of the art and future directions. In *Environmental Innovation and Societal Transitions* 31, pp. 1–32. DOI: 10.1016/j.eist.2019.01.004.

- Kuckartz, Udo; Rädiker, Stefan (2023): Qualitative content analysis. Methods, practice and software. Second edition / Udo Kuckartz, Stefan Rädiker. Los Angeles: SAGE.
- Kungl, Gregor (2023): Transitionsforschung und Energiewende. In Marco Sonnberger, Alena Bleicher, Matthias Groß (Eds.): Handbuch Umweltsoziologie. Wiesbaden: Springer Fachmedien Wiesbaden, pp. 1–14.
- Lawrence, Thomas; Suddaby, Roy; Leca, Bernard (2011): Institutional Work: Refocusing Institutional Studies of Organization. In *Journal of Management Inquiry* 20 (1), pp. 52–58. DOI: 10.1177/1056492610387222.
- Lawrence, Thomas B.; Suddaby, Roy; Leca, Bernard (Eds.) (2009): Institutional Work: Cambridge University Press.
- Lindblom, C. K. (1994): The Implications of Organizational Legitimacy for Corporate Social Performance and Disclosure. Critical Perspectives on Accounting Conference. New York.
- Löhr, Meike; Chlebna, Camilla; Mattes, Jannika (2022): From institutional work to transition work: Actors creating, maintaining and disrupting transition processes. In *Environmental Innovation and Societal Transitions* 42, pp. 251–267. DOI: 10.1016/j.eist.2021.12.005.
- Markard, Jochen; Raven, Rob; Truffer, Bernhard (2012): Sustainability transitions: An emerging field of research and its prospects. In *Research Policy* 41 (6), pp. 955–967. DOI: 10.1016/j.respol.2012.02.013.
- Markard, Jochen; Wirth, Steffen; Truffer, Bernhard (2016): Institutional dynamics and technology legitimacy – A framework and a case study on biogas technology. In *Research Policy* 45 (1), pp. 330–344. DOI: 10.1016/j.respol.2015.10.009.
- Milosevic, Ivana; Bass, A. Erin; Schulte, Ben (2023): The Interplay of Conflicting and Complementing Institutional Logics in Sustainability Practices. In *Management international review : MIR : journal of international business* 63 (3), pp. 469–506. DOI: 10.1007/s11575-023-00503-7.
- Musiolik, Jörg; Markard, Jochen; Hekkert, Marko (2012): Networks and network resources in technological innovation systems: Towards a conceptual framework for system building. In *Technological Forecasting and Social Change* 79 (6), pp. 1032–1048. DOI: 10.1016/j.techfore.2012.01.003.
- Negro, Simona O.; Alkemade, Floortje; Hekkert, Marko P. (2012): Why does renewable energy diffuse so slowly? A review of innovation system problems. In *Renewable and Sustainable Energy Reviews* 16 (6), pp. 3836–3846. DOI: 10.1016/j.rser.2012.03.043.
- Negro, Simona O.; Hekkert, Marko P.; Smits, Ruud E. (2007): Explaining the failure of the Dutch innovation system for biomass digestion—A functional analysis. In *Energy Policy* 35 (2), pp. 925–938. DOI: 10.1016/j.enpol.2006.01.027.
- Patala, Samuli; Korpivaara, Ida; Jalkala, Anne; Kuitunen, Aino; Soppe, Birthe (2019): Legitimacy Under Institutional Change: How incumbents appropriate clean rhetoric for dirty technologies. In *Organization Studies* 40 (3), pp. 395–419. DOI: 10.1177/0170840617736938.
- Rohe, Sebastian; Chlebna, Camilla (2021): A spatial perspective on the legitimacy of a technological innovation system: Regional differences in onshore wind energy. In *Energy Policy* 151, p. 112193. DOI: 10.1016/j.enpol.2021.112193.
- Rotmans, Jan; Kemp, René; van Asselt, Marjolein (2001): More evolution than revolution: transition management in public policy. In *Foresight* 3 (1), pp. 15–31. DOI: 10.1108/14636680110803003.
- Schneider, Nina; Rinscheid, Adrian (2024): The (de-)construction of technology legitimacy: Contending storylines surrounding wind energy in Austria and Switzerland. In *Technological Forecasting and Social Change* 198, p. 122929. DOI: 10.1016/j.techfore.2023.122929.
- Schoon, Eric W. (2022): Operationalizing Legitimacy. In *American Sociological Review* 87 (3), pp. 478–503. DOI: 10.1177/00031224221081379.
- Scott, W. Richard (2014): Institutions and organizations. Ideas, interests, and identities / W. Richard Scott, Stanford University. Fourth edition. Thousand Oaks: SAGE Publications.

- Smink, Magda M.; Hekkert, Marko P.; Negro, Simona O. (2015): Keeping sustainable innovation on a leash? Exploring incumbents' institutional strategies. In *Bus Strat Env* 24 (2), pp. 86–101. DOI: 10.1002/bse.1808.
- Suchman, Mark C. (1995): Managing Legitimacy: Strategic and Institutional Approaches. In *AMR* 20 (3), pp. 571–610. DOI: 10.5465/amr.1995.9508080331.
- Suddaby, Roy; Bitektine, Alex; Haack, Patrick (2017): Legitimacy. In *ANNALS* 11 (1), pp. 451–478. DOI: 10.5465/annals.2015.0101.
- Thornton, Patricia H.; Ocasio, William (2008): Institutional Logics. In Royston Greenwood, Christine Oliver, Roy Suddaby, Kerstin Sahlin (Eds.): *The SAGE Handbook of Organizational Institutionalism*. 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd, pp. 99–128.
- Torrens, Jonas; Westman, Linda; Wolfram, Marc; Broto, Vanessa Castán; Barnes, Jake; Egermann, Markus et al. (2021): Advancing urban transitions and transformations research. In *Environmental Innovation and Societal Transitions* 41, pp. 102–105. DOI: 10.1016/j.eist.2021.10.026.
- Weber, Max (Ed.) (1918): *Economy and society. An outline of interpretive sociology*. [Nachdr. (2013)]. Berkeley: Univ. of California Press (2).
- Wesche, Julius; Skjølsvold, Tomas Moe (2025): Legitimacy transfer: A typology for multi-system interactions in sustainability transitions. In *Energy Research & Social Science* 121, p. 103958. DOI: 10.1016/j.erss.2025.103958.
- Wirth, Steffen; Markard, Jochen; Truffer, Bernhard; Rohrer, Harald (2013): Informal institutions matter: Professional culture and the development of biogas technology. In *Environmental Innovation and Societal Transitions* 8, pp. 20–41. DOI: 10.1016/j.eist.2013.06.002.
- Yang, Yang; Jiang, Yan; Yang, Ying (2024): Institutional logics and organizational green transformation: Evidence from the agricultural industry in emerging economies. In *Journal of environmental management* 370, p. 122932. DOI: 10.1016/j.jenvman.2024.122932.
- Zelditch, Morris (2001): *Theories of legitimacy*. In : *The psychology of legitimacy: Emerging perspectives on ideology, justice, and intergroup relations*. New York, NY, US: Cambridge University Press, pp. 33–53.

Annex 1 – List of interviewees

Interview ID	Background/ Position of the Interviewee (operation level)
Int6	Nature Conservation Association (national level)
Int9	Government agency (federal state level)
Int17	Government agency (federal state level)
Int18	Project development organization (project level)
Int22	Citizens' initiative (project and community level)
Int23	Mayor (project and community level)
Int24	Science (national level)
Int25	Citizens' initiative (project and community level)
Int26	Ministry (federal state level)

Table 1 – Interviews and background of the interviewees

