Sustainable Regional Development through Energetic Regionalisations. The case of biogas production.

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Abstract

The application of renewable energies in decentralised ways is considered being the ultimate chance for a long lasting prosperous and environmentally sound regional development. To effectively and efficiently implement decentralised renewables a common ground for regional development has to be created. Hence, questions of space and scale arise. This paper analysis on the one hand institutional and structural conditions that frame processes of regionalisations in the biogas economy and how these conditions relate to socio-technical developments. On the other hand economic practices and everyday actions of actors in the biogas economy are focus of analysis and how they "work" with spatial categories and contexts. Some preliminary findings help to illustrate the thoughts.

1 Introduction

The current political, social, and economic debate on energy supply is more or less always connected to spatial references. Typically, this debate centres on, first, the dichotomy of centralised and decentralised structures, and second, the transition from conventional to renewable energies. These two aspects are, with regard to space, interconnected.

We observe centralised structures in both, the conventional and the renewable energy system: single locations that produce large amounts of energy, such as nuclear, coal, or gas power plants, as well as large scale off-shore wind parks, solar parks, or large methanisation sites using biological wastes. Typically, large companies, often so called multinationals, or governmental institutions operate these facilities, given the high capital intensity and needed expertise for large-scale development.

Utilising renewable energies is possible in smaller dimensions, too: in terms of technology and energetic output, as well as with respect to organisational aspects. For example, small and medium enterprises, and new types of business in the energy economy, such as cooperatives or even single private owners, have been entering the market in the last decade. This has been leading to a decentralisation of energy production sites and operators, as well as policy-making. Consequently, new spatial patterns are related to the decentralised organisation of the energy system.

Since renewable energies, as their name says, are renewable - which means that the used resources are not (necessarily) depleted, as long as the replacement rate is not exceeded by usage - they are widely conceived as ecologically favourable. Furthermore, most of the renewable resources are available for free: wind blows, sun shines, and earth is warm. These aspects additionally supported the observable processes of transition from conventional to renewable energies and the decentralisation, or regionalisation, within the energy economy that have been taking place since the mid 1990s. Of all renewable energies just bioenergy needs a 'classic' value chain for the materials that make energy: biomass as agricultural

product or horticultural waste. Additionally, the typical small-scale dimension of biogas plants results in extensive demands for qualified skilled workers in various areas, such as engineering, farming, logistics, or project development. Therefore, in geographical terms, especially the production of bioenergy is an interesting object for analysis, since its socio-spatial and socio-economic and political implications are various and manifold.

These first insights into the energy sector point at some crucial question for the geography of renewable energies: Which processes of regionalisations are initiated through the utilisation of renewable energies? Which underlying political and economic processes are pushing regionalisations? Which impacts do different regionalisations have on political and economic decision-making?

The aim of the paper in hand is to give guidance on how to theoretically and methodologically approach such questions related to the spatiality of renewable energy. It unfolds as follows: In the next section I will provide you with an understanding of energy development as a multi-level process among nested niches, regimes and networks. This builds the ground for the introduction of the concept of Energetic Regionalisations: processes within the renewable energy economy and policy that produce and reproduce regions as 'metaphors' for economic contexts. Section 4 outlines an operationalisation of the research questions stated above and presents methodological considerations about the empirical translation of the theoretical framework. Afterwards, some exemplary preliminary findings from an ongoing case study research conducted in the border region of Luxembourg and Germany are presented. Additionally I give indication for further research. The last section concludes the main findings.

2 The multi-level perspective on energy development

One useful framework for understanding the ongoing processes of decentralisation in the energy economy is the multi-level perspective (MLP) on technological transitions. Mainly Dutch innovation researchers (Kemp, 1994; Schot/Hoogma/Elzen, 1994; Rip/Kemp, 1998;

Kemp/Schot/Hoogma, 1998; van den Ende/Kemp, 1999; Rip, 2000; Kemp/Rip/Schot, 2001) have developed this framework since the 1980s to understand the relationships "between the technical network, the user, the environment, the institutions responsible, and society at large" (Furlong, 2010, 461). Research in the field of the social studies of technology aims, regarding Truffer (2008, 972), at "the explanation of social preconditions for the development of sociotechnical systems as well as their impact on society." The basic understanding of socio-technical development is a social constructivist view that acknowledges that both technology and science are socially shaped (Katz/Solomon, 2008, 154).

For the purposes of our paper - transitions in the energy system and processes of regionalisations against the background of a parallel development of society and technology - these ideas are very interesting. Technological innovations in the biogas industry enabled its widespread utilisation; and technological development was partly initiated, and later got support from the social and political will to promote renewables. The utilisation of biogas then led to the observable processes of regionalisations.

The MLP provides us with three scales to analyse transitions (Geels, 2002, 1260 f.): technical niche, technical regime, and technical landscape (see Figure 1). The landscape stands for framework conditions and the broader context, all technology external factors, such as economic concepts, broad political coalitions, cultural and normative values, or environmental problems. At the regime level we find industrial networks and strategic games, techno-scientific knowledge, culture and symbolic meanings, sectoral policies, infrastructure, markets and user practices, as well as technology. The niches are "incubation rooms" for innovation, where social networks are build that support innovations, such as supply chains or user-producer relationships, and where knowledge is generated via learning by doing, by using or by interacting. These levels are additionally characterised by their nested character: regimes are embedded within landscapes and niches within regimes.

The different levels of the MLP help us to systemise ongoing and relevant processes with regard to the biogas industry (see Figure 2). The landscape level serves as discursive

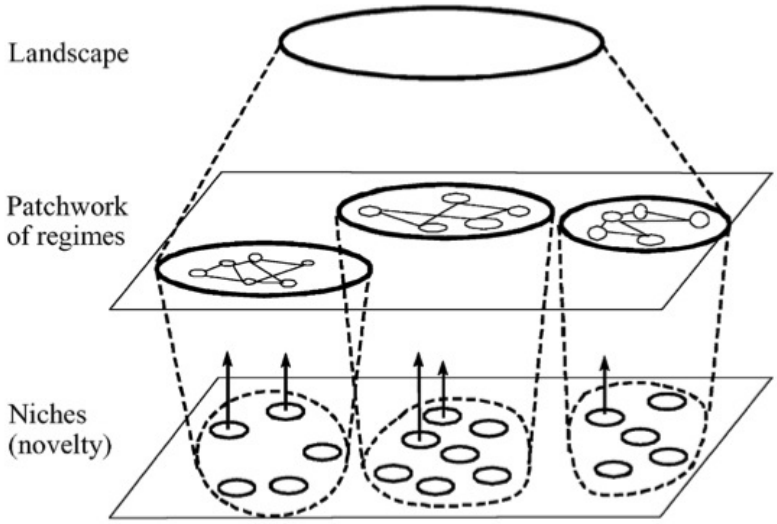

Figure 1: The Multi-Level-Perspective on Technological Transitions (Geels 2002, 1261)

framework for policies as well as individual practices. It encompasses the framework conditions and broader context that are biogas external. Since our paper concentrates on processes of regionalisations through biogas production, this external dimension will not be explicitly addressed here. Such aspects are widely discussed in academia, for example: environmental discourses on climate change (e.g. IEA, 2010; Hulme), land uses, or resource availability (e.g. Bradshaw, 2010; Kanning/Buhr/Steinkraus, 2009); economic discourses on costs of climate change (e.g. van Mark, 2010; Stern, 2006), aspects of value added (e.g. Dilger, 2009; Lehr et al., 2008; Staiß et al., 2006), or types of business for renewable energy production (e.g. BBSR, 2012); social discourses on north-south equality (e.g. Maharajh, 2011), urban-rural relationships (e.g. OECD, 2012), or public participation in energy development processes (e.g. Haggett, 2009); political discourses on multi-level and integrated policies (e.g. Coenen/Raven/Verbong, 2012; McCauley/Stephens, 2012), types of governance (e.g. Bulkeley, 2009; Hvelplund, 2006), or subsidies and incentives (e.g. Monstadt, 2007); technical discourses on potentials for utilising renewable energies (e.g. UNCTAD, 2010; Verbong/Geels, 2010).

The regime level comprises all institutional and structural settings that are directly related to biogas production. For us especially three perspectives are important for analysing processes of regionalisations: governmental policy making at different political scales, such as

market incentives, laws, directives, and strategies, as well as spatial planning documents, defining spatial usage, or directly addressing energy infrastructure or production sites et cetera; the biogas economy, comprising, for example, modes of coordination, corporate governance structures, energy production processes, or technological knowledge; and corporate policies of single firms, including contractual arrangements, medium- and long-term projects, or corporate strategies.

The niche level as "incubation rooms" do in our case not serve for the analysis of technological innovation, but are understood as locale of everyday regionalisations. It is the level, where economic practices evolve, where action takes place and where the different images/pictures of regions are created. The economic practices in the niche are primarily directly influenced by processes at the regime level, and landscape issues are, as stated above, the discursive framework.

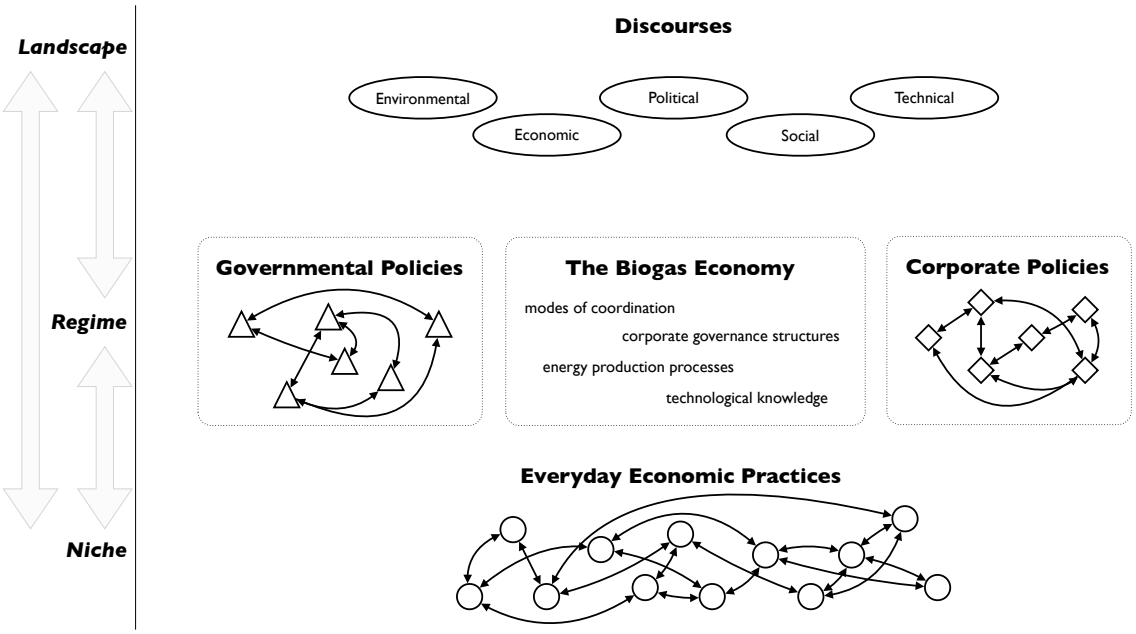

Figure 2: The Bioenergy Multi-Level-Perspective, illustration by author

These specifications of the MLP regarding biogas and regionalisations are necessary to further reflect on their dynamics. In its original version, the analytical dimensions of transitions (co-evolution, linkages, embeddedness, tensions, stability, windows of opportu-

nity; Geels, 2002, 1262) are utilised to explain socio-technical transformations as complex processes of niche-cumulation and reconfigurations driven by innovations. This approach completely applies to our first objective to examine the evolution of the biogas economy and policy making. For the second purpose (*energetic regionalisations*) I modify this understanding insofar as regionalisations interrelate with the mentioned analytical dimensions, but instead of focussing technological innovation I analyse the production and change of scale and space images/pictures of the "biogas region," or more generally the "energy region." These are socially constructed at two different levels: first, through everyday economic practices (*regionalisational niches*); and second, by corporate and governmental policies (*regionalisational regimes*). They both reflect on the biogas-external context and its regionalisational implications (*regionalisational landscape*). Additionally, the corporate policies at the regime level build an important part of the reciprocal nexus of niches, regimes, and landscapes. They illustrate the connection between our two theoretical approaches Social Study of Technologies and Everyday Regionalisations by linking them at the regime level, because they are strongly dependent on economic practices, as well as on governmental policies and sectorial conditions. This understanding of energetic regionalisations is further explicated in the following chapters.

3 Energetic Regionalisations

Regionalisation is conceptualised by Werlen (1999; 2007; 2010) as a social practice that depicts the relationship among: (a) physical-material components; (b) subjective attributions and interpretations of meanings; and (c) social structures. Regionalisations express, firstly, social conditions that lead to a specific spatial structure, and secondly, the meanings of social spatialities for different activities and actions. Considering this, every practice implies regionalisations. The modes of regionalisation, therefore, vary with the modes of practice. The regionalising dimension of economic practices lies in the unintended consequences of, for example, capital investments, analogically to the modes of constitution of society through everyday practices (van Wezemael, 2005, 3). If we wan to analyse the ways, in which geography matters for economic action this conceptualisation is promising,

because it puts the geography in its proper place: how economic practices constitute regions, and how regions (in the mentioned understanding) influence economic practices.

A region, in this understanding, represents a symbolically branded, respectively meaningful section of life's context that can be tied back to physical-material givens. Space exists not per se, but is constituted through geography-making. Spatial structures are "forms of expressions of social structures, communicated by actions. However, precisely because they are expressions they cannot be seen equal to them" (Werlen, 2007, 119).[1] Therefore, space is a conceptual metaphor as a mean to describe practices of *Weltbindung*: a social practice that enables people to relate the world to oneself and others. This process is called *regionalisation*.

Energetic regionalisations, therefore, are conceptualised as processes within the renewable energy economy and policy that - in relation to technology and society - lead to certain scale and space images/pictures of the region - that shape-back the practice, because regions get respectively are part of the wider context of practices (see Figure 3). Scale and space images/pictures, on the one hand, express structures, processes and institutions that shape economic scales and spaces. On the other hand, scale and space images/pictures as individual visions and ideas of "the economic scale and space" are unconsciously articulated and incorporated by economic and political actors through their everyday practices. This two-dimensionality of scale and space images/pictures is reflected in two different types of regionalisations: explicit and implicit regionalisations.[2]

By explicit regionalisations I mean emergences of scale and space images that are intendedly expressed by (collective) economic or political actors. These specific spatial constructs are, according to Reuber (1999, 302 ff.), purpose-rational and self-interest oriented (*Raumkonstrukte*). They express outcomes of political and/or economic decisions

[1] Translation by author: "Ausdrucksform ueber Handeln vermittelter sozialer Strukturen [...]. Doch gerade weil sie "Ausdruck" sind, koennen sie mit diesen nicht gleichgesetzt werden."

[2] Felgenhauer and Schlottmann (2007) also use this differentiation, but in the context of significative regionalisations relating to (not) negotiable toponyms and presuppositions.

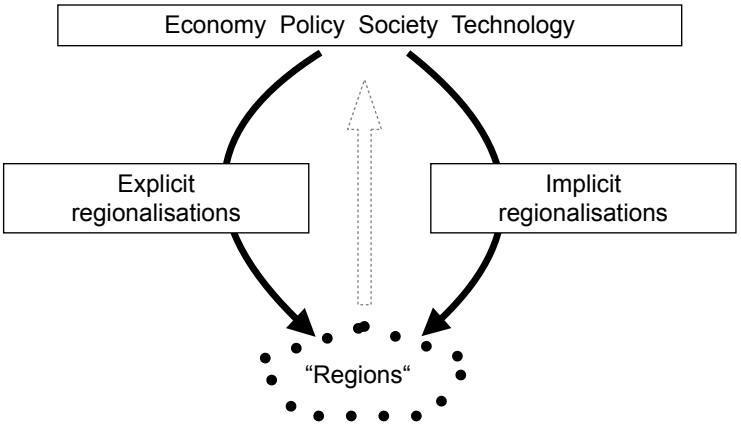

Figure 3: Practices, Processes and 'Metaphors' of Energetic Regionalisations

and practices, which are manifested, for example, in official statements, strategy documents, or location decisions. A core element of explicit regionalisations is their common perceivableness and changeability, due to the interplay of economic practice and economic outcome.

Implicit regionalisations are, in contrast, non-intendedly expressed scale and space images/pictures that are (re)produced through everyday actions of (single) economic actors. Even though these actors not necessarily act with reference to scales, but more to economic rationality, their practices and decisions reveal the meanings or even importance of scale and space images/pictures for individual actions (Werlen, 1999, 217): for example in the acquisition of raw materials, or the flows of producer goods, which both are rational and economic decisions, but nonetheless produce spatial relationships and/or dependencies among the involved actors. Central to implicit regionalisations is the reciprocal nexus in the everyday actions between economic practices and spatial interconnections.

Both types of regionalisations result in heterogeneous pictures of economic scales and spaces, called regions. The analytical differentiation between explicit and implicit regionalisations has the advantage to better judge the power of economic practice and the power of such "regions." The main goals of an research approach focussing on processes of regionalisation are, first, to analyse the social utilisation of spatial categories and contexts

(Werlen, 2007), and second, to uncover the relationship of society, practice and spatial references (ibd., 12). So the focus lies on processes of constitution and reproduction of regions and the modes and patterns, in which practices influence the processes of regionalisations. The social relevance of space becomes the subject of analysis, not space itself. In economic geography we consequently focus on three elements: (1) the constitution of regions as an economic practice, as economic doings and sayings; (2) the co-constitution of places and socio-spatial conditions for everyday interactions; (3) the implications of these regions for further economic activity. In empirical terms, this depicts, for example, the social network structures in agglomerations, where actors establish various relations among each other, whereby they constitute the agglomeration - or cluster - itself. The cluster is an outcome of social relationships, exemplarily including and reproducing itself through knowledge transfers, contractual agreements, supply chain interrelations, or locational decisions based on soft factors (e.g. availability of qualified workers, image of the place, recreational value or attractiveness as working place, etc.). The next section discusses planned methodological approaches to such an understanding of economic development.

4 Operationalisation - Methodology

The considerations on the MLP and energetic regionalisations help us to further operationalise the main research questions stated earlier (see Table 1). Energetic regionalisations are especially characterised by their twofold character: structural and practical. Consequently, two different methodologies are necessary to capture the relevant elements. For the structural side the combination of two methodological approach seems promising. The evolution of and transition to biogas is already comprehensively explained in the literature, hence, a literature review is necessary. For important dates - time spots that were decisive in biogas development - the analysis of the general and broader political, social, economic, environmental contexts are essential. Different types of documents have to be analysed regarding their biogas related content to capture the regionalisational landscape, such as: policies at different governmental levels, spatial planning documents, or media coverage on "energy regions." The document analysis for regionalisational regimes focuses

on publications from biogas producers and associations, such as strategies, company reports, presentations, or any kind of publicity (e.g. commercials). For data explication and to handle texts or statements related to regionalisations two approaches are used parallel: Qualitative Content Analysis and Argument Analysis.

1) Which conditions in the biogas sector enabled processes of regionalisations?	**1a)** How did they evolve and change? **1b)** What were their political, social, economic, environmental and technical contexts? **1c)** Which spatial connotations appeared?
2) In which ways do everyday economic actions constitute, reproduce and transform scale and space images/pictures (regions) of biogas producers? Which action responses do they trigger?	
3) Which external regionalisations influence the biogas producers decisions?	**3a)** How do biogas producers perceive external regionalisations? **3b)** How do these perceptions influence practices?

Table 1: Research Questions

Qualitative Content Analysis (Mayring, 2004) is promising to focus on biogas-related content and spatial connotations: the use of spatial categories and explicit spatial attributions. First, the researcher defines general categories and criteria of selection and abstraction for the categorisation. Second, the categories are used to systemise the empirical material, related to definitions, levels of abstraction, subsumptions and former categories that all are generated within a theoretical examination of the researched phenomena. The third step is to re-work the categories after one has worked through 10 to 50 percent of the data and check the categories with respect to the research questions. Fourth, the new and final categories are used to analyse the material. The final step is the actual analysis of all data (Mayring, 2004, 472 f.).

Argument Analysis is a second way to approach texts or statements (cf. Felgenhauer, 2009, building on Toulmin, 1996; see Figure 4). With this methodological approach, the argument's functionality and anatomy are explained, not its plausibility, and therefore,

individual interpretations and implications of, for example 'regions,' can be analysed. A so called *claim* is substantiated by a *data*, following a specific *warrant* that builds on a *backing*. The warrant, typically not pronounced, is indicating the transition from data to claim. The backing is the fundament for the warrant, illustrating the tacit preconditions for the warrant and, thereby, for the whole argument. The backing itself reveals the "common understanding" of both, the arguer and the interpreter, because all incorporated knowledge is socially constructed. Warrant and backing ask: What ought to apply to have an intelligible transition from data to claim; what are the text-internal knowledge resources? Therefore, the argument analysis helps to extract geographical knowledge used in documents or statements, and thereby, reveals the relevance of space for practices.

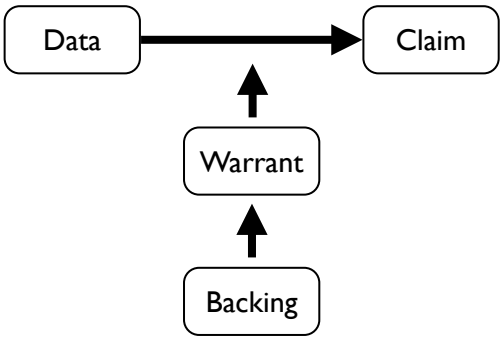

Figure 4: Argument Analysis, based on Toulmin (1996, 90)

For the practice-side of research it is important to identify those practices that are meaningful for their broader setting and/or that help to develop theoretical frameworks and generalisations regarding the explanation of economies that go beyond the researched practices' context. At the level of regionalisational niches, everyday practices are focus of analysis. Everyday practices are bundles of activities, routinised ways of doings or sayings, that are individually distinctive in actors' practical realisation. Everyday practices are socially constructed and clanged together via implicit, methodological and interpretative knowledge. Hence, they are socially understandable and become important elements of economic practice analysis. In empirical terms, expert interviews with bioenergy producers and associations are a fruitful attempt to focus on the questions stated earlier.

The division of economic practices into doings and sayings is one way of analytically and empirically deal with the variety of economic practices (Schatzki, 1996, 89). It comprises actions and verbal expressions. Therefore, two different methodological approaches are necessary: one focussing on actions, and one on texts and statements. For the latter aspect, the outlined approaches of Qualitative Content Analysis and Argument Analysis are suitable, too.

For analysing economic actions the model of social action, as developed by van Wezemael (2005), is one comprehensive approach and conceptual solution to analyse the doing-dimension of economic practices (Figure 5). Economic actions can be conceptualised as rational decisions: An economic actor, who does something, reflects on his or her situation before realising the action (goal-orientation) that finally implicates intended and unintended consequences. This is of utmost importance for analysis: The choice of a specific action is a complex process of deliberation, dependent on the subjective attributions and interpretations of framework conditions as well as the anticipation of a desired situation to bring about. The decision for an specific economic action is connected to an intention that is followed by the choice of practice means. This choice is, again, a process between deliberation and decision, reflecting on the frame of references.

Taking Werlen's thoughts into account, the frame of reference comprises the physical-material components of actions (e.g. artefacts; financial resources; product characteristics); the social structure (e.g. market relations and powers; routines; networks); and the subjective attributions and interpretations of the actor (regarding production and consumption patterns, their spatial materialisation; knowledge). It is both, enabling and restricting the actor's control of spatial relations for steering his or her own as well as others' economic actions (*Weltbindung*). Thereby, researching economic development by understanding economic actions focuses on various variables, such as: individual knowledge resources and skills as basis for decision making; individuals' perceptions of their embeddedness and their actions' contextuality; relevance of routines' for individuals; unintended influences of individual decisions on their frame of reference as a long-term process; emer-

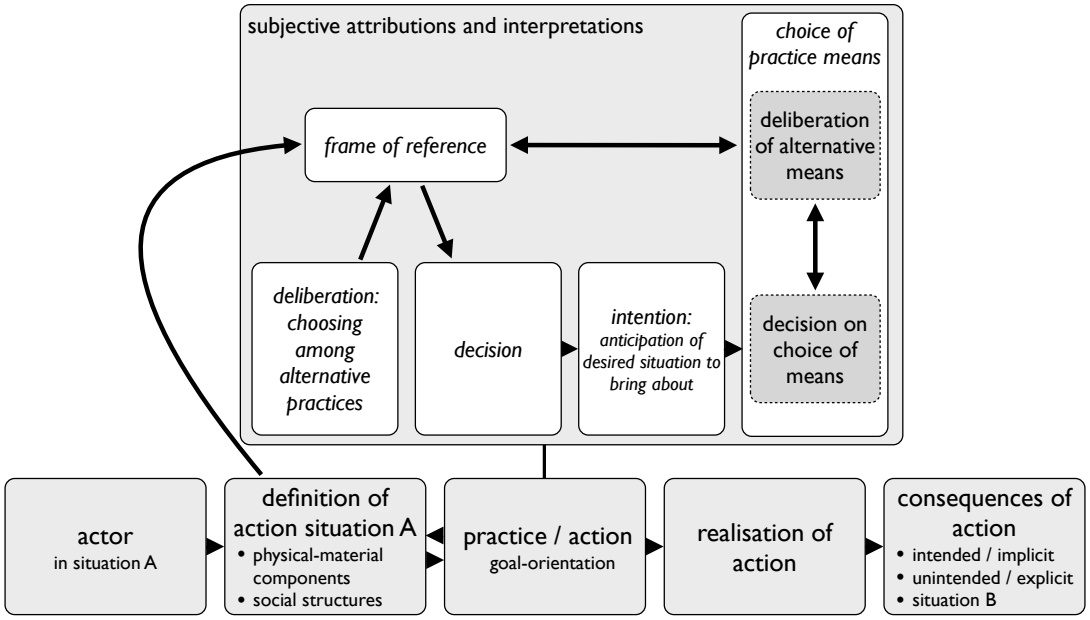

Figure 5: Model of Social Action, based on van Wezemael (2005, 21)

gence, change, and disappearance of actions as one basis for practices. Hence, the action analysis helps to understand individuals' perceptions and assessments of their frame of reference and how they translate it into single actions or routinised behaviours.

Unfortunately, the analysis of doings appears rather vague and empirically complicated. "To accordingly theorise economic action, we must define agency as individual action in an economic context" (van Wezemael, 2005, 6). Nonetheless, actions always relate to each other and former actions are at the same time condition and instrument for current actions. Even though only individuals can act, in the strict sense no action is solely individual (Werlen, 2010, 256 ff.). According to Bourdieu, "the social meaning of action goes beyond the intention of agents" (van Wezemael, 2005, 10). Hence, action analysis faces the problems to capture the relevant economic context, to extract the essential practices, and to carve out individual intentions.

Despite the outlined criticism, the two outlined methodologies can in combination help to overcome most of the mentioned problems. For example, the economic context missing in action analysis could be found in the backing of argument analysis, and individual

intentions may be nested in the warrants. Other forms of sayings could empirically be substituted by doings. And the contextualisation of arguments, the analysis of audiences' reaction, as well as interactions between humans and non-humans are above all empirical question. In the next section, I will present an exemplary insight into preliminary findings from an ongoing case study research conducted in the border region of Luxembourg and Germany.

5 Exemplary Preliminary findings

Since the research project presented so far is work in progress, no robust or generalisable findings can yet be presented. Nonetheless, a little insight into preliminary results shall be provided to give a feeling for how the outlined conceptual approach and the methodology can be utilised.

The INTERREG-III-A project "RUBIN: Regional Strategies for sustainable realisations of biomass utilisation" was a EU funded cooperation project running from 2000 to 2006 in the cross-border area of Luxembourg, Germany and France. The main goals were to establish networking of biomass actors in the projects territory, to initiate and support (cross border) bioenergy projects, and to develop new strategic approaches to biogas generation. The statement analysed in Figure 6 stems from the projects webpage. It illustrates, that techno-scientific knowledge, as well as cultural, and symbolical meanings incorporated in the backing of this statement are crucial. The spatial knowledge that the project authors explicate illustrates the understanding about bioenergy as a regional energy. In this case the general techno-scientific knowledge (calorific value, technological opportunities) and cultural and symbolic meanings (ecological evaluation) are set into relation to economic practices and a specific spatial hierarchy and structuration. These knowledges and meanings do not represent the 'truth,' but are socially and discursively produced. Therefore, the backing represents the common understanding of both, the authors and the reader.

Connected to this INTERREG project is a biogas plant in the German city of Merzig,

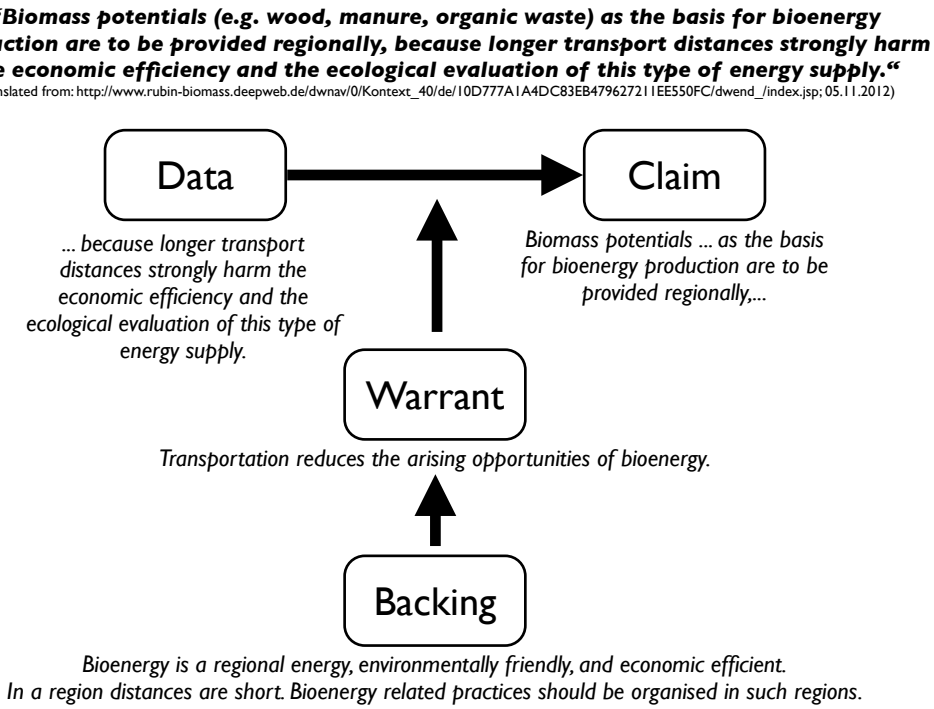

Figure 6: Argument Analysis, example A

Saarland. It operates since spring 2011. The produced biogas is fed in into the local gas grid and covers the gas demand of approximately 2.400 four-person households (550 Nm^3 biogas per hour). The operators E.On Bioerdgas GmbH and enovos, run a webpage where they state: "The biogas is produced from regenerative raw materials grown in the region. [... The] adaptation to regional specifics helps the facility integrate with the local structure in the best possible fashion."[3] This guides me to several questions. If the resources are planted especially for that purpose, what are the underlying markets and user practices? How did they change with the operation of the plant? Was the utilisation of space changed? What exactly is the region, they are talking about? Which spatial connotations are utilised to substantiate the claims? How does the spatial perception and expression of the plant's operator influence the practices of the suppliers? What does it mean for the economic practice of them? The RUBIN project explicitly states that the Merzig plant is a result of the project, but was it really? Did the INTERREG framework influence the decisions of the plant's operators for construction, operation or any other related economic practice? And how did the policy framework influence the decisions to

[3] http://www.enovos.eu/en/renewable-energies/biogas-biomass/bioenergie-merzig, 13.11.2012

locate the plant in Merzig, or to utilise renewable biomass? Till now, these questions remain unanswered, but they will be core for the research project that I introduced in this article. Additionally, the methodology and questions will be utilised to examine other examples of biogas developments.

Another empirical finding comes from southern Luxembourg. In the south-western part of the country the pilot project "Minette-Kompost[4] was launched in 1989 to implement a region-wide collection system for private and public bio-waste (bins, containers, green waste, etc.). These wastes then were composted and sold. The Syndicate Minett-Kompost was created and in charge for the project. In the mid 1990s they observed a strong incline of the amount of bio-waste and started a search for new usages. More or less in the same period, new technologies for fermentation were developed and a wider public (social, political, economic) awareness for renewable energies evolved. Together, this led to the decision to develop a fermentation facility (2005). In September 2011 the new fermentation plant in the commune of Mondercange started its operation. It feeds the biogas into the local gas grid. The residual materials are sold as high-quality fertiliser. What this example illustrates is the case, how the company slowly transformed its field of operation from composting to energy production. The self-image of the operators still is to produce high-quality fertilisers, but nonetheless in the everyday business the handling of the biogas plant takes over a growing amount of time.

From a regionalisational point of view the interesting aspect of this second example is that an established organisation with a distinct spatial reference (waste from the region, fertiliser for the region) starts to produce a good from regional resources that then is available to an undefinable group of users and, therefore, attracts the awareness of a wide range of actors. Niche processes were influenced by regime and landscape developments and shaped them back. The actors differed in their perspectives on challenges for energy supply as well as on the 'region' itself, either being the Minette, or the country. Therefore, processes of regionalisations were initiated through the utilisation of renewable energies:

[4] Minette is the south-western part of the country and Kompost is Luxembourgish for compost.

the operation of the plant, and new laws and feed-in tariffs. The examination of these regionalisations will be subject of the further projects' research.

A third example comes from Germany, again. In Morbach, Rhineland-Palatinate, the largest bomb storage of the US AirForce in Europe was located. In 1995 the AirForce left the are and the local authority bought the conversation area from the German Federal Authority for Real Property Administration. The first idea to develop a touristic concept failed, because they could not find an investor. In 2000 a wind turbine project development company approached the commune and asked for the area, what initiated thinking about such an development. Nonetheless, the denied the request. In early 2001, the major at that time developed the idea of the "Energielandschaft" (energy scenery/landscape). The area was/is characterised by good wind conditions, property of the local authority and large, so even photovoltaics could be installed. What was missing was a technical expertise. Therefore, half a year later, in mid 2001, they came into contact with the Environmental Campus Birkenfeld (University of Applied Science Trier) that additionally brought up the topic of bioenergy, due to its regional value added dimension. Furthermore, they the Campus initiated a public participation to collect ideas and find investors for the project. juwi, a back then small company with 6 employees, won the bid based on their sound concept for the parallel utilisation of wind power, photovoltaics and bioenergy production that was in line with the local authorities requirements. In late 2001, first wind turbines were installed. Today, the Energielandschaft has an enormous energy production of roughly 50 Mio kWh energy and 5 Mio kWh warmth (14 wind turbines, 20.0000 qm^2 photovoltaics, 1 Biogasplant). It is a test-field for new renewable energy technologies. The region brands itself as a "resource rich region" with a huge biomass potential, coming from more or less 15 agricultural holdings in the region that supply the biogas plant. Since 2001, delegations from over 90 countries have come to Morbach to visit the site of the Energielandschaft and learn from the experience gained there.

This third example illustrates the case of the creation of a energy region from the scratch. The availability of an area was combined with a green vision of an energy future. Exter-

nal knowledge and public participation were used for the formation of the project. The 'resource rich region' was in focus. Thereby, the commune of Morbach transformed itself into an 'energy region.' Local decision makers faced development demands and project developers approached it. These regionalisational regimes influenced the local actors in a way that they decided to incorporate external ideas into their niche practices. The processes of regionalisation will be further researched in the project, based on the questions from Table 1.

6 Conclusion

This paper presented conceptional and methodological insights into an ongoing research project dealing with questions of regionalisation in the renewable energy industry with a special focus on biogas production. To approach the biogas sector, I introduced a multi-level perspective on energy development. Nested in different levels of niches, regimes, and landscapes, everyday economic practices and governmental as well as corporate policies shape the socio-technical bioenergy development. Discursive frameworks play a crucial role for interpretations and attributions of the involved actors. These processes implicitly and explicitly use and produce scale and space images//pictures, what I call energetic regionalisation: practices in the biogas economy that depicts the relationship among physical-material components, the mentioned attributions and interpretations of meanings, and social structures.

For the analysis of such processes I suggested to concentrate on the (co-)constitution of regions, and socio-spatial conditions for everyday interactions, both conceptualised as social practice. Additionally, the focus should be set on their implications for further economic activity. Methodologically, the division of practices into doings and sayings helped us to break down the research questions and translate them into two fundamental approaches: action analysis and argument analysis. An action analysis can help to research the control of spatial relations for steering individuals' actions as well as the individuals' capabilities to influence others decision making. An argument analysis extracts geographical knowledge

that is used in everyday sayings, and, thereby, reveals the relevance of space for practices. Finally, some empirical insights illustrated ways, how to utilise the outlined theoretical and methodological framework.

The outlined arguments and findings have to be understood as preliminary thoughts and contributions to ongoing debates in economic geography on how to conceptualise and research everyday economic practices. Therefore, several restrictions need to be mentioned. First of all, everyday notions are vague and not necessarily suitable for objectification, because they are at high risk to overemphasise the details of daily life, and thereby, overlook their constitutive and embedded character with regard to the changing contours of social practices (Shove/Pantzar/Watson, 2012, 13 ff.). Additionally, it remains unclear, where the practical and geographical knowledge stems from that the individual incorporates to be able to produce specific practices: What are the origins and specific contexts of knowledge (re)production? What roles do power and discourses play in creating knowledge? Regarding power, what are its structural and cognitive sources? How can they be operationalised and set into relation to everyday practices (cf. Jones/Murphy, 2010; Yeung, 2000)? Hence, practices remain a rather loose concept, even if the division into doings and sayings seems to be a promising step to further understand the regionalisational dimensions of economic and regional change.

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