

Making the energy transition happen. Intermediaries as ‘driving force’ of local energy projects – a case study in South Westphalia, Germany

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Abstract

A case study in the rural area of South Westphalia, Germany, showed the importance of independent intermediaries to support the development and implementation of sustainable energy and efficiency projects. The idea behind the project “Dorf ist Energie(klug)” (Village is Energy(smart)) was to foster, accompany, and support energy and efficiency projects in villages from the first idea to final implementation. Therefore, the South Westphalia Agency as independent intermediary initiated an application process in which villages could apply with their innovative energy and efficiency project ideas. During the following process the chosen “coaching villages” benefited from the consultation of teams of thematic experts. Villages with less developed projects were supported through idea workshops with experts and study visits.

The accompanying scientific study evaluated the overall process focussing on the transferability, the sustainability and the quality of the process. Furthermore, a self evaluation tool for (energy) projects in villages was developed and tested in two of the participating coaching villages.

The paper gives a short insight into the project “Dorf ist Energie(klug)”. It presents the methodology of the accompanying study and the results with a special focus on the role of the South Westphalia Agency as independent intermediary. Finally, it discusses the transferability and sustainability of the project.

Introduction

The energy transition is one of the largest technological and infrastructural processes of change Germany is facing today and in future with a strong social impact. The German Government has set ambitious targets for energy efficiency and renewable energy. However, the implementation of these objectives is concentrated in cities and local communities. Therefore, in particular local authorities have to face a number of challenges though this also reveals opportunities for innovation and development, as towns and cities have a particular role in creating the energy transition (Beckmann et al. 2013: pp. 3).

In order to utilize the opportunities and strengths and to overcome the threats and weakness within the framework of sustainable development projects, Choi suggested four propositions for intermediaries (Choi 2015):

1. They should increase the role of the facilitator,
2. they should act as a network manager,
3. they should play a pro-active role to invite potential partners to enter the collaboration, and
4. they should have a self-understanding as a service provider.

Therefor, the question arises, if intermediaries could be a ‘driving force’ of local energy projects.

RELEVANCE OF RURAL AREAS WITHIN THE ENERGY TRANSITION

Challenges in rural areas differ significantly from those in urban areas. The potential for the development of renewable energies and energy efficiency is very different due to geographical, infrastructural, social, and demographical specifics and resources. For example, it is conceivable that rural areas can serve as a potential energy supplier even for urban regions.

The use of power generation potentials in rural areas entails far-reaching changes in spatial structure as well as other structural effects. In many cases these structural changes can be seen as an opportunity for a sustainable development of rural areas which are often burdened by structural problems like loss of inhabitants and unemployment. By strengthening the regional economy outward migration can be reduced and thus, there are opportunities for the revitalization of rural areas (Büttner et al. 2012: p. 17).

Figure 1 shows the comparison of mostly rural and urban districts in Germany in terms of grid exports from photovoltaic, biomass and wind power. With 70.7 TWh the predominantly rural districts have a significantly higher proportion of renewable energies than urban districts with only 29.3 TWh. The large difference gives an indication of how important rural areas are for the development of renewable energies and, thus, the energy transition.

ORGANISING THE IMPLEMENTATION OF THE ENERGY TRANSITION

But despite all the differences between rural and urban areas, a common question is how to motivate and activate citizens, companies and stakeholders to get involved and become engaged in energy projects. The development and implementation of local energy projects require capacities in personnel, time and financing, which municipalities cannot provide on their own: Local climate action is a voluntary task in Germany and not a legal duty for local authorities. Thus, the process of local energy and climate action has to be organised, tasks have to be delegated, and opportunities for businesses and projects have to be created. As such the energy transition can – and has to – be developed as a joint process.

The organisation of energy and climate related tasks in German municipalities differs widely. Especially in bigger cities it is very common that an energy and climate unit is assigned to the environmental department. In other municipalities the responsibilities can be found in departments like building, planning, economy or mobility. Others have developed interdepartmental working groups which – in some cities – are assigned to the mayor's office. Still others, especially smaller municipalities, do

not have a specific unit or working group within their organisational structure which does not necessarily mean that they are not active in energy and climate policy.

Next to organisational structures within an administration in some cities and regions intermediary entities were developed with responsibilities in sustainable development, energy and climate action. One of them is the South-Westphalia Agency. It was founded in 2007 by the five district authorities Kreis Soest, Hochsauerlandkreis, Märkischer Kreis, Kreis Olpe and Kreis Siegen-Wittgenstein using a grant from the structural funding programme of the federal state of North Rhine-Westphalia “Regionale 2013”. Since then they have delivered the programme under the regional name “South Westphalia”. The South Westphalia Agency was founded to act as central contact for the Regionale 2013. It conducted several programmes and projects (see South Westphalia Agency 2017). Two of them – “Talents in South Westphalia” and “Futures of the Villages in South Westphalia” – with their two focal points “energy and climate” and “citizen engagement” finally were merged into the project “Dorf ist Energie(klug)” (Village is Energy(smart)), abbreviated “DiE(k)” in the following).

The role of intermediaries in the energy transition

In the context of systems innovation research, ‘systemic intermediaries’ are often described as actors who are ‘useful and necessary but not sufficient’ for a sustainable development. While previously the focus of systems innovation research was on institutions, current research results view the connecting, translating and facilitating role of intermediaries between institutions as crucial. Intermediaries are seen as actors to support and facilitate learning processes for successful transition management (Backhaus 2010, pp. 87).

Energy intermediaries seek to intervene in energy systems, for example through building energy efficiency; promoting low energy buildings, via replacement product programmes (e.g. energy efficient appliances), by raising public awareness, and through achieving the visibility of alternative ways of producing and consuming energy.

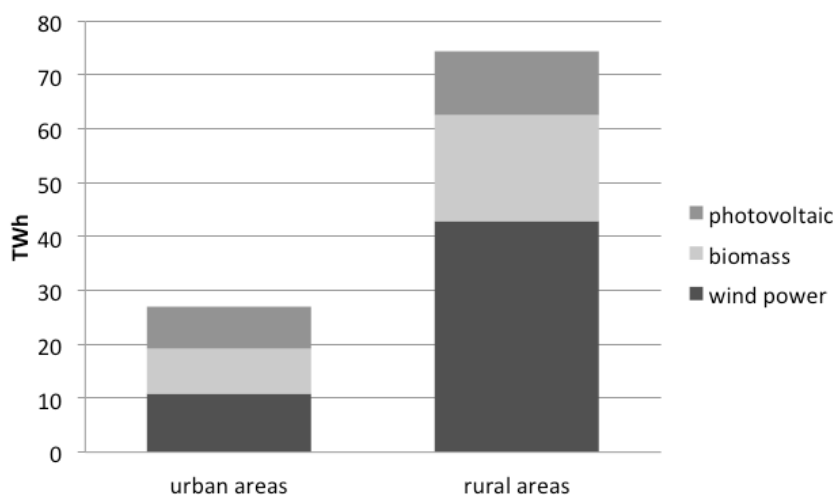


Figure 1. Grid exports from renewable energy sources in urban and rural areas. Source: Becker 2016, based on Plankl 2013: pp. 26, 28, 30.

The innovative role of intermediaries in the energy transition can be described as ‘bottom-up’ policy implementers. The types of energy intermediaries and their programmes or approaches to operate the energy transition are rather diverse. The different organisational forms energy intermediaries may take include, inter alia, non-governmental organisations (NGOs), governmental agencies or organisations, or private companies such as energy service companies (ESCOs), public utilities and consultancies (Backhaus 2010, p. 91). Energy transition programmes with intermediary involvement are mostly focused on reduction of energy consumption, implementation of renewable energy projects, education/communication campaigns, energy advice, and education or certification of energy advisors (Mourik et al. 2009a).

Regarding the energy transition intermediary practitioners perform important functions such as the provision of energy advice and advice centres; consultancy activities; energy audits; project initiation, management and coordination; demonstrations; technology procurement; installation; promotion; advocacy; lobbying, dissemination and awareness raising; organising campaigns; education; training; and network-building (Breukers et al. 2009, p. 135). All in all it can be stated that intermediaries are defined by their ‘in-between-ness’ (see Figure 2), rather than their organisational structure or any particular focus of their work (Moss et al. 2009). Thus, they are a connecting element between politics, administration, civil society, energy companies and consumers. The intermediary portrayed in this article is the South Westphalia agency with its project “Dorf ist Energie(klug)” (Village is Energy(smart)).

The project “Dorf ist Energie(klug)”

DiE(k) started at the beginning of 2014 with a competition for all villages in the region of South Westphalia applying for energy projects. The project was funded by the Ministry for Climate Protection, Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia, the five districts of the region and the regional cooperative banks (Volksbanken). The scope of the competition was energy projects in any thematic area (efficiency, renewables, grids, mobility, education and awareness, etc.) with the goal to

- foster climate action, save energy and increase efficiency
- raise public awareness of local climate action potential
- generate regional participation and value, strengthen local identity
- support civic engagement, strengthen village communities
- initiate and support community projects
- facilitate knowledge transfer between villages (peer learning)
- identify transferable good practice (South Westphalia Agency 2016).

One criterion for the application was the development of the project idea within the village community not by single persons. Based on the state of development of the projects five villages were selected for a coaching process to support the

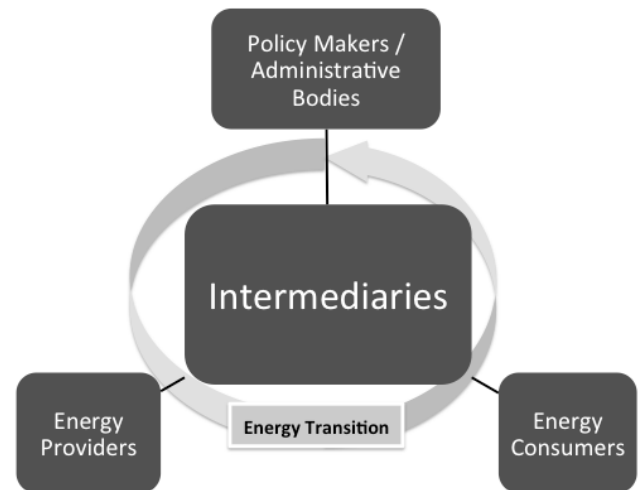


Figure 2. Energy Intermediaries as Actors of Energy Transition.

Source: own illustration based on Backhaus 2010, p. 90.

implementation of their ideas. The coaching process included the following:

- study tours to visit good practice examples in the region to support the knowledge exchange between villages,
- potential analyses,
- feasibility studies for technological energy projects,
- consultancy for specific questions e.g. technological, economical, or legal support, and
- facilitation of public information and discussion meetings in the villages.

Another six villages were selected to concretise their ideas, raise awareness and increase the support of local people within the village community and define details of the implementation process by conducting public workshops in the villages.

A steering group consisting of representatives of the South Westphalia Agency, the five district authorities of the region, the energy agency of the federal state of North Rhine-Westphalia, and the regional administration managed and co-ordinated the overall process. The coaching itself was conducted by different teams of experts that were compiled individually regarding the thematic focus of projects and the needs for support expressed by the villages. Representatives from regional banks, the consumer association of North Rhine-Westphalia, transportation services, chimney sweepers¹, mayors, engineers, architects, universities, research institutes, energy suppliers, federation of cooperatives, district and regional administrations, and others participated as experts in the coaching processes in the villages (see Figure 3). A project manager of the South Westphalia Agency continuously accompanied the villages, acted as mediator and contact person.

1. Chimney sweepers in Germany inspect heating systems on a regular basis. They measure exhaust emissions, control the safety of systems and give advice on their efficiency and possible substitution.

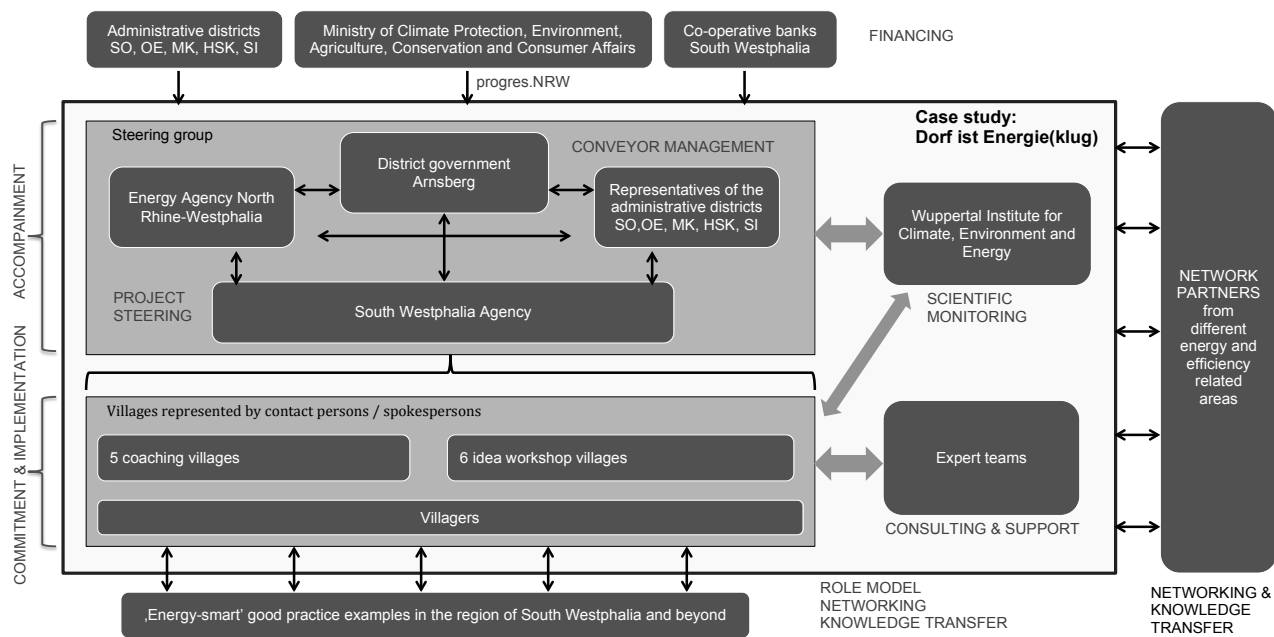


Figure 3. Mapping of all actors involved in "Dorf ist Energie(klug)". Source: Becker 2016.

The accompanying study

To evaluate the process of DiE(k) the Wuppertal Institute for Climate, Environment and Energy was commissioned with an accompanying study and a twofold task: evaluation of the overall process and evaluation of single projects in the villages. The overall process was to be assessed with regard to transferability, sustainability, and quality of implementation. For the projects in the villages the points of interest were to identify supportive and hindering factors for successfully conducted energy related projects. The results showed that the South Westphalia Agency and the individual project manager for DiE(k) played an outstanding role within the village projects. Thus, the present paper discusses the question whether intermediaries as the South Westphalia Agency can be 'driving forces' for energy and climate action on local and regional levels by having a closer look at results of the individual projects in the villages and specific aspects of the overall process.

METHODS

The methodological procedure consisted of three main methods: a survey with representatives of the ongoing village projects and members of the steering group, followed by interviews with several participants of one chosen village project, accompanied by participatory observation during meetings of the steering group and activities in the villages.

Survey

With the purpose of determining motivational backgrounds for civic engagement and supportive factors for the projects in the villages of South Westphalia, a quantitative survey with partly standardised questionnaires was conducted. This written survey technique may capture aspects of subjective experience and past practices which are not recorded in documents and are not directly observable. Using two similarly constructed questionnaires, on the one hand the contact persons of the

eleven participating villages of DiE(k) were asked about the process and on the other hand the members of the steering group including representatives of federal and local authorities, the energy agency, and the regional agency as coordinator of the project. Thus, it was possible to accommodate the possibly different perspectives of the actors involved.

The questions covered the topics of the projects' processes (from idea to implementation), the motivation of civil engagement, the quality of collaboration between all actors, the financing and the role of the South Westphalia Agency. In order to obtain a high return of questionnaires the respondents were contacted by phone and informed about the survey prior to sending the questionnaire via email or if desired by mail.

Eight out of eleven contact persons in the villages and six out of eight members of the steering group sent back a completed questionnaire. Due to the small number of projects, no general conclusion about promotional or motivational factors for civic engagement can be made. However, general trends can be identified and an initial assessment of possible opportunities and issues of civic engagement in rural areas can be made.

Interviews

To specify individual project progressions and development opportunities in more detail, a single project of DiE(k) was analysed in detail. Several interviews with different project participants – the official contact person and other participating inhabitants – were conducted in the village considered for the case study. In order to raise targeted knowledge the method of a semi-structured telephone interview was chosen which is well-structured but also ensures a certain openness in the conversation.

Participatory observation

Participatory observation was chosen as a third method to gain better understanding for the processes in the villages as well as for the co-operation between different actors and persons in-

volved in the projects. The participation in different events and activities during the project allowed the selective observation of behaviour and practices that help to complement the reported statements from the questionnaires and interviews.

RESULTS

At this point it should be mentioned that in the following analyses the main focus lies on the results of the village questionnaires and interviews due to the focus of this paper. The question is, in how far the South Westphalia Agency contributed to the success of projects in the villages. Therefore, the focus lies on the perspectives and estimations of the contact persons in the participating villages.

One of the first questions asked for the support during the application phase for the village projects. As Figure 4 shows, the majority of the contact persons considered the application as easy or rather easy to get and to compile. Seven out of eight reported that there was a direct contact person.

As DiE(k) was a subsequent project of the process of the REGIONALE (see above) it was interesting to know if the idea for the projects in the villages had been developed before the start of the project or were initiated by the competition at the start of DiE(k). Figure 5 shows that five out of eight projects in the villages were (rather) developed newly.

Furthermore, the answers show that the ideas for the projects all were developed in a (rather) collaborative process in the villages. Except for one person the projects generally are seen as joint projects in the villages. This shows that the expectations of strengthening local identity in the village communities and initiating community projects (see goals of DiE(k) above) were met. The development of new and collaborative ideas can as well be seen in Figure 6: all eight persons state that the implementation of shared ideas is important or rather important for the own participation in the project but for only five of them it is important to subsequently develop existing ideas and networks of the past REGIONALE 2013.

All eight participants see the goal of strengthening the local community as very or rather important (Figure 7). And generally speaking it shows that the local identity is more important than the regional identity.

But back to the role of the South-Westphalia Agency as intermediary actor. One of the tasks of the agency was to compile expert teams that support the villages during the coaching process. Thus, one of the questions was if the teams met the needs of the villages and how their advice was perceived.

The high number of responses that cannot answer this question in Figure 8 has to be considered against the background that not all participating villages were chosen for a coaching

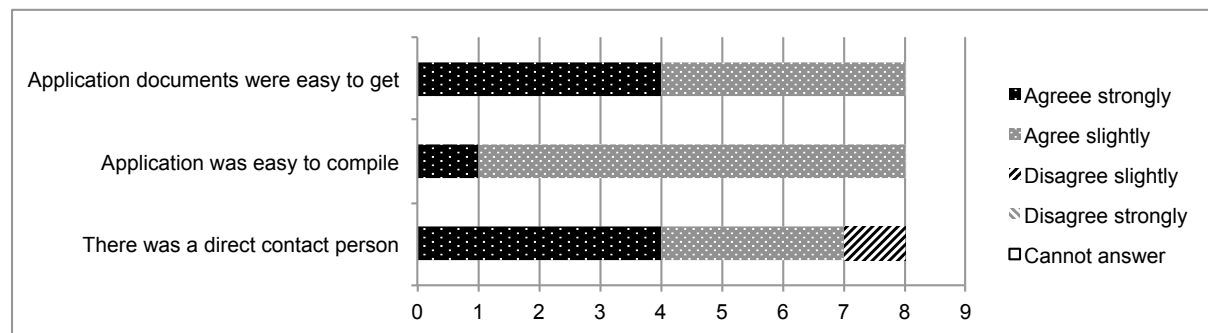


Figure 4. Information and application at the start of the project DiE(k).

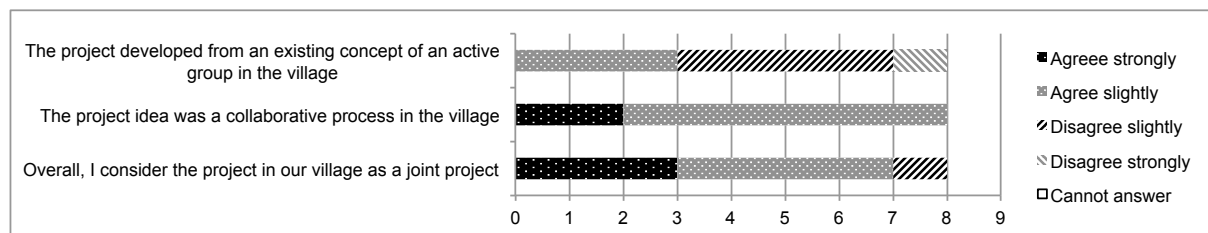


Figure 5. Reported perception of the village projects as new and collaborative.

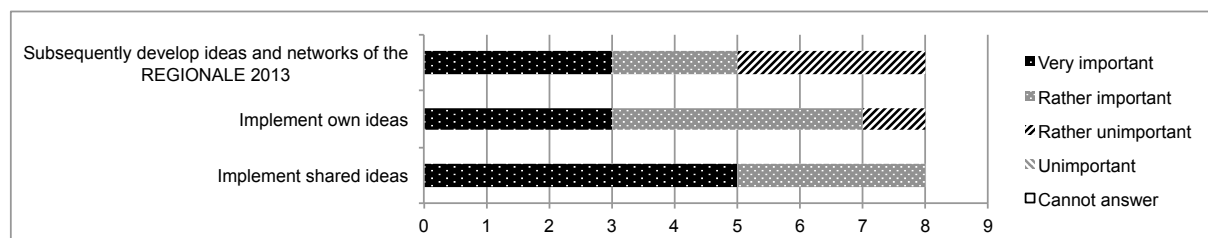


Figure 6. Importance of goals pursued with the participation in the projects (I). Source: Own illustration.

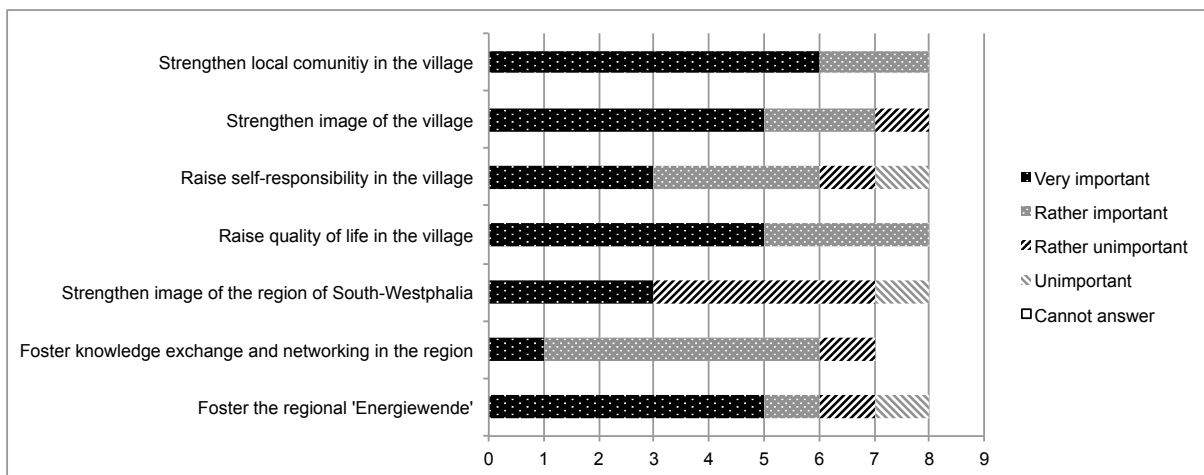


Figure 7. Importance of goals pursued with the participation in the projects (II).

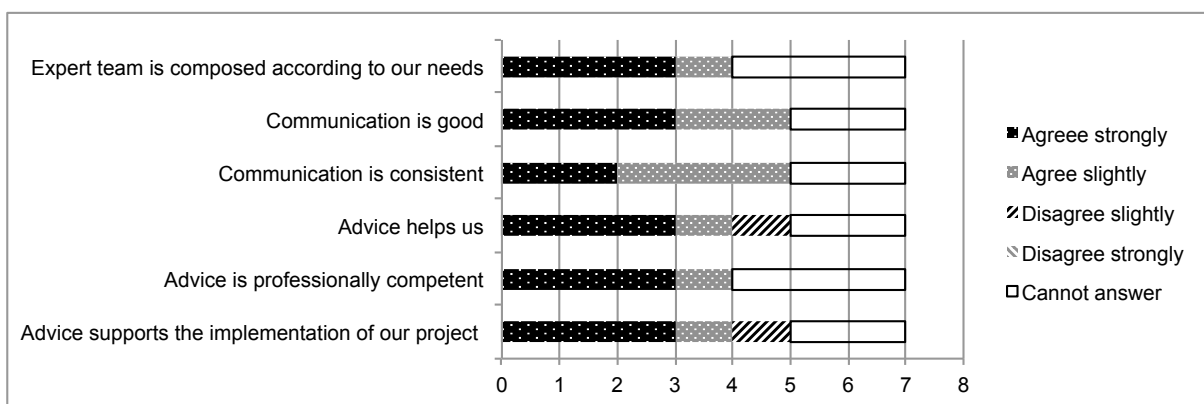


Figure 8. Rating of the collaboration with the expert teams.

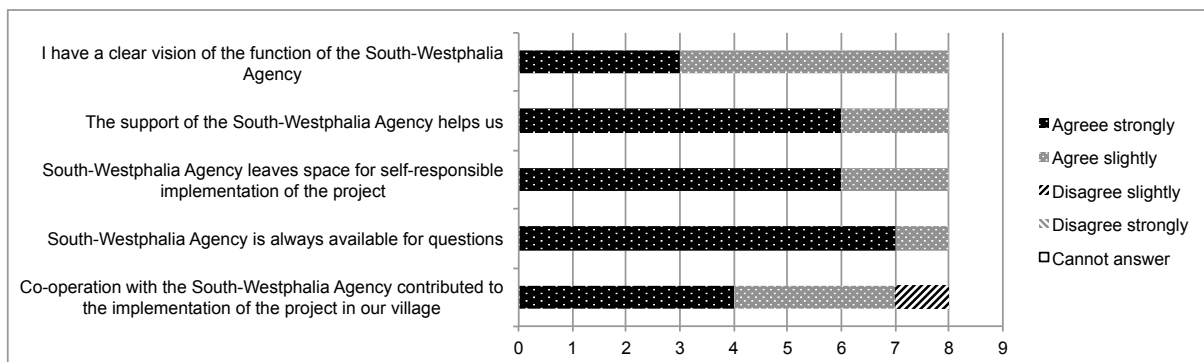


Figure 9. Rating of the collaboration with the South-Westphalia Agency.

process. Some of them were supported through workshops and activities to shape their ideas and develop concepts for their implementation. Thus, the satisfaction with the work of the expert teams appears rather high.

Even higher is the satisfaction when it comes to the collaboration with the South Westphalia Agency itself (see Figure 9). Although not all of the participants have a clear vision of the agency's function, all of them state that the support of the agency is (rather) helpful and (rather) leaves space for self-responsibility at the same time. The highest valuation can be seen for the constant availability of the South-Westphalia Agency for

questions. This point was highlighted in the open questions and interviews as well but was explicitly attributed to the project manager in person rather than to the agency in general.

Nevertheless, some hindering factors could be identified during the study that are more or less outside an agency's or project manager's influence. The idea of a biomass plant and local heat network had to be abandoned due to the falling oil price that reduced the economic viability of the plant. In another project the village wanted to invest into the energy refurbishment of a school building. The renovation could not be undertaken as the building was needed as accommodation for

refugees. A third example shows the possible dependence of projects on single individuals. Due to a protracted illness of the main person engaged in one of the participating villages the project had to be delayed. However, also the other villages have also not reached an advanced phase with their projects and only one reports being in the main implementation phase (see Figure 10). Thus, it is no surprise that five out of eight participants do not see the projects in the villages as self-sustaining yet (see Figure 11).

Regarding financial aspects and the anticipated long-term process of the projects, some uncertainty can be observed. Though financing is a relevant issue for the long-term orientation of the projects most of the participants (five out of eight) could not answer the question. Two rather expected and one did not expect that there is sufficient financing to run the project in the long-term. The insecurity in the items regarding financing may relate to the circumstance that there is no direct funding of the village projects foreseen in the process of DiE(k). Furthermore, most projects are still in the initial phase and in the phase of raising finance for implementation. A third possible explanation is that the process of DiE(k) ended in October 2016. The decision of the South-Westphalia Agency not to apply for a subsequent project phase for DiE(k) came after the data collection of the accompanying study was finished. Thus, this aspect of insecurity could not be assessed further.

Discussion and conclusions

Regarding this last point of the results, it has to be stated that – despite the generally very positive feedback for DiE(k) – the success of the overall project cannot be assessed yet. But our analysis indicated that for the intermediary organisation, the

ability to engage diverse stakeholders and align their interests was a critical condition for continuing in many cases. The South-Westphalia Agency certainly initiated a broad range of ideas for energy projects in the villages and was successful in supporting civic engagement. But the timeframe of about two and a half years appeared to be too short to develop projects based on civic engagement from the first idea to implementation. Nevertheless, the sustainability of projects like DiE(k) has to be assessed against long-term effects – with regard to social cohesion in the villages as well as with regard to environmental effects. The supportive structures of DiE(k) obviously played a major role with regard to the development of ideas, the engagement in the village projects, and the motivation to overcome difficult situations and obstacles. At the same time it became obvious how easily motivation can change into frustration if problems cannot be solved and projects do not progress in a reasonable period of time. Thus, one of the most important recommendations within the final report for the South Westphalia Agency the Wuppertal Institute pointed out that despite the end of the DiE(k) project the agency has the responsibility to further support the initiated projects and act as main contact for questions and support. The need for ongoing external motivation and support by the South Westphalia Agency should not be underestimated (South Westphalia Agency 2016).

Though the sample of the survey in this study was rather small, due to the numbers of projects in the villages, the results show that intermediaries can initiate (energy) projects, foster existing ideas and support the energy transition. However, the results also show the importance of a personal contact within an intermediary organisation. This contact person has to be sensitive to the specific needs of civic engagement: Voluntary work needs support without being overloaded. Failures and ob-

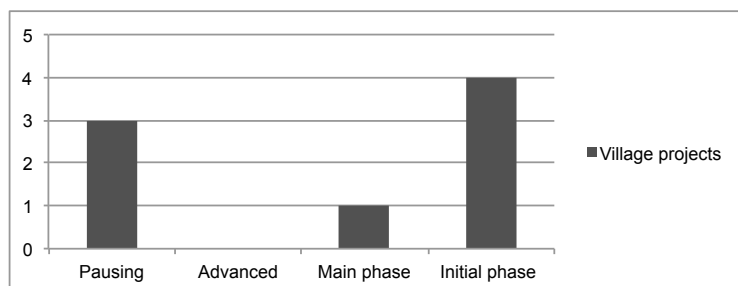


Figure 10. Rating of the state of village projects (phase of the project). Source: Own illustration.

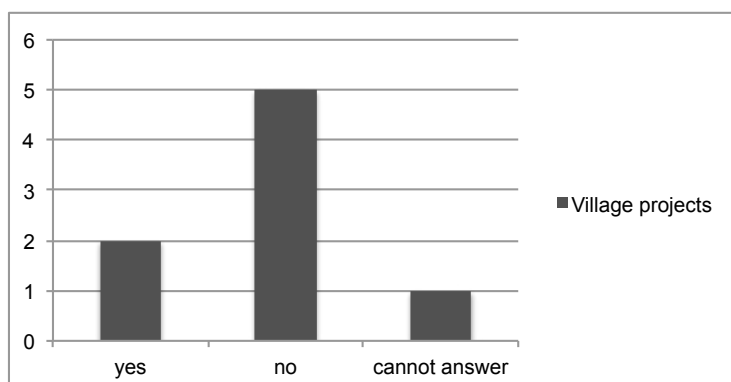


Figure 11. Rating of the state of village projects (self-sustaining). Source: Own illustration.

stacles are sensitive issues that require the ability to turn them into motivation instead of frustration.

Although intermediaries are seen as actors to support and facilitate learning processes for successful transition management, the policy support needed for the important tasks intermediaries perform is (often) lacking. The survey and interviews revealed nine key factors for the success of citizen engagement projects (see Wuppertal Institute, South Westphalia Agency 2016):

- local initiative,
- involvement of the local administration,
- voluntary engagement,
- citizen participation,
- networking and knowledge exchange,
- extension of knowledge,
- publicity,
- financing,
- legal requirements.

Considering the very different tasks and expertise needed to account for these nine factors it becomes obvious that a comprehensive support of citizen engagement projects can be an excessive demand for local administrations. Against this, an intermediary organisation with the main task to implement and support projects has the capacity with regard to staff, time and – if necessary – a network of external expertise where needed. As such intermediary organisations can be a ‘driving force’ for local energy projects. It is important that they succeed as a service provider in acting as a facilitator and network manager and are able to play a pro-active role to invite potential partners.

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