

# Regional institutional arrangements for renewable energy use

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## **Aims and Objectives**

For a number of reasons, rural areas are heavily reliant on fossil fuels. First, agriculture as one important sector in rural regions is very energy-intensive; second, both heating systems and energy provision are often based on oil or gas, and third, mobility is dominated by individual motorized transport, since public transport infrastructure often is not existent and distances are too big for walking or cycling.

At the same time, rural regions are well suited to at least partly meet energy demand directly at the point of use due to the availability of natural resources like biomass or large (farm or public) buildings with flat roofs, which offer ideal conditions for the installation of PV plants. However, in order to take advantage of these pre-conditions, different actors and stakeholders need to cooperate.

The aim of this paper is to investigate regional initiatives towards renewable energy adoption which emerged in Austria within the last years and focuses on the following particular cases:

- 1) An association of farmers which is well aware of energy intensity of farming on the one hand, and uncertainties/volatilities on the energy market on the other hand and therefore founded cooperatives for PV adoption in agriculture in several Austrian regions.
- 2) An arrangement between municipalities and farmers for the implementation of district heating systems based on biomass. The farmers use regionally produced biomass and provide district heating for inhabitants of the respective communities.
- 3) A community in the Austrian countryside which is planning to launch a community power plant concept based on PV, and furthermore offers energy advice to its citizens.

In this on-going research we assess the potential of active citizen engagement in order to build local cooperatives to further promote the usage of decentralized renewable energy. Our main aim is to identify success factors of, and barriers to, such institutional arrangements.

## **Methods**

We conduct semi-structured interviews with the founders/organisers of the respective arrangements, and carry out quantitative surveys with citizens who engage (or not engage) in these arrangements. Furthermore an interdisciplinary stakeholder analysis is used to identify the key-agents in the development process and to demonstrate the relevance of local, strategic partnerships for the emergence of such cooperatives in the field of renewables.

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## **Preliminary Results**

Our results indicate a series of crucial factors for respective institutional arrangements. Beside the facts of public support in the form of subsidies as well as confidence in the technology, these include mutual trust between organisers of renewable-energy-related initiatives and (potential) partners. Especially collaborative initiatives are able to mobilise resources and to create opportunities for actions that are not available to single actors. First results show that although eco-attitudes are important motivating factors for people to join regional initiatives for renewables, economic and social aspects are central for engagement. Having a look on communication channels, it is obvious that information and face to face communication were crucial for the success of the initiatives. In general, informative meetings and word of mouth help to convince individuals.

## **Conclusions**

Considering the lack of progress regarding international climate agreements and the need for radical transitions in our energy systems, the development of suitable institutions for using and providing energy in a sustainable way is of great importance. Lessons from this study contribute to the on-going discussion and illustrate how renewable energy projects can be implemented bottom-up within small networks, and show how regional communities “make their number of options grow” with respect to energy supply.

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