

Public Acceptance of Biogas Plants

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Introduction

The present contribution addresses the public acceptance of biogas plants and the analysis of different influencing factors. Within the rising utilisation of renewable energy systems (RES) in Germany, also the number of biogas plants for decentralized power and heat production is growing. However, in some regions this development has led to discussions and serious conflicts within the residential population.

Some parts of the population perceive biogas plants due to smell nuisance and an increasing local traffic volume to be a physical, mental and aesthetical burden and thus feel severely limited in their quality of life. In addition, main arguments in the current debate concerning the utilisation of biomass power plants are changes in agriculture such as an increase of monocultures and genetic engineering as well as potential competitions. While in some regions citizens form initiatives against biogas plants, other communities show a high interest in biogas, try to integrate biomass technologies in their regional energy concepts and even apply for becoming a 'bio energy region'.

In Germany as well as worldwide this controversy led to increased research activities in terms of acceptance questions and social dynamics in technology implementation processes (e.g. Rehatschek, 2009; Griesen, 2010).

Methodology

The methodological approach of the present contribution contains several studies concerning the acceptance formation process of biogas plants in terms of researching human-technology-interaction in different German counties. Therefore residents were surveyed to identify relevant social factors within the planning and implementation process. In order to address the complexity of

the topic the studies have been conducted in a multi-modal research design combining semi-standardised questionnaires and open interviews as well as document analysis and group discussions.

Results

As a matter of principle, the results show a strong support towards the usage of renewable energies and in addition a positive valuation towards biogas plants.

Moreover, a strong connection between the consideration of procedural justice criteria during the planning and installation process such as transparency, early and accurate information as well as possibilities to participate, and a reported public acceptance towards the biogas plants became evident.

Furthermore, a substantial correlation between the perceived regional benefit and a reported public acceptance towards the biogas plants became evident. Another important acceptance factor is the degree to which people feel being affected personally in terms of negative impacts as well as on the spatial dimension, in this respect, the results in this case show a certain variance.

All in all, the results show that different levels of evaluation in terms of acceptance as well as diverse degrees of activity on the action level can be distinguished. In this context, the predictive strength of the respective influencing factors is shown using path modeling methods.

References

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