

Institutionalization of agricultural biogas: a question of normative and cultural embedding

February 2012

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Abstract

The enigmatic term 'institutions' has cumulatively become relevant and have been pushed to the center of the analysis of innovation processes. Even though the influential role of institutions has been emphasized in all strands of the innovation systems literature, different understandings are in place and there is little coherence about which kinds of institutions are (or should be) analyzed. Moreover, in technological innovation system (TIS) approaches, the analysis of institutions has been conducted in a "too"-manner and not really in an explicit sense on the basis of an elaborated concept. In this paper, we follow the general conceptualization that institutions are or can be comprised of regulative, normative, and cultural-cognitive elements.

We want to empirically illustrate the usefulness of such a comprehensive understanding of institutions with evidence from the agricultural biogas technology. The fact that agricultural biogas production most of the time means interacting with established sectors, such as agriculture, waste disposal, and energy, makes it a very interesting field to study how a novel technological innovation system links up in institutional terms. Which technological trajectories will be realized in the field of biogas thus strongly depends on which of and how these sectors become involved. The empirical investigation focuses on biogas innovation histories in four Austrian federal states. Regarding the biogas subsystems in the four regions, we can find different rates of biogas diffusion and partly also different technological designs which can be explained – to a certain extent – by differences in institutional context structures. It is shown that the negligence of regionally rooted normative and cultural elements can hinder a broad implementation of biogas in agriculture.