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Panel 8: Energy and Climate Governance

The Effects of Energy Market Liberalization and the Emergence of Renewable Energy Technologies on Local Energy Planning: A Systematic Literature Review

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Background

A paradigm shift has taken place in energy markets and energy policy [1]. Diffusion of renewable energy technologies like solar PV panels and electric vehicles, as well as institutional restructuring in the forms of liberalization, privatisation and deregulation are happening throughout Europe, and have a great impact on energy markets, and hence, energy planning. These developments have made local energy planning more complex and call for new forms of governance for energy provision at the local level [2]. In this paper we explore to which extent prior research has addressed the effects of this institutional and technological paradigm shift on local energy planning practices. Through a systematic literature review we address the question: How is local energy planning undertaken after liberalization of the EU's energy markets and the emergence of renewable energy technologies?

Theory

The aim of this paper is to systematically explore how local decision-making processes in various countries look like in view of liberalization and the emergence of renewable energy technologies. For

this systematic analysis we apply the analytic concept ‘action situation’ that was developed in Elinor Ostrom’s Institutional Analysis and Development (IAD) Framework [3]. As our analysis focuses on relevant literature from the discipline of policy studies, we operationalize the seven components of the ‘action situation’ and complement these with concepts from the policy studies discipline (e.g. actors, information, policy instruments, process management, policy entrepreneurs).

Methods

To answer the main research question, a systematic literature review was conducted [4]. This approach allows to identify and evaluate in how far prior research has dealt with answering the research question of interest, and to identify gaps or contradictions in this body of knowledge. The literature review was conducted in two cycles: a systematic database search and snowballing. Four clusters of search terms were used to search two databases (Scopus and Web of Science), and additionally three selection criteria were applied to screen titles, abstracts and in turn the full text of international, refereed journal articles. The selected articles were coded using Atlas.ti, with the help of codes that mainly derived from the policy-oriented operationalization of the ‘action situation’, as developed in the theoretical part of our paper. Based on this coding, an in-depth qualitative analysis in the form of a narrative review was undertaken, and supplemented by a range of descriptive statistics.

Results

Our analysis revealed that only a few relevant studies were published in the academic literature on the effect of liberalization and the emergence of renewable energy technologies on decision-making in local energy planning. While a gap in the academic literature was, strictly speaking, not retrieved, our analysis shed more light on the dispersed amount of relevant academic articles. Local energy planning was found to be undertaken in a diversity of ways after the liberalization of the EU’s energy markets. Variation in the decision-making processes does not only exist between countries, but also within countries. Local conditions in the form of actors, actions, control and indirectly of costs and benefits are found to be decisive factors. In spite of, or rather due to this variety in institutional settings, stakeholders can learn from the experiences of decision-makers in other countries. Therefore, we deem the results of this study relevant to both practitioners and policy makers as it can help actors uncover which possibilities or limitations exist in the changed level playing field of local energy provision, i.e. regarding the introduction of (smart) renewable energy technologies.

References

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