

Pathways to Local Energy Autonomy: Socioeconomic Impacts and Barriers as Perceived by Two Upper Austrian Municipalities

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Abstract - Already 24 years before the "Austrian Energy Strategy 2020" was introduced in March 2010, two municipalities had started their way towards energy autonomy. The socioeconomic impacts on local development and barriers to that goal were analyzed in a comparative case study of two municipalities in Upper Austria. Impacts as well as barriers changed within these 24 years and differ considerably depending on the more or less participative pathways the two municipalities had chosen.

INTRODUCTION

According to the International Energy Agency, fossil fuels will still account for more than 90% of the total primary energy demand in 2020 without new policy initiatives (PAINULY, 2001). This may lead to high environmental risks, political conflicts and volatile energy supplies and prices. On the other hand, renewable energy could considerably improve the standard of living in rural areas (DEL RIO AND BURGUILLO, 2008). The same authors suggest that the ecological impacts are well researched, but that there is a fairly incomplete picture regarding the socioeconomic impacts, especially on those in developed countries and at a local level. Therefore, this article aims at highlighting these aspects.

METHODS

Based on the selection process, carried out in cooperation with AEA, two structurally comparable Upper Austrian municipalities with a comparatively long pathway to energy autonomy - 24 years each - were selected for a comparative case study (YIN, 2003): Steinbach an der Steyr (ST) and Windhaag bei Freistadt (WF). Their pathways to energy autonomy from 1986 to 2010 including barriers as well as local socio-economic impacts were the focus of the case study analysis.

Mixed methods (problem-focused interviews, document analysis of material provided by interviewees, municipality offices and AEA) were used for inter-case (the single municipality) but also intra-case analysis (comparison between the two municipalities). 28 interviews (15 at ST and 13 at WF)

involved commercial stakeholders (e.g. agriculture, forestry, electricians, construction sector), stakeholders from the local governments and regional managers as well as local inhabitants. The interview partners proposed the location of the interviews, which all happened in a relaxed and informal atmosphere and took between 20 minutes and 2.5 hours. Interview partners showed strong interest in the issue and thus very willing to provide information. The interviews, based on target, guideline and ad-hoc questions, were recorded on tape and fully transcribed (with free-software f4) to ensure that a detailed evaluation could be done (MAYRING, 2002). Each interviewee received his/her interview for review and additional comments to increase validity. Six interviewees from ST (40%) and eight from WF (60%) adapted their interviews. Afterwards the transcribed and reviewed interviews together with the secondary documents were analysed in a qualitative content analysis (with support of the software Weft QDA). The categories deduced from literature were amplified with inductive categories during the evaluation of the empirical study. The categories of barriers according to the theory (e.g. technical or economic barriers) were changed to internal and external barriers. This rather reflects the perception of the local interviewees. Furthermore, the differentiations between internal and external barriers offer the opportunity to see local scope of action.

RESULTS AND DISCUSSION

Based on a similar starting year (1986) and structural situation (like e.g. population size, employment structure) the two municipalities had chosen different pathways to become energy autonomous. The "Steinbacher Pathway" focused on a broad participation of the local population in the beginning (OÖ VEREIN FÜR ENTWICKLUNGSFÖRDERUNG, 2006). But due to the retirement of its mayor and thus, the leading booster, local participation much decreased. Nowadays there are almost no additional or new initiatives that come from inside the municipality. Even if it was the same starting situation in WF (the leading booster was the mayor), there was another development: WF installed institutions lead by people with personal interest in the topic and therefore managed to keep the topic on the agenda even after the mayor's retirement. WF started with an extensive as-is analysis of all public and private buildings, in

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which 77% of all the inhabitants participated (ENERGIEAUSSTELLUNG WINDHAAG, 2007). Up to now, this community has been able to find financial participation models (used for the wind park) and set up a system with high participation across all age groups and levels of community. Compared to ST, this led to more initiatives, more working groups over all 24 years of the process, additional skill trainings and a NGO specialised on that topic, resulting in higher awareness of a large group of people, e.g. for energy efficiency in WF.

Despite these marked differences in the process, the socio-economic impacts most often mentioned cover the same categories in the two municipalities. Both, in ST and in WF, new income opportunities were found in energy and wood processing as well as in training and awareness building. That impacts are not confined to income is stressed by a farmer (WM): "To me the situation of Windhaag appears if I look at the facts: we are a municipality where people have an average income that is lower than in other municipalities and there are no subsidies from the municipal authorities. But nevertheless there is a large number of different energy projects – at biomass, solar power. People do not do that because it is so funny. People do that because they are proud. That is an awareness of life that is quality of life". Similarly, an interviewee in ST argues: "If somebody wants to buy a big BMW, he does not ask when the payback period is over. It is a question of status" (SP2).

Even if the socio-economic impacts most often mentioned are the same in WF and ST, the main differences of the ways the municipalities had chosen are:

- Twice as many initiatives and awareness building campaigns related to energy autonomy in WF than in ST;
- Increase in self-confidence mentioned by half of interviewees at ST opposed to only one in WF;
- Stronger engagement in educational opportunities in WF;
- Higher number of local projects focusing on energy supply and –efficiency.

The main internal barriers (see inner circle) and external barriers can be seen in Figure 1.

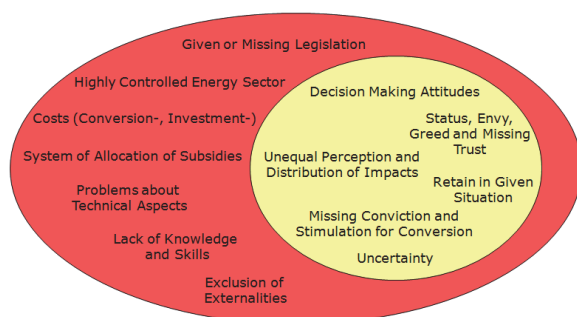


Figure 1. Barriers to Energy Autonomy in ST and WF

Envy is an example for an internal barrier – particularly challenging the early process, e.g.: "because there were thoughts like 'the farmers gain and we do not have a profit'" (WM). But due to the suc-

cessful supply of heating over several years, a high level of service and the offered 24-hour-hotline, these critics fell silent. Interviewees argued that people were envious if "the neighbour received subsidies" (WC2, WP1+2), without realising that only a part of the costs were covered.

Regarding external barriers, the continuously changing as well as unclear and complex regulations are mentioned several times, e.g.: "Now we have a new call for big solar power but nobody knows how to handle it. And if one calls [...] the responsible administrations they are overstrained. And if they do not know what to do, how shall we manage that?" (SC3).

There also seems to be an evolution of barriers. At the start of the projects both ST and WF found that the main barriers were due to envy, decision making attitudes, technical problems, uncertainty and a lack of knowledge and skills because of the projects pioneering character. Nowadays, the main problems are financial aspects (costs), a limited power grid, changing legal regulations, a continuously changing subsidy system and long-term motivation of the local population.

CONCLUSION

Windhaag and Steinbach characterise different pathways to energy autonomy. Even if both strategies lead to local impacts, they seem more broadly anchored and more enduring in the long term in WF, where the process is based on much broader local participation and more local boosters. Common for both municipalities are the evolutionary changes of barriers to energy autonomy.

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