



Short Communication

Do public programs in ‘energy regions’ affect citizen attitudes and behavior?



Stefanie Hatzl, Thomas Brudermann*, Kathrin Reinsberger, Alfred Posch

University of Graz, Institute for Systems Science, Innovation & Sustainability Research (ISIS), Merangasse 18/1, 8010 Graz, Austria

HIGHLIGHTS

- Comprehensive and systematic municipal energy transition framework.
- Implemented measures slightly impact citizen attitudes.
- Implemented measures yield only marginal positive effects on behavior.
- Transition framework might also be accompanied by negative behavioral side effects.
- Behavioral reactions need to be considered in transition frameworks.

ARTICLE INFO

Article history:

Received 25 November 2013

Received in revised form

30 January 2014

Accepted 2 February 2014

Available online 25 February 2014

Keywords:

Energy efficiency

Energy regions

e5 program

Environmental awareness

ABSTRACT

In this paper we analyze the effect of regional and municipal measures for promoting energy transition on citizen attitudes and behavior. We compare one township that has successfully implemented a comprehensive and systematic energy-saving program (the so-called e5 program) with a township without such a program. The results indicate that despite the program's ambitious aims, e5 implementation has almost no impact on citizen attitudes and behavior. In fact, there are some signs that it might even have slight negative side effects.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

The need to reduce emissions and increase energy efficiency has been voiced repeatedly at several political levels, e.g. on the international and European level, and also on the level of (federal) states, regions and municipalities. More and more communities are engaging in decentralized energy production (Brudermann et al., 2013; Rogers et al., 2008) or striving for energy autarky (Schmidt et al., 2012). Some communities also form regional alliances or set up public initiatives with a view towards raising energy efficiency and promoting greater climate friendliness.

An increasing number of regions in Austria have also become engaged in such initiatives. These initiatives normally emerge

bottom-up and are often initiated by local agents/politicians who believe in establishing or supporting a transformation process towards a more sustainable energy future. Subsequent diffusion of such programs to other regions is also quite frequent (Späth and Rohrer, 2010). The common elements of such initiatives are the development of energy strategies and visions, citizen participation, engagement in respective national and international projects, and measures aiming at constraining energy consumption, e.g. subsidization of building refurbishment and loft insulation.

The ‘e5 program for energy efficient municipalities’ represents one such initiative. Originally a local, bottom-up development, it was subsequently adopted by the ministry for the environment. One goal of the ‘e5 program’ is to set up the so-called ‘energy regions’. The underlying idea is to strategically promote energy transition by means of mobilizing social actors and coordinating the actions of dispersed agents (Späth and Rohrer, 2010). The e5 program comprises six fields of action and 84 measures. These are designed, on the one hand, to support relevant infrastructure and technologies, and on the other hand, to raise public awareness, promote knowledge transfer and

* Corresponding author. Tel.: +43 316 380 7336.

E-mail addresses: Stefanie.Hatzl@uni-graz.at (S. Hatzl),
Thomas.Brudermann@uni-graz.at (T. Brudermann),
Kathrin.Reinsberger@uni-graz.at (K. Reinsberger),
Alfred.Posch@uni-graz.at (A. Posch).

Table 1
Socio-economic makeup of the compared towns and samples.

Characteristics	Town A	Town B
Population (2013 data)		
Total	8.920	8.109
Men	4.249	3.832
Female	4.671	4.277
Age structure (2009 data)		
0–15 years	12.2%	14.3%
15–29 years	18.9%	17.1%
30–49 years	28.7%	31.4%
50–64 years	18.8%	18.7%
65–84 years	17.7%	15.8%
> 85 years	3.6%	2.7%
Labor force (2011 data)		
Labor force participation rate	51.9%	50.6%
Unemployment rate	4.3%	5.5%
Retirees	25.0%	24.8%
Labor force per economic sector (2011 data)		
Primary sector	0.6%	2.2%
Secondary sector	37.0%	32.8%
Tertiary sector	62.4%	65.1%
Highest educational achievement of citizens (aged > 14, 2011 data)		
Primary school	26.2%	27.7%
Apprenticeship/Training	35.9%	34.9%
Vocational school/college	13.9%	14.1%
High School	5.0%	4.5%
Higher vocational school/college	9.6%	8.6%
Post-secondary	2.3%	2.6%
University	7.1%	7.6%
Surveyed sample (2012)		
Number of respondents	98	61
Mean age	40.34	40.82
Mean household size	3.97	3.87
Mean number of cars in household	1.69	1.70

Data sources: Statistics Austria and Federal Statistics Department Styria ('Landesstatistik Steiermark').

induce appropriate changes in behavior. The six fields of action include (1) regional development planning and spatial planning, (2) municipal buildings and facilities, (3) maintenance and disposal, (4) mobility, (5) internal organization, and (6) communication and cooperation. The program also provides support for the consistent and continuous implementation of energy efficiency measures. To name a few concrete examples, measures involve consumption-based district heating, departure from quantity discounts in water tariffs, information/awareness raising campaigns and events, cooperation initiatives and dialogs between business and schools in the field of energy, different forms of mobility management (e.g. speed reductions, carpooling, park and ride concepts), and promotion of soft mobility (e.g. 'cyclist of the month' award, improvement and expansion of cycle paths, bicycle training in schools, etc.). Furthermore, energy checks and insulation are actively promoted, and citizens receive financial support for activities undertaken to reduce their energy footprint (e.g. through loft insulation, purchase of PV modules, or use of public transport).

The e5 program also includes a certification framework. The participating municipalities are rated on a 5-point scale; the highest rating ('5e') is awarded where 75% of the suggested measures are implemented; the second-best rating ('4e') is awarded where at least 62% of the measures are implemented, and so on.¹

While in most cases such a systematic framework does improve the overall energy efficiency of a participating municipality, the effect on the citizens is not yet clear. The research question we want to address is: Do the aims of this program get through to the citizens in the respective regions? To what extent does the program affect their attitudes? And even more important,

does it affect the energy-related behavior of citizens at the end of the day?

The aim of this short communication is to investigate the potential of the objectives stated in the e5 program on the basis of a comparative case study. We compare citizen attitudes and behavior in two small, comparable townships in Styria/Austria, and place the focus on the parents of schoolchildren. Both townships are regional capitals with 8000–9000 inhabitants. One of the townships (Town A) heavily engages in energy efficiency measures and is part of the e5 program, and has a rating of '4e'. Town A, in fact, is the best-rated town in the province of Styria. The other township (Town B) places no specific focus on changing energy-related behavior, and it is not a part of the e5 program. We investigated whether and how citizen attitudes and behavior across the two towns differ.

2. Methods and case

The study was conducted among parents of school children at three schools in each town (elementary school, secondary school, and grammar school) in December 2012. Families are important catalysts for policy intervention strategies (Vaughan et al., 2003), and therefore parents' reactions to intervention strategies are of particular interest. The questionnaires were handed out and collected during a school parents' evening. Respondents were asked to complete a standardized questionnaire carefully while waiting for individual meetings with teachers; anonymity and confidentiality were guaranteed. In total, 159 people participated in the survey, 98 from Town A and 61 from Town B.² The gender distribution was similar in both subsamples and

¹ For details, see www.e5-gemeinden.at/index.php?id=20 (website in German, accessed November 16, 2013).

² In both subsamples, 22 respondents did not directly live in the town, but in near-by communities.

Download English Version:

<https://daneshyari.com/en/article/992919>

Download Persian Version:

<https://daneshyari.com/article/992919>

[Daneshyari.com](https://daneshyari.com)