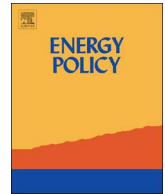




Contents lists available at ScienceDirect

Energy Policy

journal homepage: www.elsevier.com/locate/enpol

Exploring participatory energy budgeting as a policy instrument to foster energy justice

Andrea Capaccioli*, Giacomo Poderi¹, Mela Bettega, Vincenzo D'Andrea

Department of Information Engineering and Computer Science, University of Trento, Via Sommarive 9, 38123 Trento, Italy

ARTICLE INFO

Keywords:

Community energy
Energy justice
Time of use signal
Participatory energy budgeting

ABSTRACT

The ethical and sustainable production and consumption of energy are becoming increasingly important with the ongoing transformation and decentralization of the energy system. For other kinds of goods and commodities ethical consumption have direct implications for, and the participation of, informed citizens. Due to its intangibility, energy lacks the same levels of reflection and intervention by citizens and those aspects are yet to be fully explored in practice.

This paper contributes to the understanding of how energy justice might be approached. We reflect on an empirical experience of participatory energy budgeting, a process aimed at determining how to redistribute a share of energy linked to collective virtuous consumption behaviors.

We analyze through a qualitative thematic analysis how participants make sense of the participatory energy budgeting process and the emerged dynamics within the local communities and how this process can strive to reconfigure the relationship among civil society, the energy sector and politics, in order to remediate injustices. We highlight how the construction-in-practice of energy justice in a local community might be closely linked to issues such as the form of energy governance that allows for the participation of citizens and the accountability of the process, policies and technological limitations.

1. Introduction

Recently, great attention has been given towards the societal impacts and the ethical implications linked to the transformation and decentralization of energy systems, the understanding of which requires the exploration and clarification of the space where the energy transition is taking place (Geerts et al., 2014). In this scenario new challenges emerge for researchers and practitioners that want to mitigate the impact of energy in a more ethical and socially just way (Jenkins et al., 2017). This article contributes to the debate around energy justice by exploring a transparent, participatory and democratic process for the collective management of energy in the case of community energy (Walker and Devine-Wright, 2008). The connections between sustainable energy transition and social justice are consolidating as a relevant nexus to be studied and understood. Initially rooted within the field of energy policy and tailored to address energy systems at a macro level, energy justice tries to frame such a nexus by highlighting its distributive, procedural, and recognitional

aspects. In short, it is understood as the pursuit of an “energy system that fairly disseminates both the benefits and costs of energy services, and one that has representative and impartial decision-making” (Sovacool and Dworkin, 2015).

In this paper, we explore the application of participatory energy budgeting (PEB) for the management and allocation of an energy bonus, which is collected through a collective effort to shift demand toward peak generation hours. Concrete contexts of this case are two rural areas where electric energy is produced and distributed by membership-based electric cooperatives, which fully rely on renewable energy sources. The experience took place within the context of CIVIS,² an EU/FP7 project aimed at enhancing energy awareness and to improve energy behaviors via ICTs.

We reflect on the implications of the PEB process within local contexts, and on the dynamics, expectations and attitudes that thereby emerged: how the PEB process can strive to reconfigure the relationship among civil society, energy sector and politics in order to remediate injustices. We highlight how the construction-in-practice

Abbreviations: PB, Participatory budgeting; PEB, Participatory energy budgeting; PV, Photovoltaic; ToU, Time-of-Use

* Corresponding author.

E-mail addresses: andrea.capaccioli@unitn.it (A. Capaccioli), giacomo.poderi@unitn.it, giacomo.poderi@uib.no (G. Poderi), mela.bettega@unitn.it (M. Bettega), vincenzo.dandrea@unitn.it (V. D'Andrea).

¹ University of Bergen, Centre for the Study of the Sciences and the Humanities.

² <http://www.civisproject.eu>

<http://dx.doi.org/10.1016/j.enpol.2017.03.055>

Received 1 November 2016; Received in revised form 20 March 2017; Accepted 25 March 2017

0301-4215/ © 2017 Elsevier Ltd. All rights reserved.

of energy justice in a local community might be closely linked to issues of energy governance such as openness to citizen participation, and the accountability of the process, policies and technological limitations.

In the next section, we provide an overview of energy justice, we then address the frame of participatory budgeting and how this is articulated in the context of a community energy project. Following that, we describe the concrete experience that took place and the overall methodology we used to analyze the collected data. In the analysis and discussion sections, we discuss the four main clusters that emerged and we interpret them in connection with energy justice. Finally, we close by pointing out the interrelated policy implications.

2. Participatory energy budgeting as a means to implement energy justice

2.1. Energy justice

As far back as the 1970s the debate on environmental justice had begun in the USA in connection to the unequal distribution of environmental ills (e.g. pollution, waste treatment facilities), which were often situated closer to marginalized parts of the populations and poorest areas of the town or region (Walker, 2012). The ambitions of environmental justice were led by principles of empowerment, social justice and public health (Davies, 2006). Since then, the concept has widened in scope to encompass both global and local perspectives, and also became of interest in studies on climate change (Dawson, 2010; Schlosberg, 2013).

Energy justice recently emerged as an attempt to focus the attention around the ethical, philosophical and moral aspects of contemporary energy challenges (Sovacool and Dworkin, 2014). Indeed, issues such as energy poverty, energy efficiency, and CO₂ emission reduction have been tackled mainly in technical terms – economic, political, infrastructural and technological (Heffron et al., 2015) – with little considerations for their broader, societal aspects and implications. Initially, energy justice focused on distributional aspects or procedural ones separately. However, the current approach rests on three tenets that are considered as an intertwined whole: *distributional justice*, *procedural justice* and *justice as recognition* (Heffron and McCauley, 2014; Heffron et al., 2015; Jenkins et al., 2016). Distributional justice relates to the physical and spatial dimension of energy and is concerned with the unequal distribution of resources, risks, and responsibilities. Procedural justice calls for transparent, inclusive, non-discriminatory decision-making processes around energy. It stakes a claim for all stakeholders involved or affected by energy decision making to be able to participate in the process and to be effectively listened to. Finally, energy justice is also a matter of explicit recognition. Therefore, it concerns the acknowledgement of inequalities and their fair accounting when devising energy infrastructures or policies.

Conceptually, the lenses of energy justice can support researchers and practitioners in framing contemporary energy challenges. PEB aligns with the views of Jenkins et al. (2016), who, when presenting their research agenda on energy justice, claimed the need for more pronounced “systems” thinking in order to apply their three-pronged approach across the whole energy system: i) mobilize local knowledge to achieve outcomes, ii) greater information disclosure and iii) better institutional representation. Moreover, according to Sovacool and Dworkin (2015) it also supports analysis and decision-making. Indeed, evidences of the importance of an energy justice frame have already been reported in literature. For instance, through a comparative study between Portugal and Belgium, Bartiaux et al. (2016) showed that designing energy policies can be more effective in terms of social diffusion when done by accounting for differences among social classes. Similarly, the perception and recognition of fair and transparent decision making processes greatly increase the acceptance of new energy infrastructures, as was the case for wind farms in Australia (Gross, 2007). Furthermore, Heffron and McCauley (2014) argued that

an energy justice frame at the level of national energy policy can enable the growth of new energy supply chains, as transpired in Denmark in connection to the recent diffusion of wind energy power. From an individual consumer point of view energy poses challenges to the possibility of an ethical consumption, also due to its intangible and invisible form (e.g. the lack of accessible information about where the energy comes from do not allow citizens to make informed choices). As proposed by Hall (2013) reflecting about those aspects open the possibility to move the focus of energy justice from a national and international scale of consumption to other consumption practices and the ethical and moral motivations surrounding consumption.

2.2. Participatory budgeting: between policy instrument and device

Participatory budgeting (PB) aims to promote participation of non-elected citizens in the allocation of a part of the public finances (Sintomer et al., 2008b). Five criteria characterize it: “(1) the financial and/or budgetary dimension must be discussed; participatory budgeting involves dealing with the problem of limited resources; (2) the city level has to be involved, or a (decentralized) district with an elected body and some power over administration (the neighborhood level is not enough); (3) it has to be a repeated process (one meeting or one referendum on financial issues does not constitute an example of participatory budgeting); (4) the process must include some form of public deliberation within the framework of specific meetings/forums (the opening of administrative meetings or classical representative instances to ‘normal’ citizens is not participatory budgeting); (5) some accountability on the output is required” (Sintomer et al., 2008a).

PB was first experimented in the municipality of Porto Alegre at the end of the 1980s. It was a political answer to the rise of social movements protesting against the inequalities within Brazilian society in the late 1970s. After these early experiences, PB was adopted by more than 1500 cities around the world during the last three decades (Baiocchi and Ganuza, 2014; Ganuza and Baiocchi, 2012; Novy and Leubolt, 2005). Several models emerged from its diffusion: some of them are rather similar to the Porto Alegre experience, others diverge considerably; the elements that vary are: who can participate, on the basis of what resources and upon how such resources are deliberated. Ganuza and Baiocchi (2012) provided some examples: in the “Participation of organized interests” model there are associations, NGOs, interest groups participating in the process and they mostly deliberate on political guidelines, rather than on concrete project ideas. Other models (“Proximity participation” and “Consultation on public finances”) diverge considerably from the original and turn PB into a consultation process. Here, participation is carried out via open councils, but participants do not have decision-making capacity and are only able to contribute to the debate. Finally, a trend that has recently emerged in Europe leans on a ‘fund for investments’ which is only loosely linked to the municipal budget and which is devoted to projects in social, environmental and cultural areas. Therefore, the municipality does not have the last word on the use of the fund. In one model (“Public/private negotiation table”), private enterprises raise or put money towards the fund. In the “Community funds at local and city level” model the funds might be provided by specific policy programs or jointly contributed to by private and public bodies. Furthermore, the participants are in charge of the realization of the projects that are proposed for the use of the fund.

Regardless of the specific model, recently there was a transformation that accompanied the evolution of PB (Ganuza and Baiocchi, 2012). Initially and until the late 1990s, it was approached as a policy instrument, a form of democratization from above situated in an existing political strategy, aimed at orientating the relationship between politics, civil society and the state. Later, PB turned more and more into a device, often used in isolation. This latter version implied technical (e.g. calculations, procedures, rules) and social components (e.g. representation, symbols) mixed together to achieve a given

Download English Version:

<https://daneshyari.com/en/article/5106052>

Download Persian Version:

<https://daneshyari.com/article/5106052>

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