



# A multi-scale examination of public discourse on energy sustainability in Italy: Empirical evidence and policy implications



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## ABSTRACT

Transition towards low-carbon societies requires multi-scalar and coordinated actions. It implies top-down and bottom-up processes of translation connecting supra-national regulations and targets, with policies and discourses enacted at the national and local level. However, there is a dearth of research analysing the coordination among different scales. The present paper explores how alternative views associated with energy sustainability are translated, supported or resisted, across different scales. Data were collected at a national, regional and local level in Italy. Political debates and newspaper reports, as well as interviews with key local informants, were analysed. The findings indicate elements of coherence as well as tensions and inconsistencies between discourses on energy sustainability taking place at different scales, corresponding to diverse models of governance and policy scenarios. The results suggest the need for a better coordination between centralised and decentralised energy policies; the need to recognise and address bottom-up inputs and concerns into national/regional strategies; and the need for enhancing participation and public engagement in energy governance.

## 1. Introduction

The energy systems' transitions involve different dimensions interacting and (potentially) co-evolving together: technological, material, socio-cultural, economic, institutional, political (cf. Geels and Schot, 2010; Kemp, 1994; Markard et al., 2012; Smith et al., 2005; Sovacool, 2014). This challenge requires transnational agreements and coordinated policies (Adil and Ko, 2016; Sarrica et al., 2016a), and implies discourses from supra-national institutions to be translated and connected with national, regional, district and local level institutions (Scotti and Minervini, 2016; Späth and Rohrer, 2010). Thus, taking into account multiple actors across multiple scales is essential in designing regulatory responses and setting up governance arrangements (Bulkeley and Moser, 2007; Cash and Moser, 2000; Goldthau, 2014; Wilbanks, 2007).

However, few researchers have focused on this translation process between national energy policies and local experiences, where tensions may become more evident (cf. Blake, 1999; Castro, 2012). Relying on data collected at national, regional and local scale in Italy, the present paper explores how societal discourses on energy sustainability are translated, supported or resisted across levels.

The paper is organised as follows: in the next section, we discuss the implications of alternative views and environmental discourses for

energy systems' transformation towards decentralised models, with a focus on participation, acceptance and knowledge production. The following section introduces the Italian scenario and provides an overview of the literature on top-down interventions, local experiences and community projects for energy sustainability. In the subsequent sections, we present a study conducted in Umbria region and in Narni municipality respectively, comparing the results with findings from national level. Finally, we discuss the policy implications of multi-scale examination.

## 2. From centralised to decentralised energy systems: challenges and opportunities for community action and public engagement

Modernity has been dominated by a centralised paradigm of energy production, transmission and consumption, which is characterised by large-scale infrastructures and long supply chains (Elliott, 2000).

Climate change, energy poverty and energy security urgently require the adoption of an alternative paradigm, based on renewable energy sources (RES) and technologies (RET), and represented by a polycentric governance of distributed energy systems (Goldthau, 2014). This paradigm involves a complex reorganisation of the territories and a careful consideration of the relationship between energy sources and the local scale (Brondi et al., 2014; Kellet, 2007), implementing energy

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saving measures, or identifying specific RES and RET that effectively fit to a given territory (Bagliani et al., 2010; Brandoni and Polonara, 2012).

The local scale is recognised as the primary context in which both active citizens and local institutions can play a leading role in energy and climate policies (DEFRA, 2005; Mulugetta et al., 2010; Seyfang and Smith, 2007). As shareholders in local energy utilities and owners of public buildings and properties, local institutions can act in the market and develop initiatives aimed to reduce greenhouse gas emissions and produce cleaner energy (Comodi et al., 2012; Nilsson and Martensson, 2003). Moreover, as regulatory entities, local institutions can develop codes for building construction or renovation requiring higher energy efficiency standards (Brandoni and Polonara, 2012). Finally, due to their proximity to the citizens, local institutions can organise awareness-raising activities, involve the public in energy decisions, and support community action and projects (Biddau et al., 2016; Bidwell, 2016; Heiskanen et al., 2010; Middlemiss and Parrish, 2010).

One of the major contributions of social science to this debate has been the recognition that discourses on sustainable energy taking place at different levels and scales – i.e. national, regional and local – substantially contribute to shape different views of the public and to define what is expected from citizens in relationship with energy systems. The ways in which these views are constructed largely refer to a set of attitudes and representations based upon an overall *environmental discourse*, in which human-environment relationship is conceived as a part of a wider system of opinions, beliefs and practices (Hajer, 1997; Harré et al., 1999). This is particularly significant in relation to the structuring of different levels of participation and civic engagement on environmental matters (Coenen, 2009; Smith, 2012).

### 2.1. Participation and social acceptance

With the concept of “participation”, we refer to the involvement in planning and decision-making of those involved in, affected by, knowledgeable of, or having relevant experience regarding the issue at stake (Lopolito et al., 2015).

In fact, the acknowledgement of opinions, forms of knowledge, experiences, interests and concerns of different social groups is needed in order to reach the necessary levels of social acceptance and support for energy policies and projects (Batel et al., 2013; Schweizer-Ries, 2008; Steg et al., 2015).

In this vein, Wüstenhagen et al. (2007) defined social acceptance as the combination of three dimensions: socio-political acceptance, namely the acceptance regarding the technology itself and related policy, comprising the perception of public, key stakeholders and policy-makers; community acceptance, referring to specific siting decisions and linked with trust and procedural and distributional justice; market acceptance, that is market adoption of technological innovations, referring to consumers, investors and intra-firm relations.

Participation is considered more and more necessary to achieve the multiple aspects of acceptance in the context of energy. The literature identifies three predominant rationales for public participation: substantive, normative, and instrumental (Fiorino, 1989; Stirling, 2008). Substantive rationale implies that participation improves the quality of decisions and policy design, because it help recognising and incorporating rich situated knowledge of the local area, local dynamics and local contingencies (Fischer, 2000; Haggett, 2011). Normative rationale assumes that involving all the interested parties in decision-making is the right thing to do in democratic systems (Dietz and Stern, 2008). The instrumental rationale means that public participation is undertaken to achieve some specific end, like greater social acceptance, awareness, or trust between actors (Devine-Wright, 2017; Fiorino, 1989). These rationales for public participation, which are often implicit, bear to diverse participatory approaches and can produce tensions and difficulties when supported by organisations holding diverse rationales (Devine-Wright, 2017; Stirling, 2008). Indeed, as it is well-

known since the seminal work of Arnstein (1969), methods and tools of participation are varied, depending on different meanings (and use) of public inputs, the information flow between parties and the significance of that in decision-making (Irwin, 2014; Mannarini, 2011, 2014; Rowe and Frewer, 2000; Wynne, 2014). Engagement procedures range from one-way information provision, where people is informed but not involved in the decision-making process, to two-way consultation, which recognizes an active role to participants, although questions permitted and options presented may be limited and accompanied by an uncertainty of output use in the final decisions (Dietz and Stern, 2008), to participation/deliberation, with experts and non-experts jointly addressing the issue, and where participants are thoroughly and fully involved in decision-making and knowledge production (Reed, 2008; Haggett, 2011). Ideal participation should fit substantive, normative and instrumental rationale to improve the quality of assessment and decisions, enhance their legitimacy, and lead to increased understanding, knowledge and decision-making capacity of the diverse actors involved (Fiorino, 1989; Dietz and Stern, 2008). In this perspective, expertise is not taken as a given, but a capability that can be demanded, contested, provided, developed, and transformed by means of adequate participatory approaches.

### 2.2. Experts and the public in energy decisions

Regarding energy policies, we are witnessing to a paradigm shift from pedagogical models of participation, with ‘science usually speaking truth to politics’, and where communication between experts and non-experts is unidirectional and informative (Wolsink, 2010), to dialogical and deliberative ones, characterised by bilateral communication and partnership in decision-making (CEC, 2002). The result of this shift has been described in terms of tension between professional expertise and democratic governance, between opening up and closing down the debate on planning and policy-making (Batel and Devine-Wright, 2015; Stirling, 2014). In this context, the ability to produce and convey legitimated and credible knowledge is an asset (Cable et al., 2008).

The models of engagement and governance proposed by policy-makers are affected by explicit and implicit views of the public and of the experts in relation to energy and energy systems mirroring their rationale for participation (Bauer, 2014; Maranta et al., 2003). Moreover, these views can be internalised and guide the way actors perceive themselves and their role in society (Barnett et al., 2012; Batel and Devine-Wright, 2015; Burningham et al., 2007; Castro and Mouro, 2016; Cotton and Devine-Wright, 2012).

A deficient view, which considers the public as a homogeneous group of people who lack consciousness (i.e. poorly informed/aware/concerned about energy sustainability) and/or lack agency (i.e. poorly interested in/capable of involvement in energy-related issues) can hinder normative and cultural transition processes (Brondi et al., 2016; Sarrica et al., 2016b).

On the one hand, activists often claim to practice “scientific environmentalism”, building their mobilization and advocacy on scientific evidence, and presenting alternative solutions that are based on counter-expertise grounded on certified competence and scientific discourse (Yearley, 2005). Expert-analytic approaches are accused of being politicised in the way they are constrained by political choice and needs, and susceptible to influence by incumbent interests and powerful socio-political actors (Pellizzoni, 2011; Stirling, 2008). Expert advice is in this context a commodity to be sold and bought (Maasen and Weingart, 2005), and as documented by Pellizzoni (2011) in Italy, it takes a partisan stance becoming functional in supporting or contesting different positions and interests at stake.

In contrast, inclusive views of the public and participatory forms of governance can be effective in fostering local implementation of energy policies and in promoting cultural changes (Lewenstein, 2003; Magnani and Osti, 2016) and a real “ecological citizenship” (Dobson, 2003; Smith and Pangsapa, 2008). Criticism to this model is often moved

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