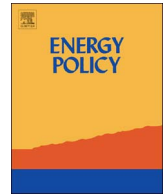




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# Energy justice and controversies: Formal and informal assessment in energy projects<sup>☆</sup>

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## ARTICLE INFO

### Keywords:

Energy justice  
Controversy  
Assessment trajectories  
Overflowing  
Dutch energy projects  
Legitimate decision-making

## ABSTRACT

In this paper we develop a framework for understanding how justice-related claims play a role in the dynamics of controversy in energy projects. We do so by distinguishing two interacting trajectories of assessment: a formal trajectory that is embedded in the legal system and an informal trajectory that is mainly embedded in public discourse. The emergence of an informal assessment trajectory can be seen as a response to a (perceived) lack of attention to particular concerns or values in the formal trajectory, i.e. 'overflowing'. The emerging informal assessment may subsequently lead to adaptations in the formal trajectory, which we refer to as 'backflowing'. Based on insights from case studies on Dutch energy projects and literature on energy justice we identify three justice-related attributes that facilitate understanding of the emergence of controversies. These attributes are based on differences between the two trajectories in terms of 1) the way in which values are expressed, 2) the dimension of energy justice that is taken as a starting point, and 3) the democratic legitimization of assessment trajectories. In order to allow for legitimate and effective energy policy, overflowing and backflowing need to be addressed as interrelated rather than as separate processes.

## 1. Introduction

Systems for the production, distribution and consumption of energy are subject to technological and institutional change. This is considered necessary, firstly, to avoid global warming by reducing the emission of CO<sub>2</sub> by the current fossil fuel-based energy system and, secondly, to anticipate the foreseen depletion of non-renewable resources and growing energy demands. For at least two reasons such changes come with moral repercussions. Firstly, sociotechnical systems embody public and social values and any change may affect these values (Correljé et al., 2015; Taebi et al., 2014). Secondly, changes in energy systems may affect different groups of people to a different extent and bring about a redistribution of risks, rights and responsibilities. When changes to energy systems are proposed there is often the tendency to instrumentally focus on its *social acceptance*, while the ethical implications of such change remain generally unexplored (Taebi, 2016). We argue that many recurrent controversies are a consequence of ignoring or underestimating these moral implications in the planning and development of energy projects, which especially seem to relate to the fact that different project-owners and affected publics articulate divergent *justice claims* (Gross, 2007; Simcock, 2016). In this paper, we develop an empirically grounded framework to under-

stand how these justice claims play a role in the emergence of controversies.

We will examine these justice claims within the framework of *energy justice*, which is a fairly new concept that has its roots in *environmental justice* (McCauley et al., 2013). Environmental justice emerged in the 1970s and focussed on the consequences of environmental degradation and measures to resolve such degradation from a social justice point of view (Dobson, 1998). More specifically, the issue of equal environmental protection and the discriminatory, hence, *unjust* imposition of environmental hazards on communities of colour and on low-income communities are recurring themes in the environmental justice literature (Pastor et al., 2001; Walker, 2009). But the literature also looks at the process of decision-making and "attempts to uncover the underlying assumptions that may influence environmental decision-making" (Bullard, 1994). As Schlosberg puts it, environmental justice should "also address the processes that *construct* the maldistribution [and] focus on individual and social recognition as elements of attaining justice" (Schlosberg, 2009: 3; emphasis in original). This broad understanding of justice – together with more recent discussions on climate justice (e.g. Page, 2007; Posner and Weisbach, 2010; Vanderheiden, 2008) – has led to the tripartite model as furthered in the energy justice literature, that incorporates justice as *distribution*,

<sup>☆</sup> This article is part of a Virtual Special Issue entitled 'Exploring the Energy Justice Nexus'.

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<http://dx.doi.org/10.1016/j.enpol.2017.06.040>

Received 18 November 2016; Received in revised form 15 June 2017; Accepted 17 June 2017

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procedure and recognition (Jenkins et al., 2016; McCauley et al., 2013; Sovacool and Dworkin, 2014). So, while energy justice “shares the same basic philosophy” as environmental justice, as McCauley et al. (2013; 107) argue, it is different in that its focus is “firmly on energy policy and the key themes of energy systems”. In this paper, we use the tripartite model of energy justice for our discussions on the justice claims in energy controversies. This is not the only way to research the role of justice in energy controversies but the energy justice model provides us with – as Sovacool and Dworkin (2014; 20) put it – “an appropriate orientation for considering, balancing and prioritizing various justice claims that arise in energy patterns and decisions”.

It is the aim of this paper to describe how perceptions of (in)justice play a role in controversies on new energy projects. It has been reported in literature that perceptions such as an unfair identification and distribution of risks and benefits, an unfair division of responsibilities and accountability, the perceived lack of legitimacy of decisions, and the feeling of not being taken seriously drive protests against new projects (see e.g. Bullard, 1996; Gross, 2007; Simcock, 2016; Toke et al., 2008; Van der Horst, 2007; Wolsink, 2013). We will explore how such justice claims relate to the social dynamics, which include the mobilisation of new societal groups, of such controversies, upon the basis of two controversies in the Dutch energy system. Findings from these cases will be used to develop a framework that shows the underlying motivations for these claims as well as the social dynamics that are related to these.

The framework developed in this paper builds upon the notion of ‘overflowing’ as introduced by Callon (1998b) (also see Callon and Rabeharisoa, 2008). Overflowing occurs when societal concerns emerge that are not (perceived to be) sufficiently covered in the prevailing sets of rules that are part of dominant institutional practices. These rule-sets figure as ‘frames’ that provide alignment between a heterogeneous set of actors and indicate courses of actions that are considered appropriate, thus allowing for the coordination of their conduct in particular settings (Callon, 1998a). Frames will, by definition, exclude certain concerns to be taken into consideration. In new projects, or settings, or by new experiences, such concerns may be adopted by actor groups that will challenge both the prevailing frame and the actors that reproduce it. The core assumption of this paper is that this adoption is to a significant extent motivated by the injustices perceived by societal actors, which can lead to the mobilisation of groups that oppose intended projects.

We will expand on the notion of overflowing by introducing a perspective that distinguishes two trajectories of assessment in decision-making on energy projects; each trajectory being characterised by specific patterns of social behaviour and based on distinctive moral and ideological starting points. There is the *trajectory of formal assessment* in which a repertoire of (legal) procedures, standards, tools, and policy arrangements is used to establish a collective value appraisal of the new technology or a project. Overflowing, however, gives rise to an *informal trajectory* of assessment in which alternative value claims are presented. This informal trajectory is characterised by advocacy for public values that some actors consider to be underrepresented (or sometimes even missing) in the formal assessment trajectory. The informal trajectory materialises in the formation of new advocacy groups and media debates, all articulating new, or changes in public discourses (see e.g. Cuppen et al., 2016).

In public controversies, the formal and informal trajectory strongly interact. As the notion of overflowing implies, the formal assessment trajectory may ‘flow over’ and can give rise to the advocacy for new issues in the informal assessment trajectory, such advocacy. The informal trajectory can also result in changes or adaptations in the formal trajectory (e.g. the decision to include new issues in an environmental impact assessment). We refer to the latter as ‘backflowing’. It is this dynamic cycle of interactions between the formal and informal trajectories of assessment that we want to understand better (see Fig. 1).

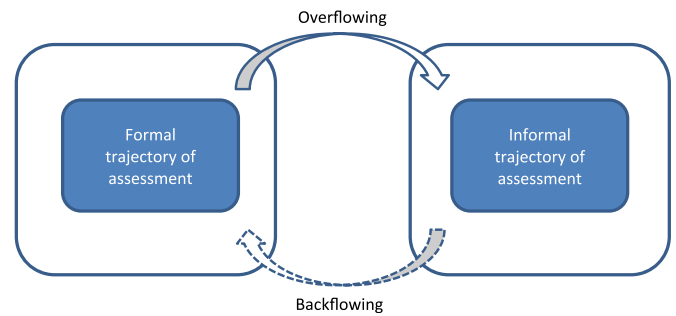


Fig. 1. Overflowing and backflowing in formal and informal trajectories of assessment.

Each of the two assessment trajectories recruits a different way to express, rank and legitimise justice claims. This observation is key for understanding the interaction between the formal and informal assessment trajectory. In other words, in order to understand controversies and their dynamics, it is essential to elaborate the *justice-related attributes* of the two trajectories. We will identify these attributes based on empirical studies conducted by us on energy controversies in the Netherlands. The attributes will be derived from the notion of energy justice that includes justice as distribution, procedure and recognition. We will illustrate this on the basis of empirical studies conducted by us on energy controversies in the Netherlands that will be presented in the following section. Section 3 will then continue with the analysis of over- and backflowing in these cases, on the basis of which we will identify the justice-related attributes of the formal and informal assessment trajectories in Section 4. This will result in the framework for understanding the role that justice-related claims play in the emergence of controversy in decision-making on energy projects. Section 5 will conclude on the analysis and discuss the implications for policymaking.

## 2. Cases and method

The two studied cases are: 1) the project of storing captured CO<sub>2</sub> in an empty gas field under the town of Barendrecht in the West of the Netherlands and 2) the exploration of shale gas in the towns of Boxtel and Haaren in the South of the Netherlands. These cases provide insight in the typical Dutch context and the energy system in which natural gas plays a very important role. In Barendrecht, CO<sub>2</sub> captured at the petrochemical industry nearby Rotterdam was to be injected in an empty gas field; shale gas was reckoned to be a potential alternative for conventional natural gas, compensating declining indigenous gas availability. These controversies are strongly influenced by the given national and cultural context, which involves a prevalent set of institutions and values (see Correljé, 2018).<sup>1</sup> Moreover, they have led to adjustments in national policy arrangements (as will be discussed in Section 3.3). As such, an examination of these cases allows us to learn how formal and informal trajectories interact and influence each other; i.e. the processes of overflowing and backflowing. More specifically, they allow us to understand how existing legal and regulatory contexts not only enable but also *challenge* energy justice.

This paper is a result of reflections on and ongoing collaborations between the authors in several research projects on controversial energy technologies. For the case of carbon capture and storage (CCS) in Barendrecht we draw upon Cuppen et al. (2015) and Feenstra (2012); for the case on shale gas exploration in Boxtel we draw upon Dignum et al. (2016) and Cuppen et al. (2016). Both case studies were focused on understanding the process of controversy, i.e. how it came about and why it developed as it did. The two studies took

<sup>1</sup> Correljé, 2018. The Netherlands: Resource Management and Civil Society in the Natural Gas Sector, in: Overland, I. (Ed.), Public Brainpower: Civil Society and Natural Resource Management. Pallgrave/Macmillan.

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