Energy Policy 69 (2014) 326–333

Contents lists available at ScienceDirect

Energy Policy

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

Ethical and legal challenges in bioenergy governance: Coping with value disagreement and regulatory complexity

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HIGHLIGHTS

- Ethical and legal challenges in governance of liquid biofuels and wood pellets.
- EU sustainability criteria legal and ethical analysis—EU bioenergy policy options.
- Analysis of interplay between carbon and non-carbon concerns and regulatory options.
- Governance must cope with value disagreement and regulatory complexity.

ARTICLE INFO

Article history:
Received 8 October 2013
Received in revised form
6 February 2014
Accepted 10 February 2014
Available online 28 February 2014

Keywords:
Biomass
Ethics
EU
Law
Regulation
Sustainability

ABSTRACT

The article focuses on the interplay between two factors giving rise to friction in bioenergy governance: profound *value disagreements* (e.g. the prioritizing of carbon concerns like worries over GHG emissions savings over non-carbon related concerns) and *regulatory complexity* (in terms of regulatory measures and options). We present ethical and legal analyses of the current stalemate on bioenergy governance in the EU using two illustrative cases: liquid biofuels for transport and solid biomass-based bioenergy. The two cases disclose some similarities between these two factors, but the remaining differences may partly explain, or justify, contrasting forms of governance. While there seems to be no easy way in which the EU and national governments can deal with the multiple sustainability issues raised by bioenergy, it is argued that failure to deal explicitly with the underlying value disagreements, or to make apparent the regulatory complexity, clouds the issue of how to move forward with governance of bioenergy. We suggest that governance should be shaped with greater focus on the role of value disagreements and regulatory complexity. There is a need for more openness and transparency about such factors, and about the inherent trade-offs in bioenergy governance.

1. Introduction

Bioenergy, especially its sustainability, is the subject of intense political, public and academic debate across Europe (Mohr and Raman, 2013).[1] successful delivery of bioenergy will require good governance: the sector needs to be steered and regulated in a way that maximizes claimed benefits, such as climate change mitigation, and minimizes any negative impacts, including unconstructive competition with food production, and all this must be done in an efficient, fair and transparent manner (Swinbank and Daugbjerg, 2013). But is this wishful thinking? And what role do value disagreement and regulatory complexity have in attempts to ensure that we have a sustainable energy system?

As a general concept, governance can be defined as the steering of social systems by state and non-state actors. This may involve the imposition of a variety of regulatory instruments by the state as well as new modes of governance (Kjaer, 2004). From an ethical and legal perspective it is argued in this paper that two key issues should be considered carefully in any effort to improve bioenergy governance. The first is that there may be disagreement about what values and concerns are at stake in bioenergy. Some concerns can be viewed as drivers of bioenergy development (e.g. anxieties about climate mitigation and energy security), whereas others relate to potentially negative side-effects like threats to biodiversity and global food security (Thompson and Meyer, 2013). These potentially conflicting concerns are often lumped together under the single heading of 'sustainability'. This can make it more difficult to see

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[1] Our usage of key terms in this paper follows "An EU Strategy for Biofuels" [COM (2006) 34 final—Official Journal C 67 of 18 March 2006].

http://dx.doi.org/10.1016/j.enpol.2014.02.013
0301-4215

how the underlying values are to be balanced, and may also lead to conflict over the goals of governance. Again, on occasion, people and groups with differing values may emphasize rather different scientific findings (Marelli, 2013).[2]

Second, today's problems in bioenergy governance are compounded by a highly complex legal and regulatory framework which involves different regulatory levels (international, EU, national), different regulatory regimes (e.g. climate, environment and trade regimes) as well as different regulatory or perhaps non-regulatory measures (e.g. direct vs. indirect regulation, state vs. private regulation). The main purpose of the present paper is to examine the extent to which this mix of value disagreement and legal complexity shapes the approach to bioenergy governance; we also wish to highlight how very important it is to acknowledge the relevant issues and the inherent trade-offs in the search for better governance.

We claim that as long as there is disagreement over what the critical issues are – in relation to deciding how to achieve a higher degree of sustainability, and indeed what sustainability actually is – it will remain difficult to separate 'good' from 'bad' bioenergy, and consequently there will be no easy way to separate the 'right' method of steering from the 'wrong'. However, we also claim that under such circumstances what any kind of bioenergy governance solution could, and should, strive towards, is greater openness about the underlying values and trade-offs in regulation. Often regulators will be faced with a classic 'wicked problem' (Thompson, 2010). That is, they will be dealing with a situation which lacks clear problem definition, creates potential conflict between stakeholders over what counts as a 'solution', spans a large number of subject matters, and involves value-based issues (Rittel and Webber, 1973). It may even be a problem, or situation, which is transforming law and governance (Ross, 2010). When the different concerns are not dealt with in a balanced and transparent manner, bioenergy has the potential to turn into a threat instead of becoming the hoped-for vehicle of green development.

The paper is structured as follows. We begin by sketching the conceptual framework we shall employ: the interplay between governance, ethics and law, including the way values as well as regulatory questions of who should regulate, at what level, and how, may be seen as influencing the approach to governance. Second, two cases of bioenergy – bioethanol, representing liquid biofuels, and wood pellets, as an example of bioenergy based on solid biomass – are presented. In both of these cases, problems appear to hamper efforts to govern sustainably, and there are noticeable differences in governance within the EU. A comparative ethical and legal analysis of the two cases is carried out. The paper critically discusses the ways in which the two types of bioenergy governance play out in relation to carbon-related and non-carbon related concerns and in terms of regulatory approach. Recognizing that there is no easy way of dealing with bioenergy governance, we make suggestions as to how to address the ethical and legal challenges in bioenergy governance. A key message is that it is essential to be aware of, and open about, the regulatory complexity and profound value disagreements involved.

2. Conceptual framework: The interplay of governance, ethics and law in governance

The interplay between governance, ethics and law takes many forms—and of course we must note that other issues, notably economics and politics, affect governance. To us, it seems fair to assume that values mediated by public perception are indeed main drivers of policy and governance, and that public perceptions of bioenergy are highly dependent on the way scientific findings and ethical debates are received (Cacciatore et al., 2012). At the same time the legal and institutional framework places constraints on, and provides opportunities for, different approaches to governance; and in itself it may also cause new controversies and value debates.

For the purpose of this article the term 'governance' is used in a broad sense to cover a continuum of activities ranging from the traditional state-based *law* (i.e. legislation and the common law as interpreted by the courts), to *regulation* (still requiring the state as a central player, but including also broader, more flexible forms of social control over governments, markets, businesses and third parties), to *new modes of governance* (where the state is not privileged, and power and responsibility are diffused) (Gunningham, 2009). However, it should be acknowledged that there is not always a clear distinction between the different elements involved in governance. Generally, what emerges is a complex mix of governance patterns (Armstrong, 2011), and rather than being "radically new or different, in practice new governance comes together with old" (Layard, 2010). In relation to bioenergy it has been argued that "… authority over policy decisions and associated regulatory rule-making is dispersed among many different actors operating at different levels … [thus the] biofuel sector is a textbook example of multi-level governance in operation" (De Beer and Smyth, 2012: 132–133). It might even be accurate to say it is an example of "experimentalist governance" (Sabel and Zeitlin, 2012).

Until recently relatively little explicit attention has been given to the normative dimension of discussions of bioenergy governance. Early political handling – or governance – of bioenergy focused on finding answers to some of the most important energy challenges; it was preoccupied with ways to improve energy security and reduce our dependence on fossil fuels like oil and coal. Today, the production and use of bioenergy finds itself in a difficult position: it has been promoted as part of a sustainable energy future, and yet first-generation liquid biofuels, at any rate, appear to give rise to one of the major controversies associated with climate change within the agricultural and environmental sectors (Hansen, 2013). In more detail, first-generation fuels are now heavily criticized on the grounds that they promote food shortages and promote deforestation in developing countries, thereby indirectly contributing to greenhouse gas emissions (Havlik et al., 2011).[3] The public discourse in which these biofuels are discussed is somewhat akin to previous debates about the industrialization of agriculture (Thompson, 2012) and the GMO debate of the late 1990s (Mol, 2007).

The bioenergy debate – and related governance issues – may seem to hinge on the resolution of factual disagreements such as whether or not, in actual fact, biofuels do promote food shortage. Here, if there is an accepted authority or scientific consensus on the evidence such issues ought to be capable of being settled—yet clearly they are often not so capable. However, there are also arguments in the bioenergy debate that appeal to values, by which we mean fundamental criteria of evaluation, such as the reduction of poverty, the protection of nature and the promotion of autonomy. And since these criteria may come into conflict there may be room for disagreements: an example would be disagreement over the conversion of natural forests into energy plantations, where concerns about nature protection are at risk of coming in conflict

[2] It includes what could be seen as contested 'facts' (Pehnelt and Vietze, 2012; Ekardt and von Bredow, 2012). We do not address the issue of how scientific uncertainty may *directly* affect bioenergy governance (e.g. see Di Lucia (2012)).

[3] Second-generation cellulosic ethanol is seen by some as preferable, in part because it is (only) indirectly in competition with other uses of the land (Buyx and Tait, 2011).