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Fuelling expectations: A policy-promise lock-in of UK biofuel policy

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HIGHLIGHTS

- Controversy over EU-wide biofuel policy resonated within the UK.
- At issue was how to stimulate future 2nd-generation biofuels.
- The government defended targets for 1st-generation as necessary to stimulate industry.
- Parliamentary Committees opposed biofuel targets as locking in 1st-generation.
- The UK government's stance illustrates a 'policy-promise lock-in'.

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ABSTRACT

Controversy over EU-wide biofuel policy resonated within the UK, fuelling policy disagreements among UK public authorities. They disagreed over how to protect a space for future second-generation biofuels, which were expected to overcome harm from first-generation biofuels. The UK government defended rising targets for available biofuels as a necessary stimulus for industry to help fulfil the UK's EU obligations and eventually develop second-generation biofuels. By contrast, Parliamentary Select Committees opposed biofuel targets on grounds that these would instead lock-in first-generation biofuels, thus delaying or pre-empting second-generation biofuels. Those disagreements can be explained by different institutional responsibilities and reputational stakes towards 'promise-requirement cycles', whereby techno-optimistic promises generate future requirements for the actors involved. The UK government's stance illustrates a 'policy-promise lock-in', a dilemma whereby promised support is a requirement for credibility towards technology innovators and thus technoscientific development – but may delay the redirection of support from incumbent to preferable emerging technologies. Thus the sociology of expectations – previously applied to technological expectations from technology innovators – can be extended to analyse public authorities.

1. Introduction

In 2003 the European Commission issued the first EU Biofuels Directive, initiating an EU-wide biofuel policy (EU, 2003). The Directive set non-binding "reference" targets through 2010, requiring increasing proportions of all diesel and petrol sold in Member States to be biofuels. By 2003 biofuels were promoted as means to mitigate climate change, enhance fuel security in road transport and foster the rural economy. Abiding by its EU commitments, in 2005, the UK government announced the future implementation of the Renewable Transport Fuel Obligation (RTFO), whose mandatory targets started incentivising biofuel production from 2008 onwards. Explicitly "cautious" in its support to available biofuels, the UK government set RTFO targets lower than those demanded by the EU and by the new-born UK biofuel industry.

During 2006–08 an international controversy erupted on whether biofuel expansion would enhance environmental and socio-economic sustainability, given biofuels' dependence on unsustainable biomass feedstock. Despite the controversy, the EU set a higher "binding" target for "renewable" transport fuels by 2020 (EU, 2009red), amidst expectations that these would be mainly biofuels in practice.

Facing tensions between its EU obligations, its dependence on the biofuel industry and prominent critics of biofuel targets, the UK government resisted calls for a policy moratorium by encouraging three related expectations. First, future 'advanced' or 'second-generation' biofuels would eventually use non-food biomass, thus overcoming the environmental and socio-economic problems of

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currently available 'conventional' or 'first-generation' biofuels. Second, future sustainability standards would soon ensure and certify biofuels' sustainability. Third, current biofuel targets would stimulate UK industry to eventually develop second-generation biofuels. The latter expectation was shared by the European Commission and the biofuel industry but was strongly rejected by two Select Committees of the UK Parliament – the Environmental, Food and Rural Affairs Committee, and the Environmental Audit Committee. Despite its previous commitments to the EU and industry, the UK government eventually slowed down UK biofuel targets in 2009, thus accommodating biofuel critics. The UK's slow-down prefigured the European Commission's 2012 proposal to limit the inclusion of first-generation biofuels to half of the 2020's target (EC, 2012).

This paper looks at how the EU-wide biofuel controversy resonated within the UK, especially through policy disagreements among UK public authorities. The paper addresses the following questions:

In shaping UK biofuel policy, what were the different accounts and policy roles of expectations for future technology?

How do such expectations help to explain UK biofuel policy, its tensions and shifts?

Uncontroversial per se, technological expectations were differently deployed for divergent stances towards UK biofuel policy. We argue that these distinctive deployments relate to different institutional responsibilities towards 'promise-requirement cycles', whereby techno-optimistic promises generate future requirements for the actors involved (van Lente, 2000). In particular, the UK government's stance relates to a dilemma that we call a 'policy-promise lock-in', a concept which has broader relevance.

The paper has the following structure. Section 2 introduces analytical perspectives, especially the 'sociology of expectations' framework, reputational stakes of public authorities, and our research methods. Sections 3–6 present the UK biofuel debate among UK public authorities. Section 7 relates our findings to previous literature. Section 8 interprets our findings as a 'policy-promise lock-in'.

2. Analytical perspectives and methods

To address the above questions, the paper elaborates concepts from the sociology of expectations and from previous analyses of UK biofuel policy, especially regarding reputational stakes, as outlined in this section.

2.1. Technological expectations: promise-requirement cycles

The sociology of expectations has been applied mainly to analyse expectations from technology innovators. Such factors include scientists and industrialists, especially "innovation players whose hopes and efforts are invested in the success of new technologies" (Pollock and Williams, 2010: 2). With some adaptations, the literature also offers insights for analysing how public authorities strategically use technological expectations, as this section explains.

As "real-time representations of future technological situations and capabilities" (Borup et al., 2006: 286), technological expectations can be viewed as resources strategically "used to do things" (van Lente, 1993: 185). More than simply cognitive, "expectations can be understood as performative" (Borup et al., 2006: 286). Performativity refers to expectations' power in fostering cooperation and providing direction for decision-making, thus potentially shaping or facilitating future technological developments (Borup et al., 2006; Brown et al., 2003; van Lente, 1993; van Lente, 2000).

More than simply describing future realities, expectations "guide activities, provide structure and legitimation, attract interest and foster investment. They give definition of roles, clarify duties, offer some shared shape of what to expect and how to prepare for opportunities and risks" (Borup et al., 2006: 286). They play a central role in mobilising resources at the macro level, "for example in national policy through regulation and research patronage" (Borup et al., 2006: 286). Related terms such as technological "promises" and "visions" emphasise their enacting, performative character: "expectations are wishful enactments of a desired future" (Borup et al., 2006: 286), i.e. actions meant to realise such a future.

When widely shared, expectations can become a "depersonalized social construction" not attributable to specific individuals or groups of actors, and "part of a generalised and taken-for-granted social repertoire" (Konrad, 2006: 431). For instance, "technologies presented as the next generation… are self-justifying because the notion of next generation is widely accepted" (van Lente and Rip, 1998: 222–223). Whenever they become societal assumptions or 'collective', such expectations can even guide or justify the actions of those who do not necessarily share them. Expectations always depend on a "process of continuous exchange of expectations", where "individual or collective actors influence collective expectations, [and]… are themselves subject to the influence of collective expectations" (Konrad, 2006: 431–432).

Expectations contain descriptions of future roles "for the self, others and artefacts" (van Lente, 1993: 195). Expectations entail a promise to fulfil those roles. Seen as promises on future commitments, shared expectations can turn into requirements for the actors enunciating or endorsing them, and so generate 'promise-requirement cycles' (van Lente, 1993: 191–193). "Behind the promise-requirement cycles lies the dynamic of expectations: as soon as expectations are shared, they assume a life of their own… they create a pattern into which the actors themselves may be locked" (van Lente and Rip, 1998: 217). Technology innovators become required to demonstrate progress towards fulfilling their techno-promises, while other actors who endorse them become required to provide support.

Besides providing political-financial support to technological innovators, "governments" and "others" play an essential role in converting promises into requirements. Such conversion crucially depends on their assessments, endorsement and support of technologists' promises (van Lente, 1993: 167; van Lente, 2000: 60; van Lente and Rip, 1998: 216). Thus governments and others mainly act as selectors of technological expectations, by contrast to technologists formulating and promoting techno-promises on their own behalf. Other actors can also represent and defend rhetorically the support given to technologists (van Lente, 1993: 160; van Lente, 2000: 54). Such spokespersons might be actors in universities, industries and even "within the government, which becomes more and more involved in technological developments" (van Lente, 1993: 160).

In such ways, expectations potentially legitimise actions, communicate intentions, attract other actors and protect a space for innovations (Geels and Smit, 2000: 882; van Lente, 1993: 185, 196). Aware of such power, actors strategically use expectations to influence other actors' views on technological futures in order to favour their own interests. Promises and diffuse scenarios are used to convince funding organisations to invest money and attract other practitioners to join the development (Geels and Smit, 2000: 881). Technology innovators may exaggerate their promises:

> "…in order to attract attention from (financial) sponsors, to stimulate agenda-setting processes (both technical and political) and to build 'protected spaces'… This performative dimension of future images provides a complementary interpretation