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Opinion

Institutions, discourses and the promotion of renewable energy

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Abstract

The article argues that a more rounded understanding of the factors affecting the promotion and uptake of renewable energy technologies may be obtained by bringing together neo-institutional theory – informed by insights from institutional economics and organisational sociology - and discourse analysis. Such a discourse-institutional view has a number of benefits: (a). Institutionally, it moves analysis beyond the usual if understandable focus on the activities and policies of government; (b). Institutions as norms, professional standards, culture and ingrained habit are given due attention; (c). The language basis of institutions is duly recognised; and (d). Connections among language in text, and in discursive and social practice are acknowledged, as are their role in processes of (non-) institutionalisation. The article summarises the suggested approach, in doing so highlighting its relevance to the diffusion of renewable energy technologies.

The energy system is a source of great difficulty currently due to its propensity to emit significant amounts of greenhouse gases, thus contributing to anthropogenic climate change. In certain countries (such as the UK) this is exacerbated by the inflexibility of the system (e.g. in relation to electricity), which have been built up and maintained over about a century. Thus socio-economic arrangements are enmeshed with the technical characteristics and operation of power plants, distribution infrastructure and appliances at home, work and elsewhere. These produce and reproduce a centralised system in which three energy technologies (gas, coal, and nuclear power) and a few large generators and distributors dominate. At the same time renewable and distributed approaches to energy supply and use, which might require or benefit from the involvement of users or active citizens are available and known to have great potential to contribute to climate change policy objectives (see Box 1 on characteristics of an inherently resilient energy system). There is a disparity between the achievements of countries in realising this potential. In certain nations the proportion of electricity generated from renewable sources is high. Yet in other countries renewables remain marginal and have a long way to go to become mainstream. Why? How may this

be explained? It is argued here that institutional and discourse analysis can be of benefit, if employed in a complementary way. [a]

BOX 1 An inherently resilient energy system

An inherently resilient energy system [1] should include:

- Numerous relatively small elements, geographically dispersed in space,
- Each element should have a low cost of failure (or 'error cost')
- Elements should be flexibly interconnected; each element should be capable of effective operation whether connected with others as part of a larger system or independently
- Components within elements should be easy to understand and maintain, reproducible at a variety of scales, capable of rapid evolution, and societally compatible
- Systems as a whole should produce slow, 'graceful' failures, which are easy to detect and repair

INSTITUTIONAL ECONOMICS AND NEO-INSTITUTIONAL SOCIOLOGY

There are a number of ways in which institutional perspectives might be brought to bear on the question of how to understand impediments to the diffusion of renewable and distributed energy, and also how these may be overcome. Previous related work has distinguished between economic approaches, focusing on the workings of commodity and labour markets, and 'regulating' ones such as science and technology organisations and the state. [2] However, in order to understand the issues and their solution more fully, it is necessary to address normative, cultural and cognitive institutions, and the role of language in giving effect to institutions. The article outlines an approach that could embrace such a range of factors.

Institutional economics

Despite differences in the breadth with which the term is applied, institutions are generally understood as the rules of the game that people devise, which 'reduce uncertainty by providing structure to everyday life'. [3] One of the interesting insights to be gained from texts in economics which deal with institutions concerns the appeals made to phenomena which are in part sociological and psychological, as well as economic. Thus some of the major figures in the economics of institutions, for example Veblen, have understood economic behaviour as resting on habits that have become ingrained. [4] These and other informal constraints have their origins in social interaction, transmitted through culture, which is language based. [3]

Neo-institutional sociology

Within sociology the emergence of the 'new institutionalism' in organisational analysis has helped to identify the regulative, normative and cultural-cognitive elements of institutions that together with related resources and activities confer meaning and stability to social life. [5] These three 'pillars' of institutions are transmitted by various institutional 'carriers' and processes of institutions, and

reinforced by institutional mechanisms such as coercion, obligation or pride, and ingrained beliefs or habits.

Understanding the difficulties experienced with 'mainstreaming' renewable and distributed energy is partly a matter of appreciating the coercive and symbolic aspects of formal, regulative rules such as state legislation, policies and regulations. In relation to promoting and diffusing renewable energy these may reinforce but also potentially conflict with each other. For example, in the UK the Renewables Obligation requires electricity generators to increase the proportion of the electricity they supply that comes from renewable energy. However, the designation of certain controversial technologies as renewable (e.g. bioenergy), or inclusion of others over which their renewable nature is not doubted (e.g. onshore wind) can for opponents symbolise 'bad' policy. In any case the coercive force of law may depend on its legitimacy or on how seriously penalties for infringement are applied or understood to be.

It is necessary to go beyond governmental activities and rules. Thus normative rules – in conjunction with various institutional carriers, mechanisms and processes - have a role to play in promoting innovative development and diffusion of clean energy, but also in the persistence of high carbon and non-renewable energy. This may be connected with professionalism – both in the sense of the (lack of) professionally sanctioned standards and guidelines for practice, as well as implicated in the professional pride felt at firm level and by individual employees working with either incumbent non-renewable or marginal renewable energy technologies. The creation and embedding of new professional practice rules conducive to diffusion of renewable or distributed energy could include standards and guidelines for environmental accounting, supplier certification and (multi-trade) training and accreditation for installers of renewable energy systems. Professional and trade associations and training providers will likely be central features of the carrying relational systems that could potentially articulate, disseminate and embed new rules. The third institutional pillar concerns cultural-cognitive rules. These are inherent in the symbolism attached to artefacts, as well as to interpretations of the seriousness and efficacy of government policies and the actions of other protagonists. For some, onshore wind turbines, for example, carry the promise of a better future based on clean energy, generated locally by active individual (or communities of) citizens. For others such artefacts carry the threat of renewables, for example the blot on the landscape or danger to birds associated in certain quarters with installation of onshore wind power turbines.

Institutional analysis could be strengthened by addressing the role of language in substantiating institutions and institutional processes. This would necessitate an approach transcending discourse as merely linguistics or purposive use of language. Instead analysis is required of texts, practice and the social conditions governing these, which together (re)produce the institutional reality of the diffusion of renewable energy and the broader transition to sustainability. Discursive institutionalism is an emerging perspective that has been called the 'newest' of the 'new institutionalisms' and contrasted with older approaches to rule following which emphasised rational choice of individuals, historical path dependencies or socially appropriate norms. [6] Bringing language to the centre of attention enables the analysis of both the constraining aspects of institutions and the transcendence or transformation of prevailing rules of the game. This recognises language as a regularity in social relations but also as something that humans use creatively to advance new ideas and persuade others of the desirability and feasibility of certain objectives and means for achieving them. This language use is manifest in text; discursive practice; and social practice. [7]

The following section illustrates the application of discursive institutionalism to the promotion of renewable energy in the context of national energy systems. It compares the UK example of limited institutionalisation (less than 5% share of gross final energy consumption in 2012) with that of Germany (12.4% share of gross final energy consumption), in which institutionalisation is partial but widely regarded as more successful (see Table 1 below).

INSTITUTIONS AND THE PROMOTION OF RENEWABLE ENERGY IN GERMANY AND THE UK

To understand the enabling and constraining role of institutions in the promotion and diffusion of renewable energy in specific cases, it is necessary to identify different kinds of institutional rules and text and practice in which their persistence or creation is embedded. Germany is frequently cited as pioneering, and its success has been ascribed partly to formal/regulative rules, such as the early adoption of feed-in tariffs with long term guarantees. Key legislative factors in institutionalisation here were the Electricity Feed-in Act of 1991, the REFIT feed-in tariff mechanism and the Renewable Energy Act of 2001. These Acts have been favourably compared the main UK regulatory mechanism of the 1990s, enshrined in the Net Fossil Fuel Obligation, which was based on tendering. It now appears that UK renewable energy generators made unrealistic bids for NFFO contracts to such a degree that they were unable to actually implement many of the projects envisaged. [8] Another type of formal/regulative rule that warrants discussion concerns planning permission. For example, in relation to onshore wind turbine systems, planning permission has been notoriously controversial in the UK, whilst being noted for its relative ease and consistency in Germany. [9]

In relation to normative rules the relative success of Germany compared with the UK may be understood in terms of the much larger number and work of new entrants into the renewables markets of the former. In Germany, small renewable energy companies have formed effective 'advocacy coalitions' with NGOs and others to lobby for favourable regulatory provisions (for example to R&D and uptake of wind power and solar energy). Moreover they have contributed to institutionalisation by spreading ideas and knowledge relevant to further diffusion of particular renewable energy technologies. For example a German pioneer in solar cell facades devoted substantial resources over a period of about ten years to educating trainee architects in how to design building facades in which solar cells were a component. [9] In comparison such developments at the industry and professional level have been more difficult to achieve in the UK, despite the work of bodies such as the Renewable Energy Association, Renewable UK (previously the British Wind Energy Association) and the UK Solar PV Association. Partly this is due to the highly concentrated structure of the retail electricity market, in which the 'big 6' energy suppliers continue to dominate. Shares by primary energy source and electricity generation mix also provide evidence that smaller, renewable energy suppliers continue to find it hard to establish themselves [10] in what institutionalists call the organisational field. [11]

Beliefs about the continuity and stability of the policy environment are also cited as a factor in increasing the security of investors, an essential ingredient in institutionalisation relating to cultural-cognitive rules which shape investment in renewables R,D&D. [12] The fact that in the late-1980s and early 1990s a large section of German society saw renewable energy as legitimate was conducive to its uptake. This acceptance has been explained in terms of the Chernobyl nuclear accident being still relatively fresh in the minds of German citizens in the late-1980s and the main political parties all committing in 1988 to a resolution of the then West German parliament to spend more on

renewable energy R&D. [9] In contrast to the German case the problems of legitimacy associated with renewable energy in the UK may be identified with the prevalence of sticky or passive customers/citizens. [13] For many UK citizens how electricity is supplied is a remote and unquestioned matter. Further, instant access to power at home, work, or to travel has become an expectation of normal life in a developed country. In tandem with this, much of the mass media in the UK presents renewable energy technologies (particularly wind energy) as ugly, a threat to nature, or unsuitable to the task of 'keeping the lights on' by dint of their intermittency. The message that is conveyed feeds idea of the illegitimacy of renewable energy, thus at the same time thwarting institutionalisation and actually contributing to persistence of unsustainable practices of energy generation and use (which one could think of this as a lack of *deinstitutionalisation* of pervasive high carbon patterns of production and consumption in contemporary UK society).

The role of discourse in institutions and institutional change

The institutionalisation of renewable energy is implicated in language, that is in text, and discursive and social practice. Examples of text have already been mentioned above, such as the acts of parliament in Germany in the 1990s and early 2000s. There are plenty of similar types of text to be found in the UK case. For example there are texts which formalise and set national climate change commitments relevant to renewable energy, such as in acts of parliament (in the UK the Climate Change Act, 2008 and Energy Act, 2011, inter alia) and national policy documents (such as the UK Renewable Energy Strategy). At supra-national levels one can identify text in EU directives and other international treaties and legislation would also be relevant (such as the EU renewable energy directive and the Kyoto climate change treaty). Locally, at sub-national levels, relevant text includes local authority climate change and planning policy documents.

What explains the difference in performance between Germany and the UK are the particular institutional rules produced and reproduced by certain texts and interpretations of them, the discursive and social practice in each case and their implication in actions promoting or hindering uptake of renewable energy. Thus over and above text in legislation, and reports of industry associations and about consumer acceptance of renewables, are 'readings' of the credibility and seriousness of policies promoting renewable energy and of the feasibility and danger of (for example, nuclear and onshore wind) energy technologies). This is connected with discursive practice, the ways in which text is produced and consumed and the strategies employed by participants to justify their actions and points of view. The success (or otherwise) of institutionalising renewable energy in Germany and in the UK may be thought of in terms of competition among different ways of framing related issues (and also cooperation e.g. when environmental friendly storylines are invoked to legitimise economic arguments promoting the role of renewable energy in contributing to realising the green economy). This framing activity is inherent in textual products and processes and may be variously persuasive or coercive, thus either enabling greater legitimacy at the field level (as in the case of Germany), or making it more elusive (as with the UK). [14]

Social practice

Analysis of social practice in this way sheds light on the historical and socio-political context of, in this case, the promotion and institutionalisation of renewable energy. In the UK, for example, the analysis of social practice highlights the implications of an emphasis on the primacy of market relations, as distinct from a focus on non-market relations. [7] UK electricity and environmental policy

have been characterised by a neo-liberal approach which relies upon market instruments and anti-command and control rhetoric whilst paradoxically employing complex, centralised and less effective 'metaregulation'. [15] For Germany the greater progress that has been made with the diffusion of renewable energy has been explained in terms of an 'institutional tradition' inherent within its social market economy, which leans towards providing opportunities for new entrants to challenge the incumbent firms in a market. [15] The development of the German REFIT feed-in tariff approach occurred in the context of widely- (though not universally-) held culturally shared concerns about the common good. These were bound up in the diffusion of a grassroots renewable energy business model and the positive reception accorded to renewable energy technologies by many German citizens. Thus is questioned the notion that the market rather than the state will generate the investment required for infrastructure development, and that government should focus on creating the right framework for enabling this. In relation to the prevalence of other kinds of institutional rules the analysis of social practice points up implications of the primacy of individualism and consumer choice (in the UK) over collectivism and local grassroots activism for the institutionalisation of renewable energy.

To sum up, the article has outlined a discourse-institutional approach for understanding problems associated with the promotion, development and diffusion of renewable energy technology. The article emphasised that institutional change to enable renewable energy technology development and promote distributed energy, but also to disrupt prevailing and longstanding approaches to generating and using heat and power technologies, is more than a matter of devising and implementing the right governmental interventions. The paper argued that various kinds of rules are at stake in the midst of institutional creation, change, defence and maintenance. These do involve formal/regulative rules of the game of the kind with which governments are typically associated (legislation, policy targets, taxation allowances and subsidies). However they also include normative and cultural-cognitive rules, which have their bases in moral obligation, professional pride and standards, shared beliefs and ingrained habits. These pillars of institutions bring into play the role of firms, professional organisations, consumers and NGOs (though of course certain actors more or less influence the shaping of government interventions). The legitimacy of prevailing and new institutions is key. Language and discursive practice are fundamental aspects of the reproduction of prevailing institutions and the creation and embedding of new ones through the conferring of legitimacy on actions, ways of thinking and modes of relating. The article suggests that greater attention needs to be paid to interactions among language, power and persuasion, and institutional change to understand better how desired goals are set, pursued and (count as being) attained. The discursive element of the analysis needs to address the social practice that enshrines and is enshrined in the predispositions of actors and those affected by energy system issues.

Note

[a] The article draws on a paper by the author recently published in an open access journal, and for which the author is the copyright holder. It has the following citation details: Genus A. Governing sustainability: a discourse-institutional approach, Sustainability 2014, 6: 283-305, and is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/3.0/).

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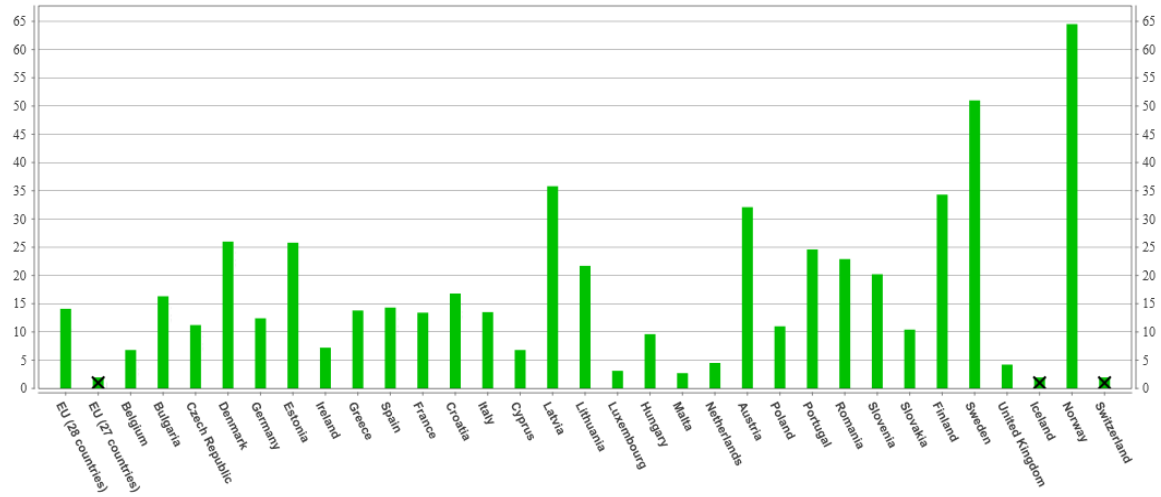
Table 1

Share of renewable energy in gross final energy consumption (%)

(EU28, plus Norway, Iceland and Switzerland, 2012)



Note: data for 2012 is not available for EU 27, Iceland and Switzerland

Source: Eurostat available at: http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=t2020_31&toolbox=type