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Patterns of attention to renewable energy in the British farming press from 1980 to 2013



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ABSTRACT

The farming sector is a major actor in developing renewable energy, providing sites, feedstock and investment. Media coverage can both drive and reflect levels of interest in renewable energy, and affect policy support and farmer decision-making about deployment. This paper presents a content analysis of attention to renewable energy in the British farming press from 1980 to 2013, identifying the topics which sparked sustained media interest. Cycles of increased attention to specific types of renewable energy are made evident through quantification of article frequencies and qualitative analysis of content. The findings contribute to the explanation of the role of information in the diffusion of renewable energy. Wind energy and liquid biofuels have received the most attention, with multiple attention cycles, whereas photovoltaics and anaerobic digestion have received focused attention only in recent years. Policy changes, particularly support measures, emerge as the most important driver of media attention, although public controversies, particularly in relation to wind energy, lead to longer periods of attention. Attention typically increases when opportunities in renewable energy emerge and then quickly shifts to a longer stage of focused attention, in which opportunities, problems and solutions are explored and advice is offered, before attention declines. The media thus clearly play a role in informing farmers about opportunities arising in relation to renewable energy technology and policy developments, but are less helpful in providing on-going and consistent information about recurrent and more complex problems. Thus the farming press appears likely to have the strongest impact on 'early adopters' of renewable technologies, but is unlikely to contribute to diffusion at later stages, when potential adopters are less willing to bear uncertainties.

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Abbreviations: FIT, feed-in tariff; AD, anaerobic digestion; ROC, Renewables Obligation Certificate; PV, photovoltaics; NFFO, Non-Fossil Fuel Obligation.

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1. Introduction

Farmers are important contributors to achieving renewable energy targets [1, 2]. Energy crops are grown on farmland, farm waste can be used for bioenergy and farm properties host wind turbines, photovoltaic panels and hydroelectric plants. Moreover, farming enterprises consume electricity and heat, which may be generated from renewable sources on farms. In the UK, adoption of renewable energy differs among technologies, but is considered [3, 4] and undertaken [5] by an increasing number of farmers: adoption of wind turbines and photovoltaics in size classes suitable for farms has increased sharply since 2010 [6]. These patterns are reflected in the coverage of renewable energy in the British farming press, with increasing attention and dedicated sections introduced in recent years.

Lack of knowledge and information for potential adopters is typically identified as one of the barriers to diffusion of renewable energy [e.g. [7, 8–12]], while accumulation and dissemination of knowledge and information is commonly identified as a driver [e.g. [11, 13–16]]. However, to date there has been limited analysis of the actual content of information available to potential adopters and how such content develops over time as technologies diffuse. Although information on renewable energy can reach farms through many channels, the press appear to be an important source, providing extensive information on renewables such as photovoltaics [17] and biofuels [18, 19]. Content can be normative [20], influencing adoption of technology [21]. For example, articles on innovations in the farming press were found to be important for farmers who might adopt precision farming [22]. The media decide which issues consumers should be interested in [23, 24], and how these issues should be presented [22]. The degree to which individual renewable energy technologies are covered in the farming press can therefore be expected to influence the exposure of farmers to diverse renewable energy options, affecting adoption rates.

Media can also influence political agendas [25–27] and public perceptions [28–31]. For example, negative representations of photovoltaics investments followed a period of high adoption rates and share prices in Spain [17]. Coverage can increase, when biofuel policies are discussed among policy makers, while impacts of biofuels on food prices can also spur attention [19]. Moreover, media attention can precede adoption rates of bioethanol [32] and lead to nationally distinct interpretations of biofuels in newspapers [33]. However, analysis of renewable energy in farming press content is limited, despite its potentially wide-ranging implications for farming and deployment of renewable energy. Our aim is to address this research gap.

In this paper, we examine the evolving messages about renewable energy in the British farming press over time. We explore how press coverage reflects development of the technologies; policy formulation and implementation; and social and economic changes, such as price volatility and public attitudes towards wind farms. In particular, we identify what technologies, types of topics and issues receive the most (sustained) attention, in order to identify potential implications for farmer up-take of renewable energy production and for industry and policy communication.

2. Analytical approach

In this paper, we develop the concept of issue attention cycles to evaluate the changing levels of media attention to renewable energy in the farming press. Media attention is a reflection of the perceived newsworthiness of information, and the associated resources dedicated to an issue [34] rather than a direct reflection of the prevalence of set of views, or indeed levels of up-take of a technology. Media attention to specific issues fluctuates over time, as perceived interest increases and wanes, typically in predictable patterns. In 1972, Downs [34] first developed the concept of issue attention cycles, arguing that the public attends to issues in distinct stages over time. Subsequent studies also observed these stages [35–37]. Attention cycles may be set by the media or reflect real-world phenomena [27], such as the release of scientific findings [38, 39], which themselves can be driven by events [40]. Increased coverage of e-mobility in the 1990s and after 2000, for example, were explained qualitatively by environmental concerns, economic change, pilot programmes and technological advances [41]. Similarly, peaks of climate change coverage have been related to international conferences [42, 43]. Issue attention cycles often start from events [18] in which the media is reflecting an issue and subsequently shaping the policy-making as part of the narrative they are developing, constrained by other issues competing for news coverage [36]. Empirical research suggests that the public tends to become saturated with issue coverage and bored over longer time spans of coverage or when coverage peaks repeatedly [44]. Thus, attention does not necessarily decrease because of the costs and sacrifices of solving an issue, as Downs initially suggested.

This analysis develops Downs' [34] attention cycle framework, specifically in relation to renewable energy production. As indicated in Table 1, our framework includes amendments to accommodate attributes of renewable energy. Several authors have further developed Downs' issue attention cycle, segmenting issue attention cycles for comparison [45, 46], for example in terms of increasing and decreasing coverage before and after a policy event [47]. Downs' initial framework has been criticised for ignoring social construction of issue cycles [48]. However, others see feedbacks involving social construction and learning as parts of attention cycles [35] in line with diffusion theory [49]. We expect that the patterns of attention cycles will largely resemble diffusion dynamics of renewable energy technologies [50–55] reflecting the changing context of earlier and later adopters in terms of research and development support [56, 57], policy learning [58], technology cost changes [59–65] and both total adoption [9, 54, 66, 67] and yearly increments [66]. At later stages (stages 3 to 5 in our framework) renewable energy content is expected to become more detailed and repetitive, in reflection of the institutionalisation of renewable energy sectors [52, 11, 68] and issues with (temporal) capacity constraints [69, 70]. Moreover, at certain times different renewable energies can be at different stages on the diffusion curve [51, 64, 49], associated with respective stages in media attention cycles for example reflecting hype or disappointment [71], regulatory and economic changes [7, 12, 72–74] or emerging acceptance problems [75]. Thus, as much as diffusion can slow down and accelerate again [64, 73], attention cycles can end and new cycles can emerge.

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