



Article

Risk Society and Anti-Politics in the Fracking Debate

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Abstract: Fracking in the United Kingdom has yet to reach full industrial development, but it is still subject to significant opposition. This study uses Beck's risk society theory and anti-politics to examine the views voiced by opponents to fracking in Yorkshire, England. A qualitative approach was used. Semi-structured interviews with protesters and local newspaper reports were evaluated to provide a thematic analysis. The study drew upon discourse analysis and framing literature to reveal discourses within the interviews. Although there are signs of post-materialist concerns with the environment, these issues did not dominate the discussion. Scientists were not held responsible for the risks involved in fracking. Instead, the economic greediness of politicians and austerity measures were perceived as putting the environment and human health at risk. Interviewees thought fossil fuel energy production was economically advantaged over more sustainable energy and jobs in the low carbon economy. Protesters' trust in politicians had been eroded, but faith in democracy remained. It is argued that the consensual post-politics of risk society have not led to a reinvigoration of democratic debate. Instead anti-politics have taken place, due to the frustration of citizens. Protesters wanted a citizen-led deliberative approach to the concerns raised. Such a process would have to go beyond the consensual, and recognise the inherently agonistic process of democracy if it is to succeed.

Keywords: fracking; risk society; anti-politics; climate change; post-politics

1. Introduction

Fracking is controversial economically, environmentally, and socially (Ochieng et al. 2015). Within the United Kingdom, it has been subject to strong opposition despite limited industry development (Bomberg 2015). Governments seek to make technological and scientific disputes, like fracking, apolitical. This allows policy decisions to be taken on apparently objective "scientific evidence" (Mohr et al. 2013) and sidelines other influences on the debate, such as economics and politics (Williams et al. 2017). A popular theory for examining the environmental debate in the literature is Beck's risk society (Beck 1992). Beck's theory provides a critique of modern industrial society, questioning whether economic growth can continue, given its detrimental impact on the environment. Thus, it provides a useful starting point for examining post-politics with its focus on technocratic—managerial governance (Oosterlynck and Swyngedouw 2010). There is a tendency, however, to use risk society to focus on the scientific and technical evidence of counter claims from concerned citizens, emphasising the impacts of fracking (Evensen and Stedman 2017). Politics often takes a back seat in such studies (Brown 2015), other than to call for more participatory democracy to take account of the views of citizens (Laurian 2004).

This paper examines attitudes amongst residents opposing fracking in Yorkshire, England, by referring to the discourse analysis and framing literature to identify discourses (Bomberg 2015). The author views discourses, or discursive frames, as "particular ways of presenting knowledge" (Rein and Schon 1993). It considers why opponents are deeply distrustful of government. The study argues that risk society can provide an explanation for some facets of the debate (Beck 1992). Interviewees'

worries, however, extend beyond environmental issues, and include materialistic values. There is a need to look at why there has been a failure to find a political solution. The process of depoliticisation and subsequent post-politics (sub-politics in Beck's risk society) has not led to a satisfactory solution. Instead, there is a growth of anti-politics in the United Kingdom, which can be seen in the fracking debate. The interviewees' distrust of politicians is rooted in concerns over financial impropriety. Given this lack of trust, the discussion considers how the debate might move beyond its current impasse. It is suggested that participatory and deliberative forms of democracy are important, but these must recognise agonistic positions, and not simply attempt to reach a consensus view (Davidson and Elstub 2014; Oosterlynck and Swyngedouw 2010).

2. Literature Review

2.1. Background to the Advantages and Disadvantages of Fracking

Howell (2018) provides a full discussion of the advantages and disadvantages of fracking, so only an overview will be given here. Proponents argue that the United States' experience shows that fracking benefits the economy, society, and the environment. Fracking has enabled an economic revival in the United States by decreasing reliance on imported oil and gas (EIA 2016a, 2016b), creating greater tax revenues, lowering household expenditure on heating, and increasing jobs for highly qualified staff (Medlock and Hartley 2015). The greater use of fracked gas for power generation in the United States has lowered national carbon dioxide emissions by up to 50%, due to fuel switching away from coal and oil (Broderick and Anderson 2012; Kramer 2016). Thus, supporters argue that fracking is a bridge to a low carbon economy (Medlock and Hartley 2015). Against this, however, are many environmental concerns that have led to widespread opposition to fracking. These include seismic activity (Keranen et al. 2014), climate change (MacKay and Stone 2013), air quality (Moore et al. 2014) water scarcity, poor water quality (Rahm and Riha 2014), ecosystem destruction (Buchanan et al. 2017), and human health (Jacquet and Stedman 2014). Climate change is particularly contentious because although fracked gas is a relatively clean fossil fuel compared to coal and oil, it also releases methane—a potent greenhouse gas (GHG) (Howarth et al. 2011). Opponents also argue that fracking will lead to carbon lock-in and the diversion of subsidies away from renewable energy technologies (Howarth et al. 2011). Fracked products are still fossil fuels that contribute to climate change. The United Kingdom's climate change act requires the government to meet strict GHG emission targets, unlike the United States. Any fracked gas recovered in the United Kingdom would need to replace coal use, to reduce emissions, and meet the United Kingdom's carbon targets (CCC 2016). Given the length of time it takes to put in place energy generating infrastructure, this creates further doubts as to whether long-term carbon emission targets could be met.

The government claimed that fracking would boost the UK economy and create 60,000 jobs (Lord Bourne cited in Howard and Hellier 2015; see also House of Lords Hansard 2015) but knowledge deficit about the amount of recoverable fuel creates uncertainty about the future revenues (Lis and Stasik 2017; Vidal 2014). There are doubts as to whether fracking will be profitable in the long-term (Sovacool 2014), or if it will reduce UK gas prices as predicted by the UK government (Carrington 2013 cited in Howell 2018). The jobs created by the fracking industry are usually highly specialised, so the industry is unlikely to stop rural population loss in fracking areas, as young qualified workers go elsewhere to work (Mayer et al. 2018). There would be temporary in-migration of predominantly male workers, which can strain the local community because it changes the relationships between people and place (Measham et al. 2016). In addition, there are aesthetic (visual, auditory, and olfactory) concerns which also reduce well-being (Wynveen 2011).

Unwanted developments, especially in rural areas, can challenge residents' sense of place by industrialising the landscape (Per and Henrik 1998; Upreti and Horst 2004). This can lead to the formation of local protest movements to protect the "rural idyll". These can be dismissed as Not In My Backyard (NIMBY) resistance, rather than rational opposition (Mannarini et al. 2015). Residents

are thought to be concerned with these local environmental issues (Kurtz 2003), whereas activists are thought to use global frames of reference, such as climate change, in the case of fracking (Hilson 2015). This suggests that residents are NIMBY in their outlook. Wider reviews, however, suggest that a person's attitude towards fracking will be influenced by the views they hold on climate change, and their political affiliation (Cotton 2015; Jaspal and Nerlich 2014; Whitmarsh et al. 2015). Those with strong pro-environmental attitudes are unlikely to see the benefits of shale gas (Whitmarsh et al. 2015). Trust in the political system and institutions that control the fracking also affect people's view of the process (Opsal and Shelley 2014; Robinson et al. 2017). Citizens who trust the fracking industry identify more benefits and have fewer concerns than those who do not (Mayer 2016; Whitmarsh et al. 2015).

2.2. Planning Regime for Fracking in England and Wales

Priestley (2018) details the UK government's position on fracking and the current regulatory policy. The government is encouraging the exploration of fracking to explore its potential for providing greater energy security, growth, and jobs for the United Kingdom. The regulatory process overseeing exploratory drilling can be distilled into seven steps (adapted from Department for Business, Energy & Industrial Strategy DBEIS 2017)

1. A Petroleum Exploration and Development Licence (PEDL) is issued by the oil and gas authority
2. The operator obtains landowners' permission for an exploration well
3. The Environment Agency (EA) assesses the risk to water, air quality, and waste management
4. Planning permission from local authorities (LA) has to be granted. LA will seek local resident's opinions
5. The Health & Safety Executive (HSE) assesses the safety of the well design (DBEIS 2016a).
6. The Oil and Gas Authority (OGA) checks to protect against seismic activity
7. A Hydraulic Fracturing Consent license is obtained from Department for Business, Energy & Industrial Strategy (DBEIS), confirming that fracking may take place

The UK government has banned fracking in National Parks, the Broads, and Areas of Outstanding Natural Beauty (AONB). The controversial infrastructure bill still allows wells placed adjacent to these landscape assets to frack underneath them (Petroleum 2016). Given all these hurdles, the government has been at pains to point out the safety of fracking. The different authorities involved, however, and the number of steps required have created contradictions within the regulations (Cotton 2017). Furthermore, there is no mention within the regulations of the need to restore fracking sites to their original condition, nor who is responsible for remediation (Cotton 2017). The legislation is reactive, and does not consider potential risks. Step 6 was only added after seismic activity occurred near Blackpool (Hawkins 2015). The need to consult with residents in step four would suggest that local opposition could have a strong influence on the success of planning applications. Local government is encouraged, however, to follow central government rules by the use of market-based instruments (Rose 1999; Clarke and Cochrane 2013). In the case of fracking, local authorities would receive all the business rates from shale gas schemes, rather than the normal 50% (BBC 2014). This did little, however to speed up the planning application processes. Thus, in summer 2015, the UK government threatened powers to allow the Secretary of State to decide planning applications if local authorities took too long (DCLG and DECC 2015). This increased concern that open dialogue and the democratic process were being eroded (Bomberg 2015; Cotton 2015; O'Riordan 2014).

In response to public and local government resistance to fracking, central government announced a series of financial packages. These included a Shale Wealth Fund to redistribute 10% of the shale taxes back to affected communities over 25 years (DBEIS 2017). In addition, the fracking industry has committed to a Community Engagement Charter to try to address some concerns and provide benefits to local communities including:

1. At the exploration stage, £100,000 in community benefits per well-site where fracking takes place
2. 1% of revenues will be paid out to communities.
3. Operators will publish evidence each year of how they have met these commitments.

This scheme is voluntary, and it remains unclear how the payments will be made, and for how long (Cotton 2017). There are also issues of social justice with regards to fracking. The “desolate” north has been identified as more suitable for fracking and, due to its industrial heritage, likely to be more accepting of the process (Cotton 2017; Webb 2013). Fracking remains contested, and the government in May 2018 suggested that the exploratory process should become part of Permitted Development and the Nationally Significant Infrastructure Projects regime (Clark 2018; Ward 2018).

In recent decades, there has been an attempt by European governments to streamline the decision-making processes involved with planning large scale infrastructure projects (Batel and Devine-Wright 2015; Cotton 2018; Johnstone 2014). This is particularly pertinent to projects which involve the deployment of low carbon energy technology to help governments meet their climate change commitments. A locally unwanted land use (LULU) is a development that is perceived to be detrimental locally, despite having potential advantages to wider society (Popper 1983). Inevitably, then, the issue of scale is important when dealing with disputes such as fracking. Scale is not predefined and, typically, the institutions that seek the unwanted development get to define the scale at which discussions occur (Cotton 2018). When opposition arises, the government tends to focus on a particular site. By contrast, those opposing a development see it as an opportunity to question the overall policy, as well as the need for the local development (Johnstone 2014). The anti-fracking movement is an example of a new social movement, which is a coalition of individual activists, environmental groups, and local residents (Hilson 2015). This is a mixture of local, regional, national, and international scales. The inclusion of national NGOs in local opposition can lead to greater success, since this helps the protest to jump scale, from the local to the national consciousness (Rootes 2013).

2.3. Deliberative Engagement

The UK government set up the Office of Unconventional Gas and Oil (OUGO) in 2013, to encourage and oversee the development of shale gas and oil. One of its key tasks is to support public engagement. Williams et al. (2017) suggest that this has been on a model of a public deficit in understanding about the facts surrounding shale gas. OUGO focusses on expert scientific assessment of known risks to develop “good” policy. Unproven risks, of the sort that often concern the lay public, need not be considered (Williams et al. 2017). The retreat of government from deliberative engagement is a reversal of past trends to try and democratise science by combining local and elite knowledge (Barvosa 2015). It makes sense to include people as early as possible, so that policies can be co-produced (Thomas et al. 2017). Not only does this improve democracy, it also shares responsibility if things go wrong (Barvosa 2015). By including more disparate views, social justice can also be served. Deliberative democracy is not without problems, which have led to scepticism about the benefits of participatory democracy amongst politicians and citizens (García-Espín and Ganuza 2017). The process can be co-opted by elites, rather than being “citizen-led” (Davidson and Elstub 2014). Political and economic elites can use their influence to suggest that a problem is a local issue and, thus, amenable to a local solution, thereby disempowering and negating some discourses (Benn et al. 2009; Brand and Gaffikin 2007; Murray 2009). In so doing, local protest groups that lack power can be overwhelmed and ignored as NIMBYs (Benn et al. 2009; Mannarini et al. 2015; Steelman and Carmin 1998). Governments can use this to exclude local participation in decision-making (Murray 2009). The power of economic and political elites is often unchallenged (Benn et al. 2009; Murray 2009). Softer forms of participation allow elite decision-makers to give the appearance of consultation when, in fact, the public have little impact on the policy process, and their recommendations are ignored (Few et al. 2007; Fung 2015). There are difficulties surrounding who should have a voice and how to include the marginalised (Fung 2015). There is no guarantee that increased democratic input leads to greater environmental sustainability (Hajer and Kesselring 1999). Furthermore, reconciling competing

interests may need some form of parliamentary process (Giddens 1998). Finally, whilst deliberative democracy has been used successfully in small groups, scaling up to national level may be problematic (Barvosa 2015). New ways to foster citizen engagement may be required, perhaps using the internet (Moss and Coleman 2014).

Those arguing for deliberative democracy claim there is a rational choice that transcends individual preferences and voting (Perote-Peña and Piggins 2015). They say that a moral democracy will lead to consensus decision-making, and strengthen the democratic process (Habermas 1989; Rawls 1987). For others, the democratic process is inherently an oppositional practice (Mouffe 2000 cited in Peterson et al. 2005) and should aim towards an “agonistic pluralism” (Mouffe 1991). Enemies become adversaries who acknowledge each other’s right to disagree (Jones 2014). Given the complexity of environmental problems and issues such as fracking, with its technological, societal, and economic challenges, the likelihood of finding a consensus solution seems small.

2.4. Risk Society, De-Politicisation, Post-Politics, and Anti-Politics

Ulrich Beck, amongst others, argues that there is a growing inability of governments to keep their citizens safe from global environmental harm caused by modern industrial society (Beck 1992, Giddens 1998). In modern industrial society, economic redistribution is paramount. It is assumed that the benefits created by science and technology would offset any “bads”, such as job losses and environmental degradation. In the current political and physical climate, this supposition is being examined (National Academies of Sciences and NASEM; Sarewitz 2016). Governments can no longer protect citizens from the harm caused by science and technology (Beck 1992; Giddens 1998). However, they continue to try to do so and remain locked into a concern with wealth distribution (Mythen 2004). The government creates a “safety state”, with rules and guidelines to keep individuals safe from hazards over which it no longer has control over (Goldblatt 1996). This results in “organised irresponsibility”, in which environmental degradation increases, despite more laws to control it, and accountability is unclear (Beck 1998; Goldblatt 1996). Safety failures have reduced public trust in science and technology (Espig and Rijke 2016; Mayer et al. 2017). Paradoxically, only science and technology can reveal the risks and provide solutions (Beck 1992; Brown 2016; Zilliox and Smith 2017). In risk society, science and technology become reflexive (Beck 1998). The lines between the political and non-political realms become blurred (Beck 1999). Risk and responsibility for responding to it, become individualised (Benn et al. 2009; Chatalova et al. 2016). Increasingly class-based politics is replaced by a focus on moral choices surrounding individual lifestyles (reflexive modernity) (Oosterlynck and Swyngedouw 2010). The risk society allows science and technology elites, along with managerial workers and individuals, to form “sub-politics”, or a post-political consensus (Swyngedouw 2010). For Beck, this growth of ‘sub-politics’, the use of the media and judiciary by the public to contest knowledge claims about environmental harms, was a reinvigoration of the political space. Critics of the post-political argue that the focus on consensus is inherently at odds with the antagonistic nature of the political, and can undermine democracy (Etherington and Jones 2018).

In Beck’s risk society, the rationality of science and technology is used to depoliticise policy judgments made about novel technological practices. Hay (2007) provides details of the depoliticisation process, which moves policies from the governmental sphere (1) to the public sphere (2) and, finally, to the private sphere (3). The third sphere is the “non-political” realm of necessity, where issues are rarely discussed (Hay 2007). They become accepted as problems with no alternative solutions, or TINA—*there is no alternative*. The process can be resisted, and repoliticisation can happen. Since the 1990s and the rise of neoliberalism, market efficiency has been used as a rationale by politicians to depoliticise policy decisions. Large-scale energy infrastructure projects used to be state planned and publicly funded. Since the move away from the directive “dirigiste” state, energy projects, such as fracking, have become privatised and deregulated (Cotton 2018). The state has had to introduce regulatory institutions, but these are at arms-length from government. By depoliticising an issue, a government making economic policy choices can persuade the electorate to carry additional social and economic

costs, without bearing the brunt of any blame (Rogers 2009). The post-politics of the risk society reflect this in the form of sustainable development, where the market and the environment are considered to be reconcilable (Oosterlynck and Swyngedouw 2010). Fracking has an economic element that is equally questioned. A focus on the technology and science might not be able to provide a complete picture of opponents' distrust of fracking, or how to address their concerns. The post-political critiques of Beck might be better placed to explain why citizens are protesting.

In the depoliticisation process, political parties have converged on similar policies, leading to disenchantment and contempt among the electorate (Brandenburg 2011). Depoliticisation is said to contribute to anti-politics (Wood 2016). Although there has probably never been a "golden age" of democratic engagement, it seems clear that anti-political sentiment is on the rise in Britain (Clarke et al. 2016). In England, there is a growing political divide between cosmopolitan areas of economic growth and backwaters of decline, but what unites them is a dislike of politicians (Jennings and Stoker 2016). In the United Kingdom, several crises have helped to erode public trust in government, including the Iraq War, the MPs' expenses scandal, and recent austerity measures (Koch 2016; Whiteley et al. 2015). The alienation from politics, or anti-politics, is often classified as either a demand side or a supply side problem. Either citizens are asking the government to solve complex problems too quickly, or the government has lost touch with what citizens want (Marsh 2018).

3. Methods and Study Approach

The aim of the study is to formulate a deeper understanding of the motivations of residents living near fracking sites, who oppose their development. A key objective was to obtain the opinions of people in local protest groups, in their own words. Like Bomberg (2015), this paper draws upon the discourse analysis and framing literature. Each discourse will present fracking in a different way, and this allows individuals or groups to suggest different solutions. Discourse coalitions can build between people with very different beliefs, but with the same ultimate goal (Hajer 1995). This shared goal or storyline is a narrative made up of the various discourses or frames.

Bomberg (2015) identified two main storylines in the debate, fracking as an opportunity or a threat. This paper is concerned with the views of active protesters, rather than the general population and, therefore, only considers the discourses that make up the threat storyline. There is no attempt to understand every point of view. The term discourse, rather than frame, is preferred, because of its association with Foucauldian ideas of soft power (Mills 2004). The production of knowledge through discourse allows one discourse to dominate. If the dominant discourse fails to resonate with the public, the protest movement may fail to have the impact it desires. This study uses the qualitative methods of semi-structured interviews and thematic analysis of text to reveal discourses. This permitted an exploration of the interviewee's reasons for protesting. This necessitated a qualitative and purposeful sampling approach. The limitation of this study is that only a small number of active campaigners could be interviewed, thus, the views of this limited sample may not reflect generally held views.

Protest themes were derived from the literature in the form of a mind map (Figure 1). Local protest groups and their websites were identified using the website *Frack Off—extreme energy action network* (<http://frack-off.org.uk/fracking-hell/>). This website provides an umbrella organisation for groups organising action against fracking in their area. Following the approach of Bomberg (2015), a critical discourse analysis of the content of the front page of protest websites was undertaken. This was to ascertain what the websites presented as "known" about fracking (Rein and Schon 1993). From this analysis, the themes were further refined to design a semi-structured interview. Using the *Frack-Off* website, protest groups in Yorkshire were identified and approached by email, to request face-to-face interviews with members of the group. Leaflets were also distributed at rallies and meetings, to gather more interviewees. Fourteen face-to-face interviews were completed; ten interviews before the May 2015 general election, and four after (Table 1). All subjects gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of University of

Leeds (LTGEOG-015). The interviewees mostly had a relationship with the three potential fracking sites in Yorkshire; Crawberry Hill, West Newton, and Kirkby Misperton (Ryedale). A majority of the interviewees were over 50, and half were retired. This is typical of local protest groups. This age group can have the time to organise campaigns. Middle-class retirees also often have skills that are useful for mounting opposition (Burningham 1998). Efforts were made to contact younger semi-professional activists who had set up a protest camp at Crawberry Hill. This was unsuccessful, and the camp had been dismantled by the time of the interviews. These protesters were not local, so they would have had a different relationship to place, compared to residents which, again, would have nuanced any findings. Each village had its own action group, reinforcing the local nature of the protest. Although several groups in a locality may work together, each village can work independently. Thus, the core of each group was very small, around 6 people. There was a distrust of academics by some members of the groups, which led to interviews being declined. The interviewees were well-informed. This was partly due to self-selection. Some people were reluctant to participate, as they felt it would question their knowledge about fracking. To obtain more interviews, other groups were contacted, but this increased the distance from the fracking sites and, again, changed the association with place. As no new themes were emerging, the decision to stop interviewing was taken. The weight given to each theme reflects the demographic of those interviewed at the time of the interview.

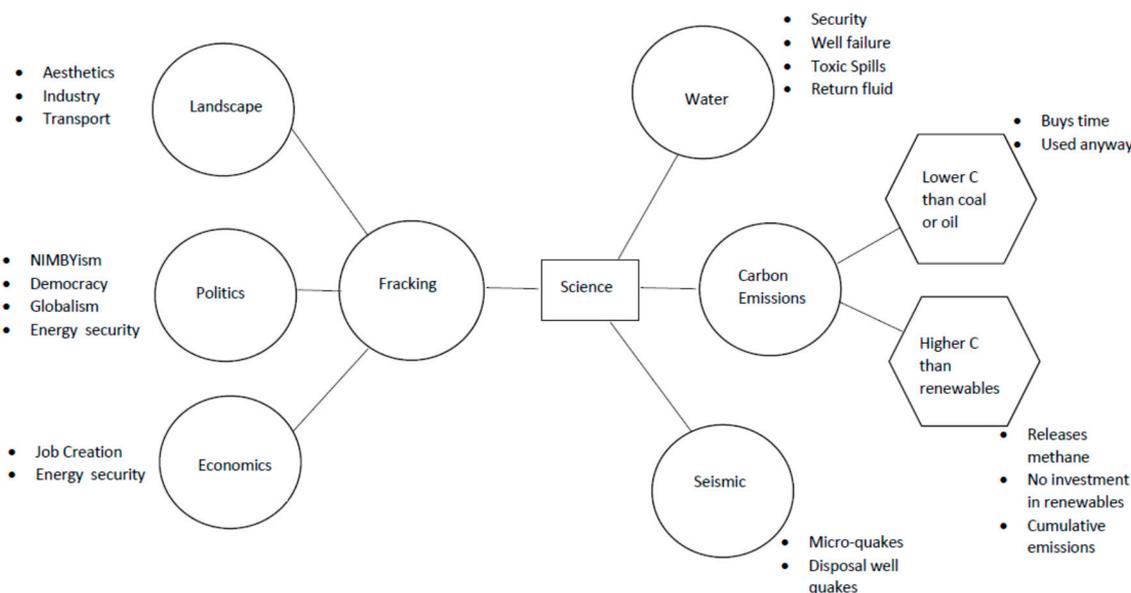


Figure 1. Mind map of potential advantages and disadvantages of fracking as drawn from the literature.

All the interviews were conducted before fracking was given planning permission in the last location. The interviews typically lasted for an hour, and were audio-taped and professionally transcribed, verbatim. Local newspaper stories covering the protest (Hull Daily Mail and Yorkshire Post from 2011 until June 2016) were downloaded from online sources. The transcribed interviews and local newspaper articles were analysed using NVivo (2012) thematic analysis software. The local newspaper reports provided triangulation and confirmation of events. Viewpoints in the newspaper articles usually came from letters or interviews with stakeholders. The interviews were coded according to themes derived from Figure 1; additional themes were added as coding progressed. By focussing on a small number of interviewees, detailed insights were gained into the reasons for people’s actions (Matthews and Ross 2010). In addition, planning applications were downloaded for the sites of interest. YouTube accounts of the protests at the three study sites were watched to gather further information on the campaigns.

Table 1. Interviewees' demographic information, protest group allegiance, and greatest concern about fracking as stated at the time of interview.

Interviewee	Gender	Age Group	Protest Group Affiliated to	Primary Protest Areas	Occupation	How Long Lived in Area	Greatest Concern
1	M	55–59	Ryedale	Ryedale	Chartered Surveyor	<3 years	Industrialisation of the countryside
2	F	50–54	Ryedale	Ryedale	Chartered Surveyor (retired)	<3 years	Climate change
3	M	50–54	Ryedale	Ryedale	Bid Manager	<3 years	Industrialisation of the countryside
4	M	50–54	York	Crawberry Hill & West Newton	Director of Transport Company	>20 years	Pollution of air and water
5	M	45–49	York		Environmental Health Officer now Entertainer	>20 years	Climate change
6	F	50–54	York & Ryedale	Crawberry Hill & West Newton	Care worker (retired)	Lifetime	Pollution of water (with fracking fluids)
7	M	65–69	Harrogate		Teacher (retired)	5 years	Water pollution (return waste fluids)
8	M	65–69	Leeds	Barton Moss, Manchester	IT (retired)	33 years	Pollution of water (with fracking fluids)
9	F	65–69	East Riding	Crawberry Hill & West Newton	Teacher (retired)	Born and grew up in area. Returned for job later in life.	Climate change
10	M	60–64	East Riding	Crawberry Hill & West Newton	Teacher & LA Senior Education Manager (retired)	5 years	Climate change
11	M	50–54	Ryedale	Ryedale	Sculpture	>10 years	Climate change
12	M	50–54	Ryedale & Preese Hall, Blackpool	Ryedale & Preese Hall, Blackpool	Managing Director Renewable Energy Company	5 years	Pollution of air and water
13	M	55–59	Not Affiliated	Ryedale	Policeman (retired)	Lifetime	Pollution of air and water
14	M	20–24	Sheffield		Student	4 years	Climate change

4. Analysis

4.1. Government and Economic Redistribution

From a Risk Society viewpoint, the UK government framed fracking as a classical example of the redistribution of economic benefits. There is evidence that direct financial compensation can sway local opposition (Boudet et al. 2016; Dokshin 2016). Non-governmental organisations (NGOs), such as Greenpeace and Friends of the Earth, denounced this move as bribery to accept “dirty” fossil fuels (BBC 2016).

There is a sense of Beck’s organised irresponsibility with fracking, where institutions acknowledge catastrophe whilst, at the same time, denying it (Beck 1998, p. 18). The UK government has tried to reassure the UK public about the scientific advantages and safety of fracking, despite uncertainty in both areas. Unconventional gas derived from fracking, if used in place of coal, would lower carbon emissions, as they have done in the United States. Thus, it can be claimed that fracking could help the United Kingdom meet its greenhouse gas reduction targets (MacKay and Stone 2013 cited in DBEIS 2017). The government points to reports that say risks to public health and the environment are low, with proper regulation and oversight (Royal Society 2012 & Kibble et al. 2014 cited in DBEIS 2017). Much has been made of the difference between the light regulatory touch in the United States, and tougher standards in the United Kingdom (House of Lords Hansard 2014).

It is unclear who would be economically responsible for a major fracking disaster. North and East Yorkshire has suffered extensive flooding in the past. Interviewees brought up the issue of responsibility if contaminated flood water, in the future, inundated their land (Interviewees 11 and 13). Media reports suggest that insurance companies are less willing to cover domestic houses near fracking sites (Rowell 2016). Interviewees were concerned the drilling companies had not fully informed those who owned the land on which the fracking was taking place about their obligations (Interviewees 2, 3, 4, 6, 10, 11, and 12). Interviewees felt that farmers had been “duped” into having fracking sites on their land:

“I think that Rathlin energy have done a very good PR job in East Yorkshire. And the farmers don’t realise exactly what the intention is. I think they think, okay, so I’ll get twenty-thirty grand, I can lease this field for two years and that will be the end of it . . . but that’s not how fracking works.” (Interviewee 4)

Given the potential for wells to fail many years in the future, when the drill companies may no longer exist, interviewees queried who would be responsible for any damage. Would the landowner be left with the responsibility?

“So, we have looked into it and all these fracking companies, they might be owned by Barclays or whoever, but they set them up as limited companies and limit the liability. And then what happens if there’s lake pollution because we know well integrity gets worse over time and then they are on farmers’ land, who have no insurance, no cover [. . .] where does it leave us longer term?” (Interviewee 2)

The government is trying to depoliticise the issue by referring to expert reports and the legal framework for drilling. In this way, the responsibility is placed at “arms length” (Etherington and Jones 2018). The interviewees contested both the safety and the established nature of fracking:

“I found out, what was really stunningly clear to me, was that the experts didn’t actually agree about a lot of the contentious issues involved in fracking.” (Interviewee 1)

“And conventional gas extraction is something completely different when you look at hydraulic fracturing. The risks are completely different.” (Interviewee 12)

Only one interviewee made direct reference to the precautionary principle (Interviewee 2). Half of the interviewees referred to the risks of fracking (Interviewees 2, 3, 5, 9, 10, 12, and 13). There was emphasis on the need to minimise risk by doing research before the deployment stage of the technology. Notably, however, the onus was put on politicians, not scientists:

“So, it’s a risk and what your job is, as a Minister or politician, is to mitigate risk.”
(Interviewee 12)

4.2. Local Opposition—Science, Risk, and Trust

Addressing the key concerns of opponents to fracking is difficult, because they cover a range of spatial scales, from local to global issues. Beck’s Risk Society thesis was primarily directed at global risks that could end with self-annihilation (e.g., climate change), rather than local risks (Goldblatt 1996). There was evidence to support the idea that residents prefer local environmental frames (Kurtz 2003):

“I don’t want to go out and look at flares all round my horizon... We bought the house because of the views . . . I don’t want that to be taken away.” (Interviewee 13)

Interviewees who opposed the developments were mostly retirees. Working interviewees, living near the fracking sites, did not rely on local employment (Interviewees 1, 3, and 13). This appears characteristic of a “rural idyll” discourse, where residents do not have a productive working relationship with the landscape. Instead, they consume the landscape, as a retreat from the urban, and seek to protect it from change (Woods 2003). The residents may be accused of NIMBYism. As in previous studies, there was not a straightforward relationship between location and attitudes to fracking (Whitmarsh et al. 2015). Landed estate holders in the area seemed most concerned with the aesthetic impact (Storey et al. 2015). By contrast, most interviewees did not mention direct impacts unless encouraged by the interviewer. In response to prompts, opponents broached issues such as the number of heavy lorries on country roads (Interviewees 1, 4, 5, and 10).

Climate change and water pollution were the issues most often mentioned when interviewees were asked directly what most concerned them about fracking (Table 1). The building of unsightly rigs only features twice. This suggests that residents opposing fracking are concerned more about the distribution of environmental “bads” than aesthetic issues. Protesters worries about water pollution were not confined to the local community (cf. Hilson 2015):

“I’ve applied my research skills to the 2006 British Geological Survey on the Yorkshire aquifer, which is the main source document, which says that something like 55% of water used in the East Riding and Hull comes from that aquifer, which has got a borehole right through it. Not clever.” (Interviewee 10)

“The water pollution, between you and me, it’s out of this world, and the amount of stuff that they pump into it. They haven’t got a clue. Cameron [the British Prime Minister] and company don’t give a monkeys.” (Interviewee 4)

The global frame of climate change, used by environmental activists to oppose fracking, is said not to appeal to residents, as it is ephemeral (Hilson 2015). However, climate change was important to many interviewees (Table 1). This seemed to stem from their affiliations to green political parties or non-governmental organisations, even before fracking had become an issue in their local area (Interviewees 5, 7, 8, 9, 10, 11, and 14). Interviewee 3 had also gained information through membership of his trade union. The amount of knowledge displayed by the interviewees might be expected to be high, given that the emphasis in risk society is on the individual taking responsibility for their well-being (Benn et al. 2009). Therefore, there is a need for individuals to read up about the risks facing them. Some of these associations, however, would suggest traditional political activity, rather than the individual reflexive politics linked with risk society.

Several interviewees noted that the semi-professional activists (or *protectors* as they were called) were concerned about water pollution, and were very assertive about this (Dubs 2014; Interviewees 6 and 10):

“And the younger people would be very concerned about water, . . . , in fact this is about part of a conspiracy to control populations by controlling resources, and that if you wanted to poison the water supply, you couldn’t think of a better way of doing it in fracking.” (Interviewee 10)

There was some evidence that the protectors’ focus on water pollution was permeating the debate, swaying one interviewee to change their primary concern from climate change (Interviewee 7). The focus on water pollution did not seem to be due to a lack of faith in the scientific evidence surrounding climate change:

“We’re talking about it at a time when climate change is happening. 97% of the world’s top scientists say it’s happening and it’s manmade, you know, we can’t afford to take more fossil fuels out of the earth.” (Interviewee 9)

Protesters were concerned that water was the greater priority:

“ . . . you can’t do anything about it [water], . . . and water because of climate change is becoming a much more scarce resource so the idea of gaily pumping poison into the ground with actually no idea what it’s going to do to the water table strikes me as particularly irresponsible” (Interviewee 8)

The argument put forward by government, that fracking in the United Kingdom will be safe because it will be more closely regulated than in other countries, was met with derision by most interviewees. This did not emerge from a conversation of zero risk, but one of low trust in the regulatory regime and the ability of the Environment Agency (EA) to police the fracking industry. Frequent references were made to the self-regulating nature of the fracking industry (Interviewees 1, 2, 5, 6, 7, 8, 9, 10, and 13). This was not interpreted as a failure of the EA. Instead, it was linked to austerity measures by central government:

“I think that is the biggest thing that has affected me is just how important a job they [EA] do and how badly funded they seem to be. They don’t seem to have enough people and processes, ..Everything is self-regulated, all the information is provided by the person who wants to do the thing and someone just checks it over and either says well I’m not happy with it or rubber stamps it.” (Interviewee 1)

“I mean we feel in Ryedale really under the cosh, the road maintenance, everything has been run down to such an extent . . . We have no say in the agencies, the Environment Agency, everything is pared down.” (Interviewee 10)

The Frack Free Ryedale website includes a number of mythbuster pages. This includes one devoted to “The UK has gold standard regulations” (Frack Free Ryedale n.d.) which lists a number of regulation breeches by the onshore gas industry. It argues that if this number of incidents has happened before fracking has occurred, how likely is it that regulations and the EA will keep up with numerous well sites. The local newspaper also carried reports of environmental breeches at exploratory sites (Longhorn 2015).

4.3. Anti-Politics and Trust

Interviewees’ trust in the fracking industry was unsurprisingly low. The promise of financial incentives to allow fracking in the local area merely exacerbated the situation, as interviewees feared

it could fracture community cohesiveness. Lack of trust stemmed not just from international and national media but also from local examples of claimed undisclosed pollution events and incidents while protesting:

“Barton Moss used to tip their effluent into the Manchester Ship Canal, very environmentally sound I thought, yes well regulated. Now the government couldn’t give a hoot.” (Interviewee 8)

Not all incomers are anti-fracking. The East Riding of Yorkshire surrounds the port of Hull (a unitary authority) and Goole, and is opposite the industrialised south bank of Humber. The dominant enterprises there are petroleum and chemical industries. East Riding and North Yorkshire attract residents from these businesses, who are inclined to look favourably upon fracking (Interviewee 10). In a letter to the local press, one resident called for protesters in Ryedale to stop and accept the inevitable:

“ . . . and concentrate efforts on getting the best possible mitigations and financial compensation for the affected communities, and be looking for ways to maximise the business and job opportunities for local people” (Morgan 2016)

Opponents argued that the industry would “buy” support from residents by providing new community centres or school extensions (Interviewee 7). The interviewees thought that the fracking industry was likely to target poorer areas which were deprived of facilities and needed money. This might persuade only parts of the community to accept drill sites, and divide the residents. Thus, there was an awareness of the environmental justice aspect of the problem.

For many of the interviewees, the claim that fracking would bring economic benefits to the locale were widely dismissed as disingenuous propaganda. Some residents argued that the area was not in need of jobs in industry, and that fracking would destroy existing rural activities, such as agriculture and tourism. At district level, Ryedale is ranked 239 out of 326 for employment, where 1 is the most deprived LA in the country (Data North Yorkshire 2015). Any jobs created would draw in temporary residents with the appropriate skills, who would leave once fracking was finished, possibly disrupting community life (Interviewee 11):

“Ryedale is not a poor area in the strict sense the word, yes you know there are low-income agricultural jobs and things, but if you look at Ryedale it’s not a particularly deprived area there are more people employed here in things like tourism and retail.” (Interviewee 3)

“They [Jobs] won’t be for the local people; their skills are in farming. You need specialists, and you know, it’ll be highly skilled engineers and chemists and god knows what.” (Interviewee 6)

The interviewees challenged the idea of a new fossil fuel-based industry. Campaigners argued for a low carbon economy that would bring jobs with a long-term future (Interviewees 4, 9, 10, 12, and 13). It could be argued, therefore, that the discussion was restricted to one of different technologies with which to address climate change and energy security. This would be in keeping with the post-political consensus described by risk society.

The interviewees believed that the government was supporting a dirty source of energy through legislation and subsidies:

“You know the subsidies they are giving to the fossil fuel industries . . . If that money was for sustainable jobs—to have a clean secure future . . . but they [the government] are just not doing it.” (Interviewee 2)

Opponents felt that government backing for the fracking industry was not just about supporting a fledgling business. Interviewees argued that it was a means of bolstering tax revenues and providing income streams for associates:

“I don’t know what the politicians are playing at; apart from I know some of them are hoping to make a lot of money out of this.” (Interviewee 4)

“So, there’s a lot of connections between politicians of all the grey colours. The three leading parties and big business and fracking business.” (Interviewee 5)

This led to significant distrust of traditional political and social institutions, including academics. The media were accused of trying to paint opponents of fracking as “*tree huggers*” (Interviewee 1), rather than acknowledging that this is “*Middle England*” (Interviewee 2) rising up. Two of the interviewees were arrested (charges were subsequently dropped), and another took court action against the police (Interviewees 9, 10, and 8). Amongst local campaigners, distrust grew throughout the protest, particularly of the police (personal communication). Some residents refused to talk to the author for fear of the information leaking to the government:

“I think people who are involved [in opposing fracking] are on police lists and it’s like the Miners’ strike, the Poll Tax. Tories like this kind of thing.” (Interviewee 11)

Most of those interviewed belonged to the political left, and included some members of the Green Party, although not exclusively. From the interviews, it appears the movement crossed class divisions, although most of those interviewed were retired middle class. The interviewees did not see their opposition as a political struggle:

“I don’t see this as being a party-political issue, it’s simply protecting the environment, and we should all be concerned about that, whether we’re conservative, blue, purple, green, yellow, red or whatever colour your political spectrum.” (Interviewee 4)

This, again, suggests a post-political wish for a consensus. Given that they did not see it as a political issue, most protesters seemed unclear about how they would achieve a policy change from government.

4.4. *How to Move Forward?*

For several protesters, the key to moving forward was for government to listen to local demands and for greater democracy in local decision-making. References were made to other countries which had banned fracking. Germany was held up as a model of community involvement:

“I looked at what the Government had done with the Royal Society report and then I looked at what the Germans had done, I was ashamed because what the German’s had done was a model of a democratic approach.” (Interviewee 7)

“There’s also the agenda of democracy. I’m a very firm believer in democracy, and have come at democracy from an anarchist background. And decided that anarchism was not necessarily the best way to change society and improve things.” (Interviewee 5)

Therefore, the protesters were arguing for a more participatory democracy. They wanted the local council to be able to take account of their views, as central government has allowed with wind farms (Smith 2016). There is a caveat, however. Interviewees thought that their fellow residents would only mobilise when fracking became a greater threat. The word “*apathetic*” was mentioned several times. This suggests community ambivalence to participatory democracy. Most of those interviewed were also sceptical that their views represented many of their fellow residents. There was recognition that the local area was conservative, both in nature and by politics. The local MP was a conservative who had gone on a fracking fact-finding mission to United States. Although admitting he would not want a drill rig next to his house, he still supported fracking in Ryedale on economic grounds. It is notable that he was returned to represent the constituency in both the 2015 and 2017 general elections, in the

latter with an increased majority. The interviewees also recognised that their support for current party politics was not favoured by all opponents to fracking. Younger activists were reported as favouring more radical change:

“ . . . we went on that anti-austerity march in London. Then you saw the sort of future of politics, the way things are going, because it was the people’s assembly, [. . .] they would emphasise the need for community-based action or individual action, and more anarchists with a small ‘a’, possibly.” (Interviewee 10)

5. Discussion

The risk society framework can make sense of many aspects of the fracking debate. The UK government wants to treat fracking as an issue of economic redistribution in a modern industrial society. It argues for the economic benefits, nationally and in the locale affected by drilling. The government has sought to minimise concerns about environmental impacts. In so doing, they have shown aspects of “organised irresponsibility” (Goldblatt 1996). They have had to acknowledge the potential for environmental catastrophe, and yet deny it. The government claims that regulation in the United Kingdom will be stricter than in the United States, and will prevent environmental breaches happening here (House of Lords Hansard 2014). The interviewees talked about how to avoid “environmental bads” as predicted by Beck (1992). The government has attempted to depoliticise the debate by drawing on scientific and technical rationalities in the Royal Society Report, and other scientific evidence. Thus, they are seeking to move decision-making towards techno-managerial schemes, and away from state politics (Etherington and Jones 2018). The protesters were pessimistic and worried about potential unknown risks (Williams et al. 2017). By taking a deficit model approach to the public understanding of science, the government is failing to engage with local residents’ concerns. Opponents to fracking did not reject science, as in previous critiques of Risk Society (Goldblatt 1996) but, instead, drew on them to support their argument to abandon fracking. Through their interactions with fellow protesters, they have become more knowledgeable about the fracking process, its potential impacts on the environment, and the financial implications. This is consistent with the risk society thesis, that the individual has to be responsible for their own well-being. The willingness of many interviewees to place climate change as their number one concern about fracking would suggest trust in scientific consensus. The prominence given to water quality suggests that health concerns are also significant. The health implications of poisoning water courses have echoes of previous debates on mad cow disease, genetically modified food, and mobile phones (Drake 2006; Patterson and Gray 2012). Many of the claims made with regard to water pollution were based on examples drawn from the United States or Australia. Interviewees were more concerned about technical failures, than the scientific uncertainty of fracking.

The protesters were not reassured by government or industry that sufficient regulation or care would be taken to avoid a catastrophe. Interviewees felt that the EA could not control fracking. In part, this was due to a lack of understanding of the relationship between industry and regulatory authorities in United Kingdom. In the United Kingdom, there is usually a negotiated settlement between regulators and the regulated (Faure and Svatikova 2012; Ogus and Abbot 2002). The United Kingdom has not operated like the German Safety State described by Beck (Goldblatt 1996). Another reason that interviewees were unhappy with the EA’s ability to oversee fracking were the austerity cuts imposed upon the organisation by government. They felt the government had made it impossible for the EA to carry out its role correctly. It is difficult to know if this created, or merely confirmed interviewees’ mistrust in government assertions that fracking would be properly supervised.

The decision of government and industry to give locals money from fracking represents an attempt to redistribute wealth to offset local environmental degradation. It also scales the issue of fracking to the local level, so opponents can be dismissed as NIMBY, thus ignoring the larger issues of climate change. Interviewees questioned financial incentives, seeing them as an attempt by politicians and industry to manipulate the social inequities within the region for their own ends. There was a

great deal of financial distrust in politicians. This was the one area that united all the interviewees, and would seem to reflect the growth in anti-politics. There was continual reference to ministers or their associates making money from fracking. Grievances were as much about the close alliance between capital and politics, as the environmental issues. It was argued that an elite, closed section of society was making money at the expense of those they should be representing. The protesters felt that they were not being treated fairly. The UK government's determination for fracking to take place was interpreted by those interviewed as self-serving greediness. The push for fracking was seen as a corrupt activity. The distribution of profits and taxes from fracking to the local area exacerbated this view, rather than reduced it. Therefore, the politicisation of the issue by using the market and science and technology has done nothing to achieve the consensual politics hoped for. Instead, post-politics has bred anti-politics, as citizens find that the only way to make their voices heard is to protest.

Fracking opponents also questioned its economic viability. Amongst protesters there was a focus on employment opportunities, not just through traditional employment, but also through new "greener" technologies, such as wind and solar power. The interviewees argued that these would provide long-term sustainable jobs and a low carbon society, but fracking would not. It could be argued that this focus on green technologies is totally consistent with a post-political risk society. A debate which is confined to market-based solutions to climate change and energy security does not challenge the status quo (Swyngedouw 2010). The harshness, however, with which those who dare challenge the current government's energy policy are being dealt with, suggests that fracking protesters are increasingly seen as extremists (Perraudin 2018). The interviewees believed the media and the judiciary were used against them. This calls into question whether the sub-politics envisioned by Beck is strong enough to challenge the traditional elites (Benn et al. 2009; Murray 2009).

The protesters agreed that the protest should not be based on party political lines. The protest crossed class divisions and generational lines. Opponents included the landed gentry, students, environmental *protectors*, and Lancashire Nanas—a group of campaigning grandparents (Nanashire 2016). This suggests a consensual nature which is post-political. Those interviewed were mostly concerned to stop fracking (for example Interviewees 4 and 6). They had no interest in wider politics. For other opponents, their encounters with protest groups and hostile authorities were making them question the political order, and had made them more radical in their outlook (Interviewees 2, 3, and 10). Although half the interviewees were affiliated to green groups, only interviewee 5 lived a low carbon lifestyle. This undermines the assertion that these residents were looking for a political restructuring of their relationship with nature as envisaged in Swyngedouw (2010). The interviewees believed that they needed more local participation to ensure all views were represented (Goldblatt 1996). The sitting Conservative MP was returned to parliament after fracking had been given planning permission in his constituency. Thus, opposition to fracking did not appear to be sufficiently strong to affect the outcome of an election. Despite this, most of those interviewed believed firmly in the democratic process. Unfortunately, no interviews could be undertaken with protectors but, from the interviewees and newspaper articles, it appears the protectors might not have the same faith in democracy. This group of protesters seem more willing to question the status quo and the neoliberal order.

Fracking may not trump the economic concerns of voters when it comes to the ballot box, but national surveys show that majority of citizens do not want fracking (DBEIS 2016b). Aesthetic landscape issues dominate these surveys, rather than national scale issues of climate change, energy security, economic growth, or health. Therefore, if deliberative participation is to occur, it needs to be at the national scale, with citizens enabled to deliberate these wider "goods" and "bads". This might allow the debate to move beyond the particular demands of fracking, to better address issues of our relationship with nature and the consuming of resources. Such an approach would require agonistic pluralism: one which recognises it has reached the best decision given current knowledge and that alternative future paths have been, for now, excluded (Brand and Gaffikin 2007).

6. Conclusions

Risk society theory is a useful framework for examining debates, like fracking, that have both environmental and economic implications (Oosterlynck and Swyngedouw 2010). There is evidence that interviewees are concerned about “environmental bads”, and they have taken personal responsibility for their safety in a risk society. The reason for this is not primarily rooted in a lack of faith in science or technology. Interviewees expressed anger at what they saw as political manipulation of the debate, motivated by capital gains for the powerful, in the forms of subsidies for the fossil fuel industry and monetary gains made by politicians and corporations. The post-politics (sub-politics) of risk society had not led to a consensual solution. Instead the technocratic managerial governance used to regulate fracking has closed down true political discussion. This is manifested in the distrust of politicians and anti-politics, which is in line with the growth in anti-politics that has occurred in Britain in recent decades (Clarke et al. 2016). Although local residents saw their movement as apolitical, they considered the governing Conservatives as the party of fracking. In summary:

1. Scientific risk did not dominate the discussion,
2. Interviewees were concerned with the capital implications of fracking,
3. Trust in politicians is eroding. In using risk society theory to examine fracking, care must be taken not to ignore capital and trust.

Those interviewed supported democratic institutions and democracy, but the erosion of trust had led to contempt of politics, as suggested by Brandenburg (2011). The current UK government is reluctant to open a debate that might reduce its institutional power (Moss and Coleman 2014). The parochialism that accompanies local battles (Bomberg 2015; Hilson 2015) provides the government with a welcome distraction from more difficult environmental issues. It allows the neoliberal consensus on climate change to go unchallenged. It is easy to call for greater participation in the fracking planning process to obtain a consensual solution. This paper argues that it is the attempt to find a consensual solution (post-politics) that has led to anti-politics and protest. This does not, in itself, rule out greater participation by the electorate in the democratic process, but there is a need to recognise that such debates need to be agonistic, of the type suggested by Mouffe (1991). This would give greater legitimacy to policy decisions. It is suggested that, rather than focussing on the particulars of fracking, a deliberation on energy policy would prove more fruitful. Using new participatory forms of democracy, a representative panel of citizens could be supported to interrogate issues of climate change, energy security, and poverty. Participation will need to be at the national level. By focussing on these wider issues, panellists will be able to consider different socioeconomic environments (Oosterlynck and Swyngedouw 2010), rather than just competing energy generating technologies.

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