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Nimby, network or social movement? individual and collective opposition to windfarms

Gardner, Ian

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NIMBY, NETWORK OR SOCIAL MOVEMENT?

INDIVIDUAL AND COLLECTIVE OPPOSITION TO WINDFARMS

By Ian William Gardner

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NIMBY, NETWORK OR SOCIAL MOVEMENT?

INDIVIDUAL AND COLLECTIVE OPPOSITION TO WINDFARMS

One of the 42 turbines of the Black Law wind energy development in South Lanarkshire, Scotland.

The picture was taken from a distance of about 4/5th of a mile from the village centre of Forth on the B7016 road looking NW. Photograph & Text above courtesy of Country Guardian.

Acknowledgements

Abstract

This thesis is a mixed methods study of individual and collective anti-wind energy activism in the UK, USA and Europe.

A 'grounded theory' approach was taken to the generation of theoretical material in that research questions evolved as the research progressed and no 'a priori' hypotheses were proposed. However, the initial aims of the research were: to assess the applicability of the 'NIMBY' label; to investigate the extent of the anti-wind activist network and to judge whether the phenomenon could legitimately be described as a 'social movement'.

The research involved two types of quantitative analysis: Social Network Analysis of hyperlink and real world network data; and an assessment of the strength of Place Attachment for anti-wind energy activists. Qualitative analysis of semi-structured interview and biographical data was also used to gain an understanding of the characteristics of leading anti-wind activists: their similarities, differences, motivations, underpinning ideologies and biographical trajectories.

The thesis frames the development and deployment of wind energy as a strategic response of advanced capitalism to geopolitical factors and historic energy crises. New forms of energy generate new relations of production and externalities which impact on localities and class interests. For onshore wind energy, these particularly (but not exclusively) affect elements of the rural middle class who have deeply entrenched views of the 'pastoral ideal'.

A conceptual model is developed to show how the expansion of industrial wind energy presents instrumental and ideological challenges to this ideal, and to identities. As a consequence individual and collective protests take place. These are sufficiently organised, connected, purposive and large-scale as to qualify as a social movement.

The thesis contributes to Social Movement and Social Network theory by combining quantitative and qualitative methods to better understand anti-wind activism.

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Abbreviations

AWEG	–	Anti-Wind Energy Group
HEP	–	Hydro Electric Power
HNA	–	Hyperlink Network Analysis
kW	–	kilowatt (One thousand watts)
MW	–	megawatt (One million watts)
RET	–	Renewable Energy Technology
SNA	–	Social Network Analysis
SMO	–	Social Movement Organisation

Word Count

Abstract	287 words
Main Thesis	91,187 words
Appendices	39,228 words
Footnotes	2,236 words

INTRODUCTION

> 'Social movements nurture heroes and clowns, fanatics and fools. They function to move people beyond their mundane selves to acts of bravery, savagery, and selfless charity. Animated by the injustices, sufferings, and anxieties they see around them, men and women in social movements reach beyond the customary resources of the social order to launch their own crusade against the evils of society. In so doing they reach beyond themselves and become new men and women.'
>
> (Wilson 1973, 5)

> 'Men make their own history: social life is produced by cultural achievements and social conflicts, and at the heart of society burns the fire of social movements.'
>
> (Touraine 1981, 1)

In the late 1960s and early 1970s when John Wilson was still an Assistant Professor at Duke University and thinking about writing an *Introduction to Social Movements*, (Wilson 1973) I am fairly certain that he did not consider a future where industrial scale wind energy developments would be actively encouraged[1] in the mountainous counties of North Carolina. It also seems unlikely that in the early 1970s he envisaged 'heroes and clowns, fanatics and fools' (1973, 5) united in opposition to the perceived evils of renewable energy and to wind energy in particular.

I am also fairly certain that Alain Touraine, when researching *The Voice and the Eye* (Touraine 1981) in the mid 1970s, had no idea that the Normandy coast where he spent his childhood and where the Allies landed in 1944, might, at some date before his death, see seventy five 500 foot wind turbines dominating the seascape.[2] Nor do I believe that Touraine thought that the history made by the men who ultimately freed his country from Nazi oppression would be considered by some to be at risk from industrial wind energy development.

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[1] http://www.rechargenews.com/wind/policy_market/article1327075.ece [Online] (Accessed 23/6/2013).
[2] http://www.debatpublic-eolien-en-mer-courseulles.org/docs/documents-cpdp/version-anglaise/journal-debat-en.pdf [Online] (Accessed 23/6/2013).

This contention that large-scale opposition to wind energy was not in the minds of modern social movement theorists also extends to the thoughts of contributors to the collection of seminal writings on what were then, 'New Social Movements' edited by Jean Cohen in 1985. When Cohen was collating articles by Tilly, Touraine, Melucci, Offe and Eder for the winter 1985 edition of *Social Research,* industrial wind energy development in the USA, France, Italy and Germany was still in its infancy.

It is true that following the oil price shocks of the 1970s, NASA had been experimenting with utility scale wind turbines at its Lewis Park Research Centre in Ohio and a small number of prototype large turbines had been constructed in the USA. Additionally, a large experimental 2 MW turbine had been constructed in West Jutland in Denmark in 1978 and large-scale turbines had been constructed in the USSR and in the US prior to this, but it was not until late 1980 that the world's first wind 'farm' was opened at Crotched Mountain, New Hampshire (Shepherd 1990).

So, in their defence, in the 1960s, 70s and early 80s, in connection with this particular phenomenon, social movement theorists had very limited experience to draw on. By 2014, four decades after Wilson described social movements as 'a conscious, collective, organised attempt to bring about or resist large-scale change in the social order by non-institutionalised means' (1973, 8) individuals, academics and communities have gained much greater experience of wind power and of opposition to it.

This thesis explores that experience.

Research Questions

This research initially adopted an over optimistic scope with a dozen research questions, reflecting both my enthusiasm for the subject and my lack of knowledge as to its depth and breadth. As the research progressed it became obvious that to try to answer questions on more than five or six areas would be folly. Accordingly, the thesis addresses the following:

1	What is the extent of anti-wind activism?
2	Who are the anti-wind activists?
3	Why do some activists oppose wind energy?
4	How have they protested?
5	Can anti-wind activism be described as a social movement?

Thesis Outline

Chapter 1 describes wind energy – its history, current status and the terrain that is contested by opponents.

Chapter 2 considers the literature on wind energy relevant to the thesis and in particular the literature on public attitudes is critically reviewed. A specific critique of the NIMBY label is offered and the literature developed by opposition groups and individuals is also examined.

Chapter 3 considers potential theoretical perspectives that may offer a fuller explanation of opposition behaviour as an alternative to NIMBY self-interest.

Chapter 4 details the methods used to explore the research questions, the approach taken to research language, the position of the researcher and the generation of knowledge.

Chapter 5 presents an analysis of networks of anti-wind groups and individual activists.

Chapter 6 describes anti-wind groups – their structure, organisation, alliances, strategies and their trajectories.

Chapter 7 describes anti-wind activists using the material generated from semi-structured interviews, a structured questionnaire on place and a small number of biographical interviews.

Chapter 8 considers whether the phenomenon of anti-wind activism can be properly considered to be a social movement.

Chapter 9 presents a conceptual model for anti-wind activism based on the information gathered over the course of the research.

Chapter 10 concludes the thesis and reviews its main findings, its implications, methodological and empirical limitations and areas where further research would be beneficial.

Methodological Note

Chapter 4 details the mixed methods used in gathering and analysing data for the thesis. A multi-level quantitative and qualitative analysis was undertaken analysing individual and collective data. Specifically this involved

- 4 pilot interviews with leading members of one active AWEG in North Wales to test and develop interview format and content. This was then refined and used to guide semi structured interviews in the main survey of anti-wind activists in the UK, US and Europe.
- A pilot structured questionnaire designed to assess the significance of Place Attachment. The questionnaire was tested for internal consistency by 13 active anti-wind activists based in North Wales.
- An automated web crawl of AWEG websites using 'IssueCrawler' to assess the value of automated rather than manual hyperlink analysis.

This preliminary analysis was used to test and validate some of the methods proposed for the main body of empirical research which involved:

- 4 biographical interviews with leading anti-wind activists from Wales (2), England (1) and Sweden (1).
- 17 semi structured interviews with leading anti-wind activists based in England (7), Wales (6), Scotland (1), France (1), Sweden (1) and the United States (1).
- 17 structured questionnaires assessing the strength of place attachment for the activists above.
- A manual hyperlink network analysis of 635 websites belonging to AWEGs in 26 countries.

The pilot results (both semi structured and structured) were of sufficient quality to enable them to be presented alongside the main research, however where this was undertaken, data have been analysed separately. The one exception to this is in **Chapter 7** (see Figure 36) when membership of organisations and associations is mapped and the pilot and main sample of activists were pooled to provide additional data for the analysis.

CHAPTER 1 – WIND ENERGY AND ITS OPPOSITION

'The government needs to be saying, 'It is socially unacceptable to be against wind turbines in your area - like not wearing your seatbelt or driving past a zebra crossing'.'

Ed Miliband - Speaking at the screening of film,
The Age of Stupid (24th March 2009)

'As you know, I am socially unacceptable. A pariah. An outcast. Beyond the pale. I must be because, our Secretary for Energy and Climate Change, says so. I oppose industrialising the countryside with windfarms.'

Sir Bernard Ingham - writing in the
Halifax Courier (2nd April 2009)

'We cannot let the squires and the gentry stop us meeting our moral obligation to pass this world on in a better state to our children and our children's children. They have had it their way for far too long...So let me tell them loud and clear: it's not your backyard anymore- it's ours!'

John Prescott – Speaking at the British Wind
Energy Association Annual Conference
(20th October 2009)

'..the first thing that strikes one about the climate-change narrative is a mob-like tendency on the part of otherwise educated people to try to deprive critics of a place in the debate – and of a few basic rights to boot. Labelling lay and scientifically-informed critics alike as 'denialists' (i.e. neo-fascist), irrational, 'in the pay of big oil' and all the rest which one hears regularly from many in the middle class and the lumpen left, not to mention demagogues like George Monbiot and zealots of the Ed Miliband stripe, is intended – and serves – to silence voices that not only have a right to be heard but, to ensure proper science, must be heard.'

Excerpt from paper by Scottish Anti-Wind Activist
(12th February 2010)

Global Wind Energy – A Short Timeline

The first use of a windmill to generate electricity dates to 1887[3] when Professor James Blyth of Anderson's College, Glasgow, experimented with three different turbine designs, the last of which is said to have operated in his home for 25 years. Shortly thereafter, in late 1887 / early 1888 in the USA, Charles F. Brush built a multiple-bladed post mill with a rotor 17 metres in diameter and a large tail designed to turn the mill (see Figure 1 below). The Brush Machine had a power output of 12 kW and operated for around 20 years. From the end of the 19th Century wind turbines were deployed across Europe, and by the end of the First World War 25 kW output machines had become quite common, notably in Denmark.

In the 1920s and 1930s small scale (1-3 kW) wind turbines were installed in farms and homesteads across the USA and Canada – mainly to provide lighting and energy for radio equipment. In 1931 Georges Jean Marie Darrieus patented the unusual design for the 'Darrieus Machine' which is often referred to as the 'eggbeater windmill'. Large-scale energy production also began in Russia in 1931 with a 100kW wind turbine in Balaclava. This operated for about two years on the shore of the Caspian Sea, generating some 200,000 kWh of electricity.

In Germany during the late 1930s and 1940s, the National Socialist government explored the use of wind power for reasons of 'security of supply'. This interest in wind technology resulted in the development of a significant research programme drawing on the expertise of some of the country's leading engineers – including Ferdinand Porsche. After the Second World War wind turbine deployment slowed, due in part to the fall in oil prices and the consequent availability of cheap electricity. However the technological development path continued to focus on larger machines. In 1941, in America a 1.25 MW turbine was developed in Vermont and is

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[3] There are multiple references for the information in this chapter however a useful summary of historic wind energy development worldwide can be found in Golding (1976) and in Gipe (1995). More recent outlines of the history of European wind energy development can be found in Hayman (1998) and in Neij & Andersen (2012).

commonly cited as the first really large machine – having an output measured in Megawatts and a rotor diameter in excess of 50m.

In the late 1940s in Denmark, wind turbine development was taken forward by the Danish technician Johannes Juul. In 1948, Juul constructed a two blade 15 kW turbine based on the design principles of Ulrich Hutter, an engineer who had been influential in the German wind energy programme. In 1952 Juul built a larger 40 kW turbine and in 1956 he constructed a 200 kW machine with three blades and a rotor diameter of 24 metres. This machine, the Gedser turbine, operated for 10 years until 1967.

In the United States, research into large scale wind was undertaken by Percy Thomas during the early 1940's and early 1950's under the sponsorship of the Federal Power Commission This research culminated in a bid for Congressional funding based on preservation of natural resources (oil) and aiding national defence. As Righter (1996, 140) notes, in the United States, the idea of potential exhaustion of non-renewable fuels for energy was 'not new' as rationing of petroleum had been practiced in wartime. However, concerns regarding international relations – particularly with the Soviet bloc, also raised the potential of threats to domestic energy production so the funding bid was timely. Despite these drivers, Congress decided not to award funding for Thomas's research – in part because of interest in developing nuclear power for non-military use (Richter 1996, 143) and US interest in research into large scale wind energy stalled.

Concern regarding predicted reduction in domestic oil production (Hubbert 1956) and the oil price shocks of the early 1970s stimulated a renewed interest in wind technology (Haymann 1998; Righter 1996). The US government, through NASA, commenced research into large commercial wind turbines and thirteen experimental turbines were constructed in Ohio. By December 1980 this research had blossomed and U.S. Windpower had installed the world's first wind energy project, consisting of 20 wind turbines rated at 30 kW each, on the shoulder of Crotched Mountain in southern New Hampshire.

Wind turbine development over the period 1888 -1981 is shown in Figure 1 below
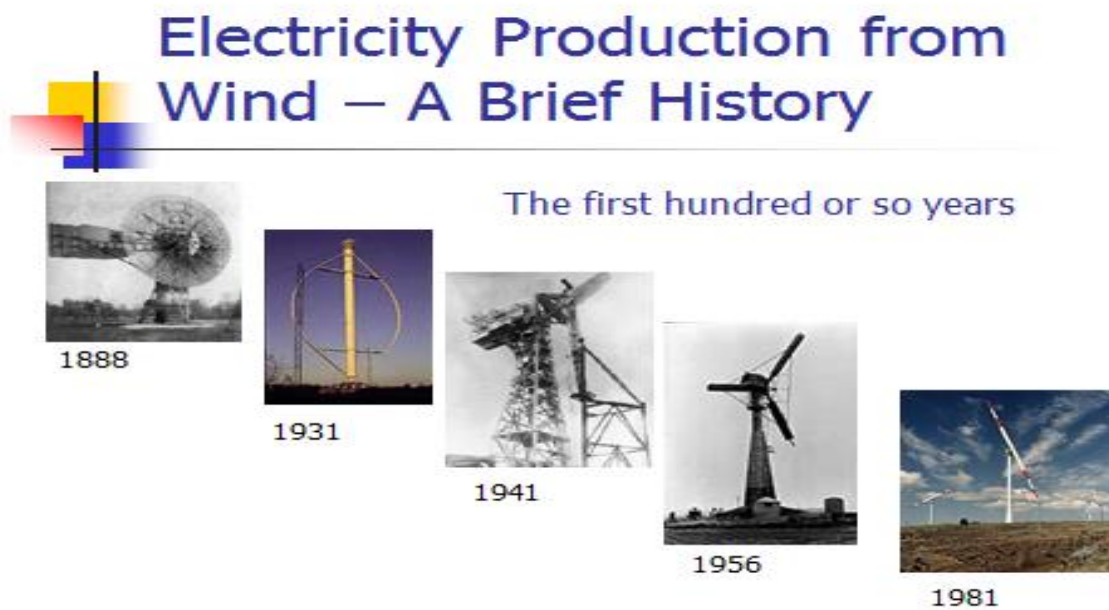
Figure 1: Wind Turbine Development 1888-1981.
Source: Author's Presentation to Alternative Futures & Popular Protest Conference (2009)

Subsequently development of further wind energy projects in California and Denmark marked the start of more widespread commercial production of electricity from wind power. By 1992 there were nearly 16,000 wind turbines in California, and by 1994 the state was producing 47% of world wind energy generated electricity with Denmark and Germany together accounting for a further 34% (Woods 2003b). Despite this international expansion of wind energy during the 1980s, the technology was not adopted in the UK. From 1990 onwards however, the Non-Fossil Fuel Obligation (NFFO) framework provided a significant incentive and the UK wind industry was born.

Over the past three decades single turbines have evolved into wind 'farms' in North America, Europe and in the UK. This evolution is illustrated in Figure 2 below:

Electricity Production from Wind — A Brief History

The last twenty five or so years

1981 Crotched Mountain, USA

1991 Delabole, Cornwall

1992 Cemmaes, Powys

2003 North Hoyle, Wales

Figure 2: Wind 'Farm' Development 1981-2003.
Source: Author's Presentation to Alternative Futures & Popular Protest Conference (2009)

International Wind Energy Deployment

Growth in wind energy deployment has been steady since 1996 and the rate of growth has increased year on year – with the single largest increase in installed capacity in a given year taking place in 2009, an increase of just over 43% compared with the previous year. Annual growth is illustrated in Figure 3 below:

Global Annual Installed Wind Capacity 1996-2012
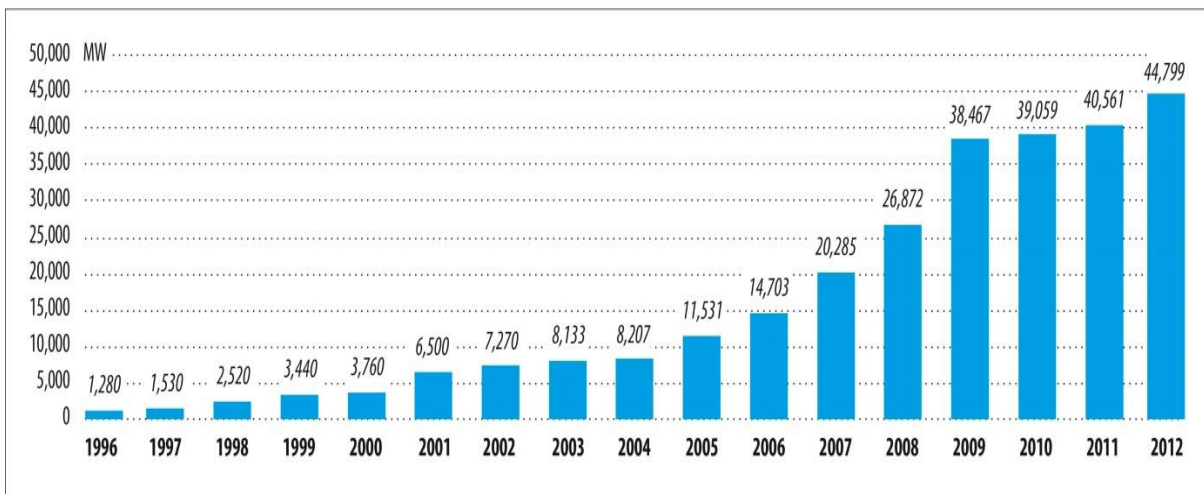
Source: GWEC

Figure 3: Global Annual Installed Wind Capacity 1996-2012.
Source: Global Wind Energy Council (www.gwec.net/wp-content/uploads/2012/06/Global-Annual-Installed-Wind-Capacity-1996-2012.jpg [Online] (Accessed 20/8/2013).

In 1996 the worldwide electricity generating capacity from wind turbines stood at 6100 MW. By the end of 2008 this had increased to more than 120,624 MW (or 120.6 GW) and by the end of December 2012 total wind capacity stood at 282,587 MW (282.6 GW). This is illustrated in Figure 4 below

Global Cumulative Installed Wind Capacity 1996-2012
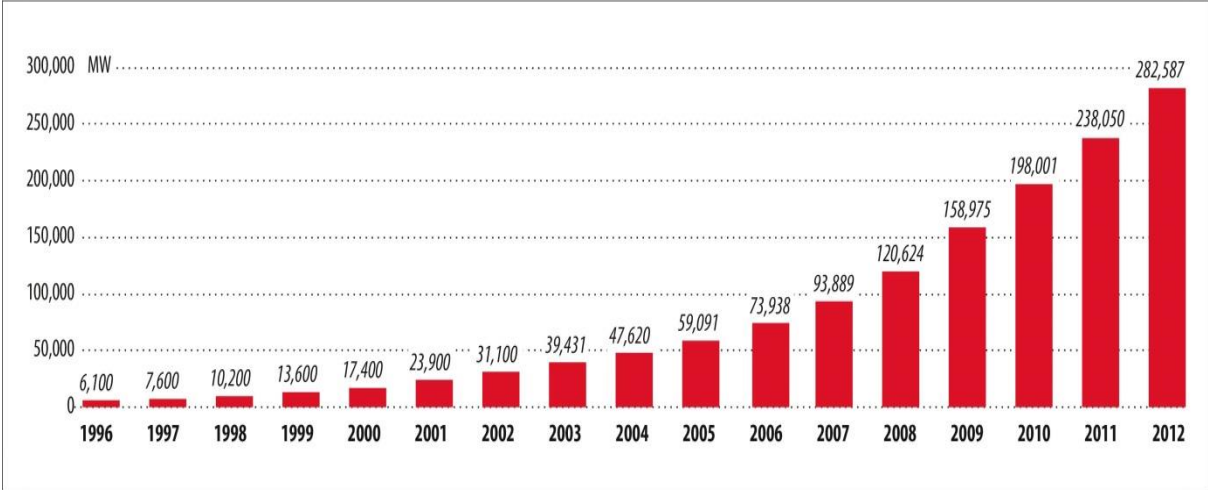
Source: GWEC

Figure 4: Global Cumulative Installed Wind Capacity 1996-2012.
Source: Global   Wind   Energy   Council   (http://www.gwec.net/wp-content/uploads/2012/06/Global-Cumulative-Installed-Wind-Capacity-1996-2012.jpg [Online] (Accessed 20/8/2013).

The varying levels of Wind turbine deployment internationally can be seen in Table 1 below.

The table indicates the growth in installed wind energy between 2008 and 2012. For example from zero installed capacity in 1990, by 2008 there was approximately 3241 MW of wind energy development located in the United Kingdom and by 2012 this had increased by 161% to 8445 MW. The table shows that this increase has not been uniform across all countries with some countries with the largest increases over the period 2008-12 being seen in Mexico (+1512%), Brazil (+635%), China (+516%) and Argentina (+476%).

Table 1: Global Installed Wind Power Capacity in MW – (December 2012)

Country	Area in Km	Installed Capacity 2008	Installed Capacity 2012	2008 One MW turbine every KM	2012 One MW turbine every KM
Denmark	43,094	3,180	4,162	13.55	10.35
Germany	357,021	23,903	31,308	14.94	11.40
Netherlands	41,526	2,225	2,391	18.66	17.37
Portugal	92,391	2,862	4,525	32.28	20.42
Spain	504,782	16,754	22,796	30.13	22.14
UK	**244,820**	**3,241**	**8,445**	**75.54**	**28.99**
Italy	301,230	3,736	8,144	80.63	36.99
Ireland	70,280	1,002	1,738	70.14	40.44
Austria	83,870	995	1,378	84.29	60.86
Taiwan	35,980	358	564	100.50	63.79
Greece	131,940	985	1,749	133.95	75.44
France	643,427	3,404	7,564	189.02	85.06
Sweden	449,964	1,021	3,745	440.71	120.15
Romania	238,391	0	1,905	0.00	125.14
Poland	312,685	472	2,497	662.47	125.22
China	9,596,960	12,210	75,324	785.99	127.41
Japan	377,835	1,880	2,614	200.98	144.54
USA	9,826,630	25,170	60,007	390.41	163.76
India	3,287,590	9,645	18,421	340.86	178.47
South Korea	98,480	236	483	417.29	203.89
Turkey	780,580	433	2,312	1802.73	337.62
Costa Rica	51,100	70	147	730.00	347.62
New Zealand	268,680	326	623	824.17	431.27
Norway	323,802	428	703	756.55	460.60
Nicaragua	120,339	0	102	0.00	1,179.79
Mexico	1,972,550	85	1,370	23206.47	1,439.82
Morocco	446,550	134	291	3332.46	1,534.54
Tunisia	163,610	54	104	3029.81	1,573.17
Canada	9,984,670	2,369	6,200	4214.72	1,610.43
Egypt	1,001,450	365	550	2743.70	1,820.82
Australia	7,686,850	1,306	2,584	5885.80	2,974.79
Uruguay	175,016	0	52	0.00	3,365.69
Brazil	8,511,965	341	2,508	24961.77	3,393.93
Philippines	300,000	33	33	9090.91	9,090.91
Pakistan	796,095	0	56	0.00	14,215.98
Argentina	2,766,890	29	167	95410.00	16,568.20
Iran	1,648,000	85	91	19388.24	18,109.89
Ethiopia	1,127,127	0	52	0.00	21,675.52
Venezuela	916,445	0	30	0.00	30,548.17
Cape Verde	-	12	24	-	-
Caribbean	-	55	271	-	-
Pacific Islands	-	12	12	-	-
Other Asia	-	6	108	-	-
Other Africa & Middle East	-	31	23	-	-
Other Latin America	-	45	229	-	-
Rest of Europe	-	1,126	4,185	-	-
World		**120,624**	**282,587**		

Sources: Global Wind Energy Council (www.gwec.net) & www.geohive.com [Online] (Accessed 14/01/2013). N.B Some individual country capacities are reported differently in different GWEC publications.

With some caveats, the table also illustrates the extent to which the deployment of wind energy has impacted on the land area of countries across the world (i.e. the *density* of wind energy development). This is shown in the columns on the right hand side of the table and is derived by dividing the land area of each county by its wind energy installed capacity. If we take each wind turbine to have an installed capacity of 1 MW then the table can be used to illustrate the impact of turbines on the land area of countries. The smaller the number in the columns on the right, the smaller the distance between turbines – or conversely the greater the density of turbine deployment.

The caveats associated with the above are that:

- Not all turbines in each country's installed capacity have been developed on land
- Not all turbines are of 1 MW capacity

However, offshore development to date has been generally visible from the coastline. When considering the impact on communities and individuals, turbine visibility is important (see Sullivan, *et al.*, 2013 for review of research in this area) and thus as a measure of the visual impact, density as calculated above is a useful one.

Additionally as indicated in Figure 6, while more recent turbines have had a larger capacity, earlier models were typically sub 1MW so averaging is possible and a 1MW average is not unreasonable.

Wind Energy - The UK Experience

Onshore Wind

The first large-scale onshore wind project in the UK was constructed in Delabole, North Cornwall in 1991. This development comprised ten 400 kW turbines with a total generating capacity of 4MW and is still operational.

The first onshore wind energy project in Wales was built at Cemmaes in Powys and became operational in October 1992. Comprising twenty four two bladed 300 kW turbines this was swiftly followed in November 1992 with a

similar sized development at Rhyd-y-Groes on Anglesey. A few months later, January 1993 saw the construction of the largest wind energy development in Europe situated at Llandinam in Powys with one hundred and three 300 kW turbines.

The first onshore wind energy project in Scotland – Hagshaw Hill, in South Lanarkshire, became operational in 1995. The project comprised twenty six 600kW turbines and was subsequently extended by a further 20 turbines in 2008. As at August 2014, Renewable UK, the trade body representing the wind industry declared there to be 628 onshore wind energy projects across the UK comprising some 4560 individual turbines.[4]

Offshore Wind

The first offshore wind energy project in the UK was developed at North Hoyle, off the North Wales coast between Prestatyn and Rhyl in 2003 and consists of thirty 2 MW turbines. As at August 2014, Renewable UK, the trade body representing the wind industry declared there to be 22 offshore wind energy projects across the UK comprising some 1075 individual turbines.[5] The location and size of onshore and offshore wind energy projects in the UK in 1997 and as at the end of 2008, 2012 and 2013 is shown in Figure 5 below.

The growth in onshore wind energy developments over the past four or so years has been particularly pronounced in Scotland and Northern Ireland as can be seen above. Scotland has experienced a particularly pronounced growth in large (over 40 MW) developments over this period. Offshore developments have also expanded and at the same time have been subject to a step change in size of development from half a dozen large (over 40 MW) sites in 1988 to over a dozen sites including one – the 140 turbine Greater Gabbard Wind energy development with a capacity of over 500 MW.

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[4] http://www.renewableuk.com/en/renewable-energy/wind-energy/onshore-wind/index.cfm [Online] (Accessed 25/8/2014).
[5] http://www.renewableuk.com/en/renewable-energy/wind-energy/offshore-wind/index.cfm [Online] (Accessed 25/08/2014).

1997
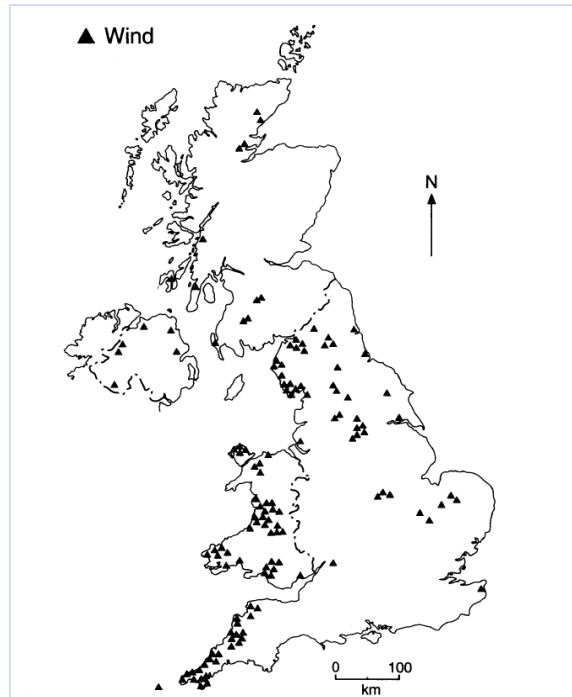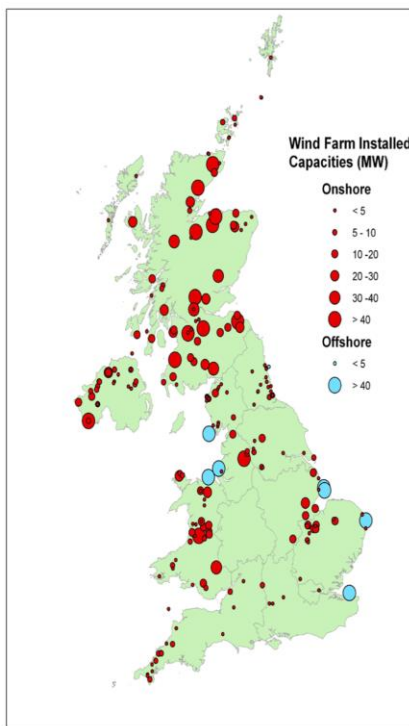
December 2008 **December 2012** **December 2013**
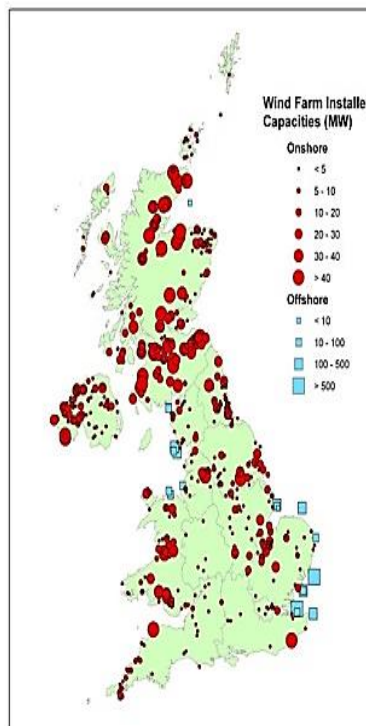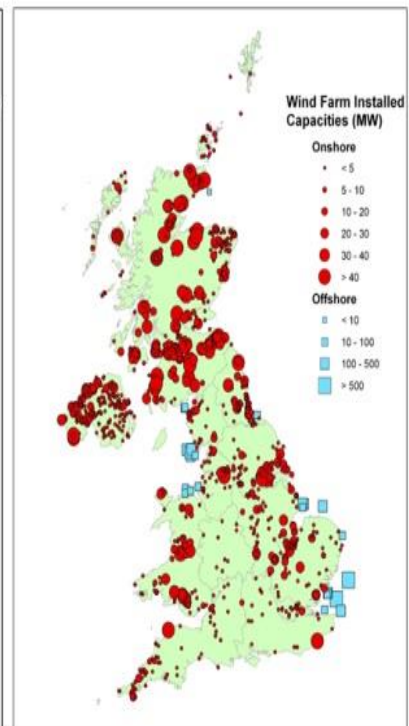
Figure 5: Wind Energy Installed Capacity, UK, 1997, December 2008, 2012 & 2013
Sources: Walker (1997, 70); DUKES (2009, 190) & Department of Energy & Climate Change,
RESTATS Wind Farm Capacity Maps[6]

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[6] https://restats.decc.gov.uk/cms/wind-farm-capacities-map/ [Online]
(Accessed 17/08/2014).

Wind Turbine Size

Growth in turbine height and rotor diameter is illustrated in Figure 6 below, recently used in a report to the Intergovernmental Panel on Climate Change.
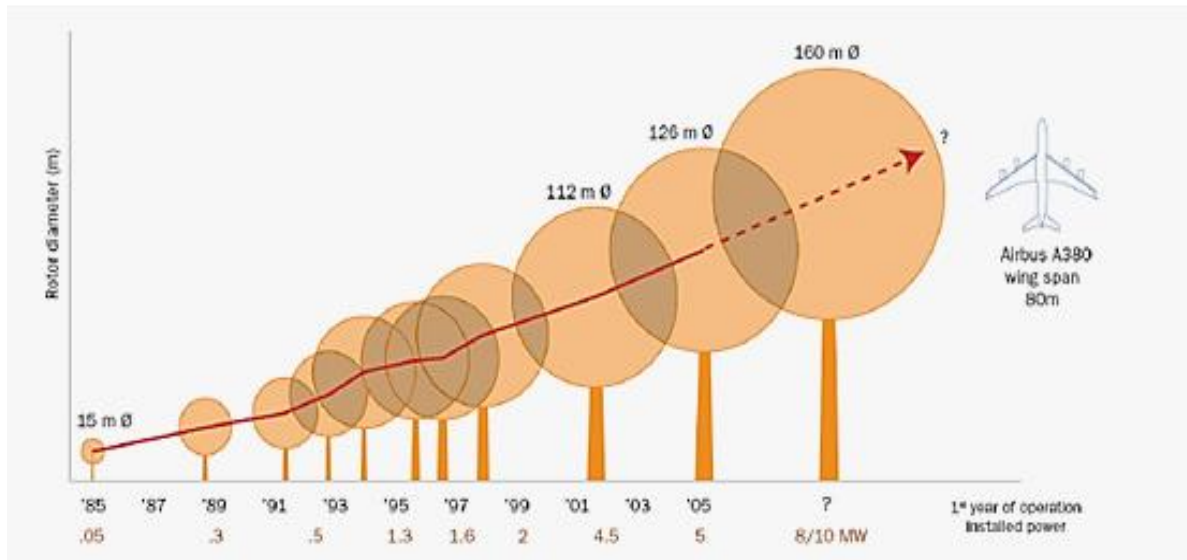
Figure 6: Wind Turbine Size over Time.
Source: Zervos (2008, 121)

Turbine size has increased steadily since the 1880s. The Brush Machine of 1887/8 had a turbine diameter of 17m. By 1956 Juul's Gedser Turbine had a rotor diameter of 24m and the NASA Mod 2 turbine pictured in Figure 1 had a swept area of 91m by the early 1980s. Notwithstanding this, until the mid-1990s turbines were generally sub 1 MW and below 100m in diameter. The period from the late 1990s however saw a significant increase in turbine size – both in terms of height and rotor diameter. Typically turbines of 2-3 MW and 126m (over 400 feet) in height are now being proposed for larger wind energy developments. A 2MW turbine has a turbine diameter equivalent to the wingspan of an A380 Airbus.

As turbine numbers and size have increased over the course of past twenty years or so opposition to wind energy has become more widespread in the UK, US, Europe – in fact in all countries where wind energy developments have been proposed.

Wind Energy Resistance

The deployment of large-scale wind energy projects has been met by growing resistance in many developed countries. There are now organised protests in North America, South America, Europe, Asia, Australasia, and Africa (Szarka 2004a; 2004b) and within the UK there are active groups in England, Wales, Scotland and Northern Ireland. Opposition has been expressed at multiple levels including:

- Individual level action through letter writing campaigns, books and websites concerning both the specific evils of individual wind energy developments and of government policy (see *The Battle for Cefn Croes* by Kaye Little; *Force 10* by Elizabeth Mann etc.).

- Localised individual and group opposition to specific wind development – mainly through the planning process (see Cowell 2007).

- Coordinated activity by individual protest groups such as Protest Walks, Rallies, parliamentary and devolved administration lobbying.

- Regional and sub-regional level opposition through organised / constituted coordinating groups – such as Fells (www.fells.info).

- National level coordinated opposition through constituted or otherwise formally organised bodies – such as National Wind Watch (www.wind-watch.org) in the United States, Vent de Colere (www.ventdecolere.org) in France and Country Guardian in the United Kingdom.

- Pan Continental level opposition through organised bodies such as The European Platform Against Windfarms (www.epaw.org) and The North America Platform Against Windpower (www.na-paw.org).

Similarly the tactics adopted by activists have been many and varied and include:

- Submission of individual and group representations on individual planning applications and participation in planning appeals.

- Rallies and Protest Walks / Marches and Picnics.

- Lobbying of elected representatives – Councillors, Assembly Members, MPs, MEPs, US Senators and Representatives including e-petitions such as the one shown in Figure 8 below.

Figure 8: Anti-Wind E Petition from Residents of Norfolk (2012)

- Written work – books, letters, flyers, newsletters, adverts, paintings & poetry and cartoons such as those shown in Figure 9 below
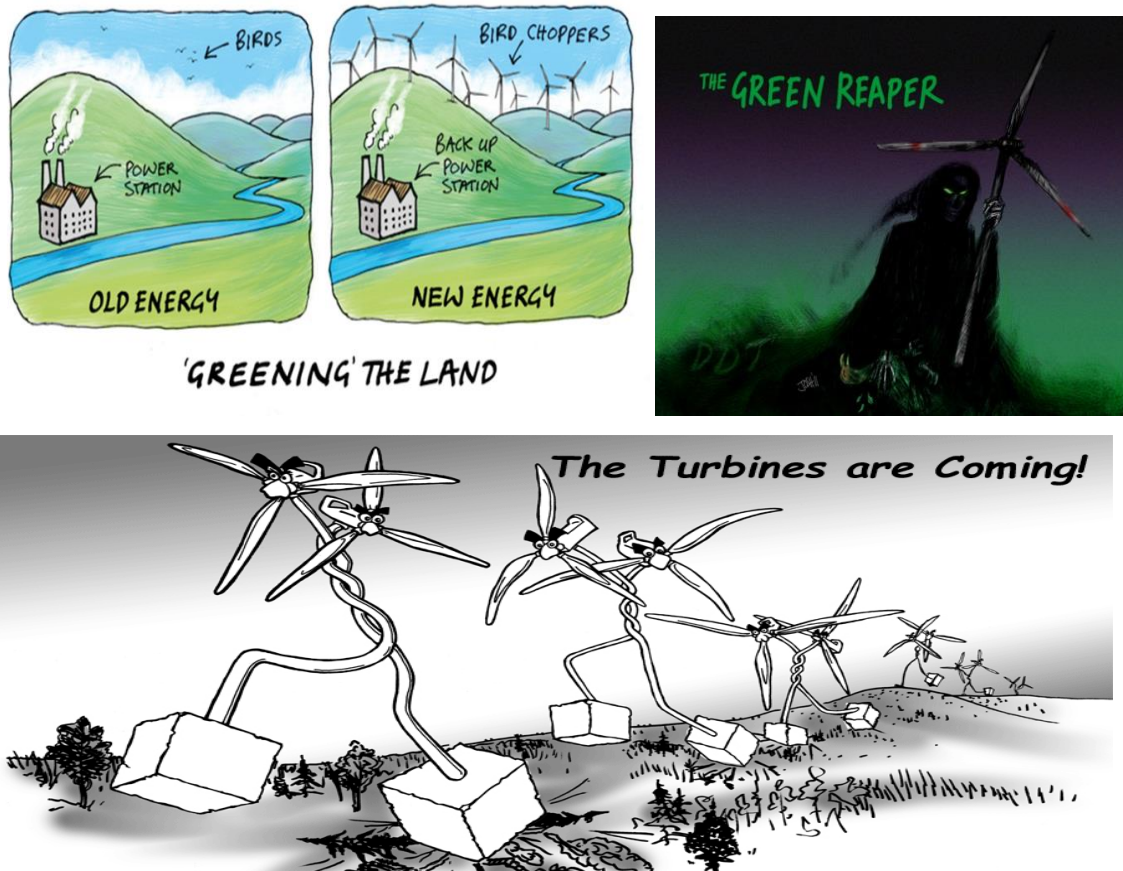
Figure 9: Anti-Wind Energy Cartoons

Figure 10: Anti-Wind Energy Literature

- Music & film – including concerts, pop songs and documentaries such as 'Windfall'. See Figure 11 below

Figure 11: Artistic Expressions of Opposition to Wind Energy

- Lectures, Slideshows; Seminars and Conferences
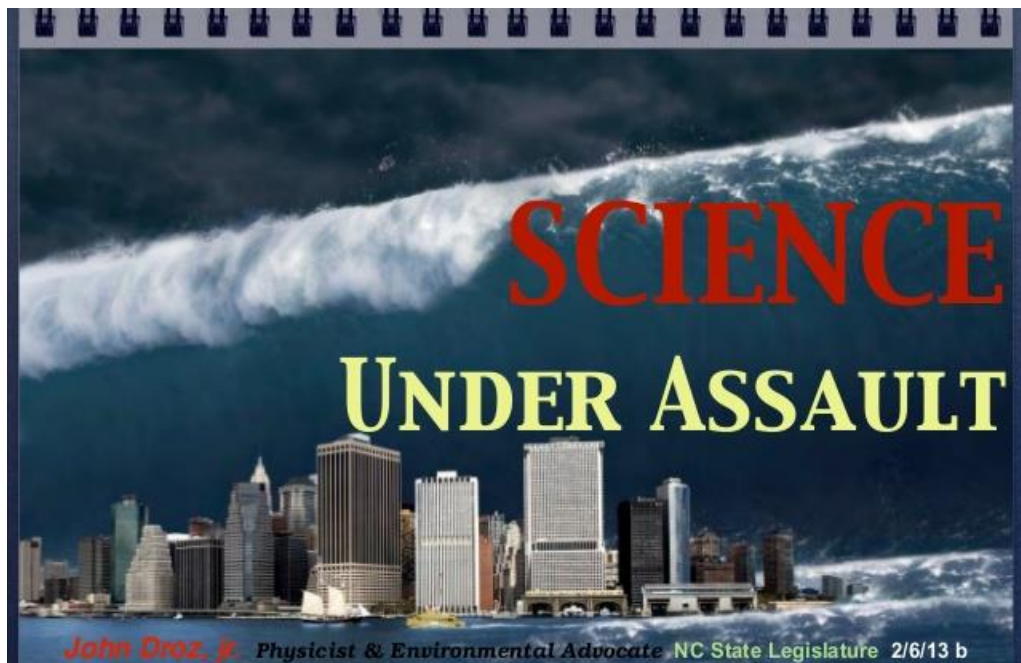
Figure 12: J Droz Lecture to the North Carolina State Legislature (2013)

- Use of websites and social media
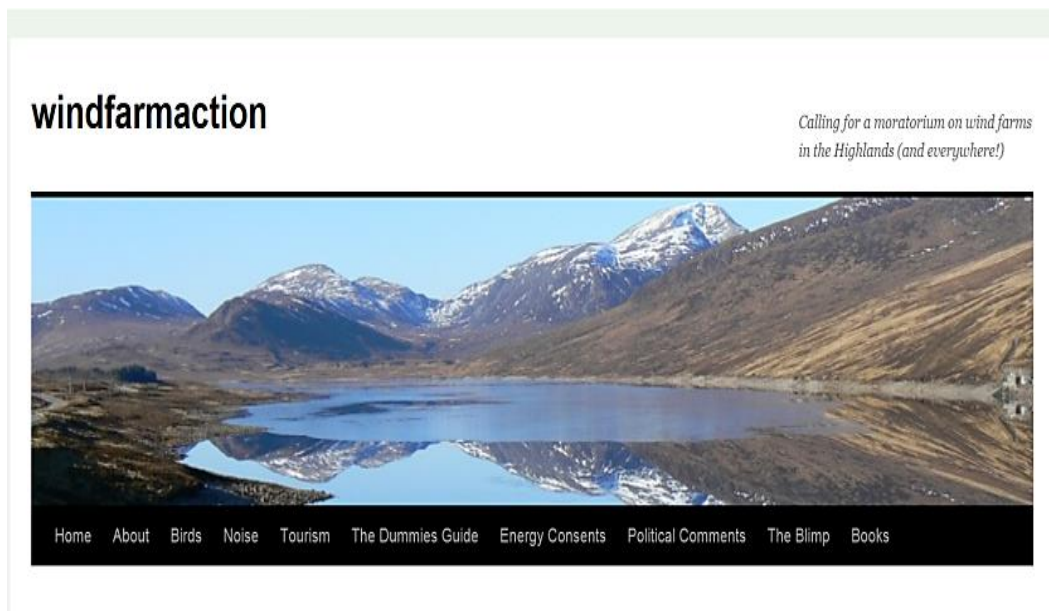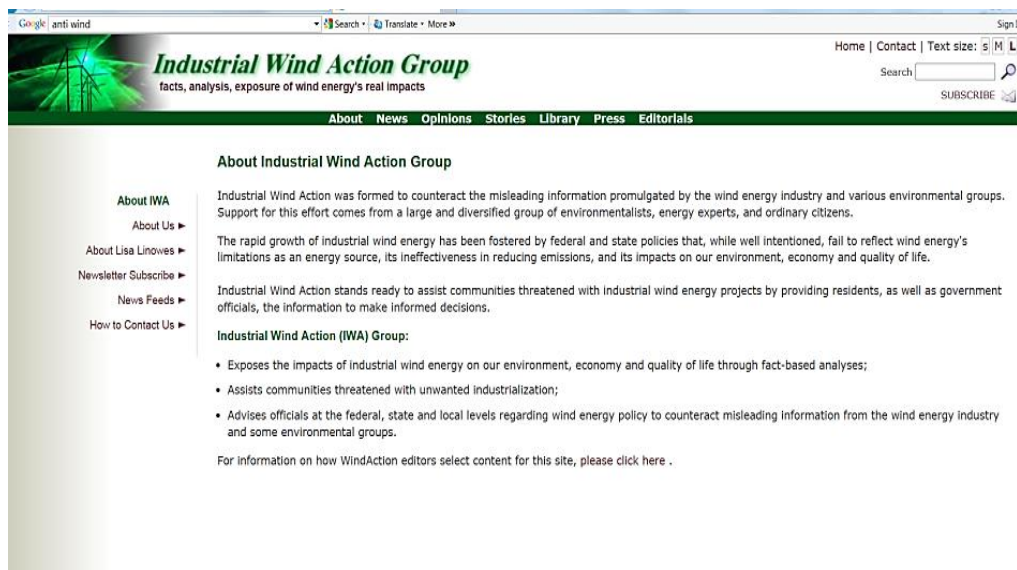
Figure 13: US & UK Anti-Wind Websites

The territory anti-wind activists contest is less varied as the land use planning process of developed countries constrains debate to 'planning matters'. As a consequence of National Policy Statements on Renewable Energy, local debates are constrained and do not consider key principles such as Climate Change or the benefits of renewable energy – such matters being considered as 'decided policy'.

Instead, at a local level objections focus on matters which have a largely physical environmental impact such as

- Landscape and visual impact
- Noise
- Hydrology
- Ecology
- Construction

As a consequence of the above the local debate is often a technical one – which by its nature tends to constrain full public participation. This phenomenon is not unusual and is not limited to the technical debate concerning renewable energy development.

At national and international level the debate expands to include the principles referred to above focussing on the scientific validity of underpinning policy; the question of subsidies for renewable energy; the efficiency / inefficiency of wind energy compared with other low carbon energy sources (such as nuclear); alleged media and academic bias towards renewable energy and the requirement for public participation in environmental policymaking (Aarhus Convention).

Thus the territory that is contested can be both narrow and broad depending on the level at which the debate takes place. What is significant about this is that there is a national and international debate and that this unites individuals and groups.

CHAPTER 2 – LITERATURE REVIEW

Introduction

The literature review for this thesis could extend to a hundred thousand words on its own as the potentially relevant research fields are many and varied. In thinking about how best to present the results of what has been an extensive review of the literature concerning wind energy – and its opposition, the following approach has been adopted.

In this section of the thesis, the existing published literature on wind energy is analysed according to the discourses present. This chapter considers three main discourses - a Technical Discourse; a Public Opinion / Attitudes Discourse and a Protest Discourse. The primary focus is on Public Opinion / Attitudes.   The aim of the chapter is to highlight key concepts and approaches in the study of the human interface with wind energy and to critically appraise the research in this area. The literature on attitudes to wind energy is considered from historical, contextual and methodological perspectives and from these, conclusions are drawn as to the adequacy and evolution of explanations for opposition behaviour.

In **Chapter 3**, and building on the above, the research is placed within a theoretical context by identifying some of the theoretical / philosophical standpoints from which the research questions might be approached. Three core theoretical perspectives are considered:

- An assessment of the reasons for wind energy development drawing on classical Marxism. This highlights the role of the state in facilitating new means of production (of energy) and argues that new relations of production have arisen and underpin some opposition behaviours.

- A brief outline of Ideology and Identity as additional bases for opposition, drawing on the theory of Place Attachment.

- A similarly brief overview of parts of the Social Movements and Social Networks literature as a basis for contextualising collective opposition behaviour.

Wind Energy Literature

The body of literature on wind energy is both extensive and well established. Relevant journals include *Energy Policy*, *Wind Energy*, *Wind Engineering*, *The Journal of Renewable and Sustainable Energy*, *The International Journal of Renewable Energy Research*, *The Journal of Wind Energy* and *Renewable Energy*.

The wind industry associations also produce their own 'in house' publications in the UK (*Real Power*) and Europe (*Wind Directions*). In the USA and globally the American Wind Energy Association and Global Wind Energy Council produce a multiplicity of reports and publications, the content of which are frequently cited by policymakers and academics. In addition to the above, industry sponsored wind energy *Conference Proceedings* are regularly published[7] and there is a steady stream of publications on particular topics (often associated with the environmental consequences of wind energy development) such as noise, hydrology, and landscape impact.

Wind energy research also attracts funding from a number of official sources. In the United States the US Department of Energy and National Renewable Energy Laboratory have published or sponsored a considerable number of studies into wind energy via the Wind Programme and – as in the UK, a number of Universities have developed centres of excellence in wind energy (e.g. University of Massachusetts). The European Union has also funded research into wind energy with over 40 projects receiving a total contribution of more than EUR 60 million since 2002[8]. The UK Engineering and Physical Sciences Research Council has made funding awards of £4.9m

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[7] See http://proceedings.ewea.org/annual2012/proceedings/Full%20papers.zip [Online] (Accessed 09/09/2013).

[8] See http://ec.europa.eu/research/energy/eu/index_en.cfm?pg=research-wind-support [Online] (Accessed 09/09/2013).

over the period 2008/14[9] and the Social Research Council has granted researchers £2.114m over the past ten years[10]. As a consequence of the above there is a significant and growing volume of material being published on wind energy.

Discourse

In the context of this literature review, the definition of 'discourse' adopted is that in Foucault's *Archaeology of Knowledge* wherein it is seen as

> '....the group of statements that belong to a single system of formulation' (1972, 121) or 'a certain way of speaking'   (1972, 213)

It is applied in the sense that Norman Fairclough uses it –

> '..as a category for designating particular ways of representing particular aspects of social life'   (2013, 453)

In this context discourse is an organising principle – it allows the designation of speech and texts by perspective – for example, texts can be thought of and organised as economic discourses, political discourses, scientific / technical discourses and the like. Of course a deeper analysis could be applied whereby the texts, visual imagery, verbal statements and other 'social practices' are deconstructed to reveal underlying social structures and relations – however this would be another PhD.

The aim in this part of the thesis is more strategic – it is to categorise the extensive and well established literature on wind energy and to generate insights into the body of material written about wind energy from which we might better understand the subject generally. It aims to identify what is being written on the subject of wind energy and to identify from what perspective it is being written. I should also distinguish between 'Discourse' and 'Narrative' at this stage as both terms are used in the chapter and throughout the thesis. Narrative is a mode of discourse which involves 'story

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[9] See http://www.epsrc.ac.uk/SiteCollectionDocuments/ourportfolio/Wind%20Power.pdf [Online] (Accessed 09/09/2013).
[10] Freedom Of Information request to the ESRC made by the author on 9th September 2013.

telling' and while no single definition or approach exhausts all of the meanings ascribed to narrative (Davis 2002, 11); it can be thought of as,

> ' .. a meaning structure that organises events and human actions into a whole, thereby attributing significance to individual actions and events according significance to their effect on the whole.'

> (Polkingorne 1988, 18)

Within a particular way of speaking about aspects of social life, narrative storytelling may be employed by social actors. Such narrative can assist in the creation or maintenance of collective identity (Polletta 1998) and the extent to which it is employed by anti-wind energy activists is outlined when discussing **Protest Discourse** below.

Wind Energy Discourses

Several distinct discourses can be identified within the wind energy literature. These include a **Technical Discourse**, a **Public Opinion / Attitudes Discourse** and a **Protest Discourse**.

Technical Discourse

The Technical Discourse is perhaps easiest to appreciate but not particularly accessible. Wind turbines turn the kinetic energy of the wind into electrical energy without the need for significant amounts of fossil fuel inputs and there is a large and growing body of knowledge devoted to the engineering challenges associated with turbine design & performance. The Technical Discourse also focuses on the measurement of efficiency / inefficiency on the environmental benefits / consequences of this form of energy generation. There are several threads to this broad area including energy output, noise, CO_2 'savings' (when compared with fossil fuel generation); technical problems associated with intermittency and grid connection, together with the ecological, hydrological and economic impact of wind turbines etc. (see Henriksen (2009a) and (2009b) for detailed reviews of this technical literature).

Another important element of the technical discourse relates to procedural aspects of wind turbine deployment – particularly focussing on the Land Use Planning system. In the United Kingdom and abroad, multiple authors have focussed on the barriers to implementation of wind energy from an administrative /procedural perspective.

One of the earliest attempts to explain the 'Implementation Gap' for wind energy development was undertaken in 1995 by Angela Hull; a chartered town planner with a postgraduate qualification in sociology. Hull explored development control (Planning application) processes and decisions within Welsh Councils in the early 1990s utilising a case study of wind energy developments within Montgomeryshire District Council - one of the largest Welsh Councils and host to the first wind energy development in Wales at Cemmaes (see Figure 2). The Council was also the relevant planning authority for the Llandinam wind energy development which when opened in 1992 was the largest in Europe. Hull emphasised the fragmented nature of Government policy at that time and the absence of clear strategic advice as barriers to wind energy (Hull 1995, 299-300) and advocated a more comprehensive approach to deal with the competing objectives of landscape protection and renewable energy production. Specifically, Hull advocated:

> 'A rational - comprehensive approach to the development of a policy framework for windfarms would require the formulation of strategies and performance criteria covering the following three elements:
>
> (1) county or regional based assessment of the physical carrying capacity of the area utilizing windspeeds and the physical characteristics of the landscape;
>
> (2) detailed assessment of what contribution the area should make to government targets for renewable energy generation;
>
> (3) specific guidance on the design and locational criteria to minimize landscape impact.   (1995, 300)

Hull's recommendations have been acted on by Welsh Government policymakers and are now reflected in a more strategic approach to spatial

planning in Wales, with the production of the Wales Spatial Plan in 2004 and Technical Advice Note 8 (Planning and Renewable Energy) in 2005[11]. In the United Kingdom the production of National Planning Policy Statements (EN1 – Energy and EN3 – Renewable Energy Infrastructure) in 2011 reflects the culmination of this 'comprehensive' 'top down' approach to solving the 'planning problem'.

In 2005 David Toke – a political scientist and academic member of the British Wind Energy Association (BWEA), also carried out research which focussed on the success rates for planning applications. Toke's research (Toke 2005) focussed on the influential role of pressure groups such as the Campaign for the Protection of Rural England / Wales and Ramblers Association alongside well organised local anti-wind energy groups in influencing local Parish Councils and Councillors on Planning Committees.

Toke explained that his research was important for academic purposes but also because it could '..throw light on how planning problems can be mitigated' (2005, 1527). Arising from the research, Toke made a number of suggestions to mitigate the 'planning problem' including encouraging wind energy developers to undertake greater local political activity, engage local communities more effectively and sell shares in wind energy developments to local people.

Community engagement – through deliberative participation in both policy and project development is also highlighted by Cass (2006). 'Having a stake' in projects is considered to be a key influence in generating positive views of proposals and the inadequacy of opportunities for deliberative participation in renewable energy policy and project development and appraisal is summarised:

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[11] See also Cowell (2010) for discussion of the Welsh Assembly's approach to spatial planning in the context of wind energy.

'Existing statutory responsibilities as represented by the planning laws and even public enquiries seem to provide the main existing channels for deliberation of projects, at too late a stage to avoid objections, and the perceived narrowness and 'desultory' nature of these channels and of the 'consultation' efforts currently taking place around RET implementation are another cause of the responses that are characterised as NIMBYism.'   (2006, 36)

Again the emphasis of the research – (which like that of Toke was funded by the ESRC's UK Energy Programme) - was on 'removing barriers to public acceptance' and of 'managing uncertainty' in renewable energy deployment.

Cowell - a geographer also referred to 'The Planning Problem' (Cowell 2007 & 2010) and sought to highlight the tension between 'process' and 'outcome' ethics when wind energy developments are proposed. He writes:

'In conflicts over wind energy and planning, commentators typically assess events through a priori commitments either to particular democratic ideals (such as participatory democracy), or the delivery of desired policy outcomes (such as wind power expansion). Efforts to bridge these ethics typically create tensions or silences.'   (2007, 302)

Simao, *et al.*, (2009) focus on the use of Geographic Information Systems to aid 'collaborative planning' of renewable energy projects, using the example of a wind energy development in Norfolk. The key proposition within the paper is that by using new technology – the Internet, and making spatial planning data available to the public, a more inclusive approach to planning can be made possible which aids acceptance of decisions when made:-

'...spatial planning cannot be the enterprise of a sole person. Instead, it must result from a collaborative process, whereby a range of stakeholders (experts and lay-persons) are able to voice their concerns and work on a compromise solution. Only through such a process can the final outcome be accepted by the majority.'   (2009, 2027)

Interest in the process of gaining consent for wind energy developments is not limited to the UK experience alone. In the United States, Throgmorton (1987) – an academic urban planner reviewed the processes involved in

developing wind energy in California – specifically the disputes in the early 1980s surrounding the San Gorgonio wind energy development and the reaction of both planners and the public. Throgmorton's study asserted that

> 'Local planners impeded development because the existing political structure of electric power supply did not permit the risks and benefits of wind energy development to be allocated in a manner that local residents considered fair' and that 'Local residents said time and again that if their electric power rates were reduced they would be happy to allow more wind energy development.'   (1987, 364)

Gross (2007) – an environmental scientist - explored the question of 'procedural justice' based on an Australian wind energy case study. The research analysed the decision making process for a 69 turbine development in rural New South Wales and highlighted the importance of perceived 'fairness' – both in terms of process but also in terms of outcomes. The research

> '...suggests that there are three types of fairness that matter: outcome fairness, outcome favourability and process fairness. Which one of these types of fairness is dominant depends on the individual's circumstances and attitude to the development. Those with a personal loss or gain, or a strong belief for or against the development, will be influenced by outcome favourability.
>
> Individuals who are neutral, either with no fixed opinion or who can see both sides of the debate will be more influenced by outcome fairness because this maintains a balance and community cohesion. In order to achieve outcome fairness, particularly, where there are both pros and cons to the outcome, then a fair process is required.'
>   (2007, 2735)

Rosenberg (2007) – a Professor in Law at the William & Mary Law School also explored

> 'what decision-making process should be used to analyse and decide future wind power siting requests, what analytical factors should be included in the wind power location decision, and who should have the final "say" on wind power siting determinations?'   (2007, 642)

More recently, Wolsink (2010) specifically refers to the 'Technocratic Planning Perspective' relating to Off Shore wind energy development in the Netherlands. He insightfully concludes the study by suggesting that

> '..the development of wind power highly depends on the degree to which planning regimes stimulate or impede collaborative approaches to the development of wind power schemes'.   (2010, 206)

In a similar vein, Phadke (2010) encourages a more deliberative approach to visualisation of wind energy developments. Using the Cape Wind offshore wind energy development as an example, Phadke calls for more emphasis on visualisation technologies and greater 'upstream' investment in consultative activity involving

> '..citizens in all phases of public policy, including research and discovery stages, to avoid parochial NIMBY responses to policy decisions'   (2010, 5)

In all of the preceding papers, the research focus has been on reducing the frequency of failure for wind energy development applications by finding ways to make such developments more understandable, through improved strategic policy guidance (Hull 1995), and enhanced consultation processes embodying inclusivity and fairness (Throgmorton 1987; Toke 2005; Cowell 2007; Gross 2007; Phadke 2010).

A further component of the technical discourse revolves around the growth of the wind energy industry and the market for renewable energy. As Vasi (2011, 5) notes, two perspectives dominate this section of the literature – technical explanations for market growth, focussing on wind turbine developments and issues associated with grid connection etc. and a second perspective focussing on economic analyses of the market including incentives such as Feed In Tariffs. While acknowledging the significance of these approaches, Vasi argues that the activities of the Environmental Movement have also been important in stimulating the market for wind energy (2011, 7). Vasi's thesis is examined in more detail in **Chapter 3**.

These elements of the technical discourse on wind energy are to a large extent based on 'problematizing' wind energy opposition and removing barriers to wind energy deployment. This is hardly a neutral perspective and as Aitken (2010) notes is based on a number of key assumptions which are not always supported by evidence - including the asserting that

> '1. The majority of the public supports windpower.
> 2. Opposition to windpower is therefore deviant.
> 3. Opponents are ignorant or misinformed.
> 4. The reason for understanding opposition is to overcome it..'
>
> (2010, 1834)

Aitken's critique of the first assumption – that the majority of people support wind power is a useful introduction to the second discourse present within the wind energy literature – which relates to **Public Opinion / Attitude.**

Public Opinion / Attitude Discourse

This discourse has been, according to Ellis, *et al.*, (2006, 4), 'the dominant topic of social science research' (into wind energy) and seeks to explain attitudes and in particular, opposition to wind energy deployment. Again this is an international discourse within which a number of specific threads can be identified.

Public Opinion

Firstly, there is a considerable amount of material on **Public Opinion** – both in the UK and abroad, with surveys conducted nationally and locally. Although Devine–Wright (2005) suggests that there was 'extensive international opinion polling since the 1970s' (2005, 126) the reality is that, there were very few opinion polls specifically focussing on wind energy until the early 1990s. As the volume of polls is large I will not attempt to cover all time periods but will rather concentrate on a sample of early and recent studies to give a flavour of the types of surveys carried out and their headline findings.

Early National Studies

Across Europe, the European Commission started tracking public attitudes about solutions to the 'energy crisis' from the early 1980s[12]. In 1982, renewable energy – described as solar, biomass and tidal energy was identified as a preferred solution to the crisis by 51% of survey respondents. This had increased to 53% in 1984; and to 56% in 1987. In 1989 the survey question changed to focus on questions of price stability, reliability and pollution and wind energy was first mentioned as a specific technology in the 1991 survey.

In the United States, there was, as Gamson & Modigliani (1989) recount, an active anti-nuclear discourse which generated a flurry of media activity around Earth Day in 1970 and then declined until the events of the Three Mile Island nuclear incident in 1979, brought the issue of energy sharply back into focus (1989, 17). While concerns regarding nuclear energy were growing, awareness of specific renewable energy technologies was not high as Farhar (1994, 227) observed in a briefing to the US Department of Energy

> '..almost no data were available on alternative fuels. Most people appear not to know much about them.'

The position was similar in Sweden in the 1980s and early 1990s. There was considerable anxiety regarding nuclear energy following the Three Mile Island incident, (which culminated in a decision in 1980, to phase out this technology after 2010 (see Carlman 1988). However this was coupled with limited public awareness of the specifics of renewable energy technologies and it was not until 1999 that the SOM (Society, Opinion & Media) surveys included specific questions on specific renewable energy sources (Holmberg & Hedberg 2012, 93).

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[12] See http://ec.europa.eu/public_opinion/archives/eb_special_en.htm European Omnibus Surveys. [Online] (Accessed 23/11/2013).

Public awareness started to increase from the early 1990s and Krohn & Damborg (1999) report on a number of opinion polls in the period 1993-1996. In 1993 the Danes were asked if Denmark should aim for a higher utilisation of wind power and reported that 82 per cent of the population were in favour of more wind power (Danish Wind Industry Association, 1993). In Canada, a 1995 poll[13] commissioned by the Canadian Wind Energy Association asked Canadians if they would like to see their local energy give a high priority to wind generated electricity in their province. According to this survey 79 per cent of the Canadians believed that wind generated electricity should have a high priority. Support for wind energy showed a similar pattern in the Netherlands with 80% of the Dutch population in favour of wind energy, 5% opposed to it, and 15% neutral (Gipe 1995). In the UK Simon (1996) reports that 80% of respondents to thirteen research studies carried out between 1990 and 1996 were in favour of wind power.

By 2001 public awareness of the specifics of renewable energy had increased to the point that the polling organisation Gallup was reporting that 77% of US citizens favoured spending more government money on developing solar and wind power[14]. Popular support increased to a peak of 81% in 2007 followed by a fall back in support in 2012 (69%).[15]

In 2003 the UK Department of Trade and Industry (DTI 2003) commissioned research into Attitudes and Knowledge of Renewable Energy amongst the General Public. The survey focussed largely on attitudes to onshore wind in the UK and the sampling methodology allowed for 'boost' groups to be included based on geographical proximity to a renewable energy site (i.e.

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[13] Omnibus Report (1995). Public Attitudes Towards Wind Energy, Canadian Wind Energy Association and Environmental Monitor, Toronto.
[14] See http://www.gallup.com/poll/1897/Americans-Mostly-Green-Energy-vs-Environment-Debate.aspx [Online] (Accessed 27/3/2014).
[15] See http://www.gallup.com/poll/1615/environment.aspx#3 [Online] (Accessed 27/3/2014).

respondents living within 5 km of a wind energy development or similar). The survey contained a number of interesting findings including:

- 90% of those interviewed thought renewable energy was a good thing and 55% of supporters of wind energy developments explained their support in terms of 'the greater good' or 'environmental benefits'.
- Understanding of what renewable energy actually consisted of was general rather than specific. Only 19% of respondents spontaneously gave an example of at least one type of renewable technology in their answer, with mentions of wind and solar being most common.
- There was greater support for siting wind energy developments further away from communities (24% suggesting that siting should be at least 5 miles away compared with 11% believing that siting within 0.5 miles was acceptable).
- 19% of respondents would object to an onshore wind energy development being developed in their area compared with 29% who would strongly support such a proposal. Of those who opposed wind energy, 44% - the largest proportion objected on grounds of visual intrusion.

Recent National Studies

In 2010 a national poll conducted by IPSOS/MORI asked whether people in the UK would support the development of various forms of energy production within 5 miles of their home. The results provided respondents with a choice of wind, coal and nuclear power stations. 30% of respondents said that they would strongly support wind and a further 43% of respondents indicated that they would tend to support wind energy. The survey was repeated in 2012 by the Guardian newspaper and strong support increased to 35% but those tending to support the idea of a wind power

station had fallen to 25%. While overall support had fallen from 73% to 60% it remained stronger than for Coal (21%) or Nuclear (14%).[16]

In 2012 ICM conducted a poll on behalf of the UK Cooperative Society for the launch of its 'Manifesto for a Community Energy Revolution' (ICM 2012).[17] The survey found that 49% of respondents would support a wind turbine being erected within two miles of their home, with 22% against. In 2012 the UK Department of Energy and Climate Change (DECC 2012) also published the first wave results of its public opinion tracking survey. The survey found that

> 'Perceptions of a range of renewable energy sources were mostly positive. Highest levels of support were found for solar (83%), off shore wind (76%) and wave and tidal (75%). On-shore wind had the highest level of opposition, though still only 12% opposed this, with 5% strongly opposing (compared with 66% supporting).'   (2012, 4)

The survey also asked respondents whether they would be happy to have a large-scale renewable energy development in their area and found that around 55% of respondents would be.

Early Localised Studies

In the United Kingdom from the mid 1990s the UK Department of Trade and Industry (DTI) commissioned a number of public attitude surveys in Devon & Cornwall (Exeter Enterprises 1993) and Wales (Esslemont 1994). The earliest of these studies was undertaken by Exeter Enterprises and focussed on public attitudes to the 10 turbine Delabole wind energy development in Cornwall (see Figure 2). Delabole was the UK's first large-scale wind energy development and was completed in 1991[18]. The survey looked at public attitudes pre construction (in 1990) and post construction when the site was

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[16] See http://www.theguardian.com/environment/2012/mar/01/local-opposition-onshore-windfarms-tripled?guni=Article:in%20body%20link [Online] (Accessed 19/3/2014).
[17] See http://www.theguardian.com/environment/2012/oct/23/wind-shale-gas-icm-poll [Online] (Accessed 19/3/2014).
[18] The UK Government and Central Electricity Generating Board had designed single wind turbines prior to this date but Delabole was the first commercial development (see Wilson (2012) for historic account of wind energy development in the UK).

operational in 1992. It found that pre construction residents were concerned about visual impact, noise interference with television reception and disturbance to wildlife. Post construction the research indicated that 27% of respondents had changed their views about wind energy - 90% of which becoming more positive about the subject.

In 1994 the Cemmaes Windfarm Sociological Impact Study undertaken by Esta Esslemont (Esslemont 1994) also reported positive post construction views and highlighted residents' positive views of the impact of the development on tourism. Six years later, in 2000, the DTI commissioned consultants to hold a small number of focus groups with Mid Wales residents who were experiencing the implications of living close to existing wind energy developments. These focus groups collected qualitative data on public perception and the consultants concluded that

> 'Existing wind farms have produced strong and divisive feelings in communities nearby. Those involved in farming (or with relatives involved) tend to appreciate the much needed income that wind farms bring to struggling farmers, whereas the mainly English incomers who have moved to the area for peace and quiet tend to resent the building of wind farms close to their homes.'   (DTI 2000, 32)

In 2001 the DTI explored public attitudes to wind energy focussing on the Awel Aman Tawe community wind project in South Wales (DTI 2001). The research indicated that patterns of public opinion were not straightforward and some expected opinions – such as greater objection based on the proximity of the proposed development to where the opinion holder lived did not always hold (2001, 78). The views of 'incomers' – people who moved into the area where the development was proposed were also explored and it was found that such residents were more likely to change their views as a result of consultation. The research also identified the issue of 'threat' as being significant with reasons for opposition including threat to the economy; threat to health; threat to the local environment, to tourism and to the community.

In 2003 the Scottish Executive commissioned research into Public Attitudes to Windfarms (Braunholtz 2003). The research – undertaken by MORI canvassed opinions of people living in the locality of ten established wind energy developments. The research defined people living 'close to windfarms' as living within 20km of a development of more than 9 turbines and sub analyses of opinions of residents were undertaken using distances of 0-5km; 5-10 km and 10-20 km. The results were generally positive across a range of questions and some expected relationships – (such as greater negative opinions from residents closer to turbines as previously reported by Lee, Wren & Hickman (1989)) were not found.

In contrast with generally positive levels of support cited in other polls, research into the attitudes of residents of the Western Isles in Scotland, undertaken by IPSOS Mori in 2005 and 2006 indicated general opposition to wind energy in the Islands of North Harris and Lewis. In the 2005 poll people who thought that they would be able to see both the pylons and turbines were the most opposed to the principle of their construction with 75% of these, opposing development. Overall a small majority of residents (53%) felt that the developments would have a negative impact on their local area.[19]

In the 2006 poll, almost equal levels of support for and opposition to the principle of a wind energy development on the Isle of Lewis, with a greater proportion (47% and 41%) of residents being opposed to the specific proposals for developments at North Lewis and South Lochs.[20]

Recent Localised Studies

In 2010 the Canadian Wind Energy Association (CWEA) commissioned IPSOS to poll the views of 1361 adults in Ontario and found that 46%

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[19] See http://www.ipsos-mori.com/researchpublications/researcharchive/419/Hebridean-Windfarm-Plans.aspx#note [Online] (Accessed 27/3/2014).
[20] See http://www.ipsos-mori.com/Assets/Docs/Archive/Polls/widt.pdf [Online] (Accessed 27/3/2014).

strongly supported, and an additional 43% tended to support, the production of wind energy within their province (CWEA 2010). In 2012 CWEA commissioned a further poll of 1000 adults in Quebec. The survey found that 83% of those surveyed had a positive view about wind turbines (CWEA 2012).

In 2013 the Castleton Research Institute[21] polled over 600 residents of Vermont, US and asked 'Would you favor or oppose the development of a wind farm in your community?' 69% of respondents were in favour and 19% opposed the idea. In the same year Renewable UK[22] commissioned YouGov to poll 1003 Welsh adults to seek their views on wind energy in the energy mix and on large-scale energy generation plants. The survey found that 64% of respondents supported wind energy within an overall energy mix and the same proportion were supportive of large-scale wind energy production within their local authority area.

Critique of Public Opinion Polling

There are a number of critiques that can be applied to opinion polls undertaken in this area. Some of these have been voiced by others:

Firstly, questions in both early and recent studies have not given respondents information on their choices or have 'framed' questions in ways that can be said to lead respondents to particular conclusions. For example in relation to the early polls conducted by the European Commission, the topic of support for renewable energy was clearly framed against the backdrop of an 'energy crisis' and the development of nuclear energy as a generation source. Further examples include the DTI (2003) study which contained 'loaded' statements such as

> 'I'd be happy to have a '***clean***' renewable energy generating station built in my local area.'   (2003, 57)

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[21] See http://www.csc.vsc.edu/polling/feb26_2013/pollresults.htm [Online] (Accessed 19/3/2014).
[22] See http://www.renewableuk.com/en/news/press-releases.cfm/2013-05-01-new-poll-suggests-strong-support-for-wind-energy-in-wales [Online] (Accessed 19/3/2014).

and the CWEA (2010) study in Ontario which asks participants to assess the statement

> 'Ever since the BP **Oil spill disaster** in the Gulf of Mexico, I think we need to focus more on alternative sources of energy.'   (2010,13)

Furthermore, there is a linguistic critique of the use of the phrase 'wind*farm*' in such surveys. Haggett & Toke (2006) observe that

> 'A "farm" is an obvious and fitting part of the countryside. The term has connotation of working with nature, and of productivity. "Farms" will be a part of the rural landscape, not an alien imposition upon it.'
> (2006, 117)

Secondly, renewable technologies have also been grouped together in poll questions (e.g. references to 'wind & solar') in early and recent survey questions so responses in many surveys have been general in nature. In the Eurobarometer surveys in the 1980s renewable energy was considered to be 'solar, biomass and tidal energy'. More recently, the Department of Energy and Climate Change tracking survey (DECC 2012) asks respondents whether they would be happy to have a large-scale 'renewable energy development' in their area without defining what this is. At the same time the survey clearly shows differential levels of support for and opposition to wind (on and offshore), solar, biomass and wave. The consequence of the above is a tendency to over rely on results gained through generalised polling data and to apply these to specific technologies or projects.

Thirdly, questions regarding locality are frequently imprecisely defined. In the 2003 Scottish Office study, residents' views were divided between those who lived 0-5km; 5-10km and 10-20km from operational wind energy developments. There is a considerable difference in noise impact of wind turbines at 0.5km compared to 5.0 km and this aggregation of results supports inappropriate generalisations. This position is made clearer when considering the illustration of visual impact cited by Gipe (1995) as shown in Figure 14 below:
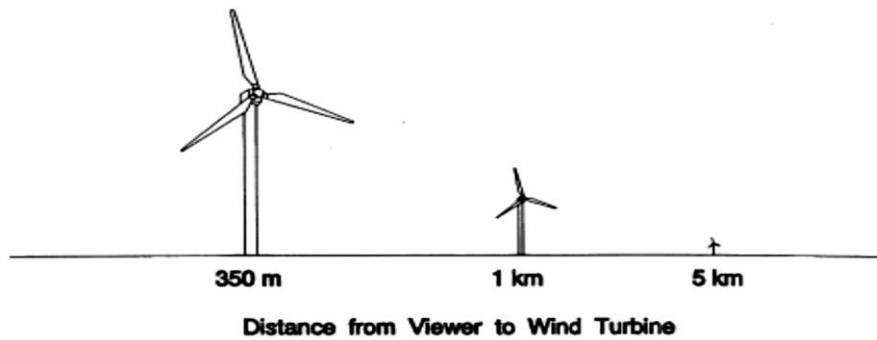
Figure 8.14. Visual influence zones. To-scale perspective of wind turbine 35 m (115 ft) in diameter on a 35-m tower. The turbine on the left dominates the foreground 350 m (1200 ft) from the observer. The middle turbine, 1 km (0.6 mile) from the observer, influences but does not dominate the middle distance. The turbine on the right remains visible at 5 km (3 miles) but becomes part of the landscape. (Courtesy of Renewable Energy Systems, Hemel Hempstead, Herts, England.)

Figure 14: Visual Impact and Distance
Source: Gipe (1995, 299)

Additionally, in survey questions which ask respondents whether they would support wind energy developments in their local authority area or province, there is no recognition that the size of such provinces may differ significantly, that population densities differ and that unless survey samples are carefully weighted to reflect sparsity / density, there could be a bias towards urban perspectives dominating the results (as population and sample density will be greater in cities compared with rural communities).

Fourthly, survey questions that refer to wind energy developments have not tended to specify size of turbines, number of turbines or what is meant by 'large-scale development' so a degree of subjectivity will be applied by respondents in interpreting such questions. This can lead to interpretive inconsistency – yet the consistency of questions does not appear to be commonly assessed (using Cronbach Alpha or similar test statistics).

Lastly, the temporal and contextual dimensions of opinion poll results are particularly relevant in connection with wind energy. As shown in Figure 6 turbine size has increased significantly from the 100-150kW turbines initially installed at the Altamont Pass in California and the 400kW turbines used in Delabole, Cornwall to the 3MW turbines being deployed in modern

wind energy developments. In the 2003 Scottish Office poll, none of the 10 operational wind energy developments had turbines greater than 75m high[23] yet this is still cited as evidence that people living 'close' to wind energy developments do not object to them. In short, turbines have got much bigger and it is inappropriate to link attitudes measured on the basis of earlier polls with reference points of smaller turbines to those with ones that are of an order of magnitude larger. These critiques are shared by other commentators. For example Walker (1995) suggests that polls

> '...can be criticized on a range of grounds, including the artificial context within which questions are asked and the irrelevance of representative national opinions when projects are locally specific. Simplistic analysis and presentation of results (e.g. a mean) can mask substantial fault lines in attitudes between different groups of people, and little indication of why particular opinions are held is usually derived. Questions about renewable energy in general can also mask substantial differences between the diverse group of technologies the term now encapsulates.' (1995, 50)

Wolsink (2000) also refers to the opinion polls used in the development of understanding of impediments to wind energy deployment as being 'small-scale' and questionnaires being 'ad-hoc'. He goes on to say that

> 'These polls were not systematically designed surveys intended to establish the structure and background of attitudes towards wind power, but simply indicated the popularity of wind power as a source of energy.' (2000, 50)

Smith & Klick (2007) similarly highlight difficulties with high level public opinion research suggesting that

> '..questions asked in national surveys about proposals such as wind farms exaggerate the support for wind farms because the answers are typically superficial, top-of-the-head responses. When people think about the advantages and disadvantages of wind farms, as they would if a wind farm were proposed for their community, their support diminishes.' (2007, 1)

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[23] Author's own analysis based on publicly available information from operator websites.

More recently, Aitken (2010) highlights the uncritical acceptance of opinion polling data and correctly raises the questions of who commissioned the polls, how samples were selected and how questions were analysed – essential components in modern research methodology. The issue is also commented upon by McGowan and Sauter (2005) who reviewed 33 studies of public opinion on energy matters conducted since 2000. Of these 11 were commissioned by Government, 10 by industry, 6 by the media and 5 by Non-Governmental Organisations. Only one poll was commissioned by an academic organisation[24]. The question of who commissioned the polls is particularly relevant when one considers that for example Geuzendam, *et al.,* (1999) were commissioned by the Netherlands Agency for Energy and the Environment to 'measure and find ways to improve public support for wind turbines' (1999, 440) – hardly a neutral position.

Aitken also comments on the lack of sophistication of polls compared with qualitative research into

> '..how opinions change over time and how geographical, temporal, socio-political or cultural contexts influence and alter public responses.'   (2010, 1835)

As Aitken observes, the cultural and temporal context of polls and the 'climate' within which they are carried out is an important consideration when reviewing the opinions that that polling reports. A non-contextual reading of polling data without an appreciation of master frames and other influences can disguise or exaggerate underlying trends which appear when polling data is reviewed over time.

Public opinion polls, as carried out to date, are therefore a blunt tool to understand questions of attitudes to wind energy and reasons for opposition to it. Their findings are open to considerable manipulation by both supporters and opponents of energy policy and specific wind energy developments.

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[24] Cited by Devine-Wright (2007, 4).

Attitudes

The second strand within the public opinion /attitude discourse seeks to explore these questions in a more sophisticated way through academic research into **attitudes to wind energy developments.** Early contributions in the 1980s and 1990s are outlined in chronological order and more recent research focussing on the use of the NIMBY label is summarised as the volume of papers in this area significantly increased from 2000 onwards.

Early Research in the 1970s and 1980s

Although there were a small number of technical / consultancy studies in the mid 1970s (Ferber (1977)) and early 1980s (Engstom & Pershagen (1980); Harbicht Research (1981); Wagstaff Brady and Associates (1982); Bergsjo, *et al.*, (1982)); which considered the visual impact of wind turbines some of the earliest sustained research on attitudes (in the context of acceptance or opposition) was conducted in Sweden and Denmark by the human geographer[25] Inga Carlman (Carlman 1982; 1984; 1986 & 1988).

In her 1982 paper Carlman introduced the idea of 'non-technical' factors influencing acceptance of or opposition to wind energy and specifically visual impact was questioned as a key factor underpinning negative attitudes. Carlman's research – funded by the National Swedish Board for Energy Source Development – looked at two areas in Sweden where two 80m high prototype wind turbines were proposed together with a third area where development was not being considered. Questionnaires were issued to 300 residents within a 60km^2 area together with 30 residents who were known to be politically active locally. 211 responses (64%) were received and face to face interviews were then completed with 50 of these.

Respondents were asked about three aspects of wind energy:

- Their knowledge of the prototype turbines (size, output etc.).

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[25] Carlman's undergraduate and postgraduate qualifications are in Human Geography as confirmed in a telephone conversation with her on 2nd December 2013.

- General attitude to wind energy (including siting of turbines, proximity to home and work and whether respondents would be prepared to live in an area with turbines).

- General questions around energy (e.g. preference for specific energy types pre and post year 2000).

Carlman reported that 82% of respondents considered energy production to be more important than the aesthetics of siting turbines and that 72% of respondents would not object if a turbine was located 200-300m from their homes. In relation to these supporters of wind energy Carlman commented that

> 'These people regarded it as their duty as they did not want Sweden to utilize nuclear, coal or have new rivers developed for hydropower'

(1982, 338)

On the basis of the survey results, Carlman concluded that

> 'In public energy discussions, it has often been claimed that a major concern would be the visual impact. This was not supported by the results of the survey or the interviews. On the contrary, people tended to care more about the cleanliness and environmental qualities of wind power than a postulated visual degradation of the landscape. The major concern was the sound. If the machines are regarded as noisy, there might be a reaction against wind power that would be a strong factor to reckon with.' (1982, 342)

Carlman's 1984 paper focussed on the attitudes of politicians and decision makers and again highlighted the significance of visual impact and concerns regarding noise as factors that contributing towards negative attitudes to wind power.

In 1986 Carlman published a further paper on public opinion of wind power in Sweden. The research was similar to that published in 1982 and involved surveys before and after single large prototype turbines had been erected. The before surveys were based on fieldwork undertaken in 1979/80 (the earlier year being the year of the Three Mile Island Nuclear incident). These were then followed with further surveys in 1983/4. The survey was issued to 300 residents plus 30 politically active residents mirroring the methodology

adopted in the 1982 research. Follow up interviews were undertaken with a sample of respondents and the results broadly matched those of the earlier survey – in that:

- There was a general level of support for wind and hydro power as alternative to fossil fuels and nuclear energy.
- Siting preferences were the same – respondents suggesting that turbines should be located on the Plains and in Coastal areas.
- Support for wind and hydro power was attributed to their non-polluting characteristics.
- Disadvantages of wind energy were considered to be unreliability (intermittency); cost, visual impact and noise.
- Environmental benefits were seen to outweigh visual impacts.

It is important to place Carlman's initial research into historical context. The survey work for her 1982 paper was undertaken in November 1979 some 7-8 months after the Three Mile Island nuclear incident and interviews were completed in May / June 1980 – a month after the national advisory referendum on nuclear power and energy. Carlman acknowledges – but does not quantify the impact of these factors on the results (1982, 339) only stating that several of the interviewees said that the referendum had influenced their views on wind energy. It seems reasonable to suppose that following worldwide and national concerns regarding the safety of nuclear energy, support for this technology would decline and that there would be a corresponding increase in support for alternatives. To this extent Carlman's research could be said to reflect the national mood at a particular point in time.

The same contextual critique applies to Carlman's 1986 paper. Although she observed that the second phase of surveys were undertaken before the Chernobyl incident in April 1986 and suggested that

'If that accident had happened before or during the period of the survey, it would most probably have had a considerable influence upon the results.' (1986, 571)

..the proximity of the date of the Three Mile Island incident to the fieldwork for the first survey undertaken in 1979 and referenced in the paper is simply ignored.

Three further methodological critiques can also be advanced. Firstly, the follow up survey was undertaken a relatively short time after the prototype turbines were erected (1986, 569) and so public attitudes / opinion were probably still being formed. Secondly, there is no explanation of how participants in interviews were selected and thirdly the inferences drawn from the survey are suggestive rather than authoritative – e.g.

'..this might indicate that people were prepared to live closer to a windmill in 1983 than before.' (1986, 570)

and

'..the attitude towards living in an area with a great number of windmills is to some extent influenced by the obtained information and the attitudes toward wind power demonstrated by the utility companies and authorities.' (1986, 571)

Finally, it is important to note that Carlman's early research (Carlman, 1982; 1984; 1986) was not published in peer reviewed journals but was presented to wind industry conferences whose attendees are likely to have been significantly less critical of her findings than fellow academics or even wind energy opponents.

Carlman is cited as being 'the pioneer of social acceptance studies' (Wolsink 2012, 12220). Although frequently cited, her initial work was clearly influenced by the anti-nuclear sentiment that was present in Sweden at the time and as the research was not peer reviewed the findings should be treated with some caution.

In the United States, Thayer & Freeman (1987) conducted localised public perception research in response to the Altamont Pass Wind Energy Development in California (see Figure 15 below).

Figure 15: Altamont Pass Wind Energy Development
Source: Wikimedia (http://commons.wikimedia.org/wiki/File:Altamont_Pass_Wind_Farm.jpg [Online] (Accessed 02/02/2014).

Thayer – a Landscape Architect and Freeman, with a background in Community Development issued questionnaires with photographs of the turbines to 600 residents who lived within 10 miles of the development and 200 responses were analysed in detail. The study revealed that

- wind energy developments were considered to be complex environments not easily categorized or evaluated.
- the Altamont development was regarded as man-made and highly conspicuous in the landscape.
- 'symbolic attributes such as safe and natural energy production, appropriateness, progress and safety figured highly in the attitudes of those favouring the development' (1987, 379).
- visual characteristics such as clutter and conspicuousness contributed to negative attitudes.
- people who lived closer to the development and those more familiar with the area liked it less than those who were less familiar and those living further away.

Recognising the complexity of attitudes to large-scale wind energy development Thayer & Freeman concluded their paper by observing

> 'The most pressing question for further study is whether the conspicuous, man-made character of wind energy landscapes will be publicly interpreted as an indicator of man's callousness toward scenic beauty or as a symbol of society's conservation ethic and wise use of a renewable energy resource.' (1987, 397)

Both Carlman and Thayer & Freeman identify visual impact as a potential negative influence on attitudes towards wind energy, however they came to different conclusions. Two immediate differences present themselves as explanations for this – firstly, timing and secondly, scale.

As outlined previously, Carlman's research was carried out in the wake of the Three Mile Island nuclear incident and public concern regarding the danger of nuclear energy was heightened. In 1987, when Thayer & Freeman published their research, eight years had passed and despite the Chernobyl incident in April 1986 a more fatalistic discourse was being observed in the media (Gamson & Modigliani (1989, 30)). Secondly, Carlman's questions were asked against a backdrop of two 80m high experimental turbines as compared with 'a landscape incorporating 6000 modern wind turbines' (Thayer & Freeman 1987, 380). Although turbine heights were smaller at Altamont, Thayer & Freeman noted that the 'clutter' of larger numbers of turbine contributed significantly to the formation of negative attitudes.

Carlman and Thayer & Freeman also commented on the impact of turbine distance from homes on attitude; but while Carlman observed that 72% of people she studied would not object to turbines within 200-300m of their home (1982, 338), Thayer & Freeman identified stronger negative attitudes where people lived closer to the development (1987, 387). This latter point would seem to be a precursor to Devine-Wright's (2005) 'proximity hypotheses'.

1987 also saw the publication of a study by Pasqualetti & Butler (1987) focussing again on wind energy developments in California. Pasqualetti – a geographer, and Butler, a sociology professor - were commissioned by the

County of Riverside which had joint management responsibility alongside the Bureau of Land Management - for wind energy developments in the San Gorgonio Pass. The study involved a telephone survey of 165 residents randomly selected from within the San Gorgonio wind energy zone and a simple analysis of the results.

The survey presented a generally positive public response to the development of 3846 turbines in the pass with 51% of respondents seeing wind energy as a good thing compared with 21% who took an opposing view. The authors reported that the land value where the development was undertaken had previously been low and having little economic potential and that 47% of respondents expressed the view that wind energy development was a good use of this land.

Despite these positive views 32% of respondents thought that the construction of the development was primarily a way to avoid taxes and 33% felt that the development had created unfavourable publicity about the area 45% of respondents felt that the turbines were unattractive and only 22% felt that they were worth the environmental cost with 26% of residents feeling that the development had degraded the environment around their home (1987, 87-88).

The survey also reported respondents views of noise caused by the turbines and 67% indicated that the noise did not disturb them while 11% indicated that it did. Of the 11%, some 83% lived within two miles of the turbines. The authors also reported that 16% of respondents had experienced physical effects caused by the turbines including sleep disturbance, irritation and headaches.

Thayer & Hansen (1988) popularised Thayer & Freeman's (1987) research through an article in *Landscape Architecture* magazine. Focussing on the visual impact of wind energy developments, the authors highlighted the symbolic nature of wind turbines and ask how the public 'will assign meaning to it' (1988, 70). Two alternatives are suggested – one where the public see wind energy in the landscape as a symbol of environmental

stewardship; the other where turbines are seen as '..yet another 'ugly' unwanted technology in the pastoral landscape' (1988, 70).

This article did not produce any new research findings but offered a context in which land use for renewable energy is seen as being in conflict with 'traditional' uses – a theme that has subsequently been developed by other authors - notably Gipe (1993 & 1995) and Brittan (2001).

In 1988 the wind industry entered the public attitude discourse with a paper by Dr Phyllis Bosley, a lecturer in communications at Towson State University co-authored with her husband the wind energy consultant, Ken Bosley (Bosley and Bosley (1988)). The research was based on wind energy attitudes to development in the San Gorgonio, Altamont & Tehachapi 'wind resource regions' in California and targeted government decision makers; opponents to proposed development ('environmentalists and community activists') and members of the wind industry. Bosley & Bosley undertook telephone surveys with 100 subjects in the first group, 40 subjects in the second group and 26 subjects in the final group. Key findings were that

- Attitudes of decision makers and energy experts across the three wind resource regions differed as each had their 'own unique characteristics' (1988, 312).
- Attitudes from environmentalists and community activists showed that risks were perceived to outweigh benefits.
- The wind industry was aware of deficiencies in its approach to communication.

The survey also asked what the greatest advantages of using wind as a source of energy in their locality were. 30% of respondents referred to the 'clean' 'non-polluting' attribute of wind energy; 40% of government officials / decision makers referred to the 'renewable' characteristics, while 50% of environmentalists and community activists said there was no advantage. In relation to negative aspects, the survey presented respondents with a range of issues and asked them to indicate on a scale, how problematic they were

perceived to be. Visual impact and noise were considered to be the most significant problems across all groups.

Bosley & Bosley's paper has significance in two respects. Firstly, it asserts that in the 1980s, information on wind energy was limited and that public perception of wind as a viable technology lagged behind reality. As a consequence it advocated investment in public information / education as a means of increasing acceptance of wind energy. Secondly, the paper is the first substantive example of how opposition to wind energy started to be characterised as NIMBY[26] (Not In My Backyard) behaviour (1988, 317).

In parallel with research in Sweden and the USA, towards the end of the 1980s Maarten Wolsink – an interdisciplinary social scientist - began researching attitudes to wind energy in the Netherlands. Wolsink's 1988 study (Wolsink 1988) compared attitudes to wind turbines at locations where the first experimental large turbine in the Netherlands had been installed (a 1 MW turbine with hub height of 197 feet located at Medemblik) together with samples drawn from three other locations where large-scale wind energy projects were proposed. Wolsink found that the general attitude for or against wind power was influenced by:

- the evaluation of the visual impact on the landscape;
- the evaluation of general environmental effects;
- the beliefs about interferences with nature and landscape; and
- the beliefs about general interferences   (1988, 327)

In partial contrast with Carlman's (1982) findings, Wolsink concluded that:

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[26] Wolsink (1994) cites the earlier article by Thayer & Hansen in the March 1988 edition of Landscape Architecture as an example of research which refers to wind energy opposition as NIMBY behaviour, however the authors are not so strident in their assessment as Bosley and Bosley, suggesting that the visual pollution of wind energy developments 'hints at' the NIMBY syndrome. They then go on to suggest that 'With few exceptions, most Americans consider all power plants objectionable (1988: 71) – which is NOABY (Not in Anybody's Back Yard) behaviour rather than NIBMY behaviour. Bosley and Bosley are more assertive in their use of NIMBY.

'Attitudes towards wind power depend more on the evaluation of the landscape and on beliefs about negative impacts of turbines than on environmental advantages of the use of wind energy...... Aesthetics, the degree of personal nuisance, and impacts to nature and landscape are the determinants of attitudinal change.'

(1988, 333)

Whereas in Sweden, Carlman identified strong positive associations between wind energy in and perceived environmental quality, Wolsink established that landscape aesthetics were considered to be more significant than perceived environmental advantages of wind energy. The study also revealed a significant correlation between the negative attitudes towards nuclear power following the impact of the Chernobyl nuclear accident in 1986 and positive views of wind energy (Wolsink 1988, 330). In short, support for wind energy was inversely correlated with concerns about nuclear safety.

Wolsink (1989) extended his earlier research by including surveys of attitudes to smaller wind turbines over the period 1985-8. In addition to the Medemblik 1MW turbine, Wolsink reported the attitudes of some 1379 other Netherlanders to turbines ranging from 30-300kW and found positive attitudes to be associated with making nuclear power superfluous and reducing air pollution. Negative attitudes were associated with spoiling views, interference with the landscape and noise nuisance (1989, 204 Table 5). Wolsink also makes a number of supplementary observations including the suggestion that arguments against turbines such as unreliability and damage to birdlife are sometimes mobilised in formal planning hearings and that such arguments may mask underlying attitudes based on landscape impact.

Wolsink and van de Wardt (1989) in their review of the research into the visual impact of wind turbines in the Netherlands, suggest that the perceived beauty of a potential wind energy development site is of particular importance as a determinant of acceptance / opposition. The type of landscape in which a development is proposed is reported as being of greater significance than the environmental benefits of the technology itself when judgements are made by members of the public.

In the United Kingdom, Lee, Wren & Hickman (1989) were commissioned by the Central Electricity Generating Board (CEGB) to 'determine the public's perceptions of wind technology and to anticipate future support or opposition for its expansion in the UK' (1989, 188). Although the authors compared their approach to that of Thayer & Freeman (1987) the study design was closer to that undertaken by Carlman (1982) in that public attitudes where no wind turbines existed or were proposed were assessed alongside those where there was at least one large turbine. In addition a sample of views was taken from a location where a large wind turbine was proposed and the results were compared.

The fieldwork involved 'street' and 'in house' interviews with a 'representative sample' of local residents during 1987/8 and where turbines existed or were proposed the sample was divided into 2km distance bands to an outer band of 6km as 'attitudes toward an environmental intrusion obviously diminish in strength with distance' (1989, 189).

Across the samples, 52% of respondents were reported as wanting to see an expansion of wind energy and respondents were asked to signify their feelings for turbines using a number of descriptive scales (beautiful / ugly; man-made / natural etc.). The results indicated that key descriptors for turbines were 'Futuristic', 'Interesting', 'Efficient', 'Simple', 'Appropriate' (although the scale is incorrectly reproduced in the article), 'Man-made' and 'Conspicuous'.

Responses to descriptors regarding aesthetics were somewhat less clear with the majority of responses where turbines existed falling into the neutral part of the Beautiful / Ugly scale (53%). Nevertheless, positive responses to descriptors were greater than negative responses for this scale and for the Like (56%) / dislike and attractive (45%) / unattractive scales. The study also asked residents whether wind energy was seen as a 'sign of progress' or 'harking back to the past' and reported that between 53% and 72% of the samples saw the technology as a sign of progress.

Despite making the assertion that attitudes to intrusion diminish with distance the study did not report the results by distance of respondent other than observing that at one location – Anglesey, there were more favourable attitudes from residents living closer to wind turbines – a result which is supportive of Carlman's (1982) position on distance but contrasts with the findings of Thayer & Freeman (1987).

In relation to scale, the authors noted the existence of a 'Favourability Gradient' where positive attitudes declined as turbine numbers increased. In the study seven of the eight sites had a single large turbine and there was a clear preference for smaller developments with only 17% and 15% of respondents being in favour of developments of 50 and 100 turbines respectively. The issue of scale appears in the authors conclusions which state that:

> 'As an alternative energy source, the majority of people were very much in favour of wind energy, are appreciative of its advantages and in favour of an expansion in its use as long as it is on a moderate scale... There will obviously be a need to measure reactions to the first windfarms when these are established. This should give a better prediction of the likely response to the much larger and more numerous developments that will be needed to ensure the viability of wind as a significant contributor to energy needs.'   (1989, 195)

As these 'much larger and more numerous developments' started to materialise, the public reaction to them started to gain greater visibility with an increase in local protests and the formation of organised opposition groups such as Country Guardian in the early 1990s.

Research in the 1990s

The 1990s saw a continuation of early interest in attitudes to wind energy.

At the close of 1989 the Institute of Electrical and Electronics Engineers hosted a conference at California State University called *'A delicate balance : technics, culture, and consequences'* and Paul Gipe a prominent wind energy consultant (see Bosley & Bosley 1988, 318) delivered a paper entitled *The Wind Industry's Experience with Aesthetic Criticism.*

Published in 1990 as part of the conference proceedings, Gipe's paper made the claim that wind energy had 'come of age' and introduced the idea of aesthetic tastes (in relation to landscapes) as changing over time. Gipe made the case – using the example of the public response to the construction of the Eiffel Tower in Paris during the 1880s – that

> 'The vision of modern wind turbines in massive arrays will also gradually become an accepted part of the cultural landscape.'
> (1990, 213)

Gipe suggested that attitudes to wind energy developments could be influenced as symbolic images of turbines became integrated into popular culture:

> 'Wind plants have also appeared in videos, television commercials, and print advertisements. As the artwork depicting the Eiffel Tower amidst a Parisian setting now denotes an interesting, vibrant, and sophisticated culture, these appearances in the artwork of our day will produce a similar effect.'   (1990, 213)

and

> 'In Tehachapi, for example, the local Rotary club includes the symbol of a modern wind turbine along with a California poppy, apples, and a stylized mountain scene to represent their community. The Chamber of Commerce's brochure displays a map of the sites within the Tehachapi area showing the wind plants as well as the orchards, and the resorts. In Kern County's new library, banners representing each of the county's communities hang from the ceiling. The banner made by Tehachapi school children depicts scenes of Tehachapi's landscape against a backdrop of symbols representing wind turbine rotors. The symbols are easily mistaken for flowers on Tehachapi's landscape. This is not unintentional.'   (1990, 214)

Gipe's paper (which was republished in 1993) contains a number of examples of public opinion surveys and has been cited as a study focussing on the visual aspects of wind energy developments (Jobert, *et al.*, 2007, 2752). However the paper does not present any new analysis gained from primary data and is more important as a further example of an influential publication coming from within the wind industry and an example of 'normative research' presenting arguments in favour of wind energy and strategies to overcome opposition within an academic context. These

dimensions to published research have been replicated in later studies (e.g. Toke (2005); Cowell (2007)) which present negative attitudes as something to be overcome (Aitken 2010, 1834).

Wolsink, *et al.*, (1996) in a paper to the European Community Wind Energy Conference, explored attitudes to wind turbines in the context of noise nuisance. The research was based on 574 interviews of residents living close to wind turbines and was conducted across three European countries – Germany, Denmark and the Netherlands. Wolsink found that annoyance attributed to turbine noise was not a straightforward 'dose effect' whereby the number of complaints would reflect the volume of noise generated. Instead, the study found that of the small number of people who reported noise annoyance (6.4% of the sample), objectively measured sound did not correlate well with perceived annoyance (1996, 275). The study also suggested that other factors – such as the impact of the turbines in the landscape – influenced the propensity of those living close by to be annoyed irrespective of the actual sound levels of the turbines. This reinforces the primary role of visual impact and suggests that other environmental impacts of turbines affect attitudes to a lesser extent.

Wolsink (1994) critiques the NIMBY explanation for opposition behaviour offered by Thayer & Hansen (1988) and by Bosley and Bosley (1988) suggesting that the 'explanation' is based on a number of false assumptions:

> 'I The decision-making on local facility siting is laborious.
>
> II The projects involved represent 'higher' interests than those of the local population.
>
> III Everyone is agreed on the usefulness of these facilities.
>
> IV Everyone prefers not to have the facilities situated in their own backyard.
>
> V Everyone prefers to have the facilities situated in someone else's backyard.
>
> VI The attitudes and opinions which go to make up the NIMBY phenomenon are seen as static. The NIMBY theory does not appear to allow for the possible alteration of insights regarding usefulness and location.' (1994, 855)

Wolsink's paper is not based on primary data obtained from research directly undertaken, but rather collates the results of studies into facility siting decisions (power plants, waste incinerators etc.). The paper argues that the assumptions underpin the NIMBY explanation should not be treated as unassailable truths and that opposition behaviour arises because

> '....costs (in the form of environmental impact) are not borne by the people who enjoy the benefits of activities.'   (1994, 864)

As a consequence of this perceived mismatch of costs and benefits people

> '.....react against a transfer of disadvantages in their own direction, not by trying to pass it on to another community, but rather by demanding attention for the cause of the problem: the application of a particular technology or policy with severe environmental impact.'
> (1994, 864)

In 1994 BBC Wales commissioned Dr Kevin Bishop – an environmental planner and Alison Proctor a researcher in the Environmental & Countryside Planning Unit of Cardiff University to explore the attitude of communities immediately surrounding three wind energy developments in Wales (Bishop & Proctor 1994). The study was based on interviews of 268 residents living within an approximate two mile radius of the centre of three wind energy developments in Wales (Llandinam, Rhyd-Y-Groes and Taff Ely).

Bishop & Proctor introduce their report by stating that although wind energy was a 'clean', 'green' technology it had, even by 1994, generated considerable controversy. Their study sought to explore the attitudes of members of the public who had direct experience of wind energy developments and the authors produced some interesting findings. These included the observation that while 69% of those surveyed were generally in favour of the development of wind energy in Wales with 21% were against, at a local level support reduced to 66% in favour and the proportion against increased to 24.3%. These results have been cited by some authors as evidence of a NIMBY response to local wind energy development (Krohn & Damborg 1999, 957)).

Post publication, Bishop & Proctor's study has been routinely cited as a study indicating consistently strong support for wind energy in Wales however on reading the introduction to the report, the language used is evidently pro-wind. The authors proudly note that

> 'In less than three years Wales has gone from having no commercial wind farms to six commercial wind farms, with 213 turbines, generating over 70,000 kW. Indeed, Wales currently boasts the largest wind farm in Europe (Llandinam).'   (1994, 1) and

> 'Despite being a clean 'green' form of electricity generation that does not cause air pollution or emit radiation this rush for wind has become a matter of considerable controversy.'   (1994, 1)

The pro / anti-wind debate is characterised as 'polarised' with exaggerations and emotionally-charged language – a criticism aimed mainly at wind energy opponents whose conservationist motives are openly questioned

> 'The dash for wind has even stimulated the creation of a new so-called conservation group "Country Guardians" whose declared aim is to oppose "the desecration of the countryside by wind farms".'   (1994, 1)

Hull's research (Hull 1995) into planning applications for wind energy projects in Wales has already been cited within the Technical Discourse, focussing as it does on policy implementation and the socio-political context of environmental decision making. However, in addition to a commentary on planning processes, the research highlights the visual impact dimension to opposition and through the words of case study participants, draws attention to the possibility that opponents seeking to protect their 'rural idyll' mount NIMBY arguments to preserve landscapes (1995, 302). Hull's case study participants further suggest that opponents are often not indigenous local residents but are 'incomers' and that their leadership is simply trying to protect their 'cottage in the hills'. The significance of these observations is that they are used to de-legitimise opposition – the inference being that 'local people' support development and that their opinions should be given greater weight.

Notwithstanding Wolsink's powerful critique of the inadequacy of the NIMBY 'theory', Hull reasserts the NIMBY explanation of opposition behaviour – focussing on the consumption of nature and also introduces the idea that nature might be consumed in different ways by the indigenous and non-indigenous population. For incomers consumption is of the value of living in the 'cottage in the hills' whereas for the indigenous population consumption is of the economic benefits derived from rural diversification into wind energy generation.

1995 also saw the re-entry of geographers into the field with an article by Gordon Walker on *Renewable Energy and the Public* (Walker 1995). The paper did not present any original research but did provide a commentary on the status of previous studies into attitudes to renewable energy in general. Wind energy is given some prominence in the paper given the attention it was receiving at the time the article was written and Walker makes a number of observations regarding the research undertaken to that point in time:

> 'It is fairly limited in extent and relates to some very different scales of development in very different parts of the world (6000 turbines in Altamont Pass, USA, contrasting with one turbine in Milton Keynes, UK). There are therefore very real dangers in drawing broad generalizations about 'what the public think' from any one or combination of studies (even so, this tendency has been more than evident in recent debate).' (1995, 53)

and

> 'Most studies have adopted quantitative survey methodologies but at varying levels of sophistication. The study by Thayer and Freeman in the USA stands as the most involved and detailed evaluation of attitudes and perceptions, attempting to reveal the connotative and referential significance of wind turbines alongside their basic perceived visual characteristics. Others, including most of those undertaken in the UK, have been simplistic in comparison. Work adopting alternative methodologies has been less evident.' (1995, 55)

Notwithstanding the comments above, and the assertion that the findings across a number of surveys 'cannot be very satisfactorily generalised' (1995, 55), Walker then goes on to make some general observations including:

'..Most studies of the opinion of the general public living near to actual or potential sites have concluded that overall the majority of the local public are positive about wind energy.

..Where studies have explored a before and after dimension, most conclude that experience of wind turbines makes people overall more positive about them.

..The negative feature of wind turbines of most concern to people is found in most studies to be visual impact. Other aspects such as noise, disturbance to wildlife, etc., are of lesser importance, but this varies considerably between different studies.

..Responses to windfarms are a complex set of perceptions and evaluations, including both symbolic and physical attributes.'

(1995, 55)

In addition to his commentary on existing research, Walker comments on the role of 'Active Publics' - those pressure and interest groups whose voices are heard in demonstrations and public inquiries when renewable energy developments are proposed. Walker - like Hull (1995), identifies the potential for such groups to be un-representative of the population at large. However, rather than dismissing minority views he acknowledges that:

'This pattern of opinion clearly raises the difficult issue of how views which may be in a statistical minority should be responded to, in turn raising far wider questions of how resource and planning decisions are made within contemporary society. It may be tempting to brush aside the views of those objecting to a development as not reflecting the majority of community opinion, or to reject interest groups as overly concerned with their own agenda and not that of the public at large - as the nuclear industry often attempted to do, and as many governments in developing countries pushing through HEP projects continue to do. Such approaches are unreasonable, as the minority of local people opposing a development may be those most directly affected (a majority of a more closely defined 'local public') and interest groups clearly have an important and legitimate role in raising issues and concerns which may not be automatically or effectively represented within decision-making processes. They can also be crucial in exposing what may be poorly thought through and inadequately assessed project proposals.' (1995, 56)

In contrast with other work, Walker explicitly recognises that minority opposing views have value in a democratic society and that self-interest may be a legitimate rather than a purely selfish motive.[27]

In the same year, recognising the significance of visual impact and building on his earlier work, Paul Gipe explored the aesthetics of wind energy from a more philosophical perspective (Gipe 1995). Building on his earlier work (Gipe 1993), Gipe suggests that objection to wind turbines is an aesthetic matter which hinges on how technology is viewed in landscapes. He distinguishes between landscape conservation – an abstract concept and 'preservation' which in his view has more specific connotations and suggests that the tension between abstract and practical manifests itself in attitudes to wind energy:

> 'This discussion is no mere academic exercise. It cuts to the heart of the debate about the placement of wind turbines on the landscape and explains why one 'environmentalist' sees wind energy as part of a solution to a problem and another 'environmentalist' sees wind energy as just another problem.
>
> To confound engineers, developers and politicians even further, environmentalists carry within them both philosophies in varying degrees, and the relative importance of preservation to conservation ebbs and flows in a sea of varying emotional and rational responses to the issue of the day.'   (1996, 257)

Gipe's paper is significant in that, despite coming from a wind energy consultant, it advanced the attitudinal discourse from elementary recording of opinion and attitudes into the territory of theorised explanation. If considered alongside Thayer & Freeman (1987) and Walker (1995), this offers a possible bridge between empirical observation and theoretical understanding – something that is explored in **Chapter 3**.

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[27] Wolsink (1996) builds on this idea – that opposition to wind energy cannot be simply categorised as self-interested NIMBY behaviour and factors such as visual impact (primary significance), noise and shadow flicker (secondary significance) are cited as contributing towards negative attitudes (1996, 1087).

Brunt & Spooner (1998) traced the development of wind power in Denmark and the UK comparing and contrasting the historical growth of the technology in each country. While the study primarily focussed on policy instruments and levers used by government as a way of encouraging renewable energy development, the authors also touched on public attitudes – particularly negative ones, in both countries. In the UK, the authors argued that the introduction of the Non-Fossil Fuel Obligation (NFFO) from 1989 resulted in the growth of large-scale wind energy projects owned and operated by large commercial companies and located in 'areas of countryside with ecological importance' (1998, 292). This growth of large-scale wind developments also began to characterise the position in Denmark from the late 1980s when utility companies began to replace small community led investment in wind energy. As larger developments started to become the norm, communities perceived that they were bearing all of the disadvantages without any of the benefits leading to the growth of opposition in both countries – opposition which Brunt and Spooner characterise as NIMBY behaviour. Brunt and Spooner's contribution to the literature is important in the sense that it places the growth of large wind energy developments in a historical context and it adds to an emerging picture of attitudes being influenced by negative externalities. The authors proposition that NIMBY opposition can be reduced by greater involvement in the development process is less well founded although as described in the early parts of this chapter other researchers have subsequently made similar observations (Toke 2005; Cass 2006; Gross 2007; Wolsink 2010; Phadke 2010).

Geuzendam (1998) explored the aesthetic characteristics of different wind turbines as part of a project commissioned by the Netherlands Agency for Energy and Environment (Novern). The research suggested that design was a key part of the public acceptance of wind energy – something that was considered to be a prerequisite for the continuity of the implementation of the technology. Geuzendam proposed that turbine design should be part of a wider conceptual model underpinning a systematic approach to 'increase public acceptance' (1998, 135).

Critique of early research

The early literature on attitudes to wind energy development is instructive for several reasons.

Firstly, on a positive note, it begins to highlight some of the key variables / influences which underpin objections to this form of development including visual impact and noise. However, this early research contains limited theorised explanations of negative attitude. The symbolic dimension of wind energy is touched on by some authors (specifically by Thayer & Freeman (1987); Lee, Wren & Hickman (1989) and Gipe (1995)) – where large-scale wind energy is considered by some observers to be an example of the technocratic exploitation of the landscape. Additional explanations include noise and house price effects and references to NIMBY self-interest (Bosley & Bosley 1988; Hull 1995). It is also apparent that ethical / 'greater good' arguments come into play (Carlman 1982) although the significance is disputed (Wolsink & van der Wardt (1989) and because of this, the process of evaluating environmental impacts is complex and not easily reduced to one or two simple criteria. The issue of scale is also highlighted in Lee, Wren and Hickman (1989) and in Walker (1995) – both in terms of public attitude and comparability / generalisation where authors have studied developments of different size.

Secondly, other than Thayer & Freeman's study, and the work by Wolsink, *et al.*, (1996) early research is relatively methodologically immature. Survey questions include positive statements about renewable technology, samples are small and are not always randomly selected; surveys do not appear to have been piloted and scale based responses do not appear to have been tested for internal consistency (Cronbach 1951).

Thirdly, the significance of local costs and benefits is highlighted with resistance to proposals being seen where the externalities of large-scale developments are not matched by compensating local benefits (Throgmorton (1987); Wolsink (1994); Cass (2006); Gross (2007)).

Fourthly, the context in which research is carried out is clearly important. In particular the relationship between 'renewable' wind and 'dangerous' nuclear energy is clearly seen in a number of studies especially those of Carlman (1982 & 1986); Wolsink (1988 & 1989) and Bishop & Proctor (1994).

Fifthly, the presence of 'normative' research, with a policy / financial interest bias is apparent. Examples include early research which has been commissioned by government agencies seeking to promote wind energy and resolve the public acceptance 'problem', together with industry sponsored / influenced research (Carlman (1982); Bosley & Bosley (1988); Lee, Wren & Hickman (1989); Gipe 1995; Geuzendam (1998); Geuzendam, *et al.*, (1999)). Research commissioned by vested interests has the potential to contain explicit or implicit bias and unless such bias is identified and robustly addressed the validity of the research can be called into question.

Lastly, it is interesting to note that despite being widely cited, a considerable quantity of the early literature originated in Conference Papers rather than through publications in peer reviewed journals[28]. It has been customary for researchers to cite much of this early research as authoritative and to treat findings uncritically (Aitken 2010, 1835).

In recognition of the above, this early literature on public attitudes should along with public opinion polling data - be treated cautiously and references to this body of knowledge in later studies would merit more critical review.

More Recent Research

Building on the relatively limited early research of the 1980s and 1990s an increasing volume of studies into attitudes to wind energy were published after the year 2000. In view of the volume of material generated in this period, the remaining section of this chapter will comment on articles where the main focus deals with the **NIMBY label** for opposition behaviour. Formally, NIMBY behaviour is defined by Dear (1992) as being

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[28] Although some conference papers may have been submitted to an editorial board, and may have received some form of peer review, it is arguable that this is not the same level of academic scrutiny to which journal articles are submitted.

'In plain language...the motivation of residents who want to protect their turf. More formally, NIMBY refers to the protectionist attitudes of and oppositional tactics adopted by community groups facing an unwelcome development in their neighbourhood... residents usually concede that these 'noxious' facilities are necessary, but not near their homes, hence the term 'not in my back yard.'   (1992, 288)

Burningham (2000) and Wolsink (2000) independently develop critiques of the NIMBY label at the start of the new millennium. Burningham, writing from a sociological perspective, offers a general critique suggesting that the term offers 'little of analytic value' and should be avoided by researchers (2000, 67). Wolsink, focussing specifically on wind energy protests also argues that the 'NIMBY Myth' is an inadequate explanation for opposition behaviour. Wolsink's study of 725 residents living in the proximity of 3 wind energy developments in the Netherlands looked for evidence of attitudes which linked positive attitudes to wind power with opposition to a particular project and found that

'When we try to locate people that combine a positive attitude and resistance motivated by calculated personal costs and benefits we can hardly find them.'   (2000, 53)

Damborg (2003) – drawing on earlier work (Krohn & Damborg 1999) and writing on behalf of the Danish Wind Industry Association, also comments on the public attitude literature and on the NIMBY label. He explains the phenomenon as seen in Denmark:

'As we have seen people support the general idea of renewables and wind power. But when it comes to actual projects in a local area, the acceptance of wind power seems to vanish. This pattern is called the 'Not In My Back Yard' syndrome or in short just the NIMBY syndrome (Gipe, 1995). The basic theory is that people support wind energy on an abstract level but object to specific local projects because of the expected consequences concerning primarily noise and visual impact'
                                                                (2003, 3)

After describing the features of the 'NIMBY syndrome' a number of studies are also cited which suggest that the question of attitude to wind energy is more complex than a simple self-interested reaction (Wolsink (1996); Erp (1997); Hoepman (1998)). Damborg suggests that

'Even though some individuals' attitudes towards local wind power plants can be characterised as NIMBYism, it seems to be a minor factor for most people opposing local projects.'   (2003, 4) and that

'The NIMBY-explanation is probably a too simplistic way of seeing people's attitudes.'   (2003, 4)

In 2004 Glickel – a graduate student in Energy & Environmental Analysis at Boston University published a working paper (Glickel 2004) highlighting work by Freudenburg & Pastor (1992) which suggested that NIMBY behaviour could be irrational, selfish, or prudent. These characterisations were explained:

'The initial definition of the NIMBY syndrome characterized the public response as irrational and uneducated. This perspective characterizes the public as unwilling to accept any risk at all for the benefit of society. Proponents of this theory conclude that the public is uninformed and thus unreasonable. ..

Public selfishness is legitimized in a free-enterprise economic model which is based on the assumption that it is inherently rational for individuals to look out for their own interests. Researchers have the difficult task of determining which self-interested attitudes are justified and which aren't. ..

More recent research has recognized some public opposition as prudent and valuable to a complete impact assessment. Organized protest challenging science-based assessments can uncover elements of the "big picture" scientists might otherwise not consider.' (2004, 2)

Glickel's paper is of interest as it helps to develop the general critique of the NIMBY label and offers alternative descriptors for opposition behaviour – lack of knowledge, selfish self-interest and rationality (prudence). In specific relation to wind energy these dimensions are seen in themes within the literature – the provision of information for example in Bosley & Bosley (1988) and Simeo, *et al.*, (2009) and the potential for valued contribution to decision-making in Walker (1995). Devine-Wright (2005) also suggests that the NIMBY concept is too simplistic a way of characterising attitudes toward wind energy and supports Wolsink's (1996) conclusion that 'the validity of the NIMBY theory is questionable as the reasoning behind the theory is faulty' (1996, 861).

Despite these observations, mid-way through the decade, researchers were still using NIMBY as an explanation for opposition behaviour albeit with some reservations. Examples included Bell, *et al.*, (2005) who investigated the 'Social Gap' between generalised support for wind energy development and the results of local applications - concluding that NIMBYism was insufficient as an explanation for the difference between national support and local results. Additionally Warren, *et al.*, (2005) tested the hypothesis that 'the NIMBY syndrome does not adequately explain public attitudes to windfarms' (2005, 859) and Ek (2005) who failed to confirm 'the NIMBY-hypothesis, that respondents living nearby wind power installations are less likely to be positive towards wind power than people without the same experience of wind electricity generation' (2005, 1687). However, although NIMBY label was still alive and being used in research, it was ailing – and emerged even weaker following an exchange between Wolsink and the geographer, Phil Hubbard in 2005-6. Hubbard's paper on Asylum Seeker Centres in Nottinghamshire (Hubbard 2005) linked supposed NIMBY behaviours with race and in particular opposition behaviour was seen as

> 'a significant manifestation of 'environmental racism' - the series of structures, institutions and practices which may not be intentionally or maliciously racist, but which serve to maintain the privileged status of white spaces' (2005, 52)

Wolsink (2006) rejected this characterisation of opposition behaviour questioning the established literature on the NIMBY concept together with its explanatory power observing that 'the indolent use of the NIMBY label has become a tool to question the legitimacy of the opposition and the actors that represent it' (2006, 88). In preference to this indolence, Wolsink recommended that

> 'In studies of conflicts in facility siting it seems preferable to use less value-laden terms, because the 'established literature' suggests that there is something very wrong with the NIMBY characterization of such conflicts.' (2006, 90)

Although Hubbard responded and claimed that his use of NIMBY was neither pejorative nor biased (Hubbard 2006, 94), the critique of NIMBY as

an inadequate analytic tool gathered pace during 2006 with a comprehensive literature review by Burningham, Barnett & Thrush (2006). This concluded that:

> 'As researchers we should avoid attributing NIMBYism – We have three reasons for not using the term.. it is generally used as a pejorative... it may not be accurate... this label leaves the cause of the opposition unexplained.' (2006, 16)

Van der Horst (2007) added to this critique of NIMBY as an explanatory term focussing not only on wind energy development but also on biomass projects. Van der Horst suggested that the meaning of NIMBY was contested by those using it and by those about whom the term was used. He queried whether there was a common understanding of the 'back yard' – in spatial terms and also whether opinion polls accurately captured views and attitudes given the potential for survey respondents to tailor their answers to avoid a NIMBY label. He concluded that

> '..there is also clearly a need for more in-depth qualitative research to increase our understanding of the social construction of individual attitudes and to explore the tensions between positive social or environmental attitudes in principle and actual social or environmental behaviour in practice.' (2007, 2713)

McClymont & O'Hare (2008) also added to the 'burgeoning body of work' (2008, 324) critiquing the NIMBY label and highlighting the potential for some forms of protest to be both rational and civic minded (2008, 325) rather than simply the expression of irrational self-interest. The authors advocated a 'much more careful consideration of these terms, and their use in academic and popular parlance' (2008, 332) highlighting the 'highly subjective and politically charged' (2008, 332) nature of the NIMBY label. This politically charged nature can be seen in the record of a debate on wind energy in the Welsh Assembly on 10th December 2002.[29] The exchange went as follows:

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[29] National Assembly of Wales Official Record 10th December 2002 p75.

'**Cynog Dafis**: It would have been better had you not intervened. Peter. The familiar phrase to describe your situation is, 'not in my back yard'. You are a classic NIMBY, Mr Black.

Rhodri Glyn Thomas: Does not another word come to mind - a scriptural word - namely, 'hypocrite'?

Cynog Dafis: That is a terribly strong word. I prefer the word 'NIMBY', which is somewhat more insulting than 'hypocrite'. It has less dignity than the word 'hypocrite'.'

On the basis of the foregoing chronology of academic unease with the adequacy of NIMBY as an explanatory term, one might have thought that researchers and academic writers would have curtailed the 'indolent use of the NIMBY label' but not so. Recently, Muenstermann (2012) offered another 'literature review' and suggests that 'the Not-in-my-Backyard syndrome in relation to wind farming is alive and thriving' (2012, 468). Petrova (2013) offers the following explanation for this:

'..despite the finding that NIMBY is a flawed concept that does not explain the motives for opposition, the term is continuously used in papers, most of which start from the premise that the term needs to be tested one more time, even though it is refuted in one way or another almost every time. The literature is filled with insightful and illuminating works that individually have greatly contributed to understanding the issues at hand.

However, research leaves us with the impression that social science has not advanced since the term's introduction, partly because research perpetuates its use. Why has this continued to happen? One reason may be that social scientists are reacting to the fact that the term NIMBY is popular among policy makers, planners, and developers, who still find it the most 'intriguing' explanation for opposition. As a result, social scientists have been suggesting that policy makers should educate the public on how not to be NIMBY, instead of educating policy makers not to use the term at all.'

(2013, 594)

Current thinking on NIMBY is that it is an unhelpful term which minimises protest perspectives and should be avoided by researchers. In response, this thesis will not therefore seek to test the term 'one more time'.

Protest Discourse

Following on from the detailed review of literature generated by commentators we should also mention the wind energy **_Protest Discourse_** - material generated by participants in anti-wind energy campaigns. One element of this discourse details the impact of wind energy development on individuals and communities – from their perspective. In Wales for example, Kaye Little has written about the loss of the _Battle for Cefn Croes_ (Little 2003); in the North East of England, Elizabeth Mann has written about the campaign to prevent wind energy development at Barningham High Moor (Mann 2004) and Chris Heaton-Harris MP has written about _Fighting the Kelmarsh Windfarm_ in Northamptonshire (Heaton-Harris 2012). These narrative accounts locate individual actors and campaigns within the wider arguments against wind energy and focus on the experience of opposition groups in their fights against 'big wind'. Outside the UK, in Canada _Dirty Business_ presents

> 'The story of how well-organized corporate wind developers have promoted industrial scale wind power development as a clean "green" energy source, to the detriment of Ontario's rural communities, and with no discernible benefit to the power system.'[30]

Perhaps the best known of the above is the _Battle for Cefn Croes_ (Little 2003) – the story of an unsuccessful campaign over the course of three years to prevent the construction of a wind energy development in the heart of the Cambrian Mountains of Mid Wales. The account is told from the perspective of the Cefn Croes Action Group and describes the background to the decision of the Secretary of State to permit the development. The author – Dr Kaye Little – a retired radiologist who lives a few miles from the site, outlines the connections between the project developer and Enron and the contributions made by Forestry Commission Wales, the Countryside Council of Wales and Friends of the Earth (amongst others) in both support and opposition to the application.

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[30] See http://prod-www.kobobooks.com/ebook/Dirty-Business-reality-Ontarios-rush/book-0Sf5rAUWEUuvqRMd-DBR-A/page1.html [Online] (Accessed 27/3/2014).

The Crosses of Aiolos by Keith Milligan (Milligan 2010) extends this element of the protest discourse through its fictional account of the 'catastrophic effect of an unwanted wind farm development on the small moorland town of Cloughgreen'. The story of the response to a 78 turbine wind energy development rehearses NIMBY, Green and Landscape Aesthetic arguments from the standpoint of fiction as the main protagonists move from ignorance, to understanding and then to direct action.

A further section can be described not as narrative but as 'counter propaganda' and comprises technical critiques of arguments made by developers and wind energy supporters – again from an objector perspective. These include *The Case Against Windfarms* and *The Windfarm Scam* by Dr John Etherington (Etherington 2006 & 2009); *L'Imposture* by Jean Louis Butre (Butre 2008); *Besat Af Vind* by Peter Skeel Hjorth (Skeel Hjorth 2012); *The Rape of Britain* by Struan Stevenson MEP (Stevenson 2011) and *Wind Turbine Syndrome* by Dr Nina Pierpont (Pierpont 2009). *The Windfarm Scam* is now widely read in anti-wind circles. Its' author John Etherington is a retired academic – a former Reader in Ecology at the University of Wales and the critique offered in his book extends from ecological damage to climate change. Although Etherington is keen to set out the scientific basis of the case against wind energy[31], the author's preface gives the reader an impression of what Etherington also thinks about the aesthetics of the 'flickering steel and plastic machines'. He writes:

> 'It is as if some malevolent creature from mythology had shed its spawn over the land, the brood twitching and writhing on the hilltops, the cliffs and then over the sea. At a wave of its wings it has bewildered the impressionable into believe that wild lands are somehow so bleak and featureless that they are improved – even beautified by these winged monsters.'   (2009, 10)

Published in Danish, *Besat Af Vind* or 'Occupied by Wind' is Peter Skeel Hjorth's 'deliberation of wind power as a religion and as a decisive power'. He

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[31] Personal communication with John Etherington – e-mail dated 13th April 2011.

argues that 'by using the fear of global warming, climate change and atomic power, the wind power industry has understood how 'to feather its own nest', and make wind power into a super brand'. Skeel Hjorth - a former Journalist and now the Scandinavian Spokesperson for the European Platform Against Windfarms (EPAW) calls this 'Windpowerism' – a 'green dream' the 'brutal consequences' of which 'breach..the fundamental values which the political powers in a modern society are expected to protect'. (2012, Preface- English Translation).

The third section of this literature can be considered as 'Tactical Advice' and includes works such as *How to Fight Big Wind* by Calvin Luther Martin (Martin 2009) and *Together Against Wind* by Christine Emmett and Chris Heaton-Harris (Emmett & Heaton-Harris 2012. These publications are supplemented by numerous online articles, pamphlets and guides – prepared by local activists and made available through the Internet for use by other campaigners[32]. In addition to conventionally published literature, there is a huge quantity of online material setting out the experience of individuals and communities in relation to wind energy. Examples of this include National Wind Watch https://www.wind-watch.org/documents.php, the European Platform Against Windfarms document store at http://www.epaw.org/documents.php?lang=en.

Collective Identity, 'Horror Stories', 'War Stories' and 'Happy Endings'

The existence of an identifiable Protest Discourse is significant in that this lends support to the idea of a distinct and collective identity for anti-wind energy activists – this being one dimension of a social movement (Della Porta & Diani 2006, 20). If activists are self-aware and are telling stories about themselves they are simultaneously describing and creating a group identity. As Polletta (1998) suggests, the act of narrative storytelling '..may precede and make possible the development of a coherent community, nation, or collective actor' (1998, 422). She puts it even more succinctly when she

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[32] See for example www.wind-watch.org & http://www.epaw.org/documents.php?lang=en.

suggests that when an activist tells a story of the collective 'we' they are helping to bring it into being (Polletta 2002, 35).

Fine (1995) also comments on activist narratives and divides these into 'Horror Stories', 'War Stories' and 'Happy Endings' (1995, 135). Horror stories describe affronts to the movement; War Stories describe collective experiences and Happy Endings reaffirm the value of the movement in achieving its ends.

The *Battle for Cefn Croes, Force 10* and *Fighting the Kelmarsh Windfarm* can be described as a synthesis of Horror and War Stories as their accounts allege misdeeds by developers, companies, agencies and governments and describe the collective experiences of activists during anti-wind struggles. As an example, chapter 12 of the Battle for Cefn Croes recounts both horror and war stories:

Horror Story

'When we first heard about the Cefn Croes proposals, we naively believed in the democratic process. We soon learned that at every turn, just as we thought we were winning the arguments, the goal posts were moved. Policies were being made to accommodate the Cefn Croes development. Inconsistencies in government policy occurred, and our questions remained unanswered. We began to suspect that Cefn Croes would be built, come-what-may. It gradually dawned on us that this was a decision taken in the early days of New Labour's Government. Was this in response to powerful lobbying from the BWEA and intense pressures from various 'green' groups to take a lead on Kyoto? Was ENRON's involvement significant?'

(Little 2003, Ch.12)

War Story

'We witnessed sustained attacks on anti-wind campaigners from all quarters - not just from the BWEA, but smears from the Energy Minister, Brian Wilson and Peter Hain, the new South African raised Welsh Secretary who replaced Paul Murphy. Surely, conduct unbecoming for Government Ministers? NIMBY (Not in My Back Yard) was an insult used freely, forgetting that here in rural Mid Wales, we do not have backyards as such. Our 'backyards' are SLAs and ESAs. We regard our adjacent hillscapes as landscape treasures for everyone to share and enjoy. Unlike developers and politicians we have no vested interests, other than trying to save a finite resource of great beauty and value to society for future generations. For this we were vilified.'

(Little 2003, Ch.12)

A more recent synthesis of horror and war stories can be found in the January 28th 2014 press release by the European Platform Against Windfarms which responds to the European Court decision not to entertain legal action against the European Commission by suggesting that 'Armed groups have more rights than wind farm victims.'[33]   The Court's decision was considered to be an affront by EPAW who express concern about its independence and its hostility in requiring the organisation to meet the costs of the failed action.

The wind energy protest discourse does not contain many happy endings but the autobiography of one of the participants in the semi-structured interview phase of the research does partly reflect the 'changes for the better' Fine refers to (1995, 136):

> 'Thereafter, the Executive Committee met every two months or so. From the start it was a good Committee. Over time we added new members. In the process the quality of the Committee steadily improved. Progressively it built up a shared philosophy, which enabled FELLS to speak on all occasions with an informed and single voice.'

(Audland 2004, 384)

Two further examples of stories told by anti-wind activists are provided in **Chapter 8** which deals with the question of whether collective anti-wind action can be described as a social movement.

Chapter Conclusion

What can we say about the literature on wind energy and what are some of the things we can draw on in support of the research questions set out in this thesis?   Firstly, and rather unsurprisingly if one considers the significance of the ***technical discourse***, at an epistemological level, much of the literature has been written from an implicitly objectivist perspective.[34] As Szarka (2004a) observed

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[33] See http://www.epaw.org/press/European_Court_of_Justice_condemns_EPAW.pdf [Online] (Accessed 27/3/2014).
[34] See **Chapter 4** for discussion of epistemological considerations.

'To date [2004], analysis of the sector has largely been undertaken by technologists and economists.'   (2004, 2) [brackets added]

As the technical discourse dominates the decision making process when wind energy applications come before Ministers, Planning Committees and communities it is expected that at least some of the literature will be based on 'facts'. An Objectivist perspective is therefore consistent with an understanding of the technical discourse – although even this can be challenged (see Latour & Woolgar (1979)). However this reliance on the 'positivist empirical paradigm' (Ellis, *et al.*, (2006, 6)) is perhaps surprising when matters within the ***public opinion / attitude discourse*** or ***protest discourse*** are considered. Attitudes and opinions are non-homogeneous and not easily reduced to a single objective / scientific 'truth'. They exist within a complex historical, economic and social context which is permeated with power relations – all of which have a bearing on subjective attitudes and behaviours. Within the public opinion / attitude discourse Ellis, *et al.*, (2006, 27) suggest that this '..epistemological (i.e. unreflectively positivist) bias has led to poor explanatory findings.

Ellis, *et al.*, (2006, 7) attribute the lack of subjectivist or constructionist based research to the 'widespread resistance from the mainstream world of policy analysis' This is no doubt true for the public opinion dimension – some of the main contributions being commissioned by government departments, however within the attitudinal dimension a significant volume of research has been authored by geographers who have been 'diligently trying to sort it all out' (Pasqualatti (2011, 908)). In the exercise of such diligence some of these geographers should have come across the work of Edward Relph, David Seamon, Doreen Massey or David Harvey (see Relph 1976 & 1981; Seamon 1982; 1984 & 1993; Massey 1995 & 1996; Massey, *et al.*, 2009; Harvey 1989 & 1996) and might have at least attempted to place their research into a historic or political context.

Research into opinions and attitudes has largely ignored the politics of space or what David Harvey describes as *The Domination of Nature and its'*

Discontents (1996, Chapter 6). As a consequence of this way of approaching the issue (or problem) of attitude, researchers have, in general failed to look for 'a deeper theoretical framework and as such [their research] is devoid of conceptual foundation' (Ellis, *et al.*, (2006, 6) [brackets added]). There are some exceptions to this. Thayer & Freeman (1987); Walker (1995) and Gipe (1993 & 1995) all offer the promise of a deeper understanding of attitudes and both Wolsink and Devine-Wright have independently mounted powerful critiques of the inadequacy of the NIMBY label. Devine-Wright's work in particular is worthy of review in this context and will be referenced in connection to Place Attachment in **Chapter 3**.

Secondly, the attitudes of researchers themselves have, in general, been pro-wind (Ellis, *et al.*, (2006, 27)). This is reflected in the language of questionnaires, the wording of journal articles and in comments made by researchers to this author during the process of assembling the literature review.[35]   Some articles have even been authored by consultants within the wind industry and consequently a degree of ideological bias is present in the research.

Thirdly, the quality of some of the research – particularly into attitudes – can be questioned – on the basis of fieldwork context and timing; generalizability, methodology and the absence of peer review. While some research has been undertaken rigorously, when authors have cited particularly early studies, they have tended to do so uncritically and without validating the quality or applicability of the research.

Fourthly, it is clear that there are very many different opinions regarding wind energy and a similarly large and varied number of reasons for objection. These include the physical impact of development on living conditions by some (but not all) of those most directly affected (noise, house

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[35] See personal e-mail from Robert Thayer dated 13th November 2013 and reflections on separate telephone conversations with Derek Spooner and Inga Carlman on 18th November and 2nd December 2013.

prices, shadow flicker etc.); landscape effects (at the level of the consumption of environmental benefits – spoiled views etc.; but also at a deeper ideological and symbolic level – conceptions of what nature / landscape is and should be for). Although in attitudinal studies, landscape impacts present themselves as a more obvious variable underpinning negative attitudes, there are others and these differ across studies.

Lastly, there has been very limited engagement with or analysis of the ***protest discourse*** and certainly no real attempts to see this as valid expression of rational reasons for objection.[36] Some studies have even caricatured objectors and tried to paint pictures of the 'Nay Sayer' (Krohn & Damborg (1999)).

To address some of the above deficiencies, **Chapter 3** presents a number of formal perspectives from which insights into objection to wind energy development can be potentially theorised.

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[36] Toke (2002) does draw on rational choice but contrasts the objections of local actors 'privileged groups' with non-objectors 'free riders'.

CHAPTER 3 – THEORISING GROWTH OF AND OPPOSITION TO WIND ENERGY

'He who loves practice without theory is like the sailor who boards ship without a rudder and compass and never knows where he may cast.'

Leonardo da Vinci. (1452-1519)

'..no sociologist can possibly erase from his mind all the theory he knows before he begins his research. Indeed the trick is to line up what one takes as theoretically possible or probable with what one is finding in the field.'

Glaser & Strauss.
The Discovery of Grounded Theory (1967, 253)

'Theory is a dangerous, greedy animal and we need to be alert to keep it in its cage.'

Howard Becker.
Theory: The Necessary Evil (1993, 219)

Introduction

Chapter 2 provided a detailed review of the public opinion / attitude discourse in relation to wind energy and concluded that the NIMBY label was an inappropriate one to use. The review highlighted a number of different dimensions to opposition and also highlighted the absence of a theoretical underpinning for much of the work. To address this gap, this part of the thesis offers a basis for understanding the expansion of wind energy and suggests some potential perspectives from which opposition might be viewed.

Some Comments on Theory

The quotations at the beginning of this chapter highlight a methodological dilemma. Do we start with an a priori theory and seek to test it or do we 'let the data speak' and develop theory based on the evidence gained through

observation? The existing literature on wind energy has largely neglected this question and has developed a corpus of knowledge based on a positivist epistemology. It has proceeded by process of deduction has sought to uncover objective truths using a priori hypotheses and the application of mainly quantitative methods.

The deficiencies in this approach are rehearsed elsewhere (**Chapter 2 & Chapter 4**) and so for now it is simply stated that a broadly post positivist approach to theory is taken in this thesis. This draws on Constructionism without seeking to try to answer epistemological questions which as Becker (1993, 218) observes have not been settled definitively in two thousand years. This pragmatic approach seeks insights from wherever they may be found and then as Glaser and Strauss advocate, tries to line them up with observations in the field. It follows Becker's suggestion that

> '..though everything can be questioned, we needn't question it all at once. We can stand on some shaky epistemological ground Over Here for as long as it takes us to get an idea about what can be seen from this vantage point.'
> (1993, 218)

Wind Energy & the Expansion of Transnational Capital

Chapter 1 outlined how the pace of wind turbine development slowed after the Second World War due in part to the fall in oil prices and the consequent availability of cheap electricity. It also indicated that arising out of concerns regarding the price and availability of oil in the 1970s, the US government began to develop large-scale wind technology as a means of producing energy on a commercial scale.

This expansion of wind energy was not due to any dominant environmental paradigm based on low carbon energy but was more simply the response of the state (and the US in particular) to uncertainty in the energy markets. It reflected the realisation that the supply of oil was not unlimited as M King Hubbert's prediction that US oil production would fall post 1970 had proven to be correct - and growing anxiety regarding security of energy supply at a time when the US was a net importer of oil (Hubbert 1956).

The United States net importer status meant that it was particularly vulnerable when its support for the state of Israel during Yom Kippur War of 1973 was met with retaliation in the form of an oil embargo from Arab members of OPEC. The embargo extended to all countries which had supported Israel during the war and resulted in the price of crude oil quadrupling during 1973/4. This increase in turn led to rapid price inflation, industrial unrest, share price falls and recession - with Western economies experiencing 'stagflation' to varying degrees. In the United Kingdom, Burmah Oil had to be rescued by the Bank of England, a 'three day week' was instigated by the Conservative government, electricity was rationed and blackouts were widespread.

In the United States President Nixon announced stringent energy conservation measures including a national 55mph speed limit. 'Project Independence' was also launched with the aim of promoting domestic energy independence by 1980[37] and the International Energy Agency was formed in November 1974 under the governance of the OECD. Although the recession lasted until 1975 concerns over energy security persisted into the late 1970s. Two years after the recession had ended, in 1977 a new President – Jimmy Carter enacted the 'National Energy Plan' which aimed to

> '..use research and development projects, tax incentives and penalties, and regulatory authority to hasten the shift from oil and gas to coal, to wind and solar power, to geothermal, methane, and other energy sources.'[38]

So, in response to acute concerns regarding security of energy supply in the world's largest capitalist economy, energy sources other than oil became a key focus for the state, industry and for agencies like NASA who pioneered wind energy development in the United States. This response was in the language of Classical Marxism, a diversification of the 'means of production'.

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[37] See Nixon's speed to the American People on 7th November 1973. [Online] http://www.presidency.ucsb.edu/ws/?pid=4034 (Accessed 08/12/2013).
[38] See Carter's speech to the American People on 8th November 1977. [Online] http://www.presidency.ucsb.edu/ws/index.php?pid=6904&st=wind&st1 (Accessed 08/12/2013).

Production, Class Interest and the Consumption of Nature

Marx defines production in his *Contribution to the Critique of Political Economy* as

> '..appropriation of nature by an individual within and with the help of a definite social organisation.'   (1971, 1)

Castells (1996) similarly defines such 'production' as

> 'The action of humankind on matter (nature) to appropriate it and transform it for its benefit.'   (1996, 14)

The appropriation of oil and its utilisation as an energy source within the production process began in the mid-19th Century towards the end of the first coal based Industrial Revolution. The use of oil and gas in the production of electricity marked the beginning of the Second Industrial Revolution and facilitated significant productivity growth (Maddison 1982; Baumol 1986). The potential shortage of oil from the 1970s represented a significant threat to the US economy and to the American way of life. As President Carter indicated in his address to the American people on April 18th 1977 if the energy crisis was not addressed:

> 'Inflation will soar; production will go down; people will lose their jobs. Intense competition for oil will build up among nations and also among the different regions within our own country. This has already started. If we fail to act soon, we will face an economic, social, and political crisis that will threaten our free institutions.' [39]

The development of new means of energy production by advanced industrial nations in response to the oil crisis created new economic and social costs and benefits - new 'relations of production'. Marx (1847a) describes these relations:

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[39] See Carter's address to the American People on 18th April 1977. http://www.presidency.ucsb.edu/ws/index.php?pid=7369&st=energy&st1 [Online] (Accessed 09/12/2013).

'In the process of production, human beings work not only upon nature, but also upon one another. They produce only by working together in a specified manner and reciprocally exchanging their activities. In order to produce, they enter into definite connections and relations to one another, and only within these social connections and relations does their influence upon nature operate – i.e., does production take place.

These social relations between the producers and the conditions under which they exchange their activities and share in the total act of production, will naturally vary according to the character of the means of production.'

In explaining such relations of production, Marx in his *Poverty of Philosophy* rather helpfully for this thesis, contrasted the technology of the windmill with that of steam power asserting that 'The windmill gives you society with the feudal lord: the steam-mill, society with the industrial capitalist' (1847b Second Observation).

Large-scale wind energy projects generate new relations of production as they possess different characteristics to both pre-industrial power sources such as post mills, water mills and tethered cattle and to the coal mines that fuelled the Industrial Revolution. Firstly, the cost of production is higher necessitating the involvement of transnational capital and secondly, the spatial distribution of production differs from that which was experienced during the first Industrial Revolution.

Transnational Capital

Modern wind turbines of the kind used in large-scale developments (2MW nameplate capacity) cost in the region of £1m per MW installed which puts the cost of a typical 20-30 (2MW) turbine project in the region of £40-60m and larger developments such as the Clocaenog wind energy project at 96MW close to £100m.[40] In the United States the costs are comparable at

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[40] See for example the Social and Economic Benefits of the Clocaenog Windfarm. Research Report prepared by Regeneris consulting. http://infrastructure.planningportal.gov.uk/wp-content/ipc/uploads/projects/EN010013/2.%20Post-

$3-4m per 2MW turbine.[41] Significant capital costs together with long development timescales mean that large-scale wind energy development has tended to be financed and delivered by large multi-national energy companies.[42] Harris (2010) describes the position of such transnational renewable energy companies within the global capitalist economy:

> '..the green economy, particularly the energy sector, is already taking a globalised path of development under the control of the transnational capitalist class (TCC)'
>
> and
>
> 'Major wind and solar corporations already operate on a global scale, with innovations and research ongoing in Europe, India, Japan, China and the US.'   (2010, 62 & 63)

Examples of the large multi-national corporations described by Harris include

- Iberdola with a global turnover of 34 billion euros ($44.87 billion)[43] – exceeding the Gross Domestic Product of countries like Jordan ($41.89 billion); Paraguay ($42.41 billion); Bahrain ($35.85 billion); Cyprus ($24.24 billion); Zambia ($23.6 billion) and Iceland ($12.8 billion).[44]

- NextEra Energy Resources – the largest generator of wind energy in the United States is part of Next Era Energy Inc., a $14.3 billion turnover energy company operating in the US and Canada[45] and

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Submission/Application%20Documents/Reports/CFApp.Doc11%20-%20Socio-economic%20Report.pdf [Online] (Accessed 15/12/2013).

[41] See http://www.windustry.org/resources/how-much-do-wind-turbines-cost [Online] (Accessed 15/12/2013).

[42] See http://www.thewindpower.net/actors_developers_en.php [Online] (Accessed 15/12/2013).

[43] See https://www.iberdrola.es/webibd/gc/prod/en/comunicacion/hechosrelevantes/130214_HR_04_EN.pdf [Online] (Accessed 15/12/2013).

[44] See http://en.wikipedia.org/wiki/List_of_countries_by_future_GDP_(PP.P)_estimates [Online] (Accessed 15/12/2013).

[45] See http://www.investor.nexteraenergy.com/phoenix.zhtml?c=88486&p=irol-reportsCorporate [Online] (Accessed 15/12/2013).

- Acciona Energy – the leading wind energy operator in Europe is part of Acciona Group a 7 billion euro ($9.24 billion) turnover infrastructure company with interests in construction, energy, real estate and logistics in over 45 countries (see Figure 16 below).

Figure 16: Acciona Group International Interests (2012).
Source: Acciona Group Annual Report 2012 p25.

Other Drivers

While this thesis maintains that the development of wind energy has been a strategic response by the state and industrial capital to energy security concerns, it is possible that other factors may have also played a part in the growth of the global market for renewable energy.

Vasi (2011) advances the role of the Environmental Movement in influencing the rate of growth of wind energy, suggesting that the combination of a good wind resource and active local environmental organisations have been important. It would be possible to consider Vasi's thesis as an alternative to that outlined here, however this would perhaps overstate the significance of his empirical work and uncritically accept his account of history.

For example, at the outset of his book Vasi provides some quantitative analysis in support of his argument, however this has low explanatory power (the R^2 of the multiple regressions used to explore the significance of a number of contributory factors never exceeds 0.46 and therefore predicts less than half of the expected change in the value of the independent variable - the % of energy generated from wind; see Vasi 2011, 48-9). Indeed the regression model appears to have a number of other flaws which undermine the qualitative arguments made in later chapters.[46]

Vasi also draws on Righter's (1996) *Wind Energy in America* which highlights the increase in environmental concerns associated with energy production from the 1970's. Righter's account of this period is repeated by Vasi (2011, 33) however the association with public support for wind energy in particular is tenuous at best as prominent leaders were speaking of this technology only 'here and there' (1996, 153) and there was considerably more interest in solar power. Indeed the reference to Stuart Udall's interview in the *New York Times* in February 1971 which is incorrectly cited by both authors, serves to make the point about accuracy and context. Udall is quoted by Righter as saying that 'wind generators' were 'symbols of sanity' (1996, 153) and this quotation is also used by Vasi (2011, 33) who uses the phrase 'wind turbines'. In fact, Udall's article was entitled *Turned On by Windmills* and recounted a journey across the Great Plains where farm scale working windmills, used for pumping water exemplified 'creaky sentiments of a bygone age'. In the article, Udall argued in favour of working with nature not for 'wind generators' or 'wind turbines' and is particularly remembered

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[46] In discussion and in correspondence with Vasi, on this issue, it was suggested by Vasi that the quantitative analysis was imperfect and could have been skipped as it was the weakest part of the argument. (Personal e-mail from Ion B Vassi dated 2nd April 2015). The beta coefficients indicated in the simple regression models are not standardised, are incorrectly signed (compared with expectations) and with the exception of Feed in Tariff presence (or otherwise) are inconsistent across models. Measures used within the Environmental Sustainability Index to provide data on wind resource and environmental organisations are poor and the only model which generates a statistically significant relationship between the % of energy generated from wind and the variables used to explain this appears to achieve this through multiplying rather than adding wind resource data and environmental organisation density (both of which have negatively signed and insignificant beta coefficients in the model when identified separately.) For these reasons the model should perhaps be treated as exploratory rather than explanatory.

for his work to conserve wilderness areas and for his promotion of solar power as a solution to the 1970's energy crises[47] rather than as being a prominent supporter of wind energy.

The significance of other factors – including the oil crisis of 1973, economic development imperatives and subsidies (Feed in Tariffs) are also acknowledged by Vasi (2011, 40-50). However, notwithstanding these criticisms, the qualitative analysis does support the view that environmental organisations have effectively aligned renewable technologies with 'action' frames offered as solutions to broadly based environmental problems ranging from nuclear energy risks to air pollution (2011, 34). Environmental organisations are visibly involved in campaigns to promote individual wind energy developments and to promote the technology more widely so it does not seem unreasonable to ascribe some significance to these activities in the later phases of its deployment.

In sum, Vasi's work can be considered as complimentary to rather than being in opposition to the analysis offered in this chapter, subject to certain qualifications regarding the adequacy of his quantitative analysis and some caveats regarding the accuracy and legitimacy of some of the qualitative references deployed in his work.

Externalities and Relations of Production

The labour intensive production processes of the first industrial Revolution generated a movement of human capital from rural areas (Thompson 1963, 321-2; Hobsbawm 1968, 43) and concentrated both labour and capital – and therefore production, in towns and cities. These 'externalities' are well known, Enzensberger (1974) describing the position thus:

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[47] Steward Udall's Obituary published in the New York Times and Pittsburgh Post-Gazette 21st March 2010 http://www.post-gazette.com/news/obituaries/2010/03/21/Obituary-Stewart-Udall-U-S-Interior-secretary-under-JFK-and-LBJ/stories/201003210264 (Accessed 4 April 2015)

'Industrialisation made whole towns and areas of the countryside uninhabitable as long as a hundred and fifty years ago. The environmental conditions at places of work, that is to say in the English factories and pits, were - as innumerable documents demonstrate - dangerous to life.

There was an infernal noise; the air people breathed was polluted with explosive and poisonous gases as well as with carcinogenous matter and particles which were highly contaminated with bacteria. The smell was unimaginable.

In the labour process contagious poisons of all kinds were used. The diet was bad. Food was adulterated. Safety measures were non-existent or were ignored. The overcrowding in the working-class quarters was notorious. The situation over drinking water and drainage was terrifying. There was in general no organized method for disposing of refuse...'   (1974, 9)

The labouring population was unable to escape these conditions however a significant portion of the middle class responded to the externalities of industrialisation by relocating to the suburban outskirts of towns and cities ((Thompson (1963, 321-2); Hobsbawm (1968, 157-9)).   EP Thompson described the process at the time of the Industrial Revolution:

'By this time the working people were virtually segregated in their stinking enclaves, and the middle-classes demonstrated their real opinions of the industrial towns by getting as far out of them as equestrian transport made convenient.'   (1963, 321)

This migration of the middle class has continued to characterise post industrialisation with the expansion into the rural hinterland. Cloke & Thrift (1987) suggest that the new service industry based middle class has been colonising the English countryside since at least the 1960s and has come to dominate many rural areas - a timeline supported by Champion & Shepherd (2006, 29) who refer to the middle-class penchant for rural England as having a 'forty year history'.

Woods (2005, 72) also suggests that rural areas are more middle class than they were 30-40 years ago – not just in England but also across Europe and North America, Australia and New Zealand. This is supported by Hines

(2007 & 2010) who describes a process of 'rural gentrification' in the United States which has been taking place since the early 1990s.

In Australia Argent, *et al.,* (2009, 17) have commented on the 'lifestyle-related aspects of counter urbanisation' including rural in-migration from the 1980s via the 'sea change', 'tree change' and 'hill change' movements; while Benson (2011) describes the in-migration of the British middle class into rural France. Rural communities have therefore seen a steady inflow of the middle classes seeking to isolate themselves from the externalities of industrialisation and to consume the benefits of rural landscapes (Woods 2003a; 2003b, 272).

Anti-Wind Activism as Instrumental Class Action?

Unfortunately for the rural middle class, the development of wind energy requires production to be located in areas of high wind resource – to maximise energy generation. Typically such areas are in rural locations and at height. This can be seen in Figure 17 below which indicates annual mean wind speed for the UK.
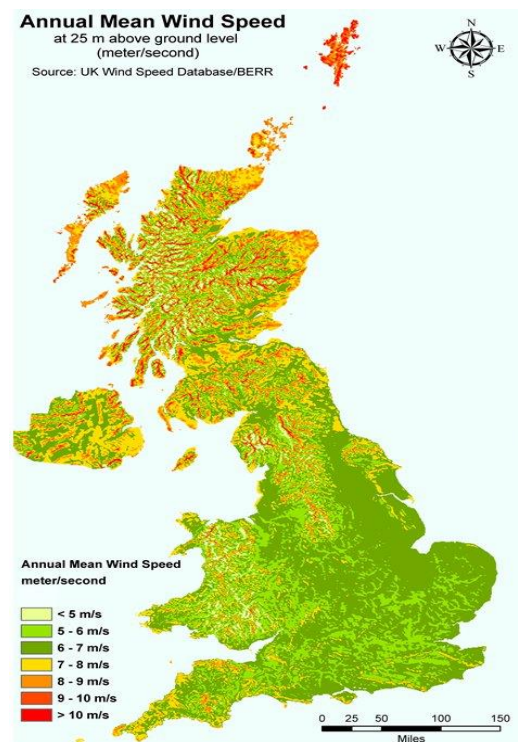
Figure 17: Annual Mean Wind Speed UK.
Source: Department of Energy & Climate Change https://restats.decc.gov.uk/cms/annual-mean-wind-speed-map [Online] (Accessed 02/02/2014).

As a consequence of transnational capital taking advantage of the natural wind resource, the spatial distribution of production now extends into hitherto unindustrialised rural areas.[48] Rural space becomes not just a place of consumption but also a place of industrial production and middle class in migrants begin to experience – along with the indigenous population, and to their chagrin, the externalities of industrialisation. Enzensberger (1974) argues that these middle classes have collectively responded to such externalities through the activities of the environmental movement

> 'The ecological movement has only come into being since the districts which the bourgeoisie inhabit and their living conditions have been exposed to those environmental burdens that industrialization brings with it. What fills their prophets with terror is not so much ecological decline, which has been present since time immemorial, as its universalization. To isolate oneself from this process becomes increasingly difficult...
>
> ..The real capitalist class, which is decreasing in numbers, can admittedly still avoid these consequences. It can buy its own private beaches and employ lackeys of all kinds. But for both the old and the new petty bourgeoisie such expenditure is unthinkable. The cost of a 'private environment' which makes it possible to escape to some extent from the consequences of industrialization is already astronomical and will rise more sharply in future.'   (1974, 10)

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[48] The term '*hitherto unindustrialised rural areas*' is a contested one. It is arguable that rural areas have been progressively industrialised over time and that only the form of industrialisation has changed. Hicks (1969, 141) distinguishes between industrialisation as a broad based historical process within which the Industrial Revolution represents a particular stage - characterised by the rise of modern industry. This distinction is elaborated by Mendels (1972) who refers to the pre modern industry phase as 'proto-industrialisation' where rural labour engaged in commercial handcraft production. Hobsbawm (1968, 29) similarly refers to early rural industrialisation and the growth of industrial towns from villages where commercial handcraft production was taking place. On the basis of this broad definition of industrialisation it is therefore possible to argue that 'industrialisation' of rural areas is a historical fact and that there are no 'unindustrialised rural areas', this being simply a social construct rooted in an idealised view of the countryside. This is the argument advanced by Gipe (1995) in relation to wind energy drawing on Leo Marx's (1964) book *The Machine in the Garden* which traces the way the pastoral ideal has been used in American literature. It is also the position taken by Woods (2003b, 284) who refers to rural landscapes as 'productive space' because of the tradition of farming. However in this thesis the term 'industrialised' is used in a particular sense. This relates to the phase of 'modern machine industry' (Mendels 1972, 241) involving significant fixed capital investment and large-scale physical development. On this basis the expansion of modern industry into the countryside is a relatively recent phenomenon – dating from the Industrial Revolution rather than from an earlier phase of historical development.

Eder (1985) took a similar line in arguing that what were then 'New' Social Movements, were populated by the petty bourgeoisie whose' reasons for participation in protest activity include a defence against intrusions into the middle class life–world or habitus. Eder identifies one such defence as being against the intrusions caused by crises in the welfare state (extension of the state, increase in taxation etc.), but it is equally possible to consider intrusions of a more direct kind, such as those arising out of the search for new sources of energy.

Although authors such as Woods, Enzensberger and Eder together with the historians cited in this chapter focus on the rural middle classes, production externalities do not just impact on one particular group. They are place rather than class specific and so indigenous populations and alternative groupings of individuals are also potentially affected. For these and other reasons, social class is a contested explanation for social movement participation. Authors such as Pakulski (1995), Urry (1995) and Rootes (1995) call for class to be re thought and advocate alternative explanations for activism including education, values and the generation to which activists belong. On the face of it, these critiques seem to be supported through opinion polling data which shows an inconsistent picture of support for or opposition to wind energy across social class (Bibbings (2004, 27); ICM (2012, Tables 2-4)[49]).

This view, that social class has become increasingly inadequate as a mechanism for understanding social stratification, can be traced to an article by Nisbet (1959) and an influential paper by Clark & Lipset (1991). Nisbet argued that in the US and other western nations, class was 'valueless for the clarification of the data of wealth, power, and social status' (1959, 11). In a similar vein, Clark and Lipset suggested that the post-war period has seen a weakening of class differentiated lifestyles and voting patterns

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[49] See http://www.icmresearch.com/media-centre/press/community-owned-renewable-energy [Online] (Accessed 09/04/2014).

coupled with changes to family structure, and increased social mobility facilitated by educational attainment. As a consequence of these structural changes new forms of social stratification have emerged and possess greater explanatory value than traditional class analysis. As Achterberg, *et al.*, (2007) report, Clark & Lipset's thesis sparked a lively debate in the 1990's and the emergence of a consensus among political sociologists concerning the 'death of class'. However, as Achterberg, *et al.*, also note

> 'The intellectual consensus that has emerged since Clark and Lipset sparked the death of class debate in the beginning of the 1990s does not hold that class is actually dead to be sure but rather that it is dying a slow—and perhaps painful—death'   (2007,417)

In contrast with the strong view that 'class is dead', it should be recognised that there are a number of authors who take an opposing view and continue to argue in favour of class analysis (Eder 1995; Scott 2001; Savage *et al.*, 2013; Leondar-Wright 2014; Savage, *et al.*, 2014). This analysis is however qualified and accepts that the old cleavages of industrial capital and labour have been superseded by new class relationships. This position is in keeping with Clark and Lipset's actual thesis which concluded that

> 'We do not suggest that it [social class] be altogether abandoned, but complimented by other factors'.
>
>   (1991, 401) [my comments in brackets]

Acknowledging the above critiques of social class as useful analytical category, if it *is* retained for the analysis in this thesis, then it is likely that additional theoretical insights will also be needed to understand the response to rural industrialisation. Two of these – ideology and identity are briefly introduced below.

Ideological Alternatives to NIMBY

Thayer & Freeman (1987) comment on the symbolic aspects of attitudes to wind energy landscapes and Gipe (1995) focuses on the character of modern

wind energy technology. These authors highlight a more philosophical basis for opposition – something which Brittan (2001) expands. Brittan, a Philosophy Professor describes negative attitudes and resistance to wind energy as being

> '...aesthetic in character. ... grounded in a rather sharp separation between nature and technology, and expressed in the thought that wind turbines and solar panels in the landscape are ugly.' (2001, 169)

For Brittan, objections to wind energy arise because

> '...contemporary windmills, wind turbines, do not conform very well to a deeply entrenched landscape aesthetic, to a particular conception of "scenery".' (2001, 170)

and:

> 'In my view, the resistance to wind turbines is not because they are "uglier" than other forms of energy production, but because they are characteristic of contemporary technology, on a scale magnified by their large size, the extensive arrays into which they are placed, and the relative barrenness of their surroundings.' (2001, 174)

Drawing on Heidegger (1977) and using the terminology of Borgmann (1984), Brittan suggests that the modern day wind turbine creates a different type of relationship with observers as it is a 'device'. It has characteristics which prevent engagement, which make no demand on skill and create distance. While the primary response is an aesthetic one, Brittan suggests that negative opinions are rooted in Heidegger's characterisation of nature and place as more than the 'chief storehouse of the standing energy reserve' (1977, 21).

For Brittan, negative attitudes and objections are the manifestation of a conflict between views of what nature and landscape *are* and what purpose they serve. These attitudes operate on a different level to the production / consumption dichotomy posited by Woods – for Brittan and Heidegger, nature and rural landscapes are places where modern technology does not belong as it fails to work with nature but rather 'challenges' it. To reconcile this fundamental conflict, Brittan suggests a form of wind turbine which reflects a simpler design and one which requires skilled labour to produce

and operate it. This has echoes of Heidegger's understanding of *techne* and the conception of pre-modern technology as something which 'brings forth' from nature rather than 'challenging' it.

These philosophical arguments are both attractive and noble, however (and on the basis of personal involvement with anti-wind activists) it does not appear that very many wind energy objectors have spent time thinking about the relationship between man and technology in the terms used by Brittan and even fewer are likely to have read Heidegger. People do however express ideological perspectives through their political activities and through their affiliations and so it is possible that what Brittan and Heidegger describe in complex terms may be observed indirectly. Smith & Klick (2007) identify a negative relationship between political (Conservative / Republican) ideology and support for wind energy (2007, 10) – i.e. the more conservative people are, the more likely their support for wind power is to decline after they consider the issue carefully. Gipe (1995) also identifies ideology as a key determinant of attitude – focussing on conservationism in particular, so it may be observed that belief in the conservation of nature also has a part to play in determining attitude to wind energy.

Place Attachment and Identity

In addition to instrumental and ideological motivations, some authors, notably the social psychologist Patrick Devine-Wright, have drawn on the Environmental Psychology literature to develop theories of wind energy opposition behaviour based on Place Attachment (Devine-Wright (2005; 2007; 2009; 2011 & 2013); Devine-Wright & Howes (2010); Haggett (2008); Bell, *et al.*, (2013)). This approach draws on constructionism and symbolic interactionism in particular wherein a sense of self is created through the interaction of individuals with their environment (both social and physical).

Although much of the early work on 'self' (Mead 1934; Blumer 1969a etc.) focussed on social interaction, more recent literature has emphasised interaction with 'place'. For example, Low & Altman (1992) use the phrase 'Place Attachment' to describe:

> '.. the symbolic relationship formed by people giving culturally shared emotional / affective meanings to a particular space or piece of land that provides the basis for the individuals and groups understanding of and relation to the environment..'   (1992, 1-12)

Place attachment can be understood as the bond that develops between an individual and a particular space. Its dimensions include emotional and cultural / symbolic aspects associated with the creation of meaning and its properties include strength (strong / weak bond).

Place Identity can be considered as a subset of Place Attachment and as a concept, originated in work by Proshansky (1978; 1982) and Proshansky, Fabian & Kaminoff (1983). Place Identity in broad terms is that set of memories, feelings, attitudes, values, preferences and ideas which are associated with a geographically locatable place, through which a person acquires a sense of belonging and purpose which in turn give meaning to existence. The home is considered to be the most important 'place' in this context – it is the 'central reference point of human existence' (Relph 1976, 20).

Place Identity is a largely implicit and unspoken phenomenon however it can surface when 'place' is threatened. Wester-Herber (2004) highlights the relevance of Place Identity in the context of hazardous waste facility siting debates, however personal safety does not have to be at risk for individuals to feel compromised – in fact threats can be more esoteric – a change to the landscape for example or proposed development which on non-emotional grounds could be considered 'beneficial' can have the same effect.

Rootes (2007a) also considers threats to identity as being at the heart of environmental conflicts. Citing a study of opposition to high speed rail lines through the Val di Susa and a bridge across the Messina Straits, he suggests that:

> 'This goes to the heart of local resistance. For locals, the fundamental issue is their defence of their habitat, their identity rooted in a sense of place, and their refusal to become 'rootless cosmopolitans.'
>   (2007a, 732)

Partly in response to these developments, Bell, *et al.*, (2013) revisit their 'Social Gap' explanation (see Bell, *et al.*, 2005) for the divergence between national support for wind energy and local planning decisions and building on the environmental psychology literature as outlined above. In their more recent paper they refine their approach to include 'place protection' as a potential behaviour which can contribute to a more complete explanation for local opposition to wind energy development. This element of their work is consistent with the approach taken in this thesis where such behaviour is bound up with identity creation and maintenance.

Within the constantly evolving process of identity construction, threats to 'place' can therefore be perceived as threats to self-identity and conversely security and satisfaction with 'place' serve to create and reinforce a sense of self. If following Bourdieu (1986), accumulation of the cultural capital of a particular class is enhanced through consumption of rural landscape and environment – to the extent that there are class dimensions to the enjoyment of rural leisure time (hill walking, riding, hunting etc..) then any intrusion into this habitus may be expected to provoke active resistance as self becomes threatened and it should not be unexpected to see a class dimension to protest.

The next section of this chapter explores such collective dimensions in greater detail.

Wind Energy Opposition as Collective Behaviour

The literature reviewed in **Chapter 2** has, in the main, treated opposition as an individual response to a proposed or actual change in the physical environment with the public opinion / attitudinal discourse in particular focussing on the micro level. Little research has considered wind energy opposition as collective action as typically, individual attitudes are presented in the context of discrete localised (and if the NIBMY label is used, self-interested) protests. This micro level analysis potentially overlooks aspects of and explanations for opposition which can be better understood as collective behaviour.

Existing Theories

There have been some limited attempts to describe opponents to wind energy in a collective sense.

Hull (1995) cites the views of local planning officials in Radnorshire and Montgomeryshire at the time of the first wave of wind energy development in Mid Wales (Carno, Llandinam and Cemmaes) and reported that the Director of Planning for Radnorshire's view of objectors was as follows:

> 'I see a `green' agenda emerging which views the countryside as something to be sustained for its own sake, just as it is today. But for whose benefit? Those who advocate sustenance of the natural world often view it in a vacuum, set apart from what man has created. If we are not careful we will find ourselves responding only to the most articulate, the most vociferous, the best organized pressure groups who are non-elected and who have specific aims that do not necessarily reflect community aspirations'. (1995, 301)

Similarly the Special Projects Officer of Montgomeryshire's view was that:

> 'Our experience is that there is an awful lot of noise but when you get down to it the actual opposition in terms of head counts is very limited indeed. There's very little opposition from the indigenous population. The most vociferous opponents are almost universally people who have moved in from England to the area, or come to the area - their Romantic Wales, their cottage in the hills - or that's where their leadership comes from. It's a NIMBY syndrome.' (1995, 301)

So, a rather negative portrayal of objectors as self-interested unrepresentative 'incomers', a theme which recurs over time.

Woods (2003a) also presents a similar analysis of rural protestors:

> '...in the new rural economy the commodification of rural landscape, culture and lifestyle is more important than the physical exploitation of rural land. This relates not just to the expansion of tourism, but also to investment in rural areas through counter urbanisation and gentrification, often in pursuit of the 'rural idyll'. In-migrants will subsequently act to protect their financial and emotional investment by opposing developments and activities that threaten the perceived 'rurality' of their new home ..... In this way, identity and material interest are collapsed together as a motivating force for political action.' (2003a, 312)

Warren, *et al.*, (2005) rather more positively recognise the environmental credentials of some anti-wind objectors, referring to the conflict over renewable energy development as 'Green on Green' and highlighting the possibility that some opponents may actually come from within the environmental movement itself. Unfortunately Warren describes such opponents as being

> '..caught awkwardly in the middle, supporting renewable energy in principle but opposing specific windfarm proposals..' (2005, 854)

a position which is reflected in the rest of the paper which refers to the 'vocal minority' of wind energy opponents whose '..opinion is formed not by experience, but rather by ignorance, misinformation, prejudice, and fashion' (2005, 872). Warren's paper, while being critical of such opposition does at least recognise the possibility that some anti-wind activists might actually share some of the environmental 'lifeworld.'

Price (2007) provides a biographical assessment of key anti-wind activists in the UK, focussing on Country Guardian, an organisation that has been mounting a national campaign against wind energy since the early 1990s. The key focus of Price's paper – which was presented to the European Wind Energy Association (EWEA) conference in Milan in 2007, was to persuade the wind industry not to dismiss opponents of wind energy living in rural areas as NIMBY's who are expected

> '... to give-up all that they've strove for, to fall on their swords, forsaking all they hold dear for the 'greater good' that renewable energy progress brings.' (2007, 1)

In the paper, Price presents a biographical sketch of Angela Kelly, the Chairman of Country Guardian:

> 'Angela Kelly joined Country Guardian in 1992, one year after the group had been formed (Kelly, 2005a). Her mother came from an Anglo-Irish family located in the west of Ireland, whilst her father, whose parents were from Cambridgeshire, was an established businessman in Birmingham. Before moving to the English Midlands, Angela's father had been an Officer in the army during World War One and had worked in rolling mills – which he detested and which

brought about a yearning for a country lifestyle. Angela was 10 years old when World War Two started and so experienced life with wartime shortages. Being raised on the outskirts of Droitwich, Worcestershire, home life was shared with farm animals, as well as two older brothers. After attending a convent boarding school in Kidderminster, Worcestershire, Angela was sent to a school which was run by a French Order of nuns, near Tamworth. Here again, as most able bodied men had gone off to fight, women were left to tend to the countryside – something Angela revelled in as she took the opportunity to learn about country life: to learn to horse ride and help out on nearby farmland with such tasks as hay making.

During the 1950s Angela took a job running a car sales office in Monte Carlo, selling cars to American sailors stationed on ships on the Mediterranean Sea. After saving enough money, Angela returned to London to train as a painter, met her husband who had served in World War Two (afterwards running an Architect's practice in Birmingham), and settled in Builth Wells, Wales. As pro-environmentalists, Angela and her husband had joined several environmental groups, such as the Council for Rural Protection of Wales and Friends of the Earth. However, the Kelly's were not long to realise that the policies of such environmental groups were not always aligned to their own, and especially that of large-scale wind power. As a result, during 1992 Angela joined Country Guardian, which was designed to be an environmental group that had been established a year before to fight industrialised wind power development.'   (2007, 6)

Building on this biography, he asserts that

'the anti-wind power fraternity see themselves as protectors of the natural environment, and so perceive themselves to be 'greener' than some other environmental groups, such as Greenpeace.'   (2007, 9)

and recognises that anti-wind energy activists often come with '... a deep-rooted, often life-long passion for, and engagement with, the environment' (2007, 10). Price also presents a shortened biography of Sir Bernard Ingham, Margaret Thatcher's former Press Secretary whose support for nuclear power is well known. What is interesting about this part of the paper is not that it includes details of Sir Bernard's environmental credentials (as it does not), but rather that there is an explicit acknowledgement that his pro nuclear stance

'..often becomes muddled in the minds of the pro-wind campaign, resulting in false accusations that the nuclear power industry is somehow sponsoring anti-wind power campaigners.'   (2007, 7)

Price's paper, which was presented to the EWEA Conference, appeared under the topic heading of '*Winning Hearts and Minds'* so it is unlikely to be considered as non–partisan. Despite this his assessment points to two important dimensions to wind energy opposition – firstly, that it includes objections coming from activists with strong environmental values and secondly, that the pro nuclear link is a 'false accusation'.

In contrast, an international study by Breukers & Wolsink (2007) presents case studies of wind energy implementation in the Netherlands, Germany (North Rhine Westphalia) and England suggesting that

> 'Overall, local opposition groups have no connection with nature protection organisations or their branches. The nature, environmental and landscape protection organisations are seen as conditional supporters of wind power although some have adopted a more reserved stance.
>
> In England, where this is strongest, the landscape and nature protection groups represent an established grassroots tradition. More so than their foreign counterparts, they emphasise the local community's right to be involved and the importance of collaborative planning. Their local branches increasingly oppose wind projects.'
>
> (2007, 2747)

This is a rather surprising finding, given the earlier account from Price which refers to Angela Kelly's links to the Campaign to Protect Rural Wales and Warren's observation of links to the environmental movement.

The assessments of Hull (1995) and Woods (2003a) could be used to place collective opposition within a class framework with protestors being seen as middle class 'incomers' seeking to protect their 'rural idylls' from the position of self-interested consumers. Warren (2005) and Price (2007) see protestors as part of the environmental movement although; as the study by Breukers and Wolsink highlights, not everyone sees such a linkage and it is possible that these perspectives are not mutually exclusive (i.e. middle class incomers may be part of an environmental movement). In either scenario, collective identity offers itself as a focus for further study.

Wind Energy Opposition as a Social Movement

Social Movement Theory has the capacity to throw light on wind energy opposition as social movement researchers have analysed the motivations, characteristics and activities of a wide range of movement participants and organisations and it is feasible that some of their findings will have relevance for anti-wind activism. There are multiple definitions of a social movement including:

> '..a purposive and collective attempt of a number of people to change individuals or societal institutions and structures.'
>
> Zald & Ash (1966, 329)

> 'Social movements can be viewed as collective enterprises seeking to establish a new order of life. They have their inception in a condition of unrest, and derive their motive power on one hand from dissatisfaction with the current form of life, and on the other, from wishes and hopes for a new system of living. The career of a social movement depicts the emergence of a new order of life.'
>
> Blumer (1969, 99)

> '.....a conscious, collective, organised attempt to bring about, or resist large-scale change in the social order by non-institutionalised means.'
>
> Wilson (1973, 8)

> '..those organized efforts, on the part of excluded groups, to promote or resist changes in the structure of society that involve recourse to non-institutional forms of political participation.'
>
> McAdam (1982, 25)

> 'Social movements are ....best conceived of as temporary public spaces, as movements of collective creation that provide societies with ideas, identities, and even ideals.'
>
> Jamison & Eyerman (1991, 4)

> 'Contentious politics occur when ordinary people, often in league with more influential citizens, join forces in confrontation with elites, authorities and opponents ...when backed by dense social networks and galvanised by culturally resonant, action-oriented symbols, contentious politics leads to sustained interaction with opponents. The result is the social movement.'
>
> Tarrow (1998, 2)

> 'Social movements are: informal networks, based on shared beliefs and solidarity, which mobilise about conflictual issues, through the frequent use of various forms of protest.'
>
> Della Porta & Diani (1999, 16)

'.. a distinct social process, consisting of the mechanisms through which actors engaged in collective action
- Are involved in conflictual relations with clearly defined opponents
- Are linked by dense informal networks
- Share a distinct collective identity'

Della Porta & Diani (2006, 20)

Tilly (2004, 7) observes that "No one owns the term 'social movement'" and there are clear differences in emphasis across movement scholars. For some authors, movements respond to instrumental phenomena (pay, conditions, political emancipation, race and gender equality etc.) within an institutional framework. The work of Smelser, Tarrow, Tilly and McAdam would fit within this broad category. For other social movement theorists – such as Melucci and in the early work of Alain Touraine - movements are an expression of identity and of this perspective Cohen (1985) writes

'Contemporary collective actors consciously struggle over the power to socially construct new identities, to construct democratic spaces for autonomous social action, and to reinterpret norms and reshape institutions.'   (1985, 690)

Social movement theory has the potential to provide insights into instrumental, ideological and identity based reasons for the 'mobilisation around conflictual issues' associated with wind energy. However, until relatively recently there has been a somewhat restrictive focus on the distinction between 'old' and 'new' social movements, with much of the literature from the 1980s onwards substituting identity for class as a basis for collective action (Touraine (1981 & 1985); Melucci (1989)).

As a basis for collective action, it would be possible to argue that the expansion of wind energy into the 'districts of the bourgeoisie' has resulted in a new form of class struggle wherein the middle classes are acting 'for themselves' against transnational capital. However, the extent to which movement actors actually identify transnational capital as a clearly defined opponent is moot. It is not an everyday expression and would tend to be used by activists with a knowledge of and sympathy with Marxism. While activists identify opponents as 'developers' and 'big wind' few have gone further to locate these terms within a wider philosophical or political

framework. In part this is because opposition to wind energy is not simply an ideological matter. For many activists, opposition is an instrumental struggle akin to that of the 'old' social movements blended with ideological motivations and a response to threats to identity.

Klandermans' 'Triple I' Model of Social Movement Participation

Few social movement theorists have blended characteristics of 'old' and 'new' social movement more successfully than Bert Klandermans whose '*Triple I*' theory of social movement participation (Klandermans 2004) offers a bridge between instrumental and identity based collective action. Klandermans' model of social movement participation considers participation ranging from a single action to enduring and taxing activity. Instrumental motives for participation are held to relate to the wish to change circumstances; Identity motives relate to acting as a group and Ideological motives are based on the search for meaning and ways to express views and feelings.

Klandermans' model can be considered as 'middle range theory'. It blends the ontological standpoints of objectivism (Instrumental motives) and constructionism (Identity and Ideological motives) without seeking to give precedence to either. Rather, Klandermans consciously avoids 'paradigm warfare' and focuses on making concrete progress in understanding social movement dynamics without worrying too much about 'grand theory' (Klandermans & Staggenborg 2002, 328).

In adopting this approach, the key point Klandermans makes is that it is impossible to understand participation in movements with reference to only one of the three factors above and that greater understanding comes with the inclusion of all three. These dimensions will be examined in **Chapter 7** when the characteristics, motives, and values of individual anti-wind activists are explored in detail.

Chapter Conclusion

Following Glaser and Strauss (1967) this chapter has offered some theoretical possibilities which may (or may not) line up with findings in the field.

Firstly, we should not be particularly surprised if we to see that anti-wind energy opposition has a class dimension as new relations of production are created when transnational capital expands into hitherto unindustrialised areas. This expansion has the potential to adversely affect the accumulation of the physical and cultural capital of the middle class who are likely to respond accordingly.

Secondly, we might expect the class dimension to be complex as changes in relations of production to impact on physical spaces which are occupied by multiple class interests.

Thirdly, we may expect to see ideology at play given the potential for people to have different conceptions about nature and *what it is for*. In particular we may see evidence of conservationist ideologies if anti-wind activists are reflecting views where nature is more than 'standing reserve'.

Fourthly, based on the environmental psychology literature and on specific research by authors like Devine-Wright, attachment to place as an element of identity may be a dimension of opposition.

For the reasons above we should perhaps seek to explore multiple rather than singular motivations for anti-wind activism and this suggests that we may need more than one approach to gaining insights. **Chapter 4** describes how the thesis addresses this point in the adoption of mixed methods.

CHAPTER 4 – METHODS & DATA

Introduction

In selecting an appropriate method – or methods – with which the research questions in this thesis are to be examined, it is necessary to set out our approach to two key orientations which collectively underpin the choices we make. These two orientations are ontology and epistemology – our view of the world and our view of knowledge.

Making clear what our approach to these orientations is, helps to locate the methods we have chosen within a broader philosophical framework and guides our use of quantitative or qualitative methods – or both within the thesis.

Depending on what view of the world we have – our definitions of 'existence' and 'being', what is judged to 'exist' or 'be' and how we 'know' these things, we may select different methods to investigate the particular phenomena under review.

The first part of this chapter describes some of the considerations that have been necessary prior to settling on a chosen research design. The second part of the chapter outlines the methods used and how issues of validity, language and bias have been addressed.

Ontological Considerations

Ontology, as the study of 'being', focusses on 'objects' and objects exist. Aristotle[50] calls these objects 'substances'; Leibniz, Kant, Brentano and Heidegger call them 'things'. There is not enough space to discuss the nature of these objects however three points are worthy of note.

Firstly, the Aristotelian view is that objects can have properties but these properties do not exist on their own - instead requiring objects to give them existence. For example hunger cannot exist without the object that is

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[50] Aristotle's ideas regarding Ontology are set out in his works – *Categories* and *Metaphysics.*

hungry. Secondly, again following Aristotle, objects may be joined into 'collectives'. One such object may be a person who is joined into a family or other social group – however, such a collective is not an 'object'. It may share some of the properties of an object but in the final analysis it reduces to multiple objects. Thirdly, an object takes up space.

The Objectivist Perspective

The ontological perspective of Objectivism – which is derived from these propositions, proceeds on the basis that these objects exist independently and have realities that are external to the actors which interact with them (Bryman 2004, 16). The consequences of adopting this perspective are that facts regarding objects are judged to be objectively knowable (since they exist independently) and that individual objects are the most appropriate unit for study.

It is perhaps easy to appreciate objects as defined by Aristotle in the context of the physical and natural world. Of the three points highlighted, the criterion that they take up space clearly delimits the scope of the definition and if we consider Aristotle's other thoughts on *Politics* and *Ethics*, these are seen as conceptually separate to the act of 'being'. As a consequence the orientation towards defining what exists – and therefore what can be studied and known – precludes some phenomena.

Durkheim identifies one such phenomenon as 'social facts' –

> '..obligations defined in law or custom...manners of acting, thinking and feeling which are invested with a coercive power….representations and actions...beliefs, tendencies and practices of the group taken collectively... collective ways of being..' (1982, 50-57)

The issue for Durkheim and for others is that such phenomena do not sit comfortably within the Aristotelian approach to objects and categories (as types of object), but still have value and are worthy of study. Social facts should be treated as if they were objects or 'things' and approached with an 'attitude of mind' which treats such phenomena as unknown territory which is likely to 'surprise and disconcert' (1982, 35-7). Durkheim similarly rejects the suggestion that social phenomena exist independently to individuals. In

his view, social phenomena reside not in the elements but in the entity formed by the union of such elements (1982, 39).

This is also the position taken by Marx who argued that

> 'Society does not consist of individuals, but expresses the sum of inter-relations...'   (1973, 265 Quoted in Crossley (2011, 15))

These inter-relations are usefully presented by David Harvey in *Volume 1* of his *Companion to Capital*
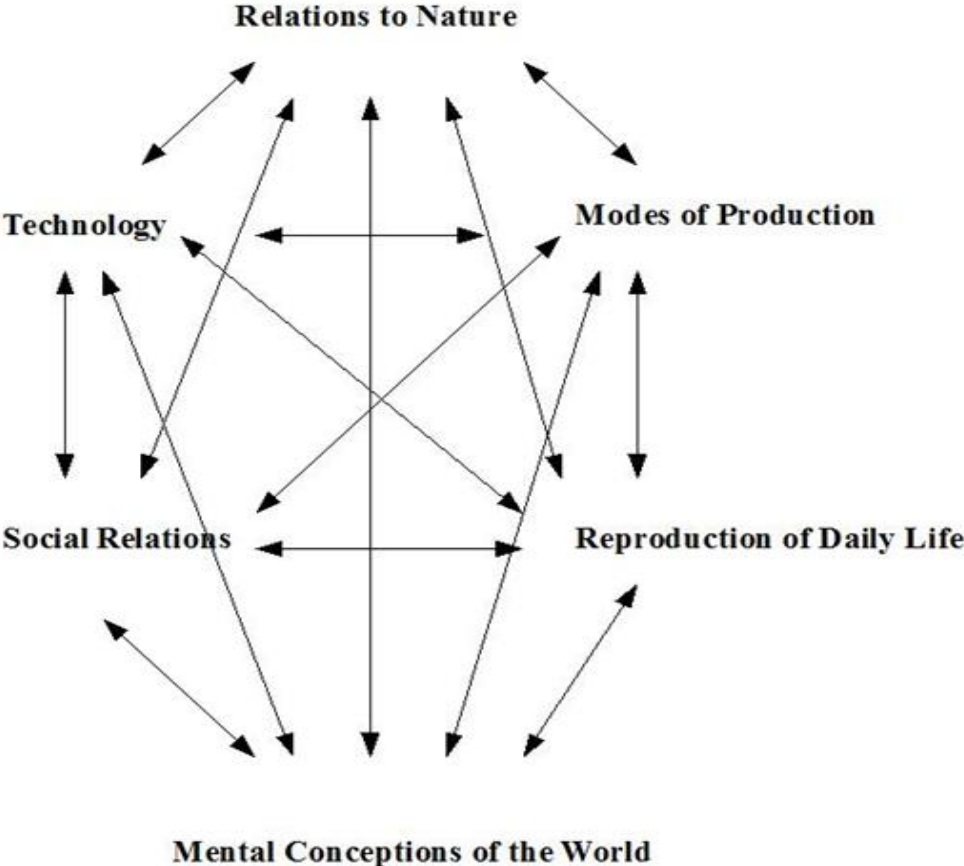
Figure 18: Marx's 'Assemblage of moments'
Source: Harvey (2010, 195)

Concepts such as modes of production and social relations are not easy to see as Aristotelian substances / objects as they do not – amongst other things – 'occupy space'. Objectivism is therefore problematic at a fundamental level when some phenomenon – like 'social facts' are being investigated.

The Constructionist Perspective

There is a solution to the problems caused by the possibility of social facts – intellectual inquiry with consideration of what Heidegger (1962) calls 'being-in-the-world'. This standpoint proposes that existence and reality are not independently determined and objectively knowable phenomena. They are constructed through interactions with humans and the environment and this process of creation is always under constant revision.

Under this alternative conception, objects or things still have properties but these are not independent of interaction with social actors whose interactions shape and influence them. In sympathy with Durkheim, social phenomena are seen as particular types of things and are capable of being studied. The nature of investigation is therefore more complex and involves not only understanding the properties of objects but also what has helped to construct those properties. In short, as social interaction is a key component in the construction of objects, investigation should be holistic rather than individualistic.

Although the term 'being-in-the-world' was coined by Heidegger, the idea that objects have a social and environmental context which influences them and that relations and interactions are an appropriate unit for analysis predate *Being and Time*. The idea that reality might be 'constructed' can be traced to Plato's *Allegory of the Cave* and these thoughts have been elaborated by philosophers since Antiquity. Berlin (2000) traces the origins of the idea of 'collective' existence to the Anti-Enlightenment philosophers Vico and Herder who independently argued that

'..there is no human essence to be found in individuals as such'..,

that

'..the essence of humanity is the ensemble of human relations'

(2000, 138)

and

'We live in a world we ourselves create' (2000, 229)

Our ontological orientation influences not only the way we see the world, but also how we define the questions we ask about it. Bryman (2004, 19) suggests that 'ontological assumptions will feed into the ways in which research questions are formulated and research is carried out' so it is necessary to revisit the questions outlined in this thesis and make their assumptions explicit.

Research Questions

The research questions in this thesis are set out in the introduction and are reproduced below:

1   What is the extent of anti-wind activism?

2   Who are the anti-wind activists?

3   Why do some activists oppose wind energy?

4   How have they protested?

5   Can anti-wind activism be described as a social movement?

Reflecting on these from an ontological standpoint, there is a mixture of assumptions. **Research Question 1** implicitly assumes that the extent of anti-wind activism can be quantified and that there can be a numerical or similarly 'bounded' answer. Activism requires activists and these can in theory be individually counted – yet the simple act of counting does not reveal qualitative aspects of activism – such as the relations between activists or groups and their location and so when we say 'extent' this can mean more than just numbers.

Research Question 2 is similarly complex. Who are the activists seeks to understand what properties the individuals and groups possess. Some of these are physical – such as sex; others are socially constructed, such as class and identity. **Research Question 3** asks 'Why?' and this opens up the whole issue of reasons - which as Tilly (2006, 15) observes involves people 'negotiating their social lives' and saying 'something about the relations between themselves and those who hear their reasons'. On this basis, the

formulation of and answers to questions 1-3 take Constructionist ontology as their point of departure.

On the face of it, **Research Question 4** is perhaps a little easier. It involves cataloguing methods and processes – something which Aristotle would see as 'Accidents' which inhere in substances/ objects. Taking an Objectivist ontological perspective would therefore be possible – but again, this would require us to set aside the social context in which strategies, tactics, tools and techniques are employed. It would require us to omit consideration of the various incarnations of 'Hegemony' or any other interaction with 'power'.

Finally, **Research Question 5** explicitly requires a judgement to be made about the nature of activism. Given that activism is a property of individuals – an activity being one of Aristotle's 'accidents', we could also proceed on an Objectivist basis but again at what cost? Social Movements are not something that exist independently but are formed through the collective action of actors and such action has a social context – which can and frequently does change depending on the ebb and flow of power, culture and ideology.

On the basis of the above, and with some credence to the notion of power within the social construction of reality, a broadly constructionist ontology will be adopted in this thesis. Our view of 'what is' - is that it is socially constructed and that 'social facts' – such as beliefs and practices and social ways of being can be studied as if they were 'things'. This however is a qualified position – a 'weak' constructionist perspective rather than a 'strong' one which would treat reality as an individually defined and purely relative concept. I would argue that there are ways of avoiding the inertia of relativism and that there are ways to attribute significance and judge between competing explanations or accounts. These include being clear what philosophical and ideological underpinnings are present, addressing the role of the researcher within the research and being clear about the non-neutrality of language – matters which are covered towards the end of this chapter.

Epistemological Considerations

Having set out our orientation to the issue of 'what is', it is necessary to address the questions of 'how do we know' and 'what are the limits of inquiry?' The preceding discussion regarding ontology provides a clue – there are differing perspectives.

Positivism

The oldest and most established view of knowledge and its accumulation like Objectivist ontology dates from Antiquity. The traditional approach – from Aristotle onwards has been largely based on the identification of objective 'truths' – with knowledge comprising the sum of these truths. Research in this context is concerned with the task of uncovering such truths or 'facts' through the deployment of rational thought and scientific method. As Crotty (1998) puts it

> 'The positivist perspective encapsulates the spirit of the Enlightenment; the self-proclaimed Age of Reason... positivism offers assurance of unambiguous and accurate knowledge of the world.'
>
> (1998, 18)

The Positivist approach is based on a belief in value free detached investigation – as purportedly undertaken in the natural sciences. It adopts scientific rather than metaphysical approaches to problems – i.e. it is based on studying actual data and experience / observation rather than philosophical 'speculation' and advances the view that the purpose of theory is to inform hypotheses which can then be tested and if confirmed, used to develop 'laws' (Bryman 2004, 11). The approach therefore follows a deductive approach to inquiry.

Although Positivism has been the dominant epistemology for the past two hundred years or so, it has not been universally or uncritically accepted. Kant (1781) for example, acknowledged the importance of experience and observed phenomena when he wrote 'all our cognition begins with experience' however such observed phenomena and experience while 'necessary' were not 'sufficient' for understanding. In chapter 1 of his *Critique of Pure Reason* he wrote

'...although all our cognition begins with experience, still on that account, all does not precisely spring up out of experience. For it may easily happen that even our experience-cognition may be a compound of that which we have perceived through our impressions, and of that which our cognition-faculty proper (merely induced by sensible impressions) supplies from itself.'

As early as 1781 knowledge was therefore seen as a synthetic product of experience and cognition with the latter not simply being the act of observation. Cognition involves the mental processing and transformation of sensory inputs gained through experience not just transferring such inputs onto a *Tabula rasa*. It is the interplay between experience and consciousness and such consciousness has a social context.

Interpretivism

Berger & Luckman (1966, 13-16) distinguish between the 'philosophy of knowledge' and the 'sociology of knowledge' as a means of placing epistemology in a social context and this is a useful introduction to the alternative to Positivism. If, as argued, individual consciousness has a social context then can such a context change the nature of knowledge? Can objective knowledge exist or as Becker puts it, is truth 'just another kind of story?' (Becker 1993, 218). Interpretivism holds this to be true. It sees knowledge – like reality, as socially constructed and therefore relative rather than absolute. It looks for

'.. culturally derived and historically situated interpretations of the social life-world.'   (Crotty 1998, 67)

Following this approach, the position of the researcher is important as knowledge is not simply discovered but is created through the interplay between researcher and subject and because of this it is important to be explicit about bias. The researcher is in carrying out research, interpreting information in a non-neutral way. Even if methods are adopted to analyse data in a scientific – and arguably more objective way, the results still require interpretation and this is a value laden activity.

Interpretivism also approaches theory in a different way. It starts not from the perspective that theory is there to inform hypotheses which can then be tested so that general laws can be produced, but rather from a view that theory is developed through the interpretation of data gained during the process of research. Although researchers may have some understanding of relevant theoretical perspectives, these are not 'tested' but are instead 'lined up' with what is found in the field (Glaser & Strauss 1967, 253).

Although Interpretivism has become more widely accepted as an epistemological orientation in recent years, it can be taken to extremes – where all knowledge is perceived to be relative, everything is questioned and understanding as a progressive activity grinds to a halt. This is where pragmatism is required. A pragmatic approach to the construction of knowledge accepts that theory is a 'process' and that arriving at answers may take time with small steps being made towards a final goal.

Research Questions Again

So how does this affect the research questions in this thesis and the way research is conducted?

The arguments in favour of socially constructed knowledge are powerful and the nature of the questions being asked (which potentially concern the inter-relationships of technology, industry, nature, class and production) indicate that an interpretive approach may yield 'better' knowledge – albeit potentially in small quantities. Having said this, to understand the extent of anti-wind activism, if a relational approach is taken, mathematical techniques such as Social Network Analysis can also be useful.

Equally if we are trying to understand Place Attachment, then in addition to qualitative statements, quantitative assessments based on scales can throw light on the issue even though such techniques would typically fall within a Positivist epistemology. Accordingly, and with some qualifications, a broadly interpretive approach to epistemology will be followed in the thesis.

Quantitative or Qualitative Methodology?

The adoption of constructionist ontology and interpretivist epistemology would seem to point the research towards qualitative rather than quantitative methods however the 'great divide' between the two approaches has the potential to limit the capacity to generate answers to complex questions.

Although at a fundamental philosophical level there is conflict between the Objectivism and Constructionism and between Positivism and Interpretivism Becker's reflection that 'Epistemological issues, for all the arguing, are never settled' (1993, 218) supports a degree of flexibility rather than methodological purity. Bryman (2004, 443) also urges caution in relation to a deterministic association of epistemology, ontology and research strategy pointing out that there is no perfect correspondence between the philosophical orientations mentioned above and the strategies adopted on the ground which are described as being more 'free floating'. This is a position also advanced by Crotty who suggests that

> 'We should accept that, whatever research we engage in, it is possible for either qualitative methods or quantitative methods, or both, to serve our purposes. Our research can be qualitative or quantitative, or both qualitative and quantitative, without this being in any way problematic.' (1998, 15)

So what is proposed? In essence a diversified approach – qualitative and quantitative with a selection of methods best suited to answering the particular questions at hand. In popular parlance this is known as 'Mixed Methods' or 'Multi-Strategy research'.

Mixed Methods

The arguments for and against mixed methods have been made elsewhere (Bryman 2004, 451-465). Points against are that ultimately the ontological and epistemological positions of different methods cannot be reconciled or as has been suggested, the orientations reflect different paradigms which are incommensurable (Guba 1985). Points in favour include the ability to

triangulate findings using different perspectives, the ability to add 'depth' to research, the ability to 'fill in the gaps' when a single approach does not provide all the answers a researcher is looking for and importantly the ability to study different aspects of a phenomenon.

If we return to Figure 18 and consider Marx's 'assemblage of moments', a mixed methods approach can combine methods used to explore the mental conceptions of the world of anti-wind activists, and this can be complemented by the use of social network / hyperlink network analysis to visualise and examine their social relations. I see no fundamental conflict with the integration of these methods as they seek to answer different questions. Equally, I do not see any difficulties in cautiously using interviews to extract information on activists' views of technology or nature in the context of wind energy – how else might one elicit answers to such questions?

As indicated earlier (**Chapter 3** and this chapter), adopting a weak constructionist and interpretivist perspective enables us to 'stand on some shaky epistemological ground … for as long as it takes us to get an idea about what can be seen from this vantage point' (Becker 1993, 218). Our research questions seek to explore questions of scale and extent, character and composition, reason and rationale as well as similarity and difference and as a consequence it would be difficult to obtain insights across these dimensions using a single approach. Mixed methods may not be able to provide perfect answers but the pragmatic application of techniques best suited to answer different types of research question seems preferable to a single method in this instance.

Research Design, Data & Methods

Research Design

The overall design of the research undertaken in this thesis is illustrated in Figure 19 below
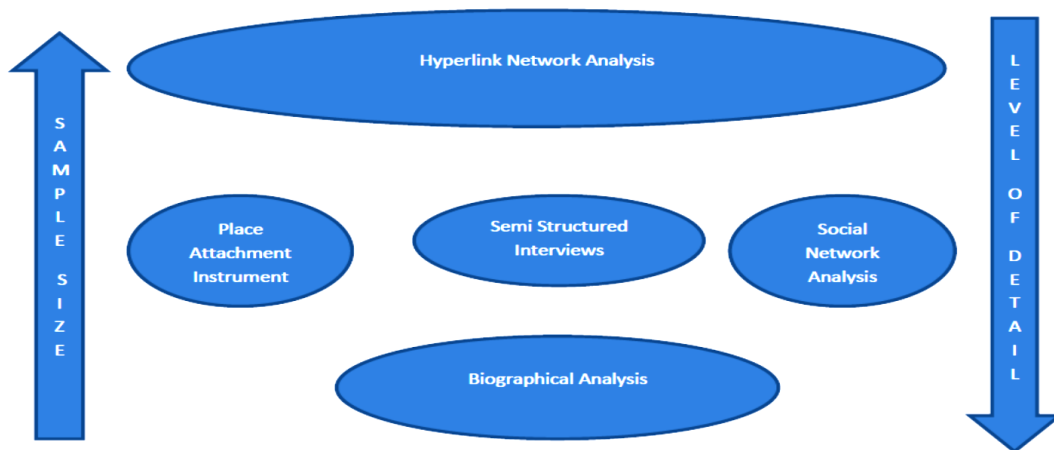
Figure 19: Research Design

A combination of quantitative and qualitative methods was deployed to generate data. Although some data was analysed quantitatively (e.g. Hyperlink Network and Place Attachment extent) due to non-random sampling and relatively small sample sizes, the results have largely been interpreted qualitatively. The research methods were selected to create a tiered approach to the generation of data.

At the highest level, information on the links between large numbers of AWEGs was generated and then analysed. This information was obtained by analysing the hyperlinks between AWEGs with websites. From this information, a smaller number of key organisations and individuals were identified for 'face to face' interviews, accompanied by a structured questionnaire to assess strength of Place Attachment. From these interviewees a smaller group of individuals was identified for more detailed biographical interviews. The benefit of this approach is that research findings can be triangulated particularly when attempting to answer **Research Questions 1, 2 & 5**.

Data

The data analysed in the thesis is shown in Table 2 below:

Table 2: Sources of Data

Methodology	Method of Collection	Sample	Comments
Quantitative	Hyperlink Network Analysis (HNA) – Automated WebCrawl	Snowball sample of 321 AWEG websites seeded from National Wind Watch links page	See **Methodological Appendix M1**
	Hyperlink Network Analysis (HNA) – Manual Link analysis	Snowball sample of 635 AWEG websites seeded from National Wind Watch links page and manually analysed	See **Chapter 5**
	Structured Place Attachment questionnaire / instrument - Pilot	Purposive sample of 13 anti-wind activists based in North Wales and known to the author.	Results shown separately as a comparator – see **Table 8**
	Structured Place Attachment questionnaire / instrument - Main	Purposive sample of 17 leading anti-wind activists from UK, US and Europe, identified from key nodes within HNA supplemented by key activists as identified by British Wind Energy Association (BWEA)	Results shown separately as a comparator – see **Table 8**
	Social Network Analysis of selected semi structured questionnaire responses	Sample of all 21 interviewees (pilot and main sample) for analysis of memberships of clubs and association	See **Figure 36** for Membership of Organisations and Associations
		Sample of 17 leading anti-wind activists for SNA of real world network. (NB Pilot semi structured questionnaire did not collect this information).	See **Figures 39 & 40** for real world activist network
Qualitative	Semi-Structured Interview – Pilot	Convenience sample of 4 leading anti-wind activists from North Wales	Officers of the Cynghrair Hiraethog Alliance (CHA) AWEG
	Semi-Structured Interview – Main	Purposive sample of 17 leading anti-wind activists from UK, US and Europe, identified from key nodes within HNA supplemented by key activists as identified by British Wind Energy Association (BWEA)	For Socio Demographic analysis of participants – see **Table 7**
	Biographical Interview	Sub sample of 4 anti-wind activists selected at random from main sample of 17 leading activists	For details see **Data Appendices D4-7**

Methods

Details of the methods used and their sequencing are set out below:

Hyperlink Network Analysis

Analysis of the websites of anti-wind groups and activists was firstly undertaken using Hyperlink Network Analysis (HNA) – a technique which has evolved following early work on links between websites (Garton, *et al.*, (1997); Jackson (1997); Terveen & Hill (1998)) and research into the online relationships of students at Stanford University (Adamic & Adar (2003)). Details of the method of HNA and how it was applied to anti-wind groups and activists with an online presence are set out in greater detail in the Bangor University Menai Working Paper 2010/02 and summarised in a methodological appendix to this thesis (**Appendix M1**).

In summary, a snowball sample of the links between the websites of 635 organisations and activists were mapped using UCINET for Windows and the results were analysed using standard network analysis techniques (see for example Scott (2000) and Hanneman & Riddle (2005)). **Chapter 5** outlines the findings of this phase of research.

Semi-Structured Interviews

Semi structured interviews were undertaken with 17 leading anti-wind activists from the UK, US and Europe.

Interview Question Domains

The format of the semi-structured interview was designed to capture socio demographic data on the participants and explore the three domains of Instrumentality, Ideology and Identity which underpin social movement participation (Klandermans 2004). Given the suggestion that activists may seek to 'dress up' their reasons for objection (Bosley & Bosley (1988, 317); Wolsink (1989, 205); Gipe (1995, 322); Bell, *et al.*, (2005, 464); Hubbard (2006) and Van der Horst (2007, 2710)) an indirect rather than direct questioning approach was taken. Instead of asking 'Why do you oppose wind energy?' which has the potential to elicit examples of 'proxy politics',

questions were asked which sought to identify reasons indirectly and the interviews were conducted in such a way as to enable participants to elaborate on their answers. For example:

> INT: 'Thank you. What words would you use to describe the natural landscape?
>
> RES: Again, an extremely difficult question. I think that one of the most important things about landscape is the scale of things which you put into it. I mean, if you put a small hut behind this hideous agricultural structure which you see over there, it wouldn't bother me. But that agricultural structure itself, to me, is out of proportion with the countryside. Moreover, I don't like the fact that farms have become factories, which has happened since the War. I can't do anything about that; but, at least, let not industrialisation spread beyond farms. Let not industry pop up on every drumlin. You know we are living very much in drumlin country around here. This green thing here is a drumlin, for example.
>
> Does that help at all? That is my basic objection to commercial windfarms: they are completely out of scale and out of setting. I am even prepared to admit that a single wind turbine, viewed by itself, so to speak in the desert, may look beautiful. But, put them down in the intimate sort of landscape that we have round here, and they become overpowering.'

<div align="center">Interview with English Anti-Wind Activist 28th May 2011</div>

Pilot Survey

The semi-structured interview format was piloted with 4 anti-wind activists based in North Wales who were members of a North Wales AWEG – The Cynghrair Hiraethog Alliance (CHA). Participants were selected on the basis of ease of contact – the participants live relatively close to and are personally known to me. They represented a small group of friendly test subjects who were happy to contribute to the research.

Interviews were conducted over the period August to September 2010 and were not recorded but notes were taken and transcribed by myself onto a summary sheet which was then issued to the pilot interviewees for approval. This proved to be a useful technique for validating responses and the technique was subsequently used in the main survey in addition to transcription.

The pilot survey results were analysed and presented to a PhD Thesis Committee in October 2010. The main findings were that

- The questionnaire functioned adequately in collecting socio demographic data.
- Some interviewees found questions regarding the ideological orientation difficult to answer as terms like 'Ethical' and 'Environmental Behaviour' were understood in different ways. This led to revisions being made to the final questionnaire to more clearly explain these terms.
- In relation to Instrumental reasons for participation in anti-wind activity the questionnaire was able to elicit clear responses on this domain.
- In relation to Identity, the questionnaire was able to elicit clear responses on this domain although some participants found the questions rather strange.
- Further questions on protest methods and outcomes should be included in the final questionnaire.

Main Survey

Sample Selection

Participants in the main survey were purposively sampled based the earlier phase of research which identified key actors within the global anti-wind hyperlink network. This sample was supplemented by approaches to key anti-wind energy activists who had been identified by the British Wind Energy Association (BWEA) in their 'We know Where You Live' campaign in 2002[51] (see Figure 20 below).

---

[51]   See http://www.john-daly.com/press/press-02c.htm#threat [Online] (Accessed 27/3/2014).
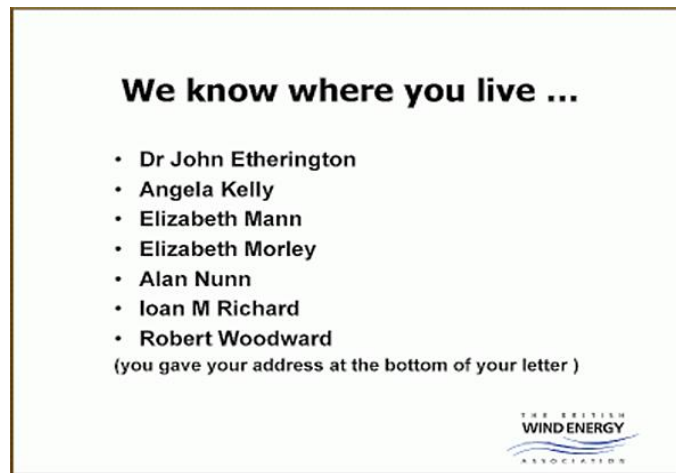
Figure 20: Slide from BWEA Presentation 'Trends in Public Opinion'

Prospective interviewees were sent a Research Outline together with a Consent form which outlined the way in which data would be stored, analysed and subsequently presented. In total, twenty seven prospective interviewees were identified of whom seventeen agreed to participate.

Interviews

The final questionnaire contained 81 questions and interviews took around 2-2.5 hours to complete. Interviews were held at the homes of interviewees and were conducted in English. Each interview was recorded and then transcribed. Notes were also taken and both transcripts and notes were provided to participants who were asked to check and validate the content.

Non-Participants

The final sample of interviewees was in part determined by activist's choices to participate or not participate in the research. Of twenty seven individuals approached to form the main sample, ten did not engage with the study for a number of different reasons.

One prospective participant's primary language was French however as my ability to communicate in French is limited this prevented his inclusion within the study. Two prospective participants working for an environmental organisation failed to respond to repeated requests to participate. One prospective participant who had been involved in a successful fight against a local wind energy development declined to participate because of 'lack of

time' and one well known campaigner declined because they 'could not cope' with being interviewed. Two well-known activists declined to participate because the research proposal 'would not work for them' however the precise reasons for non-participation were not given. One well known activist declined to participate but submitted a letter explaining her views on wind energy.

The responses of the remaining potential participants are worthy of note. Despite my active participation in anti-wind activism two potential participants declined to be part of the research, citing a belief that the research was in some way unsupportive of the anti-wind case.

The first rationale offered was that the research – as outlined in the brief sent to potential participants and explained in a telephone conversation, failed to recognise the scientific basis of the case against wind energy. The potential participant explained his reasoning as follows:

> 'I have now decided that I don't wish to take part and will try to explain why. I have spent the last 15-plus years trying to persuade people, with evidence, that the main reason for objecting to wind power is for the technological reasons that it can do neither of the two things claimed for it (provide a realistic electricity supply whilst "saving the planet" via CO2 mitigation). Others have also pursued this line of thought and there are now many people who are convinced by the evidence that this is so. I also believe that undue concentration on attitude to landscape despoliation and "nature conservation" totally undermines any argument from science. It has indeed been exploited by the wind industry and RUK (former BWEA) as "pretty view" versus "destruction of the world" with the implication that the latter is a certain consequence of protecting the former! If this were accepted as truth then it would be but a small step to wind turbines anywhere and everywhere.
>
> My attitude to a scientific evidence-based interpretation of the failings of wind power is the same as I manifested in my employment. I was an academic research worker and teacher, investigating the impact of environmental physics and chemistry on plant growth, and the interactions which for convenience we christen "ecology" (not the pseudo mystical term used by many "green" environmentalists). In later years I was a peer-reviewer for, and subsequently co-editor of, the Journal of Ecology, the oldest ecological journal in the world.

I would neither have welcomed, nor seen it as having the slightest relevance had I been approached by a member of a Social Sciences Department wishing to examine my psycho-social motivations for investigating the waterlogging tolerance of plants (just one former interest). Having talked the other evening it seems to me that your approach more or less neglects the large proportion of objectors who would see the "landscape and conservation" argument as of relatively low priority compared with the very obvious technical failings which have been increasingly apparent especially since "real time" metering of wind generation became available a few years ago (in Spain, Denmark and Ireland for example) and much later, and still not completely, by the National Grid in the UK.

Wind electricity is unpredictably variable in supply on a very short timescale, it often fails simultaneously over country-sized or larger areas and because of the very long "start-up time" of conventional thermal generation the need for backup is also a need for fired-up reserve, thus substantially reducing the mitigation of CO_2 emission and preventing the retirement of any such plant. The need for backup and the high capital cost of wind farms also make wind power economically non-viable (as the industry, e.g. E.ON has admitted) and it only exists because of the covert subsidy of between 100% (onshore) and 200% (offshore) provided by the Renewables Obligation.

Thus I shall feel compromised by entering what I have to see as an incomplete analysis of the motivations of a very diverse group of objectors.'

Personal e-mail from non-participant No. 1, 13th April 2011

The second non-participant had similarly strident views:

'After hanging the phone the other day I thought about it all for a while, then decided against it. I won't fill the questionnaire, nor give you an interview. I am sorry, but I don't approve of your University's approach. If people can't understand why biodiversity and landscapes have to be protected against pervasive industrialisation, then there is no point telling them how many of us are protecting their hills, how many are fighting to save Wales, or indeed the whole EU economy, and how many like peanut butter. They won't understand these subtleties; or worse: they could be misled into voting to send us to a green re-education camp. I am not exaggerating: the idea has already raised its ugly head in some media.

People who are trying to salami-slice the vital idea of nature protection into slow death as in the questionnaire you sent me are not helping the planet in any way or form. I also reject the disingenuous argument which consists in trying and hide the biodiversity forest behind the global warming tree, especially in the post-Climategate

context of "hide the decline" - see the video here: www.savetheeaglesinternational.org

As for the alleged usefulness of wind farms, I recommend this book: "The Windfarm Scam", available on the Net, and various papers published here: www.epaw.org/documents - see "The backup problem" in the right column menu.

Once your University wakes up to the following facts:

- wind farms are an ineffective technology that will cause crippling blackouts in the UK once load-balancing fossil-fuel plants are closed in the coming years,
- global warming is a natural cycle that only lasted 20 years the last time it occurred (1975-1995),
- El Niño years do not count as "global warming",
- we have entered a cooling cycle and our children can again enjoy winters with abundant snow,
- CO_2 is not a pollutant: it is in fact as vital as oxygen, and we need more of it for healthy plant growth,
- carbon taxes (or carbon trading) along with expensive "renewable" electricity will cause massive job losses,

..once Bangor University opens its mind to these realities, then perhaps it's not wind farm opponents you will be inviting to lie on your couch. You may use these lines as my participation to your thesis, should you care to, provided you quote all of them en-bloc and in whole.'

<u>Personal e-mail from non-participant No. 2, 25th April 2011</u>

Although the second prospective participant was subsequently persuaded that his initial views were based on an incomplete understanding of the nature of the research, and he consented to be included in the study, this proved to be impossible to arrange due to external factors (incompatible work schedules etc.).

Notwithstanding the decision not to participate in the research, these responses are interesting in two respects.

Firstly, the arguments put forward in the first non-participant's statement dismiss 'non-scientific' arguments in favour of 'science'. This appeared to be used as a 'better explanation' for opposition but did not recognise the potential for there to be alternative bases for valid objections. The decision

not to participate meant that it was not possible to explore whether the 'scientific' argument was an attempt to 'dress up' objections or was an attempt at 'proxy politics'.

Secondly, the opinions expressed in both and especially the second non-participant's statements clearly identify the activists as part of a 'we' pitted against an 'other.' This is characteristic language observed in social movements and is a component of collective identity formation – something which is explored in greater detail in **Chapter 8**.

Place Attachment Instrument

To explore the possibility that opposition to wind energy may be linked to the potential disruption of attachment to place as outlined in **Chapter 3** the research sought to test the strength of place attachment for anti-wind activists. This builds on the research by Devine-Wright (2005) and links it to Klandermans *'Triple I'* model of social movement participation by connecting attachment to place with identity on the basis that if place is threatened then identity may also be threatened.

Pilot Instrument & Sample

A draft 30 item Place Attachment Instrument was developed having regard to the work Jorgenson & Steadman (2001) and Williams & Vaske (2003) with additional items added to assess the impact of consumption on place attachment. A five point Likert Scale was used to provide a structured framework for responses. Eight of the items were reverse coded (i.e. questions were asked in the negative) to reduce instrument design bias.

The draft instrument accompanied by consent forms and a brief project outline was issued by e-mail to 13 individuals (n=13) who had recently been involved in anti-wind activism in North Wales. The e-mails were preceded by a telephone briefing on the research by myself. This briefing sought the in principle consent of each participant, outlined the methods of data collection and provided reassurance to potential participants regarding confidentiality

etc. In addition to the request for responses to the 30 items, participants were also encouraged to give feedback on the questionnaire as a whole – in terms of its design (ease of use, clarity / ambiguity etc.).

The results obtained from the pilot were assessed for consistency of response using Cronbach's Alpha. Analysis of the responses as set out in **Appendix M2**, resulted in the decision to disregard the responses to three questions (Qs18, 19 & 29) when the data collected by the instrument was subsequently analysed.

Final Instrument & Sample

Following successful piloting, the place attachment instrument was used to accompany the seventeen semi-structured interviews with leading anti-wind activists. The results from both sets of participants (pilot and main samples) were analysed separately and the results are shown at Table 8. Given the number of items in the instrument, the size of the samples (n=13 & n=17) are too small for statistically valid generalisations to be drawn and so the data gained is considered to be descriptive rather than inferential.

Social Network Analysis

Building on the technique of mapping hyperlinks for anti-wind activists and groups with an Internet presence, the responses to some of the questions asked in the semi-structured interview were analysed using social network analysis (see Scott 2000). Specifically the responses to two questions were mapped using UCINET for Windows.

Question 25 asked 'Are you a member of any clubs or societies or other organisations?' with the aim of identifying overlapping memberships of similar organisations to reveal any common ideological perspectives and as an aspect of collective identity. The results were presented visually to show what connections there were between individual activists through club / society / organisation membership. The results are shown in **Chapter 7**.

Question 64 asked 'Which six individuals or groups do you interact with most frequently in connection with AWEG activities in order of importance and how do you interact with them?' This question was included based on the approach taken by Wellman (1979) in his study of communities in East York. Wellman asked survey respondents to identify their 'six closest intimates', defined as persons from outside their homes, who they felt closest to and then proceeded to analyse the ties between individuals (1979, 1208). Although Wellman did not present his results using network maps, the idea of using such maps to identify real world ties between anti-wind activists seemed to be appropriate in this case. Hyperlink networks in cyberspace act as a proxy for real world networks and by mapping real world connections between activists a link between the two levels of analysis can be made. The results are shown in **Chapter 8**.

Biographical Narrative Interviews

The final component in the research design involved the interpretation of a small number of biographical interviews held with prominent anti-wind activists. These are analysed in **Chapter 7**.

Overview of Method

Biographies – or more accurately, 'auto-biographies' are the self-told narratives of individuals. They are life stories from the perspective of the story teller and they can be analysed to provide valuable insights into the lived experience. Insights are possible because there is

> '...a very deep relationship between the identity development of an individual and her or his narrative renderings of life historical experiences.. By recollecting one's own past in autobiographical story telling of certain phases and episodes of life or in narrating the life history as a whole, the narrating individual conveys a basic order and identity structure to her or his life that is lived and experienced up to now and is expanding into the future still to come. Narrative rendering of one's own life deals not just with the outer events occurring to the individual but also with the inner changes she or he has to undergo in experiencing, reacting to, and shaping (and partially even producing) those outer events.'   (Schütze 2007, 8)

Drawing on the Grounded Theory approach of Glaser & Strauss (1967) together with seminal work on narrative language structure from Labov & Waletzky (1967), Schütze proposes that accounts of life histories are arranged according to 'biographical process structures' which can be distinguished and analysed in a systematic way. According to Schütze these process structures comprise:

> '**Biographical action schemes**, by which a person attempts to actively shape the course of his life.
>
> **Trajectories of suffering**, in which persons are not capable of actively shaping their own life anymore, since they can only react to overwhelming outer events; …
>
> **Institutional expectation patterns**, in which persons are following up institutionally shaped and normatively defined courses of life, e.g. careers in organizations or the family life cycle that opens up family life in the first part of adulthood .. as well as
>
> **Creative metamorphoses of biographical identity** by which a new important inner development is starting in one's own biography, that might be miraculous and irritating in the beginning since it is new and that initially prohibits pertinent competencies of the biography incumbent, and towards which she or he must find out what the very quality of it might be.'   (2007, 11-12)

Schütze's method (and that of others such as Gabrielle Rosenthal, Gerhard Reimann, Ursula Apitzsch and Wolfram Fischer-Rosenthal) involves inviting interviewees to provide an extempore account of their life history, recording this and then analysing the transcript looking for themes and narrative sequences.

The interpretive process includes the reconstruction of the life history using the chronology of events recounted and a careful examination of text – classifying it according to the process structures above. The end product is a reconstruction of a biographical whole which provides a basis for single and multiple case analyses.

Application of Method

In the context of this thesis and the research questions therein, the method has been applied to provide a deeper understanding of the identity of anti-

wind activists (**Research Questions 2 & 3** – Who are the anti-wind activists? and Why do some activists oppose wind energy?). The results of biographical interviews provide additional insights into activist identities and to the threats to the same as 'trajectories of suffering'.

Interviews were held with four activists – three male and one female selected from the participants in semi-structured interviews. It was initially intended to have a 50/50 split of interviews according to gender, however the task of eliciting a biographical interview from one leading female activist proved to beyond my abilities and I was forced to substitute an alternative participant.

Three of the interviewees were based in the United Kingdom – two in Wales and one in England and the fourth was undertaken with a Danish activist living in Sweden. Interviews were conducted in English at the interviewees' homes, recorded on digital voice recorder and took around 2 hours to complete. The results were then transcribed and transcripts were provided to interviewees for validation and to correct any mis-spellings etc.

The interview was preceded by a short un-recorded introductory conversation – a catch up following the semi-structured interview and a brief explanation of the nature of the interview and of my role in it. The interview commenced with an invitation for the participant to tell me about their life and concluded with some focussed questioning on points raised in the interview.

Schütze's method was selected based on the relative ease of access to material that described its practical application (such as the teaching materials published by the University of Magdeberg via the INVITE project and examples such as analysis of the biography of Bernd Funke in Schütze 2007). It was only after the materials were discovered that the link between Bangor and Magdeberg via the INVITE project became apparent.

I should at this stage say something about the limitations of the method as applied by myself. This has more to do with my inexperience than the

inadequacies of the method itself although I do not believe it invalidates any of the findings.

Firstly as a relative newcomer to biographical analysis – having researched the method as part of the thesis and having only practiced it on the four interviewees referenced in the research, I cannot claim that the approach is methodologically pure. This is because it was very difficult not to interject within the extempore accounts and although such interjections were minimal they did occur.

Secondly, as the interviewees had already provided detailed information on their background as part of the semi-structured interviews and were giving a further half day of their time, I felt unable to ask for a third interview at which time I would have been able to ask more searching questions based on the narrated life history. The activists were heavily involved in local and national campaigns and I therefore sought to conduct the interview and follow up questions in succession which presented some limitations for the depth of analysis.

Lastly, this was my first attempt to interpret biographical interview data using Schütze's method so I cannot claim to have significant experience in applying the method nor in interpreting the results. Nevertheless I believe that the findings from the interviews – however 'raw' or 'impure' do add to the depth of the research and support the other methods via triangulation.

Research Language, Context and Chronology

Research Language

The idea that the language we use creates the reality we experience has been a widely promoted position within analytic philosophy for some time (Frege (1884); Wittgenstein (1953), Heidegger (1971)). It is axiomatic to post structuralist and postmodernist thought (e.g. Foucault (1972); Lyotard (1979), it underpins critical discourse analysis (Fairclough (1989)), feminist

critique (Spender (1980); Erlich & King (1992) and is a core component of social constructionism (Berger & Luckman (1966); Latour & Woolgar (1979) etc.).

If our view of reality is that it is socially constructed then we should pay some attention to the significance of language used in the way 'research' is both conducted and reported. In addition, if, as Spender (1980, 138) argues, 'Language is not neutral..', and '..is not merely a vehicle which carries ideas' but 'is itself a shaper of ideas...' then we should follow the advice of Touraine (1985) whereby

> '..each social scientist must make clear the meaning of the words he or she uses, situating them in a more general intellectual frame of reference.'   (1985, 749)

Accordingly, there are at least three areas where we should be mindful when considering language use in connection with research into wind energy opposition.

Firstly, the issue of non-neutrality referred to by Spender is evident in the pejorative labels that have been attached to the 'vocal minority' of 'NIMBY's'; 'hypochondriacs'; 'flat earthers'; 'Squires'; 'Gentry' and 'climate change deniers' who oppose large-scale wind energy.   **Chapter 2** of this thesis has outlined the problems associated with the term NIMBY and in this context McClymont & O'Hare (2008) have contrasted the characterisation of local anti-wind protest groups with the idealised conception of local communities concluding that:

> '..labels such as "NIMBY" and "sustainable community" are highly subjective and politically charged. The former label is often utilised in an attempt to dismiss the arguments of a group as purely self-interested or to discredit the activities of those who mobilise.'
>   (2008, 332)

Participants in the research were conscious of the way in which their opinions have been framed as illustrated in the following comment made by one activist:

> '..the first thing that strikes one about the climate-change narrative is a mob-like tendency on the part of otherwise educated people to try to deprive critics of a place in the debate – and of a few basic rights to boot. Labelling lay and scientifically-informed critics alike as 'denialists' (i.e. neo-fascist), irrational, 'in the pay of big oil' and all the rest which one hears regularly from many in the middle class and the lumpen left, not to mention demagogues like George Monbiot and zealots of the Ed Miliband stripe, is intended – and serves – to silence voices that not only have a right to be heard but, to ensure proper science, must be heard.'   Bruce (2010, 3)

Secondly, the annexation by wind energy supporters, of pastoral, rural imagery through the use of the word wind 'farm' can be contrasted with protestors rhetoric and the use of phrases like wind 'factory' or 'industrial production' as an alternative way of viewing wind energy development. Wind 'farm' evokes a particular and positive image when it is used - in contrast to the image that is created by phrases such as 'wind factory' or 'power station' – which are often used by AWEGs.

It is difficult to establish exactly when the phrase 'wind farm' (or alternatively 'windfarm') came into existence. One early usage was in 1978 when Jennifer Kerr of the Associated Press reported that the California State Energy Commission had predicted that by 1995 'windfarms' - groupings of small turbines could provide up to ten percent of the electricity required for homes and businesses[52]. This predates the first actual operational windfarm at Crotched Mountain but the phrase is likely to have been in use at the time.

Barry, Ellis, & Robinson (2006) highlight the contested nature of the phrase wind 'farm' in their rhetorical analysis of wind energy discourses suggesting that wind energy opposition groups seek to challenge the use of the

> '..the notion of 'farm' which has rural, pastoral, 'safe' and 'unthreatening' connotations" by alternatively describing wind energy projects as 'industrial factories'.'   (2006, 11)

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[52] Source: www.worsdpy.com [Online] (Accessed 31/3/2014).

The authors also cite Haggett and Toke's (2006) discussion of the association of wind energy production with rural values and symbols and their observation that

> 'A 'farm' is an obvious and fitting part of the countryside. The term has connotation of working with nature, and of productivity. 'Farms' will be a part of the rural landscape, not an alien imposition upon it.'
>
> (2006, 11)

Wind energy objectors are equally aware of this as illustrated in the following comment made by an activist during the research:

> 'The phrase 'wind farm' is a contrived marketing term that should not be used in any serious discussion, as it has purposefully imbedded implications that are inaccurate. Would anyone say 'nuclear farm'? Similarly 'wind power' also has marketing connotations that are purposefully inaccurate. The appropriate term is 'wind energy'. In some cases 'wind projects' or 'wind developments' will be a more appropriate description.'
>
> Personal e-mail from US based activist 2nd May 2011

Finally, the application of Social Movement Theory to anti-wind energy protest groups should be considered carefully since the potential classification of such groups as a 'movement' confers a particular legitimacy / status as

> '...the concept of movement belongs to the same semantic and conceptual framework in which other notions, such as progress or revolution, were formed...'   (Melucci 1985, 789)

Social Movements are frequently considered to be progressive agents for social change and the naming of anti-wind energy protests as a 'social movement' brings with it a potentially positive association. The implications of the above are that by unquestioningly adopting language commonly in use, we may be tacitly supporting one or more positions within the wind energy debate. This thesis therefore tries to use terminology which does not empower or undermine either pro or anti-perspective.

Research Context

The research underpinning this thesis was undertaken over the course of nine years – from 2005 to 2014 and proceeded sequentially. It was carried out in the wake of the Welsh Assembly Government (WAG) decision to designate areas of Wales as appropriate for large-scale wind energy development (via Technical Advice Note - TAN 8 and the Ministerial Interim Planning Policy Statement on Renewable Energy in 2005) and during a period when the UK Government was – and is – responding to the question of Climate Change.

Over the course of the period immediately prior to and during the registration period, the Kyoto Protocol came into force (Feb 2005); the UK Government commissioned and received a report from Sir Nicholas Stern on the Economics of Climate Change (The Stern Review 2006); the Intergovernmental Panel On Climate Change published its Fourth Assessment Report (2007); Al Gore received the Nobel Prize for his climate change activism and the film *An Inconvenient Truth*; the UK Government published a White Paper on Energy (2007) and the Climate Change Act (2008) came into force. Post 2008 the United Nations Climate Change Conference took place in Copenhagen in 2009 with a follow up Conferences in Cancun (2010); Durban (2011); Doha, Qatar (2012) and Warsaw (2013).

In parallel with National and Continental level initiatives a wealth of climate change research centres have been established including the Sustainability Research Institute (University of Leeds 2004); the Grantham Institute (London School of Economics 2008) and the Centre for Climate Change Economics and Policy (University of Leeds / LSE 2008) in addition to the ongoing prominence of the Tyndall Centre for Climate Change Research (University of East Anglia and Others). Climate activism has also been a feature of the period over which the research has been conducted with protest groups such as 'Camp for Climate Action', 'Climate Coalition'; 'Stop Climate Chaos' and 'Campaign against Climate Change' being active over the course of the past decade or so. Over the period of the research there have

also been some prominent environmental incidents including the Deepwater Horizon oil spill in 2010 and the Fukushima nuclear accident in 2011 in addition to natural disasters (such as heatwaves, floods, hurricanes and other adverse weather occurrences) which have been linked by some observers to climate change.

The context for the research therefore – social, economic, political and environmental has been and remains one in which a master frame of climate change has been dominant within public discourse.[53] This research – into the views and actions of those who oppose one of the 'solutions' to the 'problem' of climate change therefore has the potential to be interpreted as being in conflict with such a climate change master frame. This carries with it the attendant risk that any findings which support or give a positive interpretation to such 'non-aligned' views are implicitly seen as reactionary rather than progressive or are dismissed as propaganda. This is the converse of the issue of researcher bias but should be highlighted nonetheless.

Research Chronology

Informal Stage

Stage 1 involved my immersion into the world of anti-wind activism. This facilitated knowledge of the subject matter and provided a better understanding of the context of activism. This phase was initiated prior to the registration for a PhD and continued over the course of the thesis. During the period 2005 to date I have been involved in local and national anti-wind activism and have carried out and submitted 'research' in support of national consultation exercises (TAN 8 (2004), Welsh Assembly Sustainability Committee Inquiry into Carbon Reduction (2007); DEFRA CO2 Conversion Factors (2011); SAP Methodology (2011-13) and Planning Inquiries (Brenig & Gorsedd Bran, Denbighshire (2008); Nant Bach, Denbighshire (2008); Clocaenog, Denbighshire and Conwy (2011-13)).

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[53] See Bruggemann & Engesser (2013) for discussion of the Climate Change Master Frame in the context of journalistic interpretation.

The nature of research carried in this phase was diverse and not directed towards the research questions in this thesis. It initially focussed on gaining a technical understanding of wind energy – from the perspective of renewable energy generation - including a detailed understanding of the 'capacity credit' of wind energy, issues such as transmission loss, intermittency, backup and carbon dioxide 'savings' when compared with other technologies.

This phase also opened my mind to 'problems' associated with wind energy – such as noise, vibration, bird strike, peat extraction, hydrological impacts, visual impacts and property value effects. Involvement in planning inquiries provided an opportunity to practically critique the claimed benefits associated with wind energy whilst at the same time articulating negative impacts which had been typically either dismissed or minimised by developers.

Prior to undertaking reading and discussing these matters with others, I had little appreciation, if any, of the positive or negative impact of wind energy however, the informal research carried out in the early part of stage 1 – over the course of 2005-7 was sufficiently detailed to prompt my registration for a PhD. This informal stage together with my ongoing involvement in anti-wind activity does however present some methodological challenges – mainly associated with the problem of 'bias' and these are discussed in more detail later in the chapter.

Formal Stage

The second stage of the research was undertaken within the PhD registration period and began by attempting to gain an understanding of the extent of anti-wind activism – locally, nationally and internationally (**Research Question 1**). This used Hyperlink Network Analysis (HNA) as a method to both quantify and describe anti-wind activists and groups and

extended from February 2009 to July 2010 and culminated in the publication of Bangor University Menai Paper 2010/02.[54]

Following on from the identification of key organisations within the anti-wind network, the next phase within the formal research stage was to identify key individuals (**Research Question 2**) who could be approached with a view to face to face interviews to explore a range of questions covering negative attitudes to wind energy (**Research Question 3**); protest tactics (**Research Question 4**) and the nature of activist groups and networks (**Research Question 5**). In addition to semi-structured interviews as a means of gathering information for **Research Questions 2 and 3**, a structured instrument was devised to assess Place Attachment and this was deployed at the same time as the interviews. The interviewing phase took place between April 2011 and November 2012 and all interviews except one were undertaken on a face to face basis, with one conducted over the telephone due to geographical remoteness (the participant lives in the United States of America).

The final phase of formal research involved undertaking Biographical interviews with a small subset of 4 activists who had participated in semi-structured interviews. For most participants this was done some months after the interview, but for one participant resident in Sweden, this was done immediately following the semi-structured interview. This phase overlapped with the semi-structured interview phase and was undertaken between February and September 2012.

Research Reliability and Validity

In carrying out the research, consideration has been explicitly given to questions of reliability and validity. These issues impact on both data collection and on interpretation of research findings.

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[54] See http://www.bangor.ac.uk/so/research/documents/201002.pdf [Online] (Accessed 31/3/2014).

Reliability of data has been addressed in a number of ways:

Firstly, the Hyperlink Network Analysis data was collected and then analysed using both IssueCrawler[55] and UCINET for Windows (Borgatti, *et al.,* 2002). The automated analysis using IssueCrawler – although interesting was rejected because of the nature of links that were selected by the WebCrawler and the more time consuming manual data collection process was followed. This enabled the data to be 'tidied up' – through the removal of dead links, generating a more reliable representation of the hyperlink network at a specific point in time (see **Appendix M1**).

Secondly, both semi-structured interview format and Place Attachment Instruments were piloted on small samples of participants before the final survey and instrument were used for the main survey. This allowed wording of questions to be refined to make them less ambiguous.

Thirdly, the data collected through semi-structured interviews was both noted and recorded using a digital voice recorder. Notes and transcriptions of the interviews were provided to the participants to enable them to confirm the information supplied. Subsequent e-mail communications on the contents of transcriptions and notes allowed the participants to provide accurate responses which could then be analysed. Biographical interviews were also recorded and transcripts were, as with semi-structured interviews, provided to the participants to check prior to being finalised.

Fourthly, the internal consistency of the Place Attachment instrument was robustly assessed against the Cronbach Alpha test statistic as set out previously. Additionally some questions were reverse coded to minimise questionnaire 'scale direction bias'.

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[55] See www.issuecrawler.net [Online] (Accessed 27/3/2014).

Validity of research findings have similarly been tested in several ways:

Firstly, the results of network analyses, pilot studies and the interpretation of findings have been discussed with two PhD Supervisors and at Thesis Committees over the duration of the past seven years. Challenges to assumptions and explanations have been offered along the way and these have resulted in revisions to both.

Secondly, the findings as they have emerged have been presented at conferences and seminars and have been shared quite widely. Papers have been given at the Manchester Metropolitan University *Alternative Futures and Popular Protest* Conference in 2009, 2010, 2011 and 2012 and at postgraduate research seminars at both Bangor and Keele University. The research has been discussed in person with Professor Bert Klandermans and postgraduate students at VU University Amsterdam during a study visit in February 2012. The emerging results of the Hyperlink Network Analysis were discussed with Professor Mike Thelwall at Wolverhampton University between January and June 2010 and the final results were published as a Bangor University Menai Working Paper in July 2010.

Thirdly, findings have been triangulated wherever possible. For example the presence of a believed network of anti-wind activists and groups has been explored using Hyperlink Network Analysis to identify the online communications network of individuals and groups. The presence of real world connections between activists has then been assessed using semi-structured interviews and evidence of shared identity and ideology has been tested using multiple questions.

Fourthly, having regard to the potential for answers to be 'dressed up' as described previously, an indirect approach to questioning has been adopted for some elements of the semi-structured interview.

Finally, the thesis has benefitted from some minor revisions following the Viva.

Researcher Bias and Reflexivity

Having embraced constructionist ontology and interpretive epistemology it would be a significant omission if the thesis did not address the question of researcher bias. As outlined earlier in the chapter, I have taken the position that reality and knowledge are constructed through the interaction of individuals with the physical and social world. As I am one of these individuals my view of 'what is' and my ability to 'know' are shaped by my experiences and by the interactions in which I have taken part. These include my upbringing, my education (including, following Bourdieu (1988) my special position as an academic researcher), my career, where I have lived and now live, my involvement in anti-wind activism and the social structure and conditions which I have experienced. As Gouldner (1970, 483) states... 'theory is made by the praxis of men in all their wholeness and it is shaped by the lives they lead'.

I do not therefore claim that the contents of this thesis contribute to 'objective knowledge' as I am sceptical of this concept. Rather I wish to present the findings as culturally determined and contextually influenced. 'The upshot of this', as Bourdieu, puts it.. '..is not that theoretic knowledge is worth nothing but we must know its limits..' and we should accompany all theoretical[56] accounts with an account of the limits and limitations of such accounts (Bourdieu & Wacquant 1992, 70).

So how is this done? How do I ensure, so far as possible, that my position *vis a vis* the research area is accounted for?

It is customary[57] to suggest that this is done through reflexivity, which, in translation means applying the tools and techniques of the sociological method to the method itself. The approach is like introspection - it seeks to

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[56] Bourdieu refers to 'scientific accounts' in this paragraph, but it is the sense or general principle from the conversation with Wacquant that is imported into the text in this part of the thesis.

[57] See Bourdieu & Wacquant (1992: 36 footnote 63) for a short list of proponents of reflexivity.

question and make explicit the unconscious beliefs and norms that are held by a researcher carrying out work in the field. Notwithstanding its popularity, I initially had some anxieties concerning this approach as it seemed to me that true reflexivity is rather difficult to achieve.

How confident could I be that I would correctly identify my own biases and not ignore some of them? What about bias that arises from social context and what about the risk of intellectualising findings? Could introspective reflexivity become narcissistic and what about the potential for findings placed in such an introspective context to be dismissed through claims of relativism? This latter question was a concern expressed by Bourdieu when he spoke about his reticence to 'reveal certain private information, by making bovaristic confessions..' about himself, his lifestyle and his preferences lest the information be used to dismiss his work as being 'inspired by resentment, jealousy etc.' (Bourdieu & Wacquant 1992, 203).

In thinking about the above over the course of the research, I was inclined towards Bourdieu's argument that reflexivity should go beyond a narrow 'egoistic' focus and involve the '..systematic exploration of the unthought categories of thought which delimit the thinkable and predetermine the thought' (Bourdieu 1982, 10 cited in Bourdieu & Wacquant 1992, 40). To me such unthought thoughts had to include not just my own 'social origins and coordinates' but also the structural framework in which I was carrying out research – the conventions of academic research, the dominant ideologies and discourses of the day and the language used in symbolic interaction.

These factors led me to adopt a multi-faceted approach to the question of bias within the thesis.

Firstly, I considered the matter of epistemic reflexivity and have set out my thoughts concerning ontology and epistemology in some detail in this chapter.

Secondly, I explicitly reflected on (and have documented) the temporal context of the research together with the implications of conducting research that might be seen as not being aligned with the dominant master frame of climate change environmentalism. It seemed to me that this context had the potential to limit the research and this was borne out by comments from some of the activists that were interviewed:

> 'We steered clear of any anti-global warming... it is such a received truth although, you know, many of us have reservations about it but it is the elephant in the room you don't talk about because, unfortunately it is such a received truth now that once you say well it is not happening you have lost people. So you steer very clear of that..'

<div align="right">

Interview with Welsh Anti-Wind Activist 25th June 2011

</div>

Such 'received truth' as referenced above is an example of thought that potentially 'delimits the thinkable', the implication being that some observed phenomena (opinions, discourses, question responses) may be being 'masked' not just because of a desire to gain tactical advantage through 'proxy politics' (Van der Horst 2007, 2710) but also because there are structural boundaries to the 'field' where some subjects are simply avoided.

Thirdly, I considered (and documented) the extent to which use of language might influence the research and have consciously chosen to adopt an approach to wind energy terminology which neither gives to nor takes power from 'sides' in the argument.

Finally, I gave consideration to Standpoint Theory as advocated by feminist scholars such as Dorothy Smith, Donna Harraway and Sandra Harding (Harding 2004) seeing this as a valid defence of a 'principled position' through 'objective partisanship' (Gouldner 1968) or 'conscious partiality' (Mies 1983). It occurred to me that social research undertaken from a feminist, gay, Christian or other position, was no less valid or 'true' than research undertaken from other perspectives as long as it was clear at the outset from what standpoint the research was being taken.

Reflecting on this I should highlight that I am:

- A white British male in my late 40s and do not have a disability.

- I was born in Manchester, adopted by a working class family and then brought up as an only child in a small village in Lancashire / Merseyside and lived in a relatively remote location until I left home to go to college at 18. From the ages of 10-18 I was brought up in a one parent family after the death of my father.

- Middle Class / Professional – I am currently a Director in a Housing Association and before this I ran my own Management Consultancy Practice providing services to the Public and Not for Profit sectors in the main, having previously had a successful career in Local Government.

- Married with 3 step children, am educated to Further Degree level and am a non-practising Christian. My wife is a non-practicing Mormon.

- I have lived in England for most of my life – in the North West, North East, London and in Cumbria and I now live in rural North Wales – adjacent to an area designated as suitable for large wind energy developments (Strategic Search Area A). I moved to Wales in 2005 to enjoy a more rural lifestyle and have a six acre smallholding. I enjoy the countryside, gardening & have pets.

- I am a former member of Greenpeace and Friends of the Earth and consider myself to have a 'light green' environmental outlook although I am sceptical and somewhat suspicious of some of the current climate change claims. I have tended to support left of centre politics and have some sympathy for Marxism as a political philosophy although I am not a member of any political party.

- I have been relatively active in protesting against wind energy development in Wales but do not classify myself as an 'activist' and as such the research was not undertaken from an 'activist standpoint.'

Chapter Conclusion

This has been a long chapter to draft, however it has been necessary to present a full consideration of the methodology used for two principal reasons.

Firstly, as outlined in **Chapter 2**, much of the published research on public opinion fails to consider the impact of methodological bias and research into attitudes to wind energy is similarly methodologically immature. Methods used to investigate questions of attitudes have been limited in scope. Few studies – if any, have considered the ontological or epistemological basis for their findings and none has considered relational perspectives to date. Qualitative understanding of research questions on wind energy has been sorely lacking with the result that the literature reflects an 'unreflectively positivist' perspective. If this is to be addressed through the use of alternative methods then these need to be both justified and explained – which is what this chapter has sought to do.

Secondly, the nature of my involvement with anti-wind energy activism requires more than a passing consideration of researcher bias. In addressing this I have attempted not to adopt an 'egocentric' focus but have instead placed the research into a temporal context which considers the issue of the possibility of a climate change master frame that structures discourse and locates the research socially and politically. Having said this I have also identified the sources of my own 'unthought thoughts' and my standpoint on a number of issues relevant to the research. In short, I have tried to be thorough.

The mixed methods approach advocated in the chapter has been chosen to maximise the generation of theory across the different types of research question. Using qualitative and quantitative methods together provides a deeper understanding of the questions addressed in the thesis.

CHAPTER 5 – ANTI-WIND NETWORKS

'Mankind have always wandered or settled, agreed or quarrelled, in troops and companies. The cause of their assembling, whatever it be, is the principle of their alliance or union.'

Ferguson (1767, III)

'A group is clearly distinguished from a mere aggregate of people. People who sit in the waiting area of an airport, for example, hardly constitute a group, nor do all people who wear eyeglasses. They share certain characteristics such as sitting in the same place or wearing eyeglasses, but this does not make them a group. The defining feature that makes a group distinct from a simple aggregation is the existence of actual or imaginary interaction.'

Yamagishi & Kiyonari (2000, 116)

'If movements are defined as networks of groups then we must find evidence of links between groups if we are to speak legitimately of a movement, and we can judge groups in or out of a movement on the basis of their connection (or not) to its network.'

Crossley (2007, 226)

Relational Sociology

This part of the thesis deploys the tools and techniques of relational sociology twenty five years after Barry Wellman claimed that network theory was 'a comprehensive paradigmatic way of taking social structure seriously' (Wellman 1988, 20) and more than ten years after Mustafa Emirbayer published his *Manifesto for a Relational Sociology* (Emirbayer 1997).

What is interesting about this way of thinking is that instead of analysing a subject from the perspective of a pre-defined nature or essence, relational theory instead defines things in terms of their relationships. As Ernst Cassirer put it, things 'gain their whole being'.. 'in and with the relations that are predicated of them' (Cassirer 1953, 36 cited in Emirbayer 1997).

This chapter seeks to understand and thereafter to define anti-wind activists and groups through the relationships that they have with each other and with other individuals and organisations.

In exploring these relationships it is important to recognise that industrialisation, population growth and technological change have all impacted on the relationships that individuals and organisations can now experience. Today, in our 'small world' it is possible to maintain relationships with hundreds of people – often more, through e-mail, social media and the Internet. Electronic communication is low cost, simple to initiate and can be instant – with texts, blogs, e-mail lists and social networking websites all supplementing telephone, written and face to face communication.

Over the last thirty or so years, the expansion of the Internet and the growth of web based communication in particular has caused relational theorists to develop and refine their way of conceptualising the social world. One approach developed in response to this changed and technologically mediated world is Hyperlink Network Analysis (HNA) which is now an established technique in several different disciplines (Thelwall 2004).

Hyperlink Networks

Hyperlinks are small pieces of Hypertext Mark-up Language (HTML) code embedded within websites that function to enable website users to jump from one part of a website to another (internal links) or from one website to another (external links). Hyperlinks are created purposively and are non-random. Jackson (1997) writes:

> 'Links are not generated automatically in Web architecture. There are no natural or automatic links between information. (Even search engines use algorithms that must be designed and programmed.) Instead, every link is planned and, most often, specifically created by the web designer.' (1997 not paginated)

So what purpose do hyperlinks serve?

Websites and hyperlinks exist within the Internet information and communication network and they can serve a variety of purposes. If the Internet is functioning as a **communication network**, as Jackson suggests,

then hyperlinks operate as a means of directing or structuring the communication patterns of users and are the basic structural element of Web Based Communication (WBC). In this context, hyperlinks reflect the communicative choices made by website designers. They point users to other websites and documents because the designer believes that the target site or document is worthy of being visited / read.

An alternative interpretation is advanced by Garton, *et al.*, (1997) and Wellman (2001) who argue that when a computer network connects people or organisations it *is* a **social network**. Wellman (2001, 2031) refers to computer networks being 'inherently social networks' and to computers as 'social beings'. From this perspective hyperlinks directly create a social network out of websites hosted by web servers and connected via the Internet.

These two alternative positions reflect – to some extent, the Substantialist and Relationist positions that Emirbayer explored in his '*Manifesto*'. On one hand hyperlinks are a feature of a website, having a specific communications purpose and their nature can be examined (e.g. numbers of hyperlinks etc.). This position is closer to the Substantialist perspective. Alternatively, the Relationist perspective gives greater emphasis to the network that is created by the links and the role of the website in that network.

It is not necessary to opt for one or the other perspective when analysing hyperlinks – indeed both are helpful in trying to understand the nature, transactions and relationships of organisations and individuals with websites and the context within which they exist. Adamic & Adar (2003) recognise this and suggest that for the most part, hyperlinks convey a social connection between individuals based on a study of home page networks of students at Stanford and MIT Universities in the USA. They suggest that

> '... personal homepages provide a glimpse into the social structure of university communities. Not only do they reveal to us who knows whom, but they also give us a context ...'   (2003, 229)

Park (2003) also acknowledges the dual nature of hyperlinks when he writes:

'Hyperlinks as connections represent networks among people, organisations or nation-states. Thus we can interpret the social or communication structure among those social actors based on the hyperlink structure.' (2003, 53)

Garrido & Halavais (2003) take a similar line in their study of support for the Zapatista movement and argue that there is an approximation between a hyperlink network and a social network. Their analysis proceeds from the assertion that computer networks are inherently social networks and the assumption that 'a map of the communication network is roughly isomorphic to the structure of the relationship between the users' (2003, 166).

Finally, Park & Thelwall (2003) in their review of Hyperlink Analysis suggest that

'... we can potentially discern fingerprints of social relations through the analysis of configurations of hyperlink connections among websites ...'

(2003, 5)

Websites, through their hyperlinks may therefore provide glimpses into or fingerprint-like traces of connections with offline social networks and are therefore an appropriate starting point for network analysis which can explore this possibility in a systematic way.

The Anti-Wind Hyperlink Network

Having mapped the hyperlink network of some 635 anti-wind objector groups using the methods described in **Appendix M1**, the network is illustrated in Figure 21 below:
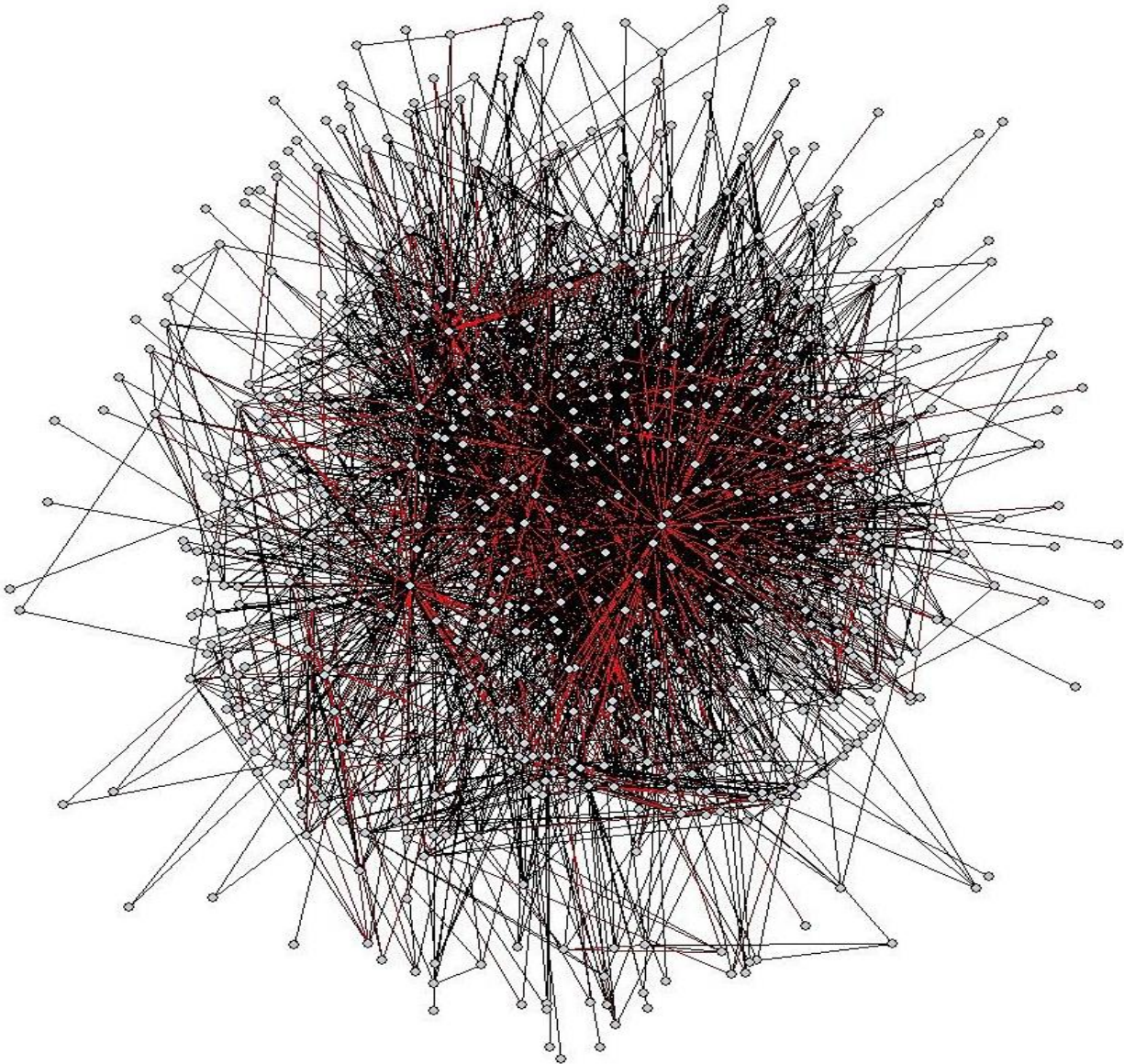
Figure 21: Hyperlink Network – Websites of Anti-Wind Energy Groups

The pattern within the AWEG network can be interpreted as indicating that AWEG websites fall into three main categories – those that have limited connections (high geodesic distance - shown on the periphery of the diagram); those that have a more significant degree of connectivity (shown between the periphery and the core) and those that are heavily connected (low geodesic distance - shown in the dense black area of the diagram).

This is illustrated below at Figure 22. The website www.wind-watch.org is located in the Core of the network, www.epaw.org is located between the densest area and the network periphery in the Outer Core and www.dangrwind.org is located in the network Periphery.
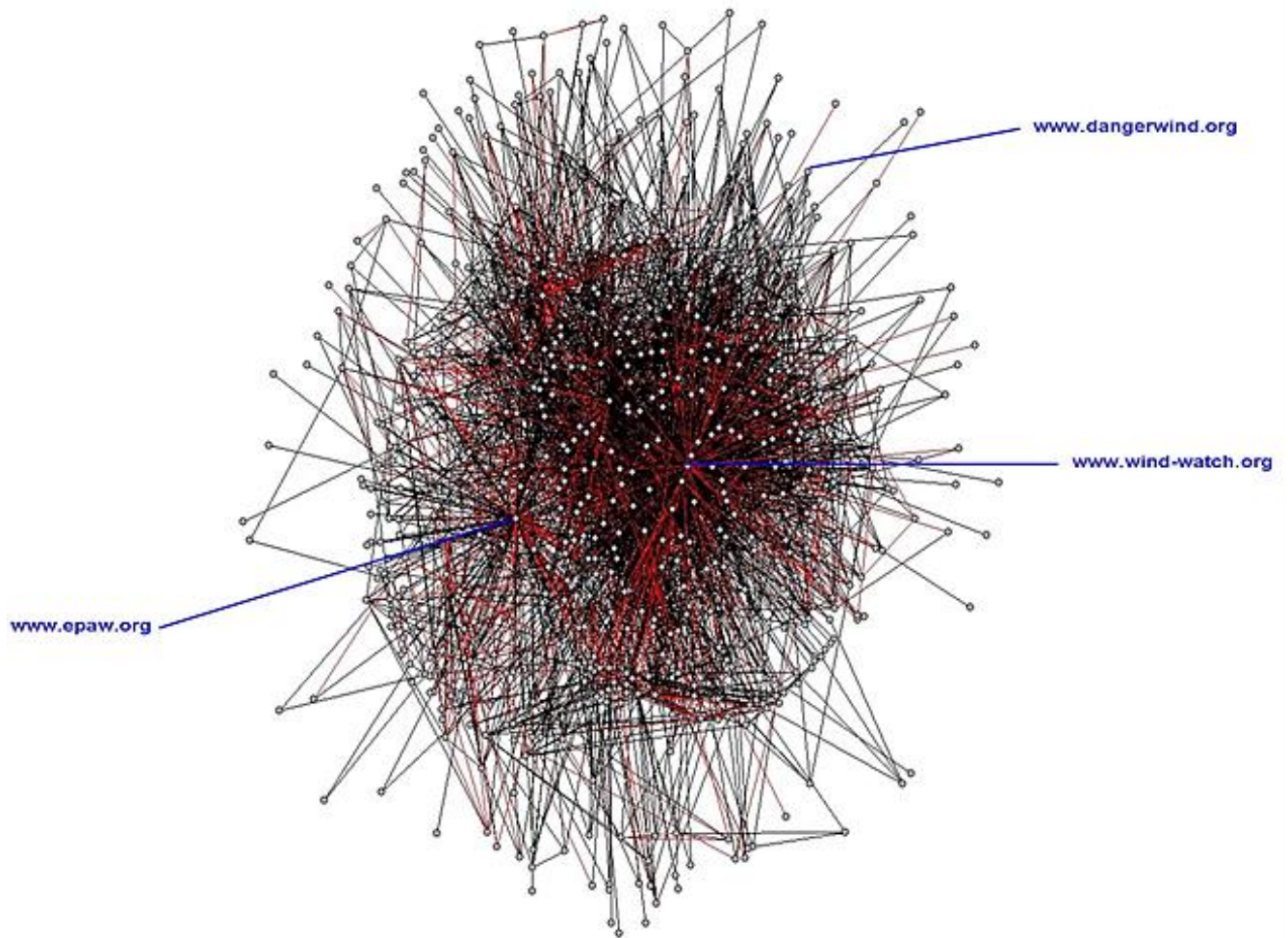
Figure 22: Boundaries of the Anti-Wind Energy Network

This interpretation is largely intuitive and it is possible to consider the properties of the network more formally using a number of statistical measures. These are set out below:

Random Network

The properties of the AWFG network were examined with reference to a similar sized network generated at random network in UCINET. A random network of equivalent size and density is illustrated in Figure 23 below
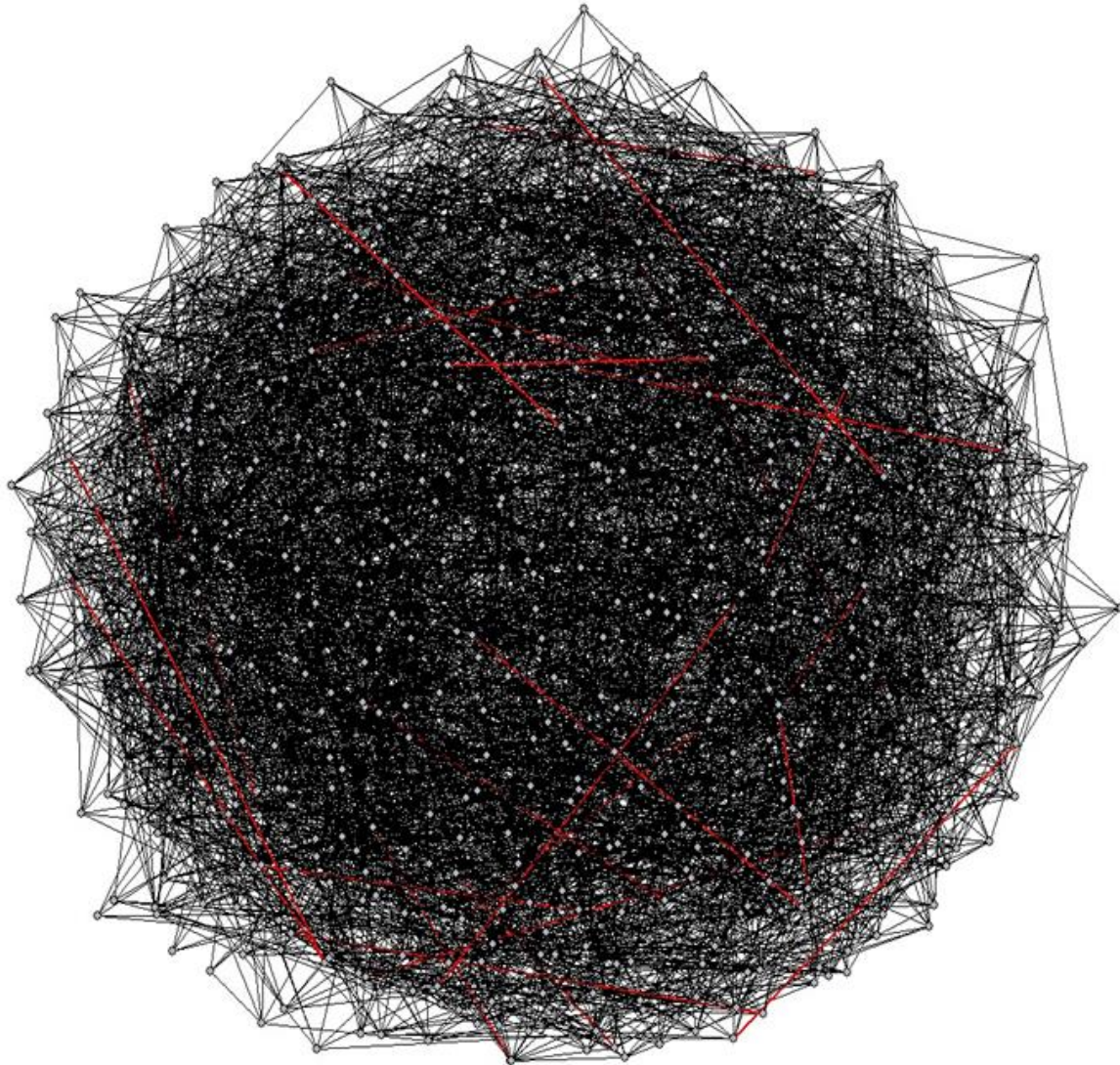
Figure 23: Random Network (N = 635) D = 0.0112)

Network Density

The AWFG network has a maximum of 402,590 possible ties between nodes and an actual number of 4493 ties. This equates to a network density of 0.0112 (SD 0.105). This means that the probability of a tie existing between any two network members chosen at random is a little over 1%.

Low Network Density has been observed in other hyperlink networks - Tateo (2005) for example observed a density of 0.037 (n=77) when mapping the online network of extreme right wing groups in Italy and Reid & Chen (2007) observed a density of 0.08 (n=44) in relation to the websites of US and Middle Eastern extremist groups. Baggio, Scott & Wang (2007) report densities of 0.0016 (n=492) and 0.0023 (n=468) in relation to tourism

websites while Ackland, Fry & Schroeder (2007) report densities of between 0.047 to 0.073 for e-science and e-social science projects reported on the web between 2002-2007.

Despite the existence of other studies which illustrate low network density for hyperlink networks, it is possible that the observed level of interconnectedness could have arisen by random chance. To test this, a Null Hypothesis that the density of the AWFG hyperlink network = 0 was tested using the Student t-test. UCINET allows the user to test hypotheses like these and following the approach described in the online text by Hanneman & Riddle (2005, Ch18) a t–test statistic of 56 was obtained which was significant (p=0.001). Following Snijders & Borgatti (1999) a further method for testing the same hypothesis (the Bootstrap method) was used and the test statistic generated was 5.89 which was also significant (p=0.001).

As both test statistics are sufficiently greater than zero, we can reject the null hypothesis (Snijders & Borgatti (1999, 4) and the conclusion therefore is that while network density is low, and ties between network members are limited, such ties are non-random.

Network Clustering Coefficient

The Network clustering coefficient measures the extent to which the network consists of groups of nodes. It is the average of the densities of these groups of nodes. The AWEG network the overall clustering coefficient is 0.392. The weighted clustering coefficient, which reflects the size of these groups, is 0.085. These results compare with a Clustering Coefficient for the Random Network of 0.010 suggesting that there is greater clustering within the AWEG network than would occur simply at random.

If we compare the clustering coefficient to the overall network density, we can see that AWEG websites are embedded in relatively more dense local networks within an overall weakly tied network. In simple terms, and moving to real world rather than online networks, it appears that local AWEG networks may be stronger than the AWEG network as a whole. This reinforces the idea of a loosely connected 'movement'.

Network Degree Centrality

Freeman Degree 'point centrality' identifies the extent to which nodes within a network possess relatively more advantaged or disadvantaged positions. Advantaged positions suggest greater influence or prestige. Out-links – hyperlinks from websites to other websites can indicate influence within a network, while in-links or hyperlinks to websites can indicate prestige (Terveen & Hill (1998); Park, Barnett & Nam (2001); Hanneman & Riddle (2005)).

Websites within the AWEG network had an average of 7.076 out-links and (as the data are directed) the same number of in-links. This is slightly higher than we would observe in the Random Network (Mean Out / In Degree = 6.937), however there was significant variation between websites in the AWEG network. The maximum number of out-links (278) was observed at www.ventdubocage.net   - the most prominent and influential site in the AWEG network (in comparison with a maximum of 15 out-links in the Random Network), while 138 websites (21.7%) had no 'out-links' at all.

Similarly the maximum number of 'in links' (201) was observed at www.wind-watch.org – the most prestigious site in the network (compared with a maximum of 16 in-links in the Random Network), however only 1 website - http://xray.rutgers.edu/~matilsky/windmills   had no in-links at all. This could suggest that AWEGs see websites as an important way of exerting influence within their own network.

It is also possible to assess the extent to which the network is similar to a star network (the most centralised network form). The assessment of this property is referred to as Graph Centralisation. Overall the network has Outdegree Centralisation of 42.8% and Indegree Centralisation of 30.6%. This compares with 1.274% and 1.432% in the Random Network, suggesting that there is a significant amount of concentration / centralisation within the AWEG network and that influence and prestige are unequally distributed. This would be consistent with our intuitive reading of the visual representations at Figures 21 & 22 where a substantial proportion of

websites are closely linked to other sites, but a number of sites are more isolated.

Network Dispersion

The degree of network dispersion is given by the Coefficient of Variation (CV). This is given by dividing the standard deviation of the network density by its mean. In this instance, the coefficient of variation reflects the degree of variance in hyperlinking between websites within the network. The AWEG network has a CV of 9.37 which is very high.

Geodesic Distance

Geodesic distance is a measure of the shortest number of paths between nodes within a network. The average geodesic distance is the sum of the paths between pairs of nodes divided by the number of paths. The AWEG hyperlink network has an Average Geodesic Distance of 2.955 compared with 3.545 in the Random Network. It is therefore easier for nodes to connect to one another within the AWEG network than would be the case if links were created randomly.

The intuitive understanding of the network which suggested that websites could be understood in terms of their position within the network (core, outer core or periphery) can be elaborated using geodesic distance. Within the network, the proportionate distribution of shortest paths between nodes is shown in Figure 24 below:
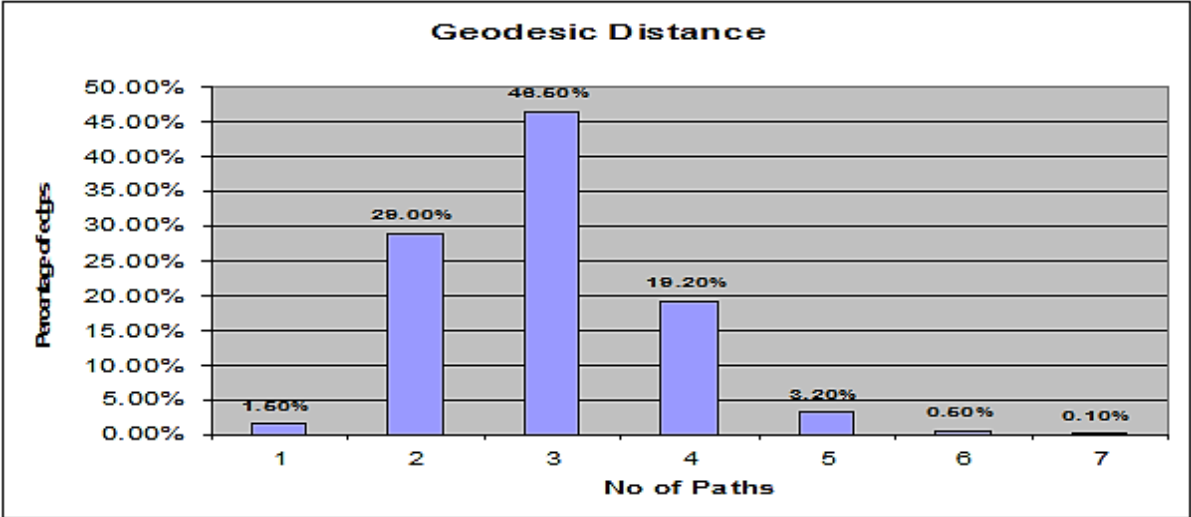
Figure 24: Geodesic Distance – No of Paths Between Nodes.

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Some 77% of nodes within the network are connected by 3 or fewer paths (the core); 19.2% of nodes are connected through 4 paths (outer core) and 3.8% of the nodes are connected through 5 or more paths (periphery).

Reciprocity

Reciprocity within the AWEG network (20.88%) is significantly greater than that observed in the Random Network (0.59%), reflecting the degree of purposive co-linking within AWEG websites.

Node Centrality

The significance of individual nodes within the network can also be visually represented using node size (see Figure 25). This is based on the Eigenvector measure of node centrality as calculated in UCINET. The eigenvector approach is based on calculating the geodesic distance between nodes and then weighting those nodes with the smallest distance. In simple terms it measures the ability of a node to reach other nodes within the network.

Nodes that are more central can reach a greater number of other nodes within the network with the same amount of effort and this is reflected in a higher eigenvalue (and consequently, in the graphical representation of the network, a larger node size). The most significant nodes within the network using this approach include

www.ventdubocage.net,

www.wind-watch.org,

www.countryguardian.net,

www.epaw.org,

www.windaction.org ,

and www.cort.ca

The first is the website of the national coordinating body in France. Wind-Watch is the North American continent national coordinating body / clearing house; Country Guardian is the clearing house and resource for anti-wind

campaigns in the UK and EPAW is a European continent wide clearing house / coordinating body. Windaction is a national objector group in the USA and Cort is a local objector group website in Canada. The position of these key organisations together with a small number of other anti-wind energy group websites in the Czech Republic, Germany, Scotland and Wales is shown in Figure 25 below.
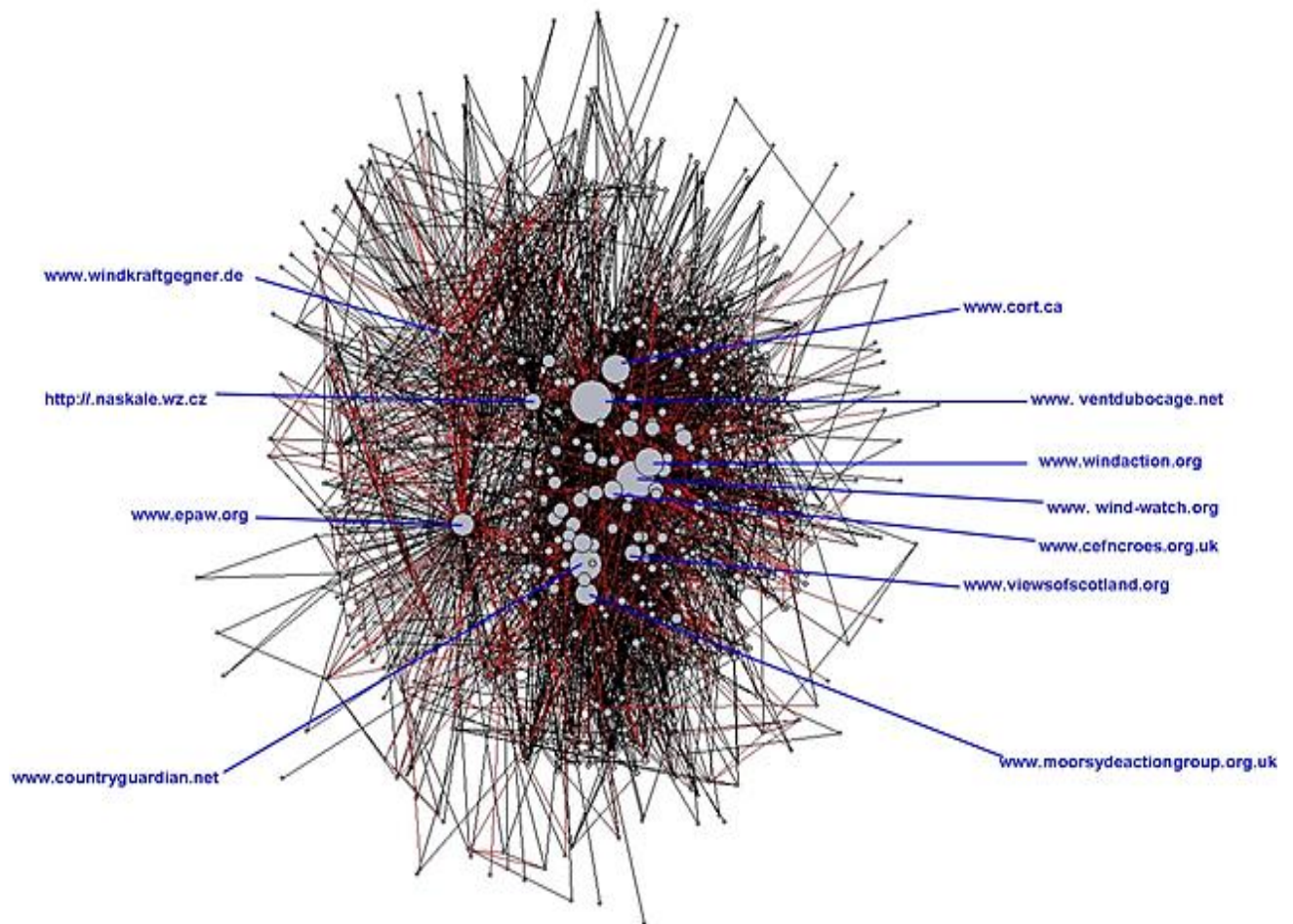
Figure 25: Node Centrality – Key Nodes

Betweenness Centrality

Specific AWEG websites within the hyperlink network can act as 'bridges' or 'brokers', facilitating the transfer of information between other network members. This occurs when a website lies on a path between other websites within the network. In contrast with the idea of Degree Centrality, this property – 'Betweenness' identifies the strategic position of particular network members (websites) relative to other members of the network. It is

not necessary for a website which has high strategic importance (high betweenness) to be well connected with multiple hyperlinks, but rather the position of the site in the communication chain is of greater significance. The AWEG network has a number of strategically positioned websites and these have been highlighted in Figure 26 below:
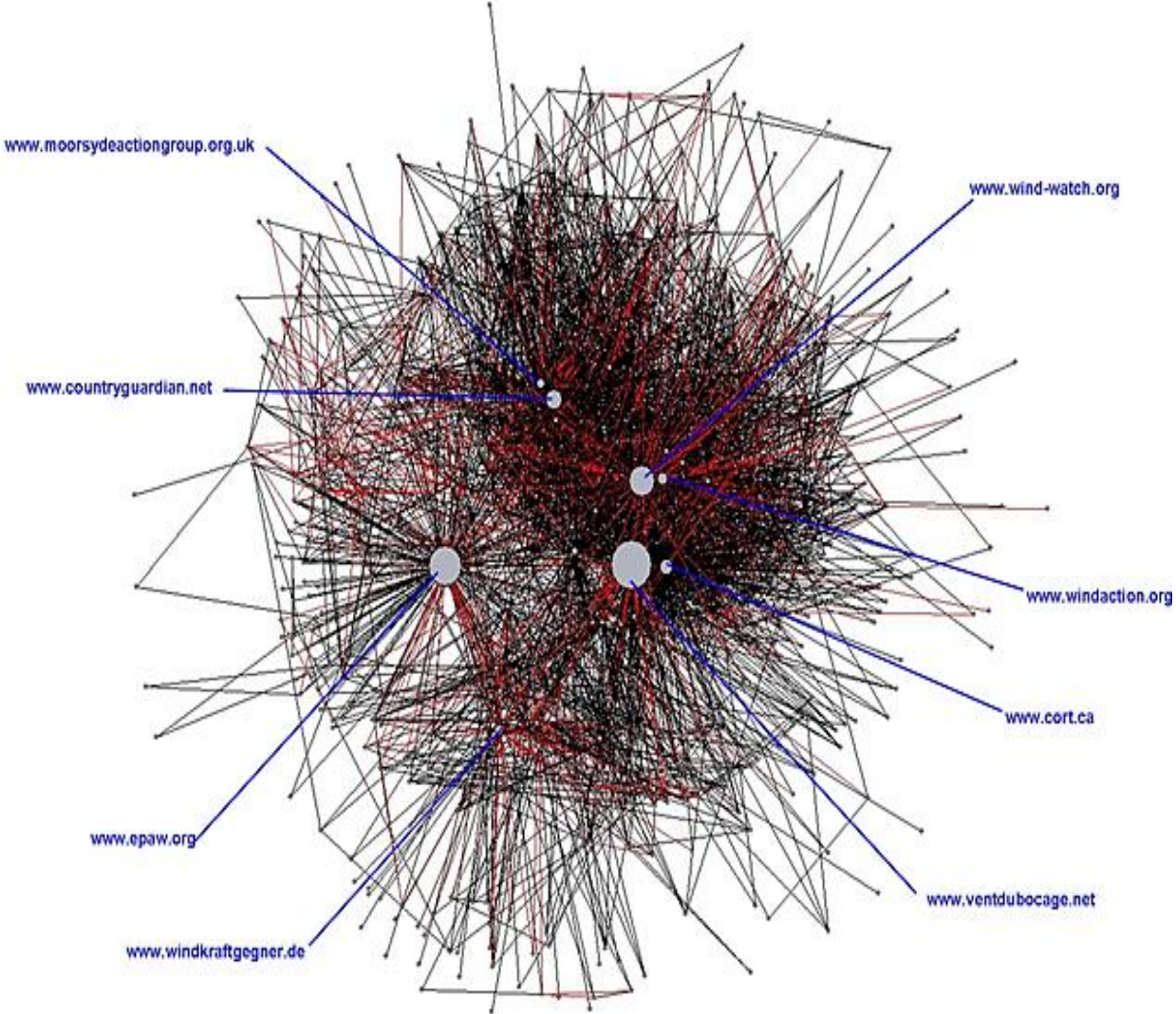
Figure 26: Betweenness Centrality – Key Nodes

The top 10 bridge or broker sites within the anti-wind energy network are shown in Table 3 below.

Table 3: Top 10 "Bridge" or "Broker" websites within the AWEG Network

Website	Betweenness Score
www.wind-watch.org	123,087.40
www.epaw.org	76,336.52
www.ventdubocage.net	52,647.93
www.countryguardian.net	41,052.92
www.windaction.org	26,320.19
www.windkraftgegner.de	22,260.56
www.cort.ca	14,772.94
www.moorsydeactiongroup.org.uk	13,206.43
www.aweo.org	7,632.65
www.ventdecolere.org	7,559.56

Commentary on Overall Network

Research Question 1 seeks to understand the extent of anti-wind energy activism and the results of the hyperlink network analysis provide a partial answer to this.

Firstly, the hyperlink analysis indicates that there **is** a network of anti-wind activist websites and that it is non-random – suggesting that that the network has been created for a specific purpose or purposes. However these purposes may not be clear (Thelwall 2004) and other than asserting that it is the intention of the web designer to facilitate easy access to another site or document, it is not directly possible to expose the underlying reason behind the creation of the link. As Adamic & Adar (2003) put it

> 'While the bare link structure of homepage communities lends itself to interesting network analysis, it does not necessarily provide us with an understanding of why these links exist.'   (2003, 217)

To bring greater clarity to the question of link creation some authors (e.g. Kim (2000)) have sought to understand why links are created by asking link creators why links have been established. Although there are some methodological difficulties with qualitative follow up to statistical network analysis (hyperlink creation may not be memorable and specific hyperlink creators may be difficult to trace), the reasons for creating hyperlinks on anti-wind energy group websites were discussed with activists during semi-

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structured interviews. The frequency of words used to explain why hyperlinks are created is shown below in Figure 27:
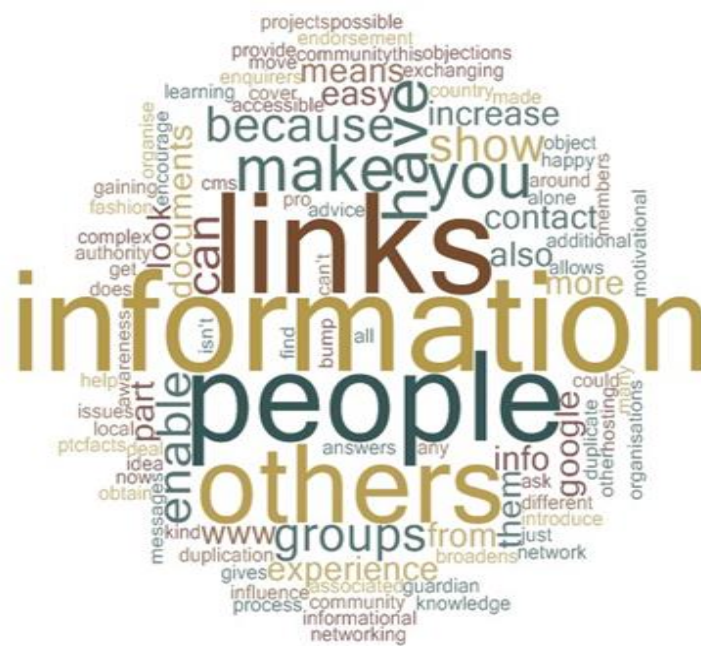
Figure 27: Word Cloud - Reasons for Hyperlinks

Looking at the frequency of words used, the explanations that were offered appear to be grouped into two main categories:

Instrumental goals

'Because other organisations have different information – we try not to duplicate. Links enable information and experience to be transferred.'
<div align="right">Interviewee No. 6, England.</div>

'To organise and move messages around. To share information and documents. It is a means of exchanging information and of viewing the way others deal with the same issues. It is part of the learning process – a means of gaining from the experience of others. You could say to push you up the Google ratings.' Interviewee No. 7, Wales.

'Broadens knowledge and allows you to find answers to questions from others.' Interviewee No. 12, Wales.

'Links make it easy to get information and advice on wind power projects.' Interviewee No 19, Sweden.

'Links are used to make the site more accessible to others – to save duplication of hosting information. We have more than one – www.windpowerfacts.info and www.ptcfacts.info. We have links to enable people to view documents saving them (and us) time.'
<div align="right">Interviewee No. 21, USA.</div>

Group Identity

'To increase the sense of community and to introduce people and groups to the wider community'.   Interviewee No. 9, Wales.

This is complex. We started to put links up to show people were not alone – to show solidarity and provide information… the reason was motivational and informational. Links also bump up the website on Google so we use them to increase web awareness. Links to Local Authority websites where objections can be made make it easy to object.'   Interviewee No. 10, England.

'To help people make contact with others. Part of networking… .'
                    Interviewee No. 15, England.

'To enable members and enquirers to obtain additional information and verification…i.e. 'it isn't just us that are saying this… you can go to x..'   Interviewee No. 16, England.

'Views of Scotland – the links are there to encourage others and because we can't cover all information.   So that people can contact others and to show that groups are happy to be associated with Country Guardian (endorsement). It also gives visitors to the website an idea of the spread of groups.'   Interviewee No. 17, Scotland.

These reasons appear to indicate that activist groups see hyperlinks as having two purposes – firstly, an instrumental role in activist communication and secondly, a role in reinforcing group identity. They simultaneously enable information to be shared and facilitate individual action (such as making objections) as well as increasing the 'sense of community' and to show that activists are 'not alone'. These reasons are apparent from the distribution of words used and are consistent with the results of other studies of network ties between organisations (see for example Baldassarri & Diani (2007); Gonzalez-Bailon (2009)).

The comments of one activist also highlight the tactical use of hyperlinking to raise web awareness given the way in which Internet search engines operate. This was mentioned as a secondary reason but should be recognised nonetheless.

Secondly, the anti-wind energy network is extensive, containing at least 635 connected websites as at 2010. Since the initial mapping exercise a number of links will have become inactive reflecting the conclusion of individual anti-wind campaigns, while others will have been created. If the growth in membership of the European Platform Against Windfarms (www.epaw.org) - which has increased from 419 members in July 2010 to 657 members as at February 2014 - is reflective of the overall network then the anti-wind network is now likely to be 57% larger than it was four years ago.[58]

Thirdly, activism (as indicated through the presence of nodes in the AWEG network) is international in nature with groups in at least 26 countries outside the UK and USA including Ireland, the Czech Republic, Poland, Hungary, Romania, Bulgaria, Slovenia, Greece, Belgium, Luxembourg, Sweden, Switzerland, Germany, France, Denmark, the Netherlands, Italy, Austria, Spain, Norway, Canada, New Zealand, Australia, Mexico, Japan and Puerto Rico.

Fourthly, it is apparent that the websites of AWEGs occupy different strategic positions in the overall network and are not all the same. Some sites are more influential than others (reflected in the number of 'out links') while others have greater prestige (reflected in the number of 'in links').

Fifthly, the analysis shows that it is common for AWEGs to reciprocally link with one another's websites. Although ties between members of the network are sparse, just over 20% are reciprocated – reinforcing the suggestion that groups are aware of each other.

Sixthly, it appears to be possible to classify individual AWEGs according to their position within the network as a whole – i.e. located in the Core, Outer Core or Periphery. Some sites reflect greater 'centrality' – indicating their ability to communicate with or act as a bridge to other members of the network, while others are located on the periphery of the network.

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[58] Membership of EPAW in 2010 was verified using Wayback Machine (http://web.archive.org/web/20100601000000*/http://WWW.EPAW.ORG [Online] (Accessed 24/2/2014).

Seventhly, within an overall weakly tied / highly dispersed network there are more densely clustered national and local networks of AWEG groups and the densities of local networks differ quite significantly. These local networks include national and international coordinating bodies / clearing houses which act as bridges within the network passing information between network members.

Returning to our other research questions, and **Research Question 4** in particular (How have activists protested?) the results of the hyperlink analysis also reveal that many – but not all AWEGs are purposively using the Internet, websites and hyperlinks in their campaigns. When asked why AWEGs use websites, the activists who participated in semi-structured interviews gave the following reasons:

> '..as a means of promoting activities and making documents available…' Interviewee No. 6, England.

> 'When we started in 2004 it was a bit of a novelty but it has proved invaluable in getting support and useful to direct journalists and the media to materials. The site was used to promote the march in 2004.' Interviewee No. 7, Wales.

> 'We feel it is a good way of communicating issues of concern and communicating with other organisations similarly affected.' Interviewee No. 8, Wales.

> '..to get information out and to establish a point of contact for people with Internet access. An advertising hoarding and a recruitment poster..' Interviewee No. 9, Wales.

> 'Windbyte started out as an informational website to log and map windfarms because the Local Authority wasn't doing this. It has now turned into a campaigning site and clearing house for campaigns that don't have websites.' Interviewee No. 10, England.

> '… to promote the issue. We also have a Facebook page MAP have a variety of websites too. The website also links to Google Maps to show all applications in Mid Wales. Their purpose is to provide clear, factual information on windfarms.' Interviewee No. 11, Wales.

> 'It is a means of conveying what we do – communication.' Interviewee No. 12, Wales.

'The CMS website relates to the Nant y Moch windfarm campaign. It is used to inform people of the proposals. We chose to have a website to host information and make it available to others including non-members who can see information.'   Interviewee No. 13, Wales.

'Some would argue that we are little more than the website. The website is a statement – 'we are still here'. It contains details of how to fight a windfarm application and is used to link up other groups to help to get people to object.'   Interviewee No. 15, England.

'It is increasingly the way people gain information and communicate. It also lends credibility.'   Interviewee No. 16, England.

'There was a need for robust information on windfarms and I sought to harness expertise and use a medium that would make it available to non-activists. The Germans and Danes had websites already but Country Guardian was the first English language anti-windfarm website and it has attracted interest from others.'
Interviewee No. 17, Scotland.

'The website is used to inform people and to affect their opinions.'
Interviewee No. 18, England.

'To communicate.. so people know what we stand for. We also use Facebook and other media to influence politically.'
Interviewee No. 19, Sweden.

'It is the place where you can regroup information and everyone can access information. It is helpful to show others are having the same problems.'   Interviewee No. 20, France.

'To make content available to others. To save time – broadening the information available to people so that can look at this themselves.'
Interviewee No. 21, USA.

The frequency of words used by activists to explain why websites are used in anti-wind campaigns is shown below in Figure 28. This suggests that websites are used to raise awareness about the problems associated with wind energy by providing information to fellow activists and others; to recruit new supporters and to show solidarity with others who are 'having the same problems'.

Figure 28: Word Cloud - Reasons for AWEG Websites

In respect of **Research Question 5** (Can anti-wind activism be described as a social movement?) the results of the hyperlink analysis and the responses to questions concerning reasons for hyperlink and website creation appear to lend support to the proposition that AWEGs possess some of the characteristics of a 'movement'. Websites appear to be used to both convey information but also as a means of showing other activists 'having the same problems' that they are 'not alone'. Website hyperlinks links have been created purposively for instrumental reasons as well as a means of reinforcing and promoting group identity.

There also appears to be a sense of solidarity – evidenced through the degree to which links are reciprocated and websites are clustered around key nodes. This clustering is worthy of further examination and the next part of the chapter will look at the networks of the key nodes in the overall network – the websites of four national anti-wind coordinating bodies / clearing houses.

National Networks

As reported earlier, the overall hyperlink network contains clusters of websites connected to one another via key nodes or 'bridges'. As indicated in Table 3, the most significant of these are the websites of four national / international anti-wind energy coordinating bodies / clearing houses www.ventdubocage.net , www.wind-watch.org, www.countryguardian.net and www.epaw.org.

The term 'coordinating body' or 'clearing house' has been used in relation to these four entities to try to summarise their role in anti-wind energy activism. All four organisations link individual campaigns together and provide resources for local activists and some support at a more strategic level as well. All promote anti-wind activism and highlight the negative aspects of wind energy. All have affiliates or members and a formal structure although the legal forms of the organisations do differ. Two of these bodies (The Federation of Environmental Sustainability (FED) and National Wind Watch) are non-profit legal corporations in France and the United States respectively with national coverage and representation from affiliated local groups. Country Guardian - www.countryguardian.net is a UK unincorporated association with a formal membership structure which includes membership fees. The European Platform Against Windfarms (www.epaw.net) is also an unincorporated association without legal personality[59] with members drawn from individual AWEGs and federations of AWEGs across Europe. The coordinating bodies also vary in terms of the number of members. The Federation of Environmental Sustainability (FED) claim a membership of 900 associations, EPAW claim 657 affiliated organisations, Country Guardian claimed 322 members as at the end of 2012 National Wind Watch claimed 264 affiliates (not members) in 2009. Although some of these organisations have overlapping memberships or affiliations, national networks are also clearly quite large.

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[59]   See   http://www.epaw.org/documents/ECJ_judgment_against_EPAW.pdf   for   the European Court of Justice decision in respect of the capacity of EPAW to bring proceedings against the European Commission. [Online] (Accessed 27/3/2014).

A final comment is needed on the way AWEGs see these national coordinating bodies or clearing houses. Despite having considerable memberships, not all AWEGs recognise these as having a central role in the fight against wind energy. When asked about their relationship with national organisations, participants in semi-structured interviews commented:

UK Coordinating Body – Country Guardian

'There is only one UK coordinating group – REF and our relationship with them was disastrous.'   Interviewee No.17, Scotland.

'With REF – they are the main source of information on Peat and CO2.'
                                                Interviewee No. 6, England.

'We were paid subscribers to REF.. but not now. We do interact with Angela Kelly (Country Guardian) and have been a member in the past.. possibly no longer a member now. We are mainly contacted by Angela's Round Robins and we circulate information the same way.'
                                                Interviewee No. 7, Wales.

'We receive downloaded information from REF and have contacted them for advice and views including advice on environmental statements and government policy. Could say the same thing about Country Guardian as well.'   Interviewee No. 8, Wales.

'CUP get information from NAWAG and REF as well as through Country Guardian. I suppose I am a little critical of Country Guardian – they send out lots of information … too much!'
                                                Interviewee No.11, Wales.

'We paid a subscription to REF but we are not sure whether it has been worth it. Other individual group members may have subscribed to CPRW but I have generally not been in touch with groups like these. We are not members of Country Guardian but Caroline Evans sends us the Country Guardian e-mails as part of her e-mail 'cascade' They have a similar membership.'   Interviewee No.7, Wales.

'Country Guardian is an information centre. Angela Kelly will mobilise contacts and whereas Country Guardian is national, CMS is local. CMS is restricted by its charitable status to the Cambrian Mountains only. CMS is not a subscriber to REF.'   Interviewee No. 9, Wales.

'REF have done much to lobby nationally. CG have been involved in supporting local campaigns.   I don't think there is one.
                                                Interviewee No. 15, England.

'The nearest would be Country Guardian and our links to it are informal.'   Interviewee No. 16, England.

'We have always had differences with Country Guardian – as we were not initially against wind. We therefore found it difficult to find common ground with the national body and we were time limited too.'

Interviewee No. 10, England.

'I look at Country Guardian as an information exchange rather than as a coordinating group – but it would be the only organisation I consider in that light at all.' Interviewee No. 9, Wales.

'CMS is not a member of Country Guardian but individual members are and vice versa'. Interviewee No. 13, Wales.

'Fells is not a member of Country Guardian but we provide support to Angela Kelly – through copies of our newsletter, speaking at meetings, provision of DODS Monitoring statistics on energy (which I can access personally).' Interviewee No. 6, England.

'We have a good rapport with Country Guardian and provide press information for them on windfarm issues in Scotland but we are not members of CG.' Interviewee No. 17, Scotland.

'If you mean Country Guardian, the relationship is fairly good. I did have a fall out with Angela Kelly some time ago though and since then relations have not been warm.' Interviewee No. 14, Wales.

'Country Guardian has become 'Angela Kelly' – but now she is older!'

'Country Guardian is it.' Interviewee No. 18, England.

French & European Coordinating Bodies – EPAW & FED

'I am spokesperson for EPAW and a board member of the Swedish Landscape Protection Association. I have also got a close connection with the Danish national anti-windfarm coordinating group but I am not a member as I live in Sweden. In relation to EPAW, FED is the national coordinating group for France and JL is President of both.'

Interviewee No. 19, Sweden.

North American Coordinating Body – National Wind Watch

'We don't have any national coordinating groups… The national groups tend to be news dissemination websites which I do use. One of the reasons behind the formation of AWED is that we have not had any national coordinating organisations in the US.'

Interviewee No. 21, USA

The comments from anti-wind activists in the UK indicate that the Renewable Energy Foundation (REF) competes with Country Guardian for the role as national coordinating body. It is also apparent that some activists see Country Guardian as clearing house where information is received and disseminated but not as a national coordinating body. Conversely there are a number of activists who positively identify Country Guardian as a key coordinating organisation. In France the President of EPAW is the President of FED and not surprisingly identified both as key coordinating organisations. In the USA, the activist who was interviewed did not consider National Wind Watch to have a national coordinating role but rather had a role as simply a website that disseminated information to activists.

National Coordinating Group Egonets

A more detailed understanding of the networks of these anti-wind coordinating organisations / clearing houses can be obtained by looking at their own hyperlink networks (or egonets) as shown below in Figures 29-32. Egonets are the links associated with a single node in the overall network and for explanatory purposes egonets are also referred to as 'national networks' in this section of the thesis.
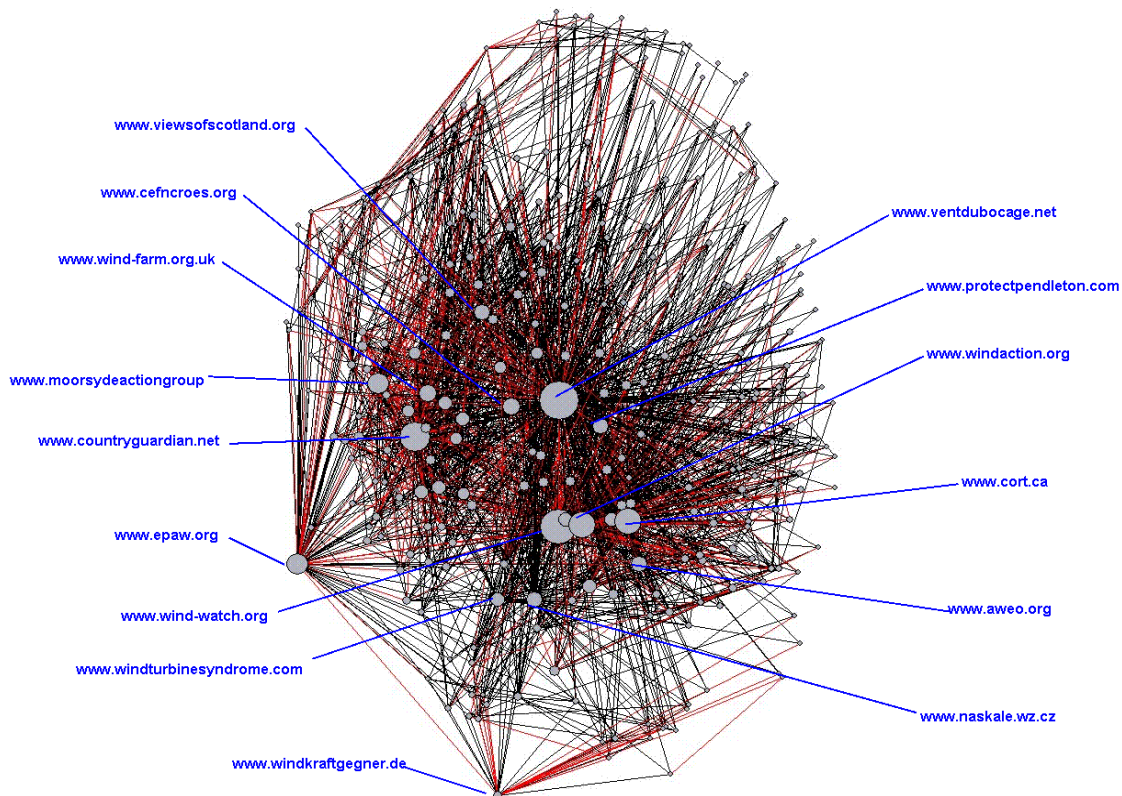
Figure 29: Ventdubocage Egonet

The Ventdubocage egonet at Figure 29 above contained 301 nodes –
accounting for just over 47% of the overall hyperlink network of AWEGs and
just under 24% of links are reciprocated. The most significant feature of the
network is the high out degree centrality at just under 91%. The weakness of
this level of centralisation is that the removal of the key node
(www.ventdubocage.net) can damage its network significantly. This is
because high out degree nodes have the property of exchanging information
with other network members relatively more easily. If such a node is
removed, the remaining nodes within the network suffer a potential loss of
information.
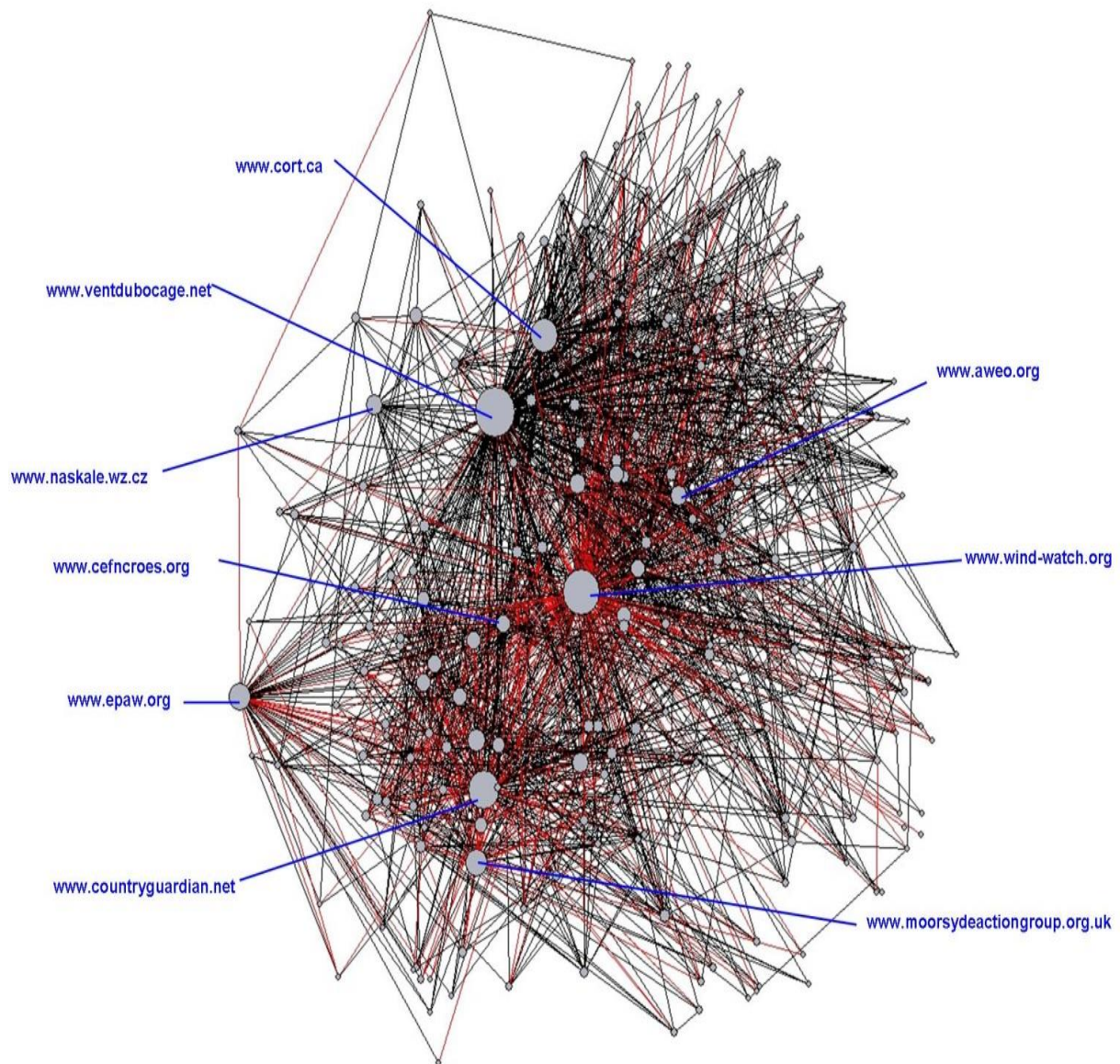
Figure 30: National Wind Watch Egonet

The National Wind Watch egonet shown in Figure 30 contained 244 nodes – accounting for just over 38% of the overall hyperlink network of AWEGs and just under 25% of links are reciprocated. The network also possesses high out degree centrality at just over under 89%.

The most significant feature of the network is the high in degree centrality at just over 79% reflecting the prestige that is accorded to National Wind Watch by other members of the network.
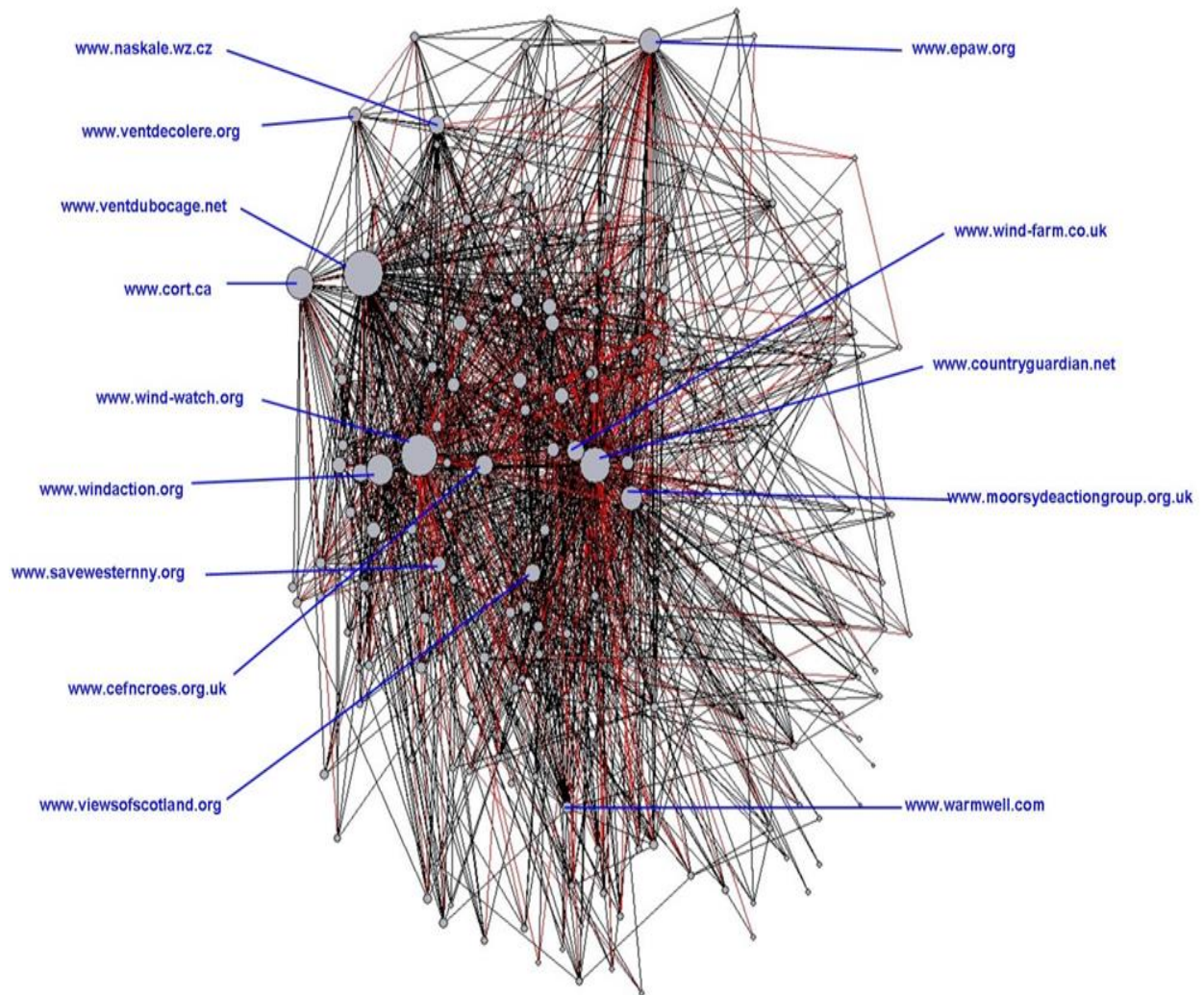
Figure 31: Country Guardian Egonet

The Country Guardian egonet shown in Figure 31 contained 192 nodes – accounting for just over 30% of the overall hyperlink network of AWEGs and just over 24% of links are reciprocated. The network possesses the lowest out degree centrality of the four national networks at just over under 55% but the second highest in degree centrality at just over 75% reflecting the prestige that is accorded to Country Guardian by other members of the network. The Country Guardian egonet is the oldest of the four national networks with its website being created in 2001.
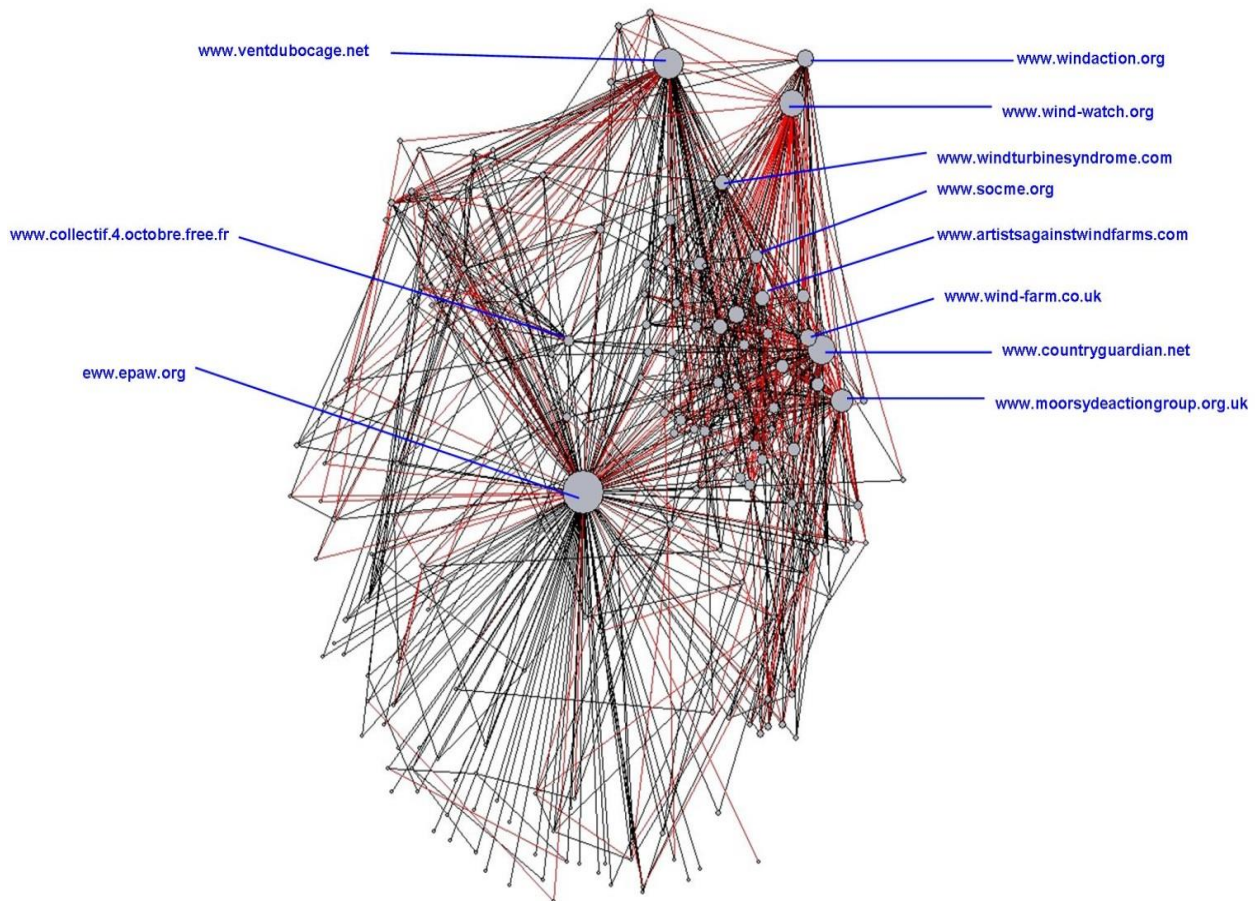
Figure 32: European Platform Against Windfarms Egonet

The EPAW egonet shown in Figure 32 contained 186 nodes – accounting for just over 29% of the overall hyperlink network of AWEGs and just over 32% of links are reciprocated – the highest amount of reciprocal linking of the four national networks. The network possesses the lowest in degree centrality of the four national networks at just over 39%.

The EPAW egonet is the newest of the four national networks with its website being created in 2008.

Comparison of National Networks

The statistical properties of the national networks are compared in Table 4 below:

Table 4: Comparison between Overall Network and Egonets

Measure	Overall Hyperlink Network	Ventdubocage Egonet	National Wind Watch Egonet	Country Guardian Egonet	EPAW Egonet
Network Size	635 nodes	301 nodes	244 nodes	192 nodes	186 nodes
Egonet as % of overall Network	100%	47.40%	38.42%	30.24%	29.29%
No of Observations (excl. diagonal)	402,590	90,300	59,292	36,672	34,410
Website Creation date	-	Oct 2004	Aug 2006	Dec 2001	Oct 2008
Network Density	0.0112 (SD 0.105)	0.0287 (SD 0.167)	0.035 (SD 0.184)	0.051 (SD 0.220)	0.0318 (SD 0.176)
Network Density t-test	t=56 > 3.29 Bootstrap Method t=5.89 > 3.29	t=47.83 > 3.29 Bootstrap Method t=4.54 > 3.29	t=43.75>3.29 Bootstrap Method t=3.98> 3.29	t=26.09>3.29 Bootstrap Method t=4.60> 3.29	t=35.33>3.29 Bootstrap Method t=3.73> 3.29
Coefficient of Variation	9.37	5.82	5.26	4.31	5.53
Average Geodesic distance	2.955	2.473	2.103	2.252	2.402
Network "Compactness"	0.282	0.393	0.459	0.449	0.346
Network "Breadth"	0.718	0.607	0.541	0.551	0.654
Network Clustering Coefficient	0.392	0.494	0.521	0.473	0.538
Weighted Network Clustering Coefficient	0.085	0.101	0.110	0.146	0.120
Reciprocity	20.88%	23.99%	25.35%	24.22%	32.09%
Freeman Degree Centrality	7.076	8.601	8.512	9.75	5.887
Network OutDegree Centralisation	42.8%	90.099%	88.63%	54.867%	78.863%
Network Indegree Centralisation	30.6%	47.624%	79.539%	75.393%	39.191%

Egonet Size

The AWEG hyperlink network comprises 635 nodes. The national and international coordinating body Egonets contain between 29.29% and 47.4% of the nodes in the overall network. Egonet age was assessed based on the age of the selected Ego website. This was taken from Wayback Machine at www.archive.org for sites other than www.epaw.org, which is a relatively new site and is not recorded on the Wayback Machine database. An alternative method of assessing age was used for EPAW and the domain registration date taken from http://whois.net/whois/epaw.org was used instead.

The intuitive expectation that website age and size of Egonet might be positively associated was not quite borne out by the data. There was a strong positive correlation[60] between the number of nodes and website age for three of the Egonets (Ventdubocage; Wind Watch and EPAW). However, the oldest website www.countryguardian.net was launched in January 2001 but the Egonet only comprises 193 nodes. When this Egonet was added back into the regression the positive correlation was significantly weakened (R^2 = 0.0002). This might suggest a differential approach to hyperlink creation amongst groups.

Egonet Densities

As reported earlier, the overall AWEG network has a density of 0.0112 suggesting that just over 1% of potential links between nodes are present. Egonet densities appear somewhat higher however some caution should be taken when interpreting these results:

Firstly, the possibility that egonet densities are as observed due to the effect of random chance was assessed using the Student t-test in line with the approach taken for the assessment of the overall network. In each instance, the Null Hypothesis of a randomly created value for network density was

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[60] r^2 = 0.9985 based on a regression of the three egonets using no. of nodes and age of website in days performed in Excel.

rejected. Following the approach proposed by Snijders & Borgatti (1999) the Bootstrap Densities and their Standard Errors were also calculated and the test was repeated. Again the results led to the rejection of the proposition that the values generated for network density could have been achieved by chance.

Secondly, as reported by Scott (2000, 74) the results illustrate the inverse relationship between network density and network size (r^2 = -0.7381). Network density tends to reduce as the size of the network increases (Friedkin 1981). This phenomenon has been explained by some authors as being due to the time cost of establishing and maintaining ties between network members (Mayhew & Levinger (1976, 101) cited in Scott (2000, 74). Although there is clearly a difference between the time costs involved in establishing and maintaining interpersonal ties and the time costs associated with a hyperlink network (Crossley 2006, 23)[61], the difficulty that the general relationship poses is that we do not know whether the differences in densities that are present arise purely because of network size or whether other factors influence this. To address this weakness in 'relative' density, the values for Absolute Density would ideally be calculated using the method set out by Scott (2000, 94-96), however as UCINET does not provide information on longest path length (which is a necessary component in Scott's formula) it is not possible to calculate Absolute Density using the results of data analysis using this package.

Alternatively, Freeman Degree Centrality can be used to reveal non-scale related network density as Average Degree is equivalent to Density multiplied by network size -1. The relative density of the egonets is revealed more fully by using Average Degree as a measure. Ranking the egonets by both density and Average Degree reveals an interesting result - The Country Guardian egonet has the highest density – irrespective of scale. The results are shown in Table 5 below:

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[61] Crossley argues that URL links are 'cheap' as hyperlinks do not take long to set up or maintain.

Network	AWEG	VENT	WW	CG	EPAW
Average Degree	7.076	8.601	8.512	9.75	5.887
No of Nodes	635	301	244	192	186
less	1	1	1	1	1
N-1	634	300	243	191	185
Density (AD/N-1)	**0.0112**	**0.0287**	**0.0350**	**0.0510**	**0.0318**
Rank - Density	5	4	2	1	3
Rank - Average Degree	4	2	3	1	5

If we compare Average Degree across the AWEG network and the national networks we see that in general the national networks have greater density, with the exception of EPAW. This however could be due to the relatively recent creation of EPAW and its associated internet presence as there is a strong positive relationship between Average Degree and Website age ($R^2 = 0.8056$). Overall the results tend to support the proposition that was made earlier when reviewing the overall network clustering coefficient - that AWEG websites are embedded in relatively more dense local networks within an overall weakly tied network.

Egonet Geodesic Distances

In the AWEG hyperlink network and in national networks there is relatively little variation between average geodesic distances (they range from 2.103 to 2.955). This means that it is relatively easy for egonet members to connect with one another.

Egonet Node Centrality

The principal nodes within the four national networks based on eigenvector node centrality are illustrated in Figures 29-32.

Egonet Clustering

The Clustering Coefficients for each of the egonets are shown at Table 4. Each of the egonets reviewed has a clustering coefficient which is greater than that of the network as a whole. This supports the view that AWEG websites are embedded in relatively more dense local networks within an overall weakly tied network.

Egonet Reciprocity

There is significantly more reciprocity within national networks compared with the network as a whole. In the AWEG network, reciprocal links were observed in 20.88% of ties however in national networks, reciprocity ranged from 23.99% to 32.09% of ties.

Commentary on National Networks

Analysis of national and international coordinating body or clearing house egonets and comparison with the properties of the overall AWEG hyperlink network reveals a number of things.

Firstly, the size of these egonets is significant – they separately account for between 29% and 47% of the overall AWEG network.

Secondly, it appears that local / national networks are denser and that reciprocity is greater.

Thirdly, it appears that age of network and density are related – the older the network the more dense it is – irrespective of scale. However, age does not appear to influence status (as measured by in degree centralisation) or influence (as measured by out degree centralisation).

Chapter Conclusion

Returning to Crossley's assertion that 'we must find evidence of links between groups if we are to speak legitimately of a movement' (2007, 226) the hyperlink network analysis has clearly identified, on an international basis, that non-random links do exist in the sizeable online world of anti-wind energy project groups and that these links have definite patterns.

The results of the hyperlink analysis do appear to lend support to the proposition that AWEGs possess some of the characteristics that would enable us to describe the phenomenon as a 'movement'. There are online links between groups and there appears to be a sense of solidarity – evidenced through the degree to which links are reciprocated, websites are clustered and through the position of national coordinating bodies within the overall network.

Some caution is needed when drawing inferences from hyperlinks as there can be multiple and varied reasons for linking. However the responses of activists interviewed in this research provide some evidence of conscious efforts to generate more effective communication between activists, raise the profile of AWEG websites and promote a sense of solidarity.

CHAPTER 6 – ANTI-WIND GROUPS

Introduction

This chapter describes anti-wind groups – their structure, organisation, alliances, strategies and their trajectories, to throw light on **Research Questions 2** (Who are the anti-wind activists?), **4** (How have they protested?) & **5** (Can anti-wind activism be described as a social movement?).

Structure and Organisation

As part of the semi-structured interviews, anti-wind activists were asked to describe the structure and organisation of the groups to which they were affiliated.

Unincorporated Associations

The responses indicated that in the UK, the most frequently cited form of organisation was that of an unincorporated association.[62] Typically groups had been formed at a public meeting where officers were elected and there was some form of constitution although the commitment to this element differed across the groups.

The officers of the groups were unpaid volunteers without exception. Groups normally elected a Chair, Secretary and Treasurer with some electing other officers such as Vice Chair, Media Officer or Fundraising Officer:

> '...we are a constituted group. We have a proper membership system; we have a Chairman, a Secretary, a Membership Secretary, and a Treasurer. We are surprisingly, statutory consultees for windfarm applications. I think we are consultees but we keep being told that we are statutory consultees. But we are consultees for all windfarm applications in Powys.'

> Interview with Chair of Welsh AWEG 23rd July 2011

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[62] This form was also most common in the US and Europe when websites of AWEGs were reviewed as part of the hyperlink network analysis – See **Chapter 5** & **Appendix M1**.

Meetings of officers were held to conduct the business of the group and open Annual General Meetings were held by some groups in line with their constitutions. Some groups adopted membership criteria, asking local residents and other supporters to become members – and a small minority required membership subscriptions. Others preferred a looser association of volunteer supporters with voluntary donations:

> 'INT: Again, bearing in mind that MAG has become disbanded, what was the structure of MAG?
>
> RES: Fairly loose, I mean, we had a democratic mandate we were founded at a public meeting, with a publically elected committee of 10 people; too big. And we had subsequent public meetings but we weren't a strict membership organisation, which were probably a mistake, we ought to have been in terms of fund raising. But we were regarded as representing the local community by the local planning authority and we were accepted as a Rule 6 Party at the public inquiry.'
>
> <u>Interview with NE England Anti-Wind Activist 13th August 2011</u>

Having identified the unincorporated association as the most common form of AWEG organisation, it is worth reflecting on a number of reasons for and consequences of this choice.

Firstly, as anti-wind activists tend to be unpaid volunteers and as most groups have limited funds to deploy in campaigning, the unincorporated association offers a low 'cost of entry' to collective action. Constitutions are readily available on the Internet, elections can be held quickly and without great formality, there are no contracts of employment and associations can set up bank accounts without difficulty. These benefits extend to other movement organisations, not just AWEGs - Lofland (1993, 143) for example found that the vast majority of US Peace Movement Organisations in the 1980s were such 'associations' and McCarthy (1996, 144) suggests that this is 'probably…the most typical structural form'.

Secondly, although the unincorporated association lacks legal personality, in the UK it can be recognised in planning law as a potential party to planning appeals (a Rule 6 Party[63]) as a group of individuals who wish to play a more active part in a wind energy (or other development) planning appeal / inquiry process.

Finally, the unincorporated association is a familiar form to movement activists. Half of AWEG activists that were interviewed had some personal experience of working within political bureaucracies such as Community / Parish or District Councils, Parochial Church Councils or similar organisations and the importation of such organising structures into anti-wind activism should not be unexpected. Equally, the unincorporated association is familiar to external audiences – such as Local Authorities who have experience of dealing with residents associations and other community groups. The downside of the above is that although the adoption of such semi institutional forms provides symbolic 'legitimacy' for AWEGs and demonstrates their alignment with civil society, following Piven & Cloward (1977), protest becomes somewhat 'structured'. This is considered later in the chapter.

Other Organisational Structures

Less and more formal organisational structures were also described by activists. In the United States for example the *Alliance for Wise Energy Decisions* (AWED) organised as an informal coalition and was not a constituted group at the time of the interview.

> 'I would call it an informal coalition. So no, there are no by-laws, there is no… I am not an authority person running it. I sort of labelled myself as an advisory you might say. All these people are volunteers, nobody is getting paid or anything. Some people have dropped out because they didn't have the time, or whatever. So we have added people subsequently. There is a sort of steering committee, you might say..'

> Telephone Interview with US Anti-Wind Activist 7th November 2012

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[63] See The Town and Country Planning (Inquiries Procedure) (England) Rules 2000.

In Europe the European Platform Against Windfarms (EPAW) was described by its President as 'an electronic network of members'.

> 'It is only a platform, I can't say more, there is no real association behind and I think that is also the strength that... on this high professional level, this is made voluntarily, but there is not a formal structure behind. There is not one association etc. with a lot of money, there is no money behind this, except voluntary will to work..'

<div align="center">Interview with Danish Anti-Wind Energy Activist 22nd June 2012</div>

Conversely, although not revealed through interviews but via the process of verifying hyperlinks as part of the hyperlink network analysis, in the United States, some anti-wind groups are constituted as environmental charities under Section 501(c) (3) of the U.S. Internal Revenue Code. These include National Wind Watch (www.wind-watch.org), the Alliance to Protect Nantucket Sound (www.saveoursound.org) and the Industrial Wind Action Group (www.windaction.org) amongst others. These organisations have incorporated status and are structurally similar to the Federation of Environmental Sustainability (FED) in France which is described by its President as an

> '..association with a legal personality under 1901 French law, with status, board, members, auditor and published accounts. It has no employees but only volunteers..'

<div align="center">Personal e-mail from French Anti-Wind Activist dated 17th April 2014</div>

Activists also described their affiliations to organisations which exist for other purposes but have taken an anti-wind stance. For example, in the UK both the Cambrian Mountains Society and The Renewable Energy Foundation (REF) have incorporated or charitable statuses – however their objects are much wider than anti-wind activism alone.

AWEGs as Bureaucratic Organisations ?

A considerable amount of work has been carried out by sociologists on the form and structure of social movement organisations (SMOs) over the course of the last fifty years (e.g. Zald & Ash 1966; Blumer 1969; Gerlach & Hine 1970; Gerlach 1971; Gamson 1975; Piven & Cloward 1977; Tilly 1978;

Lofland 1993; Edwards 1994; Cress 1997; Gerlach 2001; Andrews & Edwards 2005; and Breindl 2012). In much of the early work on movement organisations, centralised, bureaucratic organisational forms for SMOs have been treated as 'rational' and 'proper' (Gerlach 1971, 813). This is apparent in Blumer's (1969) observations on *Social Movements*; in Zald & Ash's (1966) study of *SMO Growth, Decay and Change* and in Tilly's (1978) *From Mobilization to Revolution.* As a consequence of the reinterpretation of these and other early works, it has become customary[64] to think in terms of a lifecycle for organisations with bureaucratisation treated as a logical stage in their development.

Taking this as a point of departure, can AWEGs be described as bureaucratic?

If we follow Gamson's (1975) very broad definition, the unincorporated association which is in common use in individual AWEGs can be described as having some bureaucratic characteristics in that it evidences 'procedural formality, recordkeeping, and some complexity in role differentiation' (Edwards 1994, 320). AWEGs frequently have some form of constitution, elect and re-elect officers, hold and record meetings, may keep membership records and maintain bank accounts (if fund raising). Of the organisations mentioned by activists in semi structured interviews, all had officers (Chair, Secretary, Treasurer etc.), 62.5% had a formal constitution, 50% had a management committee, and 50% had an annual general meeting.

The more formal incorporated associations in some AWEG federations, clearing houses or coordinating bodies can be considered as more developed bureaucracies regulated by company or charitable law. In these instances the regulatory framework for incorporated bodies requires accounts, minutes and the associated preservation of 'institutional memory'.

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[64] Customary does not imply that the lifecycle model is wholly accepted. Della Porta & Diani (2006,151) suggest that Social Movement Organisations rarely get institutionalised due to lack of longevity and a view of movement allegiance that is instrumental (i.e. as a means to an end). As a consequence they suggest that many movement organisations disappear as soon as a particular campaign is over. While this is true for some AWEGs there is also evidence of alternative trajectories for some organisations as discussed later in this chapter.

However, AWEGs can also be informal to the extent that they are almost always led by volunteers rather than paid staff; some have loose or no membership criteria or arrangements and leadership / task roles can be shared. Indeed some AWEGs are even less formally structured and operate at the level of informal / loose coalition (e.g. AWED) or 'electronic platform' (e.g. EPAW).

On an aggregate basis, it is also difficult to rigidly apply the term bureaucratic to describe the collective organisational form of the movement as a whole. Despite the age of some AWEGs – such as Country Guardian, and their coordinating position within the AWEG network, the movement has created a single organisation to which all AWEGs naturally offer their allegiance. This was discussed with anti-wind activists as part of the research and their observations are shown below:

> RES: 'I think there are a number of reasons why it is not proved possible to organise, one is that by far and away the most people that I meet involved in opposition to windfarms are retired. And they don't actually want a full time job, so if you like, point one would be time consuming. I mean the FELLS committee I would think is two thirds retired people. Most of the committee's I know are at least 50% retired people. You can't expect a retired person, who is retired because they want to enjoy their later years, devoting all their time to windfarms, I mean, I do but I am a bit peculiar.'

> <u>Interview with Cumbrian Anti-Wind Activist 18th February 2012</u>

> INT: 'So why are they not motivated enough to be able to join up with one another?
> RES: [It]… 'is a reaction to their very closed situation and that is what takes so much time, on the concrete local level they cannot see outside the windows……. And the fights with the local wind power developers, it takes years and they are fighting desperately for their local area …'

> <u>Interview with Danish Anti-Wind Activist 23rd June 2012</u>

'Then you get somebody else who says, ... we need to have a committee, we need to have a this, we need...., you know ....and there is this list of stuff, you know, and it is like when I worked for the Wildlife Trusts, we spend a long a painful times trying to have a single Wildlife Trust for Wales which will be far more viable ....and the meetings you have on who would buy the pencils take up an awful lot of time.'

'Now that is why, is because ... there is something in many individuals that really want to spoil things or are really afraid of losing their bit of power.'

Interview with Welsh Anti-Wind Activist 10th March 2012

Activists attributed the movements' failure to coalesce into a single universally recognised movement organisation as being due to a combination of factors including the age and personal circumstances of individual movement leaders, the heavy time commitments required for effective local campaigning, and the reluctance of some prominent movement leaders to surrender 'their bit of power.'

Gamson's (1975) very broad definition bureaucratic organisations is however a weak one to judge AWEGs against and can be contrasted with the older and stronger definition adopted by Weber (1922) who emphasises rules, official duties, hierarchy and written records held in the files (1922, 956-7). Against these weaker and stronger definitions of bureaucracy, it would appear that attempting to classify AWEGs as bureaucratic organisations is somewhat problematic since

(a) Groups can take at least three different organisational forms (incorporated association; unincorporated association and informal coalition).

(b) Groups can exhibit both formal and informal characteristics – sometimes in the same organisation.

(c) Some groups may exist only for as long as a campaign lasts (Della Porta & Diani 2006; 151).

(d) The 'movement' as a whole (across continents) has not adopted a bureaucratic organisational form to mirror, for example, that of the wind industry trade body (the Global Wind Energy Council).

A more appropriate way of thinking about AWEGs would be to see them as existing within a continuum of institutionalisation where bureaucracy represents the most formal position. In some instances AWEGs that are incorporated associations start to align with Webers' stronger definition, but in general, the unincorporated associations do not.

In view of the above it would seem appropriate to refer to *individual* AWEGs as possessing a degree of institutionalisation and to consider *multiple* AWEGs against the 'segmentary', 'polycephalous' and 'reticulate' characteristics as outlined by Gerlach & Hine (1970) and Gerlach (1971). These are defined:

(a) *Segmentary*: a movement is composed of a range of diverse groups, or cells, which grow and die, divide and fuse, proliferate and contract.

(b) *Polycepalous*: this movement organisation does not have a central command or decision-making structure; rather it has many leaders or rivals for leadership, not only within the movement as a whole but within each movement cell.

(c) *Reticulate*: these diverse groups do not constitute simply an amorphous collection; rather, they are organised into a network, or reticulate structure through cross cutting links, 'travelling evangelists' or spokesmen, overlapping participation, joint activities, and the sharing of common objectives and opposition.'   (Gerlach 1971, 817)

Gerlach and Hine's description of a movement comprised of diverse groups that can grow and die, divide, fuse, expand and contract seems to sum up collective anti-wind activism. Local AWEGs are geographically diverse, have their own leaders, adopt varying approaches to membership, are autonomous, choose to affiliate – or not with national clearing houses / coordinating bodies and approach their opposition to wind energy from different philosophical standpoints. Some are (surprisingly) not anti-wind per se, (see Interview with English Anti-Wind Activist in next section), some are against all wind energy projects as a matter of principle; some focus on environmental impact, others on subsidies. Most groups communicate with other groups and organisations outside their immediate geographical area, although such communication can be tactical and transient.

Affiliations and Alliances

Coordinating Group Affiliations

Having regard to the results of the network analysis in **Chapter 5**, the descriptions used by individual AWEGs regarding their relationship with national coordinating bodies proved to be quite surprising.

Firstly, not all groups recognised the idea of a national coordinating group or organisation, some referring to coordinating groups as 'news dissemination websites' or 'information exchanges'. Conversely other groups did readily identify national organisations as coordinating bodies. There are a number of possible explanations for this, including the closeness of local groups to national coordinating groups, the evolutionary stage of coordinating groups as movement organisations, personal experience and movement aspirations.

For some local groups, their contact with coordinating groups is quite limited – information is supplied centrally and shared locally, no membership association exists (or has lapsed) and contacts between group members and national 'leaders' is via e-mail 'round robins' or through third parties. For such groups, there is limited awareness of the structure and composition of national groups and so their ability to describe such groups is constrained. An example of this can be seen in the text of one interview as shown below.

> INT: 'What about Country Guardian?
>
> RES: I don't think we are a member, I am not sure actually if we area member or not but we do interact with Angela Kelly.....
>
> INT: And how does that relationship work, I mean, Angie produces her round robin and keeps everybody informed?
>
> RES: Yes that is the extent of it really. We let her know how things are happening down here or if we need her to circulate something then we ask.'
>
> <u>Interview with Welsh Anti-Wind Activist 4th June 2011</u>

While there is an acknowledgement of the existence of a central coordinating body, involvement can be tactical and transitory with long term relations limited to receipt of centrally distributed information.

A further complexity arises due to the nature of wind energy developments and the lifecycle of organisations. Typically proposed wind energy developments take some 4-5 years to come to a conclusion during which time groups' form and evolve. This is true for national groups also and the relationship between local and national groups is consequentially in a constant state of flux. The group members who established the local AWEG may have left the group by the time a final planning appeal is heard, and the national body is also likely to have evolved, or other bodies may have emerged to take precedence. This appears to be the case with Country Guardian whose active campaigning actions in the early / mid 1990s have been replaced with more of an information support role as its Chairwoman Angela Kelly approaches her 85th year.

> 'I think Country Guardian is quite interesting actually because Country Guardian has become Angela Kelly, who I love dearly, I have known her for a very, very long time. She has known our children since they were tiny. But Angie is an old lady now..'
>
> Interview with Chair of Welsh Anti-Wind Energy Group 23rd July 2011

Secondly, in the UK, activists identified both Country Guardian and the Renewable Energy Foundation (REF) as coordinating bodies, even though REF has clarified its position on wind energy and is not anti-wind per se.[65]

Thirdly, relationships between individual AWEGs and coordinating bodies (however identified) are not always positive as borne out by the comments made by some activists during their interviews:

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[65] http://www.theguardian.com/environment/blog/2011/may/18/renewable-energy-foundation-wind-farm [Online] (Accessed 14/4/2014).

INT: 'What is the relationship between SWAP and Views of Scotland with any national or UK wide coordinating anti-windfarm group?

RES: Well the only UK one was REF and our relationship with them was disastrous....

INT: What about Country Guardian?

RES: A good rapport with Country Guardian.

INT: Are you members?

RES: It never came up, you know, we have worked together and we continue to work together funnily enough, one of the few activities left is we provide them with a lot of their press releases as well and press information, which they put out in their own name and that is fine by us. ..... Not all of it, but a lot of it.'

<u>Interview with Scottish Anti-Wind Activist 19th November 2011</u>

INT: '.....what was the relationship between MAG and any National Coordinating Group or what is your relationship between the work you are doing and any National Coordinating Group?

RES: None, we have always had a slight philosophical... I mean, it started off with a philosophical difference with people like Country Guardian, who were against all wind power development per se. In their early days, I talked to Angela occasionally but... have done about once a year but we had a philosophical difference initially and then organisationally it has always been impossible. We have always found these various attempts to find common ground or a national movement as falling between the stools of what people's various aims are and they are normally too involved with the sheer exhaustion in fighting a planning battle anyway...'

<u>Interview with NE England Anti-Wind Activist 13th August 2011</u>

The picture that emerges from interviews with leading anti-wind activists is one of a loosely linked network of local groups who are focussing on their own individual campaigns but who draw on centrally distributed resources supplied by 'clearing houses' or 'coordinating bodies.' The nature of the relationship between local groups and such clearing houses / coordinating bodies varies – some groups maintaining closer levels of contact – by providing information for general distribution, while others engage on a more tactical level. Relationships are also mixed – reflecting personal and ideological differences which have impacted on both desire and ability to unite groups.

Returning to the analysis of online connections as outlined in **Chapter 5**, the results of semi-structured interviews do confirm that local groups are connected to 'clearing houses' or 'coordinating bodies' as indicated but the connections are more complex and are not simply a 'membership' network for all AWEGs and for some the network is a 'communication' network only.

Non-Affiliations

In addition to group affiliations to clearing houses / coordinating bodies, interviews with anti-wind activists sought to identify organisations that AWEGs would **not** affiliate with. Most groups indicated that they would not seek or welcome approaches from groups they considered to be 'extreme'. Activists from outside the UK sought to distance themselves from Neo Nazi / Fascist groups as did UK based AWEGs who specifically referred to the British National Party (BNP) and the English Defence League. Some activists were particularly strident in their views

> 'If, for example, the English Defence League or the BNP was to come along, I would say look, over my bloody dead body, you know. I don't care if they are going to give us a £100 and I don't care if they are saying it is non-political. I don't care; I know he is a member of the BNP. To me, I would give them the bullet and that is it. I will make an issue of it, I don't care what his human rights are, he is not coming and that is it.'

<div align="center">Interview with Cumbrian Anti-Wind Activist 22nd October 2011</div>

Others had taken positive steps to disassociate themselves from such organisations. For example, at the time of interview, the BNP (now former) leader, Nick Griffin lived relatively close to a prominent anti-wind group in Mid Wales and had made comments on the AWEG website which were removed. A South Wales AWEG group also deliberated over the position of an activist with BNP leanings:

> 'We had a member who was minded to stand as a candidate in the recent council elections as a BNP candidate and I found that abhorrent. And I think some other people did too and in the end I was fairly vocal in saying… she offered to stand down and I was saying we should accept it. She was a lovely girl, but you know, I cannot agree with what the BNP stands for.

..we very rarely take a formal vote but we did on this occasion and as I remember it was, sort of, perhaps 8 people at the meeting, 8 or 10 and it was the sort of order of, 8 said yes we should accept her resignation and two abstained.'

A smaller number of groups adopted a more pragmatic approach to support:

'......right from the start we said we would work with any group, I personally would have worked with the devil if I got the result and I said that, right. Because you can imagine right at the start this was becoming a very important topic in local elections and everything and with Labour wanting to be on side, Conservatives wanted to be on side but we told them all, we will accept you all, we are not playing one or the other, you are all supporting us and I think, you know, we accept support from anybody as long as we got our result.'

'Well, I know within the group they wouldn't want any political activists coming in. I suppose I wouldn't want that either but I wouldn't mind what the political background was provided they didn't bring it with them and they supported the true cause.

So if were asked a BNP party or anybody to come and support us we would want them to support us on windfarm issues, we wouldn't want them bringing in their own culture and if that was agreed, I don't think I would have an objection to it. But I don't think that, you know, you see people on television being interviewed and all of a sudden they are asked one question and then they bring in their own beliefs rather than answering the question. And that is the danger I think if you bring somebody in who is highly political motivated, particularly with the radical movements that might upset.

But if it could be agreed that they come in and support the issue without the political background interfering with it I don't think I would have an issue with it.'

Some AWEGs also sought to distance themselves from organisations with vested interests. These included the nuclear industry, coal industry, political parties including The United Kingdom Independence Party (UKIP), green groups such as Friends of the Earth and the wind industry itself.

In discussing their non-affiliation to certain organisations, AWEGs displayed their awareness of

- the risk of being manipulated or used by other political groups or those with vested interests.

- their own values, culture, identity and ideology.

- how external observers saw their organisations.

The second and third aspects are particularly important for AWEGs who are operating in a highly structured and legislatively defined framework within which politicians make decisions about individual wind energy developments. By seeking to distance themselves from extreme groups and by framing their protests as existing within democratic civil society, AWEGs seek to achieve legitimacy and the support of elites – an approach which Pivern and Cloward (1977) question in terms of goal effectiveness.

Group Alliances

The possibility that AWEGs possess more than just 'nodding relationships' with each other was raised in **Chapter 5** when reciprocal hyperlinks on AWEG websites were identified (see Figures 21; 29-32 and Table 4). To explore this in greater detail AWEG activists were asked as part of semi-structured interviews whether they provided support to other AWEGs and if so on what basis.

Activists reported that they and their AWEGs supported other groups through a variety of mechanisms including publicity, letter writing and public speaking & fundraising for individual campaigns. Existing groups were also commonly providers of tactical and technical advice to other groups and some regional groups acted like resource hubs (e.g. FELLS).

> 'FELLS is not quite unique in Britain but almost unique in that it's existed now for 11 years and it is a sub-regional organisation. In other words, it isn't set up to fight a specific windfarm. (..you know, the stop Milnthorpe Wind Farm Action Group…), it actually operates from Lancaster to the Solway, includes all of Cumbria except the very West Coast of Cumbria.

In other words the Lune, Eden Valleys, the Lake District, National Park and North West Lancashire and so we operate in terms of advice to any group within that area. And then at a slightly lower level we actually are a resource for groups throughout the North of England, County Durham, Northumberland and even the Scottish Borders'.

<p align="center">Interview with English Anti-Wind Activist 28th May 2011</p>

Existing AWEGs also provided support to communities where wind energy developments were proposed but where AWEGs had not yet been established through organising meetings, rallies and by supplying 'how to' material for prospective group members:

> 'For example, an organisation who wants to fight, we have some programmes, we tell them exactly what is going to happen because we have experience coming from everywhere. So we have a first paper of 32 pages explaining it all, how to proceed, how to organise an Association. So it is a sort of kit.'

<p align="center">Interview with French Anti-Wind Activist 8th July 2012</p>

In Mid Wales, this tactical exchange of information and provision of mutual support has been formalised and a number of AWEGs established a strategic alliance (initially called '*Take the Power Back*' and subsequently re titled as '*The Alliance*') to campaign against multiple large wind energy developments in the area. The Alliance was established because:

> 'Opposing the power plans is a community effort. Groups sprang up to defend their own areas and the strength of this movement is its localism. The knowledge and love of our own landscapes is the wellspring of our strength and a great source of ammunition.
>
> However, we need to coordinate our efforts and it became clear that some method of pooling our resources was required. A group was established; 'Take the Power Back' (TtPB), which has a formal constitution, does not intend to usurp the role of the groups, but can coordinate and share information to make sure that the politicians and power companies are kept on their mettle to ensure a truly green and sustainable future'[66]

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[66] See http://www.montgomeryshireagainstpylons.org/wp-content/uploads/2011/09/Campaign-Newsletter-Issue4-%E2%80%93-English.pdf [Online] (Accessed 29/4/2014).

The alliance draws support from AWEGs, community groups, anti-pylon groups and local environmental organisations in Mid Wales and Shropshire and has presented its case against the multiple wind energy developments in Mid Wales at the Conjoined Public Enquiry extending over the period June 2013-May 2014. It has mounted a local and national campaign against the proposed developments involving mass rallies such as the one at Welshpool, Powys in June 2011 which was attended by over 1500 protestors.

Figure 33: Anti-Wind Rally, Welshpool, (June 2011)

Strategies and Tactics

Chapter 1 presented some limited examples of how AWEGs have protested in the UK, US and Europe. Interviews with anti-wind activists provided an opportunity to elaborate on these examples and have outlined a variety of strategies and tactics including those set out at Table 6 below:

Individual	Frequency	Collective / Policy	Frequency
Objecting to individual applications	High	Responding to consultation exercises (e.g. TAN 8 in Wales)	Medium
Objection / Representation as Rule 6 Parties in Planning Appeals	Low	Submission of technical papers / presentations to National Governments & Government Departments (UK and USA)	Low
Mounting local displays to show visual impacts of individual proposals including use of balloons to show turbine height	Low	Conferences to promote anti-wind campaigns	Low
Public Meetings – held locally	High	Public Meetings – held to discuss national campaigns	Medium
Lobbying – at Community Council, Planning Authority level	High	Lobbying – at Planning Authority, National Government/ Devolved Administration level	High
Letter writing / newspaper articles /Cartoons	High	Letter writing / newspaper articles / Cartoons	High
Leafleting localities affected by developments	Low	Activists standing as candidates in local and national elections	Low
Protest walks – (as opposed to marches). These have taken place in upland landscape areas which are threatened by wind energy developments.	Low	Protest walks – (as opposed to marches). These have taken place in upland landscape areas which are threatened by wind energy developments.	Medium
Rallies / Peaceful Demonstrations – against local developments	Medium	Rallies / Peaceful Demonstrations – against national policy or collective effects (e.g. Mid Wales)	High
Petitions – at Planning Authority level	High	Petitions – at National Government / Devolved Administration level	Medium
Websites – against local developments	Low	Websites & Blogs – against policy	High
Books – narrative accounts of local campaigns (e.g. The Battle for Cefn Croes)	Low	Books – objecting to national policy – e.g. 'The Windfarm Scam' & 'L'Imposture'	Low
Concerts and protest songs – e.g. 'Beauty Corruption' by Becky Godlee	Low	Films – e.g. 'Windfall'	Low
You Tube videos	Low	You Tube videos	Low
Court Action / appeal – individual sites	Medium	Court action / appeal – policy (e.g. EPAW)	Low
Civil disobedience – limited and localised	V Low	Civil disobedience – limited and localised	V Low

Relative Frequency of Protest Tactics

In Table 6, the tactics adopted by individual activists have been categorised according to their frequency of use. This categorisation is based on the personal observation and experience of the author; an analysis of the responses in semi structured interviews; a high level review of the content of the websites of anti-wind National coordinating bodies / clearing houses and an assessment of the content of e-mail 'round robins' from the Chairwoman of Country Guardian, Angela Kelly.

The tactics reported above are deployed with varying frequencies. Some tactics are frequently deployed – such as objecting to individual wind energy developments, letter writing, attending or holding public meetings, lobbying and use of websites. Moderately frequently observed tactics include rallies and demonstrations, petitions, protest walks and responding to public consultation on technical matters. Less frequently observed tactics include authoring books, producing films and videos and leafleting. Civil disobedience – while present in the repertoire is infrequently adopted as a protest tactic.

In their analysis US environmental SMOs, Andrews & Edwards (2005) describe a tactical repertoire of 'disruption', 'protest' and 'moderate reform'. Disruption and protest are seen as confrontational approaches with disruption being the more aggressive tactical approach including direct action such as unauthorised sit-ins and blocking roads. Protest behaviour includes rallies and demonstrations and moderate reform focusses on use of institutionalised means – such as lobbying, education and awareness raising (2005, 226).

Applying this typology, activists recounted that AWEGs have almost exclusively adopted protest and moderate reform tactics[67] as outlined below:

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[67] See also Figures 7-13.

'..the first and most important thing is awareness, making people aware both of the application and then the implications around the application and then, as far as possible and as honestly as possible, the underlying truths. Having done that, which is almost a sacred duty if you like so that people can make their own minds up, the next thing is to mobilise opinion through the press, through local decision makers and local Councillors, Parish Councillors, District Councillors, local MPs. All of these people must be brought on side, bearing in mind that they are quite often advised by a planning department which has quite a different agenda and a different pay structure.'

<div align="center">Interview with English Anti-Wind Activist 29th October 2011</div>

'We weren't protesting so much. First of all we sought to inform local objectors to local schemes or put them in touch with appropriate expertise, the usual stuff, you know what I mean.'

<div align="center">Interview with Scottish Anti-Wind Activist 19th November 2011</div>

'We have had a demonstration at Senedd. We have attended other marches and demonstrations in the area. We have built up networks with the media and national media. We have engaged the help of our MP, Huw Irranca-Davis and our Welsh Assembly member, Janice Gregory...'

<div align="center">Interview with Welsh Anti-Wind Activist 25th June 2011</div>

While this was true for the majority of groups, some activists also referred to disruptive direct action:

'We do favour the direct action approach to be quite honest with you because you go back a question to the National Organisations, right, and a lot of these people, they hide behind their computers and they have never seen anywhere, right, except on their computers. We do favour the direct action ...'

<div align="center">Interview with Welsh Anti-Wind Activist 4th July 2011</div>

'What we need to do is react very quickly. A good example was on Thursday, I had a phone call in work from somebody who said 'so and so' are on their way to Liverpool and they have just passed on the side of the road near Oswestry on the Dual Carriageway an immense transporter with support vehicles with Capita Symonds written on them. It is empty but it is heading this way so we got onto it straight away. ...within 25 minutes, Cefn Coch had the roads blocked with vehicles, they had got every car out on the road, they had got Lorries, trucks, trailers, tractors. Somebody was about to let the sheep out onto the road and they have got 50 people on the road with cameras.'

<div align="center">Interview with Chair of Welsh AWEG 23rd July 2011</div>

'...to stop a transport for some hours waiting for the police, sit down as an action, that would be okay.'

While direct action was adopted by a small number of groups, this was conditional and limited to action that was within the law.

'As a group ...you wouldn't break the law. You know, bearing in mind that we work within the community and with most of the people. That, of course, doesn't mean that individuals would wish to break the law, it would be entirely up to them wouldn't it.'

'I mean, I will lie down in front of the tractor and chain myself to the railings but I am not going to burn anything down.'

The prospect of disruptive direct action extending beyond lawful activities was something that AWFGs were aware of but other than recognising that some individual members may participate in unlawful activity on occasion, the collective stance was one of rejecting such activity as a group tactic.

'I think *Save Our Silton* had a walk, had a march along a public right of way to prove that it was a public right of way. We didn't need to do any such thing but that was purely to make a point. Direct action of any sort I think is unlikely to happen down here, although, I can in more desperate circumstances and I know of cases where people have... see we are lucky here, we have had a broad base of support, we have had quite a lot of funding.

In areas such as your own, in areas such as parts of Scotland, in areas where it is much more sparsely populated, people haven't got the money, they haven't got the resources, they are desperate and they are being raped. And in those circumstances I can see that they would be driven *in extremis*.

I mean, yes, we all know the local farmer who has said, well when they put one of those up I know exactly how many shots it will take me to blow the turbine blade off, you know, I mean we all know folk like that but, as an organisation, not for one second would we condone or contemplate such a thing.'

Successes and Failures

On an individual level, AWEG success is measured by activists in terms of applications for wind energy developments being either refused, delayed or revised. When applications are approved without amendment, failure is experienced.

In the UK and in Sweden, AWEGs views of their most successful tactics emphasise networking and lobbying of local decision makers – including Parish / Community Councils and Planning Authority Councillors. In the United States, a similar grassroots approach to community organising and lobbying is advocated by the Alliance for Wise Energy Development (AWED). These approaches contrast with those adopted in France, where EPAW highlight the successful use of legal action supported by the Sustainable Environment Federation (FED), the French anti-wind federation / coordinating body.

The success of defeating individual wind energy development proposals has also prompted a number of activists to become more politically active via environmental non-governmental organisations – such as the *Campaign to Protect Rural England* or via election to office in local council elections. One activist recounted the following story:

> 'Yes, there was a girl in the village who, in fact, she had produced a baby... one of these that was a complete shock. Was out playing netball on a Tuesday and on the Thursday night produced a 2lb baby.
>
> ...so, she stayed at home, looked after the baby, her mother had died so looked after her Grandmother and then due to all this she started going round, she talked to people, door knocked. Did a huge amount; got onto the community council. First woman ever onto the community council and the farmer that was thrown off was one that wanted wind turbines and she went on then from looking after her Grandmother to working for Social Services, looking after other old people, you know, home care and then went to Wrexham Uni., got her degree and has a very good job with Social Services.
>
> So that is great, you know a really good success story'.
>
> Interview with Chair of Welsh Anti-Wind Energy Group 23rd July 2011

On a collective level AWEGs and coordinating bodies / clearing houses view success more widely and this includes effecting changes to renewable energy and planning policy, the adoption of protective measures or legislation, bringing the wind energy debate to a wider and potentially more critical audience, publicity regarding adverse effects and costs associated with wind energy and greater scrutiny of 'bad science'. Approaches that AWEG activists judged to be less successful include:

- blanket letters to unknown MPs or other elected representatives – as opposed to personalised letters to known individuals.
- petitions – especially if signed by 'non-locals'.
- leafleting – as this can be an irritant to local recipients.
- paid advertising.

In sum, AWEGs have mainly adopted 'moderate reform' and non-disruptive protest tactics to influence local decision makers on individual wind energy developments. These tactics, which fall within Turner's (1970) definition of 'persuasion', are reflective of the social and political environment in which objections and protests take place and reflect a conscious wish to adopt mainstream methods to influence local and national opinion. They represent what Wilson calls the 'politics of order' rather than of 'disorder' (Wilson 1973, 229).

Evolution and Change

As outlined earlier, individual AWEGs are characterised by some degree of institutionalisation and collective anti-wind activism appears to possess some of the characteristics of a 'movement'. However there is little evidence that the four stage lifecycle[68] of a social movement is universally applicable to collective anti-wind activism as 'institutionalization' of AWEGs and national co-ordinating bodies / clearing houses has been somewhat patchy.

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[68] This is commonly attributed to Blumer (1969) but the four stages model is borrowed from Chapter 19 of Dawson & Gettys (1935) *Introduction to Sociology*.

Notwithstanding the above, some, individual AWEGs and national coordinating bodies do appear to have developed similar trajectories. These include:

Trajectory 1 – local groups form in response to individual wind energy developments, actively campaign against these developments, are successful or unsuccessful then dissolve after the fight is over. This would be a trajectory that Zald & Ash (1966, 33) and Della Porta & Diani (2006, 151) recognise and an appropriate example would be the Coalition of Residents – Tiny (www.cort.ca) as identified in Table 3 and Figures 25 & 26.

Trajectory 2 – as with Trajectory 1 but after dissolution key individuals maintain publicity regarding the campaign via books or websites. Individuals, through the relationships established with fellow activists together with ongoing internet presences, seek to remain part of the anti-wind network long after individual campaigns have ended and provide support and advice to fellow activists fighting wind energy developments in other areas by telling War Stories (e.g. the Cefn Croes Action Group (http://cefncroeswindfarm.wordpress.com) and the Barningham High Moor Coalition (www.wind-farm.co.uk)) or by transforming into online resources (e.g. Moorsyde Against Turbines (www.windbyte.co.uk)).

Trajectory 3 – as with Trajectory 1 but instead of dissolution, groups evolve into local or national resources that support anti-wind activism more broadly but are less active in local campaigns. As one anti-wind activist put it his organisation (FELLS) had evolved

> '..from a campaigning organisation to a broad supporting and facilitating organisation.'

<div align="right">Interview with English Anti-Wind Activist 28th May 2011</div>

Other examples include:

Country Guardian – formed in 1990 by Joseph Lythgoe, focussing on the proposed Kirby Moor wind energy development on Furness Peninsula in South Cumbria. Planning consent was granted for the Kirby Moor development at a Planning Inquiry in 1992 marking the end of the local

campaign. Rather than folding, Country Guardian held a national meeting in 1993 and then proceeded to initiate and support active protests in Cumbria, Wales, Gloucestershire and Cornwall during the mid / late 1990s under the Chairmanship of Robert Woodward. Country Guardian's founder – Joseph Lythgoe died in 2000. Angela Kelly was subsequently elected to be Chairman and a second national meeting was held in 2004. Currently operating as a national clearing house - providing information and advice to local AWEGs.

Conservation of Upland Montgomeryshire - initially formed to fight a local wind energy development at Mynydd yr Hendre in upland Powys.

> RES: 'Hands-off-Hendre was formed a very, very, long time ago. But very quickly we discovered there was another application there and another one there and another one there. So we decided we couldn't be Hands-off-Hendre. So we became Conservational Uplands Montgomeryshire and in Brecon and Radnor Conservational Upland Radnorshire and Breconshire. We carried on like that and then some years ago, mainly because of Tan 8 we became Powys because the strategic search areas crossed the borders'.

Interview with Chair of Welsh Anti-Wind Energy Group 23rd July 2011

Views of Scotland – evolution from organised group to information service.

> 'To begin with Views of Scotland had individual and group memberships and an elected committee and annual conferences and we had a programme of publications; but that lapsed and it is no longer a membership organisation it is basically an information service for groups, some of which are still active and some which aren't.'

Interview with Scottish Anti-Wind Activist 19th November 2011

These trajectories align with the phenomena of goal transformation as outlined by Zald & Ash (1966, 333). Following the success or failure of a particular struggle the AWEG either dissolves or new goals of supporting other campaigns (either by telling War Stories or by evolving into resource hubs or regional / national coordinating bodies) are substituted for the goals initially identified for a local AWEG.

Chapter Conclusion

This chapter has described AWEGs as having a degree of institutionalisation and operating within a segmentary network. Individual AWEGs are commonly organised as unincorporated associations although some groups in both the US and Europe have incorporated.

Activists recounted that AWEGs affiliate with and provide support to one another, confirming that the reciprocal links between AWEG websites as identified in **Chapter 5** exist outside cyberspace. They also affiliate with national coordinating bodies / clearing houses although the relationships with the latter are not straightforward membership affiliations. There was a clear rejection of affiliation to extreme groups – in particular those on the political right such as the British National Party.

AWEGs have generally adopted moderate reform tactics in their campaigns and rejected radical disruptive or unlawful acts, preferring to work within the institutional environment that they encountered rather than seeking to replace this.

Finally, AWEGs have either dissolved or evolved according to three principal trajectories, consistent with the idea of goal transformation as described by Zald & Ash nearly fifty years ago.

CHAPTER 7 – ANTI-WIND ACTIVISTS

Introduction

This chapter details the characteristics and attitudes of the 17 leading anti-wind activists who participated in structured interviews to address **Research Question 2** (Who are the anti-wind activists?). In line with the approach taken in **Chapters 5 and 6** the majority of the chapter focusses on providing descriptions rather than explanations. The chapter analyses the results of semi-structured interviews and the place attachment instrument using Klandermans' (2004) 'Triple I' model of social movement participation as a lens through which activists and wind energy opposition can be understood (see **Chapter 3**). It then supplements this framework with an analysis of the biographical trajectories of four influential anti-wind activists.

Anti-Wind Activist Identity

In October 2009, in his address to the British Wind Energy Association's conference, the former Deputy Prime Minister, John Prescott labelled anti-wind energy activists as the 'squires and the gentry'. At a later conference in 2011, the then Energy Secretary, Chris Huhne referred to critics of renewable energy as 'faultfinders and curmudgeons', 'climate sceptics and armchair engineers…'. These pronouncements reflect a quite strongly held view in some political circles that anti-wind activists in particular are drawn from the middle classes and hold contrary views on climate change and environmental matters generally. To investigate this, interviewees were asked a range of questions regarding personal and collective identity.

Personal Identities

Key elements that contribute to the personal identities of the 17 activists who participated in the research are summarised in Table 7. In addition, reflecting the localised nature of some anti-wind campaigns and the contents of **Chapter 2**, activists were asked about where they lived and how they saw themselves to explore the importance of place and other determinants of identity.

Socio Demographics

The profile of the 17 leading anti-wind activists who took part in the fieldwork for this thesis is set out at Table 7 below:

Table 7: Profile of Participants in Semi Structured Interviews

Characteristic	Profile Data
Average Age	68 (range 45-84)
Gender	14 Male; 3 Female
Ethnicity	100% White
Nationality	7 British; 4 Welsh; 1 Scottish; 2 English, 1 French, 1 Danish; 1 American
First Language	14 English; 1 Welsh; 1 French; 1 Danish
Disability	16 No disability; 1 Disabled
Religion / Belief	8 None; 9 Christian
Sexual Orientation	100% Heterosexual of those who chose to answer. 1 chose not to answer
Marital Status	12 Married; 1 Single; 1 Widowed; 2 Divorced; 1 Living With Partner
Employment Status	14 Retired; 2 Self Employed; 1 Employed FT
Profession / Last significant job role	Consultant x 2; Teacher x 3; Farmer x 1; Civil Servant x 1; Social Work Manager x 1; Accountant x 1; Librarian x 1; Retail Manager x 1; Banker x 1; Architect x 1; Editor x 1; Secretary x 1; General Manager x 1; Middle Manager x 1
Household Income	6 x Chose Not to Answer; 3 x £10-20k; 2 x £20-30k; 2 x £30-40k; 2 x £40-50k; 2 x £50-100k
Tenure of home	16 Owner; 1 Rented from Children
Highest Educational qualification	Undergraduate Degree x 3; Postgraduate Diploma x 1; Postgraduate Masters x 1; Postgraduate Doctorate x 2; 'O' Levels x 3; 'A' Levels x 3; HND x 1 School Certificate x 3
Member of a political party?	No x 13; Yes x 4 Of the 4 - (Labour x 1; Independent x 1; Conservative x 2)

The profile of those activists interviewed was generally of older, male, white, retired professional, straight, well-educated, politically inactive home owners who did not have a disability. Activists were from a number of different geographical locations and 6/7 (depending on the treatment of British / English) nationalities were represented.

Incomers or Indigenous Residents?

The characterisation of wind energy opponents as incomers who were protecting their 'rural idyll' (Hull 1995; Woods 2003b) was explored by asking interviewees how long they had lived at their current home and how long they had lived in their local area.

On average, interviewees had lived in their current home for around 23 years and have spent 32.5 years in their local community at the time of interview. Two activists lived in semi urban or urban areas – one in the market town of Hay on Wye in Mid Wales and one in the city of Paris – neither of which were 'threatened' by wind energy development. In both instances, the interviewees were heavily engaged in anti-wind activism outside their own locality and were leading national or international anti-wind coordinating bodies / clearing houses. The pilot study also supplied a further example of an activist living in a semi urban area who was actively engaged in national anti-wind activism in Wales.

Six out of seventeen interviewees (35.3%) were 'largely' indigenous to the area where they now lived. This includes:

- One interviewee who was born in Germany – the son of an Army Officer who was stationed abroad, but whose family home was in Cumbria where he would be brought up from the age of four.

- One interviewee who was born in Surrey but moved to South Wales at the age of six when his parents returned to their birthplaces; and was brought up in the area in which he now lives.

- One interviewee who was born locally but moved away and subsequently returned to live close to their birthplace.

Notwithstanding the above, in the structured interviews, three activists (17.6%) clearly identified their relocation to the area in which they lived as being a conscious decision to enjoy a quieter lifestyle, enjoy views or otherwise benefit from the rural environment.

On the basis of this it appears that labelling anti-wind activists as incomers seeking to protect their rural idyll is somewhat simplistic. A proportion of

activists are clearly drawn from rural areas and some do appear to have relocated to such areas to benefit from a more rural lifestyle, however this is not a categorisation that holds in all cases. Some activists are drawn from the indigenous population and some live in areas that are not rural and are not engaged in local protest.

The interviews suggest that by labelling all anti-wind activists as 'incomers' observers fail to properly understand the makeup of AWEGs. Furthermore, incorrectly describing anti-wind activists as 'incomers' has the effect of positioning them as 'the other'. In the same way as researchers have been encouraged to avoid the use of NIMBY as an explanatory term, it would also seem wise to avoid the application of blanket terms that can consciously or unconsciously minimise wind energy protest discourses.

Attachment to Place

Following Proshansky, Fabian & Kaminoff (1983), identity is influenced by place and attachment to it. Strength of attachment and the presence of negative attitudes to development were indicated in Vorkinn & Riese's (2001) study of attitudes to a proposed hydropower plant in Norway and this relationship has more recently been explored in the context of objections to wind energy in North Wales by Devine–Wright & Howes (2010).

Table 8 below shows the results of the place attachment instrument applied to the pilot survey of anti-wind energy activists in North Wales (Respondents 1-13; n=13) together with the main sample of leading anti-wind energy activists in the UK, US and Europe (Respondents 14-30 / Interviewees No. 5-21; n=17). The instrument uses a scale between 1 and 5 where 4 indicates 'agreement' and 5 indicates 'strong agreement' with statements constructed to reveal attachment to place such as '*I feel very committed to this place*' and '*I feel responsible for this place*'. The pilot sample results have been shown in Table 8 for comparative purposes. As sample sizes are small, the results should be treated as descriptive rather than inferential. Notwithstanding this on the five point scale, both groups shared an average of 4.3 which indicates a strong attachment to place.

Table 8: Individual Place Attachment Scores

	Pilot Survey Results				Main Study Results		
Respondent	Grand Total	Max Score	Average	Respondent	Grand Total	Max Score	Average
1	112	135	4.15	14	125	135	4.63
2	94	135	3.48	15	130	135	4.81
3	127	135	4.70	16	135	135	5.00
4	134	135	4.96	17	117	135	4.33
5	110	135	4.07	18	110	135	4.07
6	103	135	3.81	19	111	135	4.11
7	119	135	4.41	20	106	135	3.93
8	121	135	4.48	21	112	135	4.15
9	130	135	4.81	22	120	135	4.44
10	110	135	4.07	23	123	135	4.56
11	133	135	4.93	24	122	135	4.52
12	128	135	4.74	25	115	135	4.26
13	115	135	4.26	26	104	135	3.85
				27	126	135	4.67
				28	128	135	4.74
				29	96	135	3.56
				30	111	135	4.11
Mean	118.15	135	4.38	Mean	117.12	135	4.34

The results compare with the 'generally high' levels of place attachment cited by Devine Wright & Howes (2010) who reported attachment scores of 4.4 and 3.63 (in Llandudno & Colwyn Bay respectively) (2010; Table 2) and 'a significant positive, if modest, relation between attachment and oppositional behaviours' (2010; Table 3) . The results from both pilot and main samples as shown in Table 8 above are consistent with this.

Looking at the individual responses, it is worth noting that the low level of place attachment indicated by Respondent No. 2 (score 3.48) is attributable to the very low scores for consumption based items within the questionnaire. In particular the following three statements attracted a 'disagree' response:

- I moved here to improve my home environment

- I moved here to get some peace and quiet

- I moved here because of the scenery

Respondent No. 2, who tested the Place Attachment instrument and who also piloted the semi structured interview, is active in *The Ramblers Association* and is a member of the *Campaign to Protect Rural England* and a

former member of the *Campaign to Protect Rural Wales* (see next section) moved from the Ceiriog Valley in Wales to her current home in the town of Oswestry in Shropshire 9 years ago. The property is in a semi urban location and is unlikely to be impacted by wind energy development.

The low level of place attachment indicated by Respondent No. 29 / Interviewee No. 20 (score 3.56) is attributable to some low scores on the core 'attachment' and 'identity' based items within the questionnaire. In particular the following statements attracted a 'disagree' response:

- When I am away from here I long to return. / I really miss this place when I am away from it.

- I feel very committed to this place.

- Where I live means a lot to me.

Respondent No. 29, who was interviewed in the main survey, is a key member of the *European Platform Against Windfarms* and has lived in Paris for 15 years. The property is in an urban environment and is also unlikely to be impacted by wind energy development. Respondent No. 29 has also had an international career and has lived in multiple locations and countries and does not appear to be significantly defined by where he lives.

Identity construction is a complex area and it is probable that some elements of current identity are formed from past experience of place. The responses from Respondents Nos. 2 and 29 highlight a weaker attachment to current place but a possible wish to engage in what Devine Wright & Howes (2010) call 'place protective behaviour' for a former place or a place which is enjoyed without residence.

How Activists See Themselves

In addition to questions relating to place, the 17 activists who were interviewed in the main survey were asked how they saw themselves and how they thought others saw them. The results are shown in Figure 34 below

Figure 34: Word Cloud - Activists Self Descriptions

Several activists saw themselves as 'Old' and with a 'Sense of humour' and some identified themselves in terms of their identity as 'Wives' or 'Farmers'. Interestingly, none described themselves in terms of being 'activists', 'protestors', 'environmentalists', 'wind warriors' or the like.

In terms of how others saw them, some activists used words that did signpost their involvement in anti-wind energy activity and 'windfarms' were specifically mentioned by three of the activists. The results are shown in Figure 35 below

Figure 35: Word Cloud - How activists think others will remember them.

Extending this approach to the epitaphs interviewees would like to be inscribed on their tombstones, most of those who participated did not refer to their activism, however three did. These individuals indicated that they would like to be remembered as follows:

'A fighter to the end'

'She wouldn't give up'

'Country Guardian'

..suggesting that for these individuals, anti-wind activism does in some way define them.

Collective Identities

Identity is also created through membership of groups and to explore the extent to which anti-wind activists belonged to particular collectives, interviewees were asked to self-identify their social class and comment on their engagement with the wider environmental movement.

Social Class

Before the results of fieldwork are discussed, it is perhaps necessary to reflect on some of the criticism of class analysis in the context of social movements as such analysis is not without its critics.

Firstly, there is the perspective that 'class is dead'.. or dying and is no longer useful as an analytical category. This thesis was briefly introduced in **Chapter 3** and the view that has been taken is that the framework of social class remains valid, subject to recognising that class analysis has evolved and needs to be complimented with other forms of explanation.

Secondly, in many social movements it has been shown that certain classes – mainly the middle class, are over represented (Offe 1985, Eder 1985, Della Porta & Diani 2006). A consequence of the involvement of a particular class in social movement activism is that its membership brings with it the social, economic and cultural resources that such a group possesses – expanding or narrowing the political opportunities that may be present within the

sphere of contention. In this context any analysis of a movement which highlights middle class participation runs the risk of being criticised for not discovering anything 'new' or 'different' compared with other social movements. In consideration of this point, this thesis takes the view that such an observation does not invalidate research findings which highlight the involvement of a particular class in activism, but rather that such findings could tend to confirm rather than refute the social movement status of the activism itself.

With the qualification that class analysis is complex in contemporary movements, that some groups are over represented in movement participation and that additional layers of analyses are required in addition to class, it is possible to consider the results obtained from interviews with anti-wind activists.

The profile of those activists interviewed was generally of older, male, white, retired professional, straight, well-educated, politically inactive home owners who did not have a disability. When asked whether they considered themselves to be working, middle or upper class and why, 14 out of 17 interviewees said they were middle class, one said working / middle and two (a former teacher and a farmer) said they were working class. The middle class self-assessment for most of the interviewees was linked to their educational and professional attainment. Middle class status also came from a trajectory where parents were born into the working class but interview participants had improved their situation – or as one interviewee characterised it, as '..Proletarians who have done good' (Interview with Scottish Anti-Wind Activist 19th November 2011). Despite this self-classification, 27% of those who provided financial information had household incomes of £20,000 or less which is well within mean household income (estimated at £26,884 in 2009/10) and 45% had incomes of under £30,000 so class status based on self-classification appears to have a wider basis and is not based solely on current income. This is consistent with Bourdieu's (1984) view of social class which encompasses the possession and deployment of social, economic and cultural capital.

Cultural Capital

According to Bourdieu (1984), cultural practices and preferences act as a 'social orientation' (1984, 267) guiding individuals within social structures / classes, giving them a sense of their place and reinforcing hierarchies. Cultural practices and preferences (or tastes) have a value and are a form of capital (cultural capital) which can be deployed alongside social and economic capital. In common with other forms of capital, cultural capital can be acquired, enhanced or eroded.

Bourdieu specifically identifies certain activities with the 'appropriation of nature' these include hill walking / rambling, riding, hunting and gardening (1984, 281). Walking and hiking in particular have received considerable attention in the context of consumption of rural landscapes and the identification of participants as members of an exclusive club through the medium of clothing and equipment (Chapman 1993; Michael 2000). Horse riding has also been described as an 'elite' pastime by Joppke (1986) and is seen as an activity supporting Bourdieu's 'petit bourgeois' classification (Silva 2006, 1181).

If there is a class dimension to anti-wind activism and a hierarchical 'sense of place' is acquired or enhanced through consumption of rural landscape and environment via the activities above, we may expect to see evidence of these in activists' leisure time. To explore this dimension of activism, interviewees were asked what they did in their spare time and also of what clubs or associations they were members.

Walking / hill walking was mentioned by four out of seventeen activists (23.5%) as a leisure time activity and horse riding was mentioned by one activist. 'Enjoying the outdoors' was mentioned by one activist and two activists respectively referred 'looking after a nature reserve' and 'collecting fossils' which exposed them to the countryside. In total eight out of seventeen activists (47%) cited activities that could be linked to consumption of rural landscape and that would involve clothing, equipment and practices that would set them apart from others. Gardening was also mentioned by

seven out of seventeen activists (41%) which speaks to the conservation and preservation of nature and 'enjoyment of the sights and sounds of the natural landscape' (Hawkins, *et al.*, 2013, 118).

The question of possible erosion of the cultural capital of some anti-wind activists as outlined in **Chapter 3** should perhaps receive further attention at this point. If, as Bourdieu argues, activities such as horse riding and hill walking are cultural practices associated with the creation and maintenance of class relations, the introduction of wind energy into rural settings has the potential to severely limit the enjoyment of county pursuits thus eroding the cultural capital of those involved.

The impact of wind turbines on horse-riding is discussed in the 2012 British Horse Society (BHS) survey of members (BHS 2012) which concluded that:

> '... Any turbine near a route used by horses has the potential to increase the accident risk unacceptably and to significantly reduce the opportunities for safe routes. The lack of off-road routes means that most riders are forced to use roads at least part of the time, despite the dangers from motor traffic. Wind turbines close to roads adds to the risk of accidents, both for horse and rider and for other road users. While some equestrians will continue to use routes near turbines in safety, others will avoid the area. This discriminates against those without the capacity to accept the turbines... (2012, 93)

In addition to neutral and moderately positive comments by BHS members, the survey contained a significant number of quotations from riders who indicated that their enjoyment of the rural landscape would be or had been affected by turbines – to the extent that some bridleways were deliberately avoided or the activity of riding itself was threatened:

> 'I live in an area due to potentially have three wind farms built; it is a rural area wonderful for off-road riding which looks as though we will not be able to ride any longer.'   (2012, 47)

> 'I do not and will not ride near the wind turbines – I can only now ride in one direction away from them and I do not enjoy riding at home at all now; I take my horse to a livery place in the summer time so I can enjoy my riding and there is better off- and on-road riding; she is not bothered by riding on roads at all except here, since the turbines were erected.'   (2012, 54)

'Already I can no longer hack where the latest wind farm has been built; there are numerous planning applications in the pipeline including one at a cross-country training ground; I will not be able to use this facility if planning goes ahead.'   (2012, 57)

'I am considering moving away from this area if the other wind farms get planning permission as it will not be a horse-friendly environment.'
(2012, 75)

'Haven't had any experience with horses and wind turbines yet – not looking forward to having to try and accustom my horses, or give up hacking altogether as there is nowhere else to ride locally.'   (2012, 81)

Riding was also highlighted in the context of membership of clubs and associations with one activist being a member of the BHS (see Figure 36).

In similar vein, for some activists turbines are seen as interfering with the enjoyment of hill walking / hiking / rambling / climbing. As one activist observed:

'..I think I have done my fair share of walking and know these hills backwards and that is one of my big reasons for wishing to preserve them from the incursions of these wind turbines.'

Biographical Interview, Interviewee No. 14 (lines 127-29)

Although the extent of perceived adverse impact is a hotly contested area in wind energy planning applications (especially tourism impact), in an economic analysis, Moran & Sherrington (2007) identified the welfare gain or loss associated with wind energy deployment. The study considered the impact of the Clyde windfarm in Scotland and included a measure of welfare loss based on the willingness of visitors to pay to enjoy the landscape without the presence of turbines (2007, 2818). The significance of this study is not in its overall conclusions (that wind energy results in an overall social welfare gain because of carbon savings etc.), but in its identification and measurement of the welfare loss for some visitors where wind energy is deployed. Following Bourdieu, these losses – of the ability to enjoy the environment where turbines are proposed or deployed can be understood

not just in terms of loss of amenity but also as contributing to the erosion of cultural capital.

The interviews would seem to confirm that there is at least some evidence that the expansion of industrial scale wind energy is exerting an environmental burden on some of the middle class who are now speaking for themselves. Arguably this is precisely, Enzesberger's (1974) assessment when he considered the environmental movement as a middle class reaction to the expansion of capitalism into otherwise unexploited areas of the natural world, suggesting that

> 'The ecological movement has only come into being since the districts which the bourgeoisie inhabit and their living conditions have been exposed to those environmental burdens that industrialization brings with it.'   (1974, 10)

However, it is apparent that some members of this rural middle class are indigenous or long-time residents rather than being simply recent in migrants as implied in the existing literature.

While there is some evidence of rural middle class involvement in anti-wind energy campaigns, it would be too strong a claim to make to suggest that all members of the middle class (rural or otherwise) oppose wind energy. What is clear however from the interviews undertaken with the activists who participated in this research is that there is a class dimension to their opposition. Social class may not be a single explanatory variable in predicting opposition to wind energy; however the research indicates that there is an interesting association which should be considered in developing any conceptual model of anti-wind activism.

Sceptics or Environmentalists?

As outlined in **Chapters 2 & 3**, Warren, *et al.*, (2005) suggest that some anti-wind activists come from within the environmental movement, characterising the wind energy debate as 'green on green' conflict between fellow environmentalists. Similarly, Price (2007) suggests that anti-wind activists see themselves as 'greener' than other environmentalists.   To

explore this aspect, interviewees were asked about their environmental attitudes, behaviours and associations.

Twelve of the seventeen interviewees (70.6%) described themselves as environmentally active or very environmentally active and gave examples of practical environmental behaviours including recycling, energy conservation, gardening, possession of renewable energy (solar) and heating (wood) systems and volunteer work with local wildlife trusts.

Interviewees were also asked about their attitude to nuclear power and all were broadly supportive although seven out of seventeen (41.2%) were 'reluctantly' supportive rather than enthusiastic. To some observers, the environmentally active self-assessment and a willingness to accept nuclear energy presents a conflict, however activists generally considered 'protecting the environment' as limiting but not preventing the exploitation of natural resources.

> '...the environment is for the benefit of humans and we ought to protect it from the perspective of self-interest, if nothing else here. But I don't believe the environment is more important. That the humans ought to let us say, go without. Some of the more extreme environmentalists say, you know, we ought to give up on all coal as an example. Get rid of all these fossil fuels here, well, effectively what they are saying is that they want us to go back to the 1800s.
>
> So, I think that is not true environmentalism - that is zealotry - that is stupid. Theoretically, protecting the planet is more important than protecting humans, who cares about the humans that they have to go through some extreme adversity or poverty or sacrifice or sickness or whatever, who cares, it is more important to protect humans, I don't think that that is true environmentalism, I think that that is extreme zealotry.'

<div align="center">Interview with US Anti-Wind Activist 7th November 2012</div>

> 'Within reason, to be able to pass on to the next generation, a living environment, countryside and water quality which is no worse than that that I enjoy. To hand on a cleanly tilled field if you will.'

<div align="center">Interview with English Anti-Wind Activist 29th October 2011</div>

These responses are indicative of a broadly conservationist attitude to environmentalism, something which is further evidenced through an analysis of activists membership of environmental organisations.

Environmental Organisation Membership Networks

Drawing on Rootes' (2007) study of Nature Protection Organisations (NPOs), membership of environmental organisations was explored by asking activists who participated in both pilot and main surveys whether they were involved in any clubs, societies or other organisations. Both pilot and main survey questionnaires sought information on this subject and it was considered appropriate to include the 4 pilot interview responses (Interviewees Nos. 1-4) in the network analysis as the results were both valid and available.

The combined results are shown in Figure 36. Interviewees are shown as red nodes within the network and the organisations they are or have been members of are shown as blue squares.

Membership of *The National Trust, The Campaign to Protect Rural England, The Campaign to Protect Rural Wales* and local Wildlife Trusts appears to be a significant common dimension among the UK based activists who were interviewed. This, along with membership of other NPOs such as *The Snowdonia Society, The John Muir Trust, The Ramblers Association, Europa Nostra* and *The Campaign for National Parks*, would appear to evidence the assertion that there is a degree of collective support for nature / environment conservation organisations amongst UK objectors.

For the two European activists, shown as isolates (i.e. outside the main network), membership of conservation organisations such as *Friends of Venner Castle, Fédération Patrimoine Environnement; Ligue Urbaine et Rurale* and the *Société pour la Protection des Paysages et de L'esthétique de la France,* appears to mirror UK activists interest in nature landscape and heritage conservation.
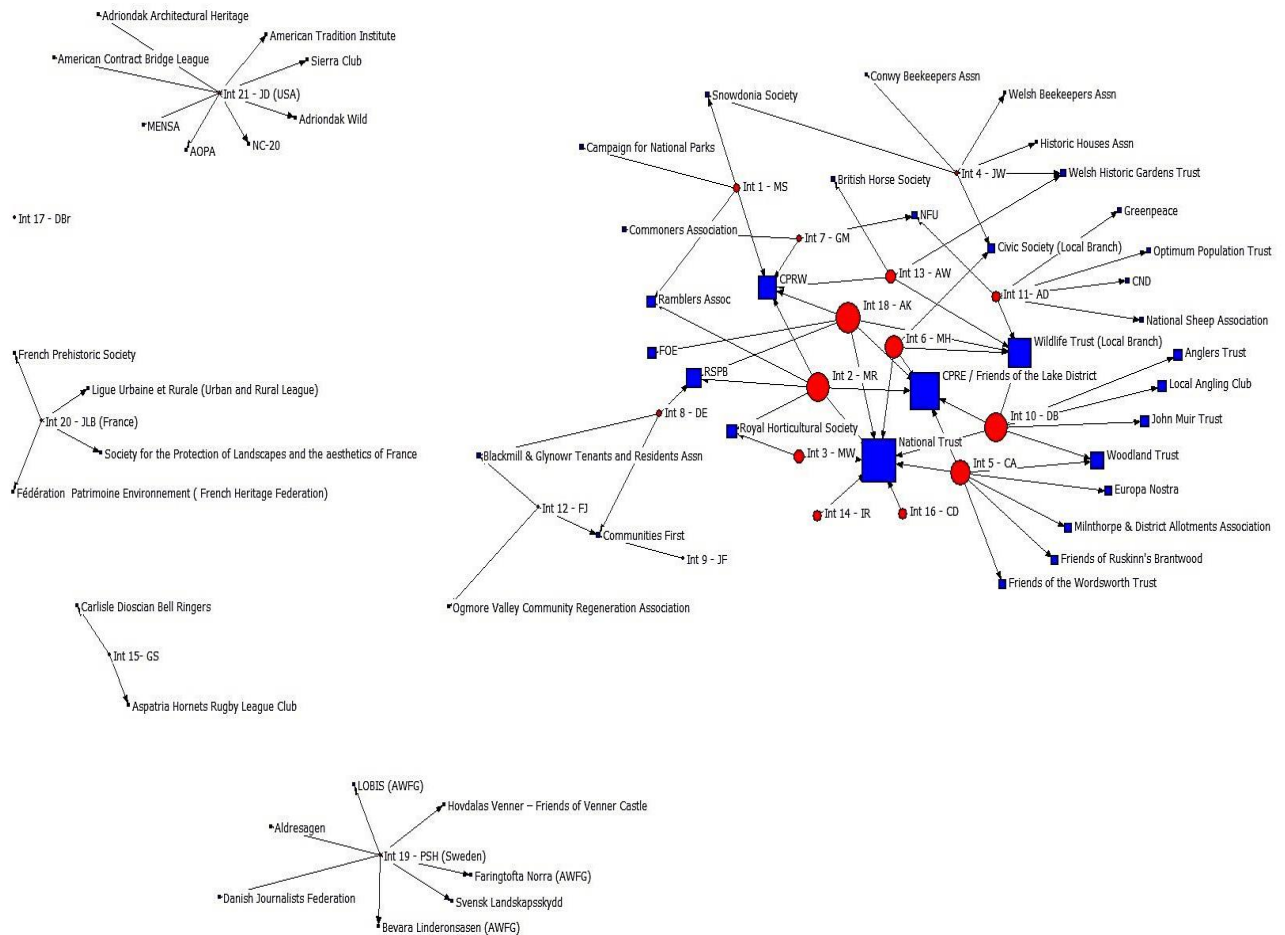
Figure 36: Anti-Wind Activist Membership of Organisations & Associations (2011)

Taking activists self-assessment of their environmental activity, behaviours and membership of organisations, the combined results suggest that a number of anti-wind activists share a common identity as conservationists. This defines their environmentalism is a particular way – one which focusses on responsible / wise use of natural resources – a middle way between nature preservation and the deep ecology of radical environmentalists such as Dave Foreman and *Earth First*.

Jessup's work on environmental values (Jessup 2010) would appear to support this view through the process of mapping discourse coalitions for supporters and opponents within the wind energy debate. Opponents to wind energy appear to share landscape, countryside and heritage protection values (2010, Table 3) while wind energy advocates share a common ecocentric and deontological discourse.

Identity as a Basis for Opposition

As highlighted earlier, Identity construction is a complex area and identities can be both individual and collective. Melucci (1995, 50) refers to it as a 'system of relations and representations' and collective identity as a 'field containing a system of vectors in tension'.

Within this field, the research would seem to indicate that social class, attachment to place and membership of / support for conservation organisations are important vectors in the field of collective identity.

In relation to social class, the proposition outlined in **Chapter 3** that the middle class have located in rural areas to escape the externalities of industrialisation is partially supported by the results of the fieldwork. Certainly some interviewees have moved to their current location to enjoy a more rural lifestyle, and this would lend support to the arguments made by Woods (2003a, 312) that 'identity and material interest are collapsed together as a motivating force for political action'. However the self-categorisation of some activists as working class and existence of anti-wind activists among the indigenous population would suggest a more sophisticated explanation is needed.

For most of the activists, attachment to place is a significant component of personal identity. The modal scores on the place attachment instrument statements that '*living here says a lot about who I am*' and '*this place feels part of me*' ranged between 4 and 5 for the main and pilot groups respectively.

The expansion of industrial capital in the form of large-scale wind energy affects not just in migrants but also the indigenous and substantially indigenous population. Such expansion changes the nature of the places occupied by these populations and for some, expansion can represent a threat to place and to the identity constructed through connection with it. This became apparent when interviewing activists. For example Interviewee No. 11 recounted that:

'..everything was fine and we still were living this lovely, happy little life until one day in 1992/93 when MANWEB Generation Holdings turned up here unannounced and said that they didn't know we were here but now they had come out here, they were planning on building a wind-farm.'

Similarly, Interviewee No. 19 relocated to a rural area after his career was prematurely ended and started to construct a new identity. This transition was interrupted when his new environment was threatened with development:

'...I am going to change my life and try new things. I am going to grow green vegetables myself and try really to get a new life and forget about this.. And then after three years, as I called it, the SS of industry started to attack the area. They wanted to build so many wind turbines it is hard to believe and here it started.'

The significance of place, its importance in relation to identity and how these dimensions are relevant to some anti-wind activists is perhaps best described in the words of Interviewee No. 14.

'But anyway going back to the question of Mynydd y Gwair, it is just something that has been intertwined in my life from childhood right up to today, you know, and I am 68 years of age, so we can say for the past 60 plus years, from the time we came back from England to up to the present day and with my children going up there, Mynydd y Gwair does feature prominently, it is such a big area, such a nice area, and safe area to walk and play and there is quite a bit of wild life up there, people don't realise that in terms of Sky Larks and if you turn stones over you will find little toads and lizards and quite a lot of small flowers and there is such a mix of grasses there as well and it is grazed quite tidily and it is free of a lot of bracken; so it is really part of my life really.

I just don't want to give it away to a multi-national company whose only interest in it is reaping the subsidies on renewable energy, it is not going to save the planet from any climate change or anything, it will just enrich the Duke of Beaufort and Npower and destroy what has been there since the Ice-age and geological time'

For some activists therefore, wind energy development appears to adversely impact identity through its challenge to place and through the erosion of the cultural capital which underpins and reinforces class relations. These are complex and interwoven aspects but the research indicates that they have significance and should be considered when conceptualising wind energy opposition.

Anti-Wind Activist Ideology

Klandermans takes a relaxed view of ideology in his model, seeing it as part of the general search for meaning and the expression of views. This allows ideology to be seen as *part of* an integrated pattern of thoughts and beliefs (Lowenstein 1953, 691) but not necessarily 'life guiding'.

To explore such views, interviewees were asked about their ethical and moral viewpoints, political preferences together with their attitude to nature.

Ethics & Morals

Activists were asked how important ethical considerations were when making purchasing behaviours. Twelve out of seventeen interviewees indicated that ethical considerations were important or very important when making purchasing decisions. Examples of ethical purchasing included:

- avoiding animal cruelty free products.
- not purchasing products where child labour was used in their production.
- buying organic products.
- buying free range meat and eggs.
- not purchasing products where third wold countries were exploited in their production.
- not investing in companies producing arms.
- purchasing locally produced goods.
- avoiding fur products.
- buying charity Christmas cards.

In relation to non-purchasing matters (such as giving time to support ethical causes), interviewees gave examples of fundraising in support of local churches and giving to charities. More significantly, five out of seventeen (29.4%) cited their anti-wind energy protest activities as examples of their own ethical conduct.

When asked '*What is the most important moral issue today*?' activists gave a range of responses including

- stopping people killing each other.
- helping the third world (through a variety of means).
- household income and alleviating poverty.
- increasing tolerance and respect.
- improving world governance.
- population control.
- increasing altruism and reducing selfishness.
- reducing consumption to enable greater equality of resources.

No one area gained common support although the themes of 'tolerance' and 'respect' were stronger than others.

Activists were also asked what their opinion was of nuclear weapons and eight out of seventeen (47.05%) were clearly opposed. Of the remaining nine interviewees only one was positively in favour, the majority signalling reluctant acceptance and a wish to see numbers reduced – multilaterally.

Views of Nature

Activists were asked what words they would use to describe the natural landscape and their responses are shown in Figure 37 below.

Words such as 'natural', 'beautiful', 'unspoiled' were frequently used as were phrases such as 'free of manmade..', 'few manmade..' or 'not manmade' in the context of structures or objects. A similar pattern emerged when activists were asked to describe what they understood by the words 'nature' and 'natural. The most common descriptions were involved 'lack of interference by man' and an associated absence of manmade objects.

Figure 37: Word Cloud - Natural Landscape Descriptors

Notwithstanding their views of 'untouched nature', activists did acknowledge the impact of man on the environment. When asked what they would say to the statement '*Mankind has always changed the natural landscape*', all interviewees agreed – with some caveats, such as the limited impact in pre-history compared with the increased impact during the modern era and the observation that the natural landscape is also changed by natural forces.

A number of activists also distinguished between positive and negative change and suggested a limit to the latter:

> '... it is part of the natural drive of man, right. If he is going to grow food he has to change the landscape. If he has to divert water resources, he has to change the landscape. If he is going to build roads, houses, airports and power stations he has to change the landscape, right.

> But there is no reason why he shouldn't do it in a sensitive way which is in accord with other people's needs, to do with their sense of well-being and their sense of place and belonging. No reason why those two things shouldn't proceed in tandem.'

<div align="right">Interview with English Anti-Wind Activist 22nd October 2011</div>

> 'I am not sure that we should allow man-kind to continue to make faster and faster changes of the landscape because soon we will not have natural landscapes.'

<div align="right">Interview with Danish Anti-Wind Activist 23rd June 2012</div>

These views are consistent with the conservationist focus referred to earlier in the chapter.

Ideology as a Basis for Opposition

Anti-wind activists interviewed as part of this research accepted that man has impacted the environment from prehistory, but thought that there should be limits on such impacts. These sentiments are aligned with those described by Leo Marx (Marx 1964, 12-13) when he cites Nathaniel Hawthorne's *The Legend of Sleepy Hollow* in which the hollow is described as being half filled with a 'thriving field of Indian Corn' – an acceptable manmade intervention into 'the lap of bounteous Nature.' This is contrasted later with the whistle of a locomotive engine which 'brings the noisy world into the midst of our slumberous place.' In support of this distinction, Marx goes on to cite Emerson's journal (1964, 17) in which the whistle of the railway engine is a precursor to the development of wilderness and also references Thoreau's image of the railroad on the shore of *Walden Pond* (1964, 250-251).

Thayer & Freeman (1987); Gipe (1995) and Brittan (2001) all appear to be correct to highlight the issue of the relationship between technology and the countryside as anti-wind activists do appear to see this as an ideological battleground. Sharing the 'deeply entrenched landscape aesthetic' referred to by Brittan (2001, 170) - the 'pastoral ideal' to which Leo Marx refers throughout *The Machine in the Garden*, anti-wind activists 'regard... hillscapes as landscape treasures for everyone to share and enjoy' (Little 2003, Ch.12). In line with the findings of Smith & Klick (2007), ideology would therefore seem to be a significant factor in anti-wind activism and the debate regarding the deployment of renewable technology will not advance unless this is appreciated and accommodated within what is currently a largely technical discourse.

Anti-Wind Instrumental Reasoning

Klandermans defines instrumental motivations for movement participation as 'an attempt to influence the social and political environment' (2004, 361). Such attempts are grounded in resource mobilization and political process theories of social movements and are ultimately based on the idea of rational

choice (2004, 361). Individuals, feeling aggrieved, weigh the costs and potential benefits of engaging in actions designed to change their environment. If benefits outweigh costs individuals will engage in activism (in one form or another). Central to this course of action is the identification of grievances and in this instance, the grievances relate to the externalities of wind energy development.

Actual Experience of Wind Energy

As reported in **Chapter 2** there is an existing literature which considers self-interest to be a rational and potentially justifiable response to threats to personal interests (Freudenburg & Pastor 1992; Glickel 2004). In the case of wind energy, such threats are frequently considered by opponents to arise in the form of house price effects, noise nuisance and other adverse environmental impacts.

It seemed to be appropriate therefore to explore activists' actual experience of wind energy as a means of unpicking this aspect so interviewees were asked about their experience of wind energy. Activists were first asked whether there was a wind energy development near their homes. The question was asked with three different definitions of 'near' – within 3km, within 5 km and within 10km and the results are shown in Table 9 below:

Table 9: Proximity of Wind Energy Developments

Distance	Yes	No
Within 3 km	3	14
Within 5 km	3 +1 'possibly'	13
Within 10 km	7	11

Visual Intrusion

Only 7 out of 17 interviewees could actually see a wind turbine from their home and 9 out of 17 could see turbines from their favourite place in their community (which was not necessarily their home). None of the interviewees were personally experiencing shadow flicker from the turbines on wind energy developments that were visible. This suggests that the motive for

some objectors was not based on **actual** visual intrusion to views that might affect the consumption of the flow of benefits derived from their homes.

Noise Nuisance

A second territory in which opponents of wind energy fight their campaigns is that of noise nuisance. Campaigners such as Jane Davis (See **Chapter 8**) have asserted that their homes are uninhabitable due to the noise caused by turbines and noise issues feature strongly in local public enquiries. Despite this, only one of the participants could 'occasionally' hear a wind turbine from their home and so for the activists who took part in the fieldwork, this was not a strong driver for objections.

House Prices

One of the most frequently advanced explanations for anti-wind energy opposition is that objectors fear that the value of their house will be adversely affected (Khatri / RICS (2004); Dent & Sims / RICS (2007); Sims, Dent & Oskrochi (2008)). To explore the significance of this issue, participants were asked '*If there is a windfarm near to your home, do you believe that the value of your home has been affected by it and if so how?*'

Although 16 out of 17 participants were home owners, only 8 had any form of response to this question (for nine of the interviewees the question was not relevant as no wind turbines were perceived to be nearby). Of the 8 respondents two considered there to be a marginal effect but the majority either indicated that there was no effect or that the effect could not be proven – for a variety of reasons.

Potential Experience of Wind Energy

The literature reviewed in **Chapter 2** distinguishes between attitudes prior to a wind energy development taking place and attitudes post development (Wolsink 1989, Exeter Enterprises 1993; Wolsink 1994, Walker 1995; Gipe 1995; Bell, Gray & Haggett 2005). Accordingly it is appropriate to consider not just actual experience, but also potential experience (from the activists' perspective).

Potential Visual Intrusion

Although actual direct visual intrusion from turbines was not experienced by ten out of the seventeen interviewees and was not highlighted as a reason for opposition, for some, the **threat** of such visual intrusion was present. Six interviewees indicated that wind energy developments were proposed locally and that if built, they would be visible from their home or favourite place in the community. Despite this threat being present for some activists it was not directly linked by them to the consumption of the flow of benefits from their homes – but was described in broader terms. (i.e. activists did not specifically indicate that their homes would be devalued or would be less pleasant as a direct consequence of the proposed development, but rather that the general environment in which their home and community was situated would be less pleasant). Although general location can influence the price of homes (see for example Luttik 2000) and thereby the flow of financial benefits from owner occupation, the interviewees seemed to be describing the effects on 'place' rather than property:

> 'You now see the turbines not the actual mountain they are on, if that makes any sense, it defines that place ... if they put turbines on Mynydd y Gwair here it would cease to be Felindre it would be, oh you know that place off junction 46 with the turbines..'
>
> <u>Interview with Welsh Anti-Wind Activist 4th June 2011</u>

> 'When I leave this place and have to look at that wind farm over there every time and as my friend who was on the phone a minute ago said, it will never heal, it is like constantly picking at a scab. Because it is constantly there. You can't get used to it.'
>
> <u>Interview with Chair of Welsh AWEG 23rd July 2011</u>

In relation to the instrumental basis for wind energy opposition, threatened visual impact on property appeared to be less significant than the wider impact on 'place' as described earlier.

Potential Noise Nuisance

Surprisingly, the potential for noise nuisance was not articulated by the interviewees during interviews. However the representations made by a

number of activists in response to proposed developments in mid and North Wales clearly identified concerns regarding potential noise impacts.[69]

Potential House Price Effects

In relation to house prices, activists distinguished between existing and proposed developments. In the pilot study one activist based in North Wales observed:

> 'It is not so much the windfarm that is here – it's the effect on the property from other applications. I am convinced we have planning blight here... I have sold this property twice – at the same value – subject to contract but in each case the sale fell through due to windfarm proposals – not Tir Mostyn – this was not a problem.'

<div align="right">Interview with English Anti-Wind Activist 9th September 2010</div>

The same view was expressed by an activist in Scotland...

> '.. two neighbours have tried to sell their house for several years and have failed although it is not entirely down to the windfarm. I will re phrase that, the windfarm may be a marginal consideration. I am trying to be strictly accurate because the irony is that an un-built consented application does more damage than a built one.'

<div align="right">Interview with Scottish Anti-Wind Activist 19th November 2011</div>

and by another activist in Mid Wales

> 'Oh it's definitely affected by it, definitely. We had it valued and it has a far lower value than it would otherwise and it has planning blight. So it is not the windfarm it's the application in our case. Our farm has planning blight.'

<div align="right">Interview with Chair of Welsh AWEG 23rd July 2011</div>

For some objectors therefore, potential house price effects present an instrumental reason for opposition as the threat of wind turbines is seen as having the effect of preventing sales - two activists referring to 'blight'. This is an aspect which is not addressed in the RICS studies which measure price

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[69] See for example http://infrastructure.planningportal.gov.uk/wp-content/ipc/uploads/projects/EN010013/2.%20Post-Submission/Representations/Comments/Other%20Comments/Comments%20on%20ExA's%20draft%20DCO%20-%20Michael%20Williams.pdf [Online] (Accessed 20/05/2014).

effects based on market transactions. If properties cannot be sold, the data set will not contain relevant price information to review.

Other Instrumental Reasons

Although not explicitly discussed during interviews, some of the activists who participated in the fieldwork also expressed additional instrumental reasons for opposing wind energy during planning inquiries which were observed during the informal stage of the research. In particular one activist who was interviewed in the pilot study was particularly concerned at the risk to private water supplies from the proposed Clocaenog Wind Energy Development in North Wales (see footnote 69 above).

Instrumental Reasoning as a Basis for Opposition

The information supplied by anti-wind activists presents a combination of actual and perceived adverse impacts arising from wind energy developments. These have been described as instrumental reasons for opposition as they tend to be practical, tangible effects that can be identified and articulated as part of local and wider campaigns. These adverse effects are largely environmental in nature and are typically assessed as part of the planning process through Environmental Impact Assessment (see latter part of **Chapter 1**). To the extent that the potential for adverse environmental impact is recognised in a formal assessment procedure (however partial or independent that process might be), activists can arguably be demonstrating rational self-interest when commenting on specific proposed developments or when articulating collective grievances regarding perceived or actual environmental impacts.

However, visual intrusion is a complex issue. In some instances activists believe (and periodically supply evidence) that wind energy developments have a direct impact on property values or saleability and in such instances visual intrusion can be an instrumental motivator. Alternatively, in other instances it appears that activists view proposed developments as having an indirect impact on wider localities or 'places.' This second indirect effect was discussed in the context of both identity and ideology earlier in the chapter.

Activist Biographical Trajectories

Chapter 4 outlined the process of analysing autobiographical narrations of life histories and described the activists who agreed to participate in this phase of the research.

Interviews were recorded on a digital voice recorder and were then transcribed. Each participant was provided with a copy of the transcription which was then validated for accuracy by the interviewee. Once this had been completed and transcripts had been signed off the interview material was then analysed broadly using Schütze's method.

The reference to 'broadly' should be elaborated here. Schütze (2007a, 16) advocates a three stage approach in analysing autobiographical narratives. These are (1) text sort analysis, (2) structural description and (3) analytical abstraction. In the second INVITE module on *'How to Analyse Autobiographical Narrative Interviews',* Schütze describes these stages in detail. A similar description of the stages in biographical interview analysis is provided by Rosenthal (1993) who outlines a process involving (1) analysis of the biographical data (2) thematic field analysis (reconstruction of the life story), (3) reconstruction of the life history, (4) micro-analysis of individual text segments and (5) contrastive comparison of life history and life story.

Looking at the detail outlined by both authors and the products of their analysis of the Bernd Funke and Hans Lohs interviews, I came to the view that notwithstanding the loss of theoretical purity, a shortened version of the analysis would be necessary if I was to avoid the risk of producing a second PhD thesis on these interviews alone.

The stages I adopted were therefore (1) meta-analysis of the biographical data to identify key themes within the biographical gestalt; (2) reconstruction of the life story through a chronology; (3) identification of biographical process structures and (4) generation of a biographical whole. I omitted a detailed analysis of the process of production of the biographical material (Schütze 2007a, 17) and the analysis of sequential structures – at least in terms of breaking down micro analysis of text segments and

categorising these as 'Description', 'Narration' and 'Argumentation'. This resulted in an analytical template which is shown in Figure 38 below

Life Chronology	Topics in the biographical gestalt	Biographical Process Structure			
		Institutional Expectation Patterns	Biographical Action Scheme	Trajectories of Suffering	Creative Metamorphosis of biographical identity

Figure 38: Biographical Narrative Interview Analysis Framework

The text of each biographical interview was analysed using the above template and thereafter a biographical whole was created which began with a chronology, identified and commented on key topics within the biographical gestalt and then interpreted the biographical process structure and presented the results in similar format to that adopted by Karamelska & Geiselmann (2010). The results are shown in **Appendices D4-7**.

Case Analysis

A detailed case comparison of the four biographical interviews is beyond the scope of this part of the chapter, however a high level analysis is possible and this is described below. In the first instance, individual biographies are linked to the place attachment instrument results. Subsequently, comments are made on commonalities across the four cases.

Interviewee No. 6

Interviewee No. 6 had a place attachment score of 4.63 suggesting that he was strongly attached to his current place of residence, where he has lived for 16 years. According to the answers given in the place attachment instrument, Interviewee No. 6 strongly agreed with the statements that he moved to his current address to *improve his home environment*, to *get some peace and quiet* and *because of the scenery*. These reasons resonate with the biographical interview content which recount that (of Interviewee 6's wife):

> '..she has always wanted a view, a house with a view. We had one in Swansea, we lived at a place called Killay, which is quite high up on a hill and you had a lovely view out over the Swansea estuary. It was a new estate and quite quickly the view was closed off and she had

always wanted a house with a view and we started to think about retiring, the idea was to retire when I was 58 or 60. And so we came up here because we had always holidayed in the Lake District and knew it very well.' (Lines 560-567)

Interviewee No. 6 had come to know and enjoy the Lake District through holidays and his decision to relocate to the area to provide a home with a view for his wife marked the culmination of this journey to improve his quality of life. His decision to become involved in opposition to windfarms can be understood as a conflict of institutional expectations - i.e. a threat to enjoyment of a home with a view as a reward for academic success and hard work.

The biographical interview and place attachment instrument results for Interviewee No. 6, when taken together would appear to be supportive of a view that anti-wind activism can be underpinned by ideological (nature / landscape conservation and a view of the objectivity of science) and identity (middle class success - owning a home with a view as a reward for successful participation in the labour market) dimensions. The potential threat to landscape (ideology) and class rewards (identity) arising from proposed wind developments locally (Lines 410-412) initiated activism which has in itself provided a vehicle to utilise professional skills as a scientist and consultant to develop a new identity as a prominent anti-wind activist.

Interviewee No. 11

Interviewee No. 11 had a place attachment score of 3.93 suggesting that she had a positive (approaching strong) degree of attachment to her current place of residence, where she has lived for 27 years. According to the answers given in the place attachment instrument, Interviewee No. 11 agreed with the statement that she moved to her current address to improve her home environment but the statements relating to *getting some peace and quiet* and *because of the scenery* were not supported suggesting alternative reasons were more important. This was borne out in the biographical interview where the process of moving to the farm where Interviewee No. 11 lives is described at lines 34-39:

'Then I met my husband and he was a farm bailiff for Lord Hooson ….and we lived on the farm there and then decided we really wanted a farm of our own. …We got married in 1981 and bought this farm in 1983 but it was the beginning of 1984 before we could move here because there was no road on to the place. So we moved here then and really changed the way we lived, for one of the reasons because of economics. … You know, we weren't going have all the equipment, we weren't going to have the flashy new tractors and everything else, we had got to do it with the basics.

So we developed the lifestyle because it was the way we could achieve what we wanted to achieve. As you see, we are two miles, through five gates to the end of the lane, so if we want to throw rubbish away we have got to go two miles, through five gates. It focuses the mind. So we were living what was a really idealistic existence. I was working, we had got a little boy and my husband was working here but I was going out to work to earn money and it was great. We worked terribly, terribly hard but it was this existence of, you know, baking the bread and making the yoghurt and doing all these things. Because actually it meant that we could survive and we could do it.'

(Lines 34-59 edited)

Interviewee No. 11 and her husband, having made the choice to obtain a farm of their own, embraced the associated lifestyle including the hardships of upland farming. The interruption of Interviewee No. 11's career trajectory and the threat to her hard but 'idyllic' lifestyle as a 'dog and stick' farmer (Line 47) culminated in a significant creative metamorphosis of biographical identity with Interviewee No. 11 acquiring considerable knowledge about environmental matters and putting this and her managerial experience to effect in both her work with the *Radnorshire Wildlife Trust* and also as a full time anti-wind energy campaigner.

The biographical interview and place attachment instrument results for Interviewee No. 11, when taken together would appear to be supportive of a view that anti-wind activism has definite identity related dimensions (threat to identity as a farmer / farmers wife and the creation of a new identity as an anti-wind activist). The potential threat to identity arising from proposed wind developments initiated activism which has in itself provided a vehicle to utilise professional skills as a manager and environmental consultant to create a new identity as a prominent anti-wind activist.

Interviewee No. 14 had a place attachment score of 4.52 suggesting that he had a strong positive degree of attachment to his current place of residence, where he has lived for 42 years. According to the answers given in the place attachment instrument, Interviewee No. 14 agreed with the statement that he moved to his current address to improve his home environment but the statements relating to *getting some peace and quiet* and *because of the scenery* were not supported suggesting alternative reasons were more important. Interviewee No. 14 was brought up on a smallholding close by to where he lives now:

> 'It was a very interesting childhood, in that I attended the village school here where I live now; but I lived outside... I have lived nearly all my life since then in this village, but when I say in the village, the first ten years of being here, from the age of six up to 17, so eleven years or thereabouts, I lived on the outskirts of this village in quite a remote small-holding, which my father worked and he also worked in the local colliery as his main employment, the coal mine. And not as a coal miner but as a surface worker and we kept chickens and we had a goat and a few cattle. And it was quite a remote small-holding, it is still there today.
>
> And consequently it was quite remote from having friends and I spent a lot of time on a neighbouring farm, helping the farmer and also of course we were surrounded by the hills and the mountains of which I am so proud now to represent in my later years as a councillor and this is one of the roots really of how I appreciate the upland hills, we used to send our cattle out to graze, summer grazing on the mountain and they would come in during the winter off the hill and all the other farmers locally would do similarly; and they still do to this day. The mountain is a very valuable asset for grazing, so my fondness of the hills actually starts there.'   (Lines 37-54)

For Interviewee No. 14, the dominant process structure relates to the biographical action scheme involved in the development of his political identity. This identity also encompasses a deep rooted connection with the locality in which he currently lives. The biographical interview and place attachment instrument results for Interviewee No. 14, when taken together would again suggest that identity related dimensions (connection to place and role as local politician) are significant aspects of this interviewee's anti-wind activism. The potential threat to identity arising from proposed wind

developments initiated activism which is exercised as both a local politician and as a prominent anti-wind activist.

Interviewee No. 19

Interviewee No. 19 had a place attachment score of 4.74 suggesting that he had a strong positive degree of attachment to his current place of residence, where he has lived for 7.5 years. According to the answers given in the place attachment instrument, Interviewee No. 19 strongly agreed with the statements that he moved to his current address to *improve his home environment*, to *get some peace and quiet* and *because of the scenery*. These reasons resonate with the biographical interview content which recount that Interviewee No. 19 moved to where he now lives after his career as a journalist ended:

> '..I was 61 years and three or four months, this was a very bad time to lose a job and I had been a leader for 30 years, no one would have a man as an old journalist anywhere. So I decided this is the time for me to say that I have had a career, I have had a lot of results, more or less invisible. I have learned and had the happiness to see a journalist life. And I tried to develop and so on, but now it was a way I found this out and said no I am going to change my life and try new things. I am going to grow green vegetables myself and try really to get a new life and forget about this..
>
> And then after three years, as I called it, the SS of industry started to attack the area. They wanted to build so many wind turbines it is hard to believe and here it started.'   (Lines 615-625)

Interviewee No. 19's dominant biographical action scheme – his career, was abruptly ended in 2004. This represented a threat not just to his livelihood but also impacted on his identity. Having accepted the change – and reconciled the end of his career with a new life in the country (a creative metamorphosis), he then experienced a new trajectory with the threat of a wind project locally. A second creative metamorphosis then takes place where Interviewee No. 19 returns to use his journalistic and writing skills to protest against windfarms.

The biographical interview and place attachment instrument results for Interviewee No. 19, when taken together would again suggest that identity

related dimensions (connection to place and profession as a journalist) are significant aspects of this interviewee's anti-wind activism. The potential threat to identity arising from proposed wind developments initiated activism which has in itself provided a vehicle to utilise professional skills as a writer and journalist and create a new identity as a prominent anti-wind activist.

Case Comparisons

The four activists who participated in biographical interviews were selected randomly from the wider group of activists who took part in the research. Other than their current anti-wind activism, there were no immediately obvious areas of shared life history – with two exceptions.

Firstly, all had been drawn into activism because of a potential threat to 'place' but this was experienced differently by each activist. For some, the threat was to the immediate locality – within hundreds of metres, for others the threat was to a wider locality – the general area.

Secondly, all had been actively involved in politics or political activity to one extent or another. Two were active in local politics as Councillors prior to their involvement in anti-wind activism, one sought to become involved in local politics during her period as an activist and one had spent a career as a journalist researching, writing and campaigning on politically sensitive issues. Two of those interviewed had also been involved in wider non-institutional protests and activism – environmental (via Friends of the Earth and CND) and in connection with the Welsh language. This would suggest that for some prominent anti-wind activists, there is a history of wider activism.

Chapter Conclusion

So what do we know about the anti-wind activists who took part in this research?

Firstly, they were generally older, male, white, retired professional, straight, well-educated, politically inactive home owners who did not have a disability. There are examples of younger activists in the UK and in other countries (see Figure 11 for example) however the observations gained through the

informal stage of the research tends to support rather than challenge the suggestion that anti-wind activism is the territory of older middle class home owners.

Secondly, opposition is not the exclusive domain of 'incomers' who have relocated to the countryside and are fighting to protect their 'rural idyll'. Activists can be found in the indigenous population of rural areas and in semi urban areas not threatened by wind energy development. The reference to 'incomers' labels anti-wind activists as 'the other' and should be avoided.

Thirdly, anti-wind activists have a generally strong attachment to place (as measured on a 5 point Likert scale using a specific place attachment instrument). This would suggest that for some activists disruption to a personal identity partly constructed through longstanding residence in rural locality is a contributing factor in anti-wind activism. The findings in this thesis would lend support to the existing literature on place attachment in relation to wind energy disputes (Devine-Wright 2005 onwards) however the findings add a layer of sophistication to this explanation as it is apparent that for some prominent activists involved in national campaigns and less active in local campaigns, place attachment is not as strong (e.g. Respondents Nos. 2 & 29) and may not contribute as significantly to the construction of personal identity.

Fourthly, there are other significant motivating factors (Collective Identity, Ideology and Instrumental reasons) which help to explain activism. In respect of collective identity, social class (specifically middle class status) appears to be relevant as is membership of / association with broadly conservationist organisations. In relation to ideology, conservationism as a weak ideology is apparent in the attitudes and behaviours of a significant proportion of anti-wind activists. On this basis, wind energy is not an acceptable manmade intervention into 'the lap of bounteous Nature'.

Finally, for some activists there are clear instrumental reasons for opposing wind energy locally. These are typically reasons addressed in Environmental Impact Assessments (EIAs), however the issue of visual intrusion is a

complex one and it appears to span individual property effects and the wider effect on 'place' which as outlined earlier has both identity and ideological connotations.

Finally, the high level analysis of a small number of prominent activists suggested that threat to place was a common motivator for initial engagement with anti-wind activism. Past experience of politics – at a local level or through 'campaigning' appears to have nurtured this initial experience and developed it into something which for some activists, now defines them.

CHAPTER 8 – MILIEU OR MOVEMENT?

Introduction

This chapter draws on the contents of **Chapter 2**; together with **Chapters 5-7** to address **Research Question No. 5** - (Can anti-wind activism be described as a social movement?).

Although the negative terminology most associated with anti-wind activism has been discussed in **Chapters 2 and 3** (specifically, references to NIMBY) and the importance of carefully considering language has been outlined in **Chapter 4**, it is appropriate to re state why it is necessary to answer this particular research question.

To date, as Petrova (2013) reports, the NIMBY label has been continuously applied to wind energy opposition and despite widespread acceptance that the term is flawed, ongoing academic research on 'NIMBY reactions' has perpetuated its use. NIMBY is a pejorative term which has been used by policymakers (see footnote 29) and developers alike to consciously undermine the opinions and concerns of those most affected by proposed wind energy development. As Barry, Ellis, & Robinson (2006) report, it has become a rhetorical device in renewable energy debates and as Burningham, Barnett & Thrush (2006) conclude, it has not offered an explanation for opposition behaviour.

If we also consider the way in which research has been conducted to date, the 'unreflectively positivist' approach and absence of relational considerations have resulted in analysis at an individual rather than a collective level (see **Chapters 4 and 9**).

These two aspects of the way much research has been conducted have limited the understanding of group identity and collective action as features of anti-wind activism and have contributed to a position where anti-wind activism is frequently portrayed as small scale, short term, isolated and selfish behaviour. As outlined in **Chapter 4**, the significance of taking a Constructionist approach to ontology and an Interpretivist approach to epistemology is that we explicitly acknowledge that such portrayals are

socially constructed rather than being objectively 'true' and if this is the case we need to consider activism through a theoretical lens which challenges these rather negative attributes. This is where social movement theory can offer some assistance. If anti-wind activism is small scale, short term, isolated and selfish behaviour it is unlikely to fit within any of the definitions of a social movement described in **Chapter 3**. Conversely if there is evidence of purposive, collective, coordinated actions designed to effect or resist change.. then perhaps we should describe anti-wind activism in different terms.

As outlined in **Chapter 4**, if alternative terminology is applied we should be aware that this can potentially affect the dynamics of anti-wind activism. By describing collective activism as a 'movement' we change the way in which the activism is perceived. For anti-wind activists, there is little power in 'NIMBY' but as Tarrow (1998) succinctly put it, there is *Power in Movement.*

The chapter begins by looking at how anti-wind activism is described in the academic literature and then proceeds to describe features of collective anti-wind activism, in addition to those already articulated which would support or refute its classification as a movement.

Particular attention is given to the views of activists themselves as to whether their collective action should be described as a movement; to real world connections between activists (in addition to those described in **Chapter 5**) and to the stories told by activists as devices to create and bolster collective identity and popularise group ideology.

Literature Review Revisited

Returning to the extensive literature on opposition to wind energy as outlined in **Chapter 2**, it is notable that there have been few attempts to categorise anti-wind activism as a social movement. Anti-wind activists are often referred to as 'groups', 'opponents', 'campaigners' , 'lobbyists' and the like but few commentators have named the collective phenomenon a 'movement'. There are some exceptions to the above.

Toke (2003, 5) for example casually refers to the 'anti-wind power movement' in the context of opposition to national policy but does not elaborate on this terminology. Szarka (2004b, 323-5) identifies the 'anti-wind movement' as a specific actor in the wind sector having an international extent. However, while identifying structural components within the movement – local associations and national 'umbrella organisations' (which this thesis has described as national coordinating bodies or clearing houses) and tactics used by both, Szarka does not relate the phenomenon to social movement theory nor to definitions or types of movements.

Jobert, *et al.*, (2007) also casually adopt the term 'movement' (2007, 2753) in the context of anti-wind protest in France; Price (2007) refers to a 'formalized anti-wind power movement within the UK' (2007, 9) while Cass & Walker (2009) dismiss the idea that anti-wind opposition is an example of a 'new emotional movement' (2009, 63).

The key deficiency in relation to this casual use of the term 'movement' is that it 'weakens any technical meaning the term might have' (Wilson 1973, 13), a tendency which is also lamented by Touraine (2007, 69) when he refers to 'the loss of substance in this great notion…'.

In an attempt to attach a more technical meaning to the term, Moragues-Faus & Ortiz-Miranda (2010) have taken the view that coordinated anti-wind energy protests in Spain constitute a 'New Social Movement' (2010; 4239) based on Della Porta & Diani's (1999) definition of:

> '(1) informal networks, based (2) on shared beliefs and solidarity, which mobilize about (3) conflictual issues, through (4) the frequent use of various forms of protest.' (1999, 16)

However there are some difficulties with this proposition.

Firstly, della Porta & Diani's definition above relates to 'social movements' rather than 'new' social movements and Moragues-Faus & Ortiz-Miranda conflate the two in their article. They then proceed to characterise anti-wind activism as a 'new social movement', a term which, while remaining in

current use, arguably had more relevance to the late 1970s and 1980s describing particular movements emerging at that time.

Secondly, while the above definition of social movements was adopted by Della Porta & Diani in their first edition of *Social Movements: An Introduction*, by 2006 when the second edition was published, the definition had moved on, the authors referring to social movements as:

> '.. a distinct social process, consisting of the mechanisms through which actors engaged in collective action
> •   Are involved in conflictual relations with clearly defined opponents.
> •   Are linked by dense informal networks.
> •   Share a distinct collective identity.'   (2006, 20)

Applying the later definition, the question of clearly defined opponents is not explored by Moragues-Faus & Ortiz-Miranda in their paper, nor do they comment on the issue of network density. The final point of a distinct collective identity is also only briefly referenced with a focus on local territorial identity alone (Moragues-Faus & Ortiz-Miranda 2010, 4236 & 4238).

In the context of anti-wind energy activism, **Chapters 6 & 7** and the storytelling outlined in this chapter provide evidence of a collective identity and a weak conservationist ideology amongst anti-wind activists. This goes further than the references to territorial identity offered by Moragues-Faus & Ortiz-Miranda.

Activists Own Views about Collective Anti-Wind Activism

To understand what activists thought and felt about their activism and its potentially collective nature, during the semi-structured interviews participants were asked whether in the context of their protests against windfarms they saw themselves as being part of a movement.

Within the responses there was some disagreement about the localised nature of objection.

In support of the proposition that local anti-wind activism was part of a movement some activists referred to local organised groups as evidence of a movement while others viewed non-local collective action as a movement characteristic. These views contrasted with the views of one activist who took a more parochial view of their activities and did not consider their local objections to be part of a 'movement', but rather as:

> '... part of a protest group. The difference being, in my book, between movement and group is the group is that this... my part of my protest is local and I think to be a movement you have to be National or International.'

From a slightly different perspective, a second activist with particular experience of trying and failing to establish a pan Scottish umbrella organisation, felt that collective opposition had failed to crystallise into a movement:

> INT: 'In the contexts of your protests against windfarms do you see yourself as being part of a protest movement?
>
> RES: We try to make it one but we didn't do very well.
>
> INT: Why?
>
> RES: It is a middle class milieu which is not used to... it is not used to political struggle in any form and it has no idea what it is like to be beaten. Does that make sense?'

With the exception of these two particular views, the remaining activists all expressed strong views that they were part of a wider anti-wind movement, some elaborating on their reasons:

> 'We went through every page of the ES and we tore it to shreds and we added up, you know, how many lorry loads of sand they were going to bring and realised they couldn't add up. We went through every spelling mistake, you know, we tore it to shreds.
>
> And I think [in doing] that we gave each other a focus. We were able to see how weak they were and it took me beyond this little community. And that I think was the turning point of realising that it is a big movement and how together we can achieve so much more

and I think, to be honest now, what's happened in mid-Wales is a real demonstration of the power of the people, you know, because who would have imagined we would be where we are now?'

'..it isn't an organisation, it is a collection of people, all over the country, that don't want windfarms.'

'..because... which is very strange, it is people from very different parts of the World saying the same things, feeling the same things and suffering the same things.'

The general view was summed up by one activist based in Cumbria:

'.. it's a cross party boundary thing as well, so I think that is a movement.

...what I am saying is, I have quite comfortably sat shoulder to shoulder with people who I would class as rank Conservatives and just spoken about this subject and we felt quite at home one with another. It isn't an exclusively middle class, land owning, and in a small way, set of people who are against windfarms. It's all sections of community, you know, your council house, housing association tenant is just as likely to object as somebody who lives in a posh village, who's view is going to be spoiled. There is a great coming together.

So how else could you describe it other than a movement?'

In support of these views - that activists were part of a wider movement, several interviewees referred to the existence of a 'common bond' between connected activists:

'Well I mean I am in communication with a lot of people who are active in this area in protest groups and I am part of that nexus of action.'

'I have been closely associated with the SOCME, Country Guardian and Gower Society. Closely associated, see? And on a network, with a network of like-minded people, there is this network of people. Network of like-minded people, which is nationwide via e-mails and stuff'.

These views would seem to be supportive of the existence of a real world network – to complement the hyperlink network discussed in **Chapter 5.** This is explored in further detail below.

Real World Networks

The presence of links between groups in cyberspace do not automatically mean that activists or groups have more than a 'nodding relationship' (Granovetter 1973) with each other. Putting it simply... a hyperlink network in cyberspace does not make a social movement. It is however, a possible indicator.

To establish whether activists and groups were connected in a more intimate way, participants in the semi-structured interviews were asked (following the approach taken by Barry Wellman in his study of East York (Wellman 1979), to name the six individuals or groups they interacted with most frequently in connection with anti-wind activism.

The results are shown in Figures 39 and 40 below. Interviewees are shown as red as nodes within the network and their contacts are shown in blue and reciprocal links are shown with lines having arrowheads at both ends.

In Figure 39 the real world / offline relationships between anti-wind activists who were involved in the research are shown without highlighting the significance of key individuals in the network.

The network diagram also illustrates activists connections to other activists through individuals who act as 'bridges' e.g. Sheri Lange in Canada connecting US activists to UK activists; Mark Duchamp in Spain connecting members of EPAW and Mike Hulme connecting Interviewee No 16 – CD with the rest of the network.
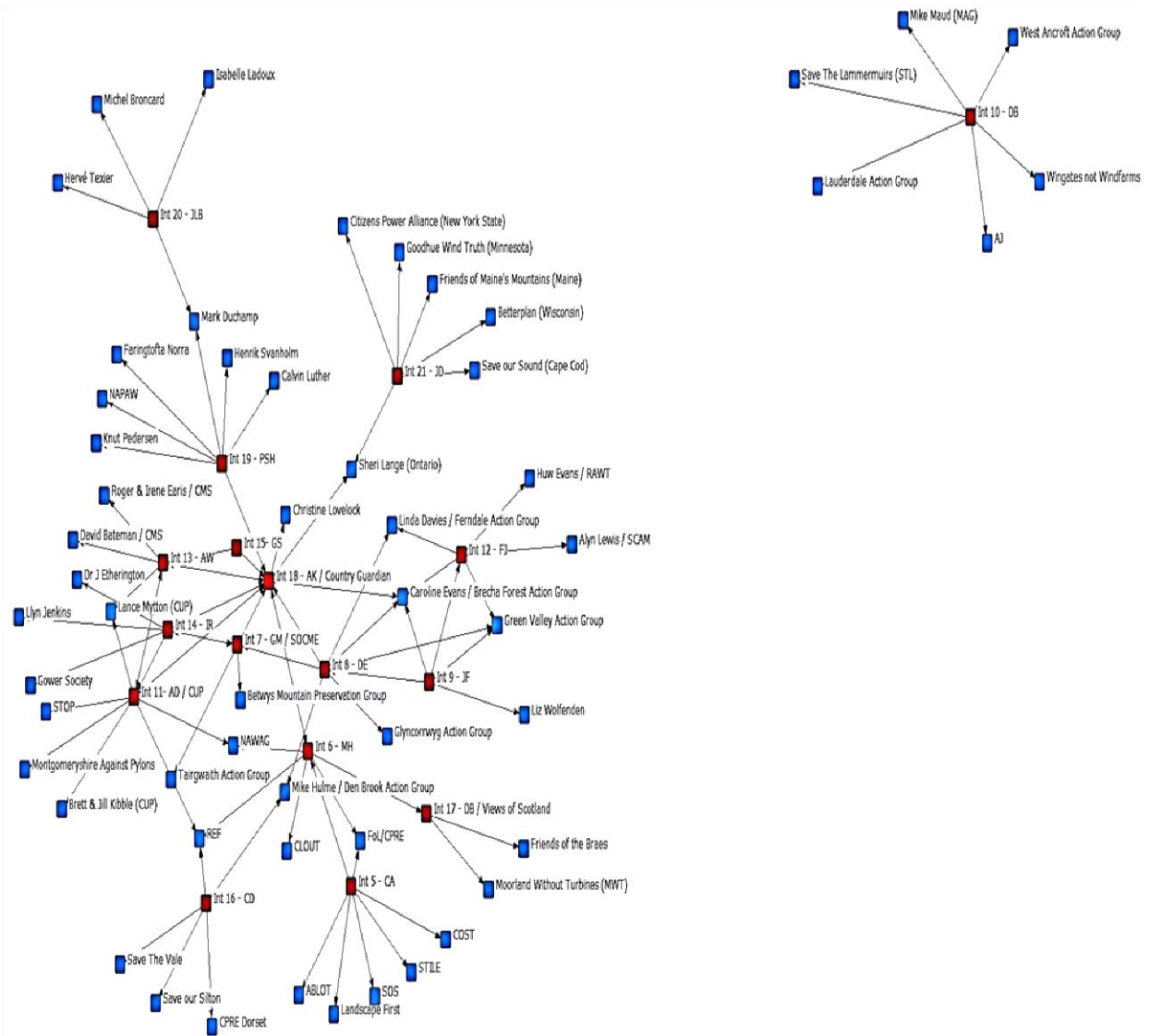
Figure 39: Off Line Anti-Wind Activist Network

Interviews revealed that the real world links between activists extend across UK, Europe and the USA however the degree of reciprocity within the real world network appears much lower and one node was an isolate (Interviewee No. 10 – DB), perhaps because the campaign that the interviewee was involved in had ended and the group that had fought the campaign had dissolved.[70]

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[70] See **Chapter 6** for the trajectory of AWEGs. In this case the AWEG had disbanded but the interviewee was still involved in anti-wind activity through means of a website which monitored wind energy development in Northumberland and southern Scotland. The absence of the interviewees need for close personal linkages offline to support ongoing campaigning could explain his isolate status shown in Figures 39 & 40.

Figure 40: Eigenvectors for Real World Anti-Wind Activist Network

In Figure 40 the significance of key activists is indicated by node sizes which reflect the total number of connections (or ties) with other activists or organisations – a measure of how central some interviewees are to the network (Park, *et al.*, 2001; Hanneman & Riddle 2005). Even though interviewees included non UK based activists, Angela Kelly, Chair of Country Guardian was seen to have a central role in the network providing linkages between anti-wind activists in the US, Canada, Europe and the UK.

Crossley (2007, 226) suggests that 'If movements are defined as networks of groups then we must find evidence of links between groups if we are to speak legitimately of a movement'. The existence of a real world / offline

relationships provides further evidence that AWEGs and anti-wind activists are part of a network and might appropriately be considered as being part of a 'movement' rather than being seen as acting in isolation.

Stories of Struggles

The stories told of individual crusades and group campaigns are an important strategic device which can be used to create and bolster collective identity and support activist recruitment (Polletta 1998 & 2002). Stories help to create group identity by reinforcing the sense of the collective self and by more clearly defining the opposition as 'the other', they also combine emotion and action to generate an empathetic rationale for movement participation.

Over the course of the research, a number of stories came to light and were told and re-told by activists including those who took part in semi-structured interviews. Some of these stories are recounted in **Chapter 2** in the context of campaigns. Two further stories outlining the experience of 'ordinary people' whose lives had been affected by proposed or actual wind energy development are also worthy of note – the story of Jane & Julian Davis (UK) and that of Esther Wrightman (USA). These are outlined below:

Jane & Julian Davis

Figure 41: Jane & Julian Davis
Source: Spalding Guardian 7th July 2011.

The Davis's story was one of noise nuisance at their farmhouse in Lincolnshire where they reported that:

> 'The nuisance started almost immediately the wind farm came on line, in June 2006. The Claimants complain of noise nuisance at various times of the day and night, including swishing, ripping/flashing, low frequency humming, mechanical turning, background roar, 'helicopter noise' (aerodynamic modulation) and enhanced 'helicopter noise' (amplitude modulation of aerodynamic modulation). Even with double glazing, house insulation and the wearing of ear plugs, the Claimants have been disturbed by low frequency noise and have complained of sleep disturbance. On 21 December 2006, the Claimants started to use rental accommodation in Spalding to sleep and rest from the impact of the noise; on 27 May 2007 they effectively moved out of the Farmhouse'.
>
> <u>Davis v Tinsley, Watts, Fenland Windfarms Limited, EDF Energy PLC and Fenland Green Power Co-operative Limited. Particulars Of Claim Para. 27 (Source: Country Guardian e-mail dated 5th April 2010)</u>

The Davis's claim was publicised by Country Guardian during 2009-2011 by way of e-mail 'round robins' to AWEG activists.[71] Material circulated by Angela Kelly (Chair of Country Guardian) included the Statement of Claim, local press coverage of the case and information on the health of Julian Davis who developed atrial fibrillation prior to leaving his home. Ultimately, the defendants - Fenland Windfarms Limited purchased the Davis's farmhouse as part of an out of court settlement. However the sale proceeds were used to purchase a property for Julian Davis's parents and after the purchase the Davis's found out that a wind energy development was proposed within relative close proximity to Mr Davis's parents' new home. Country Guardian publicised this on 22nd July 2012 in a 'round robin' e-mail which stated:

> 'Jane and Julian Davis must now face another nightmare. I have sent them recent information that might help. If anyone can send more to them, please do so. They need all the support and help they can get to achieve a speedy end to their hell.'

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[71] See e-mails from Angela Kelly dated 28/2/2009; 5/4/2010; 01/07/2011; 8/7/2011; 12/7/2011; 15/7/2011; 09/9/2011 & 30/11/2011.

The Davis's story (as articulated in their Particulars of Claim and various press articles) contains all the components of a movement 'Horror Story' (Fine 1995). The Davis's negative experience is made dramatic, compelling and persuasive (1995, 135) and presented to a sympathetic audience – recipients of Country Guardian's 'round robin' e-mails. The story generates sympathy and anger and is accompanied by repeated 'calls to action' which maintain the sense of injustice and further reinforce the sense of collective identity.

Esther Wrightman

Esther Wrightman's story was publicised by John Droz Jr., an anti-wind activist who describes himself as an 'environmental advocate.' Ms Wrightman is the leader of the Middlesex-Lambton Wind Concerns Group in Canada and runs the Ontario Wind Resistance website. As part of the anti-wind campaign, Ms Wrightman parodied the Next Era Energy ULC name and referred to the company as 'Next Terror' in a blog and on various demonstrations. The result – Next Era issued proceedings against Ms Wrightman (in the left of the picture below) personally.

Figure 42: Esther Wrightman and Others
Source: The Londoner 31st January 2014.

The proceedings were brought against Ms Wrightman under Canadian Patents and Copyright legislation – Next Era Energy alleging that the reference to Next Terror being a breach of both.[72] Ms Wrightman in her defence:

> '..denies that the NexTerror and NextError "Parodied Images" were used to discredit the business, wares and services of the Plaintiff. The Plaintiff has been operating in the rural areas of Ontario since at least 2008, and through its own means, discredited its own business in the ways and means it dealt with the public, and earned the name "NextError" and NexTerror" through these actions'.

Next Era Canada ULC v Esther Wrightman. Statement of Defence. Para 5[73]

Droz publicised Ms Wrightman's situation by e-mail on 6th June 2013 when he wrote:

> 'As you likely know, for over 30 years I've worked on environmental and energy matters, gratis. My motivation has been to benefit the lives of citizens, who (IMO) are often victimized by Big Government, Big Business, Big Environmental Groups, etc. Across the border we have a fascinating story that I've been monitoring for several months, as it has been perking along. To cut to the chase, please watch this week's exceptional video news story, which is about citizens fighting wind energy. [*Note that the journalist has a law degree, which is an important element here.*]
>
> Yesterday, a follow up video interview was done with the heroine, Esther Wrightman. Here is the Nextera lawsuit, and Esther's formal response. [If you want to read some accounts of what led to this over the last few months, see this.]
>
> IMO, Esther needs to make some fundamental decisions here (as we all do), as to what her objectives are, and what her priorities are. Of course she's right — but that is not necessarily a sufficient (or winning) reason to proceed with a lawsuit.
>
> Regarding what can be done: lawyers who have knowledge about trademark laws would be particularly helpful (please contact me).If nothing else, she should at least get our moral support for taking a principled stand, and not being bullied by a greedy corporation. If you'd like to make comments, or other offers to help, please put them here. *I think there are some good lessons for us ALL in this saga'.*

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[72] http://ontariowindresistance.files.wordpress.com/2013/06/statement-of-claim-nextera-and-esther.pdf [Online] (Accessed 27/4/2014).
[73] http://ontariowindresistance.files.wordpress.com/2013/06/statement-of-defence-nextera-v-esther-wrightman.pdf [Online] (Accessed 27/4/2014).

The references to Ms Wrightman as a 'heroine', being 'victimised' while taking a 'principled stand' in 'fighting wind energy' are consistent with the 'War Stories' referred to by Fine (1995, 136). The reference to being 'bullied by a greedy corporation' similarly elaborates the 'tough time' being faced by those engaged in the fight, and by telling the war story, the 'event is processed and incorporated into the culture of the group' (1995, 136).

In addition to their role in creating and bolstering group identity by identifying 'the other' and placing movement activists in opposition to it, as Blumer (1969, 110-111) notes, stories are also devices which popularise movement ideology. The 'horror' of the experiences of Jane & Julian Davis and the 'war' story of Esther Wrightman both provide powerful 'weapons of attack' (Blumer 1969, 111) which are deployed freely by movement activists and are widely circulated across the anti-wind activist network.

The presence of a narrative which identifies activists, opponents and ascribes a wider significance to activities and events – the 'we-consciousness' referred to by Blumer (1969, 102) would again lend support to the concept of a movement.

Scale of Change, Size of Opposition

The issue of scale has been present throughout the discussion of the impact of wind energy and the opinions that are formed when new developments are proposed. As indicated in **Chapter 2**, the term 'large–scale' is problematic as it is both subjective and imprecise. Depending on the context and the views of the parties involved in the discussion it can be applied to both size and number of turbines; it will mean different things to different people and as a consequence its use will elicit responses that are not always comparable.

The same can be said for Wilson's reference to social change within his particular definition of a social movement. Large-scale social change (Wilson 1973, 8) is not defined and so it becomes a matter of judgement as to whether a particular change constitutes a large-scale change or is something else. If we consider the deployment of renewable energy, and wind energy

specifically as illustrated in Figures 3-5, the question would be whether the increase from 6100 MW of wind energy in 1996 to 282,587 MW in 2012 is a large enough change to qualify and in the UK case, whether the change in spatial distribution of wind energy between say, 1997 and 2013 as outlined in Figure 5 would be significant enough.

From the anti-wind activists' perspective, the answer is simple. Yes it is.

Wilson's definition is not the only one that can be considered when contextualising anti-wind opposition. Zald & Ash (1966, 329) refer to changing 'individuals' as well as societal institutions or structures; McAdam (1982, 25) refers to 'changes' rather than 'large-scale change' and Della Porta & Diani (1999, 15) see opposition to social change as being at 'either the systemic or non-systemic level'. So scale of change might not be quite as significant as Wilson's definition would suggest.

A second aspect to consider is size of opposition. Again, Wilson's comments are instructive:

> 'Many social movements are quite small, numbering under one hundred members. But their message is such that they have the potential to grow to a membership numbered in thousands if not millions. Not all small groups collectively oriented to the achievement of common objectives are social movements. The objectives they seek may well be so limited in scope that only a few people have an interest in joining.. The important question is what the potential scope of the membership is thought to be or, to put it another way, how broad the ramifications of the objectives are seen to be by the members themselves..'   (1973, 9)

If we consider the AWEG network described in **Chapter 5,** there were 635 active 'nodes' at the time of undertaking the hyperlink network analysis in 2009. Around that time, the Federation of Environmental Sustainability (FED) claimed a membership of 900 associations in France, EPAW claimed over 400 affiliated organisations, Country Guardian had around 300 members and National Wind Watch claimed 264 affiliates, mainly in North

America. As outlined in **Chapter 5**, the most likely size of the network now is 50% larger than in 2009. On a conservative estimate[74] this would suggest that the network encompasses several tens of thousands of individuals worldwide. Although as Wilson suggests, 'Sheer numbers.. makes little difference to whether or not a collectivity should be treated as a social movement' (1973, 9), the network is a substantial one and the potential scale of membership appears only limited by the extent to which wind energy is deployed internationally. It would therefore seem feasible to argue that both the scale and nature of the proposed / actual change that anti-wind activists oppose together with the size and scale of their opposition are evidence of a movement rather than simply being localised 'effervescences'.

Movement or Coalition?

Della Porta & Diani (2006) refer to the potential for some forms of collective action to be described as 'coalitions' rather than as 'movements' (2006, 20). Coalitions are seen as operating on an instrumental level:

> 'Once a specific battle has been fought, there need not be any longer term legacy in terms of identity and solidarity, nor attempts to connect the specific campaign to a broader framework.' (2006, 24)

This 'coalition' definition could be applied to anti-wind energy protests given their place specific temporal nature, however as indicated in **Chapter 6** some AWEGs clearly proceed along trajectories which allow them to endure beyond the timeframe of an individual campaign and some National Coordinating Bodies have existed for a considerable length of time. In view of the above, coalition seems to be an inappropriate term for the collective struggle of AWEGs.

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[74] Based on 20 members for each AWEG if each AWEG is a node in the hyperlink network then there could be 12,700 individuals associated with that network in 2009. If the claimed membership outlined by National Coordinating Bodies is multiplied by a similar figure, the upper end of the network could be in the region of 37,280 individuals in the same year. This may be smaller if there is a degree of overlap between memberships or if each AWEG has fewer than 20 associated individuals. Alternatively the network could be much larger depending on the inverse of the above or if the network has actually grown by 50% - in which case the network size could lie between 19,000 and 56,000 associated individuals.

AWEGs – A Different Form of Activism?

Much of the thesis has described how similar AWEG activism is to other forms of social movement activism – in that there is a network of activists and organisations which adopt protest strategies and tactics and direct these against clearly defined opponents. Activists share a collective identity – to a degree, and have a shared ideology – again to a degree and their campaigns continue beyond local struggles through the trajectory of AWEG groups. So in the first instance AWEG protest is not 'different' from other forms of social movement activism but is similar to it.

Having said that, there are some important differences and it would perhaps be useful to contrast AWEG activism with other campaigns undertaken by other social movement organisations engaged in environmental protest.

Firstly, although the AWE movement shares some characteristics with other types of local environmental protest (roads, incinerators etc.) it would not see itself as part of a wider 'environmental movement' as it considers this to be a left of centre, greenwashed collective. Price (2007) refers to AWEG activists as seeing themselves as 'true environmentalists' and 'greener' than others reflecting this view and this is confirmed to a large extent by this thesis (See **Chapter 7**).

Secondly, the ideology of AWEG activists can be broadly defined as 'conservationist' which has a narrower and more traditional focus on landscape preservation. While many environmental movements retain a conservation dimension to their activism, this has been largely subsumed by the dominant master frame of climate change environmentalism. This master frame has not been embraced by AWEGs resulting in what Warren, *et al.*, (2005) refer to as 'Green on Green' activism.

Thirdly, the protest tactics have been mainly 'moderate reform' based with occasional direct 'protest' – which contrasts with more radical disruptive protest seen in other areas of environmental protest. This is not to say that all environmental protest is characterised by the direct action seen for example in the anti-roads movement or in 'disorganisations' like Earth First

(Rootes 2007, 10) as many established environmental organisations such as Greenpeace and Friends of the Earth engage in lobbying, public relations and research. For AWEGs however, as shown in Table 6, the likelihood of engaging in direct action is markedly less than for other social movement organisations engaged in environmental protest.

Fourthly, AWEG networks – while significant and differentiated, have not generally sought to broaden their scope to encompass 'non-wind energy' related causes. So while there are links with CPRE, Pylon Action, Revolt, Cambrian Mountains Society, John Muir Trust etc. connection and collaboration with the proliferation of Environmental Direct Action and Climate Change groups is generally not seen. AWEGs are more focussed on the local implications of national policy and mobilise to address both aspects. There is a risk that the non-local focus of AWEG activism is ignored because of this approach and that their campaigns are not seen to 'transcend the local' (Rootes 2013), however the evidence that AWEG activism is influencing national policy can be seen in the heated debates within national and sub national governments concerning on shore wind energy deployment and in the manifesto commitments of political parties (especially in the UK).

In some ways AWEG protest is akin to the stage of environmental activism and protest before it became 'radicalised'. There is an elite dimension and tactics have been non-disruptive and consequently – if we are to follow Piven and Cloward's analysis, the effectiveness of AWEGs has been constrained.

Chapter Conclusion

Zald & Ash's definition of a social movement as '..a purposive and collective attempt of a number of people to change individuals or societal institutions and structures' (1966, 329) offers a succinct set of criteria by which the appropriateness of the term 'movement' might be judged.

Is anti-wind activism purposive?

The contents of the literature reviewed in **Chapter 2** (especially Hull 1995, Toke 2005, Cowell 2007 & 2010 who focus on the 'planning problem' caused

by AWEGs) together with the fieldwork outlined in **Chapter 6** would suggest that it is. Activists devise and deploy strategies and tactics and create movement organisations to mount sustained campaigns capable of evolving beyond their initial spatial and temporal boundaries. Anti-wind activists have well defined objectives – to prevent the industrialisation of the countryside and equally clearly defined opponents – the developers of wind energy projects and the associated supportive legislators, policies and practices which enable such projects to emerge. As Wilson (1973, 11) notes, the test is whether there is 'planning' and this thesis has evidenced a substantial range of planned activity exerting influence at a local and national and international level.

Is anti-wind activism a collective enterprise?

Anti-wind activists can be (and frequently are) part of larger networks – locally, nationally and internationally. Such networks are non-random as indicated in **Chapter 5** and exist in both cyberspace and in the real world as indicated in this chapter. Protest activity involves collective action such as marches, walks, rallies and demonstrations as well as mass lobbying (letter writing, petitions and organised objections to specific wind energy developments). The numbers involved in anti-wind activism are potentially large, extending to tens of thousands of people worldwide (depending on the assumptions made as previously outlined).

Does anti-wind activism seek to change individuals or societal institutions and structures?

On the face of it, the answer to the above is yes – on both counts. Anti-wind activism seeks to influence or change the views and voting intentions of local and national politicians on renewable energy policy and its application; the financial benefits that accrue to developers and land owners and the externalities of renewable energy deployment. At a technical level, policy is created by institutions and structures which exist within a wider social and economic context and so it is legitimate to argue that anti-wind activism seeks to change if not the institutions of society, then their outputs and the outcomes that arise.

Applying Zald & Ash's definition AWEGs can be described as being part of an anti-wind 'social movement'. However Zald & Ash's definition is perhaps a weak test for this classification and alternative stronger tests are available to answer this particular question.

McAdam (1982, 25) offers an alternative definition where social movements comprise:

> '..those organized efforts, on the part of excluded groups, to promote or resist changes in the structure of society that involve recourse to non-institutional forms of political participation.'

Organized efforts of excluded groups?

Chapter 6 highlighted that AWEGs frequently have some form of constitution, elect and re-elect officers, hold and record meetings, may keep membership records and maintain bank accounts (if fund raising). This level of institutionalisation while meeting the broad definition of bureaucracy adopted by Gamson (1975), does not align well with the stronger definition adopted by Weber (1922). The more formal incorporated associations in some AWEG federations, clearing houses or coordinating bodies demonstrate greater institutionalisation to the extent that the term 'bureaucracy' is more applicable but still problematic.

The question of exclusion is somewhat more difficult. Exclusion from what? In Touraine's more recent analysis (Touraine 2007 & 2009), exclusion would be in relation to political rights, social rights or latterly, cultural rights.. but following this approach what rights would anti-wind activists say are being denied? **Chapter 7** outlines one dimension of the instrumental basis of opposition – interference with property rights and benefits through noise, loss of value, reduced saleability etc. Equally cultural rights – the right to an identity are also infringed when place is threatened so anti-wind activists can claim to be excluded from the process of exercising or enjoying instrumental and identity related 'rights'.

Promote or resist change in the structure of society?

The question of whether AWEGs promote or resist change in the structure of society is addressed in connection with Zald & Ash's definition as previously outlined. In the case of anti-wind activism, change is being resisted rather than promoted.

Recourse to non-institutional forms of political participation?

Do AWEGs adopt non-institutional forms of political participation? Yes and no. As outlined in **Chapter 6** and as illustrated in Table 6, AWEGs have a wide repertoire of protest which includes non-institutionalised methods. However, as campaigns seek to change the mind of representatives of the national and local state, AWEGs have to engage with institutional politics and do so routinely (See Hull 1995; Toke 2005; Cowell 2007 & 2010). As a consequence of this need to influence institutions of the state, AWEGs have generally engaged in moderate reform tactics.

So, applying McAdam's definition in addition to that of Zald & Ash, it appears to be possible to define AWEGs as a social movement. However, given the critique of Moragues-Faus & Ortiz-Miranda (2010) earlier in this chapter we should perhaps also consider the definition adopted by Della Porta & Diani (2006, 20) wherein a social movement is:

> '.. a distinct social process, consisting of the mechanisms through which actors engaged in collective action
> - Are involved in conflictual relations with clearly defined opponents
> - Are linked by dense informal networks
> - Share a distinct collective identity'

Conflictual relations with clearly defined opponents?

Della Porta and Diani define conflictual relations as an 'oppositional relationship between actors who seek control over the same stake – be it political, economic or cultural power and in the process make negative claims on each other' (2006, 21). AWEGs can be seen to be seeking to influence or control land use policies locally and nationally – to protect or conserve 'place' or to prevent the loss of economic or cultural capital. Their

opponents are the developers of wind energy – or 'big wind' (Martin 2009) against whom anti-wind activists are pitched in battles such as that at Cefn Croes (Little 2003).

Linked by dense informal networks?

Della Porta & Diani argue that dense informal networks allow actors to engage in the sustained exchange of resources in pursuit of common goals (2006, 21). **Chapter 5** outlines in some detail, the hyperlink network of AWEGs nationally and internationally and Figure 27 outlines the reasons for hyperlinks as provided by activists. In this chapter, the real world network of activists is mapped at Figures 39 & 40.

Despite referring to 'dense' networks as a characteristic of social movements, Della Porta & Diani do not quantify what they mean by dense.[75] As outlined in **Chapter 5** the AWEG network of 635 organisations and has a maximum of 402,590 possible ties between nodes and an actual number of 4493 ties. This equates to a network density of 0.0112 (SD 0.105) which means that the probability of a tie existing between any two network members chosen at random is a little over 1%. On the face of it, this would suggest that the AWEG network is not a dense network, however density is difficult to measure across networks of different size as it is scale dependent (Scott 2000, 74). There is an inverse relationship between network density and network size – the larger the network the more difficult it is to make and

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[75] There appear to be relatively few attempts to quantify density as part of a test of whether a network meets the definition of a social movement. Diani & Bison (2004) is one exception where density of the networks of 124 voluntary organizations in Glasgow and 134 organisations in Bristol was assessed. The authors reported network densities of 0.023 and 0.016 respectively, which they assess as being low. The authors then partitioned the two networks into smaller groups based on connections to particular organisations and report higher densities in two out of the three smaller groups; however these densities are still under 0.1. The authors, rather than determining that the low densities disqualify the networks from classification as a movement, use a relative approach (p298) suggesting that the criterion of a dense network is 'more present' in some of the smaller groups compared to the others. Later in the paper, the authors partition the network with reference to actors from organisations who have participated in the same public events. Densities of between 0.1 and 0.23 are reported in some of the sub networks and are judged to satisfy the dense network test for the chance of a social movement process being present (p300). These results are important because they indicate what the authors consider 'dense' to be, however the actual results are likely to have been significantly influenced by the reduction in network size – reducing from 124/134 organisations to between 25 and 59 organisations.

maintain ties so density tends to be lower. The AWEG network is a large network and so a lower density is expected, relative to a smaller network.

In the absence of an agreed and quantified definition which accounts for the problem of scale, it is moot whether the AWEG network qualifies as a 'dense' network although it is clear that it is non-random and that some localised parts of the network (such as national networks – see Table 4) are more dense than the network as a whole. The real world network of activists described in this chapter has a density of 0.086 (SD 0.327). While this appears to be greater than the hyperlink network this is likely to be influenced by scale factors.

A more appropriate measure would be Average Degree as indicated in **Chapter 5** and this indicates that for the hyperlink network, each website is connected to just over 7 other sites while each member of the real world network is connected to another 5.87 members.

Diani (2003, 109) reports a network density of 0.050 in a network of 42 environmental organisations in Milan. These organisations defined themselves and were considered by other members of the network as being part of the environmental movement and had been involved in mobilizations. The Milan organisation network had an Average Degree of 2.1. Diani also measured the Average Degree of core activists who shared membership of the 42 organisations and reported an Average Degree of 2.3. If we accept these findings, and adopt Average Degree as an alternative measure of network density, between 2 and 3 ties per organisation / activist would seem to be sufficient to qualify the Milan network as part of the environmental movement.

The Average Degree of the overall AWEG hyperlink network and national networks of AWEGs as outlined in **Chapter 5** (Table 4) and the Average Degree of the real world network of key activists described in this chapter are considerably larger than those reported in Diani's study. This suggests that the AWEG and real world networks of anti-wind activists are actually moderately dense networks. If Average Degree is used as a scale normalized

measure of network density, then the results in this thesis support the contention that anti-wind activism can be defined as a movement.

Share a distinct collective identity?

The activists who took part in the research for this thesis shared a weak conservationist identity in addition to their identities as anti-wind campaigners. **Chapter 2** describes anti-wind protest discourse, **Chapter 6** describes anti-wind organisations and **Chapter 7** outlines the strong attachment to place shared by most of the activists.

A Social Movement?

Based on the preceding tests, it would seem that it is possible to categorise anti-wind activism as a social movement. However this is contingent on a particular conception of society and a view of social movements which some theorists (such as Axel Honneth) dispute. The essence of this argument – which has also been articulated in Alain Touraine's later works (e.g. Touraine 2007 & 2009) is that globalization has so changed the social and political landscape as to render the historic and largely European notion of 'social' as a redundant concept.

The corollary of the above is that social rights have been superseded by individual cultural rights and 'cultural movements' which emphasise recognition rather than redistribution have replaced 'social movements'. It seems to me that this is a rather extreme position and that the notion of a social movement is still a useful one – even if 'social' has become a globalized concept.

CHAPTER 9 – A CONCEPTUAL MODEL OF WIND ENERGY OPPOSITION

Introduction

This chapter draws on the literature review and seeks to place the findings of **Chapters 6-8** into a conceptual model with which anti-wind activism can be better understood. It offers what Tilly (2006) calls, a 'technical account'[76] of the reasons why some activists oppose wind energy (**Research Question 3**). The chapter is organised into two parts – firstly a critical review of some of the conceptual models deployed by researchers seeking to understand opposition to wind energy, followed by an alternative model which draws on Klandermans' *'Triple I'* model of social movement participation.

The aim of the chapter is to reinforce the assertions in the thesis that much of the research outlined in **Chapter 2** has lacked a theoretical framework, that existing conceptual models have been limited in number, and that such models as have been developed are incomplete because they fail to incorporate the collective dimension of anti-wind activism. The alternative model as presented in Figure 51 addresses this deficiency and provides a more holistic framework for anti-wind activism describing the phenomenon more fully.

Models of Wind Energy Opposition

Within the literature outlined in **Chapter 2** there are a limited number of examples of conceptual models used to explain opposition. As Devine-Wright (2005) puts it:

> 'Empirical wind farm research is often poorly grounded in existing social science theory; for example, studies rarely cite conceptual models used to generate hypotheses purporting to explain public perceptions of wind farms.'   (2005, 31)

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[76] Given the weak constructionist perspective taken to ontology and the interpretive approach to epistemology in this thesis, it is particularly apposite to question whether the explanations offered in this chapter are 'technical accounts' or as Becker (1993) suggests, 'just another story'. The biographical narratives offered by activists certainly count as 'stories' and Tilly (2006, 79) specifically refers to 'Telling Life Stories' however the extent to which I have been successful in grounding these and other explanations offered in 'some systematic specialised discipline' (2006, 130) is a matter for others to judge.

Some of these rare examples are set out below.

Wolsink's (1989) model suggests that there is no one single attitude that represents the range of views about wind energy (1989, 198) but rather that there are four factors that influence attitudes. Political orientation influences both the first of these factors – the general attitude to wind power and also the second factor - the attitude to the regulation of specific proposed developments by local planning authorities. The general attitude to wind power is also significant when the third factor, the attitude to the proximity of turbines to the built environment is considered. Finally, the fourth factor, the attitude to single or grouped turbines does not appear to be linked to other attitudes in the model. These relationships are shown in Figure 43 below.
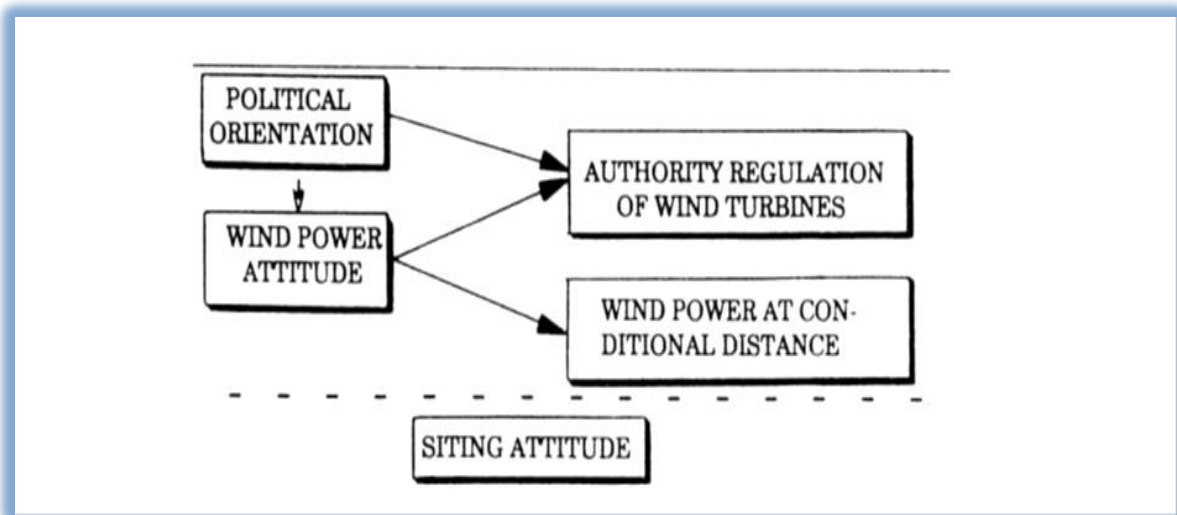
Figure 43: Wolsink (1989)

In the initial model, Wolsink made passing reference to the *Theory of Reasoned Action* (1989, 197) and by 1990, the model had started to draw more fully on the *Theory of Planned Behaviour* (Ajzen 1985 & 1991). The model evolved to illustrate the factors that influence the creation of attitudes to wind energy and how these are then translated into opposition behaviour. The first attribute in the model highlights the role of landscape impact while the second relates to the more tangible aspects of the proposed development – such as ownership or noise. In his PhD thesis (cited in Wolsink 2013, slide 7) he set out these dimension in the model shown at Figure 44 below:
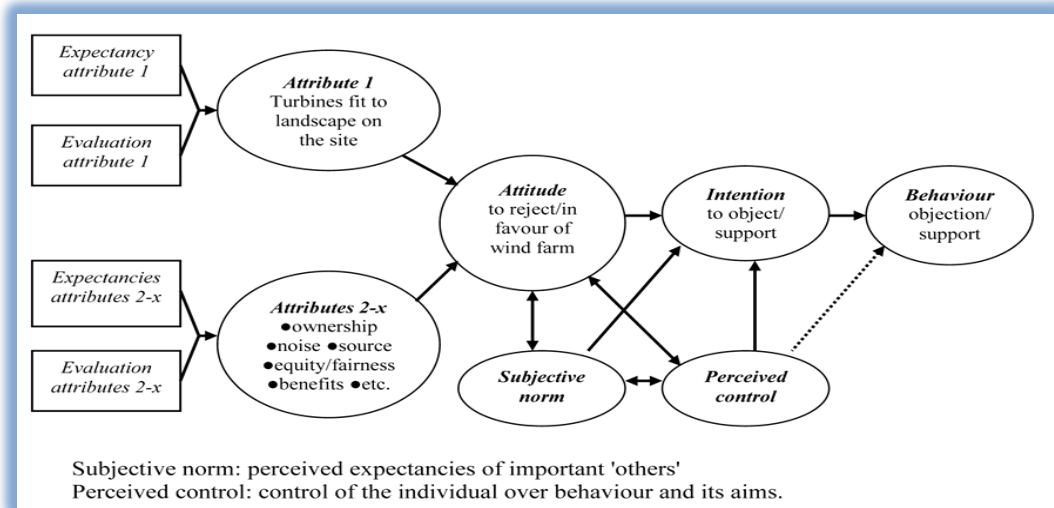
Figure 44: Wolsink (1990)

Geuzendam (1998) offered the model shown in Figure 45 below:
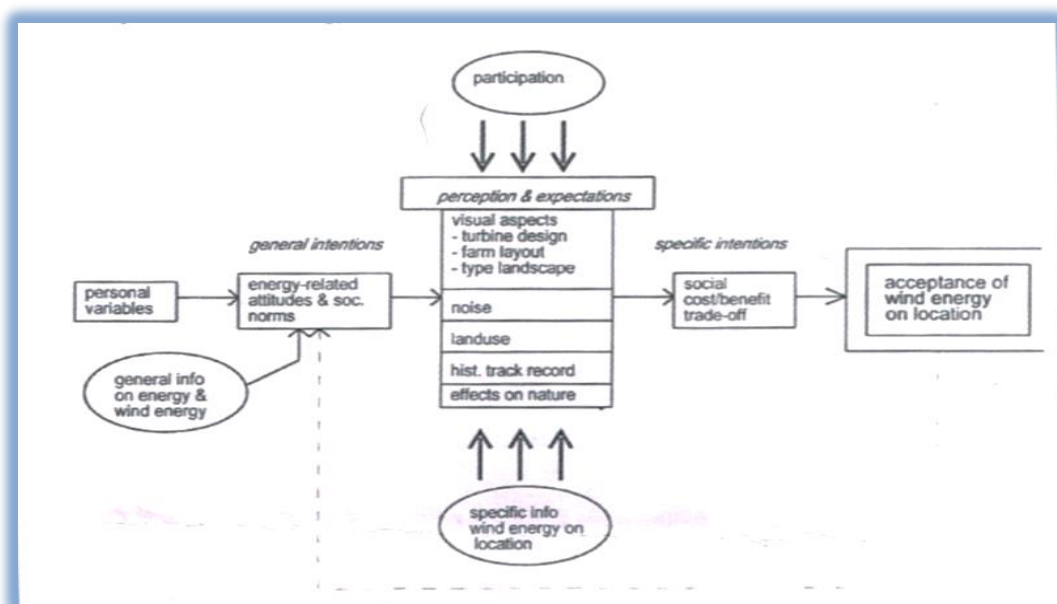
Figure 45: Geuzendam (1998)

Like Wolsink, Geuzendam recognises the multiplicity of factors that affect the attitude to wind energy. The reference to general intentions mirrors the general attitude to wind energy in Wolsink's 1989 model and the references to visual aspects, noise and land use merge the landscape and physical attributes in the 1990 model. For Geuzendam, the process of moving from general attitudes to specific attitudes is one based on rational choice. It is based on a cost benefit analysis of the trade-offs of the variables in the central box (1998, 137).

In 2000 Wolsink presented a further model in which the perceived environmental benefits of clean energy (CLEAN), the visual assessment of scenic values of wind turbines (VISUAL) and interference factors (such as noise) which cause annoyance (ANNOY) are linked to influence a general attitude to wind energy (WPATTIT) and anti-wind protest activity (WTRESIST). The model is shown in Figure 46 below.
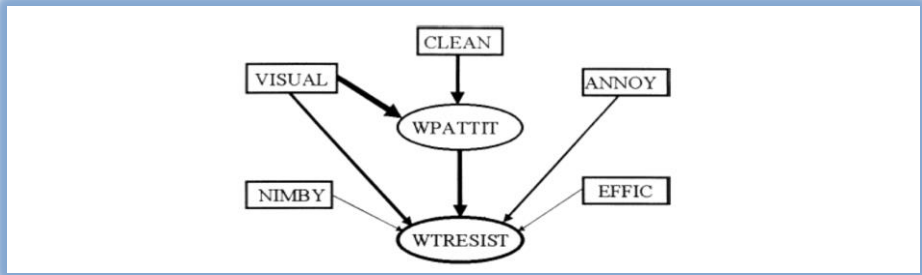
Figure 46: Wolsink (2000)

The model shows the two stage process of attitude formation and opposition behaviour presented in the 1990 model and integrates political efficacy (defined as the estimation that engagement in protest activity is likely to result in change) from the 1989 model. The model was tested empirically and the NIMBY attitude was specifically tested and found to have a low explanatory value (1989, 54).

Devlin (2002) incorporates local demographic factors and financial benefits into her model which suggests that 'the main aspects determining social acceptance of wind turbines are the level of financial gain, the level of participation, perceived need and to a lesser extent, the view of nature' (2002, 28). These factors are shown in Figure 47 below.
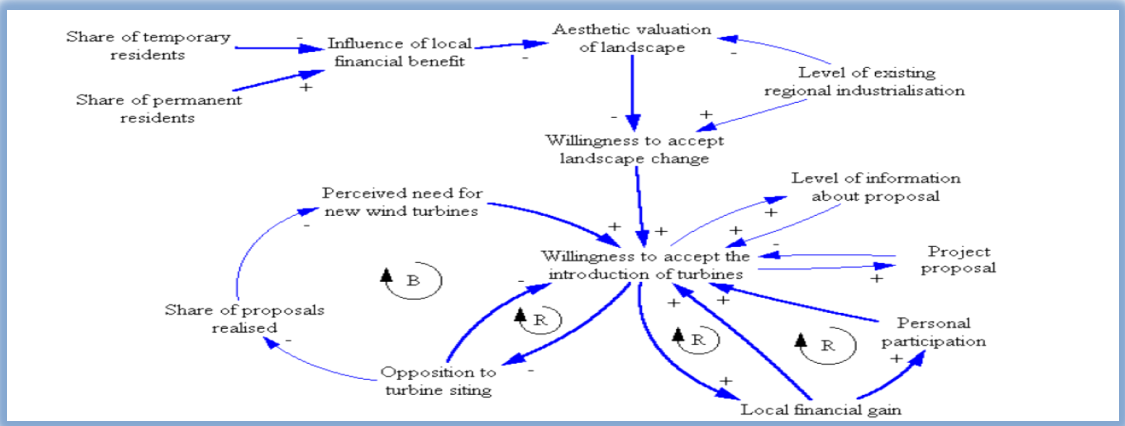
Figure 47: Devlin (2002)

Devlin's model, which was developed as part of a MSc. in Environmental Science at Lund University in Sweden, 'examines social attitudes relating to land based wind turbines in Sweden and aims to show mechanisms that would reduce the conflict surrounding the siting of wind turbines' (2002, 2). The model is explained:

> 'The main aspects determining social acceptance of wind turbines are the level of financial gain, the level of participation, perceived need and to a lesser extent, the view of nature. All four factors impact the willingness to accept the introduction of turbines into the landscape, which in turn determines the level of opposition to proposed turbine siting.
>
> ...Perceived need increases willingness, which in turn dampens opposition and allows for a fuller development of the wind power industry. However, as the installed capacity increases the perceived need falls, as has been seen in Denmark in recent years. Personal participation is increased as a result of more local financial gain and improves local support for the plan, as does the improved level of local financial gain. A more permanent local population base adds importance to the aspect of local financial benefit, which means a higher acceptance for change in the landscape and therefore greater support for the plan.'   (2002, 28)

Devlin's model has a clear normative dimension – taking as its starting point the proposition that wind energy is an appropriate technology to deploy as an alternative to fossil fuels and a thesis objective of reducing the conflict surrounding the siting of wind turbines. In this sense the model fails to consider the wider political social and economic context for the expansion of wind energy.

What Devlin does however recognise is that the:

> '.... main factors affecting the community's acceptance of the turbines,... are directly related to the spatial disparity between the impacts and benefits inherent in wind power. Those near the turbines bear the cost, in the form of noise and landscape change, whilst the benefits are felt at a national or international level, cleaner air and increased security in regard to energy sources.'   (2002, 5)

These observations would appear to be supportive of the arguments made in **Chapter 3** regarding the expansion of wind energy and the externalities that arise as a consequence.

Approaching the issue from a different perspective, Pedersen & Waye (2004) offer the following model to describe the meaning of living near wind turbines:
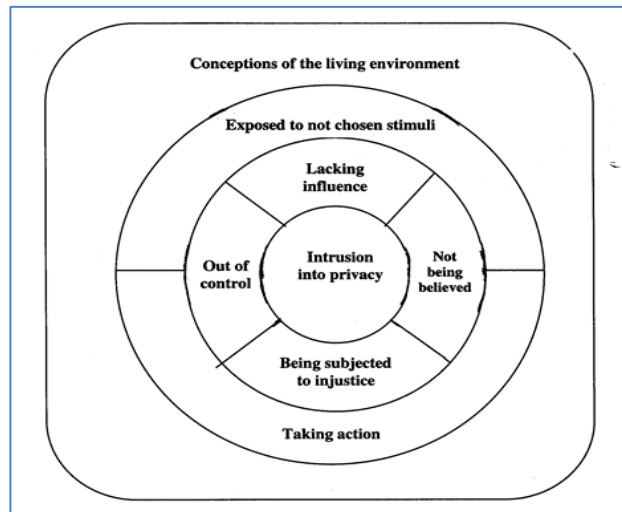
Figure 48: Pedersen & Waye (2004)

The model is based on exposure to the unwanted environmental stressors of noise, shadows and constant movement from wind turbines (2004, 79). Depending on the conception of the living environment as a place where audible and visual impact from wind turbines do not belong, these effects cause annoyance which in some instances results in anger leading to action. Where action cannot remove the cause of stress, this becomes chronic and may give rise to physical health effects.

At the same conference where Pedersen & Waye presented their model, Pedersen (2004) also offered a simple model to understand annoyance from wind turbines and this is shown in Figure 49 below. The paper suggested that noise annoyance is 'a psychological concept which describes a relation between an acoustic situation and a person who is forced by noise to do things he/she does not want to do' (2004, 49). The model suggests that annoyance can be understood objectively and subjectively and also acknowledges visual effects as a contributing factor.
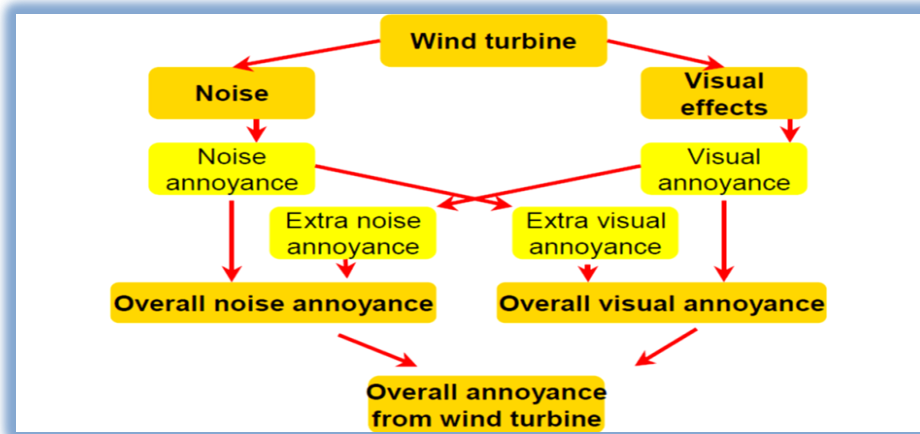
Figure 49: Pedersen (2004)

The examples above reflect attempts from a variety of disciplines to get to grips with the concept of wind energy opposition; however the models have a number of individual and collective deficiencies.

Firstly, none of the models adequately contextualises the issue of wind energy. Most of the models take as their starting point the general proposition that renewable energy is a good thing which has to be introduced for the good of the planet and consequently all models implicitly or explicitly treat opposition as a deviant attitude / behaviour which needs to be understood so that the issue of opposition can be resolved.

Secondly, in general, models take as their unit of analysis, individual attitudes and fail to consider the issues of collective impact or collective response. The models typically fail to consider the significance of the social nature of the construction of attitudes – either in the formation of anti-wind views or in the creation of a collective anti-wind identity.

Thirdly, although the distinction between general attitude to renewable energy and specific (negative) attitude to wind power development is drawn in some models, the models do not explore the trajectory of moving from generalised attitude to active protest in detail. It is suggested within this thesis that Social Movement Theory can add to understanding in this area.

Notwithstanding the above, Devine-Wright (2009, 433) does consider the path towards activism in the context of threat to place:
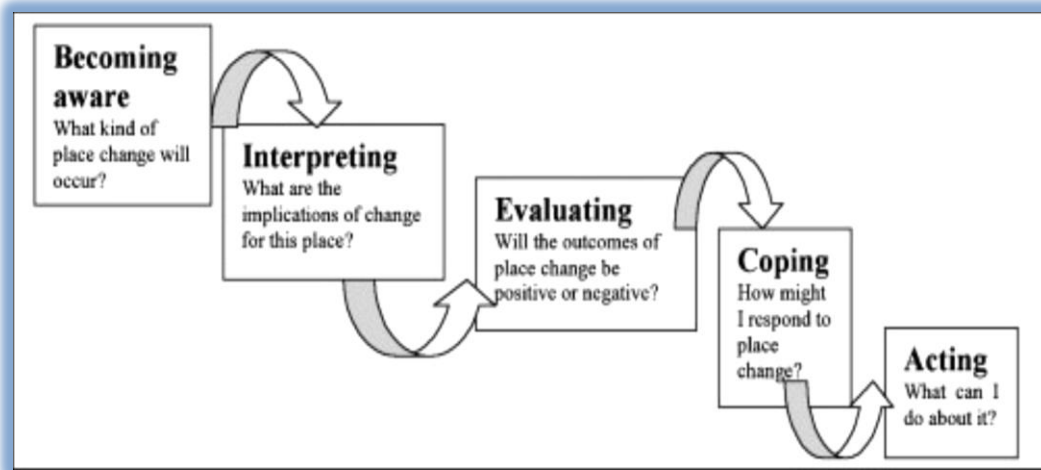
While the model is helpful in describing the process of generating active opposition it is limited in that place attachment is the only focus, to the exclusion of other factors relevant to the initiation of opposition behaviour. This is where Klandermans' *'Triple I'* model offers a more complete framework for understanding the precursors to movement participation.

The 3 'I' Model as a Framework for Wind Energy Opposition

Klandermans' 'Triple I' model was not developed to understand anti-wind activism in particular. It was developed in the context of a wide range of participation in social movements generally rather than participation in any one specific protest activity or movement. However the model has been useful as a framework within which anti-wind activism has been analysed.

Figure 51 below brings together some of the main themes within the thesis using the 'Triple I' framework:

Social and Economic Context

Existing Relations of Production

- Class
- Life History
- Collective Identity
- Personal Identity
- Attachment to place
- Identity
- Conservation NGO Membership
- Employment relations
- Economic Interests
- Instrumental Factors
- Initial Attitude to Wind Energy
- Ideology
- Conservationist ethics
- Property relations

New / Potentially New Relations of Production

- Change to Property relations
- Economic Interests
- Other physical concerns
- Environmental / Financial Impact
- Expansion of Industrial Capital / New wind energy development
- Visual Impact
- Threat to Place

Response

- Instrumental Reasons
- Personal Anti-Wind Activism
- Ideological and Identity related Reasons
- Employment Status
- Experience of politics
- Class
- Age
- Other

The Anti-Wind Movement

- Anti-Wind Group Formation
- Anti-Wind Group Action
- Other Organisations
- Other Individuals
- Other AWFG's
- Some institutionalisation
- Virtual & Real Networks
- Conflictual Relations
- Strategies and Tactics
- Protest Discourse
- War & Horror Stories
- Conservationist Ideology
- Moderate Reform Tactics

Civil Society

Advanced Capitalist Economy

State & Politics

Figure 51: The 'Triple I' model and Anti-Wind Activism

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In the model, the starting position is one where initial attitude to wind energy is influenced by the vector of ideology, identity (including place attachment) and instrumental factors which do not exist in isolation but within the dominant economic structure of advanced capitalism, and sit alongside the state and civil society. Personal attitudes formed over a life history are shaped by social and economic relations of production. The theoretical basis for this is outlined more fully in **Chapter 3**.

The second section of the model illustrates what happens when a change occurs. New sources of energy are promoted by the state and industrial capital expands, creating externalities and new relations of production. These affect property relations in multiple ways through new land ownership or occupation by transnational corporations, new economic interests in hitherto unindustrialised areas and a potential challenge to existing individual economic interests (in the form of house prices, saleability etc.) The proposed change also challenges both the ideology and identity of those most directly affected by the proposals and, at an ideological level, those who are not personally affected by the proposals but who feel that the countryside should be 'conserved'.

Active opposition is initiated in the third section of the model when there is a perceived 'threat to place' or when externalities generate instrumental reasons for activism. For some activists, one of these factors is sufficient, whereas for others it is a combination of factors. Individuals who choose to become anti–wind activists will typically have the social capital and opportunity to protest. Factors such as age, class, home ownership status, labour market position and prior experience of politics are all relevant for this decision (See also Della Porta & Diani 2006, 55-62 in respect of the role of the middle class in activism generally).

Opposition can be initiated at an individual or collective level. One response that has been documented in the thesis is to establish a group along with others who share a common opposing view (but for potentially different reasons). Where a group is established this will typically be an

unincorporated association adopting moderate reform tactics and operating within rather than outside civil society (See **Chapter 6**).

Evidence for the Model

The proposition that the initial attitude to wind energy is formed as a consequence of the interplay of identity, ideology and instrumental factors is not very controversial. The model suggests a number of influences on each of these and evidence for their significance is seen throughout **Chapter 2** and **Chapter 7**.

Stages of Activism - Initial Position

If we consider the results of opinion polls, a moderately positive general attitude towards renewable energy is apparent. However, as highlighted in **Chapter 2** such attitudes have been assessed using relatively undifferentiated questions which conflate wind, hydro and solar power. Although there has been a rapid expansion of wind energy as seen in Table 1 and Figures 3-5, it remains the case that the majority of the population who contribute to national opinion polls do not live near sites where wind energy developments exist or are proposed.

We know from Farhar (1994) that in the early 1990s in the USA there was little knowledge of renewable technologies and certainly very little awareness of their potential adverse impacts. In the UK in the early 2000s the position appeared to be similar - the DTI (2003) survey of *Attitudes and Knowledge of Renewable Energy amongst the General Public* finding that 'less than 10% of the General Public claimed to "know a lot" about any of the RE technologies' (2003, 9).

When such a low level of technical understanding – particularly of disadvantages is combined with questions that elicit 'top of the head' responses (Smith & Klick 2007) the positive set of initial attitudes to wind energy observed in many opinion polls can be understood as relatively uninformed or 'superficial' attitudes. At the same time we can appreciate that an image of *The Machine in the Garden* (Marx 1964) can militate against

a 'pastoral ideal' - the 'deeply entrenched landscape aesthetic' observed by Brittan (2001) which is reflected in the significant membership of nature protection organisations with a broadly conservationist ideology (Rootes 2007).

So, on the face of it there is a degree of conflict between generalised support for the principle of renewable energy and generalised support for the conservation of the countryside. These two positions are reconciled in the model and in practice not through the cognitive dissonance of survey participants, but through the absence of awareness and popular discourse on specific wind energy externalities. Even in rural areas, discussions about wind energy development only take place when a project is proposed – there is little individual or collective understanding of the impacts of wind energy until a developer announces proposals. As activists recounted:

> '...before this happened Mynydd y Gwair was... nobody knew it, nobody knew anything about it but I think we have brought it to the knowledge of the wider population of Swansea because when all those people down there look up, what they see is Mynydd y Gwair, yet they didn't realise it was at threat.'

<div align="center">Interview with Welsh Anti-Wind Activist 4th June 2011</div>

> '...people only became aware when there was an exhibition called and there was no warning for that, we had four days I think. The only press advertising was on the day of the exhibition. They circulated letters to some people locally, communities, three or four days before the exhibition happened.'

<div align="center">Interview with NE England Anti-Wind Activist 13th August 2011</div>

> '..it took me at least two years before I really had got knowledge enough to begin to understand what this was about.'

<div align="center">Interview with Danish Anti-Wind Activist 23rd June 2012</div>

This absence of knowledge is also evident in the six Strategic Search Areas (SSAs) in Wales where the Welsh Government determined that large-scale wind energy developments would be encouraged. Residents in the areas were not provided with any specific information regarding the work being undertaken by the Welsh Government's consultants, nor were they informed

what it would mean to live within or adjacent to a search area. Even during the application phase for some of the large developments, residents claimed to be unaware of the designated areas and were equally uninformed about the impacts of wind energy development.[77]

Figure 52 presents the factors that influence anti-wind activists' initial views about wind energy. As outlined in **Chapter 7**, employment, economic interests and property relations combine together as a vector of instrumental factors.
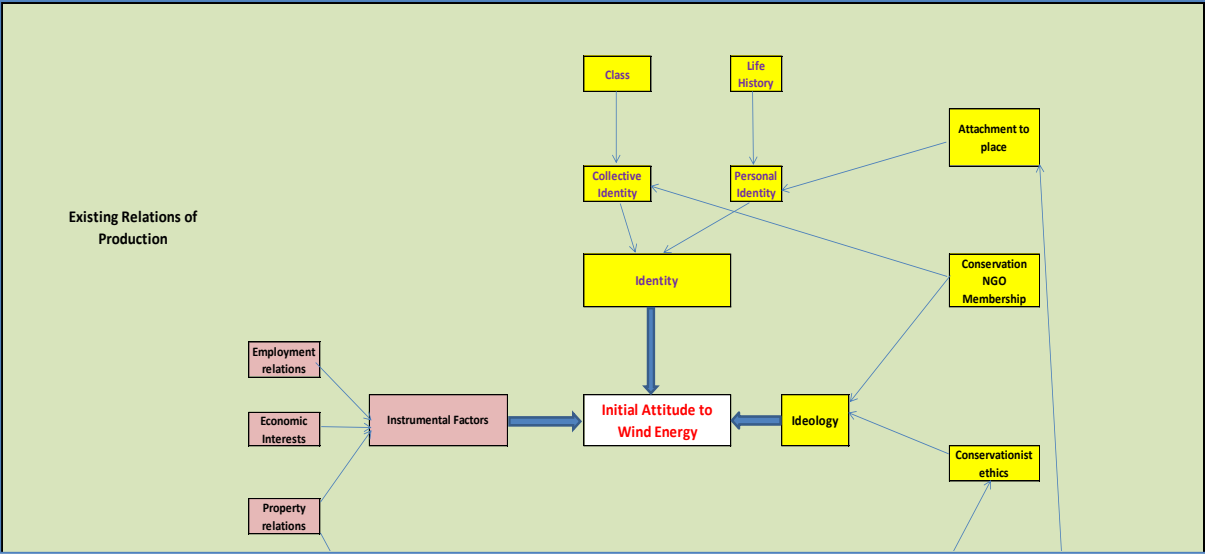
Figure 52: Activist Initial Position

Typically, but not exclusively drawn from the middle classes, anti-wind activists are not employed in the wind industry or in closely associated sectors, do not have a direct stake in wind energy developments but are rural property owners. They are well educated and are (or have been) employed in the professions or in sectors of the economy which can provide a knowledge base for future organising and communication. Many anti-wind activists also share a conservationist ideology and are members of nature protection organisations. These factors – social class, education, rural property ownership combined with and a broadly conservationist ideology

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[77] Personal observation by the author during the Clocaenog Wind Energy Development application process in 2013/14.

provide the basis of a composite identity which includes a strong attachment to place.

It would be wrong to associate the above with negative attitudes towards renewable energy or even climate change at this point, since general awareness of renewable technologies and their potential downsides, has been shown to be low amongst the population (DTI 2003; Smith & Klick 2007) and public attitudes are broadly positive. As one activist recounted

> '..everything was fine and we still were living this lovely, happy little life until one day in 1992/93 when MANWEB Generation Holdings turned up here unannounced and said that they didn't know we were here but now they had come out here, they were planning on building a wind-farm and they would like to offer us the opportunity of joining in and being part of it.
>
> So our initial reaction was, you know, when we had heard what they had got to say and the fact that this was all going to be wonderful and they were offering us Nirvana. But they were offering us Nirvana with some money as well and obviously the advantage of that would have been that I didn't have to go out to work.'   (Lines 62-71)

<u>Biographical Interview with Chair of Welsh AWEG 10th March 2012</u>

So the base position in the model is one of generalised but uninformed or superficial support for renewable energy in the widest sense, an absence of awareness of negative externalities and a deeply entrenched view of the 'pastoral ideal' shared by the population at large.

Stages of Activism – Proposals for Change

The second stage in the model involves the introduction of proposals for large-scale wind energy and the response to these by those most affected by potential externalities.

In **Chapter 3** the expansion of wind energy into rural areas where the wind resource was greatest was outlined and placed in the context of the expansion of transnational capitalism drawing on analysis by Harris (2010). While it is the case that opposition takes place where small scale wind energy developments are proposed (such as single turbines of 0.5 MW

located on agricultural land), the most significant protests and protest groups have been seen in response to proposed large-scale wind energy developments.[78] These developments have a number of implications – new property relations including new owners of land, new tenants of land (in the case of the Welsh Strategic Search Areas where leases are granted on Welsh Government land for wind energy developments), potential housing market effects, changed economic interests through new sources of income from turbines (where turbines are located on private land or via royalties payable to devolved administrations such as Wales and Scotland) and other environmental impacts (noise, hydrology, ecology etc.).

To those most affected by the proposals, the potential visual impact of a large-scale development has a twofold effect – a potential housing market effect (property price or saleability) and a threat to place which manifests itself as a challenge to both personal (place related) identity and conservationist ideology. In the model these links are shown as lines with directional arrows
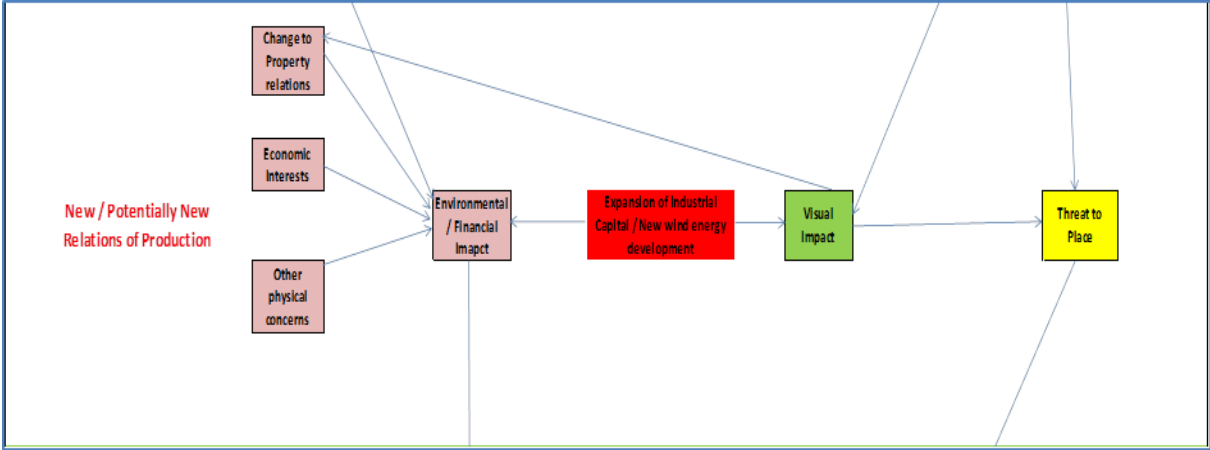
Figure 53: Dimensions of Change

In response to this threat to place, potential activists engage in a rapid exercise of information gathering and exchange using the internet to access information on AWEG websites from and informal personal networks. As this proceeds, information from people already experiencing some of the

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[78] This was evident when visiting the websites of the AWEGs to map them as part of the research outlined in **Chapter 5**.

externalities of renewable technologies can facilitate the transition from an optimistic to sceptical opinion.

> 'So that seemed very nice until we thought about it and realised maybe it wasn't quite so good. So we made a few phone calls. We talked to Lord Hooson about it, who is a man of great wisdom and he said, 'I should think very carefully about this, if it was that good, they would be building them on Dogger Bank'.
>
> And we spoke to my brother in law, who again is somebody whose knowledge and opinion we value. And he also said, 'I should be very careful about that'. We then spoke to somebody else and said, you know, it would be really useful to talk to somebody who lived near a wind-farm. And they recommended speaking to Stephen Briggs, who lived near Llangwryfron, he was an archaeologist. And Gareth rang Stephen who said, 'It has destroyed our lives'.   (Lines 73-82)

Biographical Interview with Chair of Welsh AWEG 10th March 2012

In **Chapter 7** the semi-structured and biographical interviews of AWEG activists revealed that their introduction to potential activism came, in general, when where they lived was threatened by a proposed development. In this sense the research into Place Attachment (Devine-Wright 2005 onwards) appears to be confirmed as a precursor to protest activity.

However the focus of such research has been largely around the individual, psychological response to proposed change and the threat to personal identity that such change may generate. While this may be a strong motive, it is apparent from the literature review and from the personal accounts of AWEG activists that instrumental and ideological motives also play a part in both the mobilisation and in ongoing maintenance of anti-wind activism.

Stages of Activism – Reaction

The third stage of the model as shown in Figure 54 below takes the attitude of objection and extends this to activism. In the model activism may be present on an individual (such as writing letters, making formal objections to planning applications etc.) or collective basis. **Chapter 6** outlines some of these tactics in greater detail.
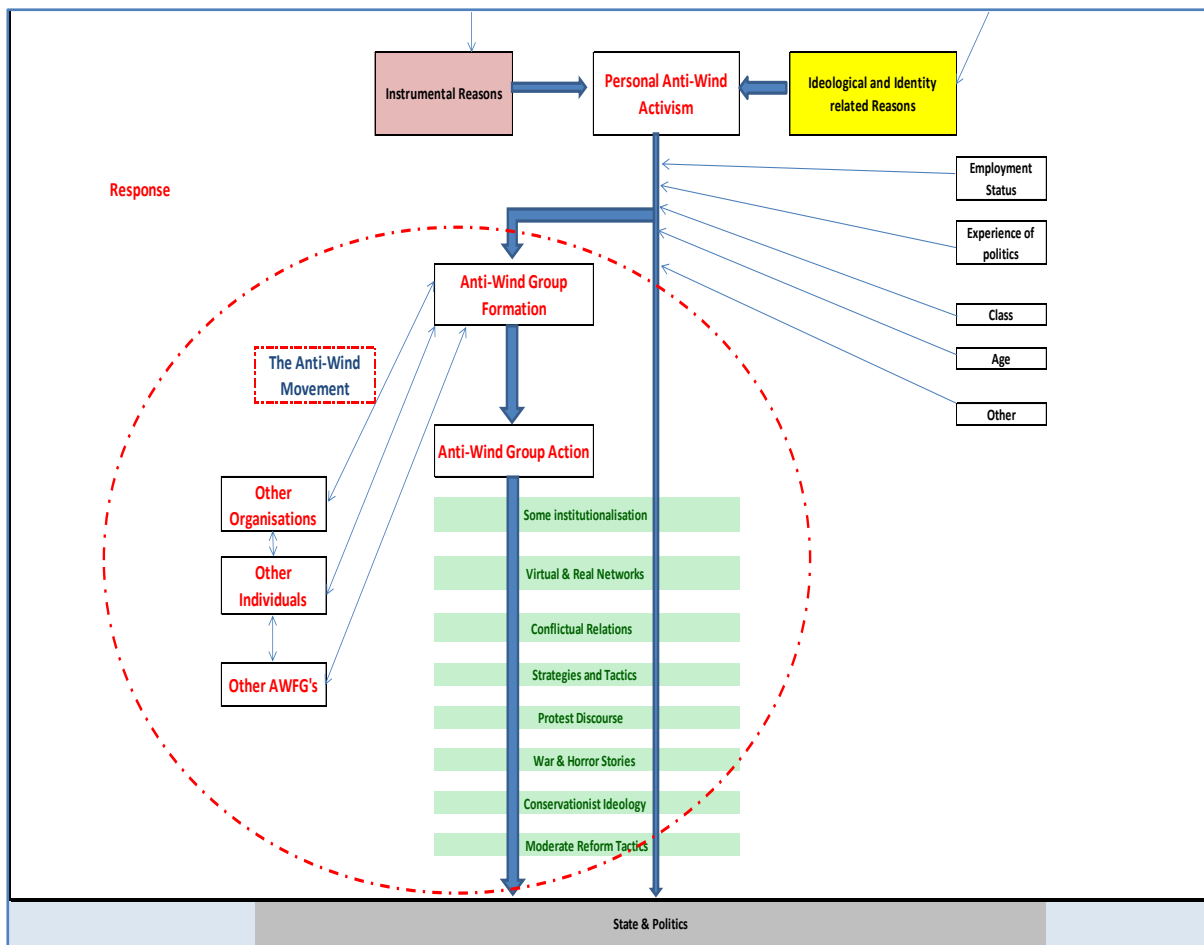
Figure 54: Activist Responses

The biographical interviews outlined in **Chapter 7** suggest that prior exposure to politics has a role in supporting some individuals to initiate or become part of collective objections. Anti-wind activists – in common with other activists, deploy skills and utilise the experience gained from employment and participation in political organisations to influence the local state and national policy environment. In addition to prior involvement in politics, there is an 'unexplained' element, referred to as 'other' in the model which seeks to capture 'propensity for action'. This is potentially linked to the ethical stance of individuals and their tolerance for 'injustice'. **Chapter 7** outlines some of these ethical behaviours of anti-wind activists.

In the final stage of the model, potential activism is converted into individual and collective activism. The process is described by one activist:

> 'And we realised that actually we had to do something very serious about this....

There was then a presentation, one of their consultation events in the community centre and after that we talked to some friends in the village and said what are we going to do and we said we have got to do something. ….And they said that they had got to fight it.

So we persuaded the community council to hold a meeting and the community council held a meeting and various views were put across. And then we decided that we had got to get an opposition meeting. So the four of us got together and we used, I had got a copy of The Lady that my mother had given me and it had got an article in it about how to fight planning applications. And that was how we got going basically.

We put together some information that we had gathered which was about, I suppose, maybe ten sheets of photocopied paper. We put them into packs and we made up about 45 of these packs, and you have seen this, this is a minute community. And 45/50 or something like that, well the room was full. I think we had 48 packs and we used them all and there was people who didn't have packs, you know, there was only one to a family. And that was the beginning really; and that was to fight Mynydd Yr Hendre wind-farm.'   (Lines 83-118 edited)

Biographical Interview with Chair of Welsh AWEG 10th March 2012

Where collective objection takes place, the model reflects findings outlined in **Chapters 5, 6 and 8 -** the creation of unincorporated associations with some degree of institutionalisation, linked together through virtual and real world networks engaging in conflictual relations with developers of wind energy. Such AWEGs deploy moderate reform tactics and strategies to purposively influence the local state and civil society with the aim of resisting change.

Anti-wind activists as outlined in **Chapters 2 and 8** have established a discrete protest discourse and engage in the telling of 'War Stories' and 'Horror Stories' which create and sustain a common identity. As outlined in **Chapter 7**, individual activists share a weakly conservationist ideology, identify with the local and wider struggle and as reported in **Chapter 8**, frequently see their activism as part of a wider movement.

Chapter Conclusion

The small numbers of conceptual models that have been used to describe anti-wind attitudes and activism have typically failed to locate wind energy

development within a wider social and economic context. They have taken the 'need' for renewable energy for granted and treated the technology as a 'social good'. As a consequence opposition attitudes and behaviours are seen as deviant and something to be understood so that they can be overcome.

The conceptual model offered at Figures 51-54 in this chapter and the analysis offered in **Chapter 3** starts from a different perspective, seeing the development and deployment of renewable energy as a strategic response of advanced capitalism to geopolitical factors and historic energy crises. In advanced industrial capitalism, as Castells (1996, 16-17) suggests, the main source of productivity comes from the introduction of new forms of energy and renewable energy offers nation states a secure additional means of generating electricity, without which social cohesion would rapidly deteriorate.

New forms of energy generate new relations of production and these in turn entail externalities which impact on localities and class interests. In the context of onshore wind energy, these particularly (but not exclusively) affect the rural middle class who like others, have deeply entrenched view of the 'pastoral ideal'. Expansion of industrial wind energy challenges this ideal at instrumental and ideological levels and at the level of identity. As a consequence, some of those who are most affected engage in protest activity – at an individual or collective level. These activities are sufficiently organised, connected, purposive and of such a scale as to merit being seen as part of a movement rather than unplanned, localised effervescences.

Addition to Knowledge

The model outlined in this chapter places anti-wind activism in a wider social and economic context than has hitherto been presented. In contrast with other conceptual models and the literature generally, the model combines identity, ideology and instrumental factors as motivators for anti-wind activism. It recognises the multiplicity of motivations behind anti-wind activism and treats anti-wind activism as a social movement seeking to resist social and environmental change.

CHAPTER 10 - CONCLUSIONS

Introduction

The title of this thesis indicates the primary orientation of the research – an exploration of the phenomenon of anti-wind energy activism at both an individual and collective level. This is an important area of study as renewable energy attracts significant public subsidy and generates passionate feelings of both support and opposition. Depending on the type of renewable energy deployed it also has a significant environmental footprint (see **Chapter 1**, Figure 5).

In relation to opposition to wind energy, the literature reviewed in **Chapter 2** demonstrated the inadequacy of 'Nimby' as an explanatory term and highlighted the absence of an understanding of anti-wind activism as a collective phenomenon. In response, **Chapter 3** offered some potential theories for understanding both individual and collective reactions to the development of onshore wind energy in particular. **Chapter 4** detailed the methods used to undertake the research and described how mixed methods were used to answer five research questions:

1   What is the extent of anti-wind activism?

2   Who are the anti-wind activists?

3   Why do some activists oppose wind energy?

4   How have they protested?

5   Can anti-wind activism be described as a social movement?

These questions were explored in **Chapters 5-9**.

In summary the thesis proposes that the development and deployment of renewable energy is a strategic response of advanced capitalism to geopolitical factors and historic energy crises. New forms of energy generate new relations of production and these in turn produce externalities which impact on localities and class interests. In the case of onshore wind energy, these particularly (but not exclusively) affect the rural middle class who like

others, have deeply entrenched views of the 'pastoral ideal'. Expansion of industrial wind energy challenges this ideal at instrumental and ideological levels and at the level of identity. As a consequence, some of those who are most affected engage in protest activity – at an individual or collective level. These activities are sufficiently organised, connected, purposive and of a scale as to merit being seen as a movement rather than as a series of unconnected, unplanned, localised 'effervescences'.

The remainder of this final chapter reflects on the way in which the research has evolved, re-states the main findings of the thesis and considers some theoretical and methodological challenges which might be made to the findings. The chapter concludes with an assessment of the implications of the research for the anti-wind movement and the opportunity for further research.

The Research Journey

As outlined in **Chapter 4**, this research has its genesis in local anti-wind activism beginning in 2005 when I moved to live in North Wales. While undertaking my own informal research into wind energy, I rapidly amassed a significant body of technical material which I considered to be both biased and inaccurate. I initially directed my critiques towards local planning authorities in the context of proposed wind energy developments within TAN 8 Strategic Search Area A and then towards the Welsh and UK Governments raising concerns regarding the inaccurate assessment of CO^2 savings and the lack of rigour within environmental statements. During this phase it occurred to me that the debates over the introduction of renewable energy were taking place on a highly technical level which did little to engage those most affected. It was also apparent that there was more heat than light in relation to arguments for and against the deployment of onshore wind energy in particular as terms like 'NIMBY' were frequently being used in local and national debates.

As a consequence I decided to put my informal research to better use and I embarked on the journey of discovery which has culminated in this thesis

entitled *'Nimby, Network or Social Movement? Individual and Collective Opposition to Windfarms'*. **Chapters 2, 5 and 8** have explored the first part of the title with **Chapters 6, 7 and 9** focussing on the second part.

Main Conclusions

The main conclusion of this thesis is that anti-wind activism can be properly described as a social movement combining elements of both 'old' and 'new' movements. The justifications for this assertion are set out in the findings which extend from **Chapters 2-9**.

In **Chapter 2**, the literature review identified three distinct discourses present in relation to wind energy and highlighted, possibly for the first time, a wind energy 'protest discourse', separate from the public opinion / attitude discourse which Ellis, *et al.*, (2006, 4) suggest has come to dominate much of the social science research in this field. This protest discourse (examples of which are shown in Figures 8-11) contains activist generated 'war' and 'horror' stories (Fine 1995) telling the story of the collective 'we' in the anti-wind movement (Polletta 2002, 35). The chapter also highlighted the inadequacy of the 'NIMBY explanation' for wind energy opposition – although this was not so much a finding of this research as a re-statement of work previously undertaken by others.

In **Chapter 3**, the expansion of wind energy was placed in the context of the reproduction of capital – a context which has been largely missing from the renewable energy debate. This offers a bridge between anti-wind and anti-capitalist / anti-globalization struggles if activists can look beyond tactical repertoires and locate their activism within a wider social, historical and economic context.

In **Chapter 5**, the online world of anti-wind activism was mapped to reveal a worldwide network of individuals and groups mobilizing against the expansion of large scale wind energy. The use of Hyperlink Network Analysis (HNA) represents a substantial and original piece of empirical research within this area and confirms the existence of a significant non-random network created to both facilitate the sharing of information and to reinforce

collective identity. The measure of overall network density reported in **Chapter 5** suggests a weakly tied / highly dispersed network which following Granovetter (1973) is efficient in exchanging information. The further analysis in **Chapters 5 and 8** would suggest that the anti-wind network is actually denser than reported as indicated via network reciprocity and average degree measures which are scale independent. **Chapter 5** also mapped the networks of national coordinating bodies / clearing houses, which although being identified in earlier research (Szarka 2004b) have not been explored using relational methods. These findings directly address the challenge made by Crossley (2007, 226) that 'we must find evidence of links between groups if we are to speak legitimately of a movement' and illustrate his assertion that social movements are usually conceived of as a network comprising individuals and social movement organisations (Crossley 2011, 197).

Chapter 6 identifies the majority of anti-wind groups as operating as unincorporated associations, with a small number of more formal legal entities – mainly environmental charities. Multiple AWEGs display the 'segmentary', 'polycephalous' and 'reticulate' characteristics as outlined by Gerlach & Hine (1970) and Gerlach (1971). AWEGs have reciprocal relationships with each other and link with sympathetic organisations which have wider environmental aims.

AWEGs do not however generally affiliate with extremist organisations on the political left or right preferring to adopt the 'moderate reform tactics' as described by Andrews & Edwards (2005). Finally, anti-wind 'movement organizations' can and do outlast individual local campaigns, consistent with the idea of goal transformation as described by Zald & Ash (1966). This suggests that collective anti-wind activism may be more than a series of temporary coalitions – a point that is further made in **Chapter 8**.

In **Chapter 7** the social and demographic characteristics of selected anti-wind activists are considered and these suggest a number of commonalities. Activists tended to be older, male, white, retired professional, straight, well-educated, politically inactive home owners who did not have a disability. A

class dimension was also present with most of the activists who were interviewed identifying with the rural middle class.

Anti-wind activists were drawn from the indigenous community as well as from incomers – a finding which contradicts earlier research (Hull 1995 and Woods 2003b) suggesting that labelling anti-wind activists as 'incomers' seeking to protect their rural idyll is somewhat simplistic and potentially influenced by the rhetoric of the renewable energy debate.

Many anti-wind activists had strong attachments to place – a finding which is consistent with earlier research (Devine-Wright & Howes 2010). However, the results of this research indicate that attachment to place is complex – not always being linked to current residence in an area. Anti-wind activists can engage in 'place protective behaviour' for a former place or a place which is enjoyed without residence. Equally, not all anti-wind activists have a strong attachment to place which suggests that while attachment to place helps to explain anti-wind activism, it may not be the only explanation. These findings temper earlier and contemporary results from within the environmental psychology field which have tended to see place attachment as the only explanation for opposition to wind energy.

Anti-wind activists were also shown to be environmentally and ethically aware, sharing a weak conservationist ideology. Activists' views of nature generally reflected the 'deeply entrenched landscape aesthetic' described by Brittan (2001, 170) - the 'pastoral ideal' to which Leo Marx refers throughout *The Machine in the Garden* (Marx 1964). Activists also shared a collective identity as conservationists through their membership of nature protection / conservation organisations as illustrated in **Chapter 8**.

Chapter 7 also illustrates some of the instrumental reasons why some activists opposed wind energy – including noise nuisance, house price and saleability effects. These effects were less pronounced than expected, with concern over potential effects appearing to be greater than concern over actual effects. That said, several examples existed where the converse was true.

The biographical interviews which were undertaken with a small sample of activists revealed two things. Firstly, all of those interviewed had been drawn into activism because of a potential threat to 'place' but this was experienced differently by each activist. For some, the threat was to the immediate locality – within hundreds of metres, for others the threat was to a wider locality – the general area. Secondly, all had been actively involved in politics or political activity to one extent or another. These results suggest that threat to place (at an instrumental or ideological level or via threat to personal or collective identity) initiates activism and that key activists draw on their experience of political action to support their role as movement leaders.

Chapter 8 makes the case that anti-wind activism should be seen as a social movement – a term which has been casually used without being rigorously tested against formal definitions. The chapter reviews the findings of **Chapters 2-7** against three such formal definitions and asserts that the term 'social movement' is an appropriate one to use. This is, to my knowledge the most rigorously argued assertion of this claim.

Finally, **Chapter 9** presents a new and original conceptual model for anti-wind activism. As outlined there are relatively few examples where such models have been used and none that consider the context of wind energy development alongside collective opposition. The model draws on Grand and Middle Range theory and offers a more complete explanation for anti-wind activism than has previously been presented.

Theoretical & Methodological Reflections

Theory

The quotations at the beginning of **Chapter 3** highlight both the importance and the danger of theory. On one hand, theory is needed as a guide, on the other it can be paralysing, especially when it tries to address 'unanswerable questions' (Becker 1993, 219). The quotation from Glaser & Strauss reflects the approach taken to theory in this thesis. **Chapter 3** outlines what might be theoretically possible and to varying degrees, **Chapters 5-9** try to line this

up with what has been found in fieldwork. This process relies heavily on interpretation, supported by triangulation and is qualified by reflexive practice. At the conclusion of the thesis it seems appropriate to reflect on the success or otherwise of these attempts.

Chapter 3 explored both Grand and Middle-Range theory and on reflection I would suggest that Grand Theory does not offer a good basis for understanding individual anti-wind activism, but is better suited to situating this within wider social phenomena. Marx's Historical Materialism offers a context in which the state develops alternative forms of energy to increase productivity and maintain capital accumulation, but it does not completely explain the micro level responses of individual social actors. It helps to locate opposition in a context of production and offers some insight into possible class dimensions to activism but this is not enough. Similarly, Heidegger's philosophy offers a measure of insight into *Dasein*'s struggle for 'authentic being' but if you ask an anti-wind activist what their reasons are for opposing wind energy they do not generally speak about '*techne*' or their objection to the treatment of nature as '*standing reserve'.* Grand Theory offers a context for anti-wind activism and this is how it is understood in the conceptual model explained in **Chapter 9**.

Conversely, individual and collective anti-wind activism is better understood through what Klandermans, Staggenborg & Tarrow (2002, 317) call a 'strategy of middle range theorising' adopting social movement theory as a framework within which motives, strategies, tactics, ideology and collective identity can be analysed.

In short, both Grand and Middle-Range theory have been useful in guiding the research. The thesis has attempted to link both to build an integrated theory of anti-wind activism by 'synthesising arguments from different perspectives, making connections between different levels of analysis, and using a variety of methods and data' (Klandermans, Staggenborg & Tarrow 2002, 317). To the extent that the findings outlined in **Chapters 5-8** and the model outlined in **Chapter 9** attempt to offer 'an interconnected system of

propositions directed toward explanation' (Gould 2003, 234), I am hopeful that the synthesis has been successful.

Methods

Towards the end of *Challenging Codes*, Alberto Melucci reflects on some of the practices adopted by researchers seeking to understand collective identity within the context of an approach which focusses on what he calls 'actor / system dualism' (Melucci 1996, 384-397). Three recurrent practices are identified – the search for structural conditions which define the movement actor, surveys to identify the motivations of individuals who participate in social movements and the quantitative analysis of collective events. Melucci then critiques these practices highlighting their limitations.

In the first instance, Melucci asserts that the task of identifying structural conditions is predicated on uncovering 'the 'true' meaning of what is being observed since the appearance of the phenomenon being studied belies a deeper reality (1996, 384). Secondly, he suggests that it is assumed that by examining the motivations of movement participants and relating these to the structural conditions under review, a picture emerges of the movement as a collective actor. Finally, by examining the public record of protest events, Melucci argues that it is believed that the ways in which movement actors confront public authority are made clear (1996, 384-6).

When these approaches are adopted, it is argued that 'what disappears from the scene is collective action as a social production, as a purposive, meaningful orientation' (1996, 386). Melucci suggests that an over reliance on questionnaires and the self-expressed narrative of movement actors leads to the 'crude assumption that the meaning of the action coincides with the actors verbal representation of it' (1996, 386).

This critique is a useful backdrop against which some reflection on the methods adopted in this thesis might be undertaken. Has the thesis sought to identify a deeper reality of the social condition experienced by individuals and communities impacted by wind energy development? Does the aggregation of individual observations provide an accurate picture of the

anti-wind movement as a collective actor and finally do the observed public protest activities of anti-wind protestors disguise the submerged relationships and everyday activities which are part of a movement?

To some extent the answers to the above have to be 'yes'. The thesis seeks to identify the nature of the social conditions experienced by anti-wind activists. It points towards instrumental, ideological and identity dimensions which underpin movement activism. Similarly, the aggregation of individuals through shared ideologies, associations and socio-demographic characteristics aims to identify the characteristics of the anti-wind energy movement as a collective actor. Lastly, the public strategies and tactics of movement activists and AWEGs as political actors are explored in some detail drawing on public records (such as petitions, photographs and submissions to planning inquiries etc.).

Do the above invalidate the research findings? Not in my view.

Firstly, Melucci's point regarding the identification of structural conditions revolves around the researcher superimposing a 'truer' meaning of action compared with that ascribed by activists themselves. This is the argument made by Bourdieu (1988, xiii) when he refers to the 'propensity to theorise or intellectualise.' In **Chapter 4** I outlined that I was conscious of this tendency and the conceptual model outlined in **Chapter 9** is based on a multi-dimensional approach which recognises instrumental, identity and ideological aspects that can underpin individual and collective action. The tendency within some parts of the social movement literature, to focus on one aspect – such as identity or culture, is avoided by combining elements of both 'old' and 'new' movements and treating anti-wind activism as a social movement. Instrumental reasons for activism - often cited by movement activists, are considered alongside ideology and identity - as frequently cited by academics.

Secondly, in this thesis a mixed methods approach has been taken to the generation and analysis of data. Although interviews have formed a substantial part of the method used for data collection, other approaches

have also been integrated including Hyperlink Network Analysis and a structured instrument designed to measure place attachment. The semi-structured interview content was specifically developed to approach some questions indirectly rather than directly to limit the impact of 'proxy politics' and the findings from biographical interviews were cautiously interpreted, having regard to the selective role of memory and the context and setting in which the interviews took place.

Thirdly, social network analysis, a relational approach, has been deployed to uncover submerged relationships – such as the membership of nature protection / conservation organisations which points towards a collective identity / shared ideology.

Finally, although Melucci is somewhat critical of biographical methods (1996, 387) these have been deployed alongside other methods to provide a deeper appreciation of the past trajectory and current context of activism.

The detailed consideration of methodological issues in **Chapter 4** including consideration of the temporal context in which the research has been conducted, the standpoint of the researcher, deployment of multiple methods of data collection and analysis, goes some way towards addressing Melucci's anxiety that the meaning of collective action can be lost because of the limitations of research procedures.

Thus, the thesis presents a composite picture of anti-wind activists, their motivations, organisations, relationships, affiliations, strategies and tactics, which takes account of the social and economic context within which these particular 'disenchanted prophets' (Melucci 1996, 1) are speaking.

Implications for the Anti-Wind Movement

The findings presented in this thesis have a number of implications for the anti-wind movement.

The first and possibly the most significant is that anti-wind activists can legitimately claim to be part of a 'social movement'. This terminology can frame anti-wind activism as a more substantial and significant activity and

by extension can go some way to legitimise the grievances that are so frequently dismissed as 'NIMBY behaviour'. However this claim is potentially contestable on two levels. At one level – a political one, as outlined in **Chapter 4,** the claim has the potential to be interpreted as being in conflict with the dominant climate change master frame. Findings which support or give a positive interpretation to 'non-aligned' views may be implicitly seen as reactionary rather than progressive and could be considered to be propaganda. On an epistemic level, the assertion is also a 'knowledge claim' and is subject to competition from other knowledge claims.

A second implication is that by locating the development of wind energy within the process of capitalist production, opposition to wind energy can be linked to movements seeking to resist the further expansion of global capitalism. This is not to say that the anti-wind activists interviewed as part of this research or gathered at the steps of town halls when planning committees meet to consider wind energy developments are likely to join members of the 'Occupy' movement. Rather, by historically locating the genesis of wind energy development and showing this to exist outside the current and dominant climate change master frame, a discursive space is created where activists and academics can theorise and develop linkages between movements. If the expansion of wind energy is part of a systemic response to energy crises and climate change has been used by transnational corporations to secure profit through the exploitation of subsidies and rural landscapes, then linkages are there to be made. As one anti-wind activist put it in a discussion paper he wrote and circulated to anti-wind activists in 2010, 'Climate Change is indeed a radical agenda but it is far from clear that it is radicalism of the left' (Bruce 2010, 10).

Both of these implications can be regarded as being of benefit to the anti-wind movement. However, they rely on activists taking ownership of the findings and using them strategically. As indicated in **Chapter 6**, the failure of AWEGs to adopt bureaucratic structures suggests that this may present somewhat of a challenge.

A third finding could be interpreted by the movement as a warning. The analysis of the online network of AWEGs presented in **Chapter 5** and the reflection of some UK activists suggests that the position of Country Guardian, while being central to the movement, is also a vulnerability. The Country Guardian egonet contains 30% of the nodes of the overall AWEG hyperlink network and has the highest degree centrality. If this organisation is removed from the overall network it will significantly weaken it. As I am writing this, I am simultaneously thinking of the comments of one activist who suggested that 'Country Guardian has become 'Angela Kelly'' and the contents of a 'round robin' e-mail from Angela announcing her decision to 'reduce her input into the campaign'.[79] In the absence of a clear succession plan it is difficult to know how well both Country Guardian and the movement as a whole will fare when Angela Kelly 'retires'.

Research Limitations & Recommendations for Further Research

The research undertaken for this thesis has a number of limitations which also offer the opportunity for further research.

Firstly, the qualitative work is based on seventeen structured interviews and four pilot interviews. Without engaging in a methodological debate based on statistical sampling theory, more interviews would have been useful to provide greater comfort that theoretical saturation (Glaser & Strauss 1967, 61) had been reached.

Secondly, the results of the place attachment questionnaire, while offering added insight into the characteristics of the anti-wind activists who participated in the research, should be treated with caution as the 27 item instrument was tested on a relatively small sample of respondents. There is some research (Cortina 1993) which suggests that Likert scale-based questionnaires with larger numbers of items have the capacity to generate higher values for coefficient alpha which in turn give a positively biased

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[79] E-mail from Angela Kelly dated 5th August 2014.

measure of internal consistency. Additional data would go some way to further validating the internal consistency of the instrument.

Thirdly, the hyperlink network analysis in **Chapter 5** is only partially complete. Additional analysis of the properties of the hyperlink network through partitioning the data could reveal additional structural characteristics of the network. Diani (2003) undertook this type of procedure when analysing the environmental movement in Milan.

Lastly, there were only four biographical interviews as described in **Chapter 7** and additional interviews would generate additional material for a more comprehensive case comparison. The material generated in the four interviews is, to my knowledge, unique in the study of anti-wind activism and further analysis using Schütze's method would be worthwhile. One area that would be of particular interest would be the childhood health of activists as two of the interviewees suffered from chronic asthma which as a 'trajectory of suffering' appears to have had a lasting impact on both education and character.

In addition to expanding the research to larger numbers of anti-wind activists, there is an associated opportunity to explore the applicability of the model outlined in **Chapter 9** to alternative environmental / place protective mobilizations. One such area would be the anti-fracking protests seen in both the US and the UK.

Anti-fracking protests have been springing up since the mid 2000s (Wright 2013). In 2008 New York State placed a moratorium on fracking as a result of significant opposition and legal challenge and France banned fracking in 2011. However calls to halt the expansion of fracking in the UK have not

been well received and it is current government policy to exploit shale gas reserves across the UK using the technique.[80]

Simonelli (2014) outlines the background to and extent of anti-fracking mobilization in New York State prior to the 2008 moratorium. She locates anti-fracking protests in the context of 'market penetration at the land margins of rural America' (2014, 272) describing how such:

> '..penetration efforts of mature capital markets now involutes into the rural United States' "backwaters." In the wake of the recession and political changes abroad, new kinds of profit are squeezed out of natural resources at the expense of local people, as often happens in the Third World.'   (2014, 259)

The struggle of 'fractivists' is likened to that of the Zapatistas and is characterised as a loose network of 'homeowners and landowners, struggling farmers, and committed activists' (2014, 261). Simonelli, like Wright also uses the term 'movement' (albeit casually and without qualification) to describe collective opposition to fracking.

In light of the US experience, the model in **Chapter 9** seems to translate well to a different context. The 'market' of advanced capitalism is seen as driving the expansion of alternative energy supplies with consequent negative externalities experienced at a local level. Individual and collective protest ensues with activists framing their objections in different ways – some focussing on health effects, others expressing concern on property values; some on the conflict between expansion of natural gas and the desire to generate more renewable energy and others focussing on landscape degradation. These explanations for opposition resonate with the '*Triple I*' framework within the model developed in **Chapter 9** as do the moderate reform tactics of anti-fracking groups in the US. It would be interesting to

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[80] See https://www.gov.uk/government/policies/providing-regulation-and-licensing-of-energy-industries-and-infrastructure/supporting-pages/developing-shale-gas-and-oil-in-the-uk [Online] (Accessed 21/8/2014).

explore these resonances in greater detail using 'fractivism' as a focus rather than anti-wind activism as there are some obvious similarities.

Concluding Remarks

This thesis has added to knowledge in a number of ways.

Firstly, it has integrated elements aspects of Grand and Middle Range Theory and created a conceptual model which locates the expansion of wind energy within process of production in advanced capitalism.

Secondly, the thesis makes a strong case for considering collective opposition to wind energy as a social movement.

Thirdly, the thesis has used an innovative combination of methods to explore the phenomenon of anti-wind activism. Specifically, it has integrated qualitative data gained from semi-structured and biographical interviews with quantitative data gained from hyperlink network analysis and a structured questionnaire focussing on place attachment. I believe that examining the phenomenon of anti-wind activism at the micro and macro level using these combined methods is both new and original.

Lastly, the application of relational methods through hyperlink and social network analysis has generated new and significant insights into collective anti-wind activism.

In conclusion, I am reminded of the comments made by John Wilson at the end of his *Introduction to Social Movements.* 'Frustration', he suggested 'is the fate of all social movements' and the anti-wind movement has seen and will probably see more than its fair share of frustration as its activists battle against the industrialisation of the countryside.

The judgement as to whether such activists are 'heroes', 'clowns', 'fanatics' or 'fools' is ultimately a very personal one but I hope that the findings within this thesis help people to come to a better understanding of anti-wind activists and what they are protesting about.

APPENDICES

Methodological Appendices

M1 - Hyperlink Network Analysis Methodology

Data Collection Methods

Analysis of a hyperlink network begins with the task of gathering data. Park (2003) identifies two methods for this: observation and computer assisted collection. Both effectively create snowball samples of websites from hyperlinks on an initial target site or sites.

Direct observation involves the researcher selecting a website to begin the analysis from, manually recording each hyperlink on the target site, using a particular hyperlink to connect to another site and then systematically recording the hyperlinks on the next site. The results of the exercise are then recorded (into a spreadsheet or directly into an appropriate software package such as UCINET). Direct observation has the benefit of providing the researcher with more information on selected nodes during the initial trawl as the content of individual websites must be reviewed before hyperlink data can be added to the matrix. This provides an opportunity to develop a 'feel' for the field of research.

However as Park notes (2003, 57) there are limitations to direct observation, not least the time consuming nature of a task which can involve mapping several hundred nodes. The use of human coders also allows error to enter the analytical process in that some hyperlinks may be omitted due to being overlooked or deliberately ignored. Notwithstanding this, direct observation does have advantages in that selection of hyperlinks can be beneficial rather than problematic, provided that the basis of selection or omission is made clear.

A second approach involves the selection of a suitable software tool which trawls the Internet from a selected starting point and automatically creates a record of websites with connections to or from the initial target site. Software such as IssueCrawler[81] can both record the results of web 'crawls' and display the results diagrammatically. The resultant network data can be

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[81] See www.issuecrawler.net [Online] (Accessed 01/09/2014).

imported into software such as UCINET and then analysed. A typical output file from IssueCrawler is shown in Figure 55 below.
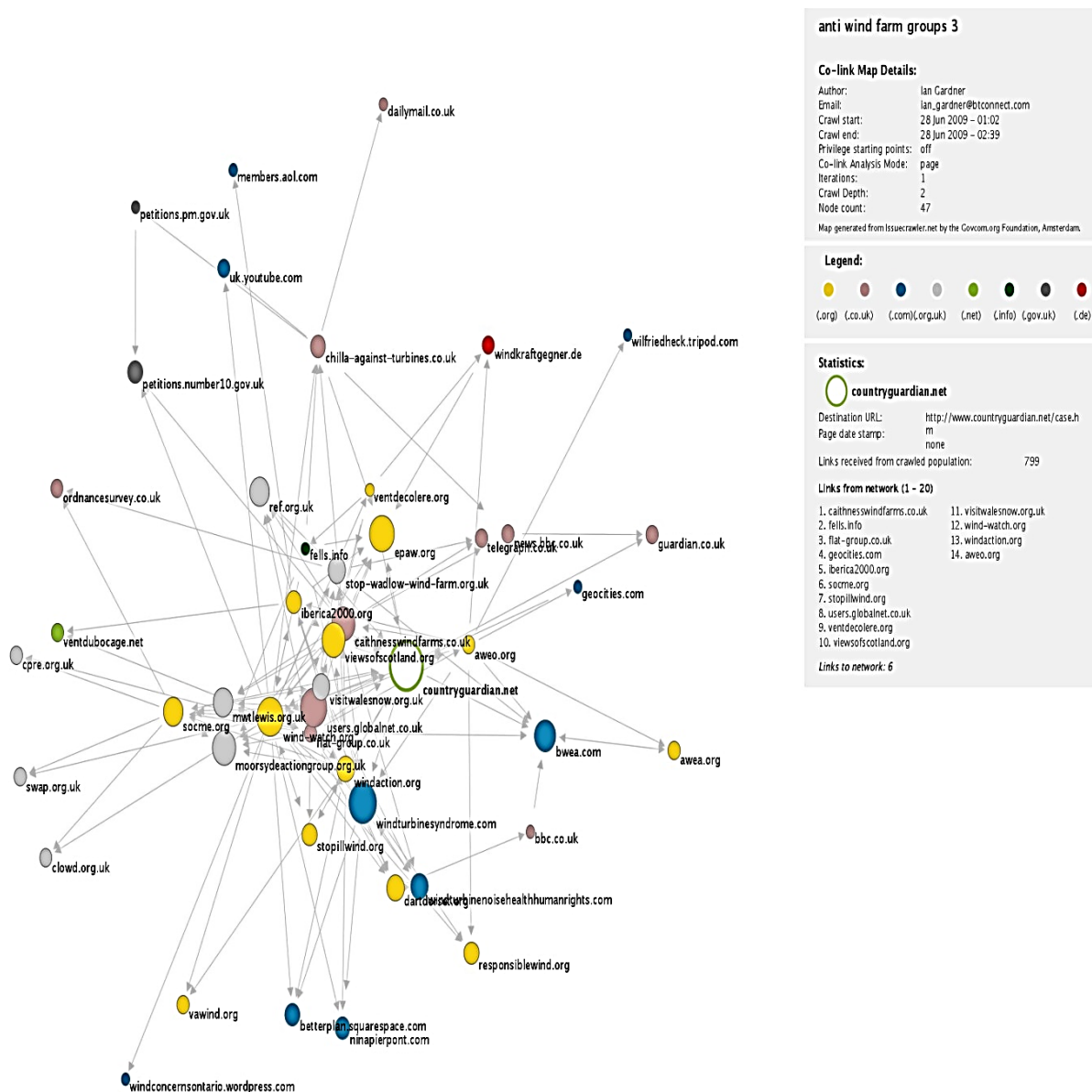
Figure 55: IssueCrawler Network Map - Anti-Wind Energy Groups

Computer assisted data collection also has a number of drawbacks – the principal one being its lack of selectivity. The process of crawling hyperlinks, when performed on an automated basis, has the potential to identify spurious connections. For example, if the crawl identifies a website with a hyperlink to a newspaper or television station, the network that is subsequently created will contain hyperlinks, not only from network members (organisations that form part of the network being studied) but from the websites that record their activities in the media. This is

nonetheless an interesting dimension as the communication channels of network members are revealed through such hyperlink crawls.

A second issue arising from the snowball crawl technique when used in computer assisted data collection is that when websites of web communities (www.Informe.com ; www.worldpress.com etc.) are included, the snowball sample can grow exponentially.[82]

Importantly, the data collection process has a temporal aspect. Data are collected at a point in time, yet data are constantly changing. This is particularly true of website content and for hyperlinks as a consequence. Thelwall (2004, 7) refers to this as the problem of *'web dynamics'*. Content and websites are continually being updated and links can 'die' or be seen as 'dead' during the data collection process. It is therefore necessary to be clear what time period the data have been collected within and also to recognise that the accuracy of the data is a function of their age.

Whichever approach is taken, the result effectively builds a matrix of connections or 'ties' between websites, each site becoming a 'node' in the network. This matrix can be displayed diagrammatically and the resultant network can be analysed in terms of specific properties such as 'density', 'centrality' etc. These terms are briefly described below:

Network density is the measure which describes the extent to which all of the possible ties between nodes are present within the network as a whole. In an *m x m* matrix there will be a maximum of *m* x *(m-1)* possible unique ties between nodes. Density is the ratio between the number of actual ties to the number of possible ties and is expressed as a number between 0 and 1. A value of 0.6 therefore suggests that 60% of all possible ties are present in the network and the higher the number the greater the density.

Centrality is a measure of the number of connections that a given node has.

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[82] This actually occurred during the research and IssueCrawler started to generate a network of 4.5 billion entries. IssueCrawler stalled at this point and discussions with Richard Rogers at IssueCrawler led to the abandonment of computer assisted crawling for this network.

Data Collection Starting Point

Although it would have been possible to begin to source hyperlink data from a single known objector group website in the UK, opposition to wind energy developments has an international dimension. There are federations of anti-wind energy groups or national co-ordinating bodies in the UK, France, Germany, The Netherlands, Europe and North America. These co-ordinating bodies have websites which identify affiliates, members and campaigns within and outside their own geographical boundaries.

To locate a particular campaign or group within a network which has such an international dimension, it is necessary to consider the possibility that links exist with groups outside the specific locality which is being studied. Put simply, we may find that a Welsh or UK anti-wind energy group is part of a much bigger network. In view of this, the approach taken to the process of collecting data was to begin tangentially rather than directly. A snowball sampling technique was used starting with an adjacent network covering North American anti-wind groups. Many of these are listed in the website of the North American Coordinating body, National Wind Watch (www.wind-watch.org) as affiliates or allies (http://www.wind-watch.org/affiliates.php).

At the time of harvesting hyperlinks for analysis, National Wind Watch had the largest known number of affiliated organisations and their website was updated regularly.[83] This list of affiliates / allies included objector groups in the UK and Canada, so it offered the possibility of providing a global context for the UK AWEG network as it was this network that was initially going to be the object of study. Hyperlink data from the National Wind Watch website was initially downloaded into an MS Excel spreadsheet. This initial dataset contained details of 264 affiliates with live hyperlinks to websites. The data were then cross tabulated to create an adjacency matrix, where column and row headings replicated one another (see Table 10 below):

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[83] During the research the European Platform Against Windfarms www.epaw.org acquired more signatory members than National Wind Watch and the French anti-wind energy federation www.ventdubocage.net was also mapped. Both sites had more hyperlinks than National Wind Watch but this was only identified during the data collection phase.

Website	A	B	C	D
A				
B				
C				
D				

Parallel Data Collection Methods

As outlined previously, the process of crawling hyperlinks was then undertaken and the results mapped into the matrix. A manual, direct observation approach was taken to generate the initial dataset and in parallel, a computer assisted crawl was also undertaken. The direct observation approach involved physically navigating to the website in the first matrix row and identifying the links to other sites (usually but not always on a 'Links' page). Where hyperlinks were found to any of the initial 264 websites in the initial dataset, a '1' was placed in the relevant matrix column (Table 11).

Table 11: Adjacency Matrix with Data

Website	A	B	C	D
A				1
B				
C		1		
D	1			

The above indicates that website 'A' has a link within its architecture to website 'D' and also website 'C' has a link to website 'B'. Within the language of HNA, the hyperlinks from websites in the rows are known as 'out-links' and those in the columns are known as 'in-links'. In the example above, website 'A' has an out-link to website 'D' and website "D" has an in-link from website 'A'. The significance of in-links is described by Park (2003, 55) where it is asserted that the number of in-links is an indicator of a website's credibility.

In addition to unidirectional links, hyper linking can be done on a reciprocal basis – i.e. two websites can both link to each other. In the example above website 'A' has an out-link to website 'D' and website 'D' has a reciprocal out-link to website 'A'.

Other than the time consuming nature of the task, two further issues arise in the data collection exercise. Firstly, when there is an out-link from one of the websites to another site which was not one of the initial sample, it was necessary to add the hyperlink to the sample. This was done by adding a further column and row to the matrix (Table 12).

Table 12: Growth of Adjacency Matrix

Website	A	B	C	D	New link
A				1	
B					
C		1			
D					
New link					

Secondly, within the initial dataset and in subsequent additions to the dataset, some references to affiliates / allies / groups do not have hyperlinks or these are broken. There are several reasons why this problem occurs including web author miscoding, migration of websites to other domains, changes in web addresses not being picked up by web-authors, domain name temporary lapses etc. To resolve this problem, and where a hyperlink was present in the dataset, the in-link was initially mapped into the matrix but the link was highlighted in red to indicate that it was "dead". (See D above). Queries were then made using Google to establish whether the hyperlink had been correctly specified or whether a site had migrated to another domain (.net for example) etc. Where a site had so changed but the objector group was obviously the same, the new address was inserted into the matrix. This was time consuming but a distinct advantage of the direct observation method. Where no hyperlink was present or where the link was incapable of being repaired (as above) then the non-existent or dead out-link was removed from the matrix (Table 13).

Table 13: Removal of Dead Links from Adjacency Matrix

Website	A	B	C	New link
A				
B				
C		1		
New link				

Tidying Up the Network

During the data collection phase, the network sample increased to contain over 734 possible hyperlinks – almost three times the size of the initial sample as a direct consequence of the snowball sampling approach. Dead and duplicate links were removed from the initial sample of 734 sites, leaving 635 live sites with active hyperlinks. This represented 86.5% of the initial sample. One of the most common reasons why links were inactive was that the hosting domain had ceased to be available (e.g. AOL Hometown and Beeb.Net).

Visualising the Network

Visual analysis of the resultant data was performed using UCINET for Windows. During the data collection phase network diagrams were plotted at various stages to map the evolution of the network sample. An eigenvector analysis was also performed periodically to assess the most significant nodes within the network.

IssueCrawler was also used to generate periodic views of the network – however these produced results with the limitations outlined previously. The network of 321 nodes illustrated in Figure 56 below, for example contained three sites – www.telegraph.co.uk, www.guardian.co.uk and www.spiegel.com which, while highlighting the press coverage given to campaigns, would possibly not cast light on the nature of the underlying social network. Similarly, the British Wind Energy Association website www.BWEA.com appears in the IssueCrawler generated network but would not be considered to be part of the anti-wind energy network as it is the main wind energy industry site in the UK.
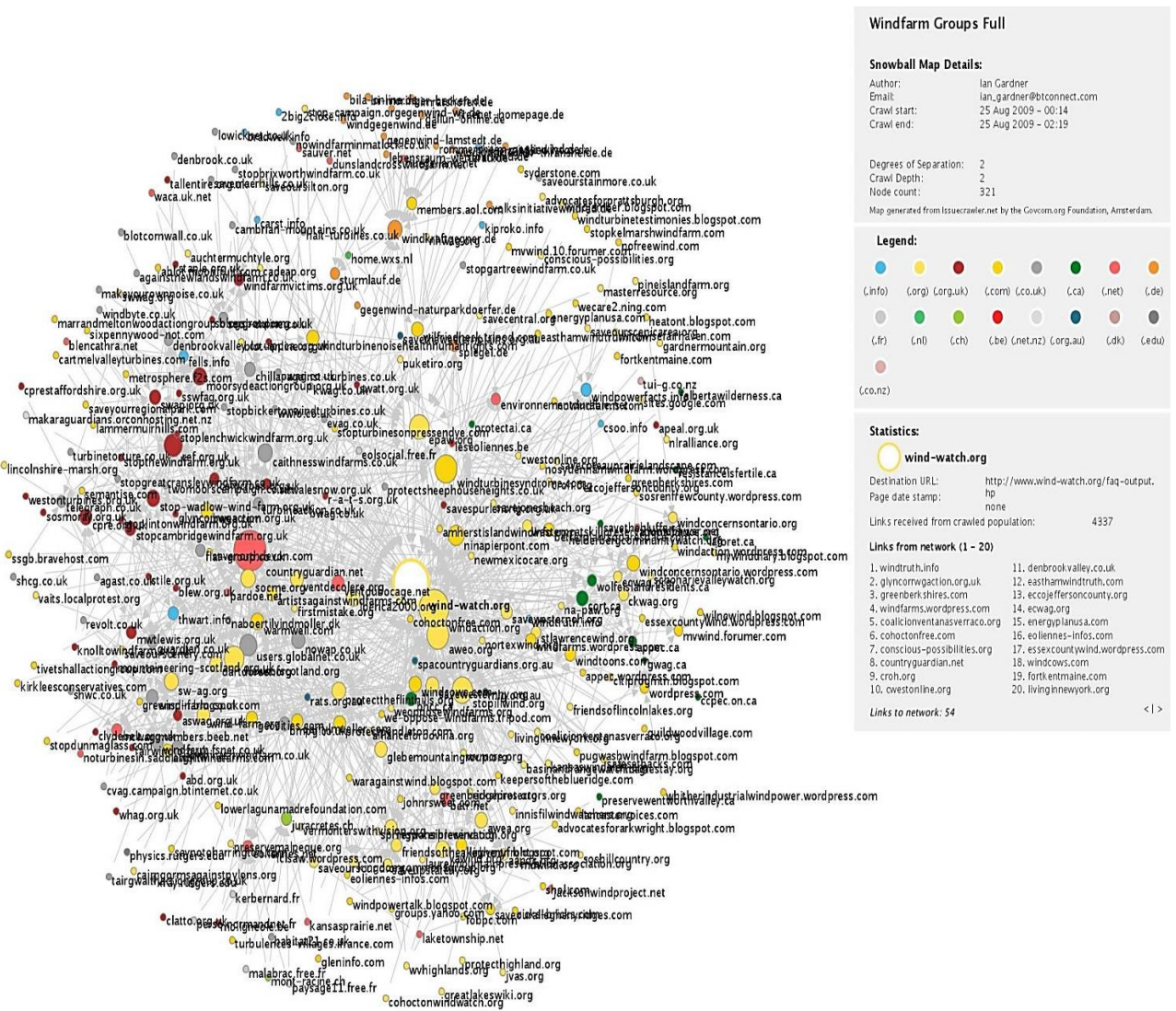
Figure 56: IssueCrawler generated Hyperlink Network - 321 nodes

In view of the results of periodic visualisation and analysis of the emerging AWFG network using IssueCrawler, it was decided that the final visualisation and analysis of the manually created network would be undertaken in preference to the IssueCrawler generated network. The results are described in **Chapter 5**.

Although 'there is no single "right way" to represent network data with graphs' (Hanneman & Riddle (2005, 31), rather than presenting the network using a random layout, the force directed Spring Embedding algorithm was chosen as a means of illustrating the network relationships on the basis of similarities between nodes. Reciprocal ties between nodes are shown in red and single ties are shown in black.

The algorithm locates nodes in the graph based on their connectedness to one another and can illustrate clusters or communities within the overall network. The Spring Embedding algorithm assumes that each node has a small positive or negative force attached to it and that hyperlinks operate like mechanical springs pulling nodes close to one another. The algorithm iteratively adjusts the network until the forces between nodes are equalised. Similarities are defined in terms of geodesic distance (i.e. the smallest number of paths necessary to connect each node to all other nodes).

Methodological Issues

Progressing from the position that a hyperlink network can throw light on a social network, the key methodological issue that arises is **'*how do we interpret the results?*'** In answering this, Hyperlink Network Analysis does present several methodological challenges.

Hyperlink Counts

The statistical analysis of the hyperlink matrix generated from the data collection phase of research includes an assessment of the number of hyperlinks. These links can be from websites, to websites, between particular websites and between particular groups of websites (or domains. such as .com / .net / .co.uk / .org).

In small scale networks, the number of links between 'nodes' can be counted manually and the reciprocity of these can be easily seen (i.e. links that are reciprocated between websites). It may also be possible to fully analyse and then describe the significance of single links in small scale networks. However for larger networks, the analysis is necessarily constrained and there is a tendency to simplify the explanations associated with multiple links by grouping or classifying these as Thelwall (2003) does.

Hyperlink counts and link categorisations therefore need to be treated cautiously as interpretation, particularly of larger samples can lead to simplifying explanations which lack rigour. Interpreting the significance of hyperlink counts is not straightforward.

In the analysis undertaken in this research the adoption of direct observation as the method for data collection allowed non AWEG links to be screened out and so a count of hyperlinks between group and activist websites becomes a more straightforward process. Network size based on directly observed links between AWEG websites avoids over statement through the inclusion of out links to sites such as media corporations where articles on wind energy or opposition events have been publicised. A link / content analysis as advocated in Thelwall (2006) was therefore not performed.

The Strength of Hyperlink Ties

A second issue one of strength of ties. Granovetter (1973) defines the strength of **interpersonal** ties amongst network members in terms of the combination of the amount of time, the emotional intensity, the intimacy and the reciprocal services associated with a tie. 'Strong' ties are those in which time and effort have been invested. 'Weak' ties exist when there is a degree of association which is more than 'a nodding relationship between people living on the same street' but which cannot be considered to be strong. Weak ties exist between acquaintances; strong ties exist between friends.

On the basis of a difference in the strength of ties, Granovetter argues that some ties are less effective in the dissemination of information or in the exercise of influence than others. This assertion is based on the proposition that as people interact they form psychological ties and relationships which inhibit independence. The more interaction the stronger the psychological tie and consequently, greater dependence is created between members of the network. In such circumstances, some members within the network effectively block communication flows whereas, conversely, where weak ties are present, information in particular is able to flow more freely through 'bridges' – network members that are unrestricted by friendship / psychological relationships. Granovetter (1973, 1366) explains this idea using the example of a rumour being spread amongst friends. Where strong

ties exist, the recipients will hear the rumour several times as the friendship group is tightly knit. Scott (2000, 35) describes such information as 'stale' and as a consequence, the rumour is not propagated as effectively compared with a group where members are less closely linked and each new communication touches a new recipient.

The hyperlink network associated with AWEGs groups is not an interpersonal network and thus some of Granovetters' analysis has to be reinterpreted. In so doing, it is possible to suggest that the AWEG hyperlink network can, almost by definition be considered to consist of weak ties. Hyperlinks are not interpersonal links and exist without 'emotional intensity'. Furthermore, given their visibility on the Internet, hyperlinks and the network that they create can hardly be considered as *'intimate'*. Despite this, as groups connect in cyberspace there appears to be more than a *'nodding relationship'* between their localised campaigns. The Internet connects groups and individuals even if they are located on different continents, such groups appearing to effectively share information, publicise their successes (and failures) and gather support using the net.

Finally, the concepts of tie strength and network density are also linked by Granovetter who suggested that *'one's strong ties form a dense network, one's weak ties a less dense one'* (1973, 1370). This terminology is perhaps unfortunate as tie strength is a property of individual links, whereas density is a property of the network as a whole. A less dense network could properly be described as a 'sparsely linked' network but this is not the same as saying that ties are weak.

M2 - Place Attachment Instrument

Thinking about where you live, please read the statements below and place a cross (X) in the box that best describes your response.

There are 30 questions in total. Please answer them all

At the end of the questionnaire there is a section for you to add any comments you may have on the statements or the questionnaire as a whole. Thank you

No	Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not Applicable
1	Living here says a lot about who I am…						
2	This place feels part of me						
3	Where I live means a lot to me.						
4	I **don't** have a special connection with this place						
5	I have a lot of fond memories about this place						
6	When I am here I can be myself						
7	What happens to this place means a lot to me / I care about what happens here						
8	I try to play a part in my community						

No	Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not Applicable
9	I **don't** have lots of friends here						
10	I know my neighbours well						
11	Other people around here know who I am						
12	When I am away from here I long to return. / I really miss this place when I am away from it						
13	Leaving here would make me feel happy						
14	I feel very committed to this place						
15	I feel relaxed here						
16	I get more satisfaction from being here than anywhere else						
17	I **don't** spend a lot of my life here						
18	My job requires me to live here						
19	This is **not** the best place for me to live						
20	I would prefer to spend more time here if I could						
21	I feel responsible for this place						

No	Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not Applicable
22	I did **not** deliberately chose to live here						
23	I have invested a lot of time in this area						
24	I have invested a lot of money in this area						
25	I moved here to improve my home environment						
26	I moved here to get some peace and quiet						
27	I moved here because of the scenery						
28	I **don't** think this area should be protected						
29	I would **not** recommend this area to other people						
30	You can't place a value on living here						

Comments

Internal Consistency

The results obtained from the Pilot instrument were collated using an Excel spreadsheet. Responses to negatively coded items were re-coded to enable consistency of response to be assessed using Cronbach's Alpha. To calculate this, the spreadsheet calculator developed by Del Siegle[84] was used. This provided a statistical analysis of the internal consistency of the instrument and allowed the effect of removing items to be assessed.

The 30 item version of the instrument initially generated a point estimate for the value of alpha of 0.88. Nunally (1978) indicates that values of alpha in excess of 0.7 would be considered as acceptable while George & Mallery (2003, 231) suggest that values in excess of 0.9 would be considered as excellent; in excess of 0.8 good and 0.7 acceptable.

Although 0.88 would be close to excellent, the small sample size of 13 would be a cause for concern in terms of the standard error for the estimate. In view of this, two further steps were taken to improve and then assess the consistency of the instrument.

Firstly the effect of removing items from the instrument was assessed using an iterative approach. The results are shown in Table 14:

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[84] See
http://www.gifted.uconn.edu/siegle/research/instrument%20reliability%20and%20validity/reliability.htm

Table 14: Implications of removing items from Place Attachment Instrument

Item	Value of Alpha if omitted individually	Comment
None – all 30 items included	0.881023652	Baseline result
1	0.875959944	
2	0.872345560	
3	0.875047295	
4	0.872622495	
5	0.875820026	
6	0.869075870	
7	0.876224954	
8	0.874422293	
9	0.874100340	
10	0.879780465	
11	0.881210898	Small positive impact
12	0.871429128	
13	0.881916161	Small positive impact
14	0.873814622	
15	0.873921014	
16	0.870718792	
17	0.881809292	Small positive impact
18	0.884363488	Larger positive impact
19	0.881033197	Small positive impact
20	0.888976449	Larger positive impact
21	0.872125691	
22	0.882475579	Small positive impact
23	0.876895510	
24	0.879228455	
25	0.873545057	
26	0.873296927	
27	0.877549080	
28	0.879261289	
29	0.895540773	Larger positive impact
30	0.875189566	

By removing individual items from the scale it was possible to assess the impact on the point estimate of the value of alpha. Eight items, when removed, had a positive impact on the value of alpha - of which three had a larger impact.

Question / Item 18 (*My job requires me to live here*) sought to test the relationship between working at home and attachment to place but this was not significant – partly because the sample contained a number of retired persons and also because some of the respondents had employment which was not place dependent.

Question / Item 20 (*I would prefer to spend more time here if I could*) is a commonly used place attachment item but in this sample there were several respondents who either worked at home or who were retired and could therefore not spend any more time in the area than they were currently spending.

The removal of question / item 29 (*I would **not** recommend this area to other people*) was an interesting result. It may be expected that a person with a strong attachment to the place they are supplying statements on would be willing to recommend such a place to others, however for some respondents this was not the case. The response of a single individual to this question appeared to skew the result however the reasons behind this persons response could be generalised[85] so this item was removed.

When these three were removed from the scale, the point estimate for alpha increased from 0.881 to 0.9156.

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[85] The respondent initially omitted a response and then agreed to categorise the response as 'Not Applicable'. This had a significant effect on alpha (0.881 with N/A = 0 for this individual answer compared with 0.892 if the answer was 'Neither Agree nor Disagree' = 3). The respondent suggested that she would not recommend the area to 'someone who would want to build a house next to hers or to set up a windfarm'. The statement had some capacity for ambiguity and thus on this basis it was removed.

The second step addressed the small sample size generated concern that the standard error for the point estimate of alpha may be large. This is to say that while the value of alpha is not sample dependent – i.e. $\partial\alpha/\partial n = 0$ (Duhachek, *et al.*, 2005, 296) the size of its sample error is likely to be inversely related to sample size. Duhachek provides a formula for calculating the standard error of the point estimate for alpha however, as the spreadsheet calculator which has been used on the pilot does not generate the necessary data to enable the calculation to be performed directly, the 95% confidence interval for the point estimate of alpha was calculated using the method cited in Fan & Thompson (2001, 522). The calculation is shown in Figure 57 below

No of observations	**n**	**13**
No of items in scale	**k**	**27**
Alpha	**a**	**0.9156280**
CIupp.er = 1 – [(1 – α) × F(γ/2),df1,df2] and CIlower = 1 – [(1 – α) × F(1 – γ/2),df1,df2] where F represents the values of the F distribution for percentiles γ/2 and 1 – γ/2, respectively, with df1 = (n – 1) and df2 = (n – 1)(k – 1).		
	df1	**12**
	df2	**312**
If the desired statistical significance level is γ = .05, the F values needed for constructing the upp.er/lower limits of the confidence interval are F(.025,12,312) = 1.9447 (lower percentile F for the CIupp.er), and	1.9447	
Normally F tables only list the upp.er percentiles of F(df1, df2) but not the lower percentiles. However, the lower percentiles of F(df1,df2) can be obtai as the reciprocal of the upp.er percentiles of F(df2,df1) i.e. the lower percentile F(.025,12,312) can be obtained as F(.025,12,312) = 1/F(.975,312,12) = 1 / 2.7249 = .	0.36699	
F(.975,12,312) = 0.3669 (upper percentile F for the CI lower).	0.36699	
CI lower = 1 – [(1 – .915628) × .1.9447] =		
1 – .915628	0.08437	
[(1 – .915628) × 1.9447]	0.16408	
1 – [(1 – .915628) × 1.9447]		0.8359 Lower Limit for alpha
CIupp.er = 1 – [(1 – .915628) × .36699] =		
1 – .915628	0.08437	
[(1 – .915628) × .36699]	0.03096	
1 – [(1 – .915628) × .36699]		0.9690 Upper Limit for alpha

Figure 57: Confidence Interval for Alpha

On the assumption that if the lower limit of the confidence interval is greater than 0.8, the calculated value for alpha could be considered to be sufficiently robust and an increase in sample size would not be required to make an assessment of the internal consistency of the Place Attachment instrument.

Based on the 27 question / item instrument the confidence interval for the point estimate of alpha 0.9156 had a range of between 0.8359 and 0.9690.

On this basis, the instrument was judged to have an excellent level of internal consistency when the responses to questions 18, 20 and 29 were disregarded from the subsequent analysis.

Data Appendices

D1 - Place Attachment Results

Interviewee No	Living here says a lot about who I am...	This place feels part of me	Where I live means a lot to me.	I (don't) have a special connection with this place	I have a lot of fond memories about this place	When I am here I can be myself	What happens to this place means a lot to me / I care about what happens here	I try to play a part in my community	I (don't) have lots of friends here	I know my neighbours well	Other people around here know who I am	When I am away from here I long to return. / I really miss this place when I am away from it	Leaving here would make me feel (un)happy	I feel very committed to this place	I feel relaxed here	I get more satisfaction from being here than anywhere else	I (don't) spend a lot of my life here	This is (not) the best place for me to live	I feel responsible for this place	I (did not) deliberately chose to live here	I have invested a lot of time in this area	I have invested a lot of money in this area	I moved here to improve my home environment	I moved here to get some peace and quiet	I moved here because of the scenery	I (don't) think this area should be protected	You can't place a value on living here	Total	Max Score	Average
1	4	4	5	4	3	4	4	4	2	2	3	5	5	5	4	4	5	4	5	5	4	3	5	5	5	5	4	112	135	4.15
2	3	3	3	2	4	3	4	3	3	4	4	3	5	4	4	3	5	5	3	4	4	4	2	2	2	4	4	94	135	3.48
3	3	5	5	5	5	5	5	4	4	4	4	5	5	5	5	4	5	5	5	5	5	5	5	4	5	5	5	127	135	4.70
4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	134	135	4.96
-	4	5	5	3	4	4	5	4	4	4	4	4	5	4	4	3	5	5	4	1	5	5	2	3	3	5	5	110	135	4.07
-	3	3	5	4	4	3	4	4	4	4	4	3	3	3	3	3	4	3	4	4	4	4	4	5	5	5	4	103	135	3.81
-	4	5	5	4	4	5	5	4	4	5	4	4	4	5	5	5	4	4	4	4	4	5	4	4	4	5	5	119	135	4.41
-	3	4	5	5	5	4	5	4	5	5	5	4	5	5	5	4	5	3	5	4	5	5	4	4	5	4	4	121	135	4.48
-	5	5	5	4	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	4	5	4	5	5	5	5	130	135	4.81
-	5	5	4	0	5	4	5	3	3	4	5	4	5	5	4	4	2	2	4	5	5	5	5	5	5	5	3	110	135	4.07
-	5	5	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	133	135	4.93
-	5	5	5	5	5	5	5	4	4	4	4	4	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	128	135	4.74
-	4	4	5	4	4	4	5	4	5	4	4	4	5	4	4	3	5	4	4	5	5	5	4	4	4	4	4	115	135	4.26
Modal Score (Pilot)	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**4**	**4**	**4**	**4**	**4**	**5**	**5**	**4**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**118.15**	**135**	**4.38**
5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	5	5	130	135	4.81
6	4	5	5	5	4	5	5	5	5	4	4	3	5	5	5	4	5	4	4	5	5	4	5	5	5	5	5	125	135	4.63
7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	135	135	5.00
8	4	4	4	4	5	4	5	4	4	5	5	4	5	5	5	5	5	5	5	5	4	4	4	5	4	5	5	123	135	4.56
9	3	3	5	4	2	4	5	5	4	3	4	4	5	5	4	4	5	4	3	3	4	5	5	5	5	5	4	110	135	4.07
10	4	4	5	5	4	4	5	4	5	4	4	4	5	4	4	4	5	5	4	5	4	4	4	4	5	4	4	117	135	4.33
11	4	4	4	4	4	3	5	4	2	4	5	5	5	3	4	3	2	5	4	4	4	4	2	3	5	5	5	106	135	3.93
12	5	5	5	4	5	4	4	5	4	4	4	4	4	4	3	5	4	4	4	4	2	4	4	4	4	4	4	111	135	4.11
13	3	4	4	5	4	4	4	4	5	4	4	3	5	4	5	3	5	5	4	5	5	4	3	2	4	5	5	112	135	4.15
14	5	5	5	5	5	5	5	5	4	5	4	5	5	5	4	5	5	5	5	5	2	2	3	5	5	5	4	122	135	4.52
15	5	5	5	4	4	4	5	5	5	4	4	5	5	4	5	4	5	4	5	4	1	3	3	4	5	5	5	115	135	4.26
16	4	4	5	5	3	3	5	5	5	5	4	4	5	5	5	5	4	4	5	5	5	4	4	3	4	5	5	120	135	4.44
17	4	3	4	4	2	4	5	5	4	4	3	4	2	2	3	3	5	3	4	5	5	4	4	5	5	5	3	104	135	3.85
18	5	4	5	5	5	5	5	5	3	4	5	5	5	5	5	5	5	4	5	5	3	3	5	5	5	5	5	126	135	4.67
19	4	5	5	2	5	5	5	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	2	2	4	5	5	128	135	4.74
20	4	4	2	4	4	3	3	3	5	4	4	2	3	2	4	4	4	3	4	4	3	4	3	4	4	5	3	96	135	3.56
21	5	4	5	5	4	4	5	5	5	4	5	3	4	4	4	1	4	3	4	5	4	4	2	2	4	5	4	111	135	4.11
Modal Score (Main)	**4**	**4**	**5**	**5**	**5**	**4**	**5**	**5**	**5**	**4**	**5**	**4**	**5**	**5**	**5**	**4**	**5**	**5**	**4**	**5**	**5**	**4**	**4**	**4**	**4**	**5**	**5**	**117.12**	**135.00**	**4.34**

D2 - Semi-Structured Interviews – part 1

No	Interview / Question	5	6	7	8	9	10	11	12	13
3	Age	84	72	45	69	74	62	56	69	72
4	Gender	Male	Male	Male	Male	Male	Male	Female	Male	Female
5	Ethnicity	White	White	White	White	White	White	White	White	White
6	Nationality	British	British	Welsh	Welsh	British	British	British	Welsh	English
7	First Language	English	English	Welsh	English	English	English	English	English	English
8	Disability	Yes – artificial knee	No	No	No	None	None	None	None	No
9	Religion / Belief	Christian – Church of England	None	Christian - Welsh Independent	None - Agnostic	None – No strong religious faith	None – possibly Humanist	Christian – Anglican	Christian – Welsh Baptist	Christian – C of E
10	Sexual Orientation	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight
11	Marital Status	Married	Married	Married	Married	Divorced	Single	Married	Married	Married
12	Parental Status	Parent – 3 children	Yes – 2 boys	Yes – 1 child	Yes – 1 son	Yes – 2 children & 5 grandchildren	No	Yes – 2 children	Yes	No

13	Siblings	Yes – 1 brother & 1 sister	No	Yes – 5 Sisters	Yes – 2 sisters	1 sister – lost touch	Yes – 1 brother	Yes – 1 brother, 1 sister	2	Yes – 2 sisters
14	Employment Status	Retired	Retired	Self Employed Farmer	Retired	Retired	Retired but do some part time / consultancy work	Employed Fulltime and also Partner in Farm	Retired	Retired
15	Profession / Last significant job role	*4 years in the British Army (Captain); 24 years in the British Diplomatic Service;* *13 years as European Commission Civil Servant.* *Last job: Director General for Energy, European Commission.*	Medical Consultant to Pharmaceutical industry	Farmer	Social Work Team Leader in Social Services	Retail Management – Manager at Woolworths	Librarian / Photographer – both part time	Consultant specialising in sustainable development & engagement (social, economic and environmental sustainability)	Accountant – Sector Accounting Manager in the Cooperative Movement I have worked for the Co-op all my life	Architect
16	Work from Home or work away from home	Currently based at home but did a lot of travel abroad till the age of 80 – mainly Europe & London	For the last 16 years – work at home When working in industry I worked away from home	Work from home	Worked away from home. Office based	Worked away from home	Worked away from home	Have been working at an office away from home but also have an office at home and worked around 50% of time from home	Worked away from home – in an office	Worked away from home
17	Household Income	Chose Not to Answer	£40,001 – 50,000 per annum	£10,001 - 20,000 per annum	£30,001 – 40,000 per annum	£20,001 – 30,000 per annum	Variable - around £10k	£40,001 – 50,000 per annum	Chose Not to Answer	Chose Not to Answer
18	Tenure of home	Rented from Children to whom the property was given	Owner Occupied	Owner Occupier	Owner Occupier	Owner Occupier	Owner	Owner Occupier	Owner Occupier	Owner Occupied

#									
19	Highest Educational qualification	*School Certificate in 8 subjects at between ages 15 & 17 at Winchester College.*	Postgraduate Doctorate	13 'o' levels	5 O Levels State Enrolled Nurse (SEN)	'A' Levels – English, History & Geography	Postgraduate diploma in Librarianship	A Level in English	11 'O' Levels	A Levels – English, History , Maths
20	Highest Professional Qualification	*None. Sir Christopher entered the Diplomatic Service through a non-graduate route and did not study for a professional qualification. He served for 13 years in Grade 1 of the European Commission Civil Service.*	FIBiol; FRSC	None	CQSW – Qualified Social Worker	None	Associate Member of Library Association	MInstLM - NVQ Level 5 in Leadership & Management (ILM)	Cooperative Secretaries Diploma (not recognised outside the cooperative movement)	None
21	Are you a member of a political party?	No –'I am a floating voter'	Yes	No	No	No	Not now – I was a member of the Labour Party for 20 years but left in protest at their hospital reforms	No. I was a member of the Lib Dems and stood as a potential candidate for Montgomeryshire but I was not selected. I have now left the party	No	Yes

#	Question									
22	If you are a member of a political party which one is it and why	N/A	Conservative – because my parents started work in coalmines, my father got a better job and I associate self-improvement with Conservative policies	N/A	N/A	N/A	n/a	n/a	n/a	Conservative Party – because I support parties that promote independence and self-reliance. I used to be Deputy Chair of Kensington & Chelsea Conservative Association and make myself useful delivering leaflets etc.
23	Other than membership of a political party are you politically active and if Yes, how?	Yes – 'if local issues come up I participate' e.g. participation at Planning Committee objecting to supermarket development in Milnthorpe	I canvass at election time and am active in the Friends of the Lake District. I am a former chair of the Kirkby Lonsdale Civic Society. I was formerly a Parish Councillor for 5 years (Welwyn Herts) 3 as Chairman, and also a County Councillor for 7 years for the Welwyn Division of Hertfordshire.	Not really – but I have a keen interest in local politics and have been invited to become a Community and County Councillor but I have not done so because I do not have the time	No – other than a laymans interest. I wouldn't say I am politically active	No	Yes – I engage in lobbying, attend events and communicate with politicians for reasons wider than windfarms	In connection with windfarms only. Not politically active outside this.	No	No
24	Other than the organisation identified at Question 2, are you a member of any protest organisations? If Yes, which ones and why?	I support the CPRE and have been involved in the Save our Forests Campaign. See also below.	No	NO	Also a member of the Green Valley Action Group (GVAG) – an anti-windfarm action group opposing wind turbines in Gilfach Goch	No	Palestinian Solidarity Campaign	Member of Country Guardian Past member of CND and Greenpeace. Left CND 25 years ago and Greenpeace 10 years ago	None	I used to be a member of CPRE but resigned

25	Are you a member of any clubs or societies or other organisations? If Yes, which ones and why?	National Trust, Friends of the Lake District, CPRE, the European Movement, Country Guardian, Friends of Ruskin's Brantwood, Friends of the Wordsworth Trust, Milnthorpe & District Allotments Assn., Woodland Trust & Hon. President of Europa Nostra united with the International Castles Institute.	Yes – Friends of the Lake District, the National Trust, Kirkby Lonsdale Civic Society, Cumbria Wildlife Trust	NFU, Local Agricultural Show Committee, Executive Member of the Commoners Association, Former member of CPRW but the local branch closed	Local Tennis club and member of the Welsh Veterans Tennis Team Subscriber to RSPB Member of local Tenants and Residents Association Member of Community First	Membership Secretary of the Beaumont Society (an organisation for transgendered people). Formerly active in the Parent Teacher Association. Member of the AA. Member of the Green Valley Action Group	John Muir Trust, Local Angling Club (which is involved in conservation work), Anglers Trust I have been a member of a local wildlife trust in the past and am a former member of CPRE and the Woodland Trust. I left the National Trust because of their policy on windfarms	National Sheep Association Montgomeryshire Wildlife Trust Radnorshire Wildlife Trust (Life Member) Population Matters Resigned from NFU	Institute of Advanced Motorists Communities First Ogmore Valley Community regeneration Association Blackmill and Glynogwr Tenants and Residents Association	Welsh Historic Gardens Trust British Horse Society Radnorshire Wildlife Trust
26	Do you support any charities? If Yes, which ones and how do you support them?	Yes – financially and in kind. Lots of educational & cultural charities e.g. the Art Fund, the Lakeland Arts Trust, the Army Benevolent Fund, the Cumbria Community Fund, the Royal Artillery Museum, & the Royal Artillery Benevolent Fund.	Yes – Alzheimers Disease, Great Ormond Hospital, Stroke Association, Cancer Research UK, Plant Life, British Trust for Ornithology. Almost entirely supported by financial donations	Local Agricultural Show – Vice Chair – give time and money and giving money to local cancer charities	Yes.. on an informal basis. Multiple Sclerosis, Cancer Research, Heart Research. Occasionally donate to Woodland Trust	Yes – standing order to Sustrans and Member of Cancer Trust lottery syndicate. I support these charities financially	Medicines Sans Frontiers & Oxfam. Others as and when	Red Cross Annual donation to local Anglican Church	Yes – SCOPE, British Legion, Guide Dogs for the Blind, Age Concern, Cancer Wales Support by donation	MIND – I used to be Chair of MIND Kensington & Chelsea and support them financially now
27	Do you hold any community or political office (e.g. Parish / Community / Town/ District/City Councillor)	Former Secretary of Heversham Parochial Church Council, Former Member of the Lake District National Park Authority.	Not currently but see 23	No	No	Chair of local Focus Group for Communities First Blackmill & responsible for running their website	Parish Councillor	No – but see Q21 above	No	Church Warden

28	Have you been involved in any protest or political activity in the past and if so, when was this and why did you become involved?	I have been involved in a great many Local planning applications and subsequent Public Inquiries, especially but not exclusively fighting against proposals to locate windfarms in inappropriate places. I have contributed to South Lakeland District Council's 'Core Strategy' Document. I was heavily involved in SLOG – South Lakelanders opposed to Gateway - which campaigned (successfully) against a proposal to locate an Auction Market in beautiful, unspoilt landscape.	Former County Councillor in Hertfordshire and sat on the Highways, Education and Planning Committees. I am also a Former Chair of Welwyn Parish Council. I got involved in Parish and County Council politics as I was a member of the local Conservative branch committee and wanted to extend my interest into local politics. I was in a position at work that enabled me to do this I tend not to get involved in other protests as I don't want to be a 'serial objector'	As a NFU member I protested against the importation of Irish beef. I was also involved in an anti-windfarm campaign in 1993 (Mynydd y Gwyr) which involved local farmers and Cllr Iowan Richard	Yes. I attended a demonstration 4 years ago protesting against the development of wind turbines in Gilfach Goch and Glyncorwyg and I attended a demonstration a month ago protesting against wind turbines and pylons in Mid Wales. I also attended a march in Carno, Mid Wales	Yes. I attended a protest at Cardiff Bay and took part in the organisation of the anti-windfarm protest in May in support of the Mid Wales objectors. Outside of windfarms I have had sympathy with pro hunting but did not take an active protest role.	Yes – CND in my younger days. I was involved in the anti-nuclear Druridge Bay campaign and have been involved in the Palestinian Solidarity Campaign for some time but have not been on any demos. In the past I used to be involved in protests against the South African regime. Latterly I have been involved in protests against windfarms	Members of CND & Greenpeace but not active No involvement in protests prior to windfarms @ 20 years ago	Not apart from windfarms	At MIND I was involved in campaigning including the Home from Hospital campaign which saw a need for people to move from long term hospital care to the community. I have been involved in anti-windfarm protests since 1993 and have also been involved in a local campaign against a landfill rubbish tip.
29	How important are ethical considerations (such as non-exploitation of labour and the absence of animal cruelty) when you buy goods or services?	Don't make a conscious decision on ethical grounds but would take such matters into consideration. I prefer to say that it is 'relevant' See Post Interview note 1	Important – I would not want to get involved with a product that was derived from either (animal cruelty or exploited labour). I tend to buy free range chicken and eggs	Important	Of high importance – I would try not to purchase anything that involved any exploitation of third world countries	Neither Important nor Unimportant. I pay lip-service to it but must admit that I can't claim to consider this explicitly. Mildly or moderately is probably the answer	Important	Very Important	Very Important I support the cooperative bank because of their stance	Neither Important nor Unimportant – I don't really think about it. It is an important subject but not something I have been involved in

#	Question									
30	Can you give any examples of how your ethical principles influence your non-financial behaviours?	We give heavily to charities including our local church	I don't do much of this	Don't really – never been asked	My wife and I do work to maintain and preserve the existing structure of a local church – a Grade 2 listed building.	No	Fundraising campaigns in the past – anti nuclear and I have assisted in leafleting. More recently I have assisted in leafleting in relation to anti-windfarm protests	Before my involvement with windfarms and my current consultancy role I worked for a Swedish skincare company that did not test on animals. My father was a butcher and refused to sell veal. Our farming methods are based on ethical principles	None	Time spent on anti-windfarm activity. Time spent supporting the Church – raising funds to pay for renovations. Time spent supporting campaigns for local transport – local bus service
31	How would you describe yourself in terms of your environmental behaviours – other than in relation to anti-windfarm activity? (By environmental I mean 'green' behaviours in the popular sense)	I don't like the expression 'green' and I think the term is often abused. I analyse these ideas before I adopt them and consider that they have to be real and not pretend. For example, the expansion of the National Park is real because the more populated the island becomes the greater the importance of tranquillity	Environmentally active – I buy free range chicken and eggs. My house is well insulated and I try to minimise consumption. I would consider myself as a 'sceptical conformist'.	Neither active nor inactive. I would describe myself as 'realistic'. The world needs more food and WAG needs to adjust its agricultural policies to generate more productive output.	Environmentally active. I am in favour of environmental activity. I try to conserve energy and not create waste. Our home has insulation and low energy lighting and we have a large plot of land where we have wildlife attracting plants. We feed the birds and encourage wildlife in the garden	Mildly environmentally active	Neither active nor inactive – a mild shade of green	Very Environmentally active	Environmentally active - Quite supportive.	Environmentally Active
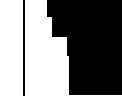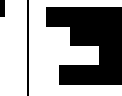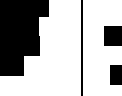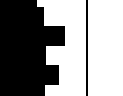
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32	Can you give any example of your environmental activity / inactivity (e.g. recycling or choosing not to recycle)	We recycle virtually everything. I am a keen gardener – having a large garden and paddock but we don't have to harvest rain as there is plenty of it here	Recycling. Double glazing at home I am involved with Cumbria Wildlife trust and manage a nature reserve (Burns Beck Moss) for them	Planting trees on the farm We don't recycle through the Council as they don't pick up at our home, but we do take bottles to the local bottle bank and we recycle plastic used on the farm	I am a dyed in the wool recycler and promoted this a long time before the Local Authority did this	I am a keen recycler and subscribe to Sustrans. I am mindful of the use of my car and have had discussions with the family regarding 4x4 use	I am currently re plumbing my house to fit solar panels and have taken part in tree planting and river restoration work locally. I have written to the press regarding wild flower corridors on grass verges. I have low energy lighting at home, I compost and recycle.	Recycling No mains electricity – we use one wood burning stove to heat water and to cook on and another to heat the house. We do not use chemicals on the farm	Our garden is pesticide free, we recycle most of our waste, we have a wormery, water butts and we compost. We are considering getting a smart meter to monitor electricity use. We do however use some peat in the garden	I try to recycle and have solar PV on my roof. I have also campaigned against a local landfill rubbish tip
32A	What do you consider the most important moral issue for people today?	A very difficult question… 'How could we improve world governance?' The UN Charter was appropriate for the situation post WW2 but it is not appropriate today	Probably the failure of humanity to recognise the importance of diversity – race, religion etc.	'Respect' – between children and adults and respect for elders.	The tremendous amount of profit made by drug companies. Their products don't impact on third world countries – they could share their products more widely to tackle Malaria / HIV etc. Other issues include drought and famine and the need to help third world countries.	Population control	'Living in a way that you can justify to your conscience'	Considering the needs of others and not thinking about having ones own way. People should think about what other people want (e.g. in relationships).	Understanding – if people had a greater level of tolerance and understanding we would not have half the issues we do today.	Poverty – including fuel poverty No one seems to care or do anything about it

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33	What is your attitude to Nuclear Arms?	I agree with the declared aim of the major nuclear powers – to get rid of nuclear arms, but in the meantime there needs to be a way of dealing with countries not signed up to the non-proliferation treaty	I would prefer not to have them if this was a real choice but they have performed a deterrent role and continue to do so	'There is no place for them in this world'	I was never a member of the anti-nuclear campaign as I saw and see Nuclear Arms as a deterrent. Perhaps because we possess them this has brought about a more peaceful relationship with Russia and other countries but I am entirely in favour of attempts to reduce them.	Pro – nuclear armament has stopped wars as they were fought in the last century	Nowadays – equivocal. When we were protesting in the 1980s we were justified in doing so. I think our attitude in this country is ludicrous and I think we ought to get rid of the damn things in that we can't use them without an American sanction. And for a country of our size and political position, I mean, they are Meaningless. And all we are doing is helping proliferation. So I have got an equivocal position, I mean, I am against the things but realise in the real world that they are not going to disappear.	Bad news ! My husband and I were in CND. I am not a pacifist but we are too quick to take up arms. I don't believe that we have not had a war because of the existence of nuclear arms – because we have	No comment	Prefer we didn't have them

34	What is your attitude to Nuclear Power?	Totally in favour – with all proper safeguards. As the European Commission's Director General for Energy, in May 1986, just 10 days after the Chernobyl disaster, I wrote key parts of the Declaration adopted by the Western Economic Summit Heads of Government in Tokyo, which declared that *'nuclear power is and, properly managed, will continue to be an increasingly widely used source of energy'.*	Totally supportive	It is the cleanest source of energy. There is no other option if energy use continues	Based on the experience of Chernobyl and more recently Japan, I should be opposed but my view is that we have to rely on nuclear power and we should aim to prevent the possibility of a nuclear catastrophe	In favour – such an obvious answer. I don't have the answer to nuclear waste but there has never been a problem with it and research and development will crack cold fusion	Has changed considerably. We now have little choice. If we want large-scale low carbon generation we have to have nuclear. Can't say I like it… but..	I used to think it was bad but on the basis of listening to respected scientists (e.g. James Lovelock), I no longer object. It is now a 'Hobson's Choice'	I have been concerned in the past but if they can overcome the waste problem I would go for it. But having said that I don't think we have any choice but I don't want to create a problem for posterity	Supportive
35	Please describe what the words **"Nature"** and **"Natural"** mean to you.	I was brought up in largely rural surroundings, with green fields. In the War I worked on local farms. Stonewalls and hedges are manmade but are longstanding features of the landscape and are attractive	Nature pertains to the living world & its diversity. Natural extends beyond this to all aspects of the physical and biological universe	Where I work and live, nature is all around. Natural is where we find the countryside without manmade objects or development	Nature, as I see it, is our natural environment and the creatures that exist therein. These are as a result of natural evolution. Both terms are difficult to define	Nature is… the natural environment, the flora and fauna. Natural is the product of hereditary and the environment	We live in a manmade environment. I am not an Arcadian with an idealised view of nature. I associate Nature with the least alterable of natural phenomena – e.g. rivers even though these have been heavily influenced by man's activities	Nature is all this stuff out here (outside the farm window which overlooks the hillside), with the exception of people and domesticated animals. Natural is what had not been 'interfered with'. It can have had man's impact on it but its relationship with its habitat is less contrived.	Nature means a way of life.. It is life of all types. Natural is something that comes automatically. Looking out of the window I see nature..barring the pylons	Nature – the relationship between the landscape and living creatures – where people can come and enjoy it Natural - A respect for natural beauty – from the perspective of landscape and wildlife

36	Please describe what the phrase **"protect the environment"** means to you.	A very difficult question It involves keeping things like the coast clean and the provision of good drainage.. it is about cleanliness and the physical appearance of the countryside	Recognising uniqueness which is worth preserving and taking measures to ensure it is preserved, bearing in mind unique features are a finite resource and we are rapidly losing them. See Matt Ridley – 'A Green Dark Age'	'The environment is where we live' – Protecting the environment means leaving a bit of nature to be there. Everything needs to live. Local is a smaller version of global	We should not compromise our environment by over exploitation – e.g. overfishing the seas or damage the landscape by building and industrialisation or contaminate the atmosphere by burning fossil fuels	To protect it against exploitation for monetary reward rather than social need. To strike a balance between human need and the needs of the environment. I guess I am getting into Gaia territory	I treat people who use this phrase with caution ! A farmer might use it I mean …trying to ameliorate the worst effects on the environment	Not putting it in aspic… but When people say this they mean the natural environment – not the climate It is looking after habitat. It is utilising and maintaining ecosystem goods and services. Working with the ecosystem and not against it…	Protecting nature	Protect… from industrial development Making sure this and future generations can enjoy the wilderness I have enjoyed
37	What words would you use to describe the natural landscape	Again … difficult. The important issue is the scale of things that are put into the landscape. If you put a small hut into the landscape it is OK but large agricultural buildings are a problem. I don't agree with farms becoming factories. That is my basic objection to windfarms – out of scale and out of setting. I am even prepared to admit that a single turbine can be quite beautiful in the right setting but in this landscape it would be overpowering	Landscape is everything and encompasses a spectrum from urban to wilderness Wilderness is landscape predominantly free of manmade influence Landscapes have particular 'value' – e.g. 'peace, quiet, recreation'	'Beautiful', 'Rugged'. 'A sense of open-ness'	Unspoiled. Uninhibited by manmade structures. Wildlife & flora	Familiar. Man has dominated the landscape for so long.. grassing over coal mines and the like. Unspoiled.. a bit cliché . Predominantly rural	Unspoiled, aesthetically pleasing	Uplifting; peaceful, powerful, interesting… you don't tire of looking at it	As I see it here – there are very few manmade objects. If it is not manmade it has got to be natural	'Beautiful' ' the wonder of it'

#	Question									
38	What would you say to the statement that mankind has always changed the natural landscape?	It is true. Not sure when it started but it has been true for thousands of years	I would not say always. In the very early period, mankind did not have the capacity to change the natural landscape significantly but for the past 2-3,000 years it has	Mankind has changed the landscape to produce food, but this was and is a necessity	I would agree. Throughout history we have influenced the landscape – detrimentally and with good effect in some circumstances	I would agree	Totally agree	Yes. Not 'always' but over many hundreds of years… the landscape but not the seascape	Yes I can see a coal tip on the horizon… it has now been landscaped	I would agree… but it is <u>how</u> you do it that matters…
39	Would you say that windfarms are more **artificial** than say, dry stone wall field enclosures in the landscape and if so, why?	"A silly question - Of course they are!" Stone walls and hedges have been part of the countryside for millennia, are of suitable scale, and tend to improve its scenic appearance. But the scale and nature of large wind turbines - each one of which is recognised by HM Govt. as constituting a power station - simply industrialises the whole surrounding location.	Yes –because of their scale. Walls, Churches etc. are not out of scale with the landscape including trees. Windfarms are. Also they are vertically incongruent with horizontal landscapes and seascapes	Yes… I suppose it is a question of not being used to them. Wind turbines are not a necessity. They are only there because there are vast sums of money to be made from them	I would. Windfarms are manufactured by industries while stone walls – although built by man, use natural materials which blend in with the countryside more effectively than large steel industrialised turbines	Yes because they are not part of the landscape. Drystone walls reflect the landscape – they use local materials and are in 'scale'. Windfarms do not reflect the landscape in either their materials or their utility.	I would quibble over the use of the word 'artificial' What concerns me is 'scale' They are no more artificial than walls, a byre, a barn etc. but the issue is one of scale	Yes because they are not made of natural material and they are out of scale and move. The same applies for hedges and fences but to a lesser extent. From a distance they are not intrusive and they don't distract you from the view	Yes… because they are manmade and to the extent that they are modern and do not dovetail in with the landscape I see	Yes – because dry stone walls act as a home for sheep and other animals. They offer shelter to sheep and other animals – particularly in bad weather They don't bring an alien element in
40	Home Address	███	███	███	███	███	███	███	███	███
41	Home Postcode	██	██	██	██	██	██	██	██	██

#	Question	R1	R2	R3	R4	R5	R6	R7	R8
42	Length of time at current address	I first came here - to my family home - when I was 4; stayed there for extended periods throughout my working life; and retired here in 1986.	16 years	4 years at this farm, but at the adjoining farm since 1965	33 years	41 Years. I came here from Clivedon just south of Bristol	11 YEARS. Immediately prior to this I lived in Northumberland and prior to this in Devon	Bought in 1983 and moved in 1984 (27 years)	9 years – I previously lived in the Mumbles in Swansea for 32 years and moved to my present home to avoid the traffic and benefit from the views	21 years
43	Length of time in locality (local community area)?	See 42	16 years	45 years – born on the adjoining farm	All my life	41 Years	11 YEARS	Since 1973 (38 years)	9 years	30 years
44	Is there a windfarm near your home (by near take this to be within 3km)? If Yes, what is it called?	No – Thank God. There is one planned between Junction 35 and Junction 36 on the M6.	No but the Armistead windfarm is consented and is 2.5km away	No	Yes. Taff Ely A further windfarm is proposed at Glyn Ogwr	Yes – Taff Ely Windfarm	No	No but if the Tir Gwynt windfarm is built the nearest turbine will be 750m away	Yes – Taff Ely and the Pant Y Wal windfarm and Fforch Nest (BCBC) which has been consented	No
45	Is there a windfarm further away from your home (by near take this to be within 5km)? If Yes, what is it called?	No – at the moment	Just about - Lambrigg	No – but there will be Mynydd y Bettwys windfarm has been granted consent	Not currently but a 7 turbine windfarm is proposed at Gilfach Goch	Not at present. There will be	No – there were 2 applications for windfarms within 3km (Moorsyde and Toft Hill) but these were defeated	No – however if the Tir Gwynt windfarm is built, the nearest turbine will be 750 metres away	I don't know. Possibly in Glyncorwyg. The Fforch Nest windfarm (RCT)which has yet to be been consented might be between 3.5km and 5km away	No
46	Is there a windfarm in your Parish / Community / within 10km of your home? If Yes, what is it called?	No. The nearest is at Lambrigg, at 15 km distance.	Yes – Caton Moor at about 12km	No	Yes – Glyncorwyg A further windfarm is proposed at Blaen Garw 5-10 km away	Not at present. There will be	No	Yes – Mynydd Clogau	Possibly in Glyncorwyg.	No – but there is a proposal for two single turbines within 5 miles of here

#	Question									
47	Can you hear a windfarm / wind turbine from your home?	No	No	No – there is plenty of background noise between here and Fynnon Oer – the nearest windfarm 15 miles away. There is also the background hum from the motorway	Yes - occasionally can hear the Taff Ely windfarm depending on wind direction	No	No	No	No	No
48	Can you see a windfarm / wind turbine from your home?	*Yes. On a clear day I can see Caton Moor (17km) from my garden and Lambrigg (15km) from 300 metres along the lane which passes my house.*	No	Yes – Fynnon Oer. 15 miles away	Yes – Taff Ely	Yes	Yes – three around 15-20m away: Chrystal Rigg, Aiken Gall and Blackhill – nr Duns.	Yes – Trannon and Carno 2 can be seen from the house. Plynlimon is obscured by these. You can also see Bryn Titli, Llandinam, Cefn Croes, Cemmaes and the large turbine at CAT	No	No – but if I go onto the hills I can see the 103 turbines at Llandinam , 34 miles away
49	If you can see a windfarm / wind turbine from your home do you experience "shadow-flicker"	No	N/A	No but the Clerk to the Community Council who lives 3 miles away and closer to Fynnon Oer does experience shadow flicker	No	No	But there is a flashing effect / reflection depending on the sun's position	No	No	N/A
50	Thinking about your favourite place in your community, can you see or hear a windfarm from this location?	Home. See answer to Q48 above	There are several viewpoints from which Lamrigg and Caton Moor windfarms can be seen. It is also possible to see Kirkby Moor and Barrow offshore windfarms	I can see one from the southern side of Mynydd y Gwair	Yes. I can see a windfarm from my favourite place – a lane outside my home	Yes – I can see a number of windfarms from that location. I can hear windfarms from the ridge behind the Taff Ely Windfarm	Yes	My favourite place is my home. See 48 above	N/A	No

51	If a windfarm is visible from your home, favourite place or generally from within your community, how do you consider this to have affected the view?	There is a clear view for miles but I can see them in the distance. - 'It is annoying' It depends on the weather. The effect is worse in the setting sun which strikes the blades making them more visible.	Moderately adversely due to the distance. It introduces an incongruous vertical element and a visible manmade structure into an otherwise undulating landform	"It has spoiled the view. You now see the turbines rather than the mountain they are on. It defines the place."	It has spoiled the natural contours / lie of the land by the industrialisation of an otherwise unspoiled mountainside	"It has ruined it… to no good purpose"	It has a minor distraction effect. It 'draws the eye' in certain visibility conditions	Negatively.. It has spoiled the view. Journeys are distracted. When I leave my home I have to look at the windfarm. It will never heal. You can't get used to it- the movement and the immense size distract you	To a moderate effect – but neutral – not positive or negative. We have grown with it.. it has not been thrust on us. If it had I would take a different view	You have lost the feeling of wildness… Someone described them as 'tombstones on the horizon'
52	If there is a windfarm near to your home, do you **believe** that the value of your home has been affected by it and if so how?	N/A	No – because the windfarm is not visible and the predominant views don't look in the direction of Armistead. If a windfarm was located on the hills opposite (– Middleton Fells) then the answer would have been yes	No.. there is no effect from Fynnon Oer but there would be an effect if either of the Mynydd windfarms were approved	Unable to test this. There is anecdotal evidence suggesting this but I have no personal knowledge. I am convinced that the proposed windfarm at Glyn Ogwr will have a significant effect	Yes.. marginally. A lot depends on the buyer	N/A	Yes. It has definitely affected the value. The farm has planning blight from applications; and now Tir Gwynt has been approved. The value of our home had been reduced by a third whilst the application was in the planning stage.	If it has then this was before my time and the windfarm is not visible from this house. I expect that the marketability of the house will be affected if the current proposals go ahead	N/A
53	If you answered Yes to the previous question, do you have any evidence that the windfarm has affected the value of your home	N/A	N/A	No.. but friends have been trying to sell their house for the past 4 years and they have had three purchasers withdraw. The effect if Mynydd y Gwair is approved will be on the common land used for grazing. I have seen this effect before – in relation to mining	See 52 above	No.. Very difficult to prove given the drop in the market	N/A	We had the property valued	RICS Study in 2007. The house is currently up for sale and we have discussed this with the estate agent who does not think there will be a problem but I am not convinced	N/A

54	How would you describe yourself to other people?	Old…	Friendly but intellectually frightening	Respectful. Always able to listen	I endeavour to be as friendly as I possibly can to my neighbours and have had success – with the exception of one. This is reflected in their welcomes when we meet	A happy man with some eccentric views	Middle of the road aging white guy with slightly quirky opinions	A farmer's wife. A mother. A grandmother.. a farmer's wife principally	Dry. Queer sense of humour. My children would say generous. Generous with a sense of humour	A grumpy old lady
55	How do you think people will remember you?	I have no idea	Sincere and intelligently honest	At the moment.. the guy who stopped the Mynydd y Gwair windfarm… but this could change	I hope that members of my family will remember me with respect and affection and my circle of friends will remember the good times had and interesting times we have shared	'That old bugger that lived in Church Place'.. 'as an individual'	That pain in the arse! Someone who asked inconvenient questions	I think they will remember me because of windfarms. People think I am very reliable at work. I am known for this	As a person with a sense of humour Within the family as a reasonably good parent who tried to ensure that his children had a good upbringing	..as a grumpy old lady..
56	What do you want the epitaph on your tombstone to be?	A memorial to myself and my wife with no explanations	Can't say I have thought about it	'A fighter to the end'	"I was always able to give people the benefit of the doubt"	A man that found peace and contentment in the last 20 years of his life	It is of no concern.. name and dates for future ancestral history research	I would like to be thought of as kind and of trying to do my best	I don't know	She wouldn't give up
57	How important do you think it is to be popular?	Not important	Not Important – but not entirely irrelevant	Important	Important – 'you can attract more flies with jam than you can with vinegar'	Neither Important nor Unimportant	Not Important	Not Important. Very nice but the reality is that being respected is more important	Important – Quite important. If popular you get on with people and more importantly people get on with you	Not Important

58	What do you like to do in your spare time?	Gardening, Walking, looking at beautiful scenery, listening to beautiful (classical) music	I don't have any! I look after a Nature Reserve for Cumbria Wildlife Trust, I read, garden and take people on Fungal Forays	I like to visit the Coast.. especially Pembrokeshire	Play tennis, gardening, socialising, going for long walks, cycling, watching TV and reading	Studying computing at the local FE College. DIY. Reading and Radio. Not a great gardener.	Sea Trout fishing. I still enjoy photography. Walking & Reading	Spend more time at home – basic domestic things that I have no time for. Gardening I would like some spare time	DIY and generally doing stuff around the house. Watching sport. I would like to do woodturning if time permits	Listen to music Ride my horse Reading Cooking and eating – having parties Gardening
59	Do you consider to be Upper, Middle or Working class and Why?	I was brought up to consider myself as Upp.er Middle Class but I don't believe that class is important so I have not given it much thought	Middle Class – my lifestyle, earnings and cultural background has removed us from our working class roots	Working Class although I was privately educated at Llandovery College.. but I don't hold with the class system. You make your own life….	Middle Class – due to my former occupation, income, attitude and standards and my environment	Lower Middle Class	I guess middle class. My education work and housing don't match this so I confuse this	Middle Class because educationally we have been fortunate. We sit in the middle and are at ease with this and so it probably means we are in the middle	Middle class because I was born to a miner who always worked – into a working class family that lived in a small bungalow and experienced tough times. I eventually got an executive post responsible for 120 staff and enjoyed a better standard of life	Middle Class because of my education….It is an impossible question
60	Do you consider yourself to be someone who often joins groups?	I have done since I retired	Yes	Not often but if I am needed	No.. although I have been a member of a tennis club for most of my adult life. Groups seek me out to join them	No	No – not often	No	No	No

| 61 | In the context of your protests against windfarms do you see yourself as being part of a protest "movement"? | Definitely – a growing and increasingly enraged movement.

Certainly a 'protest' movement | Yes – as Chair of Fells and one of the founding directors of REF – The Renewable Energy Foundation | On a local scale, yes. We chose not to become connected with other campaigns as we were convinced this would have diluted our power | Yes.. because at a local level it an organised and dynamic group of individuals with considerable understanding of the impact wind turbines can have | Yes... but there have been various attempts to form a Welsh Alliance but people have a life to lead. | Yes.. I am in communication with a lot of people who are active. I am part of that 'nexus' of action0 | Yes. When we first started, without others like Angie Kelly, Ann West and we wouldn't have had support.

Our local campaigns look beyond the local community

What has happened in Mid Wales shows the power of the people | No.. more of a protest group. The difference being that my protest is local. To be in a movement you have to be national or international | Against windfarms … yes |
|---|---|---|---|---|---|---|---|---|---|---|

62	How does participating in AWFG activity make you feel?	It makes me work very hard because I know it will be difficult to convince others but I keep calm. I am not an emotional person	Valued and satisfied in the sense of being able to contribute and help other people	Happy that we are actually doing something.. pushing the cause forward	It makes me feel productive and I am attempting to do something that will hopefully reduce the impact of industrial wind turbine development	Happy, despondent. In the past I have felt that we were pushing against the tide but now the tide is turning	Tired mostly – that we are still fighting pointless bloody battles. I spent six years doing this and it seems too long	This has been a big change. Initially when giving talks etc., I was cautious and anxious, but this year, I feel 'popular'. People are now supportive and I feel less stressed	Feels like I am trying to protect the environment for posterity. If windfarms go ahead it will be like the days when the Coal Barons ravaged these valleys	Good.. because you can see how people's views change. There is satisfaction at the end of a meeting because you have done what you intended
63	Have you given your support to other AWFGs and if so how?	Yes – advice, contacts, appearance at inquiries for other cases	Yes – FELLS has existed for 11 years. It is a sub-regional organisation not set up to deal with individual windfarm protests. It covers the North West of Lancashire and Cumbria and exists to advise other groups in this area and acts as a resource for groups in the North of England and the Scottish Borders. We have provided information and I have given talks at meetings	I have supported other local groups with placards and with the use of an advertising trailer (Betwys Action Group) and through membership of other groups using our network to put tentacles out…	We have given support to a local anti-windfarm group (GVAG)who are dealing with a proposed development in the nearby village of Gilfach Goch. It has been an advisory and consultancy role. We have also made a financial contribution to the Den Brook anti-windfarm group and have been on demonstrations	Yes.. via information and cash (Den Brook appeal), and through marching and demonstrating	Yes.. mainly through publicity via the website. I have also offered advice, have leafleted and have attended the odd demo	Yes – trying to help SOCME with their appeal. The Barrister in our group is helping them and we have now formed ' Take the Power Back' to support all groups in Mid Wales and Shropshire with their campaigns	Yes – solely by letter / completing petitions. There is a network who we speak with	All the time – Organising protest walks, attending public meetings, e-mail advice and publicity (e.g. turbines on fire – but you need to tailor your message), help with speakers

64	Which **six** individuals or groups do you interact with most frequently in connection with AWFG activities in order of importance and how do you interact with them?	Fells – Mike Hall ABLOT SALT LANDSCAPE FIRST STILE SOS COST Friends of the Lake District	REF Country Guardian Friends of the Lake District (CPRE in Cumbria) NAWAG CLOUT Views of Scotland Mostly by e-mail and telephone	Tai Gwyth Action Group Country Guardian Betwys Action Group Local Cllr – Iowan Richard (Mainly contact these by e-mail)	Green Valley Action Group Country Guardian Brecha Forest Action Group (Caroline Evans) Adair Valley Action Group SOCME Glyncorwyg Action Group Den Brook Action Group	SWATT – David, Frank, Liz and Stewart Green Valley Action Group Brecha Forest Action Group - Caroline Evans	Andrew J..(do not mention explicitly) Mike Maud West Ancroft Action Group Lauderdale Protection Group Save the Lammermuirs (STL) Wingates not Windfarms	Am in contact with multiple groups and individuals because of the campaign. Mainly contact by e-mail and telephone Lance Mytton (CUP) & CMS - scientist Brett & Jill Kibble (CUP) - engineer Angela Kelly / Country Guardian Ann West / Country Guardian & Cambrian Mountains Society Montgomeryshire Against Pylons (& oppose Turbines) STOP (Opposing Pylons & turbines from Llandinam) REF	Caroline Evans in Carmarthen (Brecha Forest Action Group) SCAM – Save Coity and Mynydd James – Alison Lewis Ferndale (Rhondda Valley) – Linda Davies Huw Evans – Maerdy GREEN Valley Action Group	Angie Kelly (Country Guardian) Alison Davies (CUP) Lance Mytton (CUP) David Bateman (Cambrian Mountains Society) Roger & Irene Earis (Cambrian Mountains Society) Many other groups – all 200 on the Country Guardian list
65	Does your organisation use a website to promote its activities...? If Yes, please explain why	Please refer to Mike Hall	Yes – a poor one, as a means of promoting activities and making documents available…www.fells.info	Yes. When we started in 2004 it was a bit of a novelty but it has proved invaluable in getting support and useful to direct journalists and the media to materials. The site was used to promote the march in 2004	Yes. We feel it is a good way of communicating issues of concern and communicating with other organisations similarly affected. We are in the process of revising the website	Yes… to get information out and to establish a point of contact for people with Internet access. An advertising hoarding and a recruitment poster	Yes… Windbyte started out as an informational website to log and map windfarms because the Local Authority wasn't doing this. It has now turned into a campaigning site and clearing house for campaigns that don't have websites	Yes… www.midwaleswind.co.uk… to promote the issue. We also have a Facebook page MAP have a variety of websites too The website also links to Google Maps to show all applications in Mid Wales Their purpose is to provide clear, factual information on windfarms	Yes. It was set up by John Laver, and then taken over by Jack Frost. The website now has a GVAG page to support the Green Valley Action Group. It is a means of conveying what we do - communication	Yes – both Country Guardian and CMS and we use e-mail to keep people informed The CMS website relates to the Nant y Moch windfarm campaign. It is used to inform people of the proposals. We chose to have a website to host information and make it available to others including non-members who can see information

66	If your organisation has a website with links to other websites, what are the reasons why your organisation has created website hyperlinks to other organisations	Please refer to MH	Because other organisations have different information – we try not to duplicate. Links enable information and experience to be transferred	To organise and move messages around. To share information and documents	It is a means of exchanging information and of viewing the way others deal with the same issues. It is part of the learning process – a means of gaining from the experience of others	You could say to push you up the Google ratings To increase the sense of community and to introduce people and groups to the wider community	This is complex. We started to put links up to show people were not alone – to show solidarity and provide information… the reason was motivational and informational. Links also bump up the website on Google so we use them to increase web awareness	Links to Local Authority websites where objections can be made make it easy to object	Broadens knowledge and allows you to find answers to questions from others	Usually because people ask. To influence as many people as possible They think that if people look at the CMS website then they will look at theirs

| 67 | What is your relationship with the national AWF Coordinating Group in your country (if there is one) | Please refer to MH | With REF – they are the main source of information on Peat and CO2

Fells is not a member of Country Guardian but we provide support to Angela Kelly – through copies of our newsletter, speaking at meetings, provision of DODS Monitoring statistics on energy (which I can access personally) | We were paid subscribers to REF... but not now. We do interact with Angela Kelly (Country Guardian) and have been a member in the past... possibly no longer a member now. We are mainly contacted by Angela's Round Robin's and we circulate information the same way | We receive downloaded information from REF and have contacted them for advice and views including advice on environmental statements and government policy. Could say the same thing about Country Guardian as well | I look at Country Guardian as an information exchange rather than as a coordinating group – but it would be the only organisation I consider in that light at all | None. We have always had differences with Country Guardian – as we were not initially against wind. We therefore found it difficult to find common ground with the national body and we were time limited too. | Country Guardian has become 'Angela Kelly' – but now she is older!

CUP gets information from NAWAG and REF as well as through Country Guardian. I suppose I am a little critical of Country Guardian – they send out lots of information ... too much! | We paid a subscription to REF but we are not sure whether it has been worth it. Other individual group members may have subscribed to CPRW but I have generally not been in touch with groups like these. We are not members of Country Guardian but Caroline Evans sends us the Country Guardian e-mails as part of her e-mail 'cascade' | They have a similar membership

CMS is not a member of Country Guardian but individual members are and vice versa.

Country Guardian is an information centre. Angela Kelly will mobilise contacts and whereas Country Guardian is national, CMS is local. CMS is restricted by its charitable status to the Cambrian Mountains only. CMS is not a subscriber to REF |

#	Question									
68	What is the structure of your organisation?	Please refer to MH	We have an executive committee of 12 members, a President, Chair, Vice Chair, Secretary and Treasurer. We have a formal constitution and charge a membership fee of £15 per couple. Our membership peaked at 230 and the fewest members we have had has been 90. Currently we have around 120 members	Chair, Secretary, Treasurer, Fundraising Officer We have a constitution and a Quorum of 5 is necessary for major decisions and we hold AGMs every 18 months	Chairman, Treasurer, Media Officer, Other advisers / researchers and an unofficial secretary.	See response from DE	As MAG has been wound up… this is in the past. Fairly loose. The group was founded at a public meeting and had an elected committee of 10, a constitution, Chair, Secretary and Treasurer. We were an unincorporated association	We are a constituted group with a membership (no subs). We have a Chair, Secretary, Membership Secretary, & Treasurer. The group has been given Statutory Consultees status!!	See Interview with David Edwards – Chair, Secretary, Treasurer and Members (but we don't charge a membership fee) We do receive donations though. Our constitution is incomplete	CMS is a charity with 11 Trustees – all of whom have specific talents. There is a Chair, Treasurer and President (Iolo Williams). The charity has charitable objects and a constitution. We have around 400 members living in the necklace of towns and villages around the Cambrian mountains Country Guardian has a Chair (Angela Kelly), a Vice Chair (me) a Secretary (Gerry Sewell) a webmaster and members. It is Angela's life
69	Is your organisation a membership organisation and if so, can you tell me about your members – how many, where they are from etc.	Please refer to MH	Yes – 120-230 depending on how active windfarm issues are. We raised £75k from donations to fight the Armistead and Sill field windfarms. The majority of our members are rurally based, with a few in the County Towns. The members are largely people who enjoy living in a rural environment	We are not a paid membership organisation. SOCME is donation based. We have predominantly local members from Swansea and the surrounding district but some are from further afield. There are around 300 plus members on our database and mailing list	Yes. approx. 12 members from the local village but also from Blackmill (1.5km away). Members generally consist of professional people. We do have a constitution and hold an AGM. The organisation is six years old	See response from DE	We were not a membership organisation. This was probably a mistake in terms of fundraising.	Yes but we don't charge a membership fee but welcome donations. We have around 300 members who live locally or who have a close connection with the area. We don't encourage membership from outside the area (see membership form)	For SWATT - the membership is drawn from Glynogwr and Blackmill. Other than officers we have around a dozen members. For GVAG – the membership is drawn from Gilfach Goch. There is a chair, vice chair, secretary and deputy treasurer and about 14 members	CMS has around 400 members living in the necklace of towns and villages around the Cambrian mountains Country Guardian also has members – mainly groups. Angie's 'Round Robin' goes to over 300 people

| 70 | What have been the main tactics used by your organisation in protesting? | Use of contacts with Members of the House of Lords & the House of Commons, both to influence relevant Bills (e.g. the Planning Bill) and to seek their personal support against individual wind-farm applications; approaches to Parish Councils to build up support at the Planning stage; carefully prepared interventions at meetings of Local Planning Committees and at Public Inquiries on wind-farm applications; the engagement of Specialist Advisers and lawyers in such cases; the writing of letters to be published in both the national and local press; participation in broadcasting by local TV & Radio Stations; the mobilisation of public opinion at local, national & even European level on major issues related to wind-turbines & climate change; and, and, …... . [For more on this subject please refer to MH.] | 1 To create a well informed and supported opposition groups 2 To provide top quality and accurate information 3 To prepare newsletters or press releases to keep the topic in the headlines 4 To use all political means available – lobbying MPs Councillors etc. and Members of the House of Lords 5 Public Meetings – to form action groups and debate issues 6 To attend talks/conferences on windfarms 7 Getting solicitors to write letters to landowners threatening legal action 8 Commenting on all consultation documents on energy related matters | Roadshows in communities that will be affected to complete membership applications Public Meetings –educating people We have tried to gain as much publicity as possible through protest walks, stalls in beauty spots, marches etc. Networking with local Community Councils. Some members are also members of the Open Space Society | Demonstration at the Senedd. I have attended other marches and demonstrations. We network with the local and national media and have engaged the help of our local MP and Welsh Assembly Member, Janice Gregory. We have organised local meetings in the areas affected and have canvassed local residents We have regular communications with the local planning departments at Rhondda Cynon Taff and Bridgend CBC We have also complained to the Ombudsman | Letters to the press. Information to Councillors – we learned a lot from our experience with Bridgend CBC. We stayed clear of anti-global warming as this is such a received truth, once you mention this you have lost people. Our local Councillor was firmly on board and we lobbied other people. We also took out an advert in the local paper | We were admitted as a Rule 6 Party at the Planning Inquiry / Appeal We had heavy engagement with the planning application process – responding to all applications in writing (but they were not given much weight!). We generated publicity and mounted a PR campaign but used lawyers in the end | Protest meetings – Welshpool Cattle Market, National Assembly, Hay Festival. We have tended to react quickly and don't have a route-map. For example we needed to obstruct traffic on minor road and this was mobilised very quickly. Our approach changed last year though. Up till then we were not a huge threatening mass, but this changed when we lost a planning application (Tir Gwynt) after the developer was able to mobilise lots of supporters and we realised that reasoned logical argument does not win the day | Protest march in Cardiff Bay two years ago In the last Welsh Assembly elections SWATT fronted two candidates – Caroline Evans (South Wales West)and John Jenkins (South Wales East) In general our tactics have been to raise awareness through letters to the press, the website, attending tenants and residents' association meetings and meetings of the Ogmore Valley Community Regeneration Association who we keep in contact with and provide updates on issues relating to traffic and cabling / transmission. We also spend time networking with politicians – Assembly Members, Community Councillors, County Councillors and UK Parliamentary MPs. We have also been in contact with academics such as Professor Maria Alvez Pereria in connection with Vibro Acoustic Disease. | Local Press, Protest Walks, Lectures and Secret Walks DVD Lobbying – e.g. meeting with and building friendly relationships with Countryside Council for Wales and WAG Sustainability Commissioner (Peter Davies). In relation to Nant y Moch we are supporting the extension of the ANOB (Area of Outstanding Natural Beauty) to prevent the development |

71	Which tactics have been the most successful?	Networking It is essential to put arguments together properly – presenting and summing up arguments particularly to the Planning Inspectorate	Good public meetings – Mike has spoken at 50+	'We do favour the direct action approach' The march gained the most publicity – the local newspapers covered it for two weeks and afterwards the story ran on BBC Wales and Sky News. We published a portfolio and sent it to all the Councillors in Swansea Stalls and Exhibitions – SOCME set up stalls outside the public consultation meetings organised by the developers and we canvassed the views of people before and after the meetings Networking….	As SWATT the most successful tactics have been highlighting the proposed development via the media For GVAG the most effective tactic has been to use access to Councillors via one supportive local Councillor (SWATT were unable to use this approach)	Getting information to Councillors	The threat of legal action	Gathering large numbers of angry people	For Bridgend – none… we lost the application by Pennant Walters for 10 turbines and by Npower for 4 turbines as part of the Fforch Nest windfarm For Rhondda Cynon Taff – the GVAG has had more success through the community pushing their councillors to overturn an application for the Fforch Nest windfarm (RCT side – application by NPower). The best tactics have been writing / lobbying Councillors and inviting them to meetings – using the community and formal structures	Protest walks – galvanising support from the Ramblers and the British Mountaineering Council Publicity in local papers and press coverage (photos etc.) generates new members automatically Public Meetings & Lobbying MPs

72	Which tactics have been the least successful?	Just shouting – blathering on without thinking things through	Press coverage – the press rapidly lose interest	You have got to be careful not to alienate the public. Some of Iowan Richard's tactics were a little problematic.	We sent briefing papers to all Councillors at Bridgend CBC, but this approach was not very successful	See comments re staying clear of the global warming debate. Press advertising was useless and I am dubious about the effect of the local press campaign in the Western Mail	Not spending enough time fundraising. We should have started this earlier as the campaign cost £110,000. The planning responses we were obliged to make gave standing and kudos to the group but the Planners didn't treat them as anything other than local objections.	Insulting letters – not a tactic we use but it is never successful	Don't know	Leaflet drop – paid for by one member at a cost of £500. This generated almost no feedback at all. There are some doubts as to whether the leaflet was actually delivered as this was done by a commercial organisation. Leaflet drops done by members have been more successful
73	Does your organisation have a strategy for using the Internet to promote its activities / views? If so what is it?	Please refer to Mike Hall	Strategy would be putting it too strongly. We have used Facebook for the Stribers Cartmell Campaign and we are developing a Cumbria Wind Watch website	Not really now. At the beginning yes… but after a while we ran out of material	We do use the website to gain and cascade information to and from others – mainly to GVAG. We are revising the website as it is a bit stagnant. The site is used to keep highlighting the impact of turbines on the former Welsh valley mining areas	No. We have a website but no strategy	Not a group strategy. I thought the website was important and that it was important to have an Internet strategy based on publicising applications, presenting planning arguments and raising money	Not a formal one. Informally we use Facebook, the Internet and we have an e-mail cascade updating people on group activity. The website is used to help people make objections quickly and e-mail is the preferred medium for newsletters	Yes – it is a means of communication and a way to tell people about our big issues of the day including meetings. People across the country and the world know of SWATT as a consequence. The website has probably raised awareness of SWATT but has not generated as much local support as we would have liked	We (CMS) use Facebook and the website BUT Facebook is not very well used. We do translate material into web format and we will be using the website to publicise events such as lectures.

| 74 | Tell me about the successes your organisation has achieved | Please refer to MH | At Public Inquiries at Whinash, Hoff Moor

Berrier Hill, Sillfield

Grise, Brightenber Hill (Ribblesdale)

Mike acted as a Lay Advocate at Grise and gave detailed evidence at four further public inquiries. Many other applications have involved the provision of detailed comments to the Planning Committee of South Lakeland and other DCs and the submission of evidence to the Planning Inspector. Fells also commissioned Geoff Sinclair to support inquiries | The biggest success was that we drew Mynydd y Gwair to the attention of the wider population of Swansea. The issue brought a lot of the community together including community groups such as the Gower Society and local Community Councils

The second success was the planning appeal where the Inspector decided against the windfarm | The biggest success was having the planning application for the development north of Gilfach Goch turned down by Planning Committee against the recommendation of Planning Officers. This is now at appeal and should be heard in October 2011 | Our major success was during Fforch Nest, we took the application to appeal and the number of turbines and height were reduced (120m – 115m)

We also stiffened the resolve of Rhondda Cynon Taff Councillors to turn down applications | We defeated Moorsyde against Planning Officer advice. This was won at appeal. We defeated Toft Hill also at appeal – a separate campaign group also objected

Barmoor was approved as initially proposed but was reduced by one turbine on appeal | We have fought and won Public Inquiries – Cwm Llwyd, Nant Carfan, and one on Cumulative Effect

We also objected to the re-powering of Cemmaes B although this was subsequently approved by Alun Michael

Mynydd Clogau – we successfully reduced the number of turbines and our current success is the mass mobilisation of protestors in Mid Wales | With the help of local RCT County Councillor we were able to get support from other RCT Councillors and we generated a petition and 1300-1400 letters of objection (compared with around 300 letters in support – not one of which was from the local community). The result – RCT twice refused the planning application from N Power for 7 turbines and this is due to be considered at Public Inquiry in October | The successes have tended to be via CPRW – we won a campaign against a landfill tip locally and I represented locals at the Public Inquiry... and won. In relation to windfarms we won the campaign against Cornwall Light & Power's Pentre Tump application defeating the application at Planning Committee and the subsequent appeal was withdrawn. A new application is now being made which will require an Environmental Impact Assessment. (The success was making them resubmit with this) |

75	Has success led your organisation – or its members into community or wider political activism?	Please refer to MH	Some people have been active in other campaigns. E.g. Sir Christopher Audland has opposed a local supermarket. Fells also opposes other (non-windfarm) inappropriate development	There has been a greater interest in the local community but no specific examples of wider political activism currently. I have been invited to become more involved in local (County Council) politics but don't have the time	People are now much more concerned about the processes occurring at local council level and how decisions which may impact on local communities are reached. It has highlighted a lack of democratic process. SWATT is trying to help other action groups so activism is in the context of assisting other anti-windfarm groups	Not to my knowledge	Slightly – people are now more aware of the need to engage in local politics and planning. Some people are known to have become more involved in local politics and are consulted by other groups.	Yes – there is one girl in a local village (Julia Isaac) who became active and joined the local Community Council as the first woman member. She then went to work for Social Services and then went on to Wrexham University to get her degree. Another person went to Wolverhampton University and now works for CCW	I am not aware of any	In relation to Pentre Tump, people who responded became involved in protest walks and now respond to local applications. Tim Brown became a Community Councillor to influence this application and other applications locally
76	Has failure led your organisation – or its members into community or wider political activism?	Please refer to MH	Some people who experienced failure have become active correspondents with MPs and the press	The outcome is positive currently…	Two windfarms – Fforch Nest and Pant y Wal were consented despite opposition from SWATT but I am not aware of any specific activism as a consequence	Not to my knowledge	Not that I am aware of	No – to be honest we haven't lost much	Not to my knowledge	We have not had that many failures. CUP would be the example though of failure galvanising wider activism because when they lost at Public Inquiry, they formed Take The Power Back

77	How has the campaign evolved over time (successful campaign)	Please refer to MH	For Fells – between 2004 and 2006 we were involved in individual campaigns but from 2006 we now focus on setting up and supporting local groups. At public inquiry we have fund raised and acted as a Rule 6 party	The campaign started when Commoners received a letter from the Duke of Beaufort's agent. Once we became aware of his plans we started to oppose them. We realised that we needed more than Farmers and established an opposition group of 5 people. We did roadshows, produced a newsletter, created the website, held a march in 2004 and organised petitions galvanising support as we went. Our fundraising involved holding Ceilidhs where we sold tickets. A key technique was asking for pledges... people did not have to give money straight away but would be asked to honour their pledge if money was needed. We raised £11k and spent £9k on the Inquiry... we used the money to pay for surveys and expert witnesses.	The current campaign started due to SWATT highlighting windfarm development. SWATT had been formed some years ago and had unsuccessfully campaigned (see above) and these campaign materials and approached were resurrected and applied in the current campaign	See response from DE	In 2004 an anemometer mast appeared and no one knew why. An exhibition was called at 4 days' notice and local people were invited by letter. There was no press coverage. Two people checked out what was happening and set up a desk in the local pub to collect signatures to set up the campaign. On this basis a public meeting was held and people were asked 'what do you want to do?' It was agreed to set up a committee , website , bank account, etc.	Initially we were a lonely voice but now the vast majority of people are on our side. The campaign evolved from being a minority because people thought that development was going to affect their house. The initial successful campaign was against Mynydd y Hendre windfarm which morphed into Cwm Llwyd and then into Tir Gwynt	SWATT helped to set up GVAG in Gilfach Goch. Meetings were held and a group was formed – but without a constitution. The campaign has intensified again recently due to the Public Inquiry and GVAG have appointed a Lay Advocate (Geoff Sinclair) to speak at the Inquiry. Prior to this the campaign was highly active leading up to the time RCT considered the planning application	For CMS the campaign to support the ANOB was started in 2005. The then Chair decided to take a break and CMS started to look for a new Chair. As I had recently departed from CPRW I became involved in CMS in 2007/8. The campaign against Nant y Moch has had a long gestation period and the application is now at pre IPC application stage so we have not been successful or failed …yet

| 78 | How has the campaign evolved over time (un-successful campaign) | Please refer to MH | | N/A | See above | See response from DE | N/A | 'Hands Off Hendre' was formed then Conservation of Upland Montgomeryshire to deal with local applications and our sister organisation in Brecon and Radnorshire. These evolved into Conservation of Upland Powys because of TAN 8. The local campaigns were short lived and grew into larger campaigns that have extended into Powys. We also now have 'Take the Power Back' with a central fighting fund | In retrospect we would have done things differently and we would have challenged the intimidation of Bridgend Councillors by their Officers. We would not have accepted statements by the Councillors that they could not discuss the application and we would have challenged the argument that costs could be awarded if the Council lost.

We did not get anyone to represent the group and could not get the support of our local Councillor in Bridgend (as they had declared an interest in the proposed development)

As the campaign developed our knowledge and confidence grew so we could challenge and put pressure on Councillors and Assembly Members. | N/A |

#	Question									
79	In the contest of your protests against windfarms are there any organisations or political groups that you would not accept support from?	The problem has never arisen	Any organisation with commercial links and we would not accept support from extremist political groups	No... If you get the right result...but we would put boundaries round this as we would not want to alienate the grass roots support. We would make a decision at a meeting in such cases	We are aware that the BNP are opposed to wind turbine development but we would not and will not seek support from them while we would accept guidance and support from conventional political parties	The BNP. We did have a member of the group who proposed to stand as a BNP candidate but she offered to stand down from the group and this offer was accepted. In the end she did not stand as a BNP candidate and is now back in the group	No political parties or candidates in their official capacity. We wished to be seen as non-partisan. Also we did not identify with Country Guardian or other national attempts to form groups because we were not against wind 'per se'	Yes... the BNP. Nick Griffin lives locally and we recently removed a comment reporting what he had said from our website. We would also not accept money from the Nuclear industry or from anyone else with a specific agenda	I have no issues regarding anyone giving support – as long as they support the issue Providing the support was on issues only, then I would not object to any political groups (including the BNP) but the concern would be that they brought their wider political views into the campaign.	Friends of the Earth Politically motivated organisations - we have ignored UKIP as we have satisfactory relationships with the Conservatives and Liberals. We would not accept support from the BNP
80	In the contest of your protests against windfarms is there any form of protest activity that you would not undertake?	Violent protest Would encourage people to hold up posters	If fought through the courts we would not resort to illegal or disruptive action. Marches and rallies would be OK though	As SOCME we wouldn't break the law bearing in mind we work within the community. Individuals may choose differently... this would be entirely up to them	Speaking for myself and the majority of SWATT members I would not damage or deface public buildings or take direct action against people or use threatening behaviour to political representatives	I would consider Civil Disobedience if I thought it would be effective but I am not sure it would. Generally I would adopt legal methods but you do have to fight fire with fire	We agreed not to have demonstrations at planning meetings, wave banners or act in an intimidating way	CUP would not undertake any illegal activity. (What individual members do would be up to them)	I would stay within the law and would be reasonable based on my understanding. I would not consider civil disobedience etc.	We would go on marches and demonstrations and would work within the political and legal framework 'I would chain myself to railings but I am not going to burn anything down!'

D3 - Semi-Structured Interviews – part 2

No	Interview/ Question	14	15	16	17	18	19	20	21
3	Age	67	70	66	65	83	68	72	66
4	Gender	Male	Male	Male	Male	Female	Male	Male	Male
5	Ethnicity	White	White	White	White	White	White Caucasian	White	White Caucasian
6	Nationality	Welsh	British	Scottish	British	English (half Irish)	Danish	French	American
7	First Language	English	English	English	English	English	Danish	French	English
8	Disability	None	No	None	None	None	No	None	None
9	Religion / Belief	None	Christian – Protestant	Christian – Church of England	None	None – Agnostic (Lapsed Catholic)	None - Atheist	Christian Protestant	Yes – Roman Catholic
10	Sexual Orientation	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Chose Not to Answer
11	Marital Status	Married	Married	Married	Living with Partner	Widowed	Single – Divorced	Married	Married
12	Parental Status	Yes – Parent	No	No	None	Stepmother to 3 children	Parent – 2 Children , 1 boy, 1 girl	Parent – 1 son	Foster Parent
13	Siblings	Yes – 1 older sister	Yes – 1 sister	1 Sister	2 Sisters	Yes - 2 brothers – Patrick & Michael – both deceased	Yes - 2 sisters	None	Yes – 8 brothers and sisters
14	Employment Status	Retired from full time work but paid as County Councillor	Retired	Part Time Self Employed	Retired	Retired	Retired	Retired	Retired (at age 34)

15	Profession / Last significant job role	Steel worker for half of life and science teacher for remainder	Teacher – Deputy Head of large junior school in Workington	Formerly a Banker	Last Job Role - Teacher of IT to Prison Inmates Previous Professional role – Printer	Worked as a Secretary in France so I could attend Art School	Editor in Chief of the Danish Nurses Journal (30 years 1974-2004)	President of subsidiary of large French industrial firm involved in oil and gas process	Middle Management at General Electric
16	Work from Home or work away from home	Worked away from home when in full time work. Work from home as Councillor	Worked away from home	Worked away from Home	Worked away from home	Away from home	Worked away from home	Worked away from home	Worked away from home when employed. After retirement from employed work, worked independently as a consultant and real estate broker from home
17	Household Income	£20,001 – 30,000 per annum – will reduce to around £15k when I retire from the Council	£30,001 – 40,000 per annum	£50,001 - 100,000 per annum	£10,001 - 20,000 per annum	Prefer not to answer	£50-100k (£65k before tax)	Prefer Not to Answer	Chose Not to Answer
18	Tenure of home	Owned outright	Owner Occupied	Owner	Owner	Owner	Owner Occupied	Owner	Owner Occupier
19	Highest Educational qualification	University of Wales Teaching Certificate in Physics & Chemistry (HND equivalent)	B Phil – Newcastle University	Undergraduate Degree in English Language & Literature	Undergraduate Degree – BA (Hons) Psychology	Higher School Certificate at age 17	School Certificate – left school in 1962	PhD Engineering (Maths, Physics and Chemistry)	Postgraduate Masters Degree in Physics

20	Highest Professional Qualification	Teaching Certificate	Teaching Certificate and Advanced DIPLOMA IN Educational Studies	Institute of Bankers	None	None	No formal professional qualification although I have attended many in house courses in leadership	Member of French Prehistoric Society (Archaeology) (Societe Prehistorique Francais)	Licenced Real Estate Broker
21	Are you a member of a political party?	Yes – The People's Representative Party	Yes	No	No	No	No... Not now. I have been a member of the Social Democrats in the past	No – I hate politics	No. I am registered as an Independent voter in the US. There is not a comparable membership system for political parties in the US

#	Question								
22	If you are a member of a political party which one is it and why	See Transcript	Labour Party … I don't know why!	N/A	N/A	N/A	I worked for a nurse's organisation. Also early in my career I got a job in the political press bureau of a party in the Danish Parliament. I was attracted to the Social Democrats because of this and I sympathised with these views	N/A	I would be typically be a Republican supporter because their feelings and beliefs regarding free market enterprise coincide with my own
23	Other than membership of a political party are you politically active and if Yes, how?	Yes... as a Councillor, I am part of the coalition ruling group that runs Swansea Council. I have previously been a member of Anti-Apartheid groups, CPRW, The Gower Society and have been active in connection with wind turbines	Yes… Community and Politics are the same to me. I am currently being courted to front a campaign to oppose the closure of an OAP home	Yes – I write to MPs; Ministers; Civil Servants on matters of concern. I have also campaigned on behalf of a former conservative parliamentary candidate against a Lib Dem incumbent	Yes – Very. I study and write about politics – currently environmental politics and foreign affairs	No	No. I have worked journalistically to influence decisions relating to nursing and healthcare but otherwise no	No – but my wife is an ecologist and active in the environmental movement.	Yes – in relation to wind energy but it goes further than this. I am active in opposing claims about sea level rise and some global warming claims which are not based on scientific evidence

| 24 | Other than the organisation identified at Question 2, are you a member of any protest organisations? If Yes, which ones and why? | Not now but I have been in the past and would join when worthy issues arise | Yes – Amnesty International | Save our Silton – a group campaigning against local windfarms | No | . While living in London in the early 1960s I read Rachael Carson's Silent Spring and was impressed by it. I met my husband in 1964 and he was an environmentally conscious Architect. We subsequently became members of Friends of the Earth in the 1970s but left in the 1980s because of lack of trust in the research FOE did on the Ice Age scare – which turned out to be false. | Faringtofta Norra – where I am a board member... This is a local action group opposing windfarms very locally.

Svensk Landskapsskydd – Swedish Landscape Protection Association

LOBIS – a local anti-windfarm group

Bevara Linderonsasen – an anti-windfarm group about 60km away | No – but I would like to protest on ecological matters but I do not have the time. I feel that ecology has been taken over by people seeking personal advantage and it has been killed by politicians | No |

| 25 | Are you a member of any clubs or societies or other organisations? If Yes, which ones and why? | AA

Formerly National Trust, CPRW, Gower Society, Caravan Club | Aspatria Hornets Rugby League Club

Former member of Carlisle Diocesan Bell Ringers

Former OU student | National Trust

The Caledonian Club

My wife is a member of the British Horse Society and I am a non-exec Director for several renewable energy start-up companies | No | I was a member of CPRE, RSPB and the National Trust (which I am thinking of re-joining) and am still on the Committee of CPRW. I am a life member of the Worcestershire Wildlife Trust and am a member of the Radnorshire Wildlife Trust | Danish Journalists Federation

Aldresagen – an organisation which aims to support older people

Hovdalas Venner – Friends of Venner Castle (in Denmark)

I am also a member of a Small association which is involved in the restoration of old houses

I am not a member of any national environmental associations (e.g. Greenpeace) because of their support for wind power | Member of French Prehistoric Society (Archaeology- Societe Prehistorique Francais)
I am a member of Fédération Patrimoine Environnement (Used to be administrator)
http://www.associations-patrimoine.org
Ligue Urbaine et Rurale
http://www.ligueurbaineetrurale.fr
Société pour la protection des paysages et de l'esthétique de la France
http://www.spp.ef.fr
and I am also member of French associations concerning local History such as La boulite
http://www.laboulite.net
and a few "clubs" such as" le demi-siècle".
http://demisiecle.fr
I am a member of three associations involved in heritage protection – Landscapes; Castles / Historic Homes and National Parks
I am also involved in heritage protection at Mont Saint Michael and in the D Day beaches. I would be a member of these organisations even if there was no threat to them from windfarms | MENSA

American Contract Bridge League

Airline Pilot Organisation

Adirondack Architectural Heritage (www.aarch.org) |

26	Do you support any charities? If Yes, which ones and how do you support them?	World Vision	Youth related charity work Famine relief charities doing work in Africa Covenant giving to charity via local Church	Not on a regular basis – occasional support to particular campaigns such as Help for Heroes and Poppy Day appeal	Very few – Medicines sans frontiers and a Local Hospice Both supported through financial donations	St Dunstans – Charity for the Blind Age Concern MacMillan Cancer Relief I support these by donation	Yes, when they organise collections but I do not regularly donate. I do not trust the larger charities (such as the Red Cross) use of funds but I do give to Medicines Sans Frontiers and UNICEF	I sometimes give money but I am very careful as I am sceptical of the use to which funds are actually put in charities	Yes – via appropriate united fund & Catholic Charities. Support via donation
27	Do you hold any community or political office (e.g. Parish / Community / Town/ District/City Councillor)	I have been a Community Councillor since 1976 (Plaid Cymru) I have been a borough Councillor since 1985 – first Plaid Cymru and then as an independent Since 1996 I have been a City and County of Swansea Councillor	Was a District and Town Councillor but not now Chair of Local Youth Club Chair of Aspatria Community Childcare Ltd	No	Not anymore. I was a local Community Councillor for many years and still support them in relation to windfarm opposition and in making consultation responses.	No	No	No	No – but I have done so in the past
28	Have you been involved in any protest or political activity in the past and if so, when was this and why did you become involved?	Yes - including being arrested… I took place in the Poll Tax riots and Anti-Apartheid demonstrations. I have also supported the miners during their strike and have protested in support of the Welsh Language (for which I was arrested and fined). I have also protested against windfarms … with SOCME	I have always been an activist in local elections and was a Political Agent. At one time I supported CND ad went on union marches. I am a former District and Town Councillor and was a supporter of the Young Communists. Why? It is everyone's duty to make sure they leave the world a better place	Not before involvement with wind turbines	I was a political activist during the 1960s-1980 – A Socialist group.	When living in London in the mid 1950s – ten years before I was married - I went on one of the first marches to stop the atom bomb I joined FOE in the 1970s but did not engage in any real protests I did write to the BBC regarding Decking and to Radnorshire Council objecting to their cutting of hedges before the Royal Welsh Show. I also objected to building near to a local church and my husband and I bought land to protect the area from speculative building.	No – other than in 2009 when I participated in protest demonstrations in France which were opposing the development of windfarms at Mont Sans Michelle I did get involved in activism relating to the ambulance and psychiatric service where I was involved in shining a light on powerful interests – something I have done all my career	Locally, yes, protesting against the destruction of an archaeological site – an old Roman city	Yes… and I have initiated such activity in the past. For example in relation to the Adirondack National Park, I was involved in a campaign to protect water quality and this involved lobbying and the result was a change to New York state rules I have also been involved in a campaign against well drilling by Nestle in New York state and a law was passed in 2010 which restricted water extraction as a consequence

29	How important are ethical considerations (such as non-exploitation of labour and the absence of animal cruelty) when you buy goods or services?	Very Important – but I do not have a lot of time	Very Important - we wouldn't knowingly buy things if we were aware of unethical aspects such as child labour or animal cruelty	Important Something I would be concerned about. We always buy organic things	Irrelevant – Not at all... 'it's a phoney' I wouldn't invest in an armaments company but I don't boycott oranges...	Although I consider it to be important and I prefer to buy British I am too old to change and in practice it is not so important to me.	Very Important It is crucial. I would never buy fur clothes from a living animal. I try not to exploit nature too much- I try to buy locally and avoid buying foreign meat	Very Important – this comes from my Calvinistic Protestant upbringing	Very important in theory... but it is difficult because you don't really know whether there are ethical implications of purchasing or not – so in practice it is neither important nor unimportant for the majority of purchases. I try to buy American goods but this is on economic rather than ethical grounds
30	Can you give any examples of how your ethical principles influence your non-financial behaviours?	I do not watch Jonathan Ross on TV because of his treatment of Andrew Sachs	I'm a social activist and I won't associate with people who bear the mark of Cain. For example I wouldn't identify / associate with anti-windfarm activism from the BNP	I am active on issues of animal cruelty locally. Our cats are rescue cats and we display 'care and neighbourly' behaviours. We sell raffle tickets and Christmas cards for good causes.	I try to organise an environmental movement. I write on environmental issues and support other campaigns	I buy UNICEF Christmas cards sometimes	I support individuals in crisis – helping rescue people and things I helped to organise relief for Romanian orphans in the 1990s and I pay membership fees for Aldresagen In 2001 I helped to support a journalist who left Uzbekistan to move to Denmark	My fight against windfarms stems from concern at where the money is going. I believe that there is corruption here and I strongly object to this. I object to the fact that 3 million people in France cannot pay their electricity bills and oppose the large-scale profits being made by wind power companies	My objection to wind energy is based on my sensitivity to the unethical practices of wind supporters I also support charitable causes financially by donation
31	How would you describe yourself in terms of your environmental behaviours – other than in relation to anti-windfarm activity? (By environmental I mean 'green' behaviours in the popular sense)	Environmentally Active – but I have an ongoing dispute with the Green Party	Environmentally Active	Environmentally Active We buy organic and fair-trade goods and do not spay or dip our sheep	I come from a generation that recycled as a matter of course. We have a low impact lifestyle as second nature – these are elementary behaviours	Neither active nor Inactive – When I lived in the hills in Wales we let the garden go wild I would like to have a wildlife garden but I don't have the time now	While in the city, before moving to Sweden, I was not very environmentally active, but since moving here I have been environmentally active. However I object to Green Fascism and Consumerism	Environmentally Active – When I was in industry, being environmentally active was a necessity so I approve of pro ecology actions as we have limited resources and have to take care of them. I am not actively engaged in discussions on global warming because I just don't know. There are lots of arguments about this. If I had more time I would be more active in the field of animal welfare	Environmentally active. Pro environmental – a 'true environmentalist' I believe in protecting the environment but I don't believe that this takes precedence over human beings.

32	Can you give any example of your environmental activity / inactivity (e.g. recycling or choosing not to recycle)	As a Councillor I am part of the Council's Policy Team and encourage recycling. I have encouraged village litter picks and am careful to avoid the excessive use of resources but not to a great extent	Recycling – I try not to pollute the planet.\n\nWe also try not to buy 'luxury ' items\n\nWe have low energy light bulbs and we are trying to make the extension we are building environmentally friendly.\n\nWe hope to grow our own food in the future	Everything that can be is recycled. We do not produce any food waste – everything is composted.\n\nWe run our log burners using our own timber and have solar thermal hot water heating. Our home is insulated above the Building Regulations standard and we have our own water treatment system	Recycling … as above	Recycling – (wine and plastic water bottles) based on Local Authority requirement. I don't travel much. I was more committed to environmental matters in my younger years	I have my own water from a borehole. I stopped buying things I don't need. I try to eat healthily and don't waste food. I grow vegetables, Rubbish is recycled into 8 categories by law\n\nI have a woodstove and I use this to boil water as well as heating my home. I use only around 8000kw of electricity per annum	Recycling\n\nI have a small house in western France where I grow vegetables and do not use pesticides in the garden.\n\nI am somewhat suspicious of the food industry so I don't tend to buy free range etc. Traceability in the food chain is more about control than being due to an environmental interest and I have strong views on the influence of industry.\n\nMy wife is more active in this area than I am	Lobbying to get state laws changed\n\nRecycling at home\n\nConserving energy through insulation at home – the normal things
32 A	What do you consider the most important moral issue for people today?	In this country – Income inequality In the third world, suffering and human rights including safe working practices	Everyone will have to consume and enjoy less in order to provide an equitable distribution		'The predation of the West on emerging nations'	Selfishness – Getting and Spending. We are losing the sense of community which helped people during the War	To stop people killing each other!	Integrity of the financial system. If governments are not financially 'clean' then problems arise	Not promoting self-interest.\nWe need more altruism and more Judeo Christian ethics and morals
33	What is your attitude to Nuclear Arms?	Against	If other people have them… we must have them.\n\nYou don't really want to have them but…	A fact of life – live with it	Loathsome. Oppose. Contempt	I don't like them but it is very difficult. If other people are going to have them then we need them. I seriously considered becoming a Communist when I was 28 but I found out more about it and decided against it.	Totally against.\n\n'The worst symbol of human madness'	Against – there are other options than war	I don't like others having them (e.g. Pakistan). Historically in the long term we may find that they have saved lives. The problem is the future – how do you put the genie back in the bottle?\n\nIf everyone disarmed this would be great … but I don't think this is very likely

34	What is your attitude to Nuclear Power?	Support	All in favour of it… 100% Our biggest mistake was allowing the Country's lead in this to slip away	A fact of life – live with it – but with the rider that nuclear power has been rendered essential due to the political antics of misguided environmentalists	Excellent… lets have more of it.	A case of Hobson's Choice! It is not perfect but our lives depend on a secure supply of electricity. Country Guardian are aware of the argument that wind is better than nuclear but we have never had a pro-nuclear policy and we are conscious of the need for a fossil fuel backup for wind	I have read David McKay's book – Sustainable Energy Without Hot Air and am fully aware of all of the risks. We must find an alternative as soon as possible but for now nuclear offers the only alternative. We need to develop 4th generation reactors which use 'spent fuel' from older reactors but I don't want to be called a fan of nuclear power	Not a fanatic. I don't like nuclear energy but I don't see wind power replacing it due to the problem of intermittency and the need for backup. Wind will never be a major part of the power system but will cost a lot. The wind lobby are using crooked arguments to suggest that wind will replace nuclear but it is a lie	It is a great thing… a saviour. By and large it has been very successful
35	Please describe what the words **"Nature"** and **"Natural"** mean to you.	The natural environment means without interference from outside forces and sometimes it has to be protected. Something best left alone	They carry overtones of 'pristine' and 'post Garden of Eden' but they are not used in this sense normally. 'Natural' doesn't necessarily mean 'good' I don't agree that Natural / Nature means untouched by man	Nature means everything that is in and about our environment which is not manmade. Natural applies to things and behaviour which are not artificially altered	Nature - In an environmental sense… the importance of 'wildness'. In a scientific / philosophical sense – the ground on which we exist. Natural – is a context ridden word and I would struggle to give an answer	This is difficult…. Natural = things that grow from the earth, e.g. Trees but of course we have an effect on the natural world… I remember the days before jets!	Nature is a landscape, a mountain, a forest etc. which lives a life without human influence. What is natural is something untouched by human beings	Nature – something which has not been touched. Natural – the same	Nature – a collection of the Earth's resources (Plants, Animals etc. together with inanimate things such as hills & lakes) – what the Earth is 'normally' made up of Natural – a subjective term

36	Please describe what the phrase **"protect the environment"** means to you.	To take action where outside forces are being detrimental	Protect or Preserve? … from the interference of man when this interference is not good	Within reason to be able to pass on to the next generation a living environment, countryside and water quality which is no worse than that which I enjoy	Keep the wind power companies at bay… Mankind has to find a way of husbanding the planet's resources.	To try to keep as much as possible for our own and future generations to enjoy and not to put money first.	Stop exploitation of jungles. Change our consumption. Use less from the natural world – to reduce pollution. Stop the increasing use of natural resources – oil, gas etc. and ensure animal welfare	Controlling industry and not accepting what they want to do. This has to be from the top first. Also not allowing lobbies to control everything	Making a reasonable effort to consider our impact on the Planet… but not at all costs
37	What words would you use to describe the natural landscape	Natural beauty that is not harsh or intrusive	Natural may not mean 'attractive' There may be an attachment to it It is a 'home' in some instances. The landscape will have been changed over time	Restorative; Restful; Beauty; Fragility; Interconnectivity A reminder of one's' obligations as a custodian	There isn't one in most of the inhabited world. This doesn't mean it's not valuable. The Arctic and the Antarctic, deserts – I am content to leave them alone 'Wild' is a word I like	Beautiful. Part of us. We need it. Natural scale in which we live our lives. Man does need somewhere to escape to	Forests, agriculture, balanced distance between farms, untouched by industrial activities Flowers growing wild … not cultivated	Purity – where all animals and plants have not been touched by people or industry (e.g. tourists). In France there are 46 National Parks and for me they are sacred. Wind turbine development is against nature	Fields, mountain ranges, landscapes, trees. Not much in the way of man-made intrusions
38	What would you say to the statement that mankind has always changed the natural landscape?	True in many cases	This has to be true - it is part of the natural drive of man. If he is to grow food etc. the landscape has to change - but there is no reason why this can't be done sensitively.	Absolutely true	It's true	Of course he has. How can you deny this? Man has changed it – so have animals. The planet cannot cope with too many people though	They have. This is true… but perhaps we should not allow mankind to continue to make such changes	I agree… but there has been an acceleration from the 19th century which cannot continue. I trust science to find solutions to this problem	So what? I would agree with the statement but simply interacting with things you change them. A deer running through the woods changes it… The natural landscape is not just changed by man

39	Would you say that windfarms are more **artificial** than say, dry stone wall field enclosures in the landscape and if so, why?	Certainly – due to their size and the materials they are made from	They are more intrusive... Stone is stone... a 300 foot high wind turbine is of a different order. The sense of peace and tranquillity goes out of the window with this. It is more intrusive and un-natural	Much more artificial. They are in no sense 'organically' related to the landscape in which they appear. They are parasitic, alien and have no connection with their surroundings	Yes... because it is spurious industrialisation in a sort space of time by environmental cynics. The pace of change for things like farm buildings allows for mitigation but not so for wind turbines to politically driven targets	Yes... because stone is already created by the natural world. A wind turbine is a manmade artefact	Absolutely... because there are so many and because they are so tall and they move. Stone walls are built as part of a daily fight for survival. Wind turbines are completely different. They are foreign bodies in the landscape	When passing through the landscape you don't see things like stone walls but you do see windfarms. They have hijacked the landscape. Windfarms are of a different scale in the landscape – 150m high. They are many more times higher than houses	Yes – a stone wall is constructed from nearby elements of nature. It has a practical use and does not have a detrimental effect. Wind turbines are an artificial, un-necessary intrusion
40	Home Address	▮▮▮	▮▮▮	Field House Cucklington Nr. Wincanton Somerset	▮▮▮	▮▮▮	▮▮▮	▮▮▮	▮▮▮
41	Home Postcode	▮	▮	BA9 9PW	▮	▮	▮	▮	▮
42	Length of time at current address	42 years	14 Years	14 years	15 Years	3 Years - I previously lived in the hills in Radnorshire where my husband and I had a house. We lived there after his retirement from 1976 to 2009. Prior to this we spent weekends at the house	7.5 Years	15 Years	2 years
43	Length of time in locality (local community area)?	Over 60 years	14 Years but I was born and brought up in West Cumbria	24 years	15 years – but I grew up just down the road	3 Years	7.5 Years	15 Years	20 years

44	Is there a windfarm near your home (by near take this to be within 3km)? If Yes, what is it called?	No – but there are proposals for a windfarm at Mynydd y Gwair	No	No	No	No – not yet. There are two applications for single turbines pending on the border of the Brecon Beacons National Park An application was threatened at Mynydd Epynt in 1993 and this would have been visible from my former home	No	No	No
45	Is there a windfarm further away from your home (by near take this to be within 5km)? If Yes, what is it called?	No	Yes – West Newton	No	Yes – Whitelee and satellites	No	No	No	No
46	Is there a windfarm in your Parish / Community / within 10km of your home? If Yes, what is it called?	No	Yes – Wharrels Hill	No	No – other than Whitelee but there are proposals for several more at Bankend Rigg, Darvell and Kype Muir	No	No	No – the nearest is 30-40km away	No
47	Can you hear a windfarm / wind turbine from your home?	No	No	No	No	No	No	No	No
48	Can you see a windfarm / wind turbine from your home?	No	Yes	No	No – Not yet	No	No	No	No

49	If you can see a windfarm / wind turbine from your home do you experience "shadow-flicker"	N/A	No	N/A	N/A	N/A	N/A	N/A	NO
50	Thinking about your favourite place in your community, can you see or hear a windfarm from this location?	No	Yes	No	Yes... you can see Whitelee from almost everywhere in the community	No	No	No	No
51	If a windfarm is visible from your home, favourite place or generally from within your community, how do you consider this to have affected the view?	N/A	It has ruined/ spoiled / degraded it. The southern part of the town overlooks Wharrels Hill and people don't like it	N/A	It has destroyed it… If you have to ask why you won't understand the answer	N/A	N/A	N/A	No
52	If there is a windfarm near to your home, do you **believe** that the value of your home has been affected by it and if so how?	N/A	Not near and No	N/A	Yes... probably. This relates to the effect of the three proposed (two consented and one expected) windfarms will have – making my home unsellable	N/A	N/A	N/A	n/a
53	If you answered Yes to the previous question, do you have any evidence that the windfarm has affected the value of your home	N/A	N/A	N/A	Yes... I have studied material on saleability and on property values. Two neighbours have been unsuccessfully trying to sell their homes for several years. The windfarm has a marginal effect	N/A	N/A	N/A	n/a

54	How would you describe yourself to other people?	Grey haired, overweight and I like to think... rather jolly	Old – still active mentally	Professionally – as a semi-retired former banker and... as a good all round bloke Reserved and not someone who suffers fools	No idea	A person who is interested in lots of things – never bored but upset by lots of things	Some people may see me as dominant but this is not how I see myself I take responsibility. I try to give help when needed. I am inclusive – but also demanding. I have high expectations of others	Independent. Not accepting of views.	Handsome, Intelligent with a good sense of humour... A Renaissance man... Not your average person
55	How do you think people will remember you?	I hope as - Grey haired, overweight and I like to think... rather jolly	Around here a lot of people will remember me for windfarms. As a good teacher as well	I hope as someone who has tried to keep his word	They probably won't	How could I possibly know?	In life I have heard people say that they will remember me but I don't know why. Women may remember my ability to make a home. A strong personality. Very disciplined He kept his promises – and kept his word He preferred a peaceful solution to other types	They would say that I worked in a way that was non-hierarchical. He worked together closely with friends. He tried to help others	As a hardworking, persevering and dedicated person
56	What do you want the epitaph on your tombstone to be?	He believed in fair play	He could never keep his gob shut...	He Tried...	I couldn't care... It is not something I have given much thought to	'Country Guardian'	He lived and took responsibility	No idea	'He did his best'
57	How important do you think it is to be popular?	Very Important – as a Councillor – very important. As an individual, just important	Not Important	Neither Important nor Unimportant	Irrelevant - I would rather be right	It depends – It is nice to be popular for doing what you believe to be right, but sometimes you become unpopular because of doing what you believe to be right	Irrelevant I don't do anything to be popular. I want to be respected but it is not important to be popular	Irrelevant – I don't care	There is some value in being popular but I have taken less popular stances. 'Doing what is right is more important that doing what is popular'

#	Question								
58	What do you like to do in your spare time?	Very interested in local history and I write historical articles. I travel around Wales quite a lot and also visit the West Country I would like to travel further	Reading, Learning, Community Activism	Reading, Gardening, taking my wife out to eat and looking at interesting places	Listen to music; Reading	Painting – but I don't have any spare time	I don't have any! I play Piano and Harpsichord. I read history and go to art exhibitions. If I travel this is to attend exhibitions – or to see different architecture. I garden, watch films and walk the dog	Hiking – mountain climbing when young. Going to flea markets – trying to find things of interest (curiosities) Travel, Collecting Fossils	Play golf, enjoy the outdoors, playing bridge, watching movies, travel, boating and other water based activities
59	Do you consider to be Upp.er, Middle or Working class and Why?	Working / Middle class because of the education I had (I went to a Grammar School)	Working class but the label is meaningless	Deeply middle – due to education, attitude, lifestyle, aspirations, self-reliance & moral embarrassment	Middle Class – I come from a middle class socio economic and cultural background and went to a public school.	Middle – because I am middling and I am not Upp.er Class. I don't like Class as a term anyway	Without any doubt... clearly Middle Class	Middle Class – but I can identify with all groups	Upp.er Middle Class – because I have three homes and retired at the age of 34
60	Do you consider yourself to be someone who often joins groups?	No	Not now, no. At one time I used to get sucked in but not now	No – I turn down many	No	No	I prefer to work on my own but I can join a group if necessary. If I join a group on an enforced basis the group can fall apart	I try not to be involved... but sometimes if you have an interest, then you join	Yes and No. It is hard to answer. I don't currently join many groups because of... lack of time... but in the past I have done so
61	In the context of your protests against windfarms do you see yourself as being part of a protest "movement"?	Yes... I have been closely associated with SOCME, Country Guardian , The Gower Society and a network of like-minded people via e-mail and I have also been on protest marches against windfarms	Yes... very much so. It is not an exclusively middle class group. It is all sections of the community	Yes – I have a broad resentment to the windfarm scam and its unintended consequences. Originally my concern was that these things didn't fit locally. With time and more knowledge this attitude became more general – they don't fit anywhere and are being turned into a 'quasi religion'. Windfarm deployment will have a negative impact on security of supply, will increase costs and will mean we burn more fossil fuel	We tried to make it one but we didn't do very well. It is a middle class milieu which is not used to political struggle and has no idea what it is like to be beaten	I think one has to be. NOW (The National Opposition to Windfarms) has been operating for more than a year. It is a collection of people over the country who don't want windfarms.	Yes... absolutely EPAW now has over 500 members. The Danish anti-windfarm coordinating body (www.stilhed.eu) has 165 active anti-windfarm groups	Yes... it is very strange. People from different parts of the world say the same thing, feel the same thing and suffer in the same way	Yes... but for me this is much bigger than wind. I promote science based solutions and object to support for wind as an example of a non-scientific approach

62	How does participating in AWFG activity make you feel?	Satisfied that I am doing something for the future of the landscape and for a realistic energy policy for the future	I don't get any kick out of it. It is a chore. A downright imposition on my time but a duty	Frustrated and increasingly angry at the behaviour of developers and government	Depressed – because in the long term I know we are going to be beaten	It is better than doing nothing. It is something forced on me because of my feelings about the countryside	I have experience resistance to articles but I feel committed to winning the battle I feel compassion for the poor innocent people who are trapped by the wind industry	Tired	Some sense of accomplishment when progress is made towards good science based policy
63	Have you given your support to other AWFG's and if so how?	Yes – by letter writing and attending their rallies (Cardiff Bay, Mid Wales etc.)	Yes... via my time. I have given talks, sometimes given money, helped to deliver leaflets but I don't want to be so hands on now.	Yes. I have sent money and have offered guidance and contacts. I have also been invited to speak at 6-10 groups.	Yes – for five years I did this, nationally and internationally. I authored several papers with others and have been all over Scotland giving support	20 years' worth – supporting groups, making appearances, talking to groups, doing research, writing to MPs (incl Neil Kinnock), through Country Guardian – sending information to others via our e-mail 'Round Robin'; updating the website and carrying out organised marches (e.g. Mynydd y Gwair)	Yes – support re campaign advice, communication tips and advice, helping with letters to the press, strategies, organising public and private meetings… people keep contacting me by phone and e-mail!	Yes… including support outside of FED and EPAW. I have helped NAPAW with advice and have passed on experience on how to set up organisations	Yes... I get 200-300 e-mails a day asking for support. I provide information to people looking for advice.
64	Which **six** individuals or groups do you interact with most frequently in connection with AWFG activities in order of importance and how do you interact with them?	Dr John Etherington SOCME Gower Society Lyn Jenkins Country Guardian CUP / Take the Power Back (more recently)	Clearly, my closest/most frequent interaction is with members of the Executive Committee of Country Guardian. The Chair and Vice Chair, also the Treasurer and Webmaster. At a more local level, I am often in contact with some of the local activists in Cumbria – though I choose not to lead the way in any local campaigns – it's important that they do it themselves.	Save The Vale Save our Silton CPRE Dorset REF Den Brook	Moorland Without Turbines (Isle of Lewis) Friends of the Braes (Stirling) Alan Tubb Jane Brewster Bob Graham John Phillips	Mike Hall Christine Lovelock Ann West Alison Davies Caroline Evans Sheri Lange (Ontario)	Faringtofta Norra NAPAW Henrik Svanholm (Denmark) Mark Duchamp Angela Kelly Knut Pedersen Claverton Energy Discussion Group (Dave Edwards – Pro Wind) Calvin Luther	Michel Broncard (West of France), Mark Duchamp Isabelle Ladoux , Hervé Texier	SOS (Save Our Sound) Cape Cod Better Plan Goodhue Wind Truth, (Minn) Friends of Maine's Mountains Citizens Power Alliance, NY Ontario Wind Resistance

65	Does your organisation use a website to promote its activities...? If Yes, please explain why	No	Yes. Some would argue that we are little more than the website. The website is a statement – 'we are still here'. It contains details of how to fight a windfarm application and is used to link up other groups to help to get people to object. We have produced newsletters in the past but not now	Yes – both REF and Save The Vale use websites. It is increasingly the way people gain information and communicate. It also lends credibility.	Yes but it hasn't done much for the last several years though. There was a need for robust information on windfarms and I sought to harness expertise and use a medium that would make it available to non-activists	The Germans and Danes had websites already but Country Guardian was the first English language anti-windfarm website and it has attracted interest from others. We have had the website for 15 years. The website is used to inform people and to affect their opinions.	Yes www.epaw.org and also www.nationalttestcenter.dk To communicate... so people know what we stand for We also use Facebook and other media to influence politically	Yes – both EPAW and FED. It is the place where you can regroup information and everyone can access information. It is helpful to show others are having the same problems	Yes - To make content available to others To save time – broadening the information available to people so that can look at this themselves
66	If your organisation has a website with links to other websites, what are the reasons why your organisation has created website hyperlinks to other organisations	No	To help people make contact with others. Part of networking... there is now a pro wind network – Yes2Wind	To enable members and enquirers to obtain additional information and verification...i.e. 'it isn't just us that are saying this... you can go to x....'	SWAP – the website does not have any links Views of Scotland – the links are there to encourage others and because we can't cover all information	So that people can contact others and to show that groups are Happy to be associated with Country Guardian (endorsement). It also gives visitors to the website an idea of the spread of groups.	A kind of fashion Links make it easy to get information and advice on wind power projects	Links are used to make the site more accessible to others – to save duplication of hosting information.	We have more than 1 – www.windpowerfacts.info and www.ptcfacts.info We have links to enable people to view documents saving them (and us) time
67	What is your relationship with the national AWF Coordinating Group in your country (if there is one)	If you mean Country Guardian, the relationship is fairly good. I did have a fall out with Angela Kelly some time ago though and since then relations have not been warm	Not applicable if you mean Country Guardian REF has done much to lobby nationally. CG have been involved in supporting local campaigns	I don't think there is one. The nearest would be Country Guardian and our links to it are informal. REF isn't ideologically opposed to any renewable energy technology. It just happens that wind is no good.	There is only one UK coordinating group – REF and our relationship with them was disastrous. We have a good rapport with Country Guardian and provide press information for them on windfarm issues in Scotland but we are not members of CG	I am spokesperson for EPAW and a board member of the Swedish Landscape Protection Association I have also got a close connection with the Danish national anti-windfarm coordinating group but I am not a member as I live in Sweden	Country Guardian is it	In relation to EPAW, FED is the national coordinating group for France and JL is President of both	We don't have any national coordinating groups... The national groups tend to be news dissemination websites which I do use. One of the reasons behind the formation of AWED is that we have not had any national coordinating organisations in the US

68	What is the structure of your organisation?	N/A – No organisation	See response by Ann West	Save the Vale – a committee elected by members (all volunteers) with a Chair, Deputy Chair, Secretary , Treasurer and 3 other members. We have a simple constitution, the AGM is held annually and we produce a biennial newsletter REF – is a Limited Company and a Not for Profit Charity. We have a Board of Trustees / Directors and this meets quarterly.	SWAP was a project and I was the Project Manager. It had a research focus and has now been superseded by a group of engineers who now inform the milieu. This is an informally constituted pressure group Views of Scotland We had an elected committee and a programme of conferences when we were actively campaigning	CG is an unincorporated association. It has a small committee of 5-6 members and holds an Annual General Meeting Nigel Evans MP – President; Sir Bernard Ingham - Vice President Chair – Angela Kelly; Vice Chair – Ann West Gerry Sewell – Treasurer Michael Hird – Webmaster & Newsletter Editor Rev John Oliver (Bishop of Hereford) – Patron	There is no formal structure to EPAW. It is an electronic platform. We do have a voluntary CEO (Mark Duchamp) and a Chairman (Jean Louis Butre) and national spokespersons. There is no constitution and no paid staff but we have 565 members and receive financial assistance from FED, the French national anti-windfarm coordinating group In relation to Faringtofta Norra we do have a constitution, 80 members and we hold an annual meeting	EPAW is an electronic network of members.	AWED is an un-constituted group – an informal coalition. There is a Steering Committee to which I act as an adviser and there are four Topic Teams with a Topic Team Leader each.
69	Is your organisation a membership organisation and if so, can you tell me about your members – how many, where they are from etc.	N/A – No organisation	See response by Ann West	Save the Vale has around 300 members drawn from across the Northern Blackmoor Vale; and from 12 towns and villages. The members range from local farmers and landowners; city millionaires, retired pensioners and school children Ref – while it is a membership organisation it is not as active	Views of Scotland had individual and group membership... Now we are no longer a membership organisation but act as an information service When we were campaigning we had several hundred members from all over Scotland. Members either paid subscriptions or were active at key times	Country Guardian charges £10 for individual membership and £20 for corporate membership and has around 300 members some of whom represent larger numbers of people. It has some international members as well as members from the UK. It does accept donations but is not organised or funded by the nuclear industry	EPAW has 565 members who are listed on our website. There is no membership fee. Members are drawn from across Europe.	FED is a membership organisation and has a budget. It is legally constituted and charges membership fees EPAW is an electronic platform only. We chose not to build an organisation formally due to budget issues and debates about structures	AWED is not a membership organisation

70	What have been the main tactics used by your organisation in protesting?	Leaflets, asking others to write letters. I mounted a postcard campaign against TAN 8	To get as many local names to object to the local Planning Authority – individual letters not a petition. This means more drafting and delivering of letters or standing in the Market Square and getting people to sign them Coordinated letter writing campaigns – to the press Attending Planning Committee meetings with people and speaking Repeating all of the above at appeal	Save the Vale – firstly and most important, making people aware of applications and their implications and underlying 'truths'. In all cases developers have been 'less than honest'. 'Information, Information, Information – not propaganda' Having done this 'sacred duty' the next task is to mobilise opinion through the press and local decision makers. Organise meetings and inform people all the time	Support to inform the local objectors with local campaigns – providing information on the process and also technical planning information We got hold of speakers and did radio interviews and briefed the press We tried to create a national presence but were unsuccessful	Responding to requests for information & providing factual information Round Robins ; Research Writing articles; Updating the website Protest Marches; Conferences; Writing to MPs; Lobbying Setting up local organisations (e.g. Conservation of Upland Radnorshire – CUR) Writing letters to newspapers.	Information – collecting. Letters to newspapers (regional and national), to Government officials and civil servants Using art as a weapon – Using art and culture to fight against injustice e.g. Protest Concerts x 2 – e.g. Preparing a film (without funding) – Inspired by Artists Against Windfarms	Press releases, Regional protests – 5-6 ; Lobbying Protests in Paris (attracting 2000 protestors visiting Mont Saint Michel) Local meetings involving presentations by myself Supporting members with costs of legal advice and mounting legal challenges on topic areas such as landscape, health, noise etc.	AWED is not a protest organization. Our function it to educate citizens about energy and environmental matters. This education is provided in a variety of ways — like free community presentations, online slideshows (e.g. www.EnergyPresentation.Info), biweekly newsletters, answering questions asked, etc. Our expectation is that citizens will then communicate what their wishes are to their representatives. We make recommendations as to how to effectively do this (e. g. in our "What Not To Say" document on the www.WindPowerFacts.Info website), but the specifics are up to the individuals and local groups to decide on their own.

71	Which tactics have been the most successful?	Talking to people on a one to one basis (e.g. Edwina Hart and her husband)	Local people writing in to the Local Planning Authority / Inspector as individuals	Ability to demonstrate breadth of opposition and present cogent, easily understood rebuttal of developers claims	We stopped the windfarm on Lewis by raising the conservation status of the moorland. This stiffened the resolve of the conservation lobby	A combination of the above	Contact with local politicians and Swedish journalists (persuading them to be critical) Can't really say what was most successful but we did achieve a local veto against windfarms in Southern Sweden. The local Mayor had a technical background and was sceptical	Court action (50-60% success rate) Offering support to the Government from FED specialists The main tactic is to delay things… put up obstacles. A kind of guerrilla warfare	See What Not to Say on the www.windpowerfacts.info website
72	Which tactics have been the least successful?	Writing blanket letters to politicians that I don't know	Arguing about the scale of a windfarms contribution to CO2 reduction targets and drawing the local nature of objection to the attention of Councillors on the Planning Committee	Leafleting doesn't work – it is almost an irritant. Radio interviews are difficult and pre-recorded TV programmes are dangerous. (Activists all appearing to be of the same type – ' we are not all Colonel Blimp')	At Whitelee our technical objections were ignored. The Government wanted a showpiece windfarm. We submitted a composite objection on behalf of several groups under the umbrella of the local Community Council but this was counted as just one objection.	It is no good trying to convert people. They have to come to this themselves	Traditional methods are less successful – the protest concert had 1000 attendees but was ignored by government. The second concert had only 200 attendees Not really clear what other methods have been less successful	None	From the experience of others – arguments based on a NIMBY perspective – not a wise strategy

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73	Does your organisation have a strategy for using the Internet to promote its activities / views? If so what is it?	I don't personally but it is a very useful idea… so many action groups have websites	No – other than being on the Net and people can find our site if they are looking for anti-wind information.	REF does and Save the Vale did when campaigning. Its purpose was (1) to communicate with all other groups (2) to communicate with all other interested groups who might not be aware locally (e.g. The Thomas Hardy Association at Yale University in the USA lent their support because they became aware of the campaign via the website)	See earlier comments	No	No – for both EPAW website and Faringtofta Norra website	Not asked	Yes – see www.ptcfacts.info

| 74 | Tell me about the successes your organisation has achieved | Getting Swansea Council on side regarding Mynydd y Gwair –officers, members and WAG's Planning Inspector | In the past Country Guardian has given specific local support to fighting individual applications – less so now as we are getting older. Success has been generally getting applications turned down or delayed by our actions. | The first success for Save The Vale was to defeat the application by Ecotricity for 2 No 125m turbines on a hill overlooking the valley and to prevent an appeal.

A further success was the increased degree of social cohesion within the village and an increase in social events. This culminated in the creation of a new village hall | In relation to the Lewis windfarm this was a successful campaign where we gave technical and moral support to Moorland Without Turbines' campaign and we stopped the developer destroying the Special Protection Area… BUT this may be damaged eventually | Over the last 20 years Country Guardian has helped to stop a lot of turbines

On an individual basis I was involved in opposing the potential Mynydd Epynt windfarm which would have consisted of over 100 turbines and would have been visible from my former home in Llandeilo Graban | In relation to Faringtofta Norra, the area of Skone was historically recognised as a part of Sweden that should be untouched. The area is not protected but is an area which is perceived to merit protection from exploitation.

Pamphlets were published. A public meeting was organised by myself and some other local people. An opposition group was formed. Contact was made with political parties and the public who were persuaded to leave the area untouched. These were conditions which made the chance of success greater.

The regional government would have permitted the proposed windfarm development of 10 turbines (180m high) located 3-5 km from my home but the district council rejected it | Not asked | In North Carolina I was invited to speak to the state legislature for an hour. As a result I gained 'standing' within the legislature and have been able to develop relationships with politicians. As a result the legislature is taking steps to change the law on sea level change |

75	Has success led your organisation – or its members into community or wider political activism?	Yes... There are new Community Councillors at Mawr who were involved in the campaign against Mynydd y Gwair and who are more aware of planning policies generally as a consequence	No – but the growth of awareness into the business of windfarms has resulted in people becoming better informed. The effect is to 'de-program' people. This has affected people across the political spectrum.	Yes – some of the Save The Vale campaigners are active in Save our Silton and CPRE. These have been recent developments and not pre-existing. Some members of Save the Vale have become more involved in local politics generally	Very rarely – The only one I know of is a guy in Co Galway who then became involved in the Shell Pipeline campaign. This is not very common	One person has gone on to become a Councillor	No	Not asked	n/a
76	Has failure led your organisation – or its members into community or wider political activism?	Mynydd Bettwys – I am unaware of anyone who has been influenced in this way	No	No - we have not had any failures	No	See 75	No	Not asked	n/a

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| 77 | How has the campaign evolved over time (successful campaign) | The Mynydd y Gwair campaign started with meetings in local pubs and involved local farmers like Glyn Morgan. Over time it has become more professional, including raising money to employ people like Geoffrey Sinclair. | When I was living in Whitehaven there were several applications for windfarms locally. I was aware of applications in Workington as well. I then moved here. Someone had written a letter in the local press about the application at Wharrels Hill. I wasn't aware of this so made an effort to find out and established that nothing (by way of opposition) was happening. So I set out campaigning – I got leaflets and notices printed and posted the notices in a local pub. I was then approached by other people and we called public meetings in village halls. We then started writing to the newspapers and joined Country Guardian. Country Guardian then supported our campaign with letters to the local press from CG members. This built up an opposition. We set up a fighting fund asking for £5 donations and leafleted and fly posted local villages. When the application was received we | A local landowner brought to the attention of some local contacts, the fact that another landowner had agreed to an application for a windfarm on their land.

We held a 'kitchen cabinet' meeting and attempted to find out about the application and then rang around to test the mood. All of those who wanted to express a view were invited to a meeting in the village hall.

At the meeting we established a committee of Volunteers. This then met and tasks were allocated. We were really flying blind at this point. We knew we had to attract funding for planning and legal advice and were lucky because we had access to skills in these areas. I was asked to become the Chairman and the project started to become self-running.

A planning QC gave advice free of charge and a local business man offered funding for a PR agency. We found that the local community had its | Not directly relevant as Views of Scotland supports other campaigns rather than campaigning on its own behalf.

Views of Scotland was formed because to two people meeting in a bus shelter and they started talking about the need for a national organisation. I joined later with the same aim and brought campaigning and administrative experience. The group went through membership organisation status and then it evolved into an information exchange.

REF intervened in the development of the group and this had an adverse effect | Formed in 1991 by Joseph Lythgoe. The first national meeting was held in 1993 in Buith Wells at which Angela volunteered as a Researcher focussing on the Mynydd Epynt windfarm application. Activities included writing letters to the press and forming relationships with other opponents such as John Etherington, author of 'The Wind Farm Scam'. A second national meeting was held in 2004 | EPAW is not a campaign in the traditional sense | Not asked | AWED - I put a meeting together in Washington in February 2012 selecting people from my network and invited about 30 of them to meet with the expectation that around 20 would come. This resulted in about 20 people coming to the meeting at their own expense. There was a balance of Republicans and Democrats and representatives from different states etc. We spent two days discussing our approach to opposing wind energy. Day 1 was spent trying to understand whether there was an agreed game plan – possibly based on science. Day 2 was spent working out how to disseminate the results

This was – to my knowledge, the first attempt to set up a national organisation / group to oppose wind energy in the USA |

			participated in the consultation. Local and Parish Councils called public meetings and we attacked the developers successfully at these. The application then progressed to Planning Committee where I was Chair Of Planning and the planners were sympathetic but we won – twice.	own 'experts' who would offer their help

We then started fundraising and elected a Fundraiser. With the aid of the PR agency we got lots of local publicity and we started a letter writing campaign. The campaign was featured in the local press , we set up a website and held road shows in local villages (12-15 No)

We then made submissions to local Councillors – letters and information packs. One technique we used was to ensure that each letter to a local Councillor was signed by someone they knew. During quiet periods we maintained the flow of information with regular weekly meetings and regular press coverage. The website got thousands of hits.

The campaign culminated at Planning Committee where the application was rejected against officers recommendation. The developer did not make a further appeal | | | | | |

78	How has the campaign evolved over time (un-successful campaign)	N/A	At appeal there were 1000 objections including those of the Parish Council, Friends of the Lake District / CPRE & Ramblers. There were no Rule 6 parties at the appeal. Some local people came forward at the appeal but the Council (Allerdale) led and we lost. Allerdale considered an appeal to the High Court but following legal advice and consultation with the County Council and Lake District Planning Board we were as Councillors, advised not to mount a High Court challenge.	N/A	N/A	N/A	N/A	N/A	n/a

79	In the contest of your protests against windfarms are there any organisations or political groups that you would not accept support from?	The British National Party	English Defence League / BNP	Yes. No political party at all or any related property interest or energy company (i.e. people who would benefit). There has not been any approach by the BNP locally.	Obviously not wind power interests. I would not entertain support from the BNP – our constitution made it explicit that we would not endorse a political party We have been socially and politically isolated.	The BNP	Nazi groups and extremist groups of any kind. (From the political right or left) Also support from the 'green' side	We do not generally accept money or support from outside organisations but we would accept links and help from heritage organisations if offered. We would accept support from local campaign groups and from certain green groups even though they may be anti-nuclear. Our supporters come from across the political spectrum but we would not accept support from Fascist groups	Neo Nazi groups – or other groups on the radical fringe. We would accept support from others (e.g. from fossil fuel industries such as coal)… we are not too worried where the money comes from
80	In the contest of your protests against windfarms is there any form of protest activity that you would not undertake?	Anything that would involve violence to persons	I wouldn't kill anyone	We would not countenance any form of violence against people or property – on the basis of a moral and PR perspective. Save our Silton had a protest walk along a 'right of way' but direct action is not so likely here although in other areas I can see this as possible	Most people were mature enough to realise that activity outside the law was a gesture of despair but I would not condemn other people from taking a different view	Violent protest but I am in favour of Direct Action (e.g. the action by Conservation for Upland Powys)	Yes – any activity involving violence I would support civil disobedience and direct resistance (interruption of turbine transport etc.) Need to develop new methods of protest	We would abide by the law and not do anything illegal. We would not attack anybody… we attack the system!	Breaking the law… ordinarily. We would consider minor civil disobedience (blocking roads etc.) but generally we would adopt 'above board ' tactics

Chronology

Interviewee No. 6 was born in 1938, in Sleaford, Lincolnshire where his father was stationed as an RAF Officer. His grandparents on both sides originated from Normanton, Yorkshire in the middle of the minefields and both of his grandparents on the male side, were miners and very poor.

He is a white British male and does not have any brothers or sisters. At the time of the interview Interviewee No. 6 was 73 years of age, married, retired and had been living in the Lake District for seventeen years. Interviewee No. 6 has two children – both boys. He describes himself as straight (heterosexual), not having a disability and without a religion although he was brought up as a Methodist and married as a Catholic. Interviewee No. 6's first language is English and the interview was conducted in English.

When Interviewee No. 6 was about 6 months old his parents moved to Hampshire where his father had gained a position in the Civil Service at The Royal Aircraft Establishment in Farnborough. He grew up there and attended the local Grammar School.

Between 1940 and 1943 while a young child, Interviewee No. 6 suffered from severe Eczema. This cleared up when Interviewee No. 6 started to attend school at the age of 5 but Interviewee No. 6 contracted Bronchial Asthma which caused him to miss all bar a few weeks schooling in the first year. The asthma continued until Interviewee No. 6 reached the age of 13 when he took up cross country running.

During his childhood Interviewee No. 6 attended the Methodist Church where he met his wife. Interviewee No. 6's initial courtship started when he was 17 and when his wife was 13. This lasted about a year.

Interviewee No. 6 left school up with one 'A' Level and a couple of 'O' Levels and although he considers his examination results a sort of failure, he was offered a place at Hull University. Interviewee No. 6 had also applied to a Teachers Training College in York which he ultimately accepted.

Interviewee No. 6's initial relationship with his wife then ended when he went to Teacher Training College she entered the WRENS.

At the end of Interviewee No. 6's first year of teachers training Interviewee No. 6 was encouraged to study for a degree, and he enlisted for an external degree of London University studying Physics, Botany and Zoology. The Teacher Training Course was a two year programme but Interviewee No. 6

took up the option to study science for a further year and at the end of the third year Interviewee No. 6 sat and passed the London University Part 1 examination.

After completing his teacher training, Interviewee No. 6's first job was teaching science at Longford Secondary School in Kingsbury, near Wembley, London. For the next two years, while teaching – Interviewee No. 6 continued to study Physics, Botany and Zoology on a part time basis at Birkbeck College. At the end of this period, he successfully completed his Part 2 examination and graduated with a first class honours degree in science.

In 1958 Interviewee No. 6 went to work as a Science teacher at Kingsbury Grammar School which he did for around two years.

Interviewee No. 6 and his wife to be met up again in 1960 when he was about 22 and his wife to be was about 19 and they resumed their courtship. Interviewee No. 6 and his wife to be converted to Roman Catholicism, married and Interviewee No. 6 decided to remain at Birkbeck College to do a MSc. Degree in Mycology.

While teaching, Interviewee No. 6 was encouraged by his professor to study for a PhD. Interviewee No. 6 saw and responded to an advert for a research fellowship at University College of Swansea, in the department of Chemistry. His application was successful and he commenced a three years of PhD research. After one year a lecturer vacancy arose and Interviewee No. 6 was appointed to the university staff – continuing his research for a further two years while lecturing.

After about five years lecturing in Swansea, Interviewee No. 6 thought he might like to undertake Post-Doctoral research and applied for a post of lecturer at Hacettape University in Ankara, Turkey. He was granted a years' secondment by Swansea and moved to Turkey with his wife and his two young children for about 15 months in all.

When Interviewee No. 6 returned to Swansea his professor – Cederic Hassall had moved to the Research Head Director of Research at Roche Products in part of the Hoffman-La Roche Group. Interviewee No. 6 was then invited to join Prof Hassall at Roche, which he eventually accepted and in 1972 he moved to live and work in Welwyn Garden City in Hertfordshire.

While living in Welwyn, Interviewee No. 6 joined the Conservative Party.

When Cederic Hassall retired in 1985, Interviewee No. 6 applied to become Research Director but was unsuccessful. Interviewee No. 6 remained at Roche for three years after this and during this time was invited by his local

MP to stand for election as a County Councillor. He was successful and was elected for Welwyn division which he represented for seven years sitting on the Highways, Education and Planning Committees.

In 1988 Interviewee No. 6 accepted voluntary redundancy from Roche after sixteen years with the company and became self employed as a medical writer and a consultant to the pharmaceutical industry. This involved co-ordinating research projects between industry and the Universities and headhunting for the pharmaceutical industry.

Interviewee No. 6 continued to serve as a county councillor until 1992 when he stood down. He and his wife sold their house, left Welwyn and moved to the Lake District in 1996 where they bought and started to renovate a property which was in poor repair.

In 1999/2000 Interviewee No. 6 started to become involved in windfarms when he joined FELLS.

Interviewee No. 6 continued headhunting and medical writing until 2003/4 when he retired.

Analysis

Firstly, the key areas within the biographical gestalt include Family / Background, Religion, Health, Self-confidence, Influential males, Academic career, Science, Politics, Climate Change, Love of the Countryside and Conviction. Interviewee No. 6 ascribes importance to some of these as indicated at lines 9-13:

> 'In thinking about the formative influences in my life, I would have said that there are ancestral/class issues. There are probably health issues; there are formative individuals who had considerable influence at key stages of my life. There is a question of religion and there is a question of politics; and running through it all, the relationship with science and the meaning of science....'

Secondly, the most developed biographical action scheme in the narrative is based on Interviewee No. 6's attainment of his academic qualifications. This is interwoven with his career development first as a teacher, then as a lecturer and finally as a researcher. Academic and career progressions are described in the narrative against a background of an ancestry where grandparents were poor and worked in the mining industry and in the context of a father with a 'desire to improve his quality of life'   (Line 21)

Thirdly, Interviewee No. 6's institutional expectations in respect of the family have not been marked by any significant conflicts of expectation. His life

history of birth, childhood, schooling and exposure to religion and politics all took place within a traditional and stable family setting. This influence of this traditional setting is seen in Interviewee No. 6's later life starting with his choice of life partner:

> 'I was brought up as a Methodist, as was my wife, and we met through the Methodist Church, just as my parents had....' (Lines 63-64)

The influence is also seen in his drive for academic and professional self-improvement and subsequently in his decision to join the Conservative Party – a party which, according to his father:

> '..Offered genuine progress from a hard labour background in the minefields....' (Line 23)

In respect of education however, an early conflict of expectation arose when Interviewee No. 6's academic performance at Grammar School was characterised as a 'struggle' (Line 98) and that he was – relative to his peers, 'at the bottom' of the class (Line 99):

> '..I, sort of, failed at Grammar school. I ended up with one A Level and a couple of O Levels, after sixth form....' (Lines 91-92)

To resolve this conflict – which adversely impacted on Interviewee No. 6's self-belief / esteem (see line 100), Interviewee No. 6 applied not to undertake a Degree at Hull University where he had actually been offered a place, but to enter the less academically demanding Teacher Training programme where:

> '..the University group had been creamed off and I was at the top and not at the bottom anymore....' (Lines 98-99)

This transition from struggling to successful student marked the beginning of a new pattern of institutional expectations in relation to Interviewee No. 6's education and career. In essence this comprised a period of success, the intervention of an influential role model and encouragement to progress – followed by action to achieve a suggested goal, further success resulting in enhancement of self-belief. As Interviewee No. 6 recounted:

> '..I then came across the first of the people who I think had a very major influence on my life, he was the lecturer in biology at St John's College York called, Dunstan Adams, who is no longer with us. At the end of my first year of teachers training there he said that, in his view, I had the potential to study for a degree, which is something that I hadn't thought of. And he pushed me hard to enlist for an external

degree of London University.   Which I did and I chose the subjects of physics, botany and zoology.'   (Lines 101-107)

'..I actually sat and passed the external London University Part 1 because it was a two part degree they did a Part one and Part two. And that then shaped the next step of my life because in order to continue with that it was preferable to go Birkbeck College; you may have heard of it, it is in London. Which was one of the only colleges in those days that offered you the opportunity to study evenings and part time for an internal degree.

So I did that. Again, studied physics, botany and zoology. And I don't need to go through all of that but it was very formative, it was during that period my wife and I met up again and we began going out seriously. And I ended up at the end of it with a first class honours degree in science, which again, I was in the top, there was about 500 people and I was in the top twenty, which clearly was you know, a major contributor to self-belief...'   (Lines 109-120)

'I then decided to remain at Birkbeck College to do an MSc. Degree in Mycology.'   (Lines 131-132)

'And I then discovered having taught for nearly four years that I was much more interested in the science than I was in the teaching of the science. And, again, Professor C.T. Ingold, I had discussed this with him; he was a professor of mycology and botany. And he said, 'Well if that is the way you feel you really should do a PhD'.   (Lines 134-138)

'And so I looked around at some options and I was offered a course in Radiation Biology, which I decided was a bit too mathematical when I looked into it in detail.   And then an advertisement appeared for a national research development corporation fellowship in the University College of Swansea, in the department of Chemistry.   So I put an application in for that and met there, was interviewed by Cedric Hassall FRS, although he wasn't then. And, …. I was given the job.'
                                                      (Lines 139-145)

'And then I went back to Swansea by which time Cedric Hassall had moved to the Research Head Director of Research at Roche Products in part of the Hoffman-La Roche Empire. And he wrote to me, in fact, while I was in Turkey saying would I like to join him in Roche and set up a new department of Cell and Microbiology'.   (Lines 199-203)

'And so I did actually go to Roche in Welwyn Garden City and was there for a total of sixteen years, initially with a small group called Cell

Biology Group which ended up as a department of thirty in Cell Biology and biochemistry'. (Lines 207-209)

'So here we moved to Welwyn, career wise that was extremely good.'
(Line 222)

Unfortunately a further conflict of expectation arose towards the end of this period at Roche when Cederic Hassall retired and Interviewee No. 6 applied to take the position of Research Director:

'So I was in Roche and Hassall retired and I applied to become Research Director as an internal candidate, which was externally advertised. And there were quite significant short lists, I got through to the last two but, in fact, they offered the job to Peter Felmer, who was with Celtech at the time. And he got the job and that caused a problem for him, as it was for me, although I actually stayed at Roche for three more years. It was never entirely satisfactory because he never quite saw me... he saw me as a bit of a threat as he had got the job and I hadn't and eventually I accepted a voluntary redundancy arrangement from Roche.' (Lines 228-235)

This conflict was not resolved successfully (see trajectories of suffering below).

Fourthly, there are two distinct trajectories of suffering within the narrative - the first being in early childhood when Interviewee No. 6 suffered from eczema and then from asthma. Interviewee No. 6 described the effects of the latter condition:

'and I think that actually had... the fact that one can be very seriously ill and I was very ill, I can remember it to this day, lying on the floor with my head on a stool, the only way I could breathe comfortably, for hours on end and it leaves you with a, kind of, stoicism I would have said. Which is, kind of, engrained it is this business before seven, you know, it forms the man and that sort of stoicism I think has been an influence factor as well.' (Lines 57-62)

The second trajectory began following the conflict of expectation arising from the failure to secure promotion at Roche, which ultimately led to his voluntary redundancy from the company.

Conclusion

In considering the above, for Interviewee No. 6, the dominant process structures appear to be those of institutional expectations relating to educational attainment and social standing coupled with the biographical

action scheme to deliver this. Underpinning both of these are an upbringing within a Protestant (Methodist) family very much aware of its poor ancestry and passionate to improve its quality of life.

Interviewee No. 6's decision to relocate to the Lake District in 1996 – to provide a home with a view for his wife marks the culmination of this journey to improve his quality of life and his decision to become involved in opposition to windfarms can be understood as a conflict of institutional expectations.

However, his decision to remain actively involved in FELLS goes beyond this and is linked to his belief in science as an objective process. As Interviewee No. 6 noted:

> '..threats around for various other windfarms in this particular area led me to join FELLS initially because I have a love of the landscape but increasingly because I thought they were being mis-sold in terms of what they were capable of doing.' (Lines 411-413)

For Interviewee No. 6 (and some other anti-wind activists) the expectation that there will be purity in the application of the scientific method (when assessing climate change and renewable energy policy projects) is also a significant driver. This process is analogous to that of institutional expectations in Schütze's theory. While it does not indicate what phases a life cycle should contain or the order or content of such phases, it does indicate what content would look like and what normative conditions might apply. A conflict of expectation would therefore arise when someone who is extensively trained in the scientific method, whose cognitive orientation is structured to test hypotheses to reveal objective truths, observes that in their view, science is not being practiced in an objective way and is somehow 'politicised'. (Line 708)

D5 - Biographical Whole – Interviewee No. 11

Chronology

Interviewee No. 11 was born in Birmingham, England where she lived with her parents until she was 17 when shortly before she left school the family moved to Wales.

Interviewee No. 11 is a white British woman and has a younger brother and sister. At the time of the interview she was 57 years old, married, working full time and had been living Wales for nearly forty years. She has two children (both boys) and she describes herself as straight (heterosexual), not having a disability and a Christian. Interviewee No. 11's first language is English and the interview was conducted in English.

Interviewee No. 11's father was employed as a butcher and her paternal grandparents were farmers and butchers.

From the age of three until she was thirteen, Interviewee No. 11 suffered very badly from asthma and this disrupted her education as she did not attend school for a complete month during that time.

Although Interviewee No. 11's parents lived in Birmingham, until she was 11 years old, her father and brother jointly owned a farm near Bridgnorth in Shropshire. However following a double hernia, Interviewee No. 11's father gave up the partnership in 1966.

In her early teenage years Interviewee No. 11 was placed on a course of steroids for her asthma and this significantly improved her health. In parallel, as an incentive, Interviewee No. 11's uncle promised to buy her a Pony if she could manage a year without asthma and following an improvement in her health, she was given a Pony when she was thirteen

During her teenage years, following her fathers decision to give up the farm, Interviewee No. 11 and her father would spend time on Sundays and during holidays looking for farms to buy. Interviewee No. 11 and her family also spent holidays at a holiday house in a village in Somerset very close to the sea and she spent a lot of time walking there.

Just before Interviewee No. 11 took her A-Levels, when she was 17 her parents bought a farm in Montgomeryshire and the family relocated to mid-Wales.

After leaving school, Interviewee No. 11 developed a career in Personnel Management and became a Staff Manager for British Home Stores (BHS).

This involved working in Birmingham, Sutton Coalfield, Leicester, South End, London, Colchester and finally in Bournemouth.

Faced with a possible move to Belfast in Northern Ireland in the 1970s, (during the 'Troubles') Interviewee No. 11 decided to leave BHS and returned to live in Wales at her parents' farm and work for the local Vet.

Interviewee No. 11 then worked for Laura Ashley in the studio and after unsuccessfully trying to find work locally as an HR Manager; she started to work for a skin care and cosmetic company in her spare time.

At that time Interviewee No. 11 met her husband who was employed as a Farm Bailiff for Lord Hooson. In 1981 they married and for a while they rented a farm on Lord Hooson's estate.

In 1983 Interviewee No. 11 and her husband bought the farm they currently live on and moved into the property at the beginning of 1984. In the mid 1980s Interviewee No. 11's first child was born.

In the late 1980s Interviewee No. 11's health deteriorated and she became very ill with undiagnosed pneumonia. This period of ill health lasted for twenty months during which time Interviewee No. 11 visited the doctor fifteen times and ultimately spent three weeks in hospital in February 1988 recovering from a burst abscess on her lungs. On leaving hospital Interviewee No. 11 fell pregnant with her second child who was subsequently born in December 1988.

In 1992/93 Interviewee No. 11 and her husband became aware of proposals to build a windfarm on the upland plateau where their farm is located. After making enquiries and considering an offer of payment from the Developer, Interviewee No. 11 and her husband decided to object to the proposal and to organise opposition more broadly – firstly forming 'Hands Off Hendre', then 'Conservation of Upland Montgomeryshire' in the mid 1990s which became 'Conservation Upland Powys' in 2007/8.

While campaigning, Interviewee No. 11 became a close friend of the wife of the Chair of the Radnorshire Wildlife Trust. This led to an opportunity to work on a temporary part time basis for the Trust as an Administrator. This role subsequently became a permanent position and Interviewee No. 11 worked for the Trust for seven years after which she joined Environment Wales as a Development Officer, hosted by the Wildlife Trust for Wales.

Currently Interviewee No. 11 is working as a consultant on a part time basis, is a partner in the family farm and is spending the rest of her time campaigning against windfarms in Mid Wales.

Analysis

Firstly, the key areas within the biographical gestalt include illness, an interrupted education, family, an interrupted career, farms and farming, fighting windfarms and involvement in structured protest groups. Interviewee No. 11 ascribes some importance to her health and how it has impacted on her as indicated at lines 286-293:

> '.. I work very hard at being well; the result is that I am. So I think that my attitude towards my health, where right from a very early age, I realised that the only person that can be responsible for it was me. I think that that is the same attitude I have to most things which is that, not only do I hugely value my health but I also hugely value other things about my life and the environment. And not just my life but much broader, you know, habitat and others that share this World with us. So I think that I am exceptionally strong willed.'

Secondly, the most developed biographical action scheme in the early part of the narrative is based on Interviewee No. 11's career which can be described as 'interrupted'. Interviewee No. 11 reports at lines 25-30 that she:

> '… was an HR Manager actually but couldn't get back into that field because of being in Mid Wales and at the time the only factories and businesses around were very small, you know, they were satellite factories and so they weren't going to employ me because they were such small entities of something much larger. So I looked for other things..'

Interviewee No. 11's career trajectory as an HR Manager was interrupted and could not be re-established after her move to Wales, so she embarked on alternative career paths, including farming and family care, working in environmental organisations and latterly unpaid campaigning against windfarms. This campaigning is dominant in the latter part of the narrative and represents a separate and very developed biographical action scheme of its own:

> 'and we realised that actually we had to do something very serious about this.'   (Line 83)

> 'So then things went a little bit further. There was then a presentation, one of their consultation events in the community centre and after that we talked to some friends in the village and said what are we going to do and we said we have got to do something.'
>
>   (Lines 99-102)

'So we persuaded the community council to hold a meeting and the community council held a meeting and various views were put across. And then we decided that we had got to get an opposition meeting. So the four of us got together and we used, I had got a copy of *The Lady* that my mother had given me and it had got an article in it about how to fight planning applications. And that was how we got going basically.

We put together some information that we had gathered which was about, I suppose, maybe ten sheets of photocopied paper. We put them into packs and we made up about 45 of these packs, and you have seen this, this is a minute community. And 45/50 or something like that, well the room was full. I think we had 48 packs and we used them all and there was people who didn't have packs, you know, there was only one to a family. And that was the beginning really; and that was to fight Mynydd Yr Hendre wind-farm.'   (Lines 106-118)

'And it got worse, as I said, it wasn't just Mynydd Yr Hendre, there was one application after another. We became Conservation of Upland Montgomeryshire in the mid-90s and then in 2007/08 something like that we became Conservation Upland Powys because there was Brecon and Radnorshire and Montgomeryshire and we realised that we had got to work with the Unitary Authority because of the strategic search areas. So it has consumed our lives for nearly 20 years.'

(Lines 158-164)

Thirdly, Interviewee No. 11's institutional expectations in respect of the family have not been marked by any significant conflicts of expectation. Her life history of birth, childhood and schooling all took place within a traditional and stable family setting. In the early phase of her life, the most significant conflict of expectation regarding the family took place in Interviewee No. 11's teenage years when her father bought a farm at auction which, despite spending weekends and holidays jointly looking at farms with her father, she had not seen. She regarded this farm as one of the least attractive and most expensive farms that she was aware of but reconciled herself to the effect of her fathers' decision by stating that the outcome was satisfactory because she moved to Mid Wales and then met her husband. In fact the dates when Interviewee No. 11 moved to Wales (around 1974) and the date when she married (1981) are quite far apart so this could be a retrospective positive evaluation.

As an adult, Interviewee No. 11's institutional expectations in respect of the family have also been relatively conflict free, - meeting her husband, marrying, buying a farm, having children and bringing them up at home.

However it is possible that Interviewee No. 11's family were not as supportive of her decision to give up her employment to enable her to devote her time to campaigning on a full time basis as she recounted that:

> '...and again, with your family it causes divisions when you find you don't have the same values.' (Lines 167-168)

Notwithstanding this after time it appears that any difficulties subsided as:

> '..It has been... it could have been hugely divisive I think but our children see it as something incredibly positive to the extent that last year when there was the walk to Cardiff and the demonstration in Cardiff, both of our sons walked to Cardiff and, you know, all the photographs showed our sons walking in and with our oldest son with his baby in his arms because his partner rushed to him and handed him his baby. So she actually came in on the march. And I think that that is quite important. So it is something where we all hold the same values and they are not about money.' (Lines 201-208)

In respect of career however, several conflicts of expectation have arisen starting when Interviewee No. 11 elected not to continue employment with British Home Stores. The narrative is relatively thin in relation to Interviewee No. 11's employment as a HR Manager with British Home Stores, however one comment made does reveal a potential clash of values which may have contributed to her decision to leave. At lines 337- 342:

> '..it was a bit like being in the Army, you know, you followed the rules, you did what you had got to do and they were hard, they were hard business rules and I think that, although I am business focussed and have a strong understanding of finance, I think that compassion has a place, a very important place and I felt I was never going to be a high flier in BHS because, mentally, I was not of the right material I don't think.'

Similarly at Laura Ashley, Interviewee No. 11 did not 'fit in' as outlined in lines 357-364:

> 'So I came and worked for this veterinary practice and realising that Laura Ashley's was quite close, I thought that Laura Ashley's would be quite a good idea, in fact, it wasn't really. Laura Ashley's didn't want what I had to offer.

> And again, I think it is a matter of whether you fit into an organisation. I worked there and met some and am still very good friends with many of the people I worked with, but it was not an organisation that I would want to stay in for a long time'.

These conflicts were not resolved successfully (see trajectories of suffering below) in that although Interviewee No. 11 was working and farming while bringing up a young family, her career in HR had effectively ended and with it her identity as a 'very senior' manager.'   (Lines 369-370)

Although Interviewee No. 11 regained some seniority in her role as a manager in a skin care company,

> 'with about 150 people working for me throughout Wales and the West Midlands'   (Lines 519-520)

this repaired trajectory was subsequently disrupted by the decision to give up work and devote three years to fighting the windfarm that was proposed at Mynydd Yr Hendre.

Fourthly, there are multiple trajectories of suffering within the narrative – these include interruption of education because of ill health, loss of access to the family farm arising from Interviewee No. 11's father's health, multiple career disruptions , ill health as an adult and the threat to 'a happy little life' (Line 383) while farming.

The interruption of Interviewee No. 11's career trajectory and the threat to her hard but 'idyllic' lifestyle as a 'dog and stick' farmer (Line 47) culminated in a significant creative metamorphosis of biographical identity with Interviewee No. 11 acquiring considerable knowledge about environmental matters and putting this and her managerial experience to effect in both her work with the Radnorshire Wildlife Trust and also as a full time anti-wind energy campaigner.

Interviewee No. 11 recognises this change in career trajectory at lines 180-183

> '..the exceptional level of skills and expertise that we have discovered within our own communities has been a delight and many people where their personal careers have gone in a direction that they wouldn't have expected; mine for one.'

Conclusion

In considering the above, for Interviewee No. 11, the dominant process structure is not just that of institutional expectations relating to career and attainment of social standing coupled with a biographical action scheme to deliver this. Interviewee No. 11's career trajectory was interrupted at a relatively early point and did not re-establish successfully due to the

external threat of the Mynydd Yr Hendre windfarm and her decision to give up work and spend time campaigning against the proposed development.

Through a creative metamorphosis process structure, Interviewee No. 11 has acquired a new identity as an active campaigner against windfarms – not just locally but also within Wales. Interviewee No. 11 is conscious of this change in her identity as outlined at Lines 209-212:

> 'My life now is... wind-farms take up far too much time, far too much time. It would be great if they didn't. It means that every evening and every weekend, unless I make a deliberate effort not to do something on a certain day of the weekend, it is taken up with wind-farms.'

D6 - Biographical Whole – Interviewee No. 14

Chronology

Interviewee No. 14 is a white British man who describes his nationality as Welsh. At the time of the interview he was 68 years old, married, retired and had been living Wales for 62 years. Interviewee No. 14 has three grown up children and nine grandchildren. He describes himself as straight (heterosexual), not having a disability and without a religion. Interviewee No. 14's first language is English and the interview was conducted in English.

Interviewee No. 14 was born in Surrey, England on D-Day, the 6th June 1944 - towards the end of the Second World War. Interviewee No. 14's parents were both from the Swansea area, however because of his fathers age (42), his father was not called up for active service but was deployed to build aeroplanes in Surrey.

After the War, in 1950 when Interviewee No. 14 was six, the family returned to Swansea and settled in a remote smallholding on the outskirts of the village in which he now lives. From the age of six up to 17, Interviewee No. 14 lived on the smallholding where the family kept chickens, a goat and a few cattle which were grazed on the local mountain – Mynydd y Gwair.

Interviewee No. 14's education began in England at the age of 5 where he attended school for one year. After moving to Wales he attended the village school. He passed the eleven plus entry exam in 1955 and thereafter attended the local Grammar School at Pontardawe in the Swansea Valley. The school was quite small with around 60 children in each year - about 400 children in all.

Interviewee No. 14 achieved five '0' Levels in Chemistry, Physics, Mathematics, English Language and English Literature. He didn't go on to study A Levels as he was anxious to leave school.

For the first six months after leaving school Interviewee No. 14 worked as a surface labourer for the National Coal Board in local collieries - like his father. He then worked for four years at the National Coal Boards scientific department as a Junior Scientific Technical Officer. During this time Interviewee No. 14 became a fluent Welsh speaker.

Interviewee No. 14 then gained employment with the Steel Company of Wales at the Felindre Works as an On Line Quality Control Technician. While working for the company at the age of 25 [in 1969] Interviewee No. 14 and married his wife, and moved to the house in which he now lives.

During the early years of his marriage, when his children were small, Interviewee No. 14 and his wife and children spent a fair amount of time walking on the local hills and in the Brecon Beacons and in Ireland.

After some years Interviewee No. 14 left the steelworks, went on a teacher training course and trained as a science teacher. Thereafter he taught chemistry and general science for a number of years in the local comprehensive school.

Interviewee No. 14 did not enjoy teaching and returned to work back in the steel industry at the Trostre Steel works in Llanelli. This provided good wages allowing for shift work and overtime. Interviewee No. 14 remained at the steel works for most of the rest of his working life - until just before retirement at the age of 60 when he briefly returned to teaching working as a relief science teacher.

In 1973 a large contingent of South Americans came to live in Swansea from Chile - escaping the Pinochet regime. Welsh cultural groups welcomed them with open arms and Interviewee No. 14 was involved in quite a number of cultural evenings in support of the South Africans. Interviewee No. 14 subsequently became involved in the Anti-Apartheid movement and supported other activists at meetings and demonstrations in London.

Interviewee No. 14's political career began in 1976 when he was approached by a friend to see if he would be interested in standing for election as a community councillor. Interviewee No. 14 stood for election as a member of Plaid Cymru (the Welsh Nationalist Party) and was elected to the Mawr Community Council.

Following this, Interviewee No. 14's interest in politics expanded and he became involved in fighting for a Welsh Language Act. He was involved in quite a lot of demonstrations and also in the fight for the Welsh language television channel. At one of those demonstrations he was arrested, spent the day in the cells and was then fined. Interviewee No. 14 was also involved in the Welsh Socialist Republican Movement (WSRM) which undertook militant actions against holiday home owners in Wales. Interviewee No. 14 was treasurer of a fund that provided support to the families of members of the WSRM who had been imprisoned. During this time Interviewee No. 14 was interviewed by the Police regarding his involvement with the WSRM.

In 1984 Interviewee No. 14 was also involved in the Miners' Strike. He was part of a local miners support group, running concerts and organising food packages for the families of striking miners.

In 1985 Interviewee No. 14 stood as a Plaid Cymru candidate in a by election for the local Lliw Valley Borough Council and was elected. He remained a Borough Councillor until 1996 when the Council was incorporated into the City and County of Swansea Council.

In 1992 a company called EcoGen wanted to build 72 wind turbines on Mynydd y Gwair and Interviewee No. 14 was involved in successfully opposing that proposal.

In the mid-90s, Interviewee No. 14 became disillusioned with Plaid Cymru, left the party and since then he has stood as an Independent Councillor and has served as Chair of the Licencing Committee and Lord Mayor.

In 2004/2005 during the time when the Welsh Government were consulting on the TAN 8 Planning Guidance, Interviewee No. 14 had 5000 post cards printed which he distributed to enable people to submit their objections to the proposals. He also attempted to mobilise opposition on a wider basis but this was not successful.

In 2008 a new application to develop a windfarm on Mynydd y Gwair was made by RWE Npower. Interviewee No. 14 was involved in opposing this application and gave support to the local opposition group Save Our Common Mountain Environment (SOCME). The application was opposed by the Council and by a Planning Inspector who considered an appeal by the applicant. Npower subsequently challenged the Planning Inspectors views in the High Court but lost. In June 2012 Npower submitted a new application for the windfarm and at the time of interview this had not been determined by the Council.

Analysis

Firstly, the key areas within the biographical gestalt include Work, Family, Walking, Holidays, Welsh Language, Anti-Apartheid, Politics and Windfarms.

Secondly, and perhaps unremarkably, the earliest biographical action scheme in the initial part of the narrative is based around Interviewee No. 14 gaining employment after leaving school. There is within this narrative a sense of under achievement in that while successful in gaining a place at the local Grammar School, Interviewee No. 14 did not excel (line 62), did not study for 'A' Levels and left school with only the opportunity to work as a surface labourer in the local coal mine (Lines 65-67). Although this was the occupation of his father, Interviewee No. 14 describes as not a 'proper job' (Lines 65-66).

There is also a casualness associated with Interviewee No. 14's career in that other than the reference to not liking teaching, his account lacks a

description of his feelings for his work and the processes involved in purposeful seeking of change / progression. Interviewee No. 14 recounts:

> '...fortunately a job came up in the National Coal Boards scientific department and I had a job there for a few years.'   (Lines 68-69)

> '...and then I was fortunate enough then to get employment with the Steel Company of Wales.'   (Lines 90-91)

> '...I left the steel works then after some years there and I went on a teacher training course and trained as a science teacher and I taught for a number of years in the local comprehensive school here, teaching chemistry and general science, as it was then called. Mainly to the children with some learning difficulties so there was a limit to the science that you could teach but I stuck that for some years'.
>
>   (Lines 130-135)

> '...I didn't like teaching very much to be honest and I then was lucky enough to get a job back in the steel works in another plant which was now British Steel, or was then, British Steel had been nationalised then, the steel company ceased to exist and I got a job back in the Trostre Steel works in Llanelli which is not very far away and worked on their rolling mills for a number of years.'   (Lines 136-140)

This casualness contrasts with the most developed biographical action scheme which appears in the latter part of the narrative. This revolves around Interviewee No. 14's political career which began in 1973 with his involvement with Welsh cultural groups supporting exiles of the Pinochet regime in Chile. This coincided with involvement with the Welsh Anti-Apartheid Movement which was active in Swansea at that time.

Although Interviewee No. 14 expresses a longstanding interest in the Welsh language (line 149) which underpins aspects of his political activism, his interest did not develop in the first six years of his life – while living in England – where he was born, nor through speaking Welsh at home. (Interviewee No. 14's mother – and her family 'whilst being from Wales had roots in South Pembrokeshire, were English speaking Welsh people, who attended the Church of England' (Lines 26-27)). Rather this interest appears to have its roots in a particularly patriotic (line 29) father who, along with his family spoke fluent Welsh coupled with a period of employment at the Abernant Colliary where

> '..there were only two languages spoken at work, the main one was Welsh and the other language was German.'   (Lines 152-153)

..and since

'..nobody wanted to learn German but if you didn't speak Welsh, you hardly had anybody to speak to. So, in those few years, I became very fluent in spoken Welsh' (Lines 156-158)

In 1976, Interviewee No. 14's interest in the Welsh language coincided with an invitation to become a Community (Parish) Councillor and he stood for a seat on the Mawr Community Council as a member of Plaid Cymru (the Welsh Nationalist Party) as he was 'always interested in supporting the Welsh language' (line 149).

As Interviewee No. 14 had already been involved in Welsh language activism at that time (see Lines 173 -178). Plaid seems to have been a natural home for his political sympathies. Notwithstanding these mainstream political activities, Interviewee No. 14 also became involved in the Welsh Socialist Republican Movement in the late 1970s and early 1980s. This movement had its roots in the dissatisfaction of Welsh Nationalists who were unhappy with the stance taken by Plaid during the 1979 devolution referendum – the movement advocating a more radical option for independence compared with the Plaid position at the time.

Interviewee No. 14's involvement was on the periphery of this movement and he remained a member of Plaid and stood as a Plaid Candidate for the Lliw Valley Borough Council election in 1985. By the mid 1990s however Interviewee No. 14 had become disillusioned with Plaid and left the party. His political career from that point on was as an Independent. Despite leaving an established political party Interviewee No. 14 has had considerable electoral success with 'massive majorities in this Ward' (line 222), '..a high turn-out ...of about 60%' and normally ...60% or 70% of the vote'. (Lines 224-226).

Other than in relation to windfarms, Interviewee No. 14's involvement in campaigning is characterised by his account at lines 259-264:

'...I have been involved in so many campaigns but only, sort of, on the fringe of them. The fringe of Antiapartheid, the fringe of the Welsh Language campaign, so I have been involved in them but on the fringe. The fringe of the Republican Movement, only involved in raising money for children at Christmas, of people who were incarcerated; on the fringe of that.'

However in relation to the campaign against TAN 8, the Welsh Government Planning Policy for Renewable Energy published in 2005, Interviewee No. 14 claims a more central role in that he was:

'...one of the famous six names on British Wind Energy Associations infamous slogan, 'we know where you live.'   (Lines 523-524)

In the narrative, he recounts that:

'..I had 5000 post cards printed which I distributed, which was to be for people to write their objections to Tan 8. And I can't remember the exact figures now but of the 5000 card that were distributed around the place, I think nearly a 1000 was sent back in and then there were several hundred people who just sent in a comprehensive objection. So, in a way, I could lay claim to be one of the main sources of objection to Tan 8..'   (Lines 529-535)

Additionally as recounted at lines 538-550, Interviewee No. 14 also attempted to mobilise a national response to TAN 8:

'..I personally tried to contact a lot of people and asked other groups to help and they just wouldn't. I don't know what the psychology in this is, the Assembly was reconvening after the Christmas recess to consider things like Tan 8 and I said well why don't we give them a shock and all turn up on the steps of the Assembly with banners and placards and just... I said to people that you only need to be there for half an hour to make your protest known and then you can, people who come from the rural areas could spend the rest of the day shopping in Cardiff or going to one of the national museums like St Fagan's and have a day out, come down by bus from central Wales or North East Wales or whatever or West Wales and have a day out. But if we all met on the steps with banners and protest that would have had a significant impact on the birth of Tan 8 but I just couldn't get it going, nobody was interested really.'

Interviewee No. 14 is clear as to his rationale for involvement in anti-wind activism. He has a strong attachment to Mynydd y Gwair and he does not wish to see changes to that landscape. This is recounted in the narrative:

'..But anyway going back to the question of Mynydd y Gwair, it is just something that has been intertwined in my life from childhood right up to today, you know, and I am 68 years of age, so we can say for the past 60 plus years, from the time we came back from England to up to the present day and with my children going up there, Mynydd y Gwair does feature prominently, it is such a big area, such a nice area, and safe area to walk and play and there is quite a bit of wild life up there, people don't realise that in terms of Skylarks and if you turn stones over you will find little toads and lizards and quite a lot of small flowers and there is such a mix of grasses there as well and it is

grazed quite tidily and it is free of a lot of bracken; so it is really part of my life really.

I just don't want to give it away to a multi-national company whose only interest in it is reaping the subsidies on renewable energy, it is not going to save the planet from any climate change or anything, it will just enrich the Duke of Beaufort and Npower and destroy what has been there since the Ice-age and geological time..' (Lines 474-488)

'....there is a certain amount of people in this country lets us be honest, couldn't care a damn about the landscape. They are only starting to wake up now, I have stopped talking about the damage to the landscape and that is my main reason for being in this campaign'.

(Lines 641-545)

For Interviewee No. 14, anti-wind activism is an expansion of established local political activism and an activity that is seen as protective of an environment which he has grown up in and values.

Thirdly, Interviewee No. 14's institutional expectations in respect of the family have not been marked by any significant conflicts of expectation. His life history of birth, childhood and schooling all took place within a traditional and stable family setting and as an adult Interviewee No. 14 recounts very little conflict with a long marriage of 43 years, three children living locally and nine grandchildren. Furthermore Interviewee No. 14's connection with his home has been particularly stable as he has lived at his present address since his marriage.

In respect of education a minor conflict of expectation appears to be present within the narrative there is a sense of under achievement as Interviewee No. 14, while successful in gaining a place at the local Grammar School, did not excel (line 62), did not study for 'A' Levels and left school with only the opportunity to work as a surface labourer in the local coal mine (Lines 65-67). However this sense of under achievement does not readily manifest itself as a sense of 'failure' in the narrative.

Fourthly, there are no strong trajectories of suffering within the narrative. It would be possible to point to the decision to return to the steelworks following a period of teaching science, however this does not appear to fit Schütze's idea of events that are beyond the control of the individual (Schütze 2007, 11).

The reference to leaving school after completing 5 'O' Levels is perhaps the closest event that approximates to something where Interviewee No. 14 was incapable of shaping his own life as he was:

'...fortunate enough to pass the eleven plus entry exam in 1955 to the local Grammar School at Pontardawe in the Swansea Valley'

(Lines 55-57)

But because he '..didn't excel in Grammar School.' (Lines 61-62) he recounts that:

'....I didn't go on to study 'A' Levels, I was anxious to leave school. I was so anxious I left really before I got a proper job, so for the first six months I ended up working as a labourer for the National Coal Board in the Collieries here as a surface labourer, like my father..'

(Lines 64-67)

This suggests that Interviewee No. 14 may have felt that on securing a place at the local Grammar School he had the potential to do better than his father but his examination performance did not support this trajectory.

Perhaps the clearest example would be the recent loss of political control at the Council. Interviewee No. 14 recounts:

'...we had 8 years in control of Swansea Council but on May 3rd this year, there was a big landslide victory throughout the United Kingdom, not just in Swansea, throughout Britain. And the Labour Party stormed back and now controls the local Council. So I am back on the opposition benches. I help in villagers with problems of constituency matters.'   (Lines 252-257)

Conclusion

In considering the above, for Interviewee No. 14, the dominant process structure appears to relate to the biographical action scheme involved in the development of his political identity. Initially Interviewee No. 14 gained experience of national campaigns associated with the political left this evolved into strongly rooted local community politics and in campaigns to protect local landscapes.

D7 - Biographical Whole – Interviewee No. 19.

Chronology

Interviewee No. 19 was born on 7/11/1943 in Copenhagen, Denmark. He is a white Caucasian male and has two sisters. At the time of the interview Interviewee No. 19 was aged 68, divorced, retired and living in Sweden. Interviewee No. 19 has two children from his former marriage - a boy and a girl.

Interviewee No. 19 describes himself as straight (heterosexual), not having a disability and an atheist. His first language is Danish but he speaks good English and the interview was conducted in English.

At the time of Interviewee No. 19's birth the Second World War was in progress and Denmark was occupied by German troops.

Soon after his birth his parents fled Copenhagen and moved to a small village to the North of Copenhagen where Interviewee No. 19 grew up and attended a local school.

When he was 17 Interviewee No. 19 started a three year studentship studying languages but stopped after a year and at 18 in June 1962 Interviewee No. 19 left school having gained a School Certificate.

In the same year Interviewee No. 19 also left home and started his training as a journalist on 1st August 1962. This training was undertaken at a little newspaper in Western Jutland – in a small village in Denmark where Interviewee No. 19's Uncle was born.

Soon after this, Interviewee No. 19's parents left Denmark and moved to live in Majorca, Spain. Interviewee No. 19's youngest sister did not move to Spain at that time but stayed with family and friends of his parents. Interviewee No. 19's other sister worked as an au pair in England and the USA.

On 1st September 1963 Interviewee No. 19 hitch hiked through Germany and France to visit his parents in Majorca, and stayed in Spain for several months - after which time he and his parents returned to Copenhagen travelling via Northern Italy. During this time on Nov 22nd – the date when John F Kennedy was assassinated, Interviewee No. 19 and his family stayed at Lake Como. Interviewee No. 19 and his family arrived back in Copenhagen in December 1963 – just before Christmas and stayed with his aunt (his father's sister) over the Christmas period.

Interviewee No. 19 then took a number of jobs including work at United Press International as an assistant where he translated telegrams.

Between 1964 and 1966 Interviewee No. 19 continued his education at a press bureau in the Danish Parliament under the guidance of an experienced journalist who had a Social Democrat outlook. Interviewee No. 19 had close contact with this person and his wife, also a journalist and later minister in the Danish government.

Interviewee No. 19 finished training as a journalist in the summer of 1966 and got a job working on a newspaper which was based about 60km from Copenhagen.

At that time in Denmark, military service was compulsory but Interviewee No. 19 sought to avoid this and became a member of the Home Guard.

In the summer of 1967 – when Interviewee No. 19 was 25, the Home Guard organised a field trip to the USA for a month and Interviewee No. 19 visited New York and then went to Detroit– during the race riots (July 23-28; 1967).

After returning to Denmark in the autumn of 1967, Interviewee No. 19 undertook freelance Journalist work for Trade Unions, started a relationship with a Swedish girl who he was later to marry.

In 1973 Interviewee No. 19 started to investigate pre hospital care – from the scene of an accident to the point of admission to hospital. He went out with an ambulance from Copenhagen Fire Brigade for 24 hours as the first reporter to do so. As a result he was asked to write about an elite unit named as 'Smoke Divers'. He worked with them for three months to document the work of the unit and became 'the eighth man' (7 + 1).

On 1st September 1973 Interviewee No. 19 was on duty when there was a fire at the Hafnia Hotel, Copenhagen. The fire was the most serious fire Copenhagen had experienced in the 20th Century and killed 35 people. Interviewee No. 19 attended the fire and witnessed the death of both adults and children.

In 1974 Interviewee No. 19 was engaged as Editor in Chief of the Danish Nurses weekly journal *'The Nurse'*, published by the Danish Nurses Organisation.

In 1983 Interviewee No. 19 and a group of his reporters carried out an investigation into the management of the ambulance service in Denmark. This work culminated in a number of critical articles regarding the private company which was running the ambulance service (Falck Group).

From 1975 till 1990 in his free time Interviewee No. 19 also edited a professional journal for fire fighters.

On 7th April 1990 Interviewee No. 19 was sent to Lysekil in Sweden to collect information about a disaster involving a ferry boat called The Scandinavian Star, in which 158 people died from a fire.

In June 1990 following the observations of a friend who was a Psychotherapist, Interviewee No. 19 recognised that he was suffering from the onset of Post-Traumatic Stress and he started a programme of intensive psychotherapy. This lasted for about six months after which time he considered himself to be recovered.

In 1991 Interviewee No. 19 and his wife divorced after 19 years of marriage.

As a result of his many articles on advanced pre-hospital care systems ion *The Nurse,* Interviewee No. 19 was requested by the chairman of the Health Committee of the Danish Parliament to arrange a study visit to SAMU in France. The study visit took place 5th-9th March 2000.

In 2000 a new President of the Danish Nurses Organisation was appointed.

On 16th March 2004 Interviewee No. 19 was fired from his post as Editor in Chief after a long conflict about editorial freedom.

In December 2004 Interviewee No. 19 moved to Perstorp in Sweden where he now lives.

In 2007 proposals emerged for EON to develop windfarms in Skåne – the area in which Interviewee No. 19 lives.

Between 2007 and 2009 Interviewee No. 19 undertook research into wind energy and over the course of 2010 and 2011 he wrote a book on it. On 6th February 2012 Interviewee No. 19's book Besat af Vind (Occupied by Wind) was published.

Analysis

In the biographical narrative of Interviewee No. 19 we see a number of separate but potentially interconnected themes.

Firstly, the key areas within the biographical gestalt include danger, parents, bullying, being different, money, stressful events, anger, conflict and to a lesser extent Nazi symbolism.

Secondly, the most developed biographical action scheme in the narrative revolves around Interviewee No. 19 choosing to become a journalist, undertaking training, developing his professional skills and experience and

realising a degree of success in his career. The 'normal' sequence of process structures, birth, childhood, education and career are followed in the narrative however there is little emphasis on family.

Additional, although non-dominant biographical action schemes include avoidance of military service and service with the Home Guard together with a more recent experience as an anti-wind activist.

Thirdly, Interviewee No. 19's institutional expectations around the family have been largely unfulfilled. Interviewee No. 19 describes his father as weak, lacking in character, a man who never took any confrontations, unable to manage money, icy, slippery and non-present. Interviewee No. 19 said that he could not say that he had a good relationship with his father, if he had any relationship with him at all and ultimately Interviewee No. 19 left home at the age of 18 because he was tired of his father and because he wanted to realise himself. To the extent that there was any, this poor relationship with his father continued until late in life when Interviewee No. 19 at the age of 55 challenged his father's lack of acceptance of his individuality and gave his father an ultimatum to stop referring to Interviewee No. 19 as a 'ridiculous person' or risk not seeing him anymore.

Interviewee No. 19 characterised his mother as a worried person and interfering (in connection with time at school). His relationship with his extended family after he left home was non-existent and after his parents moved to live in Spain, contact with them – though wanted and valued, was limited to some letters and occasional visits. Interestingly Interviewee No. 19 only mentioned one sister during the interview but subsequently clarified that he had a second sister when further information on the family's move to Spain was being sought.

More positive family references come through references to an Uncle who paid a lot of attention to Interviewee No. 19, was the central person in his life and who Interviewee No. 19 considers to have been instrumental in the development of his character.

Institutional expectations relating to authority are characterised by conflict and opposition and this is a key theme throughout the biographical gestalt. In his early years, opposition to authority was present in the family and school (both key agents of socialisation) and in later life opposition and conflict are key elements of Interviewee No. 19's professional career – ultimately leading to his dismissal from work at the age of 61. Interviewee No. 19's interaction with the formal authority structures such as the military and police are particularly extreme. References to authority figures in uniform are quite pronounced and Interviewee No. 19 seems to be aware of

this because he specifically comments on his experience of wearing a uniform when serving with the Fire Service.

Fourthly, there are several discrete trajectories of suffering within the narrative - the first being early childhood when Interviewee No. 19 was born into a family experiencing both war and occupation; the second being the period when Interviewee No. 19 was experiencing Post Traumatic Stress, the third being the loss of employment and the last being when 'the SS of industry started to attack the area' in which Interviewee No. 19 chose to live after the his enforced retirement.

The earliest trajectory is described at the outset of the interview

> 'I was born the 7th November 1943 in Copenhagen at the time when Denmark was occupied by German troops. My parents, especially my mother, she was quite a worried person. I don't know exactly when, after my birth from time to time, they had to take me down in the cellar for protection. Then a factory close to where we lived was bombed by the Royal Air Force and they were afraid and walked out of the City and, according to family stories, they have told me that they walked with me in a small wagon up North of Copenhagen to a little village where they found a place where we could live and I grew up in that area.' (Lines 5-12)

Although Interviewee No. 19 was only two his childhood experience combined occupation by the Nazis, being bombed by the RAF and having to leave the family home for a safer environment.

Interviewee No. 19's second trajectory of suffering began during his journalistic career with the coverage of significant traumatic incidents and culminated in a period of psycho analysis following diagnosis of PTSD:

> 'And I remember she said, what is wrong with you, and she knew me very well, and I said nothing is wrong. Yes, but you are strange, has something happened. And I could not rely to this and I said well why I wasn't looking at this. Oh, you visited the Scandinavian Star. Yes, I went through all the cabins and so on. Oh she said, now I understand, you are developing post-traumatic stress syndrome. So now I can take care of it, you have to come to me twice a week until we clear up this. And this I did'. (Lines 522-529)

The third trajectory relates to the ending of Interviewee No. 19's journalistic career:

> '.in the year 2000 we got a new president and after sometime I regarded her to be, well you can't write this because I would have to

prove it, I will say to you but not to be referred, she was psychopathic and I am not going to work for such a one, she wants to control everything'. (Lines 597-601)

'..when you have such kind of conflicts she wanted to control everything, she almost wanted political control with the journal which had a letter of freedom, and this I couldn't accept. I resisted for a long time and this time it was maybe the worst time of my life... not the worst but it was an extremely hard time because of all the... I couldn't trust anyone, not even in my own office. I could only trust my secretary and I knew exactly what they tried to do to try to get rid of me and they would give a damn sheet on my contract so when I resisted this control, I was called to a meeting the 16th March 2004, I smoked 20 cigarettes, I knew what was going to happen.'

(Lines 605-613)

'After 20 minutes, because it was prepared, they had all the papers, please sign here and so on and I was followed to my office and thrown out. I was 61 years and three or four months, this was a very bad time to lose a job and I had been a leader for 30 years, no one would have a man as an old journalist anywhere.' (Lines 614-617)

The final trajectory relates to the potential for Interviewee No. 19's new life – post his enforced retirement, to be severely disrupted after EON determined to develop a windfarm at Faringtofta, which is less than 3 miles from Interviewee No. 19's home.

'I was 61 years and three or four months, this was a very bad time to lose a job and I had been a leader for 30 years, no one would have a man as an old journalist anywhere. So I decided this is the time for me to say that I have had a career, I have had a lot of results, more or less invisible. I have learned and had the happiness to see a journalist life. And I tried to develop and so on, but now it was a way I found this out and said no I am going to change my life and try new things. I am going to grow green vegetables myself and try really to get a new life and forget about this.

And then after three years, as I called it, the SS of industry started to attack the area. They wanted to build so many wind turbines it is hard to believe and here it started.' (Lines 615-625)

Conclusion

Interviewee No. 19's dominant biographical action scheme – his career, was abruptly ended in 2004. This represented a threat not just to his livelihood but also impacted on his identity. Having accepted the change – and reconciled the end of his career with a new life in the country (a creative metamorphosis), he then experienced a new trajectory with the threat of a wind project locally. A second creative metamorphosis then takes place where Interviewee No. 19 returns to use his journalistic and writing skills to protest against wind energy developments, culminating in the production of a book – *'Occupied by Wind'*. Interestingly the title of the book links back to the start of the narrative where Interviewee No. 19 was living in occupied Denmark during the Second World War.

Interviewee No. 19's participation in anti-wind activity is therefore possibly a creative metamorphosis of biographical identity, following a trajectory of suffering where a new objective of growing green vegetables and trying to get a new life, after the abrupt end of a journalistic career, is potentially frustrated.

Bibliography

Achterberg, P; Houtman, D & van der Waal, J (2007), 'Class Is Not Dead! It Has Been Buried Alive.' *Politics and Society*, Vol. 35 (3), pp. 403-426.

Ackland, R; Fry, J & Schroeder, R (2007), 'Scoping the Online Visibility of e-Research by Means of e-Research Tools'. *Proceedings of the 3rd International Conference on e-Social Science.* [Online] http://voson.anu.edu.au/papers/Ackland_Fry_Schroeder_Final_eSS2007.pdf (Accessed 04/05/2014).

Adamic L, A & Adar, E (2003), 'Friends and Neighbors on the Web'. *Social Networks,* Vol. 25 (3), pp. 211–230.

Aitken, M (2010), 'Why we still don't understand the social aspects of wind power: A critique of key assumptions within the literature'. *Energy Policy,* Vol. 38 (4), pp. 1834-1841.

Ajzen, I (1985), 'From intentions to actions: A theory of planned behavior'. In: Kuhl, J & Beckmann, J (Eds.), *Action-control: From cognition to behavior* pp. 1-39. Heidelberg: Springer.

Ajzen, I (1991), 'The theory of planned behavior'. *Organizational Behavior and Human Decision Processes*, Vol. 50 (2), pp.179-211.

Andrews, K. T & Edwards, B (2005), 'The Organizational Structure of Local Environmentalism'. *Mobilization: An International Quarterly*, Vol. 10 (2), pp. 213-234.

Argent, N; Tonts, N; Jones, R & Holmes, J (2009), 'Rural Amenity and Rural Change in Temperate Australia: Implications for Development and Sustainability'. *Journal for Geography,* Vol. 4 (2), pp. 15-28.

Audland, C (2004), *Right Place – Right Time*. Durham: Memoir Club.

Baggio, R; Scott, N; & Wang, Z (2007), 'What network analysis of the WWW can tell us about the organisation of tourism destinations'. *Proceedings of the CAUTHE 2007*, Sydney, Australia.

Baldassarri, D & Diani, M (2007), 'The Integrative Power of Civic Networks'. *American Journal of Sociology,* Vol. 113, pp. 735–780.

Barry, J., Ellis, G., Robinson, C. (2006), 'Cool Rationalities and Hot Air: A Rhetorical Approach to Understanding Debates on Renewable Energy' *Output from Renewable Energy and Discourses of Objection - Towards Deliberative Policy Making Project. Queens University of Belfast.* http://www.qub.ac.uk/research-centres/REDOWelcome/filestore/Filetoupload,40559,en.pdf [Online] (Accessed 06/04/2013).

Baumol, W. J (1986), 'Productivity Growth, Convergence, and Welfare: What the Long Run Data Show'. *The American Economic Review,* Vol. 76 (5), pp. 1072-1085.

Becker, H.S (1993), 'Theory: The Necessary Evil'. In: Flinders, D. J & Mills, G.E (Eds.) *Theory and Concepts in Qualitative Research: Perspectives from the Field.* New York, Teachers College Press. pp 218-229.

Bell, D; Gray, T & Haggett, C (2005), 'The 'Social Gap' in Wind Farm Siting Decisions: Explanations and Policy Responses.' *Environmental Politics*, Vol. 14 (4) pp. 460 – 477.

Benson, M (2011), *The British in Rural France: Lifestyle Migration and the Ongoing Quest for a Better Way of Life.* Manchester: Manchester University Press.

Berger, P & Luckmann, T (1966), *The Social Construction of Knowledge: A Treatise in the Sociology of Knowledge.* Garden City, New York: Doubleday.

Bergsjo, A; Nilsson, K & Skarback, E (1982), 'Wind power in the landscape'. *Fourth International Symposium on Wind Energy Systems*, Stockholm, Sweden, 21-24 September, Paper N2.

Berlin, I (2000), *Three Critics of the Enlightenment: Vico, Hermann, Herder.* Pimlico: London.

Bibbings, J (2004), *Climate Concern. Attitudes to Climate Change and Windfarms in Wales.* Cardiff, Welsh Consumer Council & Friends of the Earth.

Bishop, K & Proctor, A (1994), *Love Them Or Loathe Them? Public Attitudes Towards Wind Farms in Wales.* Department of City and Regional Planning, University of Wales, Cardiff.

Blumer, H (1969), 'Social Movements'. In: Lee, A.M (Ed.) *Principles of Sociology.* (3rd Edition), New York: Barnes & Noble. pp. 99-120.

Blumer, H (1969a), *Symbolic Interactionism: Perspective and Method*, New Jersey: Prentice-Hall, Inc.

Borgatti, S. P; Everett, M. G & Freeman, L. C (2002), UCINET for Windows: Software for social network analysis.

Borgmann, A (1984), *Technology and the Character of Contemporary* life. A Philosophical Inquiry. Chicago: University of Chicago Press.

Bosley P, & Bosley K (1988), 'Public Acceptability of California's Wind Energy Developments: Three Studies'. *Wind Engineering,* Vol. 12 (5), pp. 311-318.

Bourdieu, P (1982), *Leçon sur la leçon.* (In French) Paris: Minuit.

Bourdieu, P (1984), *Distinction: A social critique of the judgement of taste.* Cambridge, Massachusetts: Harvard University Press.

Bourdieu, P (1986), 'The Forms of Capital'. In: Richardson, J. G (Ed.) *Handbook of Theory and Research for the Sociology of Education.* Greenwood Publishing Group. pp. 241-258.

Bourdieu, P (1988), *Homo Academicus.* Cambridge: Polity Press.

Bourdieu, P & Wacquant, L. J (Eds.) (1992), *An Invitation to Reflexive Sociology.* Chicago: University of Chicago Press.

Braunholtz, S (2003), *Public Attitudes to Windfarms: A Survey of Local Residents in Scotland.* [Online] http://www.scotland.gov.uk/Publications/2003/08/18049/25579 Scottish Executive Social Research/MORI Scotland: The Stationary Office, Scottish Executive. (Accessed 23/11/2013).

Breindl, Y. (2012), 'The Dynamics of Participation and Organisation in European Digital Rights Campaigning'. *eJournal of eDemocracy & Open Government*, Vol. 4 (1), pp. 24-44.

Breukers, S & Wolsink, M (2007), 'Wind power implementation in changing institutional landscapes: An international comparison'. *Energy Policy,* Vol. 35 (5), pp. 2737–2750.

British Horse Society (2012) 'Wind Turbine Experiences' [Online] http://www.bhs.org.uk/~/media/BHS/Files/PDF%20Documents/Access%20leaflets/Wind%20Turbine%20Experiences%20%20BHS%202012%20Survey%20Results.ashx (Accessed 01/02/2015).

Brittan, Jr., G. G (2001), 'Wind, energy, landscape: Reconciling nature and technology'. *Philosophy and Geography,* Vol. 4 (2) pp. 169-184.

Bruce, D (2010), 'Comrade, I Fried the Kids: 'Climate Change' – yet another failure of the Left?' [Unpublished Discussion Paper].

Brüggemann, M & Engesser, S (2013), *Climate Journalists as Interpretive Community: Identifying Transnational Fames of Climate Change. NCCR Working Paper No 59.* [Online] http://www.ipmz.uzh.ch/News/NewsInstitut/klimawandeldenken/climatejournalists.pdf (Accessed 23/4/2014).

Brunt, A & Spooner, D (1998), 'The Development of Wind Power in Denmark and the UK'. *Energy & Environment,* Vol. 9 (3), pp. 279–296.

Bryman, A (2004), *Social Research Methods.* Oxford: Oxford University Press.

Burningham, K (2000), 'Using the Language of NIMBY: A Topic for Research, not an Activity for Researchers'. *Local Environment,* Vol. 5 (1), pp.55–67.

Burningham, K; Barnett, J & Thrush, D (2006), *The limitations of the NIMBY concept for understanding public engagement with renewable energy technologies: a literature review.* School of Environment and Development, University of Manchester [Online] http://www.sed.manchester.ac.uk/research/beyond_nimbyism/ (Accessed 01/12/2013).

Butre, J.L (2008), *L'Imposture - Pourquoi l'éolien est un danger pour la France* (in French). France: Toucan Publishing.

Carlman, I (1982), 'Wind energy potential in Sweden: the importance of non-technical factors.' *Fourth International Symposium on Wind Energy Systems*, 21–24 September.

Carlman, I (1984), 'The views of politicians and decision-makers on planning the use of wind power in Sweden.' *European Wind Energy Conference*, Hamburg 22–26 October.

Carlman, I (1986), 'Public opinion on the use of wind power in Sweden'. *European Wind Energy Association Conference and Exhibition*, Rome, 7–9 October.

Carlman, I (1988), 'Wind power in Denmark! Wind power in Sweden?' *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 27 (1), pp. 337–345.

Cass, N (2006), '*Participatory-Deliberative Engagement: a literature review*', published by the School of Environment and Development, Manchester University, Manchester. [Online] http://www..manchester.ac.uk/sed/research/beyond_nimbyism (Accessed 06/04/2014).

Cass, N & Walker, G (2009), 'Emotion and rationality: The characterisation and evaluation of opposition to renewable energy projects'. *Emotion, Space and Society*, Vol. 2 (1), pp. 62-69.

Cassirer, E (1953), *Substance and Function and Einstein's Theory of Relativity.* Translated by William Curtis Swabey and Marie Collins Swabey. New York: Dover.

Castells, M (1996), *The Rise of the Network Society.* (*Volume.1).* Oxford: Blackwell.

Champion, T & Shepherd, J (2006), 'Demographic change in rural England'. In: Lowe, P & Speakman, L (Eds.) *The ageing countryside: The growing older population of rural England.* UK: Age Concern Books. pp. 29-50.

Chapman, M (1993), 'Copeland: Cumbria's Best-Kept Secret.' In: Macdonald, S. (Ed.), *Inside European Identities. Ethnography in Western Europe*, Oxford: Berg, pp. 194–218.

Clarke, T.N & Lipset, S.M (1991), 'Are Social Classes Dying?' *International Sociology,* Vol. 6 (4), pp. 397–410.

Cloke, P & Thrift, N (1987), 'Intra-class conflict in rural areas'. *Journal of Rural Studies,* Vol. 3 (4), pp. 321-334.

Cortina, J. M (1993), 'What Is Coefficient Alpha? An Examination of Theory and Applications'. *Journal of Applied Psychology*, Vol. 78 (1), pp 98-104.

Cowell, R (2007), 'Wind power and "the planning problem": the experience of Wales'. *European Environment,* Vol. 17 (5), pp. 291–306.

Cowell, T (2010), 'Wind power, landscape and strategic, spatial planning—The construction of 'acceptable locations' in Wales.' *Land Use Policy,* Vol. 27 (2), pp. 222–232.

Cress, D. M (1997), 'Nonprofit Incorporation among Movements of the Poor: Pathways and Consequences for Homeless Social Movement Organizations'. *The Sociological Quarterly*, Vol. 38 (2), pp. 343-360.

Cronbach, L. J (1951), 'Coefficient alpha and the internal structure of tests'. *Psychometrika,* Vol. 16 (3), pp. 297-334.

Crossley, N (2006), *Contesting Psychiatry. Social Movements in Mental Health.* Oxford: Routledge.

Crossley, N (2007), 'Social Networks and Extra-Parliamentary Politics'. *Sociology Compass*, Vol. 1 (1), pp. 222-236.

Crossley, N (2011), *Towards Relational Sociology.* London & New York: Routledge.

Crotty, M (1998), *The Foundations of Social Research: Meaning and Perspective in the Research Process.* London: Sage.

CWEA (2010), *Wind Energy in Ontario.* Canadian Wind Energy Association. [Online] http://www.canwea.ca/pdf/ipsosreid_ontariosurvey.pdf (Accessed 06/04/2014).

CWEA (2012), *Opinion Survey – Wind Energy in Quebec* (in French). Canadian Wind Energy Association. [Online] http://www.canwea.ca/pdf/Rapport-Omnibus-2012.pdf (Accessed 06/04/2014).

Damborg, S (2003), 'Public Attitudes Towards Wind Power'. *Danish Wind Industry Association.* [Online] at http://www.windwin.de/images/pdf/wc03041.pdf (Accessed 23/11/2013).

Danish Wind Industry Association (1993), *Holdningsundersogelse,* Ringkjobing, Denmark: Danish Wind Industry Association.

Davis, J. E (Ed.) (2002), *Stories of Change: Narrative and Social Movements.* Albany, New York: State University of New York Press.

Dawson, C.A & Gettys, W.E (1935), *Introduction to Sociology.* New York: Ronald Press Co.

Dear, M. (1992), 'Understanding and Overcoming the NIMBY Syndrome' *Journal of the American Planning Association,* Vol. 58 (3), pp. 288-300.

DECC (2012) *Public Attitudes Tracker – Wave 1. Summary of Key Issues.* Department of Energy & Climate Change, London: HMSO. [Online] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48446/5707-decc-public-att-track-surv-wave1-summary.pdf (Accessed 19/3/2014).

Della Porta, D & Diani, M (1999), *Social Movements: An Introduction.* Oxford: Blackwell.

Della Porta, D & Diani, M (2006), *Social Movements: An Introduction.* (2nd Edition) Oxford: Blackwell.

Dent, P & Sims, S (2007), 'What is the impact of wind farms on house prices?' *The Royal Institutional of Chartered Surveyors, FIBRE Research Paper, March 2007.* London: RICS.

Department of Trade and Industry, Scottish Executive, *et al.*, (2003), *Attitudes and Knowledge of Renewable Energy amongst the General Public*: Report Findings. London: HMSO. [Online] http://www.dti.gov.uk/renewables/policy_pdfs/nationalreport.pdf (Accessed 23/11/2013).

Devine-Wright, P (2005), 'Beyond NIMBYism: Towards an Integrated Framework for Understanding Public Perceptions of Wind Energy.' *Wind Energy,* Vol. 8 (2), pp.125–139.

Devine-Wright, P (2007), 'Reconsidering public attitudes and public acceptance of renewable energy technologies: a critical review', [Online] http://geography.exeter.ac.uk/beyond_nimbyism/deliverables/bn_wp1_4.pdf (Accessed 10/4/2014).

Devine-Wright, P (2009), 'Rethinking Nimbyism: The role of place attachment and place identity in explaining place-protective action'. *Journal of Community and Applied Social Psychology,* Vol. 19 (6), pp. 426-441.

Devine-Wright, P (2011), 'From Backyards to Places: Public Engagement and the Emplacement of Renewable Energy Technologies'. In: *Renewable Energy and the Public: from NIMBY to Participation*, London: Earthscan. pp. 57-70.

Devine-Wright, P (2013), 'Explaining "NIMBY" Objections to a Power Line. The Role of Personal, Place Attachment and Project-Related Factors'. *Environment and Behaviour,* Vol. 45 (6), pp. 761-781.

Devine-Wright, P & Howes, Y (2010), 'Disruption to place attachment and the protection of restorative environments: A wind energy case study'. *Journal of Environmental Psychology,* Vol. 30 (3), pp. 271-280.

Devlin, L (2002), 'Factors affecting public acceptance of wind turbines in Sweden. MSc Dissertation. Lund University, Sweden.

Diani, M (2003), 'Leaders or Brokers? Positions and Influence in Social Movement Networks.' pp. 105-122, In: Diani, M & McAdam, D, *Social Movements and Networks.* Oxford: Oxford University Press.

Diani, M & Bison, I (2004), 'Organizations, coalitions, and movements.' *Theory and Society.* Vol. 33. pp. 281–309.

DTI (2000), *Cumulative Effects of Wind Turbines. Volume 2: Report on Quantitative Public Attitude Research in Mid Wales.* Department for Trade & Industry, London: HMSO.

DTI (2001), *Examining Approaches to Renewables Consultation. Lessons from the Awel Aman Tawe Community Wind Farm Project.* Department of Trade and Industry. London: HMSO.

Duhachek, A; Coughlan, A.T & Iacobucci, D (2005), 'Results on the Standard Error of the Coefficient Alpha Index of Reliability'. *Marketing Science,* Vol. 24 (2), pp. 294-301.

DUKES (2009), *Digest of UK Energy Statistics.* Department of Energy and Climate Change. London: HMSO. [Online] http://webarchive.nationalarchives.gov.uk/20130109092117/http://decc.gov.uk/assets/decc/statistics/publications/dukes/1_20100208131106_e_@@_dukes09.pdf (Accessed 03/04/2014).

Durkheim, E (1982), *Rules of Sociological Method.* New York: Simon and Schuster.

Eder, K (1985), 'The New Social Movements: Moral Crusades, Political Pressure Groups or Social Movements?' *Social Research,* Vol. 52 (4), pp. 869-900.

Eder, K (1995), 'Does Class Matter in the Study of Social Movements? A Theory of Middle Class Radicalism.' In: Maheu, L (Ed.) Social Movements and Social Classes. London, Sage. Chapter 1

Edwards, B (1994), 'Semiformal organizational structure among social movement organizations: An analysis of the US peace movement'. *Nonprofit and Voluntary Sector Quarterly,* Vol. 23 (4), pp. 309-333.

Ehrlich, S and King, R (1992), 'Gender-Based Language Reform and the Social Construction of Meaning', *Discourse & Society*, Vol. 3 (2) pp. 151-166; republished In: Cameron, D (Ed.) (1998), *The Feminist Critique of Language: A Reader*. London: Routledge. pp. 164-179.

Ek, K (2005), 'Public and private attitudes towards "green" electricity: the case of Swedish wind power'. *Energy Policy,* Vol. 33 (13), pp. 1677–1689.

Ellis, G; Barry, J; & Robinson, C (2006), 'Many ways to say 'no', different ways to say 'yes': Applying Q-methodology to understand public acceptance of wind farm proposals'. *Output from Renewable Energy and Discourses of Objection - Towards Deliberative Policy Making Project.* Queens University of Belfast. [Online] http://www.qub.ac.uk/research-centres/REDOWelcome/filestore/Filetoupload,40560,en.pdf (Accessed 06/04/2014).

Emirbayer, M (1997), 'Manifesto for a Relational Sociology'. *American Journal of Sociology*, Vol. 103 (2), pp. 281-317.

Emmett, C & Heaton–Harris, C (2012), *Together Against Wind: A Step by Step Guide on Opposing a Wind Farm in Your Area*. UK: Bretwalda Books.

Engstom, S. and B. Pershagen (Eds.) (1980), *Aesthetic Factors and Visual Effects of Large Scale Wind Energy Conversion Systems*. Final report NE-1980-20 of Task A-5, International Energy Agency: National Swedish Board of Energy Source Development.

Enzensberger, H.M (1974), 'A Critique of Political Ecology'. *New Left Review,* Vol. 84 (3), pp. 3-31.

Erp, F (1997), *Siting Processes for Wind Energy Projects in Germany*, Eindhoven University of Technology.

Esslemont, E (1994), *Cemmaes Windfarm Sociological Impact Study*. ETSU W/13/00300/REP. Harwell, Essex: Department of Trade and Industry.

Etherington, J (2006), *The Case Against Windfarms*. [Online] http://www.countryguardian.net/The%20Case%20Against%20Wind%20'Farms'.pdf (Accessed 09/04/2014).

Etherington, J (2009), *The Windfarm Scam*. London: Stacey International.

Exeter Enterprises Ltd (1993), *A Survey of Public Opinion in Cornwall and Devon.* ETSU Report W/13/00300/REP. Department for Trade & Industry, London: HMSO.

Fairclough, N (1989), *Language and Power*. London: Longman.

Fairclough, N (2013), *Critical Discourse Analysis: The Critical Study of L`anguage*. London & New York: Routledge.

Fan, X & Thompson, B (2001), 'Confidence Intervals for Effect Sizes'. *Educational and Psychological Measurement*, Vol. 61 (4), pp. 517-531.

Farhar, B. C (1994), 'Trends in US public perceptions and preferences on energy and environmental policy'. *Annual Review of Energy and the Environment*, Vol. 19 (1), pp. 211-239.

Ferber, R, (1977), *Public Reactions to Wind Energy Devices*. USA: National Science Foundation and US Department of Energy.

Ferguson, A (1767), *An Essay on the History of Civil Society*, [Online]. http://lf-oll.s3.amazonaws.com/titles/1428/1229_Bk.pdf (Accessed 04/05/2014).

Festinger, L; Riecken, H.W & Schachter, S (1956), *When Prophecy Fails: A Social and Psychological Study of a Modern Group that Predicted the Destruction of the World*. Minneapolis: University of Minnesota Press.

Fine, G (1995), 'Public Narration and Group Culture', In: Klandermans, B & Johnson, H (Eds.) *Social Movements and Culture*. London: Routledge. Chapter 7.

Foucault, M. (1972), *The Archaeology of Knowledge.* Translated by AM Sheridan Smith. London: Tavistock.

Frege, G. (1884), The Foundations of Arithmetic. In: Austin, J. L. (Ed. and trans.), 1974, *The Foundations of Arithmetic. A logic-mathematical enquiry into the concept of number*, Oxford: Blackwell.

Freudenburg, W & Pastor, S (1992), 'NIMBYs and LULUs: Stalking the Syndromes'. *Journal of Social Issues,* Vol. 48 (4), pp. 39-61.

Friedkin, N (1981), 'The Development of Structure in Random Networks: An analysis of the effects of Increasing Network Density on Five Measures of Structure'. *Social Networks,* Vol. 3 (1), pp. 41-52.

Gamson, W. A (1975), *The Strategy of Social Protest*. Homewood, Illinois: Dorsey Press.

Gamson, W. A & Modigliani, A (1989), 'Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach'. *American Journal of Sociology*, Vol. 95 (1), pp.1-37.

Garrido, M & Halavais, A (2003), 'Mapping Networks of Support for the Zapatista Movement.' In: McCaughey, M & Ayers, M. D *Cyberactivism.* New York: Routledge. Chapter 7.

Garton, L; Haythornthwaite, C & Wellman, B (1997), 'Studying Online Social Networks'. *Journal of Computer Mediated Communication* Vol. 3(1) [Online] http://jcmc.indiana.edu/vol3/issue1/garton.html (Accessed 11/7/2010).

George, D & Mallery, P (2003), *SPSS for Windows Step By Step: A Simple Guide and Reference* (4th Edn.). Boston, Massachusetts: Allyn & Bacon.

Gerlach, L (1971), 'Movements of Revolutionary Change: Some Structural Characteristics.' *The American Behavioral Scientist,* Vol. 14 (6), pp. 812-836.

Gerlach, L (2001), 'The Structure of Social Movements: Environmental Activism and its Opponents.' In: Arquilla, J & Ronfeldt, D (Eds.), *Networks and Netwars: The Future of Terror, Crime, and Militancy.* Santa Monica, California: Rand. pp. 289–310.

Gerlach, L. P & Hine, V. H (1970), *People, Power, Change: Movements of Social Transformation.* USA: Bobbs-Merrill Company.

Geuzendam, C (1998), 'Wind energy and public acceptance' pp.135-140, In: Ratto, C. F, & Solari, G (Eds.), *Wind Energy and Landscape: Proceedings of the international workshop WEL,* Genoa, Italy, 26-27 June 1997: CRC Press.

Geuzendam, C; Klopstra, A & Uitzinger, J (1999), 'Public Support for Wind Turbines: Creating a Local Market.' In: *European Wind Energy Conference Proceedings.* Nice: EWEA. pp. 440-443.

Gipe, P (1993), 'The Wind Industry's Experience with Aesthetic Criticism'. *Leonardo,* Vol. 26 (3), pp. 243-248.

Gipe, P (1995), *Wind Energy Comes of Age.* New York: John Wiley & Sons.

Glaser, B & Strauss, A (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research.* London: Wiedenfeld and Nicholson.

Glickel, J. (2004), 'Siting wind turbines: Collaborative processes and joint fact finding to resolve NIMBY disputes'. Massachusetts Institute of Technology. [Online] http://web.mit.edu/dusp/epp./music/pdf/glickel.pdf (Accessed 24/11/2013).

Golding, E. W (1976), *The Generation of Electricity by Wind Power.* London: E. & E. N. Spon Ltd.

Gonzalez-Bailon, S (2009), 'Opening the Black Box of Link formation. Social Factors underlying the structure of the Web'. *Social Networks,* Vol. 31 (4) pp. 271-280.

Gould, R (2003), 'Why Do Networks Matter? Rationalist and Structuralist Interpretations' In: Diani, M & McAdam, D, *Social Movements and Networks.* Oxford: Oxford University Press. Chapter 10.

Gouldner, A. W (1968), 'The Sociologist as Partisan: Sociology and the Welfare State'. *The American Sociologist,* Vol. 3 (2), pp.103-116.

Gouldner, A. W (1970), *The Coming Crisis of Western Sociology,* London: Heinemann.

Granovetter, M (1973), 'The Strength of Weak Ties'. *American Journal of Sociology*, Vol. 78 (6), pp. 1360-1380.

Gross, C (2007), 'Community perspectives of wind energy in Australia: The application of a justice and community fairness framework to increase social acceptance.' *Energy Policy,* Vol. 35 (5), pp. 2727–2736.

Guba, E. G (1985), 'The Context of Emergent Paradigm Research'. In Y.S Lincon (Ed.) *Organizational Theory and Inquiry: The Paradigm Revolution.* Beverley Hills, California: Sage.

Haggett, C (2008), 'Over the Sea and Far Away? A Consideration of the Planning, Politics and Public Perception of Offshore Wind Farms'. *Journal of Environmental Policy & Planning,* Vol. 10 (3), pp.289-306.

Haggett, C & Toke, D (2006), 'Crossing the Great Divide–Using Multi-method Analysis to Understand Opposition to Windfarms'. *Public Administration,* Vol. 84 (1), pp.103-120.

Hanneman, R.A & Riddle, M (2005), *Introduction to Social Network Methods.* Riverside, California: University of California, Riverside. [Online] http://faculty.ucr.edu/~hanneman (Accessed 11/7/2010).

Harbicht Research (1981), *Public Attitudes Toward the Development of Wind Energy in the San Gorgonio Pass Area.* Report for Southern California, Edison, September.

Harding, S (Ed.) (2004), *The Feminist Standpoint Theory Reader.* New York and London: Routledge.

Harris, J (2010), 'Going Green to Stay in the Black: Transnational Capitalism and Renewable Energy.' *Race & Class,* Vol. 52 (2), pp. 62-78.

Harvey, D (1989), *The Condition of Postmodernity.* Oxford: Blackwell.

Harvey, D (1996), *Justice, Nature and the Geography of Difference.* Cambridge, Massachusetts: Blackwell.

Harvey, D (2010), *A Companion to Marx's Capital.* London: Verso Books.

Hawkins, J. L; Mercer, J; Thirlaway, K. J & Clayton, D (2013), '"Doing" Gardening and "Being" at the Allotment Site: Exploring the Benefits of Allotment Gardening for Stress Reduction and Healthy Aging.' *Ecopsychology*, Vol. 5 (2), pp. 110-125.

Heaton-Harris, C (2012), *Fighting the Kelmarsh Windfarm.* UK: Bretwalda Books.

Heidegger, M (1971), *Poetry, Language, Thought.* New York: Harper & Row.

Heidegger, M (1977), *The Question Concerning Technology and Other Essays.* Translated by William Lovett. New York: Harper & Row.

Henriksen, L.C (2009a), 'Wind Energy Literature Survey 13'. *Wind Energy* Vol. 12 (5), pp. 524–526.

Henriksen, L.C (2009b), 'Wind Energy Literature Survey 14'. *Wind Energy* Vol. 12 (7), pp. 712–714.

Heymann, M (1998), 'Signs of Hubris – The Shaping of Wind Technology Styles in Germany, Denmark and the United States 1940-1990'. *Technology and Culture,* Vol. 39 (4), pp. 641-670.

Hicks, J. R (1969), *A Theory of Economic History.* Oxford: Oxford University Press.

Hines, D. J (2007), 'The Persistent Frontier & the Rural Gentrification of the Rocky Mountain West'. *Journal of the West,* Vol. 46 (1), pp. 63-73.

Hines, D. J (2010), 'Rural gentrification as permanent tourism: the creation of the `New' West Archipelago as post-industrial cultural space'. *Environment and Planning D: Society and Space,* Vol. 28, pp. 509 – 525.

Hobsbawm, E (1968), *Industry and Empire.* London: Penguin.

Hoepman, N (1998), *Foar de Wyn.* Provinsje Friesland.

Holmberg, S & Hedberg, P (2012), *Studies in Swedish Energy Opinion.* Sweden: University of Gothenberg.

Hopson, B & Adams, J (1976), 'Towards an Understanding: Defining Some Boundaries of Transition Dynamics'. In: Adams, J; Hayes, J & Hopson, B (Eds.) *Transition: Understanding and Managing Personal Change.* London: Martin Robertson.

Hubbard, P (2005), 'Accommodating Otherness: anti-asylum centre protest and the maintenance of white privilege.' *Transactions of the Institute of British Geographers,* Vol. 30 (1), pp. 52–65.

Hubbard, P (2006), 'NIMBY by Another Name? A Reply to Wolsink'. *Transactions of the Institute of British Geographers,* Vol. 31 (1), pp. 92–94.

Hubbert, M. K (1956), *Nuclear Energy and the Fossil Fuels.* Presented before the Spring Meeting of the Southern District Division of Production, American Petroleum Institute, San Antonio, Texas, March 8, 1956. Publication No. 95. Houston: Shell Development Company, Exploration and Production Research Division.

Hull, A (1995), 'New Models for Implementation Theory: Striking a Consensus on Windfarms'. *Journal of Environmental Planning and Management,* Vol. 38 (3), pp. 285-306.

Jackson, M. H. (1997), 'Assessing the Structure of Communication on the World Wide Web'. *Journal of Computer-Mediated Communication.* [Online]

http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.1997.tb00063.x/full (Accessed 23/11/2013).

Jamison, A & Eyerman, R (1991), *Social Movements: A Cognitive Approach.* University Park Pennsylvania: Pennsylvania State University Press.

Jessup, B (2010), 'Plural and hybrid environmental values: a discourse analysis of the wind energy conflict in Australia and the United Kingdom.' *Environmental Politics*, Vol. 19 (1), pp. 21–44.

Joppke, C (1986), 'The Cultural Dimensions Of Class Formation And Class Struggle: On The Social Theory Of Pierre Bourdieu.' *Berkeley Journal of Sociology,* Vol. 31, pp. 53-78

Jorgensen, B & Stedman, R (2001), 'Sense of place as an attitude: Lakeshore owners' attitudes towards their properties'. *Journal of Environmental Psychology,* Vol. 21 (3), pp. 233-248.

Kant, I (1781), *The Critique of Pure Reason.* Translated by J. M. D. Meiklejohn (2010) The Electronic Classics Series, Jim Manis, Editor, PSU-Hazleton, Hazleton, PA 18202. [Online] http://www2.hn.psu.edu/faculty/jmanis/kant/critique-pure-reason6x9.pdf (Accessed 22/04/2014).

Karamelska, T & Geiselmann, C (2010), 'Experience, Memory and Narrative: A Biographical Analysis of Ethnic Identity' *MICROCON Research Working Paper 29*, Brighton: MICROCON. [Online] http://www.microconflict.eu/publications/RWP29_TK_CG.pdf (Accessed 02/06/2014).

Khatri, M (2004), 'RICS Wind Farm Research: Impact of Wind Farms on the Value of Residential Property and Agricultural Land'. *Royal Institute of Chartered Surveyors.* London: RICS.

Kim, H. J (2000), 'Motivations for linking in scholarly electronic articles: A qualitative study'. *Journal of the American Society for Information Science.* Vol. 51 (10) pp. 887-899.

Klandermans, B (2004), 'Demand and Supply of Participation: Social Psychological Correlates of Participation in Social Movements'. In: *The Blackwell Companion to Social Movements* (Eds.) Snow, DA; Soule, SA & Kriesi, H. Oxford: Blackwell. Chapter 16.

Klandermans, B & Staggenborg, S (Eds.) (2002), *Methods of Social Movement Research.* Minneapolis: University of Minnesota Press.

Klandermans, B; Staggenborg, S & Tarrow, S (2002) 'Blending Methods and Building Theorise in Social Movement Research'. In: Klandermans, B & Staggenborg, S (Eds.) (2002), *Methods of Social Movement Research.* Minneapolis: University of Minnesota Press. Chapter 12/Conclusion.

Krohn, S & Damborg, S (1999), 'On Public Attitudes to Wind Power'. *Renewable Energy,* Vol. 16 (1), pp. 954–960.

Labov, W & Waletzky, J (1967) 'Narrative Analysis: Oral Versions of Personal Experience.' In: Helm, J (Ed.), *Essays on the verbal and visual arts.* Seattle, Washington: Washington University Press. pp.12-44.

Latour, B & Woolgar, S (1979), *Laboratory Life: The Social Construction of Scientific Facts.* Beverly Hills, California: Sage.

Lee, T; Wren, B & Hickman, M (1989), 'Public responses to the siting and operation of wind turbines'. *Wind Engineering,* Vol. 13 (4), pp. 188-195.

Leondar-Wright, B (2014), *Missing Class: Strengthening Social Movement Groups by Seeing Class Cultures.* New York, Cornell University Press.

Little, K (Ed.) (2003), *The Battle for Cefn Croes. How New Labour's energy policy conspired to destroy the landscape of the Welsh Cambrian Mountains.* Wales, Cefn Croes Publications. [Online] http://cefncroeswindfarm.wordpress.com/the-battle-for-cefn-croes (Accessed 09/04/2014).

Lofland, J (1993), *Polite Protesters: The American Peace Movement of the 1980s.* USA: Syracuse University Press.

Low, S & Altman, I (Eds.) (1992), *Place Attachment.* New York: Plenum Press.

Lowenstein, K (1953), 'Political Systems, Ideologies, and Institutions: The Problem of Their Circulation.' *The Western Political Quarterly,* Vol. 6 (4), pp. 689-706.

Luttik, J (2000), 'The value of trees, water and open space as reflected by house prices in the Netherlands.' *Landscape and Urban Planning,* Vol. 48, (3-4), pp. 161-167.

Lyotard, J. F (1979), *The Postmodern Condition.* (1984) Manchester: Manchester University Press.

Maddison, A (1982), *Phases of Capitalist Development.* Oxford: Oxford University Press.

Mann, M.E (2004), *Force 10. Political Will v Landscape Protection.* [Online] http://www.wind-farm.co.uk/force10.pdf (Accessed 09/04/2014).

Martin, C.L (2009), *How to Fight the Big Wind Onslaught.* [Online] http://www.aweo.org/Martin.html (Accessed 09/04/2014).

Marx, K (1847a), *Wage Labour and Capital.* The Nature and Growth of Capital. [Online] https://www.marxists.org/archive/marx/works/1847/wage-labour/ch05.htm (Accessed 09/12/2013).

Marx, K (1847b), *The Poverty of Philosophy* Vol. 2 Second Observation [Online] http://www.marxists.org/archive/marx/works/1847/poverty-philosophy/ch02.htm (Accessed 23/2/2011).

Marx, K (1971), *A Contribution to the Critique of Political Economy*, Translated from the German by S. W. Ryazanskaya, London: Lawrence & Wishart.

Marx, K (1973), *Grundrisse.* Harmondsworth: Penguin.

Marx, L. (1964), *The Machine in the Garden: Technology and the Pastoral Ideal in America.* New York: Oxford University Press.

Massey, D (1995), 'Making spaces or, geography is political too.' *Soundings,* Issue 1 (Autumn), pp. 193-208.

Massey, D (1996), 'Politicising space and place.' *Scottish Geographical Magazine,* Vol. 112 (2), pp. 117-123.

Massey, D; Bond, S & Featherstone, D (2009) 'The Possibilities of a Politics of Place Beyond Place? A Conversation with Doreen Massey', *Scottish Geographical Journal,* Vol. 125 (3-4), pp. 401-420.

Mayhew, B.H & Levinger, R (1976), 'Size and the Density of Interaction in Human Aggregates'. *American Journal of Sociology,* Vol. 82(1), pp. 86-110.

McAdam, D (1982), *Political Process and the Development of Black Insurgency, 1930-1970.* Chicago: University of Chicago Press.

McCarthy, J.D (1996), 'Constraints and opportunities in adopting, adapting and inventing.' In: McAdam, D; McCarthy, J.D & Zald, M (Eds.) *Comparative Perspectives on Social Movements.* Cambridge: Cambridge University Press. Chapter 6.

McClymont, K & O' Hare, P (2008), "We're not NIMBYs!' Contrasting local protest groups with idealised conceptions of sustainable communities'. *Local Environment - The International Journal of Justice and Sustainability,* Vol. 13 (4), pp. 321-335.

McGowan, F & Sauter, R (2005), 'Public Opinion on Energy Research: A Desk Study for the Research Councils'. *Sussex Energy Group,* SPRU, University of Sussex.

Mead, G. H (1934), *Mind, Self, and Society.* Chicago: University of Chicago Press.

Melucci, A (1985), 'The Symbolic Challenge of Contemporary Movements'. *Social Research,* Vol. 52 (4), pp. 789-816.

Melucci, A (1995), 'The Process of Collective Identity'. In: Johnson, H & Klandermans, B (Eds.), *Social Movements and Culture,* London: Routledge.

Melucci, A (1996), *Challenging Codes*. Cambridge: Cambridge University Press

Mendels, F. F (1972), 'Proto-Industrialization: The First Phase of the Industrialization Process'. *The Journal of Economic History,* Vol. 32 (1), pp. 241-261.

Michael, M (2000), *Reconnecting Culture, Technology and Nature - From Society to Heterogeneity*. London: Routledge.

Mies, M (1983), 'Towards a Methodology for Feminist Research'. In: Bowles, G & Duelli Klein, R (Eds.) *Theories of Women's Studies*. London: Routledge. pp. 117-139.

Milligan, K (2010), *The Crosses of Aiolos (A Tale of Wind and Wallets)*. United Kingdom: 4-Winds House Publishing.

Moragues-Faus, A. M & Ortiz-Miranda, D (2010), 'Local mobilisation against windfarm developments in Spanish rural areas: New actors in the regulation arena'. *Energy Policy*, Vol. 38 (8), pp. 4232-4240.

Moran, D & Sherrington, C (2007), 'An economic assessment of windfarm power generation in Scotland including externalities.' *Energy Policy*, Vol. 35 (5), pp. 2811–2825.

Muenstermann, I (2012), 'Wind Farming and the Not-in-My-Backyard Syndrome: A Literature Review Regarding Australia's Challenge in Relation to Climate Change and CO2 Emissions.' In: Young, S.S & Silvern, S.E (Eds.), *International Perspectives on Global Environmental Change*. Chapter 22. [Online] http://cdn.intechweb.org/pdfs/27195.pdf (Accessed 04/05/2014).

Neij, L & Andersen, P.D (2012), 'A Comparative Assessment of Wind Turbine Innovation and Diffusion Policies. Historical Case Studies of Energy Technology Innovation.' In: Grubler A; Aguayo, F; Gallagher, K.S; Hekkert, M; Jiang, K; Mytelka, L; Neij, L; Nemet, G & Wilson, C, *The Global Energy Assessment*. Cambridge, Cambridge University Press. Chapter 24.

Nisbet, R. A (1959), 'The Decline and Fall of Social Class'. *The Pacific Sociological Review,* Vol. 2, (1), pp. 11-17.

Nunally, J (1978), *Psychometric Theory*. New York: McGraw Hill.

Offe, C (1985), 'New Social Movements: Challenging the Boundaries of Institutional Politics'. *Social Research,* Vol. 52 (4), pp. 817-868.

Omnibus Report (1995), *Public Attitudes Towards Wind Energy*, Toronto, Canada: Canadian Wind Energy Association and Environmental Monitor.

Pakulski, J (1995), 'The Decline of the Marxist Paradigm.' In: Maheu, L (Ed.) *Social Movements and Social Classes.* London, Sage. Chapter 4.

Park, H.W (2003), 'Hyperlink Network Analysis: A New Method for the study of Social Structure on the Web'. *Connections,* Vol. 25 (1), pp. 46-61 http://www.insna.org/PDF/Connections/v25/2003_I-1-5.pdf [Online] (Accessed 11/7/2010).

Park, H.W; Barnett, G.A & Nam, I.Y (2001), 'Affiliation network structure of top websites: Examining affiliates with hyperlink in Korea'. *Paper submitted to the International Sunbelt Social Network Conference*, Budapest, Hungary republished as Park, H.W; Barnett, G.A & Nam, I.Y (2002), 'Hyperlink–affiliation network structure of top web sites: Examining affiliates with hyperlink in Korea.' *Journal of the American Society for Information Science and Technology,* Vol. 53 (7), pp. 592-601.

Park, H.W & Thelwall, M (2003), 'Hyperlink Analyses of the World Wide Web: A Review'. *Journal of Computer Mediated Communication,* Vol. 8 (4), http://jcmc.indiana.edu/vol8/issue4/park.html [Online] (Accessed 11/7/2010).

Pasqualetti, M. J (2011), 'Opposing Wind Energy Landscapes: A Search for Common Cause'. *Annals of the Association of American Geographers*, Vol. 101 (4), pp. 907-917.

Pasqualetti, M. J & Butler, E (1987), 'Public reaction to wind development in California'. *International Journal of Ambient Energy,* Vol. 8 (3), pp. 83–90.

Pedersen, T.H (2004), 'Noise Annoyance' In: *Proceedings of International Energy Agency Topical Expert Meeting № 42* on 'Acceptability of Wind Turbines in Social Landscapes'. Stockholm: IEA. pp. 39-54.

Pedersen, E & Waye, K. P (2004), 'Wind turbines' impact on people living in the vicinity of the turbines' In: *Proceedings of International Energy Agency Topical Expert Meeting № 42* on 'Acceptability of Wind Turbines in Social Landscapes'. Stockholm: IEA. pp. 75-80.

Petrova, M. A (2013), 'NIMBYism revisited: public acceptance of wind energy in the United States'. *Wiley Interdisciplinary Reviews: Climate Change,* Vol. 4 (6), pp. 575-601.

Phadke, R (2010), 'Steel forests or smoke stacks: the politics of visualisation in the Cape Wind controversy'. *Environmental Politics*, Vol. 19, (1) pp. 1–20.

Pierpont, N (2009), *Wind Turbine Syndrome: A Report on a Natural Experiment.* Santa Fe, New Mexico: K-Selected Books.

Piven, F. F & Cloward, R. A (1977), *Poor People's Movements: Why They Succeed, How They Fail.* New York: Pantheon.

Polletta, F (1998), 'It Was Like A Fever.' Narrative and Identity in Social Protest'. *Social Problems*, Vol. 45 (2), pp. 137-159.

Polkinghorne, D.E (1988), *Narrative Knowing and the Human Sciences.* Albany, New York: State University of New York Press.

Price, T. J (2007), 'UK Wind Power: Sustaining Sympathy, Avoiding Apathy and Negotiating Negativity'. *Paper given to the European Wind Energy Association Conference in Milan.* [Online] http://proceedings.ewea.org/ewec2007/allfiles2/4_Ewec2007fullpaper.pdf (Accessed 10/4/2014).

Proshansky, H. M (1978), 'The City and Self Identity'. *Environment & Behaviour,* Vol. 10 (2), pp.147-169.

Proshansky, H. M & Kaminoff, R.D (1982), 'The Built Environment of the Young Adult' In: Messick, S (Ed.) *Development in Young Adulthood: Characteristics and Competencies in Education, Work & Social Life.* San Francisco: Jossey-Bass Press.

Proshansky, H. M; Fabian, A. K & Kaminoff, R (1983), 'Place-identity: Physical world socialization of the self'. *Journal of Environmental Psychology,* Vol. 3 (1), pp. 57-83.

Reid, E & Chen, H (2007), 'Internet Savvy U.S and Middle Eastern Extremist Groups'. *Mobilization,* Vol. 12 (2), pp. 177-192.

Relph, E (1976), *Place and Placelessness.* London: Pion Press Ltd.

Relph, E (1981), *Rational Landscapes and Humanistic Geography.* New York: Barnes and Noble.

Righter, R (1996), *Wind Energy in America: A History.* Norman: University of Oklahoma Press.

Rootes, C (1995), 'A New Class? The Higher Educated and the New Politics'. In: Maheu, L (Ed.) *Social Movements and Social Classes.* London, Sage. Chapter 9.

Rootes, C (2007), *Nature Protection Organizations in England.* Working Paper 1/2007, Centre for the Study of Social and Political Movements: University of Kent at Canterbury. [Online] http://www.docstoc.com/docs/34567483/Nature-Protection-Organizations-in-England (Accessed 03/09/2014).

Rootes, C (2007a), 'Acting Locally: The Character, Contexts and Significance of Local Environmental Mobilisations'. Environmental Politics, Vol. 16 (5), pp. 722 – 741.

Rootes, C (2013), 'From local conflict to national issue: when and how environmental campaigns succeed in transcending the local'. *Environmental Politics,* Vol. 22 (1), pp. 95–114.

Rosenberg, R.N (2007), 'Making Renewable Energy a Reality - Finding Ways to Site Wind Power Facilities'. Legal Studies Research Paper No. 08-11. *William & Mary Environmental Law & Policy Review,* Vol. 32, pp. 635-684.

Rosenthal, G (1993), 'Reconstruction of Life Stories. Principles of Selection in Generating Stories for Narrative Biographical Interviews.' In: Josselsen, R & Lieblich, A (Eds.) *The Narrative Study of Lives. Volume I.* London: Sage. pp. 59-91.

Savage, M; Devine, F & Cunningham, N *et al.*, (2013), 'A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment.' *Sociology,* Vol. 47 (2) pp. 219-250.

Savage, M Devine, F & Cunningham, N *et al.*, (2014), 'On Social Class, Anno 2014'. *Sociology, [Online]* http://soc.sagepub.com/content/early/2014/06/06/0038038514536635.full.pdf+html (Accessed 29/03/2015).

Schütze, F (1983), Biographieforschung und Narratives Interview. (In German) *Neue Praxis,* Vol. 13 (3), pp. 283-293.

Schütze, F (2007), *Biography analysis on the empirical base of autobiographical narratives: How to analyse autobiographical narrative interviews—part I.* Module B.2.1. INVITE—Biographical counselling in rehabilitative vocational training—further education curriculum. [Online] http://www.uni-magdeburg.de/zsm/projekt/biographical/1/B2.1.pdf (Accessed 02/04/2014).

Schütze, F (2007a), *Biography Analysis on the Empirical Base of Autobiographical Narratives: How to Analyse Autobiographical Narrative interviews - Part 2.* Module B.2.2. INVITE—Biographical counselling in rehabilitative vocational training—further education curriculum. [Online] http://www.uni-magdeburg.de/zsm/projekt/biographical/1/B2.2.pdf (Accessed 02/04/2014).

Scott, J (2000), *Social Network Analysis: A Handbook.* (2nd Edition), London: Sage.

Scott, K (2001), 'If class is dead, why won't it lie down?' In: Woodward, A & Kohli, M (Eds.), *Inclusions and Exclusions in European Societies.* Routledge, New York. Chapter 8.

Seamon, D (1982), 'The Phenomenological Contribution to Environmental Psychology'. *Journal of Environmental Psychology,* Vol. 2 (2), pp. 119-140.

Seamon, D (1984), 'Emotional Experience of the Environment'. *American Behavioral Scientist,* Vol. 27 (6), pp. 757-770.

Seamon, D (Ed.) (1993), *Dwelling, Seeing, and Designing: Toward a Phenomenological Ecology*. Albany, New York: State University of New York Press.

Shepherd, D.G (1990), *Historical Development of the Windmill*. USA. NASA. [Online] http://wind.nrel.gov/public/library/shepherd.pdf (Accessed 06/03/2014).

Silva E. B (2006), 'Homologies of social space and elective affinities: researching cultural capital'. *Sociology*, Vol. 40(6), pp 1171-1189.

Simao, A; Densham, P.J; & Haklay, M (2009), 'Web-based GIS for collaborative planning and public participation: An application to the strategic planning of wind farm sites.' *Journal of Environmental Management,* Vol. 90, pp. 2027–2040.

Simon A. M (1996), *A Summary of Research Conducted into Attitudes to Wind Power from 1990-1996*. London: British Wind Energy Association.

Simonelli, J (2014), 'Home rule and natural gas development in New York: civil fracking rights'. *Journal of Political Ecology*, Vol. 21, pp. 258-278.

Sims, S; Dent, P & Oskrochi, G.R (2008), 'Modelling the Impact of Windfarms on House Prices in the UK'. *International Journal of Strategic Property Management,* Vol. 12, pp. 251–269.

Skeel Hjorth, P (2012), *Besat af Vind - Skyggesiden af en Grøn Industry* (in Danish). Denmark: Saxo Ltd.

Smith E & Klick, H (2007), 'Explaining NIMBY Opposition to Wind Power'. *Paper delivered at the annual meeting of the American Political Science Association,* Boston, Massachusetts, August 29, 2007. [Online] http://www.polsci.ucsb.edu/faculty/smith/wind.pdf (Accessed 16/10/2013).

Snijders, T & Borgatti, S (1999), 'Non Parametric Standard Errors and Tests for Network Statistics'. *Connections,* Vol. 22 (2), pp.161-170.

Spender, D (1980), *Man Made Language*. London: Pandora.

Stern Review (2006), *The Economics of Climate Change*. Vol. 30, London: HM Treasury.

Stevenson, S (2011), *The Rape of Britain. Windfarms and the Destruction of our Environment*. UK: Bretwalda Books at Kindle.

Sullivan, R.G; Kirchler, L.B; Cothren, J; & Winters, S.L (2013), 'Offshore Wind Turbine Visibility and Visual Impact Threshold Distances'. *Environmental Practice*, Vol. 15 (1), pp. 33-49.

Szarka, J (2004a), 'Extending the policy integration concept: The case of wind power'. *Paper submitted to Conference on the Human Dimensions of Global Environmental Change*, Berlin, 3-4 December 2004.

Szarka, J (2004b), 'Wind power, discourse coalitions and climate change: breaking the stalemate?' *European Environment*, Vol. 14 (6), pp. 317-330.

Tarrow, S (1998), *Power In Movement: Social Movements and Contentious Politics* (2nd Edn.). Cambridge: Cambridge University Press.

Tateo, L (2005), 'The Italian Extreme Right On-line Network: An Exploratory Study Using an Integrated Social Network Analysis and Content Analysis Approach'. *Journal of Computer Mediated Communication*, Vol. 10(2), [Online] http://jcmc.indiana.edu/vol10/issue2/tateo.html (Accessed 11/7/2010).

Terveen, L & Hill, W (1998), 'Evaluating emergent collaboration on the Web'. In: *Proceedings of the 1998 ACM conference on Computer supported cooperative work*. Seattle, Washington: ACIM. pp. 355-362.

Thayer, R.L & Freeman, C (1987), 'Altamont: Public perceptions of a wind energy landscape'. *Landscape and Urban Planning*, Vol. 14, pp. 379-398.

Thayer, R.L & Hansen, H (1988), 'Wind on the land: renewable energy and pastoral scenery vie for dominance in the siting of wind energy developments'. *Landscape Architecture*, Vol. 78 (March), pp. 69-73.

Thelwall, M (2003), 'What is this link doing here? Beginning a fine-grained process of identifying reasons for academic hyperlink creation'. *Information Research*, Vol. 8(3), [Online] http://www.informationr.net/ir/8-3/paper151.html (Accessed 02/05/2014).

Thelwall, M (2004), 'Interpreting Social Science Link Analysis Research: A Theoretical Framework.' Preprint of article published in the *Journal of the American Society for Information Science and Technology*.) [Online] http://www.scit.wlv.ac.uk/~cm1993/papers/Interpreting_SSLAR.pdf (Accessed 11/7/2010).

Thelwall, M (2006), 'Interpreting social science link analysis research: A theoretical framework'. *Journal of the American Society for Information Science and Technology*, Vol. 57 (1), pp. 60-68.

Thompson, E. P (1963), *The Making of the English Working Class*. New York: Random House.

Throgmorton, J.A (1987), 'Community Energy Planning: Winds of Change from the San Gorgonio Pass.' *Journal of the American Planning Association*, Vol. 53 (3), pp. 358-367.

Tilly, C (1978), *From Mobilization to Revolution*. New York: McGraw-Hill.

Tilly, C (2004), *Social Movements, 1768 - 2004*. Boulder, Colorado: Paradigm Publishers.

Tilly, C (2006), *Why? What happens when people give reasons and why*. Princeton & Oxford: Princeton University Press.

Toke, D (2002), 'Wind Power in UK and Denmark: Can Rational Choice Help Explain Different Outcomes?' *Environmental Politics,* Vol. 11 (4), pp. 83-100.

Toke, D (2003), 'Wind power in the UK: how planning conditions and financial arrangements affect outcomes'. *International Journal of Sustainable Energy*, Vol. 23 (4), pp. 207-216.

Toke, D (2005), 'Explaining windpower planning outcomes: some findings from a study in England and Wales'. *Energy Policy,* Vol. 33 (12), pp.1527–1539.

Touraine, A (1981), *The Voice and The Eye: An Analysis of Social Movements*. Cambridge: Cambridge University Press.

Touraine, A (1985), 'An Introduction to the Study of Social Movements'. *Social Research,* Vol. 52 (4), pp. 749-787.

Touraine, A (1995), *Critique of Modernity*. Oxford: Blackwell

Touraine, A (2007), *A New Paradigm for Understanding Today's World*. Cambridge: Polity Press.

Touraine, A (2009), *Thinking Differently*. Cambridge: Polity Press.

Turner, R (1970), 'Determinants of Social Movement Strategies.' In: Shibutani, T (Ed.) *Human Nature and Collective Behaviour*. Englewood Cliffs, NJ: Prentice Hall. pp. 145-164.

UNEP (2008), *Reforming Energy Subsidies: Opportunities to Contribute to the Climate Change Agenda*. Geneva, Switzerland: United Nations Environment Programme.

Urry, J (1995), 'Rethinking Class'. In: Maheu, L (Ed.) *Social Movements and Social Classes*. London, Sage. Chapter 7.

Van der Horst, D (2007), 'NIMBY or not? Exploring the relevance of location and the politics of voiced opinions in renewable energy siting controversies'. *Energy Policy* Vol. 35 (5), pp. 2705-2714.

Vorkinn, M & Riese, H (2001), 'Environmental concern in a local context: The significance of place attachment'. *Environment and Behavior*, Vol. 33 (2), pp. 249-263.

Wagstaff, Brady and Associates (1982), *San Gorgonio Wind Resource Study*. Conducted for Riverside County in cooperation with the US Bureau of Land Management. Robert Odland Associates.

Walker, G (1995), 'Renewable energy and the public'. *Land Use Policy,* Vol. 12 (1), pp. 49–59.

Walker, G (1997), 'Renewable energy in the UK: the Cinderella sector transformed?' *Geography,* Vol. 82 (1), pp. 59–74.

Warren, C.R; Lumsden, C; O'Dowd, S & Birnie, R.V (2005), 'Green on Green: Public perceptions of wind power in Scotland and Ireland'. *Journal of Environmental Planning and Management,* Vol. 48 (6), pp. 853–875.

Weber, M (1922), *Economy & Society: An Outline of Interpretative Sociology.* Edited by Roth, G & Wittich, C (1978); Berkeley, Los Angeles: University of California Press

Wellman, B (1988), 'Structural Analysis: From Method and Metaphor to Theory and Substance.' In: *Social Structures a Network Approach,* Wellman, B & Berkowitz, S.D (Eds.) Cambridge: Cambridge University Press. pp. 19-61.

Wellman, B (1979), 'The Community Question.' *American Journal of Sociology,* Vol. 84 (5), pp.1201-31.

Wellman, B (2001), 'Computer Networks as Social Networks'. *Science,* Vol. 293 (5537), pp. 2031-2034.

Wester-Herber, M (2004), 'Underlying concerns in land-use conflicts – the role of place – identity in risk perception'. *Environmental Science & Policy,* Vol. 7, pp.109-116.

Williams, D.R & Vaske, J. (2003), 'The Measurement of Place Attachment: Validity and Generalisability of a Psychometric Approach'. *Forest Science* Vol. 49 (6), pp. 830-840.

Wilson, J (1973), *Introduction to Social Movements.* New York: Basic Books.

Wilson, J.C (2012), *A history of the UK renewable energy programme, 1974-88: some social, political, and economic aspects.* PhD Thesis. University of Glasgow.

Wittgenstein, L (1953), *Philosophical Investigations.* Translated by G.E.M Anscombe (1999). New York: The Macmillan Company.

Wolsink, M (1988), 'The Social Impact of a Large Wind Turbine'. *Environmental Impact Assessment Review,* Vol. 32 (4), pp. 301-312.

Wolsink, M (1989), 'Attitudes and Expectancies about Wind Turbines and Wind Farms'. *Wind Engineering,* Vol. 13 (4), pp. 196–206.

Wolsink, M (1990) *Maatschappelijke acceptatie van windenergie: houdingen en oordelen van de bevolking.* PhD Thesis, University of Amsterdam.

Wolsink, M (1994), 'Entanglement of Interests and Motives: Assumptions behind the NIMBY theory on Facility Siting'. *Urban Studies,* Vol. 31 (6), pp. 851–866.

Wolsink, M (1996), 'Dutch wind power policy: stagnating implementation of renewables'. *Energy Policy,* Vol. 24 (12), pp. 1079-1088.

Wolsink, M (2000), 'Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support'. *Renewable Energy,* Vol. 21 (1), pp. 49-64.

Wolsink, M (2006), 'Invalid theory impedes our understanding: a critique on the persistence of the language of NIMBY'. *Transactions of the Institute of British Geographers,* Vol. 31 (1), pp. 85-91.

Wolsink, M (2007), 'Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation'. *Energy policy,* Vol. 35 (5), pp. 2692-2704.

Wolsink, M (2010), 'Near-shore Wind Power - Protected Seascapes, Environmentalists' Attitudes, and the Technocratic Planning Perspective'. *Land Use Policy,* Vol. 27 (2), pp. 195-203.

Wolsink M (2012), 'Wind Power: The Basic Challenge Concerning Social Acceptance'. In: Robert A Meyers (Ed.) *Encyclopedia of Sustainability Science and Technology,* Vol. 17, New York, Springer Reference. pp. 12218-12254.

Wolsink, M (2013), 'A further elaboration of social acceptance of renewables' innovation' Presentation to *Wind Power and Environmental Impact Conference.* University of Stockholm. [Online] http://www.naturvardsverket.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/forskning/vindval/cwe/Keynotes/Stockholm_keynote%20Wind_Wolsink.pdf (Accessed 18/06/2014).

Wolsink, M & van de Wardt, J.W (1989), *Visual Impact Assessment: a Review of Dutch Research.* Glasgow: EWEC.

Wolsink M; Sprengers M; Keuper A; Pedersen T.H & Westra CA (1993) 'Annoyance from windturbine noise on sixteen sites in three countries'. In: *Proceedings of European Community Wind Energy Conference*, 8th-12th March, Germany. pp. 8-12.

Woods, M (2003a), 'Deconstructing rural protest: the emergence of a New social movement.' *Journal of Rural Studies,* Vol. 19 (3), pp. 309–325.

Woods, M (2003b), 'Conflicting Environmental Visions of the Rural: Windfarm Development in Mid Wales'. *Sociologia Ruralis*, Vol. 43 (3), pp. 271-288.

Woods, M (2005), *Rural Geography: Processes, Responses and Experiences in Rural Restructuring.* London: Sage.

Wright, M (2013), 'Making it Personal: How Anti-Fracking Organizations Frame Their Messages'. *The Journal of Politics and Society*, Vol. 24(2), pp.107-125.

Yamagishi, T & Kiyonari, T (2000), 'The Group as the Container of Generalized Reciprocity.' *Social Psychology Quarterly,* Vol. 63 (2), pp.116-132.

Zald, M. N & Ash, R (1966), 'Social Movement Organizations: Growth, Decay and Change'. *Social Forces,* Vol. 44 (3), pp. 327-341.

Zervos, A (2008), 'Status and Perspectives of Wind Energy'. *Paper given to IPCC Scoping Meeting on Renewable Energy Sources.* Lübeck, Germany, 20 – 25 January, 2008.