

Title	Mobility and turbulence in the socio-environmental flows of the European Union: explaining resistance to wind energy policy in the spatial planning process
Authors	Lennon, Breffní
Publication date	2011-06-15
Original Citation	Lennon, B. 2011. Mobility and turbulence in the socio-environmental flows of the European Union: explaining resistance to wind energy policy in the spatial planning process. PhD Thesis, University College Cork.
Type of publication	Doctoral thesis
Rights	© 2011, Breffní Lennon. - https://creativecommons.org/licenses/by-nc-nd/4.0/
Download date	2026-10-30 12:55:01
Item downloaded from	https://hdl.handle.net/10468/18956

Mobility and Turbulence in the Socio-environmental Flows of the European Union: Explaining Resistance to Wind Energy Policy in the Spatial Planning Process

Breffní Lennon

Volumes: 1

Qualification: PhD Geography

University: National University of Ireland, Cork

Department: Department of Geography

Submitted: June 2011

Department Head: Dr. Barry Brunt

Supervisor: Dr. Colin Sage

Funded by the Department of Geography Doctoral Scholarship 2007

Table of Contents

<i>Glossary</i>	<i>x</i>
<i>Chapter One</i>	
<i>Introduction</i>	<i>1</i>
1.0 An Introduction to the Study	2
1.1 Background to the Study	4
1.2 Research Approach and the Study's Objectives	7
1.3 Coherence and Symmetry: The Structure of this Thesis	10
<i>Chapter Two</i>	
<i>Interpreting Policy as a Socio-Environmental Flow: Turbulence and Other Issues</i>	<i>14</i>
2.0 Introduction	15
2.1: Interpreting Public Policy as a System of Flows	16
2.2 Mobility and the Dynamics of Turbulence in Socio-Environmental Flows	27
2.3 Music of the Spheres: Multi-level Governance, Power Mobilities, and the (Irish) Local Government Context	29
2.4 Understanding Choice and Space in Socio-Environmental Flows	37
2.5 Issues of Governance and Socio-Environmental Innovation	42
2.6 Conclusions	46
<i>Chapter Three</i>	
<i>Landscape, Nature and the Contestation of Wind Power Spaces</i>	<i>48</i>
3.0 Introduction	49
3.1 New Understandings of Rurality: Meaning and Practice	50
3.2 Nature / Culture and the Representation of Landscape	53
3.3 Spatial Planning Theory and Practice	61
3.4 "Think Globally, Act Locally": Wind Power, Rural Contestations and the NIMBY versus Institutional Capacity Debate	66
3.5 Conclusions	74
<i>Chapter Four</i>	
<i>Finding Your Way without Map or Compass: Qualitative Methodologies and the Research Project</i>	<i>76</i>
4.0 Introduction	77
4.1 The Case Study as Research Tool	79
4.2 The Interview as a Means of Knowledge Creation	83
4.3 Participant Observation and the "Ethnographic Journey"	87
4.4 Making Sense of the Data	91
4.5 Conclusions	94

Chapter Five

European Wind Energy Policy and the Irish Context **97**

5.0 Introduction	98
5.1 Pipeline Politics: European Wind Energy Policy as a Response to Energy Security and Climate Change	99
5.2 Feed-in Tariffs: Operationalising the EU's Decarbonisation Agenda	113
5.3 Regulating Energyscapes: Situating Ireland within EU Policy Flows	119
5.4 From AER to REFIT: Renewable Energy Policy in Ireland	126
5.5 The Spatial Context: National Planning Policy towards Wind Power	138
5.6 Conclusions	147

Chapter Six

Mobility and Turbulence in Response to New Policy Flows: Tarbert, County Kerry **150**

6.0 Introduction	151
6.1 Tarbert Wind Farm: a background to the proposal	152
6.2 The Institutional Dynamics of a Planning Application: Tarbert, a Case Study	156
6.3 Tarbert: Integrating the Community into the Wind Energy Development	167
6.4 Save Our Future Jobs: Boycott and Other Strategies against Development	174
6.5 Conclusions	178

Chapter Seven

Turbulence in Policy Flows: Energy, Habitat and the Cordal Wind Farm Proposal **181**

7.0 Introduction	182
7.1 Cordal Wind Farm: A Background to the Proposal	184
7.2 Cordal Wind Farm: The Planning Application	187
7.3 The Local Authority Decisions	195
7.4 Conclusions	204

Chapter Eight

Local Reaction to Consolidating Networks of Flow: Enniskeane, County Cork **207**

8.0 Introduction	208
8.1 The Enniskeane Wind Farm Proposal: A Prologue to Future Protest	211
8.2 The Application: Preplanning and the Environmental Impact Assessment	216
8.3 "No Turbines In Our Community!" CANAG	221
8.4 Cork County Council's Planning Decision	231
8.5 Conclusions	236

Chapter Nine

Conclusion **240**

9.1 Lessons Learned: The Thesis	242
9.2 Conclusion: Ireland's Energy Question and the Natural Contract	245

Declaration

I hereby declare that this thesis is my own work and that it has not been submitted for another degree, either at University College Cork or elsewhere. Where other sources of information have been used, they have been acknowledged

Signature: _____

Date: _____

Dedication

Chuig Cháit Uí Leannáin, mura mbeadh sí ní bhféadfadh é seo a dhéanamh

In memory of Esther O'Sullivan

Acknowledgements

Many people have assisted me in countless ways, both unwittingly and knowingly, in completing this thesis.

I would like to express my heartfelt gratitude to my thesis supervisor, Dr. Colin Sage, for his invaluable guidance and support throughout the period of this research; it has been very much appreciated. In the Department of Geography at University College Cork, I would like to thank all who gave their time, advice and assistance to me over the years especially Professor Patrick Flanagan, Darius Bartlett, Brendan Dockery and Helen Bradley. Special thanks to Donal Lennon, Tomás Kelly and Fiachra O'Donoghue for helping me produce the maps and figures for this thesis to a standard far beyond what I thought possible.

Thank you to Tomás and Esther O'Sullivan for all your support and encouragement throughout the life of this project; especially for all the newspaper cuttings diligently collected and words of encouragement throughout.

Also, to Conor and May O'Brien who encouraged a young "scholar" with his early steps into the world of literature and learning; and without whom I may never have completed this journey.

To my parents, Donal and Freda, the wonderful childhood you gifted to me can never be repaid. For sharing your love of nature, music, literature and much, much more thank you.

Abstract

Considering public policy as a socio-environmental *flow* this study follows the European Union's wind energy "policy chain", from formulation to implementation, in order to understand the inner dialectics that influence the success or failure of such projects in two south-west counties in Ireland. It shows how mobility and place inform each other in a two-way process that occasionally mask the underlying reasons for wind farm conflicts; with the concerns of local people often dismissed as NIMBYist (not in my back yard) prejudice to such developments. Recent literature has sought to address this issue, calling for the concept to be reappraised or indeed abandoned altogether. This thesis engages with those debates, but also draws from a wider body of literature primarily concerned with landscape and planning theory, notions of place and mobility, and the economic and cultural geographies of rural spaces in order to employ a conceptual and theoretical framework that adequately informs this policy analysis.

Studying official records alone does not provide a complete picture as to why wind energy policy may succeed or fail. Rather, all policy extends beyond the deliberate choices of government actors to what Howlett and Ramesh (2003: 7) describe as the "realm of potential choices" (both made and not made) from the complex and ever-changing alignments of government and societal actors who negotiate and act in these decision-making processes. Basing its findings on extensive archival research and semi-structured interviews conducted between 2007 and 2010, this thesis investigates how opposition to a given wind farm proposal is often informed by narratives of localised, "place-protective actions" (Devine-Wright, 2009) to a perceived threat, as a result of the greater enmeshments of place and mobility in contemporary rural experiences. In doing so it also shows how these conflicts in turn can negatively feed back into the policy cycles at the local, national and supranational government scales.

List of Figures

Figure 1.1 The changing face of rural electrification	5
Figure 2.1 A conceptual model for studying consumption practices	39
Figure 3.1 Arnstein's Ladder of civic participation	64
Figure 3.2 Public engagement participants and the techniques to promote citizen engagement	65
Figure 5.1 A simplified flow model of a supranational policy network	98
Figure 5.2 Comparative net energy imports for both the European Union and United States	100
Figure 5.3 Indicative estimate of the distribution of energy subsidies in the EU-15, 2001	105
Figure 5.4 Timeline of EU and Irish wind energy policy developments to 2020	121
Figure 5.5 Avoided CO ₂ emissions from Renewable Energy 1990 to 2008	123
Figure 5.6 Pie-chart sequence showing the growing share of RES-E technologies in Ireland's energy mix to 2020	125
Figure 5.7 Pie chart indicating the total installed wind energy capacity on a county by county comparison	127
Figure 6.1 Aerial photograph of Tarbert Island, Co. Kerry	154
Figure 6.2 Photograph of Moneypoint from onboard the Killimer/Tarbert Ferry	154
Figure 8.1 An example of a CANAG protest flier	221
Figure 8.2 An example of a CANAG poster	222
Figure 8.3 Protest signage at strategic locations in Newcestown village	223
Figure 8.4 Protest signage on approaching Newcestown village	226
Figure 8.5 Members of CANAG protesting outside Cork County Hall	229
Figure 8.6 View of the CANAG protest from inside County Hall	230
Figure 8.7 The CANAG protest from outside Cork County Hall with local County Councillors positioned to the fore of the photograph	230

List of Tables

Table 2.1 The relationship between applied problem solving and the stages in the policy cycle	25
Table 2.2 Types of multi-level governance	30
Table 5.1 Evolution of total installed wind energy capacity for EU, since 2001	111
Table 5.2 Evaluation of the Portuguese way of determining tariff levels	115
Table 5.3 Evaluation of a stepped tariff design	116
Table 5.4 EC funding for wind energy RD&D in FP5&6	117
Table 5.5 National overall targets by 2020	118
Table 5.6 Table showing Irish wind energy capacities (in MWs) from the various government support mechanisms for the period 1992 to 2004	132
Table 5.7 Breakdown of EU government feed-in tariffs	134
Table 5.8 Breakdown of Irish government feed-in tariffs	137
Table 5.9 Table of renewable generation targets for 2020, in MWe	144
Table 5.10 Total calculated wind energy capacity across the three gate processes	145
Table 5.11 Timeframes for Gates 1, 2 and 3	145

List of Maps

Map 1 An illustration of the levelised energy costs estimated for the island of Ireland for wind generated electricity	128
Map 2 Wind generation zones for installed wind capacity on island of Ireland	146
Map 3 Overview Map of Tarbert Wind Farm proposal	151
Map 4 Map of the Shannon Estuary showing the Tarbert Wind Farm proposal	155
Map 5 Map of the Tarbert Wind Farm proposal	161
Map 6 Overview Map of the Cordal Wind Farm	183
Map 7 Map of the Cordal Wind Farm proposal	192
Map 8 Overview Map of the Enniskeane Wind Farm proposal	210
Map 9 Map of Enniskeane Wind Farm proposal	218

List of Appendices

Appendix A: List of Interviews
Appendix B: Key Elements of Feed-in Tariff Policy Design
Appendix C: Evaluations of the Various Feed-in Tariff Designs
Appendix D: Evolution of the Main Policy Support Schemes in selected EU Member States
Appendix E: Climate Change: Processes, Characteristics and Threats
Appendix F: Ireland's Electricity Transmission System

Glossary

AER: Alternative Energy Requirement programme. The now defunct renewable energy competition, operated by the Irish government, and precedes the current REFIT scheme.

Ampere (Amp): Measure of electrical current as it flows through a cable.

An Bord Pleanála: State entity responsible for adjudicating on all local authority planning appeals under the 2000 Planning Act.

Bord Fáilte: Irish Tourist Board.

CANAG: Castletown and Newcestown Action Group (see Chapter 8)

Capital Cost: the financial cost of site development and construction, as well as the equipment needed to generate electricity.

Carbon Dioxide (CO₂): A colourless, odourless gas that is a by-product of carbon based fuel combustion. It also acts as a greenhouse gas preventing solar heat from re-radiating back into space and as such is a major contributor to global warming.

Carbon Intensity: The amount of carbon emitted (by weight) per unit of energy consumed.

CER: Commission for Energy Regulation, established as the Commission for Electricity Regulation under the Electricity Regulation Act, 1999, it is responsible for regulating the energy market on the island of Ireland.

Climate Change: refers to the long-term changes in climate patterns occurring in the Earth's atmosphere. Also understood to mean the gradual heating of the Earth's atmosphere, brought on by anthropogenic greenhouse gas emissions, i.e. global warming.

Combined Heat and Power (CHP) Plant: An electricity generating plant that is designed to produce both heat and electricity from a single heat source.

cSAC: candidate Special Areas of Conservation, pursuant to the EU Birds Directive (79/409/EEC).

DCENR: Department of Communications, Energy and Natural Resources (Ireland).

Directive (92/43/EEC) [EU Habitats Directive]: updated in 2007 and along with the Birds Directive it forms the foundation to Europe's nature conservation policy. It forms part of two conservation pillars: the Natura 2000 network of protected sites and the EU's strict system of species protection. The directive contributes to the protection of over a thousand floral and faunal species as well as over two hundred identified "habitat types" (including raised bogs, mires and fens), which have been designated as being of European importance.

Directive (2001/77/EC) [EU Renewable Electricity Directive]: Following from the 1997 White paper on renewable energy sources the Directive pertained to electricity generated from non-fossil renewable energy sources such as wind, solar, hydroelectric, biomass, geothermal, wave, tidal, landfill gas, sewage treatment gas and other biogas sources. The definitions stipulated in Directive 96/92/EC on community-wide market rules for electricity are also applicable to this Directive.

Directive (2009/147/EC) [EU Birds Directive]: is the updated and expanded version of Directive 79/409/EEC, the EU's oldest piece of nature protection legislation and is widely considered one of its most important.

DoEHLG: Department of Environment, Heritage and Local Government (Ireland).

Electricity Utility: A corporation, individual, agency, authority, or other legal entity with the generation, transmission and/or distribution facilities to delivery electric energy to the national grid.

Emissions: the anthropogenic releasing of gases into the atmosphere. In the context of climate change, emissions refer the main greenhouse gases as recognised under the Kyoto Protocol.

Energy Sources: The most commonly used energy sources are Fossil fuels (coal, oil, natural gas); Renewables (solar, wind, geothermal, biomass, hydro, tidal); and Nuclear (fission and fusion).

Environmental Impact Assessment (EIA): is the process by which the anticipated effects on the environment of a proposed development or project are measured. By law, each wind farm proposal must complete an EIA before it is considered suitable for planning permission.

Environmental Impact Statement (EIS): document resulting from the EIA process.

ESB: Electricity Supply Board, Ireland's semi-state body traditionally charged with supplying electricity and maintaining infrastructure.

ESRI: Ireland's Economic and Social Research Institute.

EU ETS: The European Union Emissions Trading Scheme was established in 2005 and is essentially a market-based, carbon trading scheme designed to reduce carbon emissions across the EU. Major polluters within the all Member States are obliged to purchase annual permits with preset carbon allowances. These companies are expected to stay within these allowances or face fines.

EWEA: European Wind Energy Association.

Flow: The process whereby a fluid (or gas) is engaged in the act of movement. For the purposes of this thesis, it refers to the movement a given policy must adhere to here as it proceeds from the purely conceptual to the corporeal.

Fossil Fuels: carbon-based fuels formed from decayed plants and animals such as coal, oil and natural gas.

Gate 1, 2, and 3: Gates 1, 2 and 3 are part of the Republic of Ireland's Group Processing Approach (GPA) to renewable generator electricity grid connections.

Global Warming: term given to the current gradual heating of the Earth's atmosphere, brought on by anthropogenic greenhouse gas emissions.

GPA: grid applications are divided into groups based on geographical areas and are decided on load-flow impact and short circuit impact estimations for each application.

gW: Gigawatt is the equivalent of One billion (10^9) watts.

gWh: Gigawatt hour, commonly used to measure the generating capacity of larger individual wind turbines.

HAWT: Horizontal Axis Wind Turbine. The most common model of large-scale wind turbine, the shaft is parallel to the ground with the blades rotating perpendicular to the ground; usually consisting of the Danish three-blade configuration.

Hub: The centre of a wind generator rotor, which sits on top of the shaft and holds the blades in place.

IEA: International Energy Agency

Incentives: Subsidies and other government supports where the financial assistance is indirect, such as tax breaks for investing in a targeted technology.

Intergovernmental: Involving two or more governments. In an EU context the role of the governments of the Member States is not superseded by any other authority.

IPCC: The Intergovernmental Panel on Climate Change, assesses the risk of human-induced climate change from the latest scientific, technical and socio-economic information available.

IWEA: Irish Wind Energy Association.

Kilowatt (kW): 1000 watts of electricity.

Kilowatthour (kWh): 1000 watt hours commonly used to measure the generating capacity of small-scale individual wind turbines.

Kondratieff waves (or K-waves): describe a long-range business cycle where a new technology influences an expansion of economic activity. This activity eventually contracts as newer technologies are rolled out. These cycles last for approximately fifty years or so, and then the next “wave” of activity develops. The theory was first promoted by the Russian economist whose name the theory bears, Nikolai Kondratieff.

ktoe: Thousand tonnes of oil equivalent

Megawatt (MW): A unit of power equivalent to 1,000 kilowatts.

MKTEM: Mount Kid & Townlands Environmental Meitheal (local anti-wind action group)

Mobility: Is the state of being in motion and involves displacement, the act of moving from one location to another. Using Cresswell (2006) we can understand the concept of mobility through three interrelated explanations: 1. as a non-linear brute fact of freely moving from point A to point B; 2. movement as representation and meaning, signifying freedom for example; and 3. movement as a way of being in the world.

Multi-level governance: The study of European integration, which recognises the level of complexity inherent in the project and that the supranational actors share authority with traditional member state governments across the boundaries of the entire union.

National Grid: The electrical distribution network of a given nation or state.

NHA: Natural Heritage Area, pursuant to the EU Birds Directive (79/409/EEC). NHAs have full legal protection from damage starting from the date they are formally proposed. To date there are 75 raised bogs and 73 blanket bogs in Ireland with NHA status, totalling 60,000 hectares between them.

OSi: Ordnance Survey of Ireland, the national mapping agency of the Republic of Ireland.

pNHA: proposed Natural Heritage Area are pursuant to the EU Birds Directive (79/409/EEC). At present, there are 630 pNHAs that were published on a non-statutory basis in 1995, but have yet been statutorily proposed or designated. This however still influences local authority decisions with regards to spatial planning.

PPA: Power Purchase Agreement, are legal contracts awarded to electricity generators (wind farms etc) and the power purchaser (the ESB prior to the CER taking over this responsibility in 1999) for the electricity grid.

PSO Levy: Public Service Obligations Levy was set up to support the peat industry and to a lesser extent renewable energy technologies. This annual levy is set by the Commission for Energy Regulation (CER) on the 1st October.

REFIT: Renewable Energy Feed In Tariff, Ireland's feed-in tariff scheme launched in May 2006.

Renewable Energy: Any energy source that can be replenished indefinitely and sustainably, such as solar, water flow, wind, waves, and biomass.

RES: Renewable Energy Sources.

RES-E: Renewable Energy Sources – Electricity.

SAC: Special Areas of Conservation, pursuant to the EU Birds Directive (79/409/EEC).

SEAI: The Sustainable Energy Authority of Ireland, formerly the Irish Energy Centre was established in 2002 as Ireland's national energy authority.

SPA: Special Protection Area, pursuant to the EU Birds Directive (79/409/EEC).

Subsidy: A financial aid granted by governments to firms or individuals in an effort to promote a given policy and stimulate investment in a targeted technology.

Supranational: Refers to an international organization, or union, with member states sharing authority with non-state actors (e.g. EU Commission) in order to transcend national boundaries and legislate/vote on issues concerning the entire union.

TGC: Tradable Green Certificate schemes are promoted as an alternative to feed-in tariffs and other such government investment support schemes practiced across much of the European Union. They are equivalent to the Renewable Energy Certificates (RECs) operating in the United States and operate along similar lines to other carbon dioxide equivalent reduction schemes. However they can only be used in the individual countries that promote them and do not have an economic value outside those specific jurisdictions.

TOE: tonne of carbon equivalent.

UNFCCC: The United Nations Framework Convention on Climate Change (also referred to as the FCCC) is the international environmental treaty that came out of the United Nations Conference on Environment and Development (UNCED), popularly known as the Earth Summit, held in Rio de Janeiro, 1992. It is also the name given to the United Nations Secretariat charged with implementing of the Convention.

Watt (Electric): A unit of (electrical) power.

WCRE: World Commission on Renewable Energy.

WEA: World Energy Assessment.

WEC: World Energy Council.

Wind energy: The energy that is present in wind as it moves through the atmosphere. This energy is captured by wind turbines and converted to mechanical energy, which in turn creates electricity from integrated electric power generators.

WTGs: Wind Turbine Generators

ZVI: Zone of Visual Influence refers to the area from which a wind farm development is visible.

Chapter One

Introduction

Geography determines how societies in different parts of the world develop, but at the same time *how* those societies develop determines what geography means

(Morris, 2010b)

If one considers change from a complexity science perspective then one thinks of change as forming patterns and of flowing through time. Like a giant stream flowing forever, within the flow of change there will be flows, and flows within flows, and eddies and ripples within these, all interweaving to create an overall dynamic whole. These flows could well form repeating fractal like patterns over a long time period.

(McMillan, 2006: 76)

1.0 An Introduction to the Study

Energy is widely accepted to be a fundamental human activity. Whether it is from the biofuel crops harvested in Kenya and Uganda or the wind turbine arrays found across much of Europe and North America, energy and its procurement dominates human affairs at a fundamental level that is possibly only matched by food production. However, in recent years it has become increasingly seen as somewhat problematic especially in terms of anthropogenic climate change resulting from the greenhouse gases emitted from the main sources of energy used today, most notably coal and hydrocarbon fuels¹. Also, there is now a greater understanding of our inherent vulnerability to security of supply, beyond the geopolitical concerns of the past hundred years or so, resulting from peak-oil and the end of easily-attainable hydrocarbon energy sources.

Renewable energy technologies are increasingly advocated as offering a viable means towards tackling anthropogenic climate change, by cutting our carbon emissions and reducing our current over-reliance on fossil fuels, with wind energy as the lead technology that can make the most meaningful contribution in the short-to-medium term. Despite this need for a radical technological shift in the way we produce electricity, many onshore wind farms have proven controversial to the local people residing in the rural and often sparsely populated upland areas where a majority of the turbines have been proposed to date.

In order to understand why local reactions have so often been largely negative to what is more widely seen as a positive energy resource (SEI, 2003) and the national (and now increasingly within the context of the European Union – supranational) policies designed to tackle those energy issues mentioned earlier, this thesis applies a multi-scalar analysis of these initiatives in order to explain why local people have responded in this way. By understanding public policy as a socio-environmental *flow* this study endeavours to follow the wind energy “policy chain” in Ireland, from its formulation to its implementation, in order to offer a conjectural framework in

¹ Those dominant combustible fuel sources derived from ancient decomposed organic matter, most notably oil and natural gas, also referred to as fossil fuels.

which to understand the inner dialectics that influence the success or failure of onshore wind farm developments in two south-west counties in Ireland. It will show how mobility and place inform each other in a two-way process, which can sometimes mask the underlying reasons for wind farm conflicts and resistances. By understanding the dynamics of policy flows, and remaining informed by established geographical understandings of space and place, this thesis uses the emergent concept of *mobility* to explore the complex and often uncertain processes at work within the contemporary democratic structures (Farrell, 2003) that regulate these renewable energy policies. These structures, once thought immutable, have now become increasingly susceptible to the “complex interdependencies between, and social consequences of, these diverse mobilities” (Urry, 2000: 185).

While the concerns of local people have often been dismissed, or indeed discredited, as mere expressions of NIMBYism² by proponents of wind energy, recent literature has sought to address this issue in a less pejorative way, instead calling for the concept to be approached more carefully (Devine-Wright, 2005; 2009). Others have suggested abandoning it altogether (Wolsink, 2006; 2007). This thesis will show that opposition to wind farms cannot be explained as merely NIMBYist, but rather, as Devine-Wright (2009) and others have suggested, reflects the local oppositional dynamics of “place-protective action” to a collectively perceived outside threat. From the literature, there now appear to be five clearly-identified common themes that concern local opposition to wind farms be they in North America, Europe or beyond. These include issues around:

immobility, the site specificity of the resource; immutability, an expectation of landscape permanence; solidarity, the close relationship between people and the land; imposition, a sense of marginalization; and place identity, a loss of security.

(Pasqualetti, 2011a: 907)

² NIMBY, meaning “not in my back yard”, is a term that has been used to describe an individual who seeks to keep an unpopular (usually industrial) development out of his or her locality. First penned by Emilie Travel Livezey (1980) the term has repeatedly been used by public relations companies to undermine, and ultimately explain away, local protestors as having irrational and selfish reasons for carrying out such resistances. It and the debates it informs are discussed in section 3.4.

All five themes were explored as part of this research project and were expressed at one time or another by those who opposed the wind farm proposals discussed in the three case studies that contribute to this thesis. This study also looks at how local acceptance or rejection of a given proposal and the actions that are subsequently engendered from the negotiated exchanges between the key actors involved in turn feed back into the policy cycles of local, national and supranational governments. The research area that this project is concerned with contributes just under a third of Ireland's total onshore wind energy capacity and therefore offers useful insights into the broader all-island experience, now and in the years to come.

1.1 Background to the Study

This study is largely concerned with the wind energy policy flows of the European Union, since the late 1980s to the present day, and the predominantly rural areas of the southwest of Ireland that have been impacted by them. The decision, for the most part, to site the vast majority of wind farms away from urban centres and instead locate them in rural or upland areas of the country (where grid infrastructure is generally poorly developed and local demand considerably less than the electricity generated from the installed capacity) has resulted in a number of specific issues of conflict for local populations. Given that 70% of the population of Ireland still reside in what are classified as rural regions of the country (Eurostat, 2010) and that recent economic growth saw an increase of inward migration in to these regions³ (Meredith, 2006) the likelihood for conflict appears inevitable. In fact, Meredith (2006) suggests that there was a 30% increase in rural population growth during the period from 1991 to 2006 and it is this period that incorporates much of this research project's timeline of interest.

This population growth also marked a divergence in what Cuddy (2005) has referred to as a two tiered rural economy, between those populations who reside within commuting distance of one of the major urban centres (and so have access to

³ The population density in Ireland rose from 54.2 inhabitants per km² in 1998 to 65.2 inhabitants per km² in 2009 (Eurostat, 2011).

greater employment opportunities, government services and cultural pursuits) and those communities that lie beyond acceptable commuting distances. This increased complexity of what is understood to be, and therefore defined as, *rural* is addressed in greater detail in Chapter Three. It should also be noted here that the overall increase in rural population, as alluded to by Meredith (2006) and others, coupled with the shift towards multiple rural economies and a resultant “rural sprawl” of one-off housing, has impacted significantly on a large number of planning applications made by wind developers up to the present day.



Photo courtesy ESB Archive



Photo courtesy ESB Archive



© Tony McGinley. SWS wind turbine being constructed, Kilgarvan, Co. Kerry, 2009.

Figure 1.1 The changing face of rural electrification, from the 1950s to the present day (Source: ESB Archives and Tony McGinley).

As economic and population growth was trending upwards during the 1990s and 2000s the Irish government also had to redefine how it saw its role within the evolving structures of the European Union. Greater integration, both socially and economically, informed successive governments as to how best they should behave in relation to governing the areas under their jurisdiction. An increased emphasis began to be placed on how best Ireland should fit into the highly-networked, multi-

level governance structures of the European Union. A shift away from indigenous legislative practices towards a model of implementing the growing raft of EU legislation coming from Brussels occurred at this time, producing some interesting developments of their own. It is now no longer possible to analyse the policies of an individual member state without also looking at how these initiatives were either influenced by or indeed informed along wider European policy. This study incorporates both European and Irish wind energy policies through the precept of policy constituting a socio-environmental flow in order to trace, and therefore understand, the causalities of government action at the various scales within the European Union.

This period, the late 1980s to the present day, also saw a shift in attitudes towards social, technological and environmental issues and the relationships they share. A certain “greening” of public policy in many Member States occurred at this time. Increasing environmental concerns such as acid rain, air pollution and the effects of nuclear fallout from the Chernobyl disaster informed policy makers and the wider public of the need to factor in the environmental impacts of a given policy, particularly if it concerned issues around energy exploitation or industrial development. While economic and fiscal concerns still maintained precedence there was still a significant shift in attitude across the European Union. Theories such as ecological modernisation promised policy makers the opportunity to change socio-technical systems “from within” by calling for:

the transformation of the old political institutions of the nation-state in environmental reforms and the emergence of new sub- and supranational political arrangements, the new role of markets and economic actors in triggering environmental protection, and the increasing uncertainty and insecurity around environmental risks and management strategies following the changing role of science

(Mol and Spaargaren, 2000: 22)

All these developments have informed how wind energy policy has evolved within the European Union and in turn has influenced how it has been implemented in

individual Member States, which will be examined in greater detail later in the thesis.

1.2 Research Approach and the Study's Objectives

To reiterate, this study was mainly concerned with following the “policy chain” of European Union wind energy policy from the supranational centres of power to the local communities where these policies ultimately succeed or fail. Research conducted for the project was largely qualitative in focus and involved an extensive programme of interviews both at the sites of resistance, referred to in the case studies, and at local and national government levels. It also involved in-depth documentary analysis, incorporating a detailed literature review and examining the policy papers of the various government actors concerned. An analysis of the resistance materials generated by the opposition groups involved in protesting against the proposed wind farms was also carried out.

This methodological approach was adopted in order to answer a number of key research questions that were beginning to form at the early stages of my research. The literature sometimes frames qualitative interviewers as either “miners” or “travellers” (Kvale, 1996: 3) in pursuit of knowledge. Both metaphors are useful here to illustrate how this study progressed and is especially applicable to an examination of the mobility and turbulence that occurs in policy implementation. From early on in my research I began to see public policy possessing certain mobilities as it “moves” from an intellectual/conceptual state to hard action on the ground. Its meaning changes and alters as it is continually interpreted and then reinterpreted as it flows/migrates along the policy chain. The concept of turbulence, to explain how instances of stasis or turgidity occur in a gas or liquid, is a useful metaphor for understanding how policy can also be prone to similar disruptive occurrences. A note of caution should be observed here with regards to using theories from the natural sciences in order to explain what are essentially sociological phenomena, since they are not always necessarily cross-compatible. However, multidisciplinary approaches to a chosen research topic have long been

practiced, especially in medicine. Geography, both in theory and in application, has from the beginning been informed by and contributed to both the humanities and the natural sciences. Many of the key tinkers I will engage with for this thesis have, especially with regards to mobility, applied this approach quite successfully. Indeed, it can be argued that the study of wind energy policy requires one to engage with both the natural and social sciences at a fundamental level given one must consider the physical environments wind farms are to be sited in, the social debates that frame the issues arising from these sitings and the material limitations of the turbines themselves.

While engaging with the literature I became convinced that the idea of NIMBYism did not adequately explain why local resistances occurred so often in relation to wind energy policy. Therefore I sought to conduct my own research into the issues, choosing an area of Ireland that, to the best of my knowledge, had not been studied to any great extent in terms of wind energy policy and its resistances. My own research background, prior to conducting my doctoral research, lay predominantly in landscape studies at undergraduate level⁴ and the mechanics of field-work⁵ at the postgraduate, both of which informed my approach to the practicalities of doctoral research generally, and wind energy policy more specifically. The counties of Cork and Kerry presented a unique opportunity to understand how policy is implemented and resisted in Ireland since both counties were early adapters to renewable energy when compared to other parts of the country. Also, before moving to Cork and starting my doctoral research I lived and worked in County Mayo, a part of the country that shares similar wind regimes but did not engage with the new wind energy policies in anywhere near the levels practiced in the southwest of Ireland. I worked in community development in Mayo and was familiar with the issues that often drive local people into conflict with local and national government. The Corrib Gas controversy was beginning to grow into a full-

⁴ I received the Dissertation of the Year Award 1997 from the University of Wales, Lampeter, for work I conducted on an enclosed urban park in Dublin city, The Phoenix Park, where I explored its role as a cultural and symbolic landscape.

⁵ My Masters dissertation was predominantly concerned with the philosophies of field-research and how both the researcher and those engaging with the researcher are susceptible to the processes of “othering” when creating geographic knowledges.

scale protest while I worked there and I began see a pattern between how that locally-specific issue developed and how individual wind farm proposals in the southwest of Ireland were being negotiated with local communities there. Issues around mobility, representations of local landscapes, the dynamics of local resistance, along with policy application more generally and its acceptance, came to the fore in my effort to understand how these localised exchanges in turn feed back in to the policy cycles of local, national and supranational governments.

A key objective of this study, therefore, is to trace the movement of European wind energy policy, from inception to implementation, in order to locate and explain how instances of rupture or turbulence develop within its flow. Also, I wanted to show how policy is not an either or phenomenon, separate from the daily lives of local people. Rather, it is an activity that operates along multidirectional pathways or flows, if you will, whereby actants engage with, are influenced by, and submit to (or resist) a series of negotiated processes that eventually lead to the realisation or failure of a particular policy initiative.

It will show how landscape, in the way it is represented and experienced, informs a number of key debates around wind farms and their integration into the life spaces (Andrew and Milroy, 1988) of local people, through the spatial planning process. Spatial planning policy has been integral to attempts towards developing renewable energy in Ireland and will be analysed in more detail. This thesis will also show how policy flows, designed to address specific independent issues, can impact on each other in often unpredictable ways, as will be shown in the case study discussed in Chapter Seven.

Another key objective is to assess the role NIMBYism plays in informing local people's attitudes to a proposed wind farm for their area. Should it be dismissed, as Maarten Wolsink suggests, considering it is "an invalid concept [that] obscures our understanding of the role of 'otherness' in facility siting discussions" (Wolsink, 2006: 85), thus generating bias and clouding the real reasons resistances occur? Or should "so-called 'NIMBY' responses...be re-conceived as place-protective actions, which

are founded upon processes of place attachment and place identity” (Devine-Wright, 2009: 432) as other contributors have proposed? From my own research I would tend to agree with Wolsink that the term is too loaded with political bias to warrant useful application in understanding why local people resist wind farm proposals given, as Patrick Devine-Wright has suggested, “opponents often hold views better described as ‘Not In Anyone’s Back Yard’ in comparison to the ‘NIMBY’” (Devine-Wright, 2009: 431). However, the concept will be explored and analysed for the purposes of this study and may provide useful insights, especially when reconfigured along Devine-Wright’s (2009) interpretation of it as a form of “place-protective action”. NIMBYism and the dynamics of wind power conflicts will be discussed in more detail in section 3.4.

1.3 Coherence and Symmetry: The Structure of this Thesis

This thesis is presented in nine chapters. It includes an Introduction and Conclusion chapter, a Literature Review divided into two chapters, a dedicated Methodology chapter, a chapter on EU and Irish wind energy policy and three empirical chapters. The objective of this first chapter is to introduce and provide a contextual background to this study.

Chapter 2 situates the literature on government policy into a narrative that incorporates the concepts of networks and *mobility*. Therefore policy can be explained as a type of *flow* in order to understand how contemporary political modernisation within the European Union has seen a shift towards regulating the increasingly complex multi-level governance structures through which it now functions. The concept of turbulence, as it is understood in the field of fluid dynamics, is then introduced to explain how sudden upheavals can arise in the policy flows operating within this form of supranational network. These ideas of mobility and flow are further developed with a description of how this multi-level governance network is structured, before providing an Irish context with an assessment of how local government operates within these structures. The works of Manuel Castells, which allude to the multi-dimensional spaces that policies move

through, is then discussed in order to explore how human and non-human *agency* influence these mobilities. As an interface activity between the abstract world of thought and its real world manifestations, policy is an inherently mobile process and so is subject to the turbulences all flows are vulnerable to, particularly flows influenced by the behavioural or social practices of human agents. The chapter concludes by providing an assessment how agency influences how governance and regulation operate within these spaces of flow, and indeed (re)interpretations of place, as they occur within the European Union.

Chapter 3 continues my review of the literature and begins by grounding these debates within a number of key geographical concepts, including recognising the inherent ambiguities associated with contemporary notions of *rurality*. It then introduces our thinking on rural landscapes and how they have been defined within a contested *culture versus nature* paradigm that continues to influence how these spatial territories are continually (re)represented. The means by which wind turbines themselves go on to influence and change our representational understandings of rural landscapes is also addressed. The chapter then provides an assessment of key spatial planning debates, notably the *theory versus praxis* arguments that are continually contested within the planning community. It also highlights the recent “communicative turn” in planning theory and its attempt to inform policy makers and planners meeting the challenges inherent in the current proliferation of wind farm installations on the rural landscape. The chapter concludes by drawing out the key themes from the literature concerned with public opposition to wind power, and reviews these them within the context of our understanding of rurality and landscape, and the role NIMBYism plays in these debates.

Chapter 4 discusses my methodological approach to this study, drawing on the works of, amongst others, Jensen and Jankowski (1991), Olsson (1992) and Beck, Giddens and Lash (1994), along with the feminist writings of Sandra Harding (1986), Donna Haraway (1988) and Michelle Fine (1994). It evaluates the qualitative research methods I undertook for this study and will show how my methodological

approach is situated within, and informed by, this reflexive tradition of critical human geography by highlighting some of the issues I faced when conducting my fieldwork.

Chapter 5 can be understood to constitute two parts. It first looks at how European renewable energy policy is susceptible to turbulent events, or crises, that can in turn encourage or inhibit a policy flow. It then goes on to show how the EU operationalised its renewable energy strategy by adopting the Feed-In Tariff model despite initial ideological aversion to it. The second part of the chapter moves from the European to an Irish context. By first setting out to explain how the Irish state sought to position itself within these networks (through its efforts to incorporate European initiatives into national strategies) it then charts the evolution of these strategies from AER competitions to the REFIT scheme. This chapter concludes by providing an analysis of the spatial planning parameters through which these national energy strategies have been translated into the local setting.

Chapters 6, 7 and 8 comprise the three case study chapters for this thesis. Each chapter provides an example of how wind energy policy has evolved in recent years in the southwest of Ireland, the main geographic focus for my field research. Each chapter highlights the individual specificities involved in a given wind farm planning application and the sometimes surprising outcomes that occur. **Chapter 6** looks at an historic planning application that was submitted at a time when both the national government and its local authorities were still perfecting both their interpretation and subsequent application of EU energy and climate change policies into their own government structures. This case study is situated in north Kerry and the issues that arose there provide some interesting insights to how both the local and national governments performed at that time. **Chapter 7** then goes on to look at a wind farm planning application to be sited along the Cork/Kerry border and provides a rare insight into how two separate planning authorities interpret the policy guidelines of national government in order to decide on the same wind farm proposal. Finally **Chapter 8** gives an account of a recent planning application in west Cork and the locally-specific dynamics of a grassroots campaign against a

contentious wind farm proposal for their area. This chapter offers a number of perspectives towards explaining why local people oppose wind farms in their area and shows the rather pejorative assumption of NIMBYism to be reductive and indeed counterproductive in understanding the nuanced and multi-scalar contexts local communities operate along when resisting a proposed large-scale infrastructure project for their area.

Chapter 9 concludes this thesis by reflecting on the findings of my research project and provides an analysis of these determinations. It is divided in to two parts. Part one explains the three main outcomes of this research project, drawing from the research to show how this thesis is important to policy makers if they are to minimise turbulences in the flows/processes they regulate. The second, and final, section of this chapter concludes this thesis by providing some thoughts on the processes affecting the future state of wind energy in this country. It gives an assessment of the potential risks involved in taking such an approach and suggests some alternatives.

Chapter Two

Interpreting Policy as a Socio-Environmental Flow: Turbulence and Other Issues

Whenever something first makes the transition *from thing to commodity* there is often confusion, incredulity or just plain resentment at the point at which mutually exclusive value systems intersect.

(Shurman-Smith and Hannam, 1994: 183)

The approach used by normal science to manage complex social and biophysical systems as if they were simple scientific exercises has brought us to our present mixture of intellectual triumph and socio-ecological peril.

(Funtowicz and Ravetz, 2003: 1)

Regions and localities do not disappear, but become integrated in international networks that link up their most dynamic sectors.

(Castells, 1996: 4)

2.0 Introduction

This chapter will present the first part of this study's conceptual framework, by examining the inherent mobilities found in public policy as it operates as a *flow* through the networked, multi-level governance structures of the European Union and its Member States before eventually impacting on local communities. By demonstrating that policy is fundamentally a mobile process, possessing mobility and inertia (since it is constantly subject to agency) this chapter will first introduce a number of key concepts to explain how this occurs. The more traditional interpretations of public policy as operating in a cycle are also explored before the concept of turbulence is introduced to explain how inertia or disruption can occur within these flows. The subject of agency is important throughout this chapter since, as Actor Network Theory demonstrates, agency can be attributed to all actors within these complex, multi-tiered networks.

Within the highly-enmeshed, multi-level governance structures of the European Union a policy moves through these networks by way of agency, as practiced by various government actors as they interpret and then implement that policy. The third section of this chapter discusses the role local government plays in this process since it invariably is the *interstitial zone* between (supra)national policy flows and eventual action or implementation at the local level. Taking as given that public policy is a negotiated process (involving interpretation and acceptance, followed by application and potential resistance by local populations) the subject of choice is also discussed in order to understand how local people interact and engage with the competing globalised narratives that inform how they use local spaces along what Castells (1996; 1997) describes as the "space of flows" and the "space of place".

The chapter concludes by exploring how these developments in multi-level governance practices, and the globalised localities that engage with them, are understood within contemporary networks of exchange. What used to be relatively easy to delineate into local and global spaces is now proven to no longer be the case given the changes in the way these spaces are perceived by those actors who

engage with them. This is reflected in the changing relationships experienced between state actors and local protest groups who no longer operate entirely at a locally-specific level. Increasingly, through the use of contemporary communications technologies, these groups are shown to engage in extralocal discourses in order to undermine the traditional authority of the state, making specific policy initiatives susceptible to turbulences and outcomes more unpredictable.

2.1: Interpreting Public Policy as a System of Flows

Public policies result from decisions made by governments and...decisions by governments to retain the status quo are just as much policy as are decisions to alter it

(Howlett and Ramesh, 2003: 5)

It can be taken as given that we live in complex, non-linear and often recursive social structures (Urry, 2000), which in turn influence how we interact with our physical environment; from the energy networks we plug in to, to the spatial environments we negotiate on a daily basis. It is no longer possible for an individual state to be able to meet the energy demands of its citizens without first adopting some form of co-dependent relationship with outside third-party entities such as the multi-national oil and natural gas companies. As a result the chances for volatility to occur becomes ever more likely when one considers the myriad of causes and effects to be negotiated in meeting these demands. In Chapter Five, we will discuss recent trends in EU energy policy and will show how external events outside of its control have on occasion impinged on its ability to secure adequate supplies of energy for citizens residing in its Member States. Energy policy, therefore, continues to be a fundamental government activity of all states with the level of complexity with which it is applied only set to increase in our highly developed, post-industrial contexts.

With this raised complexity of relationships, between the material and the semiotic, comes the increased likelihood for systems breakdown either from events or

actions occurring outside the policy process or indeed from within the policy flow itself. This thesis will look at a number of possible disruptions that can occur with a given policy flow by first acknowledging the inherent mobility found within much of modern globalized experiences, as advanced by Anthony Giddens (1990), Tim Cresswell (1996; 1997; 2001; 2006) and Zygmunt Bauman (1987, 2000), and more recently in the works of Henrik Gudmundsson (2005), Bergmann and Sager (2008) and Katharina Manderscheid (2009). These interpretations of mobility, whether in the context of people, practices, microbes, ideas, or technologies (Leach et al., 2010), are essential to our efforts towards understanding the pathways, or flows, found within the contemporary policy creation networks of government. *Mobility*, Cresswell (2006: 1) has argued, is “central to what it is to be human” and “is a fundamental geographical facet of existence”. It stands, he reasons, as “an alternative to place, boundedness, foundations, and stability” (Cresswell, 2006: 2) and as such is useful as an interpretive tool for dissecting the activity that is public policy, especially if we interpret it as a socio-environmental flow.

Policy, it can be argued, is a fundamentally mobile process, constituted by a series of flows and inertias (Leach et al., 2010) that coalesce to bring about the transference of what are essentially abstract ideas or political intentions (the semiotic) into real-world, concrete manifestations of those initial representations (the material). It occupies a *multi-tiered, multi-sphered* space (Yeates, 2002) and the idea of *flow* is helpful here if we are to understand how it moves through the multi-level administrative structures of government, be they supranational, national or local. Also, the ideological associations of mobility with certain liberal assumptions on autonomy, freedom and universalism have allowed it to be co-opted into neoliberal discourses espousing the need for uninhibited freedom of movement (though invariably in rather qualified forms) of capital and people, while at the same time conveniently ignoring the unequal and differentiated access groups within society have to these mobilities. This has led some to suggest that these ideologically charged mobility politics and their subsequent policies may not work since they invariably ignore these realities (Adey, 2010). Recent developments in European Union structural reform have also made the idea of flow and fluidity

useful concepts for studying those changes (Urry, 2000), particularly given its emphasis on propagating collectivised, socio-technical solutions to many of the challenges it currently faces.

By applying the precepts of *Actor Network Theory* (ANT) to our analysis of European wind energy policy we can begin to see how such multi-relational, multi-scalar networks form and behave the way they do, since:

Networks are processual, built activities, performed by the actants out of which they are composed. Each node and link is semiotically derived, making networks local, variable, and contingent.

(Ritzer, 2005: 1)

Emerging from the writings of Michel Callon (1986a; 1986b), Bruno Latour (1987; 1988; 1999) and subsequently of John Law (1992; 1999), this form of systems analysis incorporates the generalised symmetry principle, whereby human and non-human actors are assigned equal amounts of agency in a given network (Callon, 1986a; 1986b), in an effort to understand the significance of an individual entity in relation to others within that network. This approach has been criticised by some Marxists (Varnelis, 2010) as being somewhat irrelevant, especially in analysing the financialisation trends of the past twenty years and the subsequent economic crisis they have engendered. By considering each relationship equally in a network and attributing agency to all “actors” engaged with it, and thus ignoring the possibility of power imbalances, Varnelis (2010) suggests any contribution it can make to the debates is largely muted. However, such criticisms I would argue are a little unfair given that ANT is more of a methodological approach than a theoretical one; since it is principally concerned with *how* rather than *why* networks get formed. This distinction is important since Marxist analysis has directed its attention towards the metanarratives of economic and political agency in human beings, largely reducing non-human and material actors within a network to units of exploitation, which they often are. However, they are not exclusively so. This thesis will employ the strategy, espoused by ANT theorists, describing the movement of European wind energy policy along its socio-technical networks, as a socio-environmental flow, and

will explain it by “following the actor” into the “centers of translation where network elements are defined and controlled, and strategies for translation are developed and considered” (Ritzer, 2005: 2).

However, translation is always at the same time a process of both social and physical displacement. Network elements deviate from previous inclinations are converted to *inscriptions* or *immutable mobiles* (combinable textual, cartographic, or visual representations that remain stable through space and time), are defined and ascribed roles, and are mobilized and/or circulated through translation. The realization of a set of networked possibilities entails that others are always unrealized. As effect, translation orders, and produces society and agency, nature and machine.

(Ritzer, 2005: 2)

This networks analysis will help to explain how the European Union operates as a convergent network of member states, intent on regulating mobilities within this network and ensuring favourable conditions for the smooth interaction of processes and flows, both within and beyond its borders (Urry, 2000; Mol and Spaargaren, 2006).

As Beck has recently argued: ‘capital, culture, technology and politics merrily come together to roam beyond the regulatory power of the national state’ (1999: 107).

(Urry, 2000: 187)

In this context, all policy is subject to the vagaries of systemic/organisational flows that proceed from the usually stable, highly-structured formulation stages created by elites within the state (i.e. policy makers), to the more unstable implementation stages where it is interpreted and applied on the ground. These policy flows and the possible sites of disruption or turbulence within these somewhat plastic, highly-malleable networks are of considerable interest particularly in relation to renewable energy and wind power.

This thesis will also draw from the works of Castells (1996; 1997; 1998; 2000; 2006) and the ecological modernization theorists, most notably Arthur P.J. Mol (1996; 1999; 2007; 2010a; 2010b) who has collaborated with other significant contributors including David A. Sonnenfeld (Mol and Sonnenfeld, 2000) and Ger Spaargaren

(Spaargaren and Mol, 1992; Mol and Spaargaren 2000; 2003; 2006; 2009), in order to better understand the processes that have come about as a result of the increased commodification of wind energy as a viable means of electricity production. It will analyse the policy processes of the European Union in relation to wind energy and will look at how these policies are in turn adapted by national and local governments. The highly mobile and often fluid nature of these policy networks, whereby legislation is flexibly adapted or interpreted to fit the political and societal frameworks of individual Member States, has sometimes proved problematic. This is especially true considering the likelihood for disruption increases in tandem with the level of complexity a proposed policy initiative experiences as it negotiates through these flow structures. This can be seen when one considers how renewable energy technologies such as wind power must negotiate the energy and natural resource agendas of national government as well as fit into the spatial planning considerations that are constituent to its development at a local level.

Tim Cresswell's thoughts on mobility (1996; 1997; 2000; 2001; 2006) and turbulence (2010) can help to explain how these disruptions may arise within the policy frameworks concerned with environment and energy. In acknowledging that "policy-makers and wind project developers do not sufficiently recognize the nature of the tensions at the local" (Breukers and Wolsink, 2007: 2737), my research seeks to move beyond the pejorative and reactive judgments of NIMBYism as a supposedly valid explanation for local resistances to national and supranational policies. Situating these instances of local resistance within the wider discourses on globalisation (Stiglitz, 2002; 2007), democratic alternatives to neoliberalism (Unger, 1998), spatial planning theory and practice (Fischer and Forester, 1993; Forester, 1993; 1999), and the mobility narratives of flow with the changing identities and responses they engender, provides a more complete explanation as to why local communities can sometimes find themselves in direct conflict with (supra)national policies. The use of turbulence as a metaphor is highly pertinent in explaining how often unexpected instances of resistance can occur despite the best intentions of planners and policy makers.

The importance of this research, as a contribution to energy discourses, lies in the way it situates policy as occupying a specific spatiality in terms of mobile networks of flow. Consequently it has geographic and spatial meaning that is inherently European while at the same time offers a multiplicity of meaning beyond its borders. As Cresswell points out “to understand mobility without recourse to representation on the one hand or the material corporeality on the other is, I would argue, to miss the point” (2006: 4). This is significant if we are to understand how best to adapt our changing energy networks to the rural landscapes that they will increasingly occupy. Such research will also help policy makers to produce more informed and sustainable responses to the challenges of peak oil, environmental change and our efforts to realise a low-carbon future.

So, in order to understand the inherent mobilities found within policy we must first understand its full significance and meaning. Thomas Dye has defined public policy as “anything a government chooses to do or not to do” (Dye, 1972: 2). Such a succinct definition is useful in recognising that ultimately it is government that has sole agency in making public policy decisions. This distinction between the decisions made by individuals or organisations outside of government (such as private businesses, NGOs or special interest groups) is important since “when we talk about public policies we speak of the actions of governments” (Howlett and Ramesh, 2003: 5), be they national, intergovernmental or supranational. While it is generally accepted that non-state actors can influence the decisions made by governments, the decisions they make are not public policy. As Howlett and Ramesh (2003) suggest this definition does not capture the full complexity, and often contradictory nature of government decision-making, and makes no distinction between the trivial/diversionary decisions and the more significant determinations of government. However, it does highlight the fact that in the end it is government alone that makes the definitive choice as to what course of action to take, be it an active response to an issue or alternatively to do nothing. The fact that a government may decide not to do something is in itself a policy decision. For instance, a government decision not to raise income taxes or impose a carbon tax

on industry is as much a policy decision as signing up to the Kyoto Protocol or introducing legislation to ban the sale of cigarettes to minors.

A less ambiguous explanation of public policy has been offered by Jenkins (1978) who defines it as:

...a set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and the means to achieving them within a specified situation where those decisions should, in principle, be within the power of those actors to achieve

(Jenkins, 1978: 15)

Jenkins' "set of interrelated decisions" highlights that often a government's capacity to implement its decisions may be limited by external and internal constraints. For instance a government's energy policy relating to the proliferation of renewable energy power systems within a state, such as the development of wind farms, may conflict with environmental or planning policies as set down by different government departments. This may be due to a failure on the part of those departments to take an integrated approach to an issue that affects them equally, albeit in different ways. Other constraints may include a lack of appropriate personnel to deal with the issue, fiscal restraints, obligations to (conflicting) international treaties and the accumulation of domestic/local resistances to specific local developments can all influence the success or failure of a particular government policy. The obligations that governments must adhere to, in relation to international treaties, continue to grow in increasing regularity particularly for countries located within supranational networks such as the European Union. Understanding the actions of governments within such structures requires a "detailed understanding of the limits and opportunities provided by international agreements, treaties, and conventions" (Howlett and Ramesh, 2003: 6).

The sheer complexity of the phenomenon that is public policy is generally acknowledged (Jenkins, 1978; Weiss, 1982; Gornitzka et al., 2003; Howlett and Ramesh, 2003; Pender, 2004). With numerous contributing governmental actors, along with a varying array of factors influencing decision-making, it is hardly

surprising that there are many research issues for policy analysts to overcome. The overriding aim of any policy researcher should be to reduce the level of complexity of analysis to more manageable constituent parts. By focusing on a limited range of relevant causal factors, and at the same time underlining the general need to take a more holistic approach, the researcher must also take into account an appropriate range of influencing variables (Howlett and Ramesh, 2003). Howlett and Ramesh have identified four different approaches within the literature that theorists have taken in order to deal with this complexity.

One common course of action is to affiliate particular types of policy or “policy outcomes” to the constituent nature of the political system in operation and how it engages with wider society (Howlett and Ramesh, 2003). They argue that this can only be considered a starting point for any serious analyst, since this approach merely outlines a basic set of indicators to what decisions a government may take, which is itself largely dependent on its political orientation. However, it does not tell us much with regards to how such predilections influence individual policy decisions.

Another approach public policy analysts have taken is to carry out empirically-orientated quantitative research in order to look for causal factors in the policy-making process, often referred to as *policy determinants* (Munns, 1975; Hancock, 1983; Easterly and Wetzel, 1989). These determinants can come from macro-level socio-economic factors, where the characteristics of domestic societies and the international political system are analysed; or from the micro-level behaviour of individual public policy-makers. Such approaches tend to provide overly macro-level-orientated explanations and are less able to formulate reasons as to “how these structural characteristics affect the specific sectoral and temporal contexts in which policies develop” (Howlett and Ramesh, 2003: 9).

The analysis of *policy content* is yet another approach found within the literature, emphasising how very often it is the nature of a specific policy problem and the solutions created to solve it that determine how it will be processed by the political

system. It is the very specificity of the policy problem itself that influences responses to it, whereby policies can and often do determine the political system that produces them (Lowi, 1972; Kjellberg, 1977). This emphasis on the nature of a given policy problem having a reciprocal influence on what can be done to solve it is a useful approach to take but it, too, has its limitations. The problem itself can often be difficult to define or agree upon, which can make an appropriate policy response difficult to devise and in turn analyse without trying to factor in the “larger social and political constraints and contexts” (Howlett and Ramesh, 2003: 9). This focus on the evolving government to governance paradigm, particularly within the European Union context, has emerged and has been noted extensively in the literature as governments steadily transformed how they operated during the 1990s and through to the 2000s (Rosenau, 1992; Kooiman, 1993; Andrew and Goldsmith, 1998; Stoker, 1998; Shapiro, 2001; Borrás, 2003) especially in response to the growing pressures of globalisation, political/institutional change, and environmental governance and its regulation. Many of these policy responses towards anthropogenic climate change have tended to fall under the ecological modernisation epitome of modifying existing structures, albeit on single-issue actions such as improved water quality (Memon et al., 2011) or waste management (Watson and Bulkeley 2005; Bulkeley et al., 2007) and fall far short of the kinds of responses that are really needed.

A fourth approach that Howlett and Ramesh refer to in the literature focuses on the *policy impacts* or *outcomes*, where the direct and indirect effects of specific policies are analysed using statistical inference, ignoring the nature of the tools at a government’s disposal, and the causal factors involved in policy development. This approach has often been favoured by economists and involves concentrating on easily quantifiable outcomes such as the linkages between corporate investment activity and government expenditure, but again this rarely takes into account the processes by which policy is developed and implemented.

These varying approaches within the literature have evolved into two definable distinctions, *policy study* and *policy analysis*, depending on the degree of neutrality

or self-interest that the policy researcher may have respectively (Brooks and Gagnon, 1990; Hoppe and Jeliaskov, 2006). *Policy study* refers “to the study ‘of’ policy” and *policy analysis* to “the study ‘for’ policy” (Howlett and Ramesh, 2003: 11). In an effort to simplify these composite approaches and traditions considerable work has been carried out on building universal models or “frameworks of analysis” (Dunn, 1988; Dunn and Kelly, 1992) which combine the assorted literatures into coherent structural approaches (Howlett and Ramesh, 2003). The *Policy Cycle Framework of Analysis* has become an increasingly popular model whereby the public policy-making process is broken down into “a series of discrete stages and substages” (Howlett and Ramesh, 2003: 11).

Five Stages of the Policy Cycle and Their Relationship to Applied Problem-Solving	
Applied Problem-Solving	Stages in Policy Cycle
1. Agenda-Setting	1. Agenda-Setting ⁶
2. Proposal of Solution	2. Policy Formulation ⁷
3. Choice of Solution	3. Decision-Making ⁸
4. Putting Solution into Effect	4. Policy Implementation ⁹
5. Monitoring Results	5. Policy Evaluation ¹⁰

Table 2.1 The relationship between applied problem solving and the stages in the policy cycle (Source: Howlett and Ramesh, 2003: 13).

Table 2.1, shows one such framework highlighting the various stages of the *policy cycle* that public policy-makers must take in relation to the applied problem-solving methodologies they use. The table, while contributing greatly towards simplifying the policy-making process, is criticised by Howlett and Ramesh for not allowing for all the subtle nuances that occur in real-time, and gives the misguided impression that policy-makers operate in a very methodical and linear fashion. This is obviously not the case with policy-makers often functioning in reactive or ad hoc ways to specific strategic challenges, sometimes giving precedence to their own interests or

⁶ *Agenda-Setting* denotes the systems by which governments become aware of problems

⁷ *Policy Formulation* denotes how policy options are devised within government

⁸ *Decision-Making* denotes the systems by which governments decide on a particular course of action or inaction

⁹ *Policy Implementation* denotes how these policy are put into effect

¹⁰ *Policy Evaluation* refers to the monitoring and evaluation of the implemented policy, by both government and societal actors, the outcomes of which recycle back into the policy cycle as policy problems or solutions

following predetermined ideological tendencies (Stone, 1988; Kathlene and Martin, 1991; Feick, 1992; Howlett and Ramesh, 2003).

A number of interviewees involved in the development of wind farms have suggested as much regarding their experiences when dealing with government actors both at local and national level. Another conclusion one can infer from this approach is that it suggests that there is often limited social learning from the process itself and the opportunity for iteration or feedback is often absent from strategic government decision-making, especially when new and untested technological infrastructure is involved. Again this is somewhat distant from the more cyclical processes advocated by Pierson (1993), Kennedy and Moore (2003), and Voss and Kemp (2005) where transparent iteration pathways feed back into new rounds of policy making, informing new decisions with lessons learnt from past experiences.

This thesis is concerned with analysing the renewable energy policies of the Irish state. While recognising that the “policy sector is a cluster or complex of organisations connected to each other by resource dependencies and distinguished from other clusters or complexes by breaks in the structure of resource dependencies” (Benson, 1982: 148) it will adapt Howlett and Ramesh’s approach on new policy cycle frameworks in order to understand how we have the set of renewable energy policies we do and not something similar to that say of Germany or Denmark, or indeed our nearest neighbour the United Kingdom. This thesis will focus on the national and local responses to the supranational policies of the European Union, and the directives that are in force in Ireland at present. It will also assess how these policies in turn have influenced the policy approaches taken by two local authorities in particular, Cork County Council and Kerry County Council, from the mid-1990s to the present day.

2.2 Mobility and the Dynamics of Turbulence in Socio-Environmental Flows

The world is first of all this open movement, composed of rotation and translation. The latter is given by the flow and the fall, the laminar cascade...In the *De Finibus*, Cicero wrote that *atomorum turbulentit concursio*. Atoms meet in and by turbulence.

(Serres, 1977: 6)

Framing our understanding of policy within the mobility narratives of the state in transition (Urry, 2000), along with how the bodies politic negotiate the globalised highly-mobile networks of the European Union, provide some interesting linguistic opportunities for scholars to employ when attempting to understand the processes that both influence, and are influenced by, these states of flux. Though traditionally a concept employed in the philosophic interpretations of physics, along with the practicalities of fluid dynamics (Lorenz, 1963, 1972a; Ruelle and Takens, 1971), the idea of turbulence as a way to describe the dislocations that can occur within the temporal and spatial mobilities of contemporary socio-environmental structures is, I would argue, an increasingly pertinent conceptual tool for geographers. Speaking in University College Cork in 2010 geographer Tim Cresswell, who has conducted considerable research into the interrelated dynamics of time, space and mobility in modern social and cultural experiences, described turbulence as being “a product of friction between two different kinds of flow”. This is in and of itself in contrast to the smooth “laminar” flows found within ideal, highly-organised equilibrium systems or in many positivist theoretical hypotheses; be they in economics, planning or social theory. Since these idealised, hermetic systems attempt to describe clearly identified relationships that complement each other (in the process guaranteeing a smooth flow of interpretation and evaluation) any outliers are deemed statistically insignificant and are inherently ignored. As a consequence everything moves correctly and as it should be. However, when we apply real-world experiences to a given systems analysis the possibility for turbulence becomes increasingly likely. An obvious example here is to be found in air travel. We all know that turbulence can occur at any time on a flight, whether it is over a long or short distance and while we may not experience any turbulence for an entire flight or a

series of flights when it does happen it is nearly always unexpected and can sometimes be quite frightening. As users of the complex system that is modern air travel we know that turbulence can occur, though as participants within the system, we are not always able to predict its occurrence. The same can be said when we analyse public policy. Whether it is in energy, water or waste management the opportunity for turbulence within the policy flow can occur at any stage of its cycle. From development to implementation the complex set of influencing factors that go into creating policy can be myriad and immeasurable giving rise to often unexpected outcomes that policy-makers had not initially intended or anticipated. As we will see later in this thesis, while the site of turbulence may be at the end of a policy flow, for the purposes here at the planning application stages, the node or action point that causes this turbulence may occur at a far earlier phase in the policy process. Chapter Five will show how the ideological perspectives of influential policy-makers, in this case officials within the European Union and later at national level, can influence outcomes considerably in ways that were unintended and unexpected.

Now more than ever it is imperative that governments understand that engineering and the other sciences that enable us to harness electricity from renewable sources are appreciated in their complete context, especially with regards to the dynamic relationships these technologies have with the complex and uncertain natural systems they interact with and the human commitments and values that dictate how these relationships are ultimately realised (Funtowicz and Ravetz, 2003). Also, recognising the complexity involved in tackling issues around wind energy and its contribution towards our response to anthropogenic climate change does not necessarily have to induce the degree of paralysis seen in many local governments¹¹ (and indeed some national governments). Unfortunately, as will be shown in later

¹¹ On a number of occasions during interview it was expressed by many council officials that they felt they had neither the training nor experience to properly arbitrate on the new types of planning applications that were coming in to them from the mid-1990s onwards. Some local authorities met this challenge head on, drawing down EU funding to carry out their own research to better understand how best to incorporate the type of infrastructural proposals that were now coming in to them. This was very much dependent on the spirit within the corporate structures of individual local governments rather than the national level.

chapters, policy makers do at times defer to the “greater expertise” of private sector operators or to national arbitrators over the experts within their own corporate structures. This deferral to outside expertise is in many ways symptomatic of how governments now operate, be they local authorities in an Irish context or a Member State within the European Union, and as such are more open to turbulence than more traditional modes of governance found within historical nation states.

2.3 Music of the Spheres: Multi-level Governance, Power Mobilities, and the (Irish) Local Government Context

Research into changing governmental structures, particularly the decentralisation of formal authority within states, or indeed the ceding of it to supranational networks outside of the state, has become central to our understanding of how European Member States have responded to the twin pressures of globalisation and the drive towards greater integration since the late-1980s. Liesbet Hooghe and Gary Marks, in their 2001 classic *Types of Multi-Level Governance*, helped redefine how analysts approached both the informal and formal structures that moderate the interjurisdictional relationships of local, national and supranational governments within the European Union. Having first coined the phrase some years earlier, in 1992 (Piattoni, 2009), Gary Marks:

drew on analysis of domestic politics, specifically the policy networks approach, in describing how within multi-level governance ‘supranational, national, regional, and local governments are enmeshed in territorially overarching policy networks’ (Marks, 1993: 402-3). The multi-level governance concept was thus contained in both vertical and horizontal dimensions. ‘Multi-level’ referred to the increased interdependence of governments operating at different territorial levels, while ‘governance’ signalled the growing interdependence between governments and the non-governmental actors at various territorial levels.

(Bache and Flinders, 2004: 3)

This increased awareness of how the European Union actually functions, as a political system in its own right, saw theorists begin to move away from earlier appraisals drawn from international relations (IR) theory and move towards a more

neofunctionalist approach, as first put forward by Ernst Haas and Leon Lindberg during the 1950s and 1960s, which accepts the privileged role that supranational actors such as the European Commission (along with various interest groups) have in driving EU policy (Peterson, 2002).

Despite remaining a somewhat contested concept (Bache and Flinders, 2004) Hooghe and Marks (2004) have broken down the literature into two distinct understandings of the notion, as can be seen in Table 2.2 below.

Type I	Type II
General-purpose jurisdictions	Task-specific jurisdictions
Non-intersecting memberships	Intersecting memberships
Jurisdictions at a limited number of levels	No limit to the number of jurisdictional levels
System-wide architecture	Flexible design

Table 2.2 Types of multi-level governance (Source: Hooghe and Marks, 2004: 17).

Type I multi-level governance largely occupies the classic federalist model and would be reasonably recognised in a number of existing nation-states, chiefly consisting of a central government that oversees a lower tier of subordinate, non-intersecting, sub-national governments with power being shared out in varying degrees at a limited number of levels. *Type II*, on the other hand, has jurisdictions operating along numerous territorial scales, often on task-specific issues, which are designed to be flexible rather than durable and are occupied by a wide range of public and private actors who collaborate along shifting, temporary coalitions. Hooghe and Marks also argue that Type I multi-level governance is prevalent in traditional territorial government structures up to the national level, with the post-war trend towards greater decentralisation helping to redistribute power within the subnational sphere. They suggest that it is Type I, and not Type II, that is in many ways reflective of how the supranational network beyond the European nation-state also operates, with the EU functioning along few rather than many territorial scales of between three and six at the very most. This is in distinct and clear contrast to the infinite jurisdictional distributions envisaged in Type II. However:

Some salient features of EU architecture are consistent with Type II multi-level governance: variable territorial jurisdictions as a result of treaty derogations; distinct governance systems or 'pillars' for different policies; the multiplication of dependent European agencies; and the flexibility clause of the Amsterdam and Nice Treaties¹² specifying the conditions under which a subset of Member States can engage in greater integration.

(Hoogh and Marks, 2004: 23)

In the main, EU policies are bundled together under a single unified jurisdiction and translated through the various tiers of governance. It is through these complex, multi-relational (re)negotiations of power, between the various jurisdictional spaces that interact dynamically, exercising (albeit not always simultaneously) both types of multi-level governance that Rosenau (1997; 2000; 2006) has tried to describe using the term *fraggmentation*. Though he admits it to be a somewhat awkward label it is meant to encapsulate the concurrent fragmenting and integrating dynamics that are giving rise to new "spheres of authority", suggesting:

the absence of clear-cut distinctions between domestic and foreign affairs, [given] that local problems can become transnational in scope even as global challenges can have repercussions for neighbourhoods.

(Rosenau, 1997: 38)

By introducing *fraggmentation* Rosenau seeks to move beyond the standard analysis of globalisation and its consequences, which have to date occupied narrow economic-led discourses and instead introduces a more complex approach taking into account the socio-cultural, political and ecological factors that have helped shape how it has interacted with local communities across the globe. It is within this multi-directional and fluid context, of iterative mobilities and renegotiations of power (with their underlining risk for turbulence) that frames our approach to how Irish local government has come to redefine and reinterpret its role along multiple axes of representation, depending on the circumstances expected of it. These expectations have grown in complexity in accordance with the changes brought on in EU policy networks over the past three decades with local authorities needing to be democratically accountable service providers, public administrators,

¹² The recent 2007/2009 Lisbon Treaty, is also applicable here.

environmental regulators, business promoters, and energy strategists; often fulfilling multiple roles at the same time.

Any public organization — that is to say, any enterprise “owned” by the public at large — is a microcosm of the state

(Carver, 2001: 4)

John Stuart Mill, whose writings were very influential in the development of representative local governments in Britain and Ireland, argued that local populations should be free to determine local issues as a key pillar of liberty (Callanan, 2003). However, when faced with escalating energy crises and increased globalised economic structures, this “pillar of liberty” continues to be challenged as mobile, multi-level energy policies are implemented and we see a greater proliferation of wind turbines on the landscape. The challenges to what we understand as “local governance” (Jessop, 2003) will increase in both complexity and enumeration in response to Rosenau’s forces of fragmentation. John Carver (2001: 4) asks “in the case of elected bodies, can independently elected officials be expected to coalesce into a responsible group?” A question that is particularly pertinent to my research since it is the twenty nine county councils, found within the country, that have been tasked with implementing national policy towards wind energy production, through their planning departments. In effect, local realities may indeed decide the success or failure of national policy.

So, what are the realities that local government must face when implementing national policy? A key consideration of any elected official in Ireland, whether they are elected to local government or to Dáil Éireann¹³, is the ability to remain in good favour with one’s constituency. This long-established tendency towards populism and clientelism often limits the desire of representatives to support the implementation of policies that while vital to the national interest may be unpopular with the local electorate. This may go some way towards explaining the uneven national distribution of wind farm developments that we have witnessed thus far, a phenomenon that cannot be explained by the varying wind strength

¹³ The Dáil is the official name given to the national parliament in Dublin.

distributions experienced across the country. There are clearly other factors at work¹⁴. Marsh et al. (2008) explain how the electorate in Ireland behaves when voting for a political candidate and the dichotomy of positions candidates often find themselves taking, sometimes in direct contradiction to own their party's policy position, in order to remain in favour with their electorate. Other factors influencing the operation of local governments include greater economic interdependence and globalisation processes, political and institutional changes and changing demographic trends (Andrew and Goldsmith, 1998).

Placed in an Irish context, the future development of renewable energies (including wind farms) and as a consequence the transformation of Eirgrid's electricity network from a centralised model to a more dispersed one, will challenge the robustness of our democratic institutions and how we expect them to function both at local and national levels. In the past the small number of large, strategically-located power stations helped to foster an "out-of-sight, out-of-mind" mentality towards energy production in the wider population, though this mentality obviously differs for those living near one of those power stations. One only has to look at the case of the development at the Corrib gas field and the resultant local reaction against it, or the protests surrounding the construction of electricity pylons for Eirgrid's new Meath to Cavan power line, to get a glimpse of what may happen if local communities were to react negatively towards a greater proliferation of wind farms on the landscape. With the current re-structuring of the electricity network and the subsequent wider environmental consequences of energy production as a whole, there will be an increased impact on a greater proportion of the population than was heretofore the case; and as such an increase in the complexity of issues local governments will have face as they try to implement central government policy. A valid question one might propose: are local governments ready or able to deal with these issues given the limited resources and powers available to them in an Irish context? These tensions between the aspirations of central government and

¹⁴ If one looks at Map 1 (see page 128), which identifies the levelised energy costs estimated for the island of Ireland for wind generated electricity, one can see that there is a clear disconnect between where the most cost-effective wind farms should be and where they have been installed to date.

local realities will become more acute into the future, especially if the 2020 target of over 6,000MW of installed wind generated electrical capacity is to be realised (Walsh, 2009). In order to meet this target an estimated 300MW to 400MW of wind capacity must be rolled out annually. With only 58MW added to the grid in 2007 (Cooke, 2008), one can see that there has been a clear dislocation between national government policy and what is being achieved at local level.

In order to understand how we are in this current situation, we must first examine the structures of governance as practiced in this State, particularly the role that local government plays within this framework. There has been much academic interest in local government down through the years, both internationally (Chandler, 1993; Elcock, 1994; Davis, 1996; Copus, 2004; Leighninger, 2006) and in the context of the Republic of Ireland (Meghen, 1973; Roche, 1982; Collins, 1985, 1986a; Batley and Stoker, 1991; Hesse and Sharpe, 1991; McManus, 1993; Beetham, 1996; Boyle et al., 2003; Callanan and Keogan, 2003; Sheehy, 2003). So what are local authorities/governments, how are they structured, and how have they evolved in Ireland?

Desmond Roche (1982) gives a rather generic description of a local authority as incorporating "a system of administration in political subdivisions of the state, by elected bodies having substantial control of local affairs, including the power to impose taxes", though the ability of local authorities in Ireland to raise taxes is quite limited compared to other European countries (Dollard 2003). The European Charter of Local Self Government (1985), which the Irish government has signed up to, states that "local self-government denotes the right and ability of local authorities, within the limits of the law, to regulate and manage a substantial share of public affairs under their own responsibility and in the interest of the local populations" (Council of Europe, 1985: 2). Since 1999 "local government and local democracy are specifically provided for in the Constitution...again underpinning the separate status that continues to be assigned to local government" (Callanan, 2003: 11). However despite this separate status, Ireland remains one of the most centralised states within the European Union (Freehill, 2006; in National Forum on

Europe, 2010). Paradoxically, Ireland saw a strengthening of centralised policy during the 1970s as a result of EU structural funding, though this was later reformed somewhat during the 1980s and 1990s (O'Donnell, 2000).

Local government has had a long history in Ireland and we need to go back to 1898, and the passing of the *Local Government Act*, to see the establishment of local government within the legal framework of political control in Ireland (Collins, 1985). The Act saw the transfer of various administrative powers to the newly established, locally-elected city and county councils and continued as such until it was again seen to need modernisation in the 1920s, due to increasing tensions between the newly established central authority in Dublin and pre-existing local governments (Sheehy, 2003). These modernisation processes led to the creation of management structures, similar to systems already seen in American cities, and culminated in the County Management Act, 1940, which extended the concept of executive management to the county councils (Boyle et al., 2003). Under this system executive functions lay with the county manager who was charged with carrying out day-to-day decisions, which were in turn subject to established policy. These responsibilities included the granting of planning permission. However, as Callanan (2003) highlights, despite an emphasis on a strong management model for local authorities, the actual power and range of functions allowed to local governments was, and still is, quite limited. Despite this, local authorities are still expected to "operate within the framework of national policy" and under the *Local Government Act 1991* were given the power of "general competence", albeit again under strict limitations. The subsequent *Local Government Act 2001* consolidated the changes as outlined in the report *Better Local Government - A Programme for Change 1996*, recognising that:

local authorities are the only bodies outside of the Dáil whose members are democratically elected by all of the people. This gives local government a status which distinguishes it from all other agencies - public, private or voluntary
(Callanan, 2003: 9)

It is this special status within the democratic framework that has led commentators to see local government as vital to the structure of civil society and the creation of local identities that in turn contribute to the wider national experience, as Mara Kolesas (1998) shows in her example of Argentina and the contribution local governments are making towards shaping Argentine citizenship. Put in this context it is easy to agree with Callanan and Keogan's claim that "local government is a vital factor in underpinning a nation's democracy" (2003: 5). However the Irish experience, as Hesse and Sharpe (1991) highlight, has seen an emphasis on service provision rather than as a meaningful platform for local democracy. This has led Callanan and Keogan (2003) to argue that the importance of local government to the nation's democratic system has often been overlooked, a legacy which the authors suggest, is inherited from our historical links to the United Kingdom where democracy and sovereignty has historically been exclusively vested in the national legislature. If the tensions between national policy and local realities are to be resolved in a fair and transparent manner we must be prepared to accept that local government is indeed central to our understanding of the ways in which democracy functions within society (Andrew and Goldsmith, 1998). Therefore policy can at times be influenced by actors, or interest groups, in a variety of ways but this influence can vary depending on locality, organisational context and the issues involved (Abrar et al., 1998).

There are four key roles that local authorities are generally responsible for. These include: an instrument of local democracy; a provider of services; an agent of central government; and as a local regulator (Callanan and Keogan, 2003). The local authority's role as "local regulator" is of particular interest here, since it is in this capacity that local governments carry out their planning and development duties and it is where the potential for tension between a local government's role as service provider and its role as regulator can often arise. As regulators, it is the local authority's responsibility to take a more detached position and make potentially unpopular decisions when implementing national policy, such as whether to grant or refuse planning permission (Callanan, 2003). The potential opportunity for scenarios where unpopular decisions need to be made is set to increase into the

future especially in relation to environmental issues, and our knowledge of “local government (and local governance) requires an understanding of the local network of structures at the local level that play a role in the governing of local society today” (Andrew and Goldsmith, 1998: 100).

While local government in the UK has seen a greater devolution of power than here in Ireland, difficulties are also experienced there when trying to get wind farm developments through the planning process. The Welsh Assembly’s response to this “planning problem” was to act unilaterally, strengthening centralised control over the process and in turn imposed centrally-determined “Strategic Search Areas” for large-scale onshore wind farm developments, overriding local decision-making processes (Cowell, 2007). A similar situation has occurred here with the establishment of An Bord Pleanála¹⁵. Indeed, the likelihood of greater centralised control can be seen to be even more probable here considering local decision-making processes are even more curtailed than in the UK, raising further questions of legitimacy and power in the democratic process¹⁶.

2.4 Understanding Choice and Space in Socio-Environmental Flows

Our society is constructed around flows: flows of capital, flows of information, flows of technology, flows of organizational interactions, flows of images, sounds, and symbols. Flows are not just one element of the social organization: they are the expression of processes dominating our economic, political, and symbolic life.

(Castells, 1996: 442)

In order to understand how the presence of wind turbines can influence how one uses and consumes the landscape within the construct of a *flow*, particularly as an

¹⁵ See page 71 for greater description of the national body.

¹⁶ Discussions about legitimacy here, must be distinguished from any legal or judicial meaning, but rather legitimacy is defined as meaning “support for, and acceptability of, governmental initiatives and actions broadly defined, something not far removed from Easton’s (1965) concept of political support” (Andrew and Goldsmith, 1998: 106). Such political support for local government and the rolling out of new energy infrastructures may be called into question if local “decision-making” capacity is curtailed and political power is considered to be ceded elsewhere; since as Gilles Deleuze explains when looking at Foucault’s views on the state (here it can be applied to both local and national levels of government) that “power is not homogeneous but can be defined only by the particular points through which it passes” (Deleuze, 1986: 23).

expression of the mobile processes dominating one's lifestyle choices, it is useful to apply Spaargaren and van Vliet's (2000) writing on the effects lifestyle and consumption trends have on the environment. Much of the literature prior to this has focused on the processes of production as an end in and of itself, often ignoring the role played by consumption particularly around behaviour and lifestyle choices, due in part it is suggested to the sheer complexity of the influences involved. This has led the authors to conclude that the study of consumption has, to a large extent, been neglected by environmental sociologists and cite a number of reasons for this apparent neglect. They include the multifarious determinants one must consider when looking at consumption compared to the more centralised processes associated with production. Production, they argue, is a phenomenon that has proven to be much easier for researchers to quantify. They argue that the assumption within much of the literature that consumption is a 'derivative' of production is misguided. By applying Giddens' *structuration theory* they suggest that the role of lifestyle (which refers to the degree of coherence in people's behaviour) is important, as is the notion of integration, since the:

modes of action followed in one context may reasonably differ from those adopted in others

(Spaargaren and van Vliet, 2000: 55)

The model in Figure 2.1 helps to conceptualise these consumption practices within a "structurationist" scheme in which consumption behaviour is linked to the structures involved in the production of social practices. We can also see how ideas and behaviours can *flow* between these structures, producing actions that may not at first appear predictable or consistent. When we view consumption within this conceptual framework, it can take on a myriad of different contextual meanings. It can refer to, as an example, a hillwalker "consuming" the landscape by virtue of the very act of walking through it and experiencing the physicality of it. The hillwalker may also "consume" the visual meaning of it by representing it as a "pristine" landscape. This consumption of the pristine, through representation, may come from the hillwalker's preset ideas of what a pristine landscape should look like. The presence of wind farms on the landscape may in turn change that opinion, or

indeed consolidate it, depending on how that person views the turbines themselves. The turbines may signal evidence of rampant industrialisation of upland areas or they may signal a reassuring consolidation of “green” and “clean” energy production, which in turn is contributing towards solving larger environmental issues, most notably human-induced climate change. While this “consumption” is subjective in nature it is no less important so long as the individual maintains a certain level of coherency in lifestyle choices and integration practices, which in turn help to maintain credibility. As such one can accept the need for wind farms but at the same time object to the way in which they are being developed, so long as this opinion doesn’t contradict the framework of practices one adopts.

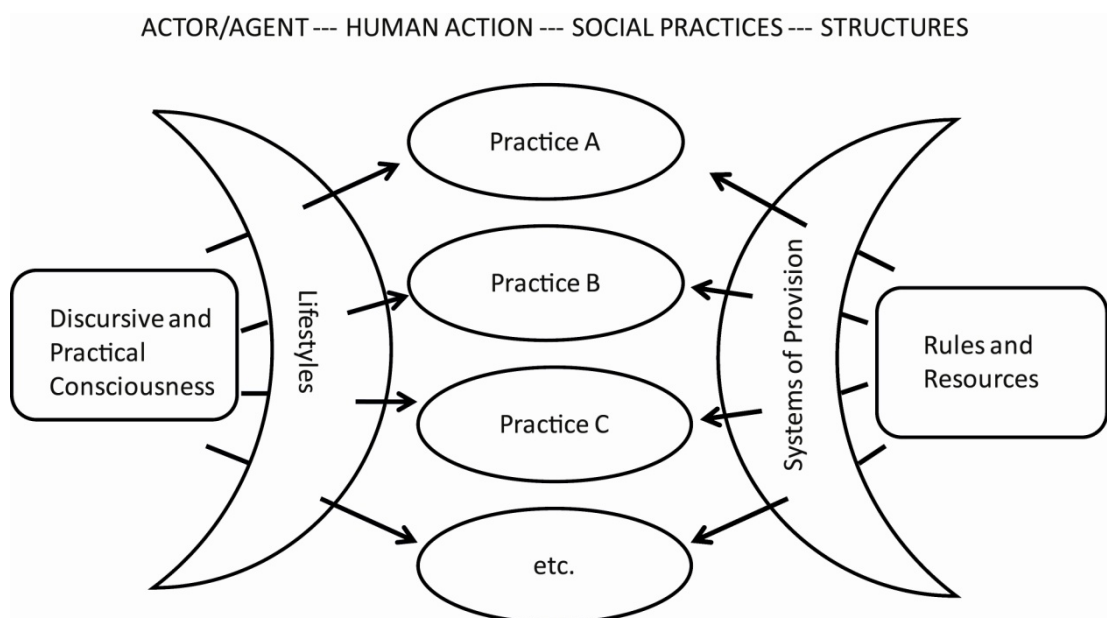


Figure 2.1 A conceptual model for studying consumption practices (Source: Spaargaren and van Vliet, 2000: 53).

The multi-interpretable complexity of how something is consumed can be seen as mirrored in the way renewable energies *flow* through society. The notion of environmental flows has received greater attention in recent years amongst social theory scholars looking to provide more flexible explanations of the major transformations occurring in contemporary states and societies. Whether this is done in order to better understand the macro-level processes of globalisation as applied by Mol and van den Burg (2004), or the myriad of complexities involved in

the water dynamics of a river ecosystem (Babu and Kumara, 2009) from which the concept of environmental flows originated, it is proving to be an increasingly adaptive and useful tool. Understanding globalisation within the contexts of renewable energy production is also important since, as Mol and van den Burg suggest:

the changing relation between the global and the local is conceptualised in different ways, from glocalisation (cf. Robertson, 1995) to the duality of 'space of flow' and 'space of place' (Castells, 1996/1997). There seems to be agreement among scholars on the fact that global economic, technological, cultural and political developments do not determine local social practices and institutions. But interpretations differ when it comes to the 'balance of power and influence', as well as the mechanisms, interactions and relations between the local and the global.

(Mol and van den Burg, 2004: 318)

Using Castells' ideas of competing 'spaces of flow' and 'spaces of place' Mol and van den Burg (2004) highlight how traditional global economic networks and the newer information and communications technology industries continually use flows, traffic and the *space of flows* as conduits for improving their information and financial services in order to consolidate their wealth. These spaces of flow have helped drive the massive restructuring of current world systems through the very networks that sustain them; and as such are worthy of social enquiry. The second part of Castells' analysis doesn't meet with the same approval however, since he situates the environment and its representatives/protectors (in his case environmental non-government organisations, eNGOs) within what he terms the spaces of place, which in turn often become sites of local resistance to the globalised networks of capital and power. While Mol and van den Burg agree with this premise to a point, they dismiss it as too simplistic an interpretation of where the environment is really positioned in relation to globalisation discourses. They argue that while the environment does often occupy Castells' *space of place*, it is:

also embedded in the space of flows and in the global networks that 'govern' these flows. Flows of, among others, renewable energy, eco-labels, environmental information, green products and environmental norms and standards, are as much part and parcel of the space of flows as the flows of economic and monetary capital and cosmopolitan citizens (cf. Mol &

Spaargaren, 2003). Interpreting environmental protection and governance no longer as a place-bound activity means also to open up the place-boundedness of the (local) environmental state.

(Mol and van den Burg, 2004: 319)

They go on to show how issues of governance and the role of the state have always held precedence in the discourses of the environmental social sciences with the state often seen as the “‘natural’ institution to regulate the consumption of collective goods” (Mol and van den Burg, 2004: 319) as well as maintaining the right of management or intervention in any given environmental problem. The strong normative logic underpinning these assumptions has been strengthened during the 1990s even in light of continued globalisation. Despite state autonomy often getting superseded by international treaties such as the Kyoto Protocol, in most cases the state remains responsible for the continued management, control and reform of environmental issues as they arise. However as Monica Salomon (2008) shows, using Taylor’s (2000; 2005) theories on global governance networks, local actors (in her case the municipal governments of Barcelona and Porto Alegre) are increasingly connected to wider global networks that can supersede the role played by national government in some instances, becoming nodes of global governance in their own right. Again, mirroring the precepts of multi-level governance, national governments may often be viewed as too restricted or cumbersome to deal effectively with issues seen as important at local level, while at the same time too small to deal effectively with global environmental crises such as human-induced climate change, fresh water conservation, or sustainable energy production. Mol and van den Burg argue that as societies adapt to the increasingly mobile networks and flows of the new global order, older more centralised forms of governance can no longer control these networks effectively leading, they argue, to greater opportunities for a flatter more democratically engaged civil society.

Increasingly, with the growing global complexity of (economic) networks and flows, local civil society actors are interpreted as co-producers and co-providers, as counter-veiling powers, as constructors of new arrangements, as legitimisers of global MNCs¹⁷; in short: as key actors in governance.

(Mol and van den Burg, 2004: 321)

¹⁷ MNCs here mean *multinational corporations*.

Whether this is achieved or not is largely dependent however on locally-specific circumstances in which the key actors find themselves. The authors do have a point regarding the potential for change that advanced communications and IT technologies can offer local civil society actors who wish to engage more in issues of governance, be they local or otherwise. Advanced technologies can provide an opportunity to impede the flow of global capital, as well as improve the conditions for these same global networks. One can argue that it has become easier to oppose or protest against capital-intensive projects such as onshore wind farms due to the vast networking opportunities that the internet offers, along with other communications technologies, to local actors. No longer can a locally-specific group be seen as acting alone in its opposition to a given development when it can form linkages with other anti-wind action-groups, both at national and international level. These networks provide opportunities for protesters to share experiences and discuss what works and doesn't work when responding to developers and the planning authorities. Using the CANAG¹⁸ website as an example, action groups can provide coaching to more inexperienced members on what language is appropriate to use when writing a planning objection, for instance. To an extent the internet can allow for a certain "flattening out" of expertise and privileged knowledges, or rather democratise these knowledges to those who can afford to access it, making the planning processes appear in many ways to be more transparent. While this can provide the opportunity for specific agendas to become more obvious to the actors involved, it must also be noted that the level of access to these knowledges is still very much dependent on the amount of resources available to a local community.

2.5 Issues of Governance and Socio-Environmental Innovation

Multi-level governance implies a shift from a policy-making process which was primarily intergovernmental to a process that involves the supra-national level, i.e. the EU Commission, the Court of Justice and the Parliament; the national level, i.e. the Council of Ministers; and the sub-national level, i.e. the regions
(Kjær, 2004: 16)

¹⁸ The anti-wind action group discussed in Chapter Eight.

All of this affects the role of the state and its structures of governance within these fragmented, though powerful, globalised networks. Mol and Spaargaren (2006) also refer to the changing characteristics of the nation-state as it responds to the prevailing market forces of liberalisation, state privatisation and globalisation. They argue that one must acknowledge that governments have been in effect been changing their administrative responsibilities, pooling resources to identify and regulate selected issues deemed a priority rather than involving itself in every detail of public life.

Under conditions of globalisation states have lost the ability and willingness to detail the patterns, regularities and order of societies, and increasingly turn to regulating mobilities and ensuring the conditions for favourable interaction processes and flows. The EU is put forward by Urry (2000b) as the prototype example of a gamekeeper state, a relatively small bureaucracy regulating activities and mobilities based on computer-based information. But in developing the gamekeeping perspective, the sociology of flows moves much beyond this metaphor as far as nation-states are concerned.

(Mol and Spaargaren, 2006: 9)

The degree of control and influence the gamekeeper state, in this instance the EU, has on individual nation-states can be seen in the tendency for Member State governments to adopt EU directives, on everything from the protection of wildlife habitats and water conservation, to the promotion of renewable electricity generation and emissions trading rather than devise their own policy approaches. This “franchising out” of legislation continues to be extremely successful for entities like the European Union in directing policy flows within its territory. During the recent Irish Lisbon Treaty referendums critics of the treaty highlighted that “at least 80 percent of the legislation passed in every European country now comes directly from Brussels” (George, 2007). Though this figure has been disputed by UK Labour MEP¹⁹ Richard Corbett who claimed that the figures are actually much lower, stating that EU law passed in a number of member countries totalled no more than nine percent for the UK, 6.3 percent for Sweden, and twelve percent according to the Finnish parliament (Corbett, 2009). Whatever the exact figure, it is safe to say

¹⁹ Member of European Parliament.

that member states engaged in supranational networks such as the European Union have:

become dependent on and [are essentially] nodes of a broader network of power. Their declining authority is placed in between and dependent on networks of capital, production, communication international institutions, crime, transnational religions, and non-governmental organizations on the one hand and on the other the space of place, with communities, tribes, localities, cults, gangs, and local identities. For one, this means that states have become less and less able to act purposefully, to influence the outcomes of global processes in the space of flows. Secondly, in the network society states have been transformed from sovereign subjects into strategic actors, who foster productivity and competitiveness of their economies by allying themselves closely with economic interests and structured by global rules favourable to capital flows.

(Mol and Spaargaren, 2006: 9)

The notion of the state acting as a *strategic actor*, allying itself to global networks of capital, rather than representing the interests of its citizens, is important here as it raises questions of impartiality on the part of state actors when dealing with localised, environmental conflicts (Aitken et al., 2008). A useful illustration of this is the dispute led by the *Shell To Sea* network, which has been campaigning for a number of years in north Mayo against the installation of a pipeline and terminal to service the Corrib Gas Field. Though often conveniently divided by the media into two conflicting sides, namely with community actors on the one hand and the state and its partner multi-national corporation on the other, this type of narrow discourse does not allow for more critical issues driving the dispute to come to the fore (Garavan, 2006). The space-specific referencing of the campaign to Mayo also fails to recognise the wider network to which this campaign belongs. Originating in the Erris community, amongst those directly affected by the development, the Shell To Sea campaign draws support from other campaign groups both in Ireland and abroad. Their website, www.corribsos.com, provides links to other protest groups such as the No Toomes Power Plant in County Louth, as well as the environmental justice and human rights group Global Community Monitor (GCM). In 2007 a member of the Shell To Sea campaign, Willie Corduff, received the international Goldman Environmental Prize. Held in San Francisco every April, this annual prize is awarded to grassroots environmental activists and campaigners, coinciding with

international Earth Day²⁰. Winners are selected by an international panel from confidential nominations submitted by numerous environmental groups and organizations from around the world. Given the fact that this prize directs its attention towards often little-known or isolated activists, in an effort to promote wider recognition of their efforts, it clearly shows that the:

mobility of environmental ideas, information, interpretation frameworks flowing between networks and nodes around the globe, can - according to the sociology of flow - be interpreted in much the same way as material flows. Rather than place-bound, geographical communities, mobile placeless communities are emerging under conditions of global complexity, each involving a particular intersection of belonging and travelling: e.g. groupings or alliances organised around food, gender, environment, spirituality, road protests, culture etc. These communities are within and beyond the nation-state. Regions, boundaries and places become relative, permeable.

(Mol and Spaargaren, 2006: 18)

The mobile, placeless communities that Mol and Spaargaren refer to here, it can be argued, inhabit hybridised spaces being at the same time both globally and locally place-specific. As its name suggests, socio-environmental flows are rarely exclusively material or social in composition, but exist within accelerated, multi-representational, multi-dimensional, mobile networks where traditional pathways of power can become superseded or ignored. As we have seen from the previous example social movements or environmental action groups do not always operate strictly within defined social parameters but can and do become part of the system of material and intellectual flows within which they are located. The sheer complexity of trying to conceptualise contemporary global networks and flows can be seen in the multiplicity of influences a given network is subject to. As Mol and Spaargaren (2006) conclude, in order to analyse and understand twenty-first century environmental flows in global modernity:

the key starting point should lie in the differentiation between region, networks and fluids and the unravelling of combinations of specific flows and characteristic scapes that 'govern' the flow. Environmental flows could be categorized in conventional material and energy flows (the additions and withdrawals of waste, electricity, water, metal ores, etc.), mobile material

²⁰ First held on April 22, 1970 this annual international event is now run by the Earth Day Network.

objects that carry with them an articulated environmental profile (automobility, green products, etc.) and non-material environmental flows (such as environmental information, environmental movements, environmental discourses, environmental management concepts). Such flows can be interpreted from a region, global integrated network and/or a global fluid perspective.

(Mol and Spaargaren, 2006: 23)

2.6 Conclusions

This chapter introduced the first part of this study's conceptual framework by situating the literature on public policy into a narrative of mobility, whereby it can be explained as operating as a *flow*. In this way, we begin to understand how contemporary trends in socio-environmental modernisation operate within the European Union, through the multi-level governance structures that make up this network. This has helped to inform us of the fluid, multi-relational processes associated with globalisation and how these multi-directional relationships between what were once considered to be easily distinguishable local and global spaces are now more complex and transferable. The dynamics of flow were also explored in order to explain how instances of disruption or inertia can arise by way of turbulence. In keeping with the concept of flow, the role of local government and how it operates within the multi-level governance networks that constitute the EU was then explored. Since local governments and the spaces they regulate appear at the end of these flows the increased likelihood of turbulence creating inertias at these stages of the flow was also addressed.

The concept of flow also provides a useful context in which to explore issues of agency in such networks. The choices actors make when perceiving a given socio-environmental issue, in our case the siting of wind farms on the landscape, can conflict with how policy makers and planners view the same topic. This can occur despite both parties being for the most part in agreement in overall terms that wind energy needs to be adopted more vigorously into the electricity grid. Therefore agency is shown to be predominately tied up with the choices actors make when negotiating these spaces of flow found within the multi-level governance networks of the European Union. Castells' ideas on the *space of place* and the *space of flow*,

as interpreted by Mol and van den Burg (2004), was also discussed in order to show how new communication technologies have impacted on our contemporary understandings of these socio-environmental networks with their sites of resistance at intersecting nodes in the movement of power, energy and capital.

This, in turn, brings us neatly to the final section of this chapter which looked at how these issues inform the governance and regulation of these spaces of flow, and indeed (re)interpretations of place, as they occur within the EU. Viewing public policy as a system of flow, subject to specific mobilities with their own structures of space and place, allows for a unique insight into how contemporary policy operates and is negotiated along these multi-scalar networks. The next chapter, which constitutes the second part of the study's conceptual framework, will look at how these localised spaces are interpreted and contested by introducing the theoretical arguments that inform our understanding of contemporary ruralities through representations landscape and space occupying a nature versus culture paradigm. The role NIMBYism plays in explaining local resistances to public policy is also explored.

Chapter Three

Landscape, Nature and the Contestation of Wind Power Spaces

We all know what it feels like to be out in the open air on a windy day. Yet once we try to pin it down within established categories and conventions of thought, no experience could be more elusive. What is the open air?

(Ingold, 2008: 17)

Wind envelops people within their environment and breathing is the basis of life [and] Wind as breath of life reflects a basic daily experience as much as a mythological truth.

(Low and Hsu, 2008: 2)

People are so familiar with the interview both as a research tool and in their everyday lives that its unusual characteristics, to which we drew attention, go almost unnoticed. These interactional rules of the interview are fundamental to the process. Undoubtedly, the interview has proved itself capable of yielding valid information. As an intrinsic part of a research design, interviews offer a reasonable chance that we can achieve some control along with meaningful comparisons

(Bechhofer and Paterson, 2000: 96)

3.0 Introduction

This chapter will broaden out my analysis of the processes that are shaping society, as it continues its current technological shift towards greater renewable electricity generation, by bringing together other key critical areas of thought found in the literature. Given Ireland's (and indeed the EU's) dependence on imported hydrocarbon energy, namely oil and natural gas, and the dispersed populations that occupy much of our rural landscapes it is essential that any researcher proposing to conduct fieldwork on the Irish wind energy sector must pose a series of questions regarding the processes that are continually influencing these often divergent ruralities. Questions that arise include: can a rural landscape hold industrial electricity infrastructure and still remain rural; and what kind of influences do the dispersed, often highly-mobile populations that occupy these spaces have on how energy policy is implemented?

It will first acknowledge the importance of the conceptual turn in rural geography during the 1990s, which tore down traditional, positivist assumptions of rural spaces as invariably homogenous, simplified social constructs. Research since then has shown that rural spaces are anything but simple. The changing energy infrastructures being built to accommodate wind farm installations, and their impact on contemporary rural landscapes, feed into these discourses. In fact, some of the debates surrounding present day wind turbines and their affect on the landscape mirror similar debates from the 1930s in the United Kingdom regarding the construction of the then nascent national electricity grid. Then, as now, concerns over the infrastructural legacy of electricity pylons on the landscape were vocalised in the media by those residing in the rural areas affected. Groups such as *The Council for the Preservation of Rural England* and other "impractical aesthetes" (Secret Life of the National Grid, 2010) such as John Maynard Keynes and Rudyard Kipling amongst others, wrote impassioned letters to the editors of national newspapers such as *The Times*, in London, appealing to East Sussex County Council and other associate local authorities to:

withhold its approval of the proposal of the Central Electricity Board to carry high tension wires on steel masts across the Sussex Downs

(The Times, 1929)

Letters to the editor, such as the one mentioned above, show that the rural landscape has always been a contested space. This chapter will go on to analyse our understanding of landscape and how interpretations of what it means to be cultural, as opposed to natural, define how we represent these rural spaces. Once these concepts have been elucidated, we will then turn to the discourses largely focused on the theory versus praxis debate in the spatial planning literature. Drawing from what Fischer and Forester (1993) have coined as the argumentative turn in public policy and planning it will assess the role of civic engagement as a possible solution to defusing “tensions at the local” (Breukers and Wolsink, 2007: 2737).

The chapter will conclude by examining existing literature concerned with wind power planning conflicts, contextualising how these debates inform representations of rural space and our understanding of contemporary ruralities. The concept of NIMBYism will be assessed here to see if it can bring anything new to these debates or as some commentators have suggested (Wolsink, 2006) dismiss it as an invalid theory that, through its language, obstructs our efforts to locate and understand the real causes driving such conflicts.

3.1 New Understandings of Rurality: Meaning and Practice

Accounts of rural life have viewed the mainstream interconnections between culture and rurality through the lens of typically white, male, middle-class narratives

(Clope and Little, 1997: 3)

The cultural turn in rural geography, since the early 1990s, has seen an increasingly reflexive approach being taken in the literature, challenging the previously held view of rural spaces consisting of relatively stable, homogenous social groups. This reflexivity has helped to acknowledge the dominant situated knowledges and experiences of mainly white, middle-class, and usually middle-aged, males within

earlier discourses and was largely ignited by Chris Philo's (1992), now seminal, article in the *Journal of Rural Studies* titled *Neglected Rural Geographies: A Review*. Since then, contemporary critical thinking has permeated rural geography (Hughes et al., 2000) with researchers acknowledging the need to draw upon methodological approaches other than the established positivist traditions popular within economics and natural sciences, along with the dominant paradigms that they engender (Hunt, 1991). However, this has not been easy when one considers the almost ubiquitous current of positivist thought operating within many of the social flows found in contemporary society. Rudy Hirschheim has defined positivism as:

an epistemology which posits beliefs (emerging from the search for regularity and causal relationships) and scrutinizes them through empirical testing. Positivism has a long and rich historical tradition. It is so embedded in our society that knowledge claims not grounded in positivist thought are simply dismissed as ascientific and therefore invalid

(Hirschheim, 1992: 3)

This dominant paradigm, however, has been roundly challenged and contributors such as Paul Cloke (1997) have championed the use of qualitative research methods as equally valid means for researching the experiences of rural peoples and the environments they inhabit in order to investigate beyond the easily-quantifiable strategies applied by positivist practitioners. Participant observation and other ethnographic approaches continue to be seen as much valued tools in the methodologies practiced by contemporary rural geographers with the "sensitive use of ethnographies and discourse analyses...adding to our understanding of the differences and messinesses of rural lifestyles" (Cloke, 1997: 372). It is this willingness to acknowledge the difficulties in researching certain ruralities and a desire to engage with the wider intellectual and public debates that have ensured rural geography's continued relevance in the field of countryside and rural policy (Lowe and Ward, 2007).

Of particular interest is the growing attention being paid towards the discourses on the "environment and alternative and emerging uses of rural space" (Bonanno, 2006: 317). How rural spaces are shaped by the commodifying processes of inward-

migration, transient leisure activities and more formal types of tourism have been addressed by the likes of Cloke (1993; 2007) who refers to Mormont's 1990 study, which identified five contemporary trends that determine how rural space and place is interpreted by those living there, compared to those who experience it on a more ad hoc basis. These trends include:

- an increase in mobility of people, resulting in an erosion of the autonomy of local communities
- a delocalisation of economic activity and the associated heterogeneity of economic zones
- new specialised uses of rural spaces (especially related to tourism), creating new specialised networks of relations in the areas concerned, many of which are no longer localised
- the fact that people inhabiting rural space increasingly include a diversity of temporary visitors as well as residents
- the fact that rural spaces now tend to perform functions for non-rural users and can exist independently of the actions of rural people

(Mormont, 1990, in Cloke, 2007: 96)

These discourses on tourism and leisure activities are (re)presented in debates on the siting of wind farms in the rural landscape, with questions being raised as to their possible impacts on tourism in sensitive rural areas (Ó Dubháin, 2008) deemed to be of national scenic importance (Fáilte Ireland, 2008). They also highlight the dynamic multi-relational experiences local territories share with their *extralocal* economic and institutional environments (Ray, 2006). In an Irish context this can be seen in the escalated level of construction, particularly in one-off housing, experienced over the years of economic boom, the so-called Celtic Tiger, in many rural areas. Resident populations, in the main, were co-opted into commuting to urban centres for employment leading to a greater "rural sprawl" and the suburbanisation of the Irish population. This fact was already recognised by the European Environment Agency by the early 2000s (Hogan, 2004b) and such trends have led some commentators to speculate on the relevance of rurality as a useful term at all to describe contemporary experiences.

There has thus been a two-fold acceleration in the blurring of 'country' and 'city', with important implications for the importance of rurality as a socially

constructed and discursive category, or indeed as an unknowably complex category which has become ambiguous and ambivalent in a 'post-rural' age
(Cloke, 1997: 368)

This recognition of rurality, both by its definition and application as being somewhat problematic and ambiguous, can also be seen in our collective understanding and interpretation of other concepts associated with the very spaces that we recognise as rural, which we will explore shortly. However it is important to note that despite these ambivalences, or maybe because of them, they still retain a great deal of value given their continued use amongst the competing actors involved in the contested ruralities found around contemporary wind farm debates.

3.2 Nature / Culture and the Representation of Landscape

The *nature* and *culture* aspects of landscape are of particular interest because they are interwoven in just about all European landscapes as well as being two current environmental concerns. Europe possesses an enormously rich variety of cultural landscapes, often in small-scale mosaics, reflecting ownership or other patterns of social space

(Fry, 2004: 75)

We cannot conceptualise the full meaning of landscape without first addressing our understanding of the word *culture* and its wider implications to geographic discourses. Culture has been defined rather unproblematically as “a set of shared practices common to a particular human group, practices that were learned and passed down the generations” (Cosgrove, 1984b: 122). It has been argued that culture was once in fact the worship of nature (Olwig, 1986; 1993) whereby humans participated in the natural cycles such as the breeding of cattle or the cultivation of crops within the physical environment. It is this “intervention” with nature that causes it to transform, in some way, into culture. An illustration of what is meant by intervention is to consider a tree growing in a field. The tree is in itself lacking in cultural significance or meaning, but when a landowner sees it, it is the perceptions held by that individual that gives it meaning. The individual may believe the tree to be in harmony or in conflict with that person’s interests for the field. That person may then perceive the tree to have a cultural significance or instead may decide to

chop it down as the values placed on it aren't greater than the landowner's plans for the wider landscape, in this case the field²¹. The tree is then processed and possibly made into furniture or some other wood products. The tree was absent of meaning until it was given it by the person using representational systems, concepts and signs; it thus becomes a cultural product (Cosgrove, 1989; Hall, 1997). From this premise we can assume that culture – the action and intervention of humans with their environment – can act as an agent of change within nature. Barbara Bender has taken this one step further and stated that nature, landscape and culture are all “cultural constructs” (Bender, 1996). The reasoning being that in order for one to experience nature one must first perceive it, and to perceive is a cultural process whereby a human being applies a predefined set of values on an object, in order to understand it, and thus causes that object to no longer be natural but cultural.

So, if our understanding of *nature* is as a cultural construct, how do we define it and understand its real meaning in relation to landscape? Landscape and nature are often used interchangeably (Olwig, 1993) and together with *nation* and *culture* they are “integral to an ongoing ‘hidden’ discourse, underwriting the legitimacy of those who exercise power in society” (Olwig, 1993: 307). Of the entire English lexicon, “nature” is considered to be:

perhaps the most complex word in the language. It is [also] relatively easy to distinguish three areas of meaning: (i) the essential quality and character of something; (ii) the inherent force which directs either the world or human beings or both; (iii) the material world itself, taken as including or not including human beings

(Williams 1976: 219)

Among its many interpretations, nature has often been assumed to be the antithesis to culture. Nature, therefore, is a lack of culture or something before it. In terms of landscape, nature is the condition that a space was before human

²¹ Such a scenario has recently been played out in the national media with a landowner in County Meath going to jail because her belief in the intrinsic value of trees growing on her land was not shared by the ESB and Eirgrid, the two government bodies who were keen to build strategic electrical infrastructure through her land and in the process destroy a certain amount of the trees growing there.

influence. It is in effect distinct and separate from human culture. This definition of nature, in the negative, is problematic however (Nature, 2008: 263) since there is hardly any place on Earth that has not been influenced by humans in some way. The ecologist Bill McKibben made this point in 1989 in his book titled *The End of Nature*. However, as Norman Lockyer (writing in the Editorial for the 18th September issue of the weekly journal *Nature*) has suggested:

Nature doesn't have to end if we stop defining it by humankind's absence. Humans prize natural spaces because they are historic, culturally significant, aesthetic and scientifically interesting — and, increasingly, because they have been recognized as providing essential services such as filtering water, ameliorating storm surge, providing fish, game and timber, and sequestering carbon.

(Nature, 2008: 263)

The reasons given above as to why humans prize natural spaces are the same reasons that landscapes often become contested spaces. Citing Fred Inglis (1977), in her 1993 book *Landscapes Politics and Perspectives*, Barbara Bender describes how humans influence and engage with the landscape causing a constant state of flux and renegotiation between human desire and the natural processes at work.

The landscape is never inert; people engage with it, re-work it, appropriate and contest it. It is part of the way in which identities are created and disputed, whether as individual, group, or nation-state. Operating therefore at the juncture of history and politics, social relations and cultural perceptions, landscape has to be...‘a concept of high tension’ (Inglis, 1977). It also has to be an area of study that blows apart the conventional boundaries between the disciplines.

(Bender, 1993: 3)

The use of the word landscape entered the English language during the late sixteenth century, as a technical term used in painting (Hirsch, 1995). Deriving from the Dutch word *landschap*, which in turn had its roots in the Germanic word *landschaft*; it was first used in English as *landskip* (Hirsch, 1995; Schama, 1995). Its meaning as understood at the time was very much tied to the idea of a visualised space being a “unit of human occupation, indeed a jurisdiction, as much as anything that might be a pleasing object of depiction” (Schama, 1995: 10). The word

“landscape” itself can be divided into two separate words, *land* and *scape*. Land, in the Dutch prefix, refers to “an open space” or “parts of the surface of the earth which have been taken into use by people” (Olwig, 1993: 311); the cultural influence of humans can be thus noted. The word *scape* has had a number of different meanings in the past, the most common still in use today are “‘ship’, as in the word ‘township’ and, as a verb, ‘shape’, in the sense creating by shaping” (Olwig, 1993: 310). From this, one can extrapolate landscape to mean the *shape of an open space*. Paul Coones gives three principle explanations for the term landscape. These include: “a generalised or composite visual scene (stemming from topographical description, exploration and travel); an actual scenic view, commanded from a single aspect – a prospect (its currency among painters); and a tract of land, owned and inhabited, originally by a prestigious individual and by a group respectively (the Anglo-Saxon usage)” (Coones, 1996: 16). It is this very multiplicity of meaning that has helped to push ideas of landscape to the forefront of many disciplines, including the international cultural debates engaged by geographers in recent years.

It is now generally accepted that Cosgrove’s (and others) understanding of landscape as a ‘way of seeing’ has won the day within the landscape history tradition (Lilley, 2004; Macpherson, 2006) and it is this interpretation of landscape as “a cultural image, a pictorial way of representing, structuring or symbolising surroundings” (Cosgrove and Daniels, 1988: 1) that has great relevance to the way we consume wind power landscapes. The landscapes in which wind farms are being constructed in Cork and Kerry therefore must be situated within their social, cultural and material contexts if we are to gain a clear understanding as to why these landscapes can often become contested spaces. Elizabeth Hughes goes so far as to state that the rural landscapes of Ireland are “almost exclusively ‘cultural landscapes’” (Hughes, 1999: 49) and landscapes, as Cosgrove (1985) argues, are not spaces void of meaning or representation, far from it. When viewed historically, the appropriation of landscape as *a way of seeing* was “bourgeois, individualist and related to the exercise of power”, particularly capitalist power (Cosgrove, 1985: 45). It is this “composition and structuring of the world that may be appropriated by a

detached, individual spectator to whom an illusion of order and control is offered through the composition of space according to the certainties of geometry” (Cosgrove, 1985: 55). In the historical contexts given by Cosgrove and others, landscape was “property owned by those beholding it, capturing and controlling the land through representations of it as landscape in maps and in paintings” (Lilley, 2004: 1961). This can also be said to be true for photography (Cosgrove, 1998), with the photomontage image, or visual simulation, taking an important role in wind farm planning applications.

Not only is the landscape a visual representation but it is also a *lived* one. The concept of movement is important since landscapes are invariably experienced from the *inside*. In order to fully engage with a landscape we must “become active participants, the shifting focus of a moving abstract world; our nerves and muscles are all of them brought into play” (Jackson, 1958/1997; in Wylie, 2007: 52-3). As Donald Meinig (1979) writes about the American landscape essayist John Brinckerhoff Jackson and his views on the landscape idea, views which would later influence many of Cosgrove’s writings, landscapes emerge from very specific geographic, social and cultural circumstances which are embedded in the practical, physical experiences of nature and territory. They are:

anchored in human life, not something to look at but to live in, and to live in socially. Landscape is a unity of people and environment which opposes in its reality the false dichotomy of man and nature, which Jackson regards as Victorian aberration

(Meinig, 1979; in Cosgrove, 1984a: 35).

This is true but as Cosgrove, amongst others, would later show landscapes are much more than just lived in physical territories; they are also bound in meaning and representation. If we apply this within an Irish context, the landscapes of west Cork and Kerry evoke a particular set of cultural signifiers specific to that region. As Allen White writes “in the past, colonial and nationalist readings of Irishness have rooted social, political and cultural identities within representations of the landscape of the West of Ireland. Each has, in turn, articulated racialised visions of Irishness as ‘dark and primitive’ or following independence ‘pure and unspoilt’” (White, 2007: 1).

Though White writes about the often negative experiences of ethnic minorities in contemporary rural Ireland, he also highlights how specific landscapes (in this case those found in the West of Ireland) were used to represent specific and exclusive cultural identities, which brings us to the concept of the cultural landscape. John Aitchison, writing on the UNESCO World Heritage Convention, charts the difficulty of that organisation's effort to define the concept into a meaningful interpretation that could be understood across the board. A cultural landscape, it was eventually accepted, must reflect "the combined works of nature and man" (Aitchison, 1996: 188).

The cultural landscape, according to the organisation's guidelines, can be one of three types. It can be created and designed deliberately to satisfy a particular ideal of an individual or group. It can also have organically evolved through a combination of human cultural influences and physical environmental processes; or it can fall into the third category whereby the landscape has had little or no material cultural evidence of human influence but is symbolically important by association. If an object, or a landscape for that matter, is to be cultural it must have a series of symbols and codes constructed around it so that we can read it as being cultural. A good example Cosgrove (1989) gives of the symbolic codification found within a landscape relates to what appears at first glance to be an ordinary house. However, on closer inspection one discovers that the house was in fact the birthplace of a great national figure. This leads the "initiated" to give great symbolic importance to this house. Though, for some people, it is only a building where someone once lived, for others the house is a symbolic focal point where they can actively show their reverence for the said figure through something that is material and corporeal. The house becomes a tangible embodiment of their cultural beliefs (Cosgrove, 1989). This example shows how for one group of people an object – in this case the house – can have great cultural and symbolic meaning, while for others it is merely a piece of property with no value beyond its monetary one.

Wind farms by their very nature are industrial spaces of production, where electricity is generated, and their presence on the landscapes they occupy blur the

borders between what is wild and what is industrial/domesticated space demonstrating a fluidity of meaning for those who live within their vicinity. In terms of mobility they can be seen as a sort of endowed *glebae adscripti*²², occupying place-specific sites imbued with meaning and power (Cresswell, 2006). Though they are static nodes of production situated along integrated, globalised and highly-mobile energy networks, they are also representational spaces with the wind turbine playing a dichotomous role within our collective cultural consciousness. To its proponents it is representative of a “clean”, “environmentally-friendly” and progressive way of producing electricity, which will reduce our dependence on fossil fuels and limit our CO₂ emissions. Its “aesthetic chic” is guaranteed by its promise of a cleaner future (Boone, 2005). By signing up to one of the many wind energy companies operating at present, consumers are reassured that they are able to “fight climate change with your electricity bill” (Ecotricity, 2008). One becomes in effect a “zerocarbonista”, taking one’s first step towards a realising a “post-oil” future by adopting a “post-carbon” lifestyle (Zerocarbonista.com, 2008).

Such positive representations are in contrast to the negative symbolism wind turbines portray to others who oppose their presence on the landscape. The turbines are seen as industrialising rural spaces (Windaction.org, 2007) with groups such as National Wind Watch “working to save rural and wild places from heedless industrial wind energy development” (National Wind Watch, 2008), echoing The Council for the Preservation of Rural England’s stance of the 1930s. More cynically, wind turbines have featured in numerous media, especially television commercials, as a backdrop to whatever product is being promoted. Corporate branding by the likes of oil giant BP often *greenwash* (Greer and Bruno, 1996; Tokar, 1997) their image by positive association with wind turbines, featuring them in numerous advertising campaigns and emphasising their rebranded logo Beyond Petroleum. A blatant example of this was their 2007 “A Little Better Gas Station” animated ad

²² Literally meaning “persons attached to the land” this term was used to denote a particular class of Roman slave that could be sold or transferred with the land that they were perpetually forced to labour on. This practice was carried forward into the feudal systems of Medieval Europe with agricultural peasants being tied to both their lord and the land they worked on, possessing limited opportunity for mobility beyond their immediate locale (Cresswell, 2006).

campaign, featuring bright colours and inoffensive children happily driving their cars into an idealised BP petrol station. The landscape surrounding the petrol station has numerous wind turbines rotating in the background and a large cheery sun beams down on all. Such obvious greenwashing did not go unnoticed however and numerous parodies of the advert have been uploaded to the video sharing website, Youtube, especially in light of the Deepwater Horizon oil spill in the Gulf of Mexico in 2010. In response to this increasing corporate spin the environmental group Greenpeace awarded BP its inaugural 'Emerald Paintbrush' for Worst Greenwashing of 2008 (Rogers, no date).

Clearly wind farms, and the landscapes on which they are located, are not "transparent, 'pure' and neutral" (Lefebvre, 1974: 292) spaces and these "compatibility problems with the environment" (Andolina et al., 1998: 31) need to be addressed especially within the context of how we understand the production of such spaces. According to Manuel Castells the space within which society operates is in fact the intermeshed manifestation of the relationship between the physical and cultural practices at play, rather than being just a static reflection of society. Neither passive nor inert, space proves to be problematic since:

the apparently simple acknowledgement of a meaningful relationship between society and space hides a fundamental complexity. This is because space is not a reflection of society, it is its expression. In other words: space is not a photocopy of society, it is society. Spatial forms and processes are formed by the dynamics of the overall social structure. This includes contradictory trends derived from conflicts between social actors playing out their opposing interests and values. Furthermore, social processes influence space by acting on the built environment inherited from previous social-spatial structures. Indeed, *space is crystallized time*.

(Castells, 1996: 441)

And it is this current conflict regarding wind turbines and their multi-representational roles within contested landscapes that will help to decide the final extent of development and the degree of co-operation that eventually occurs as this technology continues to be rolled out (Nadaï and Labussière, 2010).

3.3 Spatial Planning Theory and Practice

Planning is that professional practice that specifically seeks to connect forms of knowledge with forms of action in the public domain

(Friedmann, 1993: 482)

Occupying a similar position to ideas on governance in the literature, planning theory draws widely from a variety of disciplines and as such can be problematic to define coherently (Campbell and Fainstein, 2003). A key consideration for any planning theorist is the importance of the role played by the state in social and spatial transformations, and as a consequence planning theory shares ideas with all the social sciences. This makes it rather difficult to delineate a theoretical framework that can be said to be specific to planning and is this eclecticism that has divided planners into:

those who define it according to its object (land use patterns of the built and natural environments) and those who do so by its method (the process of decision making). The result is two largely separate sets of theoretical questions and priorities that undermine a singular definition of planning

(Campbell and Fainstein, 2003: 2).

Another factor contributing to this complexity is that often there is no direct correlation between the tools of analysis that planners use and the theoretical frameworks that they apply, therefore defining the discipline along either practical/professional or theoretical/academic lines (Campbell and Fainstein, 2003). Campbell and Fainstein go on to state that due to the abstract nature of planning theory, many practitioners choose to ignore it altogether, instead focusing on how best to generalise from confirmative experience. This favouring of praxis, imbued in normative tautologies, over developing new theoretical responses to dominant issues of the day is so engrained that journals such as *Planning Theory*, and *Planning, Theory and Practice* regularly publish papers with titles such as “Re-engaging Planning Theory?” (Yiftachel, 2006) and “In Defense of Armchair Theorizing” (Mandelbaum, 2006) in response to what in anthropological terms can be described as the prevailing *eidos* within the planning community.

However, this gap between theory and practice is not so great as to make theoretical engagement irrelevant. If we are to understand developments in planning as they are happening at present we need to engage with the literature. As a geographer, I am mainly concerned with planning policy and how policy, be it local or (supra)national, engages and shapes the spatial realities of the rural landscapes of west Cork and Kerry, within the context of wind farm development. Campbell and Fainstein (2003: 1) pose the question: "what role can planning play in developing the good city and region within the constraints of a capitalist political economy and a democratic political system?" This is especially relevant in the context of rural energy landscapes since the development of wind farms, predominantly located away from traditional centres of wealth and capital namely the city (Harvey, 2005) create new challenges for rural/regional planners.

Wind farms, both during construction and eventual operation, cause a number of environmental impacts which include but are by no means limited to landscape aesthetics, noise pollution and avian mortality. Such environmental considerations, though not exclusive, have to a certain degree challenged planners for decades. Also of interest are the processes that planning policies and the actors driving them have to negotiate, while at the same time incorporating other (inter)national policies namely to do with combating anthropogenic climate change and improving energy security (within a wind power context), as part of their overall strategy implementation. While not a traditional concern of planners at local level, energy security and the drive towards a low-carbon future are beginning to be pushed to the front of local government agendas. This is especially true in the UK with programmes like PlanLoCaL, which is run by the Centre for Sustainable Energy (CSE), providing support on "positively influencing strategic planning" (PlanLoCal.org.uk, 2010) at the local level.

Changes in how planning is taught in recent years has also seen an increasing emphasis on the importance of participatory practices in the planning process (Forester, 1993, 1999; Moote et al., 1997; Ulrich, 2007; Healey., 2008). However,

“just how a participatory process might inform a final plan, and vice versa,” is not often alluded to for the student (MacCallum, 2008: 326). This relationship between participatory process and the final product, “a good plan”, often raise theoretical and practical challenges for planners, resulting in uneven experiences for those engaging in the planning process.

Despite this “communicative turn” in planning theory (Healey, 1996; MacCallam, 2008) Breukers and Wolsink (2007) have highlighted the diverging achievements in wind power implementation across a number of EU Member States. They acknowledge that local social acceptance can be problematic (with varying degrees of hostility) and that “policy-makers and wind project developers do not sufficiently recognise the nature of the tensions at the local” (Breukers and Wolsink, 2007: 2737). Over the course of this research many wind farm developers admitted to actively choosing to abandon engagement with local communities at all stages of the planning process, reasoning that it is too problematic for them and that providing “information evenings” for local communities only served to act as “lightning rods” to anyone who may be against the development, as well as providing a platform from which the project could be sabotaged.

Whether this is the real reason for the disengagement by developers in the consultative processes or as a result of genuine hostility to the “arrogant” actions of some developers, there is clear discontent shown by some local actors to the decision-making processes (Wolsink, 1994, 2007; Breukers and Wolsink, 2007). An emphasis on municipal information systems (Klosterman, 2003) as practiced in France, may help to diffuse these types of tensions, but clearly as Innes and Booher (2004) suggest, planners need to be careful how civic engagement initiatives are developed, be they organic or institutionally driven. This is especially true when trying to discover “what potentialities such initiatives might create for developing new planning practices which better promote liveable and sustainable places” (Healey, 2008: 381).

The concept of “civic engagement” has become increasingly popular in the planning lexicon. With a growing recognition of a steady decline in active civic participation (Marsh et al., 2008) and community voluntarism (Putnam, 2000) some commentators have promoted civic engagement as a possible answer to the breakdown in effective public consultation (Pahad, 2005; Kim and Ball-Rokeach, 2006). Contributors such as David Boohar assert that previous attempts, over the past four decades, to promote public participation were more often than not co-opted by local governments and adapted as managerial strategies for regularising planning conflicts. Turning them into procedural requirements which “squeezed the transformative energy out of the social movement” (Healey, 2008: 379). Boohar also argues that citizen involvement in public governance, engaging with the spatial planning sector of government in particular, offers huge potential for a bottom-up renewal in the democratic process (Boohar, 2008).

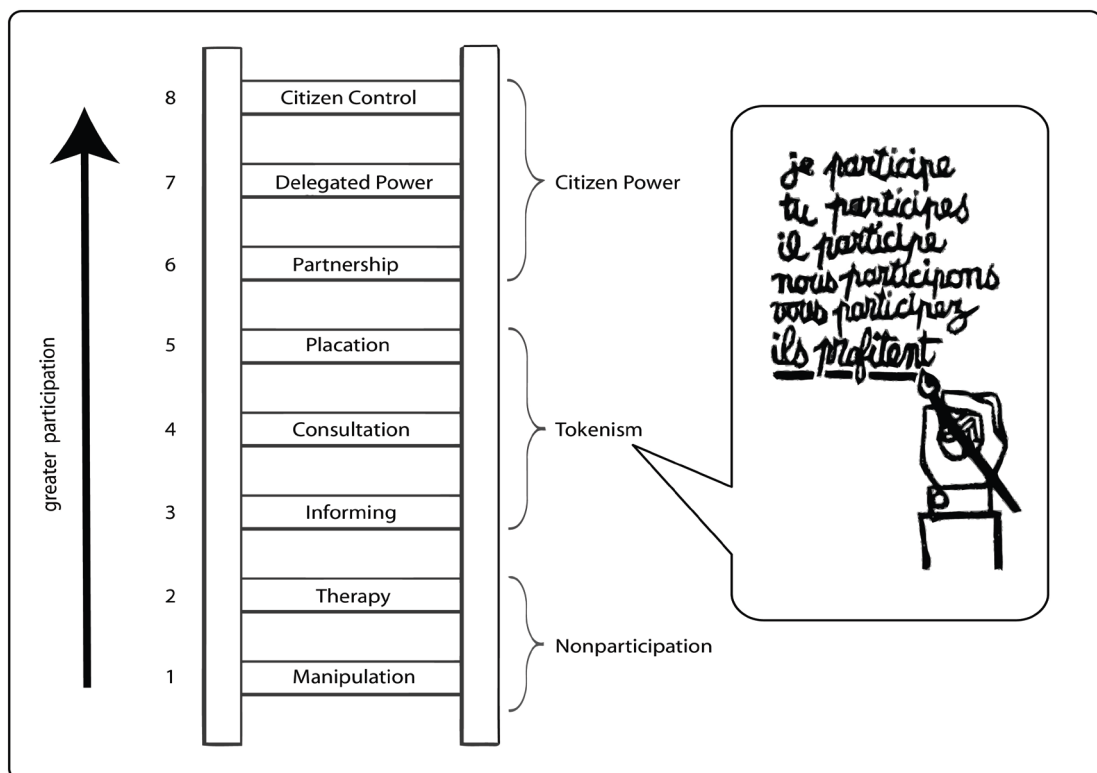


Figure 3.1 Arnstein's Ladder identifies the three main areas of civic participation that can be easily defined. These very much depend on the degree of engagement with local communities by government actors with “consultation” very much seen as empty tokenism, often resulting in trenchant cynicism such as the 1968 French student poster to the right of the ladder. Arnstein argues that the poster “encapsulates participation without redistribution of power [as] an empty and frustrating process for the powerless”. The poster translates into English as “I participate; you participate; he participates; we participate, you all participate...they profit” (Source: Arnstein, 1969: 216-17).

The need to recognise that debates around landscape and planning are also tied to issues involving sustainability and local community participation has been noted (Hughes, 1999) with a number of commentators referring to Arnstein's Ladder in the literature (Hughes, 1999; Taylor, 2006) as a useful model whereby a local community's level of civic participation and interaction with (local) government can be assessed. Arnstein's Ladder is indeed a helpful reference point for grading levels of local community participation in planning/local government and does serve to highlight the dangers of tokenism and non-participation due to lazy (government) strategies. However it has also been acknowledged that in practice the level of community involvement tends to vary on a case-by-case basis (Hughes, 1999) making it difficult for planning policy-makers to adopt a one-size-fits-all approach to real world communities and the complexities they bring to specific cases.

Participants in the Engagement Process	Participation Techniques
1. Project personnel, the "experts"	<i>Informal approaches</i>
2. Community organisations	1. "in the street" conversations
3. Groups to the affected, the stakeholders	2. Open house (presentation &/or exhibit)
4. Influential individuals	3. Mass media
5. Public at-large	<i>Formal approaches</i>
	1. Surveys
	2. Focus groups
	3. Facilitated workshops
	4. Design charettes

Figure 3.2 Public engagement participants and the techniques to promote citizen engagement (Source: Taylor, 2006).

The communications and complexity scholar, James R. Taylor, in a presentation made to the Vancouver World Urban Forum III on June 22 2006, maps out how planning professionals can encourage meaningful civic engagement in the planning process both at a formal and informal level. In the table entitled *Public Engagement Participants* he divides the participants most likely to be involved in the process into five distinct groups; from the project "experts" hired to carry out the work, to the

wider public at large. His second table titled *Techniques for Citizen Engagement* charts the formal and informal approaches planners can then take to engage these groups and in turn promote civic engagement.

Both Arnstein's Ladder and Taylor's tables acknowledge the inherent positions of power that planners have going into the process and suggest that local communities remain largely absent from the real decision making processes of government. Also, whether the formal and informal approaches advocated by Taylor are being adapted to existing structures within planning departments in Cork and Kerry, or not as the case may be, is a relevant avenue of enquiry. To date an overreliance on entrepreneurship and competitive market forces, by national and local government in Ireland has led to mixed results in the rolling out wind power developments across the country. At present there are over 7,000MW of wind farm applications still going through the planning and grid connection application processes (Cooke, 2008). It is clear that the policy systems in place, both at local and national level, have been dealing inadequately with the issue to date. Whether this is a consequence of reactive, non-adaptive behaviours within government organisations, trying to cope with limited training and resources in the face of an ongoing "wind rush" or is something more indicative of a wider national malaise fostered by the rampant overdevelopment of the Celtic Tiger period remains to be seen. It is important to note that if we are to begin to understand these processes properly we must first disregard the neoliberal paradigms espoused by successive national governments from the recent past and take an honest appraisal of how our political systems are structured in order to understand why resistance to wind farms occur.

3.4 "Think Globally, Act Locally": Wind Power, Rural Contestations and the NIMBY versus Institutional Capacity Debate

'Nature' has long been a keystone in the social construction of rurality. The discursive dualisms of nature-society and nature-civilisation have historically informed the separation of town and country in literature, art, government policy and lay discourse, and have fed moral geographies which by aligning

rurality with nature have elevated the countryside as a purer, nobler and more treasured space than the city.

(Woods, 2003: 272)

Writing on what he sees as the conflicting environmental visions of what is rural, Michael Woods highlights how the term nature is often employed by those who use rural spaces (whether experiencing them day-to-day or on a more transitory basis) to codify and convey their emotional and financial attachments to such places. Mirroring the strategies used to represent nature, culture and the landscape discussed in section 3.2, he describes how one case study in mid-Wales, the Cefn Croes wind farm development²³, involved two competing representations of nature. Anti-wind farm arguments were mobilised around a place-specific discourse of nature as, paradoxically, both immense and fragile at the same time.

In this rhetoric, a 'natural' landscape is 'unspoilt', and thus acquires the aesthetic qualities of being 'beautiful', 'inspiring', 'peaceful'. Compared to the developed territory of much of Britain, the Cambrian Mountains landscape is represented as a rare surviving example of nature as wilderness. As such, nature is positioned as an almost spiritual force which enables the visual consumption of a piece of land to be translated into a moving, affecting experience.

(Woods, 2003: 280)

Constructed in this way the landscape was seen as prone to outside threat and the protesters therefore needed to organise in an effort to "protect" the landscape from "intrusion" and "violation" from "alien" technologies. On the other hand, those in favour of the development situated their representations of nature within a global ecosystem context, defined as equally fragile and in need of effective action to ensure protection in a holistic rather than locally-specific level.

Supporters often made reference to rising sea levels, or melting ice caps, as a consequence of global warming, to emphasise the urgency of developing renewable energy sources. From this perspective, windfarms are not an 'unnatural intrusion', but rather a technology that enables a connection to be drawn between global-scale problems and the responsibilities of local residents as inhabitants of the global environment

(Woods, 2003: 283)

²³ Constructed in 2005, the Cefn Croes wind farm is situated deep in the Cambrian Mountain range east of the university town of Aberystwyth and overlooks the Ystwyth Valley near Cwmystwyth.

These representations were largely mirrored in my own discussions with the anti-wind campaigners and the developer discussed in Chapter Eight. As in the Cefn Croes case study, the protagonists involved in the Enniskeane wind farm proposal interpreted the mantra of “think globally, act locally” in very different ways. Organic Power, the developer at the centre of the proposal, emphasised the urgency for such development in order to combat human induced global warming and in the process:

contribute 2.3% of the Government’s target of 15% of energy coming from renewable source by 2015 (1200MW).

(Organic Power, 2008b: 37)

In contrast, local campaigners against the proposal saw it as a call to protect their own immediate environment and engage in localised defensive actions against perceived outside threats. Since both perspectives utilise notions of “locality”, “globality”, “nature” and “rurality” (and the functional relationships between them) to support their opposing stances, and the terms are indeed problematic. However they are continuously being used by both sides of the argument to justify and support their particular claims. As in the UK, there is a paucity of examples where renewable energy projects in Ireland have had any degree of local leadership or engagement. When instances do arise, where some local people attempt to adopt a leadership role as in the case discussed in Chapter Eight, the outcomes have tended to be largely unsuccessful. With the industry predominately driven by the private sector this has led to a focus on economic and environmental concerns rather than taking responsibility for any of the social issues involved (Devine-Wright, 2005a). The emphasis on a supply-led energy system that is asocial, especially in terms of local people, has also informed how opposition groups make their arguments against a proposal, very often dismissing wind energy as wasteful and counterproductive.

In an effort to get a handle on what should and should not be defined as local engagement, Devine-Wright (2005a) suggests that it may be more useful to explore

this in terms of local or community-embeddedness, where the energy generated is used locally and all profits are redistributed amongst the local population. However, as Woods' (2003) writing on the Cefn Croes wind farm suggests, defining what is local may be problematic particularly in a rural upland context. He asks whether "local" should be defined in terms of those living in the immediate vicinity of a proposed site; or can it be taken to mean further afield, say to those living within sight of the constructed turbines; or indeed can it be applied to the "communities" of recreational users of the landscape in question (in the main city dwellers residing in different parts of the country). All claim to give "local" representation. Just as our understanding of what is local and what is global has been blurred by the fragmenting of rural economies into multi-scalar mobile flows of capital and social practice, identifying where power is both sited and expressed becomes more difficult to demarcate between one group or the other.

Despite the significant role objectors are attributed to having in the planning process, especially when covered by the media (itself intent on portraying "balance" in the debates) Aitken et al. (2008) show how ineffective local resistance often is in bringing about change in policy making. They also propose that much of the literature, while becoming more nuanced, is still largely preoccupied with the assumption that opposition is essentially wrong, or at best misguided. Protestors are in effect an aberration from the wider public consensus that accepts this latest form of renewable energy in a largely positive light. These early contributions were often framed under the principle of protestors possessing NIMBY-type attitudinal behaviours. However, this position has been evaluated more critically in more recent literature (Wolsink 1994, 2000, 2006; Devine-Wright, 2005a, 2009; Ellis et al., 2007).

Much of the wind power literature has focused on providing explanations for the existence of opposition to wind power developments: "The logic that has often been applied to explain this phenomenon is that it represents an 'attitude-behaviour gap' which suggests contradictory values amongst the public" (Ellis et al. 2007, p. 519). In this way studies of objectors to wind power developments have treated them as homogenous and deviant.

(Aitken et al., 2008: 778)

Ellis et al. (2007: 524) argue that such positivist assumptions have not served us well and they advocate “research that can unpick the dynamic subjectivities that frame wind farm disputes [which] may offer insights capable of overcoming the current policy impasse”. The authors go on to refer to Richard Cowell’s 2006 presentation on the differing spatial and temporal parameters invoked by stakeholders when determining the costs and benefits of a particular scheme, suggesting that there is an issue with regards to definition.

The key issues facing wind farm development are not “objective” policy blockages, but clashes of values related to inter alia, governance, technology, landscape aesthetics, issues of participation and power inequalities.

(Ellis et al., 2007: 524)

It is through these “clashes of values” that we can sometimes identify where real power lies. Though that is not to say we are seeing the complete picture, since power is practiced both covertly and overtly within conflicts and indeed in preventing them in the first instance. Applying Steven Lukes (1974/2005) definition of three-dimensional power, Aitken et al. (2008) provide an analysis of where power lies in the planning process. By prioritising objection issues within the planning application power ultimately rests with state actors (both local and national) since it is they who set the criteria for consideration in a given planning application. This has led them to conclude that “the system appears to be set up in such a way as to limit the role and power of local objectors” (Aitken et al., 2008: 795). Where local objectors appear to have a modicum of power happens at the very early stages of a planning application, before officials start adjudicating. This power may cause some negative consequences for the developer’s application. However, it usually will not stop a development from going ahead. Instead, it is more likely to manifest in certain preconditions being included in the approved planning decision itself. More extreme (and therefore uncommon) clashes of values may cause unusual divergences to arise in the application of state power, as in the case discussed in Chapter Six where a local government decided to undermine its own authority and

delegated responsibility to the national level, to An Bord Pleanála²⁴, in the face of hostile local, public opinion.

Dave Toke supports this claim, indicating that the “attitude of people in the immediate vicinity of proposed windfarms is found to be the most important influence on the decisions made by local authorities” (Toke, 2005b: 1527). Emphasising the importance of lobbying to the operational interests of highly-organised anti-wind action groups, Toke recognises the political nature of policy and planning at the local level. For example, lobbying local councillors, landscape protection or heritage organisations all lend weight to an action group’s efforts to stall a proposed development. The actions of developers can also impact on the final decision, according to Toke’s (2005) findings, especially in terms of public relations with the local community concerned. A shortcoming which he identifies (that is also applicable in an Irish context) is that the majority of wind farm companies operating in the UK are made up of large corporate interests that do not look favourably on local engagement, seeing it for the most part as a waste of resources. When one looks at the case study in Chapter Eight one can see the consequences of letting poor relations with the local community go unchecked.

Moragues-Faus and Ortiz-Miranda (2010) provide some interesting conclusions on the nature of collective action in Valencia, Spain. Agreeing with Cowell (2007) that Spain has seen limited public resistance to wind farms compared to elsewhere. Despite Spain being a major European producer of wind energy, they show how local and non-local networks operate as social movements in an effort to contest a regional government’s attempts to implement its renewable energy plan. This opposition arose despite efforts on the regional government’s part to carry out this strategy in accordance with Wüstenhagen et al.’s (2007) narratives of social acceptance. Mirroring some of the characteristics of the Type II multi-level

²⁴ An Bord Pleanála was established in 1977 as an outcome of the Local Government (Planning and Development) Act, 1976. It is an independent, self-funding body and one of its main responsibilities is to appeals and other cases that fall under the Planning and Development Acts, 2000 to 2006 and the Local Government (Planning and Development) Acts 1963 to 1999. As of 2007 wind farms proposals involving 50MW or more are directly fast-tracked for decision to the Board under the provisions laid out in the Planning and Development (Strategic Infrastructure) Act 2006.

governance structures, discussed in section 2.3, these social movements “are constituted by informal networks, but furthermore, their characteristics and development is influenced by – and also influence – social networks in which they participate” (Moragues-Faus and Ortiz-Miranda, 2010). Referring to Della Porta and Diani’s (1999) work on what they term *new social movements* the authors categorise the mobilisation against wind farms in Valencia as just that; since in the case studies that they looked at the collective goals of all the actors within the opposition networks prevailed over individual ones, providing the opportunity for cooperation among otherwise disparate groups to a common purpose.

Returning to Ireland where, as in Spain and elsewhere, the “continued development of wind energy will depend not only on economics but also on public acceptance” (Warren et al. 2005: 857) that consents to a greater degree of visual disruption to high-value (in representational terms) landscapes (Selman, 2010). The presence of wind turbines on the landscape, especially in highly-visible upland areas where the greatest wind resources tend to be, is both visually disruptive and aesthetically problematic (Gipe, 2002). Pasqualetti (2011b) develops this further arguing that:

The common thread in the public reservations about renewable energy is landscape change and the consequent disruption such change produces to established ways of life for those who are nearby. It also suggests the importance of rebalancing the emphasis of renewable energy programs away from the traditional technical focus that dominates development planning. The more suitable and expedient approach would be to consider the challenges of development as predominantly social matters with technical components, rather than the other way around.

(Pasqualetti, 2011b: 201)

However, as the literature shows, this has tended not to be the case with the concerns of local people (and others with a vested interest in a local area) usually obscured behind accusations of NIMBYism. There has, however, been a concerted effort recently to move beyond such pejorative and limiting theoretical models. Instead, an in-depth examination of the inner dynamics involved in local acceptance of (supra)national policy flows has been one line of enquiry that has contributed to the debates. Munday et al. (2011) and Cowell et al. (2011), for example, have

analysed how the provision of *community benefits*, usually involving a structured distribution of financial inducements to locally-affected communities, has been taken up (particularly in the UK) as a means towards minimising the scalar, distributional conflicts that often arise in countries dependent on private sector involvement in renewable energy investment. Other contributors have sought to explain these conflicts in terms of place attachment and its relationship to pro-environmental behaviours (Scannell and Gifford, 2010). Institutional capacity, its limitations and the means for strengthening it, especially in terms of environmental justice have also been explored (Turnpenny et al., 2008; Wolsink, 2000, 2007b). Indeed, the demand for greater recognition around issues of equity and fairness for local communities has been advocated by Maarten Wolsink and others for some time now.

The best way to facilitate the development of appropriate wind farms is to build institutional capital (knowledge resources, relational resources and the capacity for mobilisation) through collaborative approaches to planning. Policy actors and wind power developers should focus on building up institutional capital for wind power and other renewable resources, instead of complaining about public attitudes. This need for a collaborative approach in making wind power implementation effective is now internationally recognised by researchers investigating the implementation process. Bad communication can always lead to problems, but the key question is always why there is bad communication. It is mostly caused by the way decision making is framed
(Wolsink, 2007a: 1204)

While the issue of public acceptance, particularly in relation to renewable energy and planning, has been flagged for some time (McKenzie Hedger, 1995; Walker, 1995) recent reinterpretations of NIMBYism in terms of place attachment and strategies designed to resist change (Bell et al., 2005; Devine-Wright, 2005b, 2009) offer far more productive insights into the tensions between current levels of institutional capacity and local expectations. This is especially the case in terms of issues surrounding visual impact and notions of environmental justice, and may go some way towards fostering greater community trust (Devine-Wright and Howes, 2010). In fact, it has been suggested that “the accumulative outcomes of supporting more intensively participatory projects maybe to create a far more positive social context for larger-scale transition towards a distributed and sustainable energy

system” (Walker et al., 2010: 2663) than has heretofore been the case. Such interpretations continue to move beyond the more redundant expressions of NIMBYism that have regrettably been too often employed by planners, policy makers and scholars in the past (Wolsink, 2007). Continued research along these lines of enquiry can only help to frame the debates that sustain such conflicts in more transparent and realistic ways, and may even eventually begin to address some the issues around equity and fairness that Wolsink and others have long called for.

3.5 Conclusions

This chapter concludes the second part of this study’s conceptual framework, grounding it within the geographical and critical thinking that informs our understanding of the processes that continually shape society’s response to the current technology shift towards renewable electricity generation. Its objective has been to first review the literature concerning the growing complexity acknowledged to be inherent in many aspects for contemporary rural experience. I therefore situated wind power deployment within a rural commodification narrative, along with debates on spatial mobility, before addressing the further blurring of traditional dichotomies linked to the urban/rural divide. These discourses remain significant given the challenges wind turbines make to our common knowledges of what are considered wild versus domesticated spaces. They also inform us as to how rural spaces, and subsequent ruralities, are produced and interpreted through both physical practices and the cultural processes of codification and representation.

The debates within the planning community between the proponents of theory versus praxis models have also been highlighted. The emphasis on praxis within many in the community, I would argue, leaves practitioners often contextually impoverished when analysing local concerns, which can sometimes result in ill-informed impulses to falsely accuse local protestors of NIMBYism. I also suggested some possible solutions that practitioners could make towards addressing the

paucity of civic engagement at the local planning level, by implementing a combination of Arnstein's Ladder and Taylor's *Techniques for Citizen Engagement* to their analysis of specific renewable energy conflicts. A working knowledge of the political, as well as planning, structures as they operate in Ireland is also important and will be developed further in Chapter Six.

This chapter concluded by examining existing literature concerned with wind power planning contestations by contextualising these debates within representations of rural spaces, landscapes and rural understandings of place. The concept of NIMBYism was assessed and shown to be a rather redundant interpretation of local concerns that largely obstructs efforts to locate and understand the underlining causal factors that actuate such conflicts. Attempts by Devine-Wright and others to reinterpret the concept in terms of place attachment have been acknowledged to be more productive to understanding these local concerns and therefore are of value. Applied in this way greater levels of trust (between the state actors and their partners in the private sector responsible for making the technology shift towards renewable electricity production and the local communities ultimately affected) may be fostered from greater transparency in the planning process and a more co-operative approach to local concerns.

Chapter Four

Finding Your Way without Map or Compass: Qualitative Methodologies and the Research Project

Being the juncture between the concrete acts and tools of analysis (methods) and the overarching frames of interpretation (theory), a methodology represents a heuristics, or mode of enquiry. The relevance of a specific methodology depends, above all, on the particular purpose and area of inquiry
(Jensen and Jankowski, 1991: 6)

4.0 Introduction

This thesis set out to provide a multi-scalar analysis of European wind energy policy, from its origins in the supranational institutions of the European Union to its implementation at national and local levels within individual member states; most notably Ireland. As a researcher I was mindful from the beginning that my methodological approach would need to be rigorous and applicable across a number of levels, incorporating both the social and political issues involved with wind energy policy and its deployment (Yin, 2003). Therefore Jensen and Jankowski's thoughts on the principles and procedures of inquiry, as alluded to on the previous page, provide a useful contextual reference point for exploring the dilemma all researchers must face when attempting to formulate an appropriate research strategy. This is vital if we are to properly articulate an epistemological position from the real world conditions we find ourselves in while conducting field research. At its most basic interpretation a methodology must be able to answer two fundamental questions; how is the research data gathered or produced? And how is it to be subsequently analysed? The simplicity of these two questions, however, disguises the inherent complexity and the degree of importance researchers must attach to them when devising a methodological approach towards understanding a given research topic. This is further complicated by the positionality of researchers themselves and what they bring to the project by way of pre-formed ideas, understandings and expectations.

Perhaps that's what I feel, an outside and an inside and me in the middle, perhaps that is what I am, the thing that divides the world in two, on the one side the outside, on the other the inside, that can be as thin as foil, I'm neither one side or the other, I'm in the middle, I'm the partition...I'm the tympanum, on the one hand the mind, on the other the world, I don't belong to either.

(Samuel Beckett, 1979, in Olsson, 1992: 167)

While Olsson's use of Beckett's quote from his novel *L'Innommable* (1953) gives a fitting account to what can be seen as a rather romantic interpretation of field-research, it does pertain to a vital constituent of what it means to be a field-researcher. Reflexivity is a critical part of the process of fieldwork and imperative if we are going to "express specific and conscious meaning" (Cosgrove and Domosh,

1993: 36) from our experiences. Earlier parts of this thesis assessed the wider theoretical approaches in the literature to our understanding of policy behaving as a flow, along with interpretations on landscape and wind power contestation. However, before I can provide a policy analysis or discuss my case studies it is important to first develop these hypotheses with an analysis of the positive framework of methods that allowed me, as a field researcher, to become the “tympanum” through which knowledges are both constructed and expressed.

Writing in 1958 on the methods of natural navigation Harold Gatty provides a suitable caveat to how one should set about implementing any methodological framework. Whether it is navigating the Pacific Ocean using traditional Polynesian methods of sailing or, it can be argued here, conducting qualitative fieldwork on wind energy policy and its consequences. Gatty warns that:

In using these methods of observing and interpreting the evidence of the natural things about us, it is important to remember that under difficult conditions too much reliance should never be placed on any one observation since it may perhaps be an exception to the general rule. It is the combined evidence of a number of different indications which strengthens and confirms the conclusions to be drawn from them individually

(Gatty, 1958: 18)

This commonsense approach can go some way towards helping to prevent questions regarding rigour and authenticity from occurring later on in the research project. After careful consideration, I decided on three well-established methodologies to fulfil the expressed goals of this thesis: namely archival research, in-depth interviews and participant observation. Each of these methodologies provided unique contributions and insights over the course of the research project and at the same time allowed me to take a more symbiotic, multi-layered approach to the issue of wind energy policy and its consequences in the southwest of Ireland. The flexibility in how I was able to observe and interpret these issues also enabled me to identify a sufficient number of case studies and informants²⁵ to appropriately

²⁵ The total number of informants contributing to this thesis is seventy six, the list of whom can be found in Appendix A at the end of this thesis. A further fifteen informants have not been included as

meet the parameters of my research project, which I will now discuss in more detail. Also, I decided that these three methods best suited my research project since I was trying to understand how local conditions are ultimately informed by a combination of external and internal causalities, which are often very much absent from the archival record. This is especially appropriate when one considers that the:

epistemological tradition has long favoured in-depth studies that attempt to understand local discourses of knowledge.

(Twyman et al., 1999: 314)

4.1 The Case Study as Research Tool

An overarching consideration at the initial stages of my methodological approach was to identify an appropriate number of suitable, in-depth case studies (Stake, 1995; Yin, 2003; Noor, 2008) from which to learn and understand these local processes. Given the nature of contemporary resistance and protest, the internet proved to be a very valuable tool (Seymoar et al., 2009) for identifying anti-wind farm action groups, the wind developers they oppose and the regulatory bodies involved in implementing policy and deliberating on given planning proposals. I was also mindful that these case studies needed to provide some degree of correlation with examples found in the literature and/or indeed that offered new insights arising from their own specific set of circumstances. I decided to focus my study area on two counties in the southwest of Ireland, Cork and Kerry. Both counties are demarcated along local authority, administrative structures (Cork County Council and Kerry County Council) and between them they offered an appropriate mix of historical and “live” case studies that could, as a consequence, provide a rich seam of data to analyse. It was felt that this strategy would give me the opportunity to show the progression of wind energy policy in Ireland, while at the same time contextualise more recent case studies into this analytical narrative. Both counties were early adopters to wind, when it was integrated into mainstream EU energy policy from the mid-1990s onwards. However, as the first two case studies will show, on occasion they approached the issues of integrating local wind energy into

I deemed their contribution to be, while valuable, not directly relevant to the case studies discussed in later chapters.

their respective policy positions in often divergent ways, despite the highly centralised nature of political power in this state (Callanan, 2003; Marsh et al., 2008; Weeks and Quinlivan, 2009).

It was this difference of approach to integrating wind energy into their spatial planning and energy structures that in turn proved very productive for my own research. The three case studies I have chosen to discuss for this thesis can be found in chapters Six, Seven and Eight. They include an historical example from north Kerry, which highlights how resistance to a given proposal was arrived at and further strengthens the argument that NIMBYism is an oversimplification of the issues (van der Horst, 2007; Wolsink, 1994; 2007; Polaski and McCarthy, 2010). The second case study focuses on a wind farm proposal to straddle the border of both counties offering a unique opportunity to draw a comparative analysis of how two planning authorities dealt with the one application. While the final case study, discussed in Chapter Eight, offers the more familiar scenario of localised community resistance to a wind farm proposal in their area. This case study provides some interesting illustrations pertaining to the relationship dynamics that must be negotiated between a developer and the local community, and between neighbours within that community, while the planning proposal is being considered. The planning application was live throughout the fieldwork stage of my PhD research and has now concluded.

In order to understand the various causalities that contribute to deciding the eventual outcome of an individual case study within the context of my literature review, I decided to adopt a network based approach to mapping the sequential developments for each set of circumstances. By taking this longitudinal perspective it allowed me to trace the movement of European wind energy policy from the supranational level to the highly-localised implementation sites across the southwest of Ireland to quite an accurate degree. This also helped me to identify the most applicable case studies that could be applied to my research project, since:

an actor-orientated perspective entails recognising the 'multiple realities' and diverse social practices of various actors, and requires working out methodologically how to get to grips with these different and often incompatible social worlds.

(Long, 1992: 5)

Initially I identified twenty four case studies split evenly between the two counties, which I subdivided into three specific categories that reflected their potential for data extraction: namely pre-established developments, proposed developments and those under construction at the time the research was being conducted. As my methodological approach developed in sophistication I also began to focus on proposals that for some reason or other had eventually failed to reach completion. Since all three case studies discussed in this thesis can be interpreted as instances of failure in policy flow, my reasoning for selecting them (over the many successful projects in the area) lay in the unique opportunity for learning that examining “failure” provides. Analysing failure, and the causal factors that go in to producing it, can give the researcher a unique opportunity to discover new knowledge. This was reflected in my early interviews with successful developers who were more interested in sharing their successes in a rather general sense than provide any sort of deep analysis as to why events proceeded the way they did. However, those whom I was able to interview who had experienced some difficulty in completing past projects were often more willing to critically evaluate the factors they identified as contributing to their failure in meeting their objectives.

Nevertheless, it should also be noted that this was not always the case. Opponents of wind farms, who eventually lost their battle with developers, were sometimes harder to identify in many instances since the majority had invariably moved on once their protest had concluded. Some of those whom I did get to talk to were sometimes reluctant to dwell on the reasons for what they saw as past failures. This difficulty was sometimes compounded by the fact, more often than not, that it is the case that once a planning proposal has concluded the profile of the protest group disappears along with it. Websites close down, or are no longer maintained and mobile phone numbers, often bought for the sole purpose of the protest group, no longer stay in use.

Given these considerations, the strategy of employing in-depth case studies as integral to my methodological approach to the research topic proved in many ways essential to me for collecting the maximum amount of data possible. Robert Yin (2003) has discussed how investigators go about deciding on a specific research strategy or indeed a number of strategies to adequately understand their chosen topic. He suggests that the potential for each strategy very much depends on a series of epistemological issues first being addressed before one can decide on the relevant course of action to take. They include the type of research question being posed, the extent of control an investigator has over actual behavioural events and indeed whether the degree of focus is towards contemporary as opposed to historical events (Yin, 2003: 5).

My research was in the main concerned with why wind energy policy had developed the way it did within the European Union and how this had then translated into an Irish context, over the past twenty years to the present day. Therefore, the case study seemed to me to be the natural choice to investigate these questions. While case studies and histories (essential in archival research) can overlap in both their application and outcome, the case study's "unique strength is its ability to deal with a full variety of evidence - documents, artefacts, interviews, and observations" (Yin, 2003: 8) as was needed for this research project.

However, the case study as a research tool is not without its critics. Pieter de Vries, (1992) suggests the term 'case study' implies a rather positivistic flavour to the research, very much "predicted upon principles of causation and general assumptions about the interrelations between the elements of the whole [and] when applied to sociology or anthropology this approach is usually associated with functionalist imagery" (de Vries, 1992: 68). Admonishing Mitchel's (1983) preference towards survey research, stating it to be theory-neutral while at the same time implying that case studies are in the main constructed through theory that essentially works towards dis/proving the validity of a particular theoretical principle, de Vries suggests that this inevitability leads to the assumption that the

more interesting case studies are not the more illustrative examples but rather are the more deviant or theoretically compelling ones. De Vries (1992) dismisses this interpretation as positivistic in the extreme and rather sees case studies as a more reflexive research tool, explaining that:

case studies relate to how we reach closure for a piece of ethnography, since it is we who decide how deeply we develop a case study, whether and how to expand it by connecting it to new issues, how to relate it to other problematic situations, and when to declare it closed. It is our text.

(de Vries, 1992: 69)

Indeed, the case studies I have chosen to include in this thesis do reflect de Vries' assertions in that they do allow for closure in my ethnographic research, an essential component of any doctoral enquiry. They also provide a rather reflexive, and indeed holistic, text in which to illustrate some of the problems experienced with supranational wind energy policy when it is interpreted and adapted at the local level. The choice to employ case studies to investigate these issues, I argue, complemented the other methodological strategies I applied.

4.2 The Interview as a Means of Knowledge Creation

Once I identified my case studies I needed to then devise a way to draw out the nuanced information required to understand the processes at play within each sample. Throughout this process I was mindful of the specificities associated with researching events that were potentially contentious to the protagonists involved and of the subsequent sensitivity to trust that this may engender in any potential participant/informant contributing to my research. Preliminary research was first conducted, culminating in the literature review discussed in earlier chapters of this thesis, in order to gain some perspective as to where the debates around wind farm proliferation are currently directed. It was also important that I maintain a certain degree of sensitivity to the "issues of 'translation'²⁶ which are at stake in research" (Desforges, 1997: 51). Consequently, I needed to situate the knowledges created in

²⁶ Translation here refers to the process where research, as it occurs in the field, is interpreted and eventually disseminated in the academy.

my own field-work within the context of their production. To do this I chose two complementary methodologies, participant observation²⁷ and in-depth interviews, to give me the reflexivity needed to analyse these produced knowledges.

I also had to decide who would make up the majority of key informants for this research. Would they comprise in the main from those working in government and regulatory bodies, private enterprises (most notably developers) or indeed from the affected communities themselves? It has long been acknowledged that the selection of key informants raises the potential for bias on the part of the researcher (John and Reve, 1982; Kumar et al., 1993) and since the study was to be largely an analysis of wind energy policy, I decided quite early on to focus on recruiting informants from those organisations directly linked to generating and regulating wind energy policy within Ireland. Informants from the private sector and local communities would, in turn, provide a counterpoint or at the very least critique statements made by government representatives as affected actors of the policy initiatives.

This part of the fieldwork involved identifying actors within the three target groups who would be willing to discuss the issues with me in an open and forthright manner. These interviews were arranged by emailing and/or telephoning potential respondents directly, outlining the nature of the research project and then inviting them to participate. Any anxieties or fears the respondents may have had were, in the main, addressed at this stage of the process, though this was not always successful. I also assured each respondent on a number of occasions that their integrity would be respected with regards to any information they contributed to the research project (Kvale, 1996). All interviews would be treated anonymously in my resultant thesis and all information that potentially incriminated an interviewee would be discarded, unless they wished otherwise. I reiterated this at the beginning of each interview that I conducted.

²⁷ Participant observation has long been recognised as a traditional research tool in ethnographic work.

Since this element of the study constituted a largely semi-structured interview approach, an interview guide was initially devised to map out a set of pre-determined questions or issues to be explored during the interview. The interview guides allowed me to follow a useful roadmap when conducting my interviews, but also provided a certain degree of flexibility in the process that will be discussed in more detail shortly. The format for each interview predominately involved adopting the following thematic lines of enquiry: by first contextualising the interviewee's involvement in wind energy policy in Ireland, followed by an assessment of the impacts the varying policy initiatives have had on them using the case study as the main point of reference. This was then accompanied by a more general discussion of the interviewee's opinions as to where current and future policy should develop in light of past experiences. I concluded each interview by asking the interviewee if there were any particularities concerning the topics that had not already been addressed in the interview. Each interview was set out with a series of standardised questions focusing on the interviewee's involvement in wind energy policy in order that both interviewer and interviewee could ease in to the interview and created a certain natural progression to the process itself.

Of a total 91 interviews conducted for this research 76 (84%) are discussed in this thesis. The remaining 16% while valuable contributions in their own right did not directly contribute to the case studies discussed here, due in part to their brevity or an unwillingness of the part of the interviewee to engage in the process. Interviewees sometimes proved hostile in some cases. One interviewee, who had been involved in protesting against early wind farm proposals in County Cork during the 1990s, had at first happily agreed to be interviewed in order to discuss the issues as she viewed them. However once she realised that my position as researcher was not to criticise the wind energy industry exclusively (I explained that I was neither opposed nor in favour of wind energy but rather that I was more interested in how policy was being rolled out and in this context the issues that arose from this process). On realising this, the interviewee began to admonish me for my purported lack of understanding of the "issues" without explaining what they might be. Clearly I was not a "fellow traveller", who could not to be trusted,

and was therefore more or less dismissed. Despite my best efforts to reassure her that I was more interested in what she had to say, as opposed to my own opinions on the subject, she cut the interview short and refused to engage with me further. With her opinion of me clearly diminished, I was no longer of interest to her and consequently I was unable to glean any useful information from her in return. The reciprocal nature of interviewing and fieldwork was brought home to me in this instance and I endeavoured to modify my approach with future interviewees. I could no longer adopt the mantle of “neutral observer” as aspired to by quantitative researchers, but rather would have to interact with participants more intimately. While not openly agreeing with their biases I would not disagree with them either, especially by expressing my own position on an issue that may encourage them, rightly or wrongly, to question my motives.

Of the total 76 interviews discussed in this thesis 36 (47%) comprised of “experts”, industry and government professionals intimately involved in policy creation, implementation and regulation; while 18 (24%) represented developers operating in the research area and who agreed to be interviewed. A further 19 (25%) comprised of local activists who were vehemently opposed to wind farm proposals in their area. I also interviewed 3 (4%) local political representatives from each of the main political parties²⁸ and who were willing to contribute to the process. Adopting a semi-structured approach, these interviews were often conducted in a relatively relaxed manner where the respondents were made to feel that they had a certain degree of control over the process (which they often had). The semi-structured format also allowed for a more flexible approach to the direction, duration and even the number of interviews that each informant could be asked to participate in (Wengraf, 2001; Longhurst, 2003). The duration of each interview varied from fifteen-minute preliminary consultations²⁹ to more formal, hour-long structured question and answer sessions; to over four hour marathons that included an experiential tour of the landscape that was being discussed. This approach called for increased versatility on my part in order to respond effectively to any sudden

²⁸ At the time they were in order of size: Fianna Fail, Fine Gael and The Labour Party.

²⁹ These largely make up the 16% of interviews I deemed not to be applicable to this thesis.

development in the informant's response to my questioning. It also allowed the opportunity for greater in-depth explorations of new or unforeseen issues by way of these developments (Barriball and While, 1994; Bryman, 2004). This was especially important when evaluating an informant's motives for or against a given wind farm proposal, as the informant's "agenda" very often came to the fore once I stopped overtly directing the interview. Sometimes the process would even be reversed with questions being asked of me, especially by anti-wind farm campaigners, as to my opinion as an "expert" researching the topic of wind farms. These instances repeatedly re-affirmed the strong degree of reflexivity present in my research approach.

4.3 Participant Observation and the "Ethnographic Journey"

The qualitative researcher must not rely solely on a combination of direct and indirect observations that he or she has made, but must also depend on any number of indirect observations made by informed others. These usually comprise a person, or informant, whom the researcher "plumbs" for information in their absence (McCall and Simmons, 1969; Laurier, 2003). The informant does not always have to be a person however, but can also be documents, press statements, or minutes of meetings made by the organisation/group in question. In the case of this thesis they comprised of everything from planning documents and developers' marketing material, to the newsletters and protest material of those opposed to specific proposals. Needless to say an over-reliance on informants can sometimes prove problematic given the vested interests of the individuals and materials involved, and must be tempered with an appropriate amount of direct observation on the part of the researcher, coupled with extensive archival work. However, many of the features and determinants (such as individual motives and interests) are still only partially evident by direct observation alone. A combination of the three aforementioned methodologies was needed to ensure a rigorous and robust

application to my field-work³⁰. Such an immersive approach can be seen to be fundamental and it is essential that I as:

The participant observer must know *attitudinally* – i.e. personally – the values of those people he studies.

(Bruyn, 1966: 169, italics in original)

Yet despite one's best efforts, the researcher may only produce findings that can only ever tell part of the story. Inevitably, information may be passed over, or forgotten, left unnoticed or even intentionally hidden from the researcher by the informants contributing to the research. In other words "observing while participating" (Jorgensen, 1982:82) is fraught with potential dangers and reflects the fact that the research area is a place that holds a multiplicity of narratives and codifications not always apparent to the researcher. It has also been argued that "in a sense *all* social research is a form of participant observation" (Atkinson and Hammersley, 1994: 249) since:

Observation begins the moment the participant observer makes contact with a potential field setting. Aside from collecting information, the basic goal of these largely unfocused initial observations is to become increasingly familiar with the insider's world so as to refine and focus subsequent observation and data collection. It is extremely important that you record these observations as immediately as possible and with the greatest possible detail because never again will you experience the setting as so utterly unfamiliar.

(Jorgensen, 1989: 82)

While the majority of time given over to participant observation for this project was confined to the Enniskeane case study, discussed in Chapter Eight, I applied participant observation techniques throughout the field-work stages of the project. I remember taking Jorgensen's statement to heart. On a number of occasions after conducting participant observation work, or an in-depth interview, I would invariably returned to my car to write up my notes with as much detail as possible. On more than one occasion I was greeted with bemused looks from those to whom

³⁰ I also joined the mailing lists of the UK's Royal Town Planning Institute (RTPI) and the Executive Agency for Competitiveness and Innovation of the Intelligent Energy Europe programme (EACI-IEE) in order to keep abreast of wider European developments with wind energy policy, along with its interpretation and implementation in other jurisdictions.

I had said goodbye earlier, only for them to find me still in the area thirty minutes or so later. This “always on” position meant that I was constantly making connections between what informants said in the interviews and the situations as they developed within the case study themselves, with circumstances often just “presenting themselves”.

I have already alluded to the reflexive nature of my research and will now illustrate an example of how I was continually made aware of my own multiple positionalities as researcher³¹ within the process (Hopkins, 2007; Sultana, 2007). During the protest outside County Hall (see Chapter 8.3) I tried to make sure that I remained somewhat aloof from the demonstration itself, in case it was construed that I was party to it and therefore potentially alienate possible future informants from the wind energy industry who may see the subsequent media coverage. As a result I seemed to confuse some demonstrators as to what my motives were for being there. My attendance at earlier protest meetings had not been questioned but at the demonstration some protesters did become suspicious of my presence, since it was apparent that I clearly was not “one of them”.

While standing away from the protest group an employee from Cork County Council came up to me and asked which wind farm company the protest was directed at. After I informed him, he looked relieved and said he thought it was to do with another well-known wind energy company that his friend worked for. He explained that there was an informal agreement between both himself and his friend that he would make the other aware of any protest taking place outside County Hall in case it would influence projects that his friend’s company was involved in. Such casual surveillance, it was intimated, was not that unusual and it brought home to me how localised the issues of wind energy policy and its related planning controversies actually are in Ireland; with the myriad of unseen, multi-relational geographies of

³¹ During the course of this study I made a series of three presentations outlining my findings to the SEAI working group responsible for the Social Acceptance of Wind Power. This international working group brought contributors from across the European Union, North America and Japan to speak at these events and each workshop was an excellent opportunity for me to share my ideas and learn from their experiences.

power (Allen, 2003; Faulconbridge and Hall, 2009) that those outside the debates rarely get to see.

These subtle geographies of power, and their negotiation, might never appear to the researcher no matter how long one stays within a community or how many interviews one conducts. Therefore the issue of luck must also be acknowledged here. A combination of hard work, constant (re)negotiation of access, just “being there”, as well as chance good fortune all conspire, I would argue, to inform the researcher while conducting fieldwork. Writing on the various fieldwork strategies employed in social research Martyn Denscombe (2007) acknowledges the role luck can play within much of the research conducted within the social sciences.

The way the researcher finds...people who are willing to open-up their lives to the inquisitive gaze of the researcher, can follow a process of 'selective sampling'. The researcher will be looking in certain appropriate places and have in mind some kind of person who might have the kind of life history that will be revealing and informative. However, when it comes to finding the 'right' person - the one who turns out to have the treasure trove of life experiences - famous instances of life history research show that luck has a large part to play
(Denscombe, 2007: 65)

The act of being there, within the community both physically and in a relational sense with the local people living there, I would contend help to increase those margins for greater luck in the research process. This immersive approach was very valuable to me and though I was unable to live in the community at the heart of the case study in Chapter Eight (constraints in my personal life prevented this possibility) I spent many weeks travelling to the research area, becoming intimately acquainted with its physical landscape and the people living there. Given the nature of rural life, I made every attempt to socialise in the local pubs during the evenings. I attended religious services in the area on occasion and frequented local shops and other public amenities as much as possible on the off-chance that I might glean some nugget or illuminating insight that would otherwise have been absent to me if I had chosen to just focus my attentions on the archive or the interviewees alone.

4.4 Making Sense of the Data

The majority of my interviews were recorded and subsequently transcribed verbatim. Where I was unable or not allowed to record the interview, I made extensive notes recalling the main themes of the conversation, along with the attitudes or specific responses an interviewee showed to a particular line of questioning. The recorded interviews were also backed up in this way, though my notes were not as detailed in these instances, which may be seen as a potential for weakness. However any questions arising from either approach was largely resolved by contacting the interviewee again to clarify a particular point or cautionary remark in my notes. Initially I had intended to use analytical software such as nVivo³² to break down the data into manageable themes for investigation. However I decided to forgo this approach, since learning to use this software was taking up a considerable amount of time that I thought would be more useful elsewhere. Instead, I set about codifying the results myself and grouped specific responses and data into frequently occurring themes that could be analysed and then made sense of in the thesis.

I remained very aware of the shortcomings of both participant observation and in-depth interviews, with success very often dependent on how the interviewer responds to developments thrown up in the “heat of discussion”. By this I mean the respondent must still be “guided”, to some degree, in the questioning - even if this is interpreted in the loosest possible terms. However, all too often, respondents can misinterpret or just plain ignore questions directed at them especially if they are of a sensitive nature (see Plummer, 1983). Another experience worth noting in relation to the application of in-depth interviewing techniques is the negotiation of power particularly with regards to the human informant, as a relationship evolves between the interviewer and interviewee. This was especially relevant in Chapter Eight, where I was sometimes expected to participate in the preparatory work prior

³² I completed a detailed statistical course utilising SPSS software, hosted by UCC during the first year of my PhD, as I had also intended carrying out quantitative research by way of questionnaires or surveys before discarding this strategy as unsuitable to the specific needs of this research project. I also completed a course on the Geographical Information Systems software ArcGIS, in order to improve my map-making abilities.

to an impending protest³³. I also found that some of the informants were better able to deflect questions they may have felt uncomfortable answering when the interviews were conducted in their own offices or place of work, as opposed to more neutral venues or over the telephone. In fact I found those interviews conducted over the telephone to often be the more productive in terms of access, than the traditional face-to-face variety. Many informants were more willing to commit time to being interviewed over the phone than they were willing to give to the added complexity of organising a venue and time to conduct a face-to-face meeting. As Roger Shuy (2001) points out, the use of telephone interviews as a research tool has swept the polling and survey industries in recent years and this approach also proved useful to my research, especially when talking to informants who were uncomfortable speaking to me in their workplace; where questions may be raised later as regards to loyalty or informational sensitivity of the company/organisation in question.

However the in-person interview does allow for more nuanced observations that may be missed in the telephone interview setting. Choosing mutually-acceptable or neutral venues for conducting in-person interviews proved problematic at times, since invariably it involved asking informants to travel outside of their locale and bear the expense that this entailed. Therefore, every effort was made on my part to provide a venue that the informant was comfortable with. This produced often unexpected, though not always unfruitful, insights into the relationship dynamics of informants within a given case study. On one occasion while interviewing the Public Relations Officer (PRO) and his colleague, both from Tarbert Development Association (TDA) the organisation against the wind farm proposal discussed in Chapter Six, I had the opportunity to make note of an interesting observation. The PRO suggested that we meet at the local hotel in Tarbert, which suited both him

³³ I recollect being asked to fix a malfunctioning printer during one of the CANAG meetings, where the participants were preparing for an upcoming protest. Thrown off-guard somewhat I had instinctively begun to walk over to the printer in question before again regaining my perspective. Needing to respond quickly I began mumbling to participants around me that I was in fact unable to fix the printer in question and tried to focus my attention elsewhere in the room. This is only one example of how my efforts to remain as impartial as possible were routinely, though not always intentionally, challenged.

and his colleague. After choosing to sit in a public area of the hotel, near the main door, we began speaking freely about the events surrounding the protest against the proposed wind farm. During the interview a member of the community who had been in favour of the proposal walked by our table. The two interviewees ceased talking immediately and changed the topic of conversation until the man was again out of earshot. The PRO of TDA then spoke at length about there being no point in “opening old wounds” and that talking about the protest may raise suspicion and possible anger from some members of the community who had been in favour of the development. This desire to maintain the sometimes uneasy status quo that had built up after the protest had concluded (as evident at the interview), resulted in some opposing members of the community going so far as to codify the dispute as a taboo subject amongst each other (Holden, 2001) and suggested to me that it had been a somewhat acrimonious affair.

Preparation for all my interviews involved first sourcing background information or a “facesheet” (Bryam, 2004) of the informant, usually over the phone while arranging the in-person interview. This was then followed by preparing an interview guide that helped to ensure I covered all the areas of enquiry I wanted to address. While some have urged caution when using an interview guide (Seidman, 2006) it did, in the main, prove useful to me for coping with the unexpected circumstances that the semi-structured interview process can sometimes produce; as seen in the example provided in the previous paragraph. However, while such opportunities for learning are not always so apparent when conducting in-depth interviews this preparatory work did provide a useful grounding for collecting the data for this project. Indeed it was a helpful point of departure when I began to analyse my findings, which is not to be underestimated when one first begins to try and make sense of the body of information one has managed to accumulate.

These (re)negotiations of power and access are in a constant state of flux throughout the fieldwork stages of any research project. However it does not end there but rather is continued long after the voice recorder has stopped and the field notes have been collated. When “writing up” one’s report, back in academia,

Desforges (1997) has argued that the researcher recovers much of that power through what Fine (1994) has identified, particularly in psychological research, as the overarching assumption that theory and method can somehow neutralise one's personal and political influences. Building on the work of Sandra Harding (1986), Sue Wilkinson (1986) and Donna Haraway (1988) Fine argues that this assumption is problematic to feminist researchers in particular and indeed qualitative researchers more generally, given:

that we are human inventors of some questions and repressors of others, shapers of the contexts we study, coparticipants in our interviews, interpreters of others' stories and narrators of our own, is sometimes rendered irrelevant to the texts we publish. While feminists vary in how we manage this treacherous territory, we all manage it.

(Fine, 1994: 14)

It should also be noted that the question of power thus recovered can often be in turn limited by the respondent who has subverted the knowledge invoked in the interview with their own biases, narratives and codifications. Both participant observation and in-depth interviews have limitations with regards to the knowledges that can be created through each process, but then neither methodology professes to provide a blanket solution to locating truth. The truth they unearth is detailed, complex and specific to the world views of the respondents engaged in the process and provide a "snapshot in time" of the issues involved. When used concurrently they can be if not a solution to these dilemmas at least act as an aide to the researcher to negotiate these "messy zones between and within politics and social research" (Fine, 1994: 30).

4.5 Conclusions

This chapter set out to address two interconnected objectives that contribute to the wider framework of this thesis. The first objective was to illustrate and defend the methodological approach I adopted in order to complete my research into the multi-scalar policy flows of European wind energy initiatives. The second objective was to describe in sequential terms the research framework I adopted in order

develop and deepen my understanding of the issues concerned, and to show how they complemented my archival research. The analytical framework employed in this study centred on the premise that an understanding of developments at the local level can illuminate our understanding of how policy is constantly (re)negotiated as it moves through the various tiers of government within the European Union. In-depth semi-structured interviews, along with participant observation work, allowed me to witness some of the hidden multi-relational geographies of power that are constantly being contested at all tiers of the policy flow. While it may be harder to witness these (re)negotiations at the supranational level, given issues of access, by no means is it impossible. Complementing this fieldwork was a concerted effort on my part to conduct extensive archival research focused on the supranational initiatives put forward by the EU, which revealed a number of interesting insights of their own, which will be discussed in the next chapter.

The fieldwork strategies discussed in this chapter did help me to see some instances of what Scott (1990) refers to as the hidden transcripts of resistance to powerful elites by subordinate groups, or the *infrapolitics* of these groups as discussed earlier in this thesis. The repeated occurrence of instances that reaffirmed, and at times challenged, my own positionality as a researcher reinforced my understanding of feminist geography's contention that qualitative fieldwork is inherently reflexive.

The recognition that realities are constructed and shaped by social, political, cultural, economic, and racial/ethnic values indicates that power and privilege are important determinants of which reality will be privileged in a research context.

(Mertens, 2007: 212)

This appreciation of the complexity found in the research process that Mertens writes about, while difficult to negotiate at times, does enable the qualitative researcher to acknowledge the powers and privileges engendered in the process in more open and transparent ways. It should be repeated that these powers are by no means exclusive to the researcher but rather are part of a complex, highly

socialised series of (re)negotiated interactions between the researcher and the subject he or she engages with. As Long states:

sociological intervention is subject not only to trial and error, but is negotiated and constructed during the research process. Wittingly or unwittingly, actions triggered off by the researcher disturb taken-for-granted power relations and political accommodation, thus making it possible for the researcher to identify critical dimensions of social life.

(Long, 1992: 10)

To conclude, this chapter described the framework of methodologies used in this study. It showed how both the primary and secondary data was collected and the reasons why I deemed the tools used to obtain them to be most applicable to the task. The secondary data was used to examine the implementation of European Union wind energy policy and its consequences. Primary data was obtained using in-depth qualitative interviews and participant observation and was implemented within a case study framework in order to provide an opportunity for closure within the parameters of a report (in this case the doctoral thesis), as suggested by de Vries (1992). The results of this research will now be discussed in Chapters Five, Six, Seven and Eight.

Chapter Five

European Wind Energy Policy and the Irish Context

This situation is a novel one for policy makers. In one sense issues of environment and sustainability are in the domain of science: the phenomena of concern are located in the world of nature. Yet the tasks are totally different from those traditionally conceived for Western science. For that, it was a matter of conquest and control of Nature; now we must manage, accommodate and adjust. We know that we are no longer, and never really were, the “masters and possessors of Nature” that Descartes imagined for our role in the world.

(Funtowicz and Ravetz, 2003: 2)

5.0 Introduction

Policy and its analysis, in terms of how renewable energy strategies move through the multi-scalar flow structures of supranational networks (illustrated in Figure 5.1) is a central focus of this thesis. This chapter will discuss the contextual factors that define how European wind energy policy has developed in recent years. It will begin by illustrating how EU renewable energy policy has developed in response to turbulent events or crises that the trading bloc remains susceptible to, due to its dependence on imported energy supplies. These turbulences can disrupt or inhibit a policy flow, but they are not the only factors to do so. As we shall see policy is not arrived at in a neat linear fashion, but results from sometimes rather ad hoc ideological contestations carried out with inherent legislative inefficiencies (Kalt and Zupan, 1990; Morton, 1991) that by no means guarantee its eventual outcome. The ideological preferences of actors within the flow can and do influence how those actors practice agency. This in turn can develop significant turbulent effects within the resultant legislative flow and the support programs enacted to meet these policy objectives.

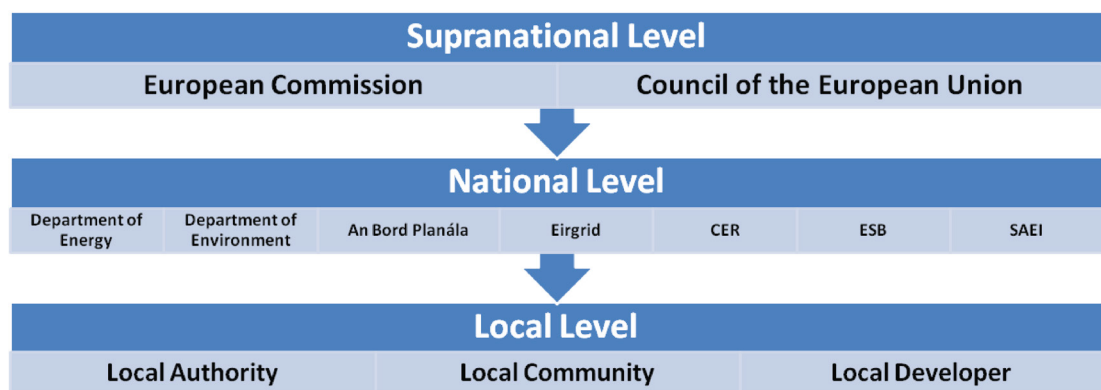


Figure 5.1 A simplified flow model of a supranational policy network, such as the European Union, in terms of the institutional actors that have agency in the determining how Ireland engages with that flow. An explanation for the abbreviated actors referred to here can be found in the Glossary.

Energy policy has been at the heart of the political agenda of the European Union since the establishment of the European Coal and Steel Community (ECSC) in 1952. Since then, the Community's attitude towards energy has developed in line with its evolution into the supranational political entity that it is today. The key

developments in EU renewable energy policy have coincided with the rapid growth rates in new, commercially-viable energy technologies in the individual Member States since the mid-1990s (Olesen et al., 2006). As we will see, the need for greater security of supply and a growing acceptance of the consequences of human induced climate change have motivated policy makers within the EU's institutions to diversify the trading bloc's energy portfolio away from traditional, primary carbon-based resources.

This chapter will then look at how the EU has sought to operationalise its efforts to meet its renewable energy targets for 2020 by focusing on its most successful initiative to date, the feed-in tariff, which has been largely responsible for ensuring that these policy outcomes are indeed realised. The chapter then moves from the European to the Irish context. By first setting out to explain how the Irish state has positioned itself within these policy networks, through its efforts to incorporate European initiatives into national strategy. It then charts the evolution of the processes that saw national policy move from earlier AER competitions to the current REFIT scheme. This chapter then concludes by providing an analysis of the spatial planning parameters through which these national energy strategies have been translated into the local setting.

5.1 Pipeline Politics: European Wind Energy Policy as a Response to Energy Security and Climate Change

Due to the lack of progress in negotiations and Naftogaz's failure to sign gas supply contracts – including for January and February – gas supplies to Ukraine will be reduced by an additional 25% at 1700 GMT [12 p.m. EST] Gazprom spokesman Sergei Kuprianov said in a statement.

(Harper, 2009)

In January 2009 what started as a contractual dispute between Russia's largest natural gas supplier, Gazprom, and the government of the Ukraine eventually culminated in many EU Member States having to endure nearly a month of drastically reduced supplies of the essential resource, during what was arguably one

of the coldest winters in recent years. Supplies to the former soviet satellite state were, according to Gazprom, reduced by an estimated 25% though the Ukrainian state energy company, Naftogaz Ukrainy, estimated it to be closer to 35%. This in turn greatly affected supplies to the European Union given that some 80% of Russian natural gas destined for the EU passes through Ukrainian territory (Harper, 2009). This “turning off the taps” in what was essentially a foray into brinkmanship on the part of Gazprom is illustrative of the increasingly networked and complex energy relationships shared between the EU and its trading partners. Given that a dispute primarily focused on a disagreement over pricing arrangements, albeit with barely concealed political undertones between a company with strong ties to the Russian government and a former soviet satellite state (Boyes, 2009), should have such an influence on domestic markets within the EU only helped to elucidate further the reality that the EU’s over-dependence on imported energy makes it susceptible to the vagaries of politically unstable regions outside its sphere of influence. Despite the United States continuing to consume a greater proportion of hydrocarbons per capita globally, the EU’s dependency percentages on imported oil actually matches that of the US with both reaching import levels of over 60% for total oil energy consumed in 2007.

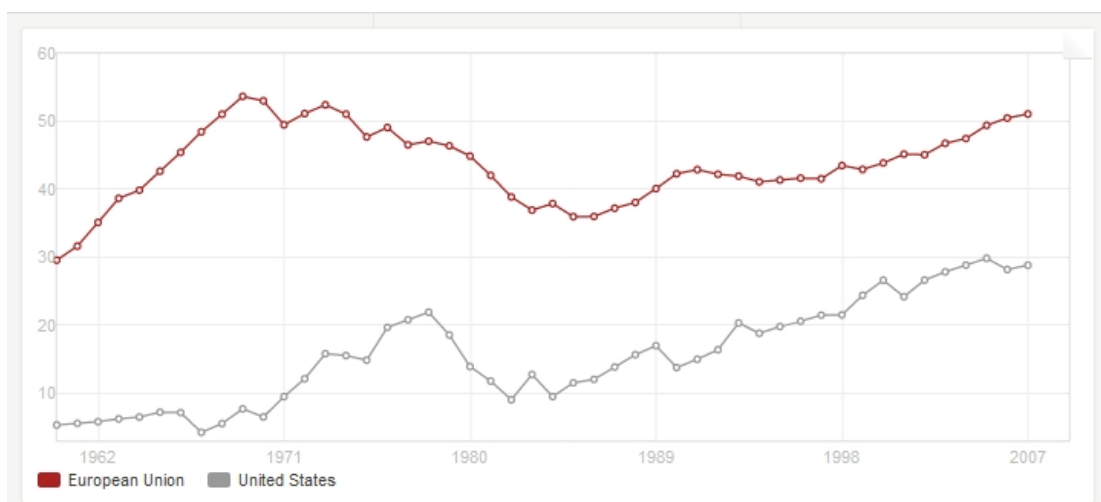


Figure 5.2 Chart showing comparative net energy imports (% of energy use) for both the European Union and United States. Net energy imports are estimated as energy use minus production, both measured in oil equivalents, with a positive value indicating that the country is a net importer. We can see that in 2007 the EU’s net energy imports topped over 50%, exceeding the US by just over 20% (Source: World Bank, 2011).

In fact, the EU has a statistically higher total percentage of net imported energy compared to the United States, as the chart in Figure 5.2 shows. Now recognised as the world's largest importer of energy and its second largest consumer (European Commission, 2007b) recent developments in US shale gas production³⁴, along with its own declining levels of domestic energy production, will only go to exacerbate the EU's dependency on energy imports and this dependency ratio is set to increase over the coming years (Belkin, 2008; Kovacevic, 2009; Market Observatory for Energy, 2009; Shi, 2009).

As a result, policy makers within the European Commission have become increasingly ambitious with regards to their production targets for renewable energy within the EU's overall energy portfolio. Consequently, partly in response to a previous energy crisis between Russia and Belarus in 2007 that encouraged the then European Commissioner for Energy, Andris Piebalgs, to push for an agreed overall target of 20% of all EU energy generated from renewable sources by 2020. This target was also in keeping with its continuing engagement with climate change science³⁵ and would become a significant component in its evolving strategy towards tackling the bloc's contribution to combating anthropogenic climate change post-Kyoto³⁶. This dual-purpose strategy, where a policy is designed to address two or more concerns held by policy makers, was a new departure for the

³⁴ Net imports of gas to the USA have dropped sharply since 2009 as a result of the boom in domestic shale rock gas production. This has caused great concern in gas exporting countries due to the resultant oversupply of gas on the world market (Shannon, 2010).

³⁵ In 2007, the IPCC published its Fourth Assessment Report, in which it unequivocally concluded that the planet is indeed on a warming trajectory and that there was a greater than 90% certainty that this warming was due to human-induced greenhouse gas emissions (Kunzig and Broecker, 2008). The mechanics of global warming, the so-called Greenhouse Gas Effect, has long been accepted by climate scientists. In fact, John Tyndall, as far back as 1861 (in his paper *On the Absorption and Radiation of Heat by Gases and Vapours, and on the Physical Connexion of Radiation, Absorption, and Conduction*) recognised that changes in the composition of atmospheric gases can ultimately bring about changes in the Earth's climate by retaining a certain percentage of the sun's rays from returning back into space, the concept now commonly known as the greenhouse effect. His later research on the effects of CO₂ and water vapour in determining this phenomenon have continued to inform climate scientists ever since. Tyndall is also credited with providing the first plausible explanation for why the sky appears to be blue (Tyndall, 1868).

³⁶ In fact the European Commission began planning its post-Kyoto strategies as far back as 1998, shortly after ratification, calling for a "comprehensive strategy" that would take into account all of its Protocol commitments by way of a series of "flexible mechanisms", monitoring and taking into account any "external dimensions" (European Commission, 1998: 2).

EU; which recognised for the first time that its energy and climate-change policies should be considered jointly in any future negotiated frameworks. The Commission's proposals were then ratified in December of the following year. As part of the 2008 summit agreement, EU leaders agreed to:

A binding target to slash the EU's greenhouse gas emissions by 20% in 2020 compared with 1990 levels. EU leaders agreed that the objective should be pursued "unilaterally" even if there is no international agreement on reducing greenhouse-gas emissions after 2012 when the Kyoto targets expire, and;
A commitment to reduce emissions by 30% provided that other industrialised nations, including the US, commit themselves to comparable emission reductions and that "advanced developing countries" (i.e. China and India) contribute as well in the framework of a post-2012 agreement.

(EurActiv, 2009)

While the agreement did have its detractors³⁷ it was the first time that a large traditionally cautious industrial trading block had agreed to make what were, for it, very radical steps towards meeting its responsibilities on climate change and went far beyond what anyone else was proposing in North America or Asia. The Russia-Ukraine gas crisis was in many respects a catalyst for changing the policy direction of EU. The crisis also highlighted the lack of pace the European Union had been taking in ratifying a 2006 Commission directive (2006/67/EC) which would have imposed an obligation on individual Member States to maintain a ninety day minimum of diversified stocks of crude oil and other petroleum products; in effect making contingency plans for such an eventuality. EU legislation had not been updated since 1968 regarding the security of supply³⁸ of hydrocarbon stocks across the European Union as a whole and individual Member States in the meantime had adopted varying approaches to maintaining their own oil and natural gas reserves.

³⁷ Mainly from environmental groups such as Greenpeace and Friends of the Earth, because the targets set down for each member state was not legally binding.

³⁸ It should be noted that the security of supply issue is increasingly being informed by another significant recent development in hydrocarbon production, that of *Peak Oil*. It is now believed that peak production of conventional sources of oil was actually reached in 2006, at 70 million barrels per day (International Energy Agency, 2010; MacDonald, 2011). Despite the lack of media attention shown to this hugely significant event, future demand for a greater diversification of energy supply is only set to increase as efforts are made to counterbalance the rocketing oil prices predicted for the post-peak oil era. This thesis does not address this issue in great detail, but it does acknowledge that the growth of wind energy across the EU is increasingly being informed by peak oil and the narratives on energy security that it provokes.

This resulted in an exacerbated crisis for some Member States, while others remained largely unaffected and in June 2009 European leaders moved to ratify the directive in an effort to minimise the impact of any future supply disruptions.

Europe has entered into a new energy era ... It is the new energy landscape of the 21st century. It is one in which the world's economic regions are dependent on each other for ensuring energy security and stable economic conditions, and for ensuring effective action against climate change.

(European Commission, 2006: 3)

Recent events have shown a certain preoccupation with security of supply, the European Union has for some time sought to diversify its energy portfolio by promoting a greater apportionment of indigenous renewable energy sources (RES); most notably at utility-scale electricity production with the wind energy sector taking a leading role. Smaller-scale means of energy production have also been promoted through grant-schemes for geothermal and solar panel technologies as well as micro-wind turbines. For the purposes of this thesis we will focus on large-scale utility-levels of production to explain how European policy makers have focused on delivering this renewable energy strategy. These policies we shall see have been, to a greater or lesser extent, contextualised within narratives centred on security of supply, job creation, climate change and the neo-liberalist preoccupation with free market competition as opposed to state aid. These narratives have also informed how successive Irish governments have in turn tried to replicate these policies from the European to the national arena.

The EU did not have a coherent pan-European strategy on renewable energy until the mid-1990s when in November 1996 it launched *Energy for the Future: Renewable Sources of Energy - Green Paper for a Community Strategy* (COM96/576). This Green Paper opened up the debate on a future common energy policy across the trading block. In it, it recognised that there was considerable potential for developing indigenous RES across the European Union, while at the same time these resources were understood to be unevenly and insufficiently exploited. Also recognising that there were significant obstacles to what was still a relatively nascent energy sector, the Commission proposed to counteract these obstacles by

implementing a multifaceted approach to its future energy policies. These would include four main strategies that developed:

A clear ambitious, and yet realistic, increase in the contributions of renewables to the Community³⁹ energy balance level. [Doubling] the contribution by 2010 [of] renewables to the gross inland energy consumption close to 12%.

Secondly it is proposed to strengthen Member State co-operation on renewables. To achieve the target; strong policies [were] to be implemented at national level [along with] a mechanism for coordinating efforts at Community level.

Thirdly...given the fact that cost currently constitutes the largest barrier to a more widespread use of renewables the policy instruments must address in particular this problem. Internalisation of external cost is a key concept in this respect...

The fourth element of the strategy is a proposal for a strengthening assessment and monitoring of the progress towards achieving our objectives for the penetration of renewables.

(European Commission, 1996: 4)

Volkmar Lauber (2004, 2005a, 2005b) has defined the EU's policy strategy on RES, since the mid-1990s, into three distinct phases. The first phase, 1996-1999, has been described as predominantly neoliberal with the Directorate-General for Energy (DG Energy) advocating "a strong commitment to neoliberal, 'market' or 'competitive' instruments for organising the future harmonisation [and liberalisation] of the [electricity] sector" (Lauber, 2005b: 1) with the Commission going so far as to discourage some Member States from adopting feed-in-tariff mechanisms in favour of more neo-liberal market-orientated instruments meant to encourage competition between the established electricity utilities and the emergent renewable energy suppliers in the mistaken belief that these RES-E (renewable energy suppliers of electricity) were in a position to compete realistically with the incumbents.

This refusal to accept that RES-E companies needed some form of state support, while they established a foothold in the market, was widely adopted with an almost wilful disregard of the state subventions already enjoyed by carbon-based utilities; mainly through tax relief schemes and fuel subsidies that continue to this day

³⁹ Community here is inferred to mean the community of Member States within the EU, as established under the Maastricht Treaty of 1993.

(Schoen, 2008; Kocieniewski, 2010). In fact by 2001 a total of 81% of all EU energy subsidies⁴⁰ were spent on solid fuel, oil and gas, and nuclear energy sources leaving just over 18% of the share to be distributed to the various sources of renewable energies including wind (EEA, 2004: 14; 2008) as can be seen in Figure 5.3.

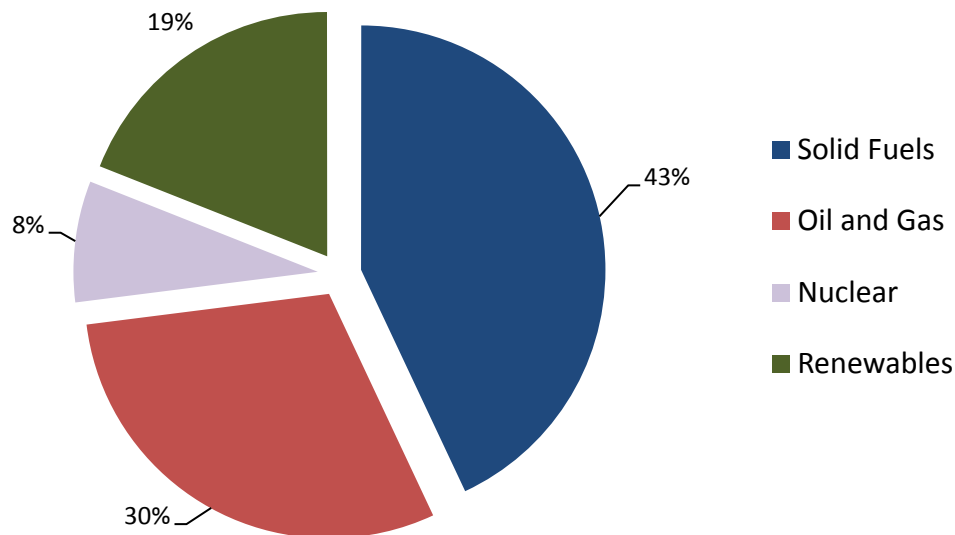


Figure 5.3 “Indicative estimate of the distribution of energy subsidies in the EU-15, 2001”
(Source: EEA, 2008).

Despite these obvious contradictions the Commission continued to come into conflict with a majority in the European Parliament and many environmental NGOs who were not convinced that RES-E companies were in such a competitive position at that time. The second phase, 1999-2001, saw a growing pragmatism develop within DG Energy. Despite maintaining a strong neoliberal agenda it had to soften it somewhat in light of setbacks experienced by its sister institution, DG Competition, which had failed in its attempts to expand the definition of what constituted state aid within the EU. If successful, this widening of the definition would have seriously jeopardised a number of Member State’s efforts to promote an alternative support mechanism to the neoliberal quota and green certificate trading structures espoused by the Commission. In May 2000 DG Energy submitted a proposal that would eventually become Directive 2001/77/EC (RES-E), allowing for Member States to opt out of the neoliberal harmonisation mechanisms promoted by the

⁴⁰ An estimated €29billion was estimated to have been spent in 2001 alone.

Commission. However, at the same time it sought to ensure that any feed-in tariff (FIT) structures set up by Member States would still have to be subject to state aid regulation and the hostile scrutiny of DG Competition. This ideological aversion to any form of feed-in-tariff to support RES-E companies within Member States was further undermined however after 2002 when it became increasingly obvious that many of the neo-liberal instruments promoted by the Commission were clearly failing to produce the results expected of them. This in turn made it increasingly likely that the EU, as a whole, would not meet the RES targets of 12% by 2010, as initially set down in its green and white papers. In contrast, countries which had adopted a FIT mechanism to promote RES-E penetration into domestic electricity markets were performing far better in meeting their 2010 targets. The more pragmatic approach to RES-E policy, as shown by the 2004-appointed Commissioner for Energy Andris Piebalgs, marked a further departure from the more neo-liberal, ideologically-driven agendas of previous administrations. This more flexible and practical mindset also saw a gradual positive shift towards feed-in-tariffs⁴¹ as a standard model for RES-E promotion throughout the EU in the intervening years up to 2010.

Parallel to these developments in the field of competition and deregulation which brought the Commission new impetus and new powers, renewable energy had also been the subject of some EU interest due to its contribution to security of supply, reduction of carbon emissions and other environmental improvements, as reflected in a Council Resolution of 1986 (Council, 1986), a Council recommendation of 1988 (Council, 1988), the ALTENER programme of 1993 (Council, 1993) and several resolutions by Parliament. In 1995, the Commission White Paper “An Energy Policy for the European Union” (European Commission, 1995) summed up the positive contributions of renewable energy and announced the formulation of a strategy for renewable energy sources.

(Lauber, 2005b: 3)

These positive contributions informed a significant part of the 1997 white paper, which focused exclusively on renewable forms of energy production titled *Energy for the Future: Renewable Sources of Energy - for a Community Strategy and Action*

⁴¹ However, the neo-liberal mindset continued to influence the type of FIT implemented in individual Member States with low tariff rates and rules limiting access to capital for small-scale RES-E producers going some way towards explaining the dearth of community-based RES-E producers, or any type of community-controlled wind farm for that matter, operating in Ireland.

Plan (COM97/599). It repeated the earlier Green Paper's assertion that liberalising the electricity markets would be the appropriate vehicle by which the EU would be able to increase its diversification into renewable sources of energy. It would also become a significant part of its strategy towards tackling anthropogenic climate change in keeping with commitments made to the Kyoto Protocol, to which it was in line to sign up to the following year, in 1998. In fact, signing up to the Kyoto Protocol was in itself a continuation of policy dating back to the 1992 United Nations Framework Convention on Climate Change, held in Rio de Janeiro. While the 1992 treaty had no legally-binding commitments for its participants it did provide for future legally-binding commitments to be potentially mapped out in a series of international protocols⁴². Despite these shortcomings, signatory countries to Kyoto and individual Member States of the European Union continued to roll out a raft of instruments and mechanisms under the protocol, including Emissions Trading with carbon credits, the Clean Development Mechanism (CDM) and Joint Implementation (JI), which went some way towards locking signatory countries into taking effective action (UNFCCC, 2010).

In light of the continued failings of the neoliberal mechanisms towards renewable energy promotion after the 1997 White Paper (Toke, 2005a, 2005b; Mitchell et al., 2006), along with the divergent stances taken by EU Member States to national sovereignty in adopting these policy objectives, the Commission sought to revisit its approach by consolidating its renewable strategies within an overall energy framework launching a new green paper on energy in 2006. Titled *A European Strategy for Sustainable, Competitive and Secure Energy* it brought together all the various components of its strategy for developing a common European-wide

⁴² To date, Kyoto remains the only international protocol to be ratified. It should be noted that given the failure of countries such as the United States to sign up to the existing treaty, along with recent failures at the Copenhagen Summit in 2009 and the Cancun Summit in 2010, to negotiate its successor there continues to be doubt over whether the international community will ratify a successor in time, given its impending expiration in 2012. More recently there have been calls for the EU to reassess its post-Kyoto commitments in light of the failure to agree a strategy at the UN's 2010 climate summit in Cancun and the refusal of both Japan and Russia to extend their commitments to the Protocol beyond 2012 (businessgreen.com, 2011) highlight the continued emphasis national governments give to political expediencies over the obvious urgency in environmental issues as expressed in climate change science.

approach; incorporating the three main policy objectives of sustainability, security of supply and maintaining market competitiveness. Concentrating on six key priority areas, all contributions were to focus on how best to advance the following:

- Complete the internal electricity and gas markets
- Security of supply and solidarity among Member States
- Sustainable, efficient and diverse energy mix
- Tackling climate change
- A strategic energy technology plan
- A coherent external energy policy

(European Commission, 2006: 4)

The 2006 Green Paper was itself somewhat superseded the following year with another first for EU policy when the Commission published its intentions on energy over the long-term in its *Renewable Energy Road Map - Renewable Energies in the 21st Century: Building a More Sustainable Future*, re-enforcing the position that there needed to be an EU-level response to developing the trading bloc's renewable energy infrastructure. The Commission acknowledged that the roadmap was not only:

an integral part of the Strategic European Energy Review, [but that it also] sets out a longterm vision for renewable energy sources in the EU. It proposes that the EU establish a mandatory (legally binding) target of 20% for renewable energy's share of energy consumption in the EU by 2020, explains why it is necessary, and lays down a pathway for mainstreaming renewables into EU energy policies and markets. It further proposes a new legislative framework for the promotion and the use of renewable energy in the European Union.

(European Commission, 2007a: 3)

The Road Map was to become an influential policy document in shaping the new 2009 renewable energy directive (Directive 2009/28/EC), amending and afterwards repealing the previous Directive 2001/77/EC, along with Directive 2003/30/EC. However the neoliberal agenda of key players within the various Directorate Generals (DGs) continued to hold sway with many of the Commission's new policy initiatives. Publishing their proposal the same year as the 2006 Green Paper, the Commission's Joint Research Centre (JRC) adopted suggestions made to it by the

European electricity industry representative body, EURELECTRIC, which two years previously:

called for a competitive pan-European market in tradable 'green electricity certificates' and harmonisation between the national support systems
(Toke, 2005a: 362)

Taking Eurelectric's 2004 stance as a point of departure, the JRC report advocated a much greater set of top-down, pan-European, market-based instruments than had heretofore been available in order to drive Commission policy. This would essentially reward renewable energy producers by way of:

quota systems (also known as renewable portfolio standards (RPS)) coupled with tradable green certificate (TGC) schemes [in order to] to foster market-driven penetration of renewable energy sources
(Bertoldi and Rezessy, 2006: 1)

Despite the weaknesses inherent in quota systems, highlighted by Ragwitz et al. (2005), the Commission sought to clearly align itself with Bertoldi and Rezessy's position and proposed a new directive on renewable energy. This directive would incorporate a system of openly traded renewable energy certificates across the European Union despite concerns raised over the potential increased cost an EU-wide Emissions Trading System (ETS)⁴³ would have in meeting the proposed cap on CO₂ emissions (Harrison et al., 2005). However, the proposal was again challenged as merely a play on the part of the vested interests held by incumbents within the electricity industry who had undue influence within the Commission (Sorrell et al., 2009). In another response, Jacobsson et al. (2009) in the journal *Energy Policy* criticised a significant component of the scheme, the tradable green certificates (TGCs)⁴⁴, as failing the "three conventional criteria for assessing policy instruments": effectiveness, efficiency and equity. The three case studies they

⁴³ Convery et al. (2008) provided an Irish context to this analysis in their presentation to the 4th Research Seminar, held by CDC Climat in 2008, as part of their Research Program on the Ex-post Evaluation of the European CO₂ Market. The 2010 book, resulting from this process, titled: *Pricing Carbon: The European Union Emissions Trading Scheme* provides the first detailed description and analysis of the EU's ETS scheme, particularly at its formative stages from 2005 to 2007. For an explanation of EU ETS, please refer to the glossary at the beginning of this thesis.

⁴⁴ For an explanation of TGCs, including how they relate to other carbon trading schemes, please refer to the glossary at the beginning of this thesis.

analysed, namely in Sweden, the UK and Flanders, had already implemented some form of green certificate trading scheme that had in all three cases proven to be somewhat inadequate at promoting growth within the renewable energy sector. They also proved to be more expensive than say Germany's feed-in-tariff model. In each case the advantage had inevitably weighed in favour of the incumbent electricity companies and against newer renewable energy start-ups with more innovative approaches to developing the sector. In fact, all three trading schemes resulted in a much greater dominance of the market by incumbent electricity companies, which more often than not favoured minimal investment for the greatest amount of profit rewarded. Contrary to what the neoliberal proponents of the schemes had suggested, market forces actually stifled growth from companies possessing novel, innovative technologies since they could not compete with the greater financial resources of the incumbents. The lessons from the three case studies were:

(1) that they tend to favour incumbent companies (e.g. large utilities), (2) that most investments concern relatively mature technologies [i.e. wind] and that there is little or no domestic demand that can stimulate the industrialisation of less mature technologies and (3) that TGCs tend to induce high levels of excess profits which, given the first two lessons, primarily benefit incumbent actors and relatively mature RES-E technologies⁴⁵.

(Jacobsson et al., 2009: 2144)

The Commission was again to be thwarted in its efforts to harmonise the EU's energy portfolio within a rather simplistic neoliberal framework by the European Parliament and the Council of Ministers. Both institutions chose to ignore the idea of TGCs given the huge diversity in market topography, especially in cost differentials, across the Member States. A TGC system that applied a fixed price for green certificates across the EU would only flatten demand for renewables by punishing the more innovative countries that were at least prepared to invest in the more "mature" RES-E technologies. Such a move would at the same time favour the much larger, incumbent electricity utilities that could afford to outbid for the TGCs

⁴⁵ The "relatively mature RES-E technologies" mentioned here invariably refer to wind turbine technologies which by now were a proven contributor to the electricity market with an established financial framework within which to operate from. The more developmental wave, tidal and solar technologies were still at "R&D" stage with regards to utility-scale electricity generation.

on the “relatively mature” RES-Es, at the expense of making real and meaningful technology shifts within their own energy infrastructures.

Evolution of total installed wind energy capacity for EU, since 2001 RES-E Directive									
Year	2001**	2002**	2003**	2004*	2005*	2006*	2007	2008	2009
MW	17,315	23,159	28,598	34,371	40,511	48,029	56,531	64,719	74,767
**EU 15 / *EU 25									

Table 5.1 (Source: Global Wind Energy Council, no date).

So, how were the European Parliament and Council of Ministers able to provide such an effective challenge to the Commission? It is useful to go back to the literature, which has analysed these tensions between vested interest groups and the fundamentals of real-world decision-making in the policy process, found under the heading of Comitology. The administrative infrastructures that constitute the European Union rely on various committees of national experts to moderate the Commission's powers of implementation under EU legislation (Dogan, 1997) and have attracted some academic interest within the disciplines of law and the political sciences (Joerges and Neyer, 1997). It has been argued that these comitology committees have become significant indicators for analysing the evolution of the EU's administrative frameworks (Wessels, 1998) and can be categorised according to how they operate into the following:

Advisory committees: these give their opinions to the Commission, which must try to take account of them.

Management committees: if the measures adopted by the Commission are not in accordance with the committee's opinion, the Commission must refer them to the Council, which, within a period laid down by the basic act, may adopt a different decision by a qualified majority.

Regulatory committees: if the measures envisaged by the Commission are not in accordance with the committee's opinion, the Commission must refer them to the Council and, for information, to the European Parliament. The Council may give its agreement or introduce an amendment within a period which may not exceed three months. If the Council does not take a decision, the Commission draws up implementing measures, unless the Council opposes this. In the latter case the Commission may submit an amended proposal or a new proposal or may re-submit the same proposal.

Regulatory committees with scrutiny: these must allow the Council and the European Parliament to carry out a check prior to the adoption of measures of general scope designed to amend non-essential elements of a basic instrument adopted by codecision.

(Europa, no date)

Though the evolution of comitology committees within the policy process was eventually realised as a way for Member States to provide a check on Commission powers, and promote greater transparency within the decision-making process, they have garnered some criticism in their own right. Some have argued that comitology committees have in fact contributed to a democratic deficit in EU legislative processes (Bignami, 1999; Sieberson, 2008), while others have taken a more benign view of them (Bradley, 1997; Alfé et al., 2008). Nonetheless, a consensus has emerged that at the very least the:

irresistible rise of Comitology is an institutional response to the deep-seated tensions between the dual supranational and intergovernmentalist structure of the Community on the one hand, and its problem-solving tasks on the other. Comitology has accordingly provided a forum in which problems are addressed through evolving and novel processes of interest formation and decision-making

(Joerges and Neyer, 1997: 273)

It can be argued that this institutional development has gone some way in facilitating the European Union's response to the key issues of energy security and climate change, and the role renewable energies (including wind) are to take in meeting these challenges. This may be so, despite the disparate opinions held by those within its executive and the individual Member States, who all have their own competing interests coupled with their obligations to the community as a whole.

What this section has shown is that behavioural or ideological perspectives can create turbulence in the policy flow, particularly when key actors continually ignore proven failures found in a promoted policy instrument. These failures, as a consequence, can go on to create dysfunctional structures in the countries that adopt them and consequently create distrust in the local communities affected. In the case of Ireland, the choice of the government here has been to structure the support instruments in such a way as to invariably leave the building of wind farms in the hands of those who can afford to access the levels of capital needed to make such ventures profitable. This weighting towards the large-scale producers has led

to an atmosphere of distrust in a number of local communities who fail to see any significant tangible benefits from the private operators developing wind farms in their areas; and often characterise such ventures as merely a means to siphon the benefits of a local resource out of the areas affected, as we will see in later case studies.

5.2 Feed-in Tariffs: Operationalising the EU's Decarbonisation Agenda

Now that we have a contextual background that explains how feed-in tariffs (FITs) have come to be the dominant support instrument in the European Union, despite initial ideological resistance to it from the European Commission, it is important that we have a full understanding of FITs and how they function as an instrument for operationalising the EU's decarbonisation agenda. Once one overcomes ideological antipathy towards the notion of "state aid", the logical conclusion is to accept that there is a fundamental need to support nascent energy technologies that are susceptible to the predatory practices of incumbent utilities intent on protecting their own market-share within existing energy frameworks. By adopting the "comprehensive suite of policies" (Bruckner et al., 2010: 203), of which FITs make up an integral part, the EU has sought to complement it with other market-centred strategies (such as emissions trading schemes), which on their own are unable to finance the decarbonisation agenda. "In fact, the Stern Review found that only 40% of the low-carbon future can be financed through the carbon market (Stern, 2006)" (Bruckner et al., 2010: 203) ensuring that the framework of support schemes each individual Member State adopts are vital to the overall policy strategies of the supranational network.

Miguel Mendonça (2007) has carried out considerable research into the role FITs have played in promoting this technological shift towards greater renewable energy and has defined a feed-in tariff as:

Essentially a 'pricing law', where the rates paid to producers of electricity from renewable sources are set in law, and calculated to provide sufficient

profitability for the investment. There is usually a set period over which this payment will be received.

(Mendonça, 2007: xiv)

This rather succinct explanation belies its inherent versatility, both in application and design, and as Mendonça has argued FITs in all their various designs have proven to be more cost-effective and ultimately more successful when compared to many of the other support schemes available. This is certainly true when compared to the tender model previously applied in Ireland before 2006, though this system still outperformed the quota systems championed in the UK and in North America⁴⁶. Working in a similar way to a subsidy, in its simplest terms, a FIT reduces the economic risks RES-E producers are exposed to. This is often comes with a cost, some would argue, to the incumbent electricity utilities and the electricity consumer. However, that does depend very much on how it has been initially designed. When one considers the extent to which the incumbent utilities are themselves supported (see Figure 5.3, page 105) arguments over “state aid” become rather redundant.

The true effectiveness⁴⁷ of FITs in driving the decarbonisation agenda can be seen in the work by Ragwitz et al. (2005) who show it to have outperformed all other mechanisms that operated in the ten applicable Member States during the period 1997 to 2004. They also attribute long-term and stable policy environments as necessary requirements to promote rapid RES-E deployment. Indeed, Mendonça supports Klein et al.’s (2006/2010) assertion that a good FIT design should take into account the varying electricity generation costs for the different RES-E technologies. This technology-specific approach to tariff levels, they argue, is essential given the factors that determine generation costs include:

- Investment for the plant
- Other costs related to the project, such as expenses for licensing procedures

⁴⁶ The UK has since switched to a FITs model for smaller-scale generation (under 5MW) and a number of state governments and municipalities are also looking into FITs policies in the USA (Cory et al., 2009).

⁴⁷ Ragwitz et al. (2005) define effectiveness as the ratio of change in electricity generation capacity over a given period against additional realisable mid-term potential for a specific technology to 2020.

- Operation and maintenance (O&M) costs
- Fuel costs (in the case of biomass and biogas)
- Inflation
- Interest rates for the invested capital
- Profit margins for investors

(Mendonça, 2007: 90; Klein, 2010: 11)

Most EU Member States have adopted this technology-specific option (Mendonça, 2007) and factor in the expected amount of electricity generated (along with the estimated lifetime of the power plant) before fixing the tariff level into legislation (Klein et al., 2006/2010). Mendonça also suggests that regular revision of the tariff rates is important in order “to ensure that they are at an appropriate level to achieve the stated goal of the energy policy” (Mendonça, 2007: 92). Klein et al. (2006/2010) have developed this costs-based approach further and highlight the importance of factoring in other “external costs” when fixing tariff rates. These include:

- Climate change
- Health damage from air pollutants
- Agricultural yield loss
- Material damage
- Effects on the energy supply security

(Klein et al., 2010: 12)

They refer to this idea of avoided costs due to installed RES-E generation as the “Portuguese Approach” whereby RES-E producers in Portugal are entitled to monthly payments calculated from a formula specifically designed to take this into account. They have evaluated this rather complicated, though eloquent, approach into its relevant advantages and disadvantages, indicated in Table 5.2 below.

Advantages	Disadvantages
Not only electricity generation costs are taken into account, but also other factors, such as CO ₂ emissions. Due to the possibility to have a higher tariff during daytime than at night, the system is demand orientated. (More electricity is demanded during the day.)	The tariff level is very difficult to determine. This causes high administrative complexity and low transparency. Uncertainty for investors and plant operators, because the level of remuneration depends on many parameters and the tariff level is difficult to predict.

Table 5.2 Evaluation of the Portuguese way of determining tariff levels (Source: Klein et al., 2010: 13).

Most Member States within the EU have opted for less complicated administrative structures and in Ireland, the thinking has been very much focused on a *stepped tariff* design where payment is differentiated depending on each of the targeted RES-E sources. This approach factors in the generation costs without paying particular attention to other externalities. There are certain nuances to this approach however, with tariff levels dependent on plant size that in effect differentiate between what can be considered commercial and domestic wind turbines. Again Klein et al. (2006/2010) have broken down the relative advantages and disadvantages of the stepped tariff design below, in Table 5.3⁴⁸.

Advantages	Disadvantages
Differences in power generation costs due to the plant size or the fuel type can be taken into account Local conditions can be considered and reflected in the tariff level Not only the sites with most favourable conditions can be exploited Risk of over-compensating very efficient plants is minimised Producer profit is kept on a moderate level at favourable sites. Therefore the burden on electricity consumers is lower. Higher electricity generation costs for example due to deeper water or a large distance to the coast line (in the case of offshore wind turbines) can be taken into account	The system can lead to high administrative complexity (e.g. for defining a reference turbine as in Germany). Many different tariff levels within the same technology may lead to less transparency and uncertainty for the investors. If the tariffs for plants with a low capacity are significantly higher than for larger plants, it could be economically feasible to construct two small plants instead of a large one, even though larger plants might be more efficient. This decreases the overall efficiency of the system.

Table 5.3 Evaluation of a stepped tariff design (Source: Klein et al., 2006/2010: 38).

While the advantages of this type of tariff outweigh the disadvantages, the authors indicate a note of caution regarding its application especially in terms of reduced transparency and an unintended increase in uncertainty for investors, given the complicated pricing structures involved. This is especially true when investors must consider a technology that is subject to different levels of support depending on the size of generating plant for instance. There are also repercussions for efficiency, as is alluded to in the table above. However, efficiency has not been a problem in Ireland given the wind regimes present here, the emphasis on large scale turbines

⁴⁸ A breakdown of the advantages and disadvantages of the other forms of FIT can be seen in Appendix C, at the end of this thesis.

and the exclusion of smaller-scale operatives. Community-based initiatives by necessity can generally only afford to build small-scale turbines, due to their relative inability to access the flows of capital available to the large RES-E producers. Also, the government decided quite deliberately to set a rather low rate for all its tariffs (see Table 5.7, page 134) on the basis of relative cost-effectiveness since, as the authors point out, despite the fact that:

The tariff level in Ireland is rather low (5.6 – 5.8 € Cents/kWh, depending on the capacity of the wind turbine)...wind conditions are very favourable and therefore the low tariff is sufficient to cover the generation costs at many sites in Ireland.

(Klein et al., 2010: 17)

RES-E producers in other Member States have not been as fortunate to experience such favourable wind regimes and the tariffs have needed to be set substantially higher as a consequence. A positive outcome of this has been the greater profit margins from these higher tariffs have enabled smaller-scale community-based cooperatives in say Denmark and Germany to make a considerable contribution to the electricity supply in those countries. Studies by both Mendonça (2007) and Klein et al. (2006/2010) have been extremely helpful in highlighting how environmental innovation has been achieved through various FITs programmes and, despite being framed as state aid, these programmes have been considerably more successful than the more neoliberal approaches advocated by the European Commission.

Wind Technology Paths (Strategically important areas and topics)	EC Funding in					
	FP5			FP6		
	Number of Projects	Eligible Costs in M €	Total EC Contribution in M €	Number of Projects	Eligible Costs in M €	Total EC Contribution in M €
Large size wind turbines	10	27.68	14.98	4	37.95	19.46
Integration and managing of wind power	7	12.99	7.15	4	7.75	4.43
Wind farm development management	3	4.02	2.23	2	34.03	7.70
Total Wind	20	44.69	24.36	10	79.74	31.59

Table 5.4 EC funding for wind energy RD&D in FP5&6 (Source: European Commission, DG-Research, 2006: 115).

	Share of energy from renewable sources, 2005. (gross final consumption of energy)	Target for share of energy from renewable sources in 2020 (gross final consumption of energy)
Austria	23,3 %	34 %
Belgium	2,2 %	13 %
Bulgaria	9,4 %	16 %
Cyprus	2,9 %	13 %
Czech Republic	6,1 %	13 %
Denmark	17,0 %	30 %
Estonia	18,0 %	25 %
Finland	28,5 %	38 %
France	10,3 %	23 %
Germany	5,8 %	18 %
Greece	6,9 %	18 %
Hungary	4,3 %	13 %
Ireland	3,1 %	16 %
Italy	5,2 %	17 %
Latvia	32,6 %	40 %
Lithuania	15,0 %	23 %
Luxembourg	0,9 %	11 %
Malta	0,0 %	10 %
Netherlands	2,4 %	14 %
Poland	7,2 %	15 %
Portugal	20,5 %	31 %
Romania	17,8 %	24 %
Slovak Republic	6,7 %	14 %
Slovenia	16,0 %	25 %
Spain	8,7 %	20 %
Sweden	39,8 %	49 %
United Kingdom	1,3 %	15 %

Table 5.5 National overall targets by 2020 (Source: EurActiv, 2011).

However, neoliberal tendencies continue to impact on the type of FIT schemes rolled out in a number of Member States, including Ireland. These tendencies have revealed significant legislative inefficiencies in the past, resulting in EU wind energy policy faltering during the early part of the 2000s from the FIT versus free-market mechanisms debates advanced by the European Commission. The turbulence that was created in the EU policy flow as a result nearly caused a number Member States to seriously question their ability in meeting their 2005 and 2010 targets. In the second part of this chapter we will see how Ireland has incorporated these instruments into its own policy flows, and show how it too adopted the EU Commission's perspective on state aid before it was forced to switch to the FIT alternative in order to meet its own 2010 targets.

5.3 Regulating Energyscapes: Situating Ireland within EU Policy Flows

If we are to take the changing roles of local and national government, within the supranational networks of the European Union as a given, how then is environmental innovation to be achieved, especially within an Irish context? The implementation of EU directives compel Member States to accomplish whatever task is set down in a given directive without setting out how exactly that task is to be achieved and has proven to be a useful and innovative tool of multi-level governance. This ambiguity has also proven helpful to national politicians, ever mindful of the consequences introducing unpopular but necessary environmental legislation to a vengeful voting public may have on their political careers (Hoffman, 1982; Kjær, 2004). The four key directives the Sustainable Energy Authority of Ireland (SEAI) identify as the most significant in shaping sustainable energy policy in Ireland have been the *Renewable Electricity Directives* (2001/77/EC & 2009/28/EC); the *Energy Performance in Buildings Directive* (2002/91/EC); the *Emissions Trading Directive* (2003/87/EC); and the *Energy End-Use Efficiency and Energy Services Directive* (2006/32/EC). All four directives have helped shape national attitudes towards renewable energy in Ireland since their ratification.

More specific to wind energy the *Renewable Electricity Directive* (2001/77/EC), in conjunction with the *Emissions Trading Directive* (2003/87/EC) has been recognised by the European Wind Energy Association (EWEA) as being the single most important piece of legislation to have been ratified anywhere in the world. It has also proven to be instrumental in promoting wind energy generation in countries either unable or unwilling to do so before its introduction (EWEA, 2010). The EWEA also suggest that prior to its updating and re-ratification in 2009 (2009/28/EC), directives 2001/77/EC and 2003/87/EC needed to be combined if the EU is to realistically meet its target of 180GW of wind-generated electricity by 2020. The Commission agreed with this assessment stating:

The interlinkages between setting greenhouse gas reduction targets, the emissions trading scheme and renewable energy targets are clear. The

Commission sees the various elements as complementary: EU ETS will facilitate growth in renewable energy; the renewable energy Directive will create conditions enabling renewable energy to play a key role in reaching the greenhouse gas reduction target.

(European Commission, 2008a: 4)

This incentivising of wind farm developments through its Emissions Trading System (EU ETS) signalled to the markets its position (linking its energy and climate change strategies) and where it saw the European Union developing into the future. This maturing of the climate change/energy investment perspective has since been incorporated into market practice with organisations such as the Institutional Investors Group on Climate Change (IIGCC) publishing its position paper *Shifting Private Capital To Low Carbon Investment* in 2010. In it they call for a deepening of incentivising strategies, such as EU ETS, to increase the flow of private capital into the sector. Despite the IIGCC criticising the EU for its continuing lack of clarity on EU ETS, international capital investment in renewable energy capacity (along with research and development) has increased steadily with over \$100 billion pumped into renewable energy projects across the globe in 2007 alone (REN21, 2008)⁴⁹.

A percentage of this international capital has obviously flowed into the Irish market through the global banking networks and is essential to fund the huge initial capital investment required for renewable energy projects such as wind farms⁵⁰. To date there are no community-based wind farms in Ireland, unlike in Denmark and Germany, given the lack of incentives available here for local communities to invest in such projects.

⁴⁹ It should be mentioned that despite the 2008 Financial Crisis an estimated \$130 billion was invested in renewable energy projects in 2008. This figure increased yet again in 2009 to \$150 billion, though it was observed that despite this increase in overall levels there was a 6% drop in investment in utility-scale renewable energy projects, from 2008 levels, which did raise a cautionary note (REN21, 2010).

⁵⁰ In 2004, Bank of Ireland launched a specialised fund, making available €500 million for companies and development projects focused on the renewable energy, water treatment and the waste management sectors. The fund was re-launched in February 2009 with a further €100 million made available; this time with a strong emphasis on wind energy projects (BOI, 2009). Launched as a conditional prerequisite to the government's recapitalisation of the Irish banks, resulting from the 2008 Financial Crisis, this fund marked a significant departure in the relationship between the financial institutions and the state, which had traditionally shied away from direct involvement in the financial markets. It will be interesting to see if the fund will be utilised to its full potential considering the continuing repercussions coming from the financial crisis.

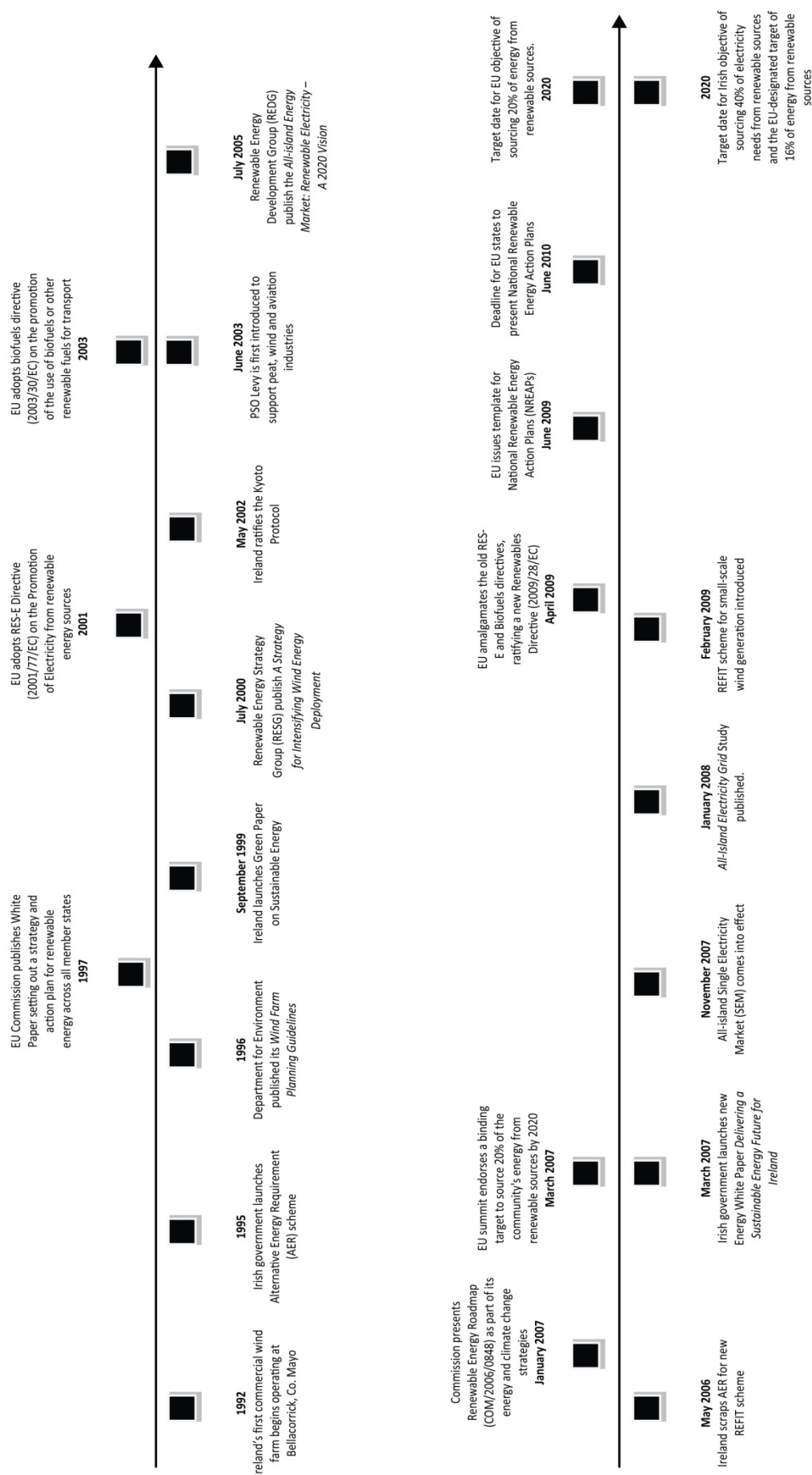


Figure 5.4 Timeline of EU and Irish wind energy policy developments to 2020. EU initiatives appear above the timeline, while Irish developments appear below the line.

Access to the flow of global financial capital must come into the equation, either directly through the multinational wind energy companies themselves or channelled through the national banking system to local energy entrepreneurs prepared to take the risk, limiting access and ensuring only the large-scale utilities have a real chance for investment. When one considers the fact that Ireland remains one of the most globalised and open economies in the world, the continuing economic turbulence and fluidity of global capital out of the economy will have an inordinate impact on this country for years to come.

We will look at how the Irish government incentivises investment in the wind energy sector in the next section, but it may prove useful to provide an overview as to how Ireland has accommodated the mobile interdependent policies of the EU in to its own renewable energy strategies. As a consequence of changing national government targets, partly in response to the EU directives mentioned earlier and to wider international agreements like the Kyoto Protocol, a raft of national legislation and policy statements have been introduced in recent years. The key documents here include the *Energy White Paper* (2007) and the *National Climate Change Strategy 2007–2012*. Howley et al. (2008) group the key national energy policies under the following three pillars of sustainable energy development: environmental responsibility, security of supply, and cost competitiveness. The pillar of *environmental responsibility* has also been written into the two government documents mentioned above. The most notable objectives include limiting energy-related greenhouse gases (termed transboundary gas emissions), accelerating the penetration of renewable energies into the Irish electricity generating market, and promoting the deployment of Combined Heat and Power (CHP) generating plants. An expressed target is to limit the amount of greenhouse gas emissions to approximately 29% above 1990 levels, or roughly the equivalent of 72mt of CO₂ per annum up to 2012, when the Kyoto Protocol ceases operation.

Looking at Figure 5.5 below, taken from Dennehy et al.'s 2010 report *Renewable Energy in Ireland 2010 Update*, one can see the significant contribution wind energy

generation has made since 2004 in helping the government meet its CO₂ offsetting targets. This figure will continue to increase in the years to come as new wind farm proposals, currently waiting for a grid connection, come on-stream.

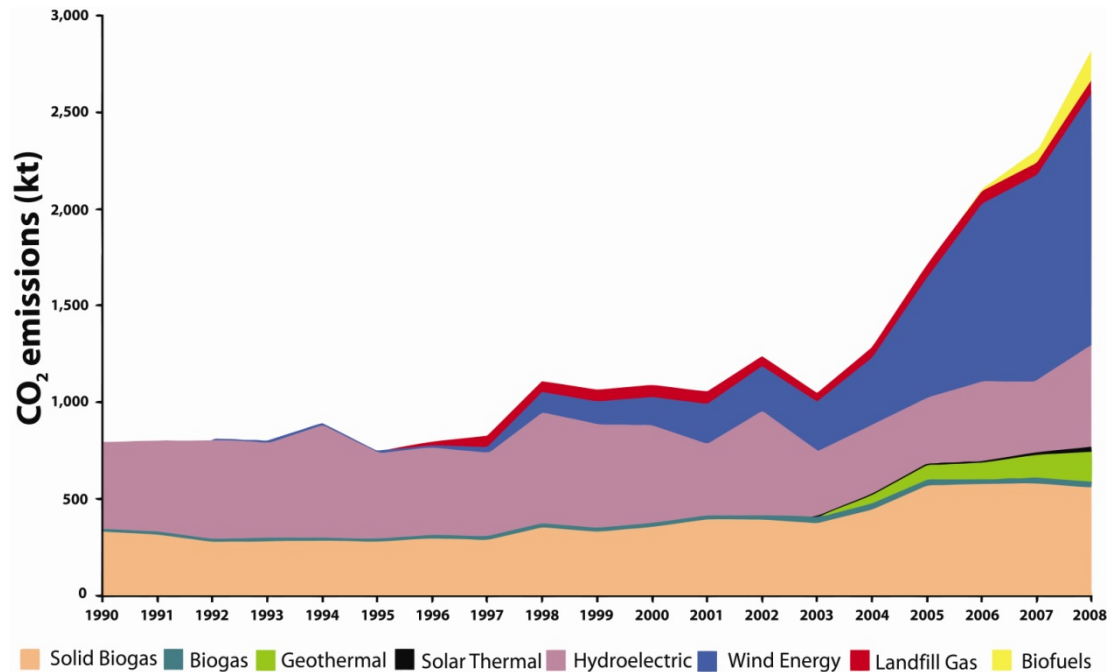


Figure 5.5 Avoided CO₂ emissions from Renewable Energy 1990 to 2008. Using SEI data at the time, the authors estimated that the amount of CO₂ avoided from renewable energy actually increased by 179% (6.2% per annum on average) over the period 1990 to 2007 reaching a total of 2,830 kt (kilotonnes) of CO₂ in 2008. As one can see from the figure, the emissions avoided from wind were the most significant as wind farms continued to complete the planning application process in increasing numbers. In 2007, a total of 997 kt CO₂ was estimated to have been avoided (Source: Dennehy et al., 2010: 28).

Coupled with this desire to reduce carbon emissions, the government has continued to foster greater diversification of electricity generation in the domestic market and the 2007 Energy White Paper (in keeping with EU strategy to push for ever greater reduction targets on the part of Member States) set a desired target for the total share of electricity generation, coming from renewable energy, to 15% by 2010 and 33% by 2020 (Government White Paper, 2007). The 2020 target has since increased upwards to 40% with the publication of the 2008 Carbon Budget (Howley et al., 2008). This increased level of interest was also complemented by the introduction of the Renewable Energy Feed in Tariff (REFIT) scheme in 2006, which (as we will see in section 5.4) was introduced to encourage growth in wind power capacity in an effort to meet the 2010 target set out in the 2001 RES-E Directive.

The decision to switch to a feed-in tariff⁵¹ model was made in light of repeated failures the previous competitions-based system experienced in meeting its targets. Despite this, investment from private venture capitalists grew during the period from 2003 to 2006, with Ireland (now constituting an all-island electricity network) achieving “the highest level of wind power penetration in the world”⁵² according to Ó Gallachóir et al. (2007) and Howley et al. (2008: 22). This was largely due to the frenzied development of large-scale, privately-funded wind farms at that time. However, despite Ireland continuing to lag behind countries like Germany, Spain and Denmark, in installed wind capacity, the authors argued that wind penetration here was in fact higher than either the “British, UCTE⁵³ or NORDEL⁵⁴ synchronous power systems” (Gallachóir et al., 2007: 6).

From 2006, however, this level of growth dropped off somewhat with Gallachóir et al., (2007) estimating at the time that an additional 346MW of wind capacity needed to be added to the electricity network by the end of 2009 if Ireland was to achieve the 15% RES-E target by 2010 (Howley et al., 2008). These concerns have since subsided with the latest report from the SEAI, *Renewable Energy in Ireland (2010 UPDATE)*, estimating the share of electricity generated from renewable energy sources (RES-E) in 2009 as having reached a provisional estimate of 14.4%, which the SEAI acknowledges exceeds the interim EU target of 13.2% RES-E by 2010. The SEAI now expects Ireland to comfortably meet the 15% target in 2010.⁵⁵

⁵¹ For a more detailed assessment of the feed-in tariff, go to section 5.2.

⁵² This was measured calculating the ratio of installed wind generation capacity against the overall generating capacity for the all-Ireland electricity power system.

⁵³ The Union for the Co-ordination of Electricity Transmission (UCTE) is the association of transmission system operators in continental Europe.

⁵⁴ Nordel is the forum responsible for co-operation between the transmission system operators in the Nordic countries of Denmark, Finland, Iceland, Norway and Sweden.

⁵⁵ In May 2010 the then Minister for Communications, Energy and Natural Resources Eamon Ryan formally announced that Ireland had indeed met its 2010 targets (Energyefficiencynews.com, 2010).

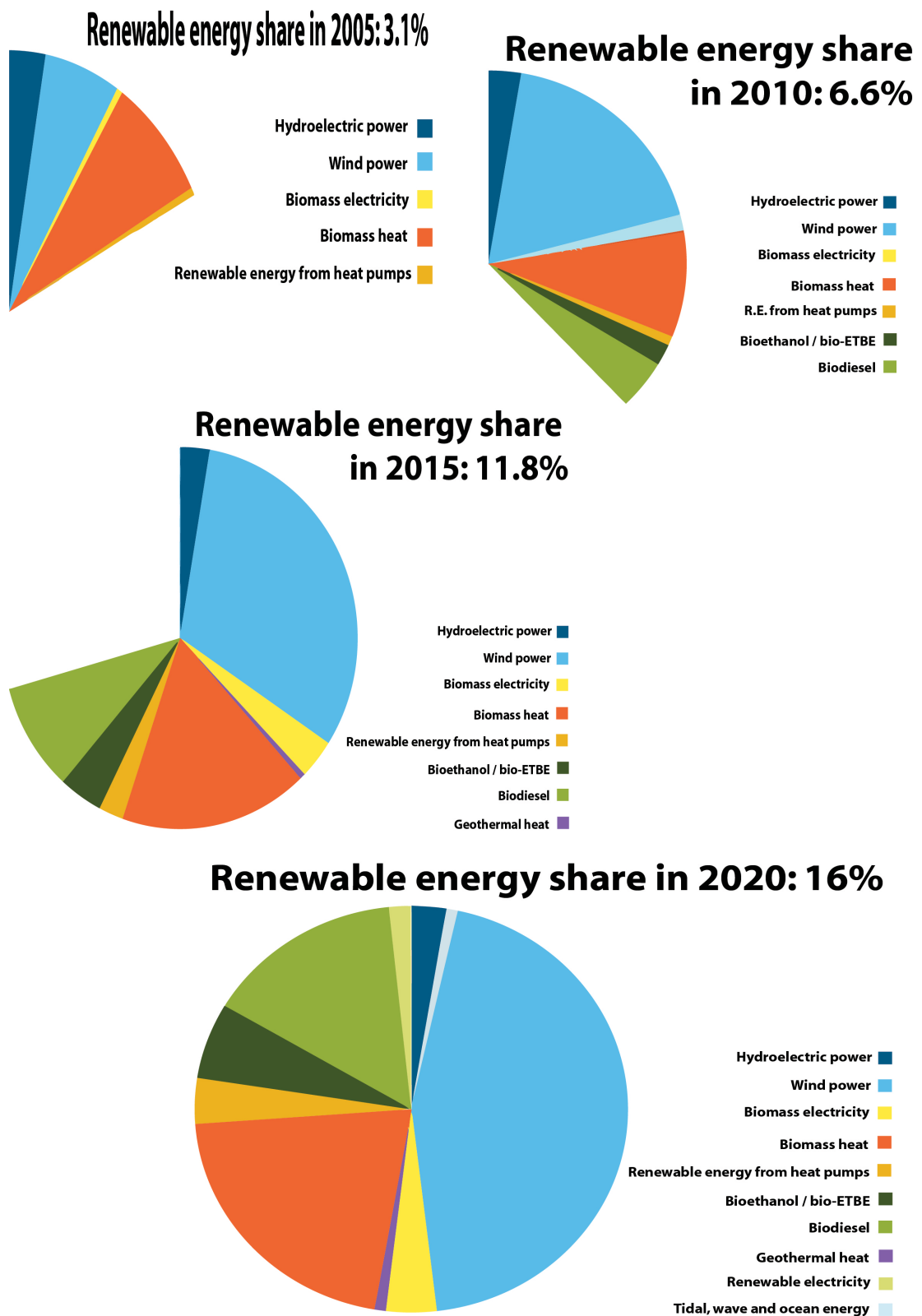


Figure 5.6 This pie-chart sequence shows the growing share of RES-E technologies in Ireland's energy mix to 2020, from 3.1% in 2005 to 16% in 2020. As can be seen from the image wind power clearly takes up the bulk of RES-E production (Source: Beurskens and Hekkenberg, 2011: 196/197).

5.4 From AER to REFIT: Renewable Energy Policy in Ireland

The dynamics of European renewable energy policy is not always clear cut, but rather is devised and then implemented with often diverse and conflicting back-stories that influence eventual outcomes in ways unforeseen by its makers. The situation in Ireland has proven to be quite similar. Successive Irish governments continued to favour a limited competitions-based approach to wind energy promotion despite its continued underperformance, as we shall now see. Highlighting a stubborn adherence to the European Commission's precepts defining what was to be constituted as state aid, these attitudes helped ensure that Ireland remains behind the curve when it comes to developing a viable indigenous wind energy industry anywhere near on par to the pioneering Member States of Germany, Spain, Denmark or indeed Portugal. This situation is particularly damning when we consider that Ireland has a more favourable wind regime and nowhere near the population densities of those countries. This section will show how the government was forced to reconsider its renewable energy strategy and switch to a feed-in tariff model (REFIT) in order to meet its 2010 targets as set down by the European Union.

We can see from the pie-chart in Figure 5.7 below, the majority of installed wind energy capacity for the island of Ireland is situated in counties Donegal, Kerry and Cork. Tyrone represents the greatest installed capacity across the border, in Northern Ireland. This can be explained in part by the favourable wind regime that exists there, but also by the extent of its electricity infrastructure including the Letterkenny-Strabane interconnector. This county comparison chart also reveals some interesting insights into Irish wind energy development as a whole. County Mayo, for example, possesses similar wind regimes to that of Donegal and Kerry, yet it has only approximately 20% of the installed capacity of either of the other two counties. In fact, in the 2008 All Island Electricity Grid Study, it was shown that the estimated cost of producing wind-generated electricity is significantly lower in Mayo compared to Cork or Kerry.

County Comparison

Ireland's total capacity is 1837.89MW generated from 158 wind farms in 27 counties.

Last Updated : 10/05/2011

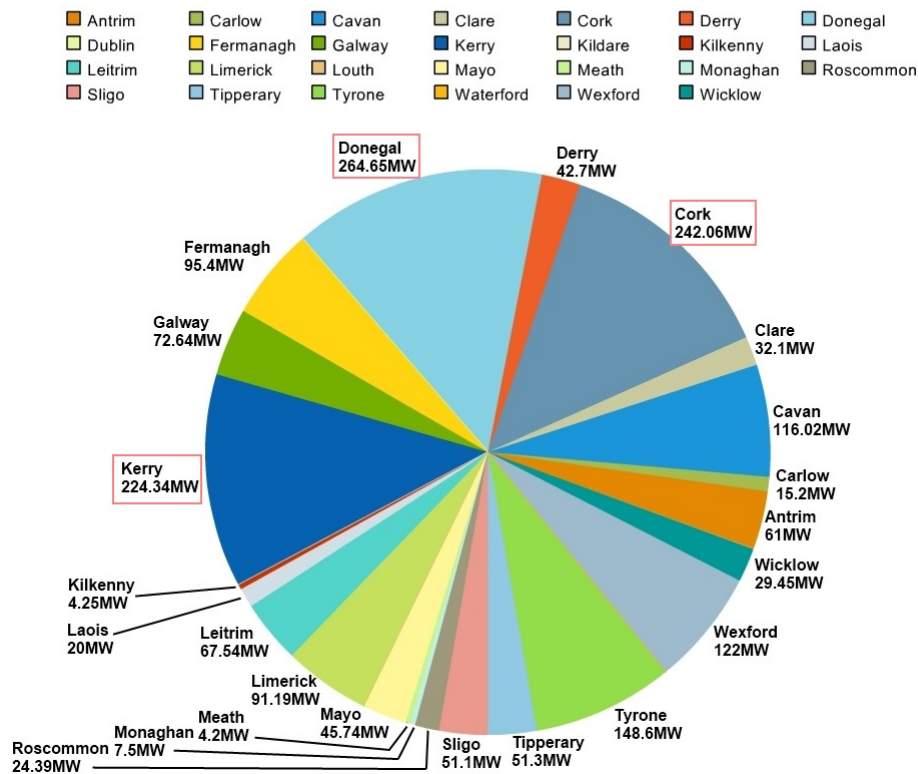
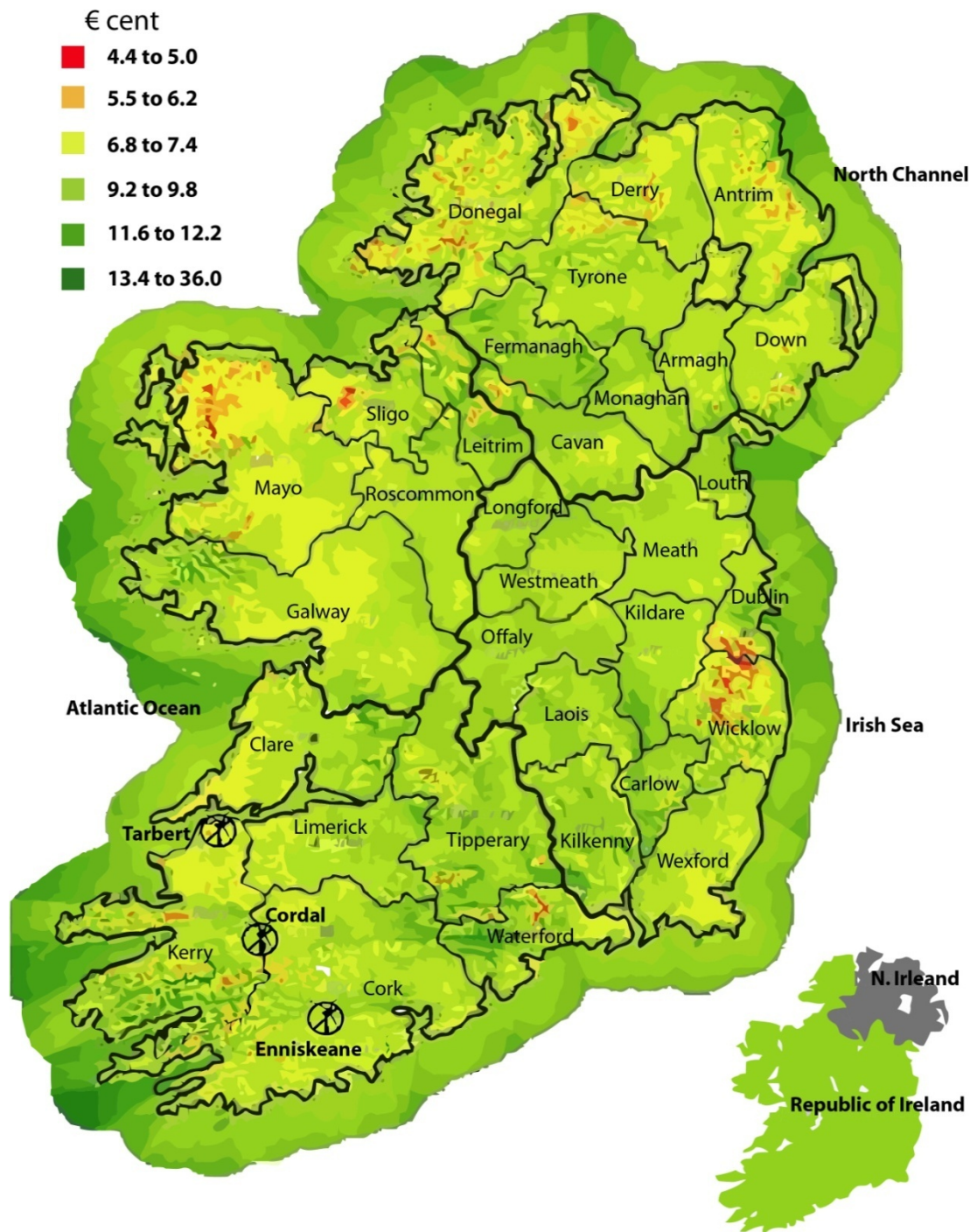


Figure 5.7 Pie chart indicating the total installed wind energy capacity on a county by county comparison. At present, Ireland's total installed capacity stands at 1,837.89MW, according to the IWEA. Donegal (264.65MW), Cork (242.06MW), and Kerry (224.34MW) are the top three counties with regards to installed capacity and will remain so into the future. (Source: IWEA, 2011).

The study estimated that significant areas of Mayo, Wicklow, south Dublin and west Sligo are in fact the most financially amenable to wind development, as can be seen in Map 1. The report defined this in terms of favourable wind regimes and the lowest feed-in tariff rate that could be applied that would still ensure investors break even on their investment. When we compare Figure 5.7 and Map 1 it becomes clear that none of these counties possesses anything close to the installed wind capacity that prevails in Donegal or the southwest counties of Cork and Kerry. So what are the other influencing factors that have gone in to creating this disparity and how can it occur given the centralised nature of political power in this state? A situation that clearly is contrary to the government's defined policies on renewable energy and wind power in particular.

Levelised energy cost for wind



Map 1 An illustration of the levelised energy costs estimated for the island of Ireland for wind generated electricity. Levelised energy costs here refers to the minimum price that can be paid for a unit of wind generated electricity that still allows investors recoup the cost of their investment. This scenario does not include a margin of profit in its calculations. The most cost-effective sites for wind energy development on the island of Ireland are highlighted in red and orange, and exclude “restrictive areas such as Natural Heritage Areas and Special Areas of Conservation and similar designated areas in Northern Ireland”. The three case studies that will be discussed later in the thesis are indicated by the wind turbine symbols in counties Cork and Kerry (Source: DCENR, 2008b: 31).

To answer this, we must analyse the Irish government's wind energy strategies in the context of its position within the multi-level governance networks of the European Union, and the changing roles that it and local governments have adopted over recent years in order meet the national targets set down by the EU and the Kyoto protocol.

The development of alternative energy sources is a priority, nationally and at European level, for both environmental and energy policy reasons
(Department of the Environment, 1996: 3)

Research into commercial wind turbines, in Ireland, dates back to the early 1980s, with varying degrees of success. Partly in response to the oil crisis of the 1970s, wind again began to be seen as a viable, modern energy alternative once the right technology could be applied to harness it. Then, as now, concerns over Ireland's energy security and discourses from a growing environmental movement sustained this prolonged period of research. It was not until 1992 however, when the 6.5MW wind farm at Bellacorick in County Mayo was connected to the national grid, that wind energy finally came to be seen to possess a realistic economic viability. This VALOREN-funded project⁵⁶ was in many ways a test-case for wind power technology in Ireland and it has performed quite adequately according to some commentators (Staudt, 2000) even when compared with the more modern wind turbines we see today. It is still generating electricity for the national grid.

Partly from the confidence that the Bellacorick project engendered, and more importantly in response to EU initiatives such as VALOREN towards fostering indigenous energy production, the Irish government set out in its National Development Plan 1994-1999 to improve national energy efficiency and at the same time reduce CO₂ emissions by way of providing grants through the Energy Efficiency

⁵⁶ The VALOREN programme was one of a number of European Community funds designed to promote wind energy deployment within the community. Launched in the mid-1980s, its expressed aim was to promote the development of industries that would be able to harness potential indigenous energy supplies found within the disadvantaged regions of the European Economic Community, of which Ireland was a recognised part.

Investment Support Scheme (EEISS)⁵⁷. Actively encouraging the use of energy audits in order to shore up any identified systems weakness the EEISS focused on providing grants for proven and efficient energy technologies to the industrial, commercial and institutional sectors (O'Neill and Warren, 2001). The government also sought to promote the use of indigenous renewable energies, by setting up the Alternative Energy Requirement (AER) scheme a year later, in 1995. This tendering scheme was designed to integrate emerging renewable energy technologies within the existing electricity network, whereby proposers competed for Power Purchase Agreements (PPAs) with the ESB. These legal contracts guaranteed the successful candidates access to the electricity network for up to fifteen years, the estimated lifespan of many of the new technology projects. It was anticipated that the PPAs would also help reduce the level of risk developers would be exposed to when setting up these new renewable energy projects by ensuring that a fixed price, linked to an independent price index, was paid for every kilowatt-hour (kW-h) generated. This initial support was seen by policy makers as essential in successfully making the technological shift away from traditional carbon-based energy production. The following quote, taken from an Irish Energy Centre document on financing renewable energy, asserts that:

The first projects built in a new market will be subject to considerable risk particularly relating to legislation which may not have been designed to accommodate renewable energy projects. For developers to take on this risk there must be considerable rewards in the way of potential profit from the project. When a few 'showcase' schemes have been developed this risk will reduce significantly and developers are likely to accept considerably reduced margins on the projects.

(IEC, 2000: 14)

The use of PPAs and the call for tenders allowed the government to promote growth in renewable energy with a minimum of capital investment, in short leaving it to the market to drive development rather than following the more community-

⁵⁷ It was estimated in 1998 that the scheme would eventually prove to be the largest contributor to CO₂ reduction of all the projects run by the Irish Energy Centre during its lifetime (ERM, 1998). The Irish Energy Centre would later become the Sustainable Energy Authority of Ireland (SEAI) and is the Irish government's national energy authority. It is co-funded by the Irish Government and the European Union through Ireland's EU Structural Funds Programme.

focused models encouraged in other parts of the EU. The significantly greater reward schemes adopted in countries like Germany, Denmark and Spain allowed for strong small-scale and community investment (Mendonça, 2007), whereas Ireland adopted a predominantly market-driven approach similar in thinking to that in the UK⁵⁸ and North America. Funding was sourced from the general budget or from taxes such as the Public Service Obligation (PSO)⁵⁹ levy on the network tariff, with the ESB obligated to offer a set quota of PPA contracts to selected bidders (usually those tendering with the lowest cost proposals). These time-indexed individual bid prices mirrored the market value for electricity at that given moment (SEI, 2004). Prior to the opening up of the electricity market to renewable energies in February 2000, the contract price for all categories of renewable energy fell from an across the board price of 5c/kW-h⁶⁰ for AER 1, in 1995, to a weighted average of 2.748c/kW-h for the AER 3 competition just two years later (SEAI, no date). This dip in the value of the AER contract price corresponded with sliding energy costs experienced globally at that time, resulting in traditional hydrocarbon electricity generation becoming dramatically cheaper, which in turn helped fuel the global economic boom of the mid to late-1990s. This twinning of pricing structures, of nascent energy technologies to the incumbent carbon-based utilities, was seen by many within the wind energy industry as unfairly weighting competitiveness in favour of the established operators since the relatively small-scale wind energy companies could not realistically compete with what were well-established industrial and economic models. Renewable energies, in essence, needed to be nurtured and protected during those early critical stages of development before they could realistically compete with the conventional carbon-based electricity producers.

⁵⁸ The AER scheme was in fact modelled on the Non Fossil Fuel Obligation (NFFO) programme first introduced in the UK in 1990.

⁵⁹ The Public Service Obligation (PSO) levy is linked to the wholesale electricity price for all verified metered units exported to the network. It is charged to all electricity customers and is designed to recoup the additional costs incurred by the ESB in meeting its obligations to purchase electricity from indigenous peat generated electricity, in addition to sourcing electricity from sustainable renewable sources in accordance to the relevant support scheme, under the Electricity Regulation Act 1999 (Public Service Obligations) Order 2002 (CER, 2009b).

⁶⁰ A euro equivalent of the original 4p/kW-h

	1992	1997	1998	1999	2000	2001	2002	2003	2004	Total
Number of Windfarms	1	4	4	2	9	2	3	6	6	37
Installed Capacity MW VALOREN	6.5									6.5
Installed Capacity MW THERMIE		3	5	2.6	5.6					16.2
Installed Capacity MW AER1		21	24.8							45.8
Installed Capacity MW AER3				4.6	29.9	3.4				37.9
Installed Capacity MW AER5							1.3	24.5	13.6	39.4
Installed Capacity MW TPA*					15	3	11.9	27.2	0.9	58.0
Installed Capacity Offshore MW TPA									24.8	24.8
Total	6.5	24	29.8	7.2	50.5	6.4	13.2	51.7	39.3	228.6

Table 5.6 Table showing Irish wind energy capacities (in MWs) from the various government support mechanisms for the period 1992 to 2004. * Third Party Access (TPAs) refer to wind farms built without capital grant support or a guaranteed power purchase agreement (Source: O’Leary et al., 2004: 36).

The inherent system failures of the AER scheme were later highlighted by the European Renewable Energy Council (EREC) in its 2009 review of Ireland’s support structures for renewable energies. While the European Commission considered Ireland’s progress during the period up to 2004 in meeting its RES-E targets (set down in EU Directive 2001/77/EC) as modest at best, the EREC saw the emphasis the AER scheme placed on the lowest bid-price per kW-h supplied as inadvertently resulting in repeated poor performances for each round of the competition. As a consequence the repeated failures in meeting the respective designated national targets, shown in Table 5.6 above, could not be ignored.

To illustrate this point further, out of an anticipated 100MW of installed capacity set out at the beginning of the third AER competition only 42.11MW⁶¹ of renewable electricity was eventually realised, 58% shy of the initial target. This occurred despite applying strict criteria on each proposer to first qualify on technical competency before a commercial bid could be submitted, which included grant requests that the proposals were ultimately evaluated on. The failure rate of successful applicants to bring their projects to completion remained significantly high. After six rounds, the AER competition was eventually abandoned in 2006 in favour of a feed-in-tariff⁶² mechanism. By this time it was seen as:

⁶¹ As Table 5.6 shows, wind energy accounted for a majority of this total at 37.9MW.

⁶² Feed-in tariffs are discussed in more detail in section 5.2.

the main tool for promoting RES-E technologies [which are] guaranteed for up to 15 years, but may not extend beyond 2024. During its first year, 98% of the feed in tariff support [was] allocated to wind farms. Under the new feed in tariffs, both grid connection agreement and planning permission are preconditions for securing a contract.

(EREC, 2009: 5)

These new preconditions were important developments on the part of the government's strategy towards wind energy. Since wind farms would account for a majority of the state's renewable energy portfolio, given its relative technological maturity compared to other renewables. However, stipulations that a project must have already been awarded both planning permission and a grid connection before qualification would raise important issues of their own. Despite this, it is generally accepted that the feed-in-tariff has improved the situation significantly, especially in terms of reducing the level of financial risk that developers were exposed to under the previous tender schemes. The requirement to obtain both planning permission and a grid connection had a significant impact on the three case studies discussed in later chapters, especially in relation to Tarbert Renewable Energy's efforts to complete its project and the planning decisions made on the Cordal Wind Farm⁶³. This type of policy instrument, in Ireland titled the *Renewable Energy Feed In Tariff (REFIT)*, has become the predominant support mechanism for a majority of EU countries. For a breakdown of each EU member state's feed-in-tariffs, for the five main renewable energies supported at present, see Table 5.7 below.

Up until April 2010, the United Kingdom and Sweden were the only two countries left in the EU that had yet to set up some form of feed-in-tariff mechanism for at least one of their renewable energy sources. Both still use the quota system in supporting industrial-scale renewables, particularly wind power. However, the UK has since introduced a new feed-in-tariff scheme (FITs), which commenced on April 1st 2010, for small-scale low-carbon electricity technologies of less than 5MW output and has been widely seen as an effort to encourage community-led development. FITs has by no means replaced the older Renewables Obligation (RO) scheme, but instead it operates alongside it with RO remaining the primary support

⁶³ See chapters Six and Seven respectively.

mechanism. However the government there has already come under fire in the media and from other sources including RenewableUK, formerly the British Wind Energy Association, which expressed concern that the new scheme would undermine efforts by the large wind energy companies to grow their business (Macalister, 2010). For a wind advocacy organisation such as RenewableUK to express such concerns is indicative of the commercial nature of wind energy in that country and to a similar extent in the Republic of Ireland. Representative organisations, concerned with smaller-scale wind farm operators here, such as the Meitheal Na Gaoithe co-operative, have found it very difficult to provide a platform for their members' interests in comparison to the vastly better resourced organisations sponsored by the big wind farm companies.

Member state	Wind power 'On-shore' €/kWh	Wind power 'Off-shore' €/kWh	Solar PV €/kWh	Biomass €/kWh	Hydro €/kWh
Austria	0.073	0.073	0.29 - 0.46	0.06 - 0.16	n/a
Belgium	0.05	0.09 - 0.107	0.15	n/a	0.05
Bulgaria	0.07 - 0.09	0.07 - 0.09	0.34 - 0.38	0.08 - 0.10	0.045
Cyprus	0.166	0.166	0.34	0.135	n/a
Czech Republic	0.108	0.108	0.455	0.077 - 0.103	0.081
Denmark	0.078	0.078	n/a	0.039	n/a
Estonia	0.051	0.051	0.051	0.051	0.051
Finland	0.0835	n/a	n/a	n/a	n/a
France	0.082	0.31 - 0.58	n/a	0.125	0.06
Germany	0.05 - 0.09	0.13 - 0.15	0.29 - 0.55	0.08 - 0.12	0.04 - 0.13
Greece	0.07 - 0.09	0.07 - 0.09	0.55	0.07 - 0.08	0.07 - 0.08
Hungary	n/a	n/a	0.097	n/a	0.029 - 0.052
Ireland	0.057-0.059	0.14	n/a	0.072	0.072
Italy	0.3	0.3	0.36 - 0.44	0.2 - 0.3	0.22
Latvia	0.11	0.11	n/a	n/a	n/a
Lithuania	0.10	0.10	n/a	0.08	0.07
Luxembourg	0.08 - 0.10	0.08 - 0.10	0.28 - 0.56	0.103 - 0.128	0.079 - 0.103
Malta	n/a	n/a	0.0466	n/a	n/a
Netherlands	0.118	0.186	0.459 - 0.583	0.115 - 0.177	0.073 - 0.125
Poland	n/a	n/a	n/a	0.038	n/a
Portugal	0.074	0.074	0.31 - 0.45	0.1 - 0.11	0.075
Romania	n/a	n/a	0.027 - 0.055	n/a	n/a
Slovakia	0.05 - 0.09	0.05 - 0.09	0.27	0.072 - 0.10	0.066 - 0.10
Slovenia	0.087 - 0.094	0.087 - 0.095	0.267 - 0.414	0.074 - 0.224	0.077 - 0.105
Spain	0.073	0.073	0.32 - 0.34	0.107 - 0.158	0.077
Sweden	n/a	n/a	n/a	n/a	n/a
	0.31	n/a	0.42	0.12	0.23

Table 5.7 Breakdown of EU government feed-in tariffs (Source: European Commission, 2010).

This hostile environment towards small-scale and community-focused wind operators in Ireland has also been largely reflected in the behaviour of the state's largest energy company, the ESB. When it was responsible for managing the country's national grid, prior to the establishment of Eirgrid, the semi-state body consistently resisted pressure to accommodate the smaller wind energy producers, citing connectivity costs and the underlying intermittency issues associated with the technology as a defence. It has now warmed to the idea of utility scale wind power generation, in light of the successes made by Airtricity (the country's dominant wind energy producer). Its purchasing of Hibernian Wind Power Ltd, along with the opening up of competition in the market as a whole, has seen it rapidly diversify into wind energy since 2009. Like incumbent utilities elsewhere in Europe it has been largely satisfied to protect its market share and aggressively sought to freeze out any challenges to its dominant position in the market. This stance was obviously market-orientated, however it was also coloured by its negative experiences during the late 1950s, when it first looked at wind power as part of its energy portfolio, and again during the 1980s (Haverty, 1982) when the technology was nowhere near as advanced as it is today. The relative financial security brought by the introduction of the REFIT scheme and pressure to reduce carbon emissions incentivised the ESB to take another look and diversify into wind. This rapid turn-around in policy has seen it invest heavily in the wind sector, both Ireland and in the UK, with Hibernian Wind Power now owning over 211MW in operating capacity. A further 789MW is currently in development including the massive joint-venture 320MW wind farm at Oweninny in County Mayo. In partnership with Bord na Móna, the semi-state body responsible for the commercial exploitation of Ireland's peat land resources, Oweninny is set to become one of the largest onshore wind farms in Europe and is in keeping with Ireland's market-driven approach to developing wind.

If we return to Table 5.7 for moment we can see that Ireland's feed-in tariff rate for onshore wind power is the third lowest in the EU. Only Estonia and Belgium offer lower rates, with both countries possessing nowhere near the same wind resources found here. In an effort to improve Ireland's support structures for renewable

energy the then Minister for Communications, Energy & Natural Resources, Eamon Ryan, launched a pilot program in February 2009 guaranteeing a "net" tariff of €0.09/kW-h for micro-generator projects of up to 11KW capacity, which includes small wind turbines. This program runs along similar lines to the UK's FITs scheme. However given that it is not a true feed-in tariff, since it only allows payment for "excess generation" pumped back into the national grid (Gipe, 2009), and also because of its relatively low pricing structure it remains to be seen if it will make a meaningful contribution to wind energy deployment in this country. Writing on the internet forum Boards.ie, shortly after its launch, Quentin Gargan highlighted the disparity of pricing and support structures for the two schemes operating on either side of the border on the island of Ireland. Despite both jurisdictions being part of the all-Ireland Single Electricity Market (SEM)⁶⁴ the disparity of both support schemes is glaring. Somewhat perplexed Gargan states that:

in Northern Ireland the feed-in tariff is 7.4p sterling per KwHr and that a further 4.5p is paid for Renewable Obligations Certificates (ROCs) whereby the carbon credited is purchased for all energy produced by the wind turbine (including electricity used by the customers themselves).

(Gargan, 2009)

Even when one ignores the Renewable Obligations Certificates (ROCs) and only allows for a comparison through the exchange rate between sterling and euro, it is clear that wind energy producers in Northern Ireland enjoy a more favourable support structure than their counterparts south of the border. Table 5.8 below gives a more detailed breakdown of the Irish government's feed-in tariffs across the board. In addition to the obligation on licensed electricity suppliers to purchase all renewable electricity supplied to the grid at these fixed rates, through the PPA system, the electricity consumer is also expected to bear some of the burden of investment through the continued application of PSO levies. First introduced in 2003, the PSO levy has been annually revised by the Commission for Energy Regulation (CER) and its cost has fluctuated depending on the ability of the peat

⁶⁴ The Single Electricity Market (SEM) came into being in 2007. It is jointly run by Eirgrid Plc in the Republic of Ireland and System Operator Northern Ireland (SONI Ltd) in Northern Ireland. The Eirgrid Group, which owns both Eirgrid Plc and SONI Ltd, controls the Single Electricity Market Operator (SEMO) and operates the SEM for the entire island of Ireland.

industry to maintain competitiveness in a given year. During the period from 2003 to 2004 the PSO cross-subsidy for peat was four times that for wind (Douthwaite and Healy, 2005). The application of PSOs across multiple support structures for everything including the aviation industry, indigenous peat production and renewable energies, has created confusion as to its main purpose with some critics of wind energy claiming that it is subsidised artificially and therefore could not survive without the PSO. This however ignores the fact that the vast majority of the PSO levy is used annually to shore up losses in the peat-generated electricity sector (itself owned and operated by the ESB).

Resource	Technology	Support level €cents/ kWh+	Feed-in tariff or premium?	Start year	Duration [years an investor is entitled to support]
hydro	small	7.2	feed-in tariff	2006	15 years
wind	onshore	5.7-5.9	feed-in tariff	2006	15 years
wind	offshore	14	feed in tariff	2006	15 years
biomass	Landfill gas	7.0	feed-in tariff	2006	15 years
biomass	solid	7.2	feed-in tariff	2006	15 years
biomass	Anaerobic digestion (biogas)	7.2	feed-in tariff	2006	15 years
ocean	offshore	22	feed-in tariff	2008	15 years
CHP	onshore	12	feed-in tariff	2008	15 years

Table 5.8 Breakdown of Irish government feed-in tariffs (Source: EREC, 2009: 6).

Throughout the course of this research numerous references to the PSO were made by anti-wind campaigners when justifying their contention that wind energy is unsustainable and uncompetitive. Douthwaite and Healy, writing in a 2005 report on behalf of FEASTA and Friends of the Irish Environment, have gone so far as to question the usefulness of PSOs altogether, since they are:

essentially subsidies for employment creation and, probably as an
afterthought, reducing Ireland's heavy dependence on imported fuel.

(Douthwaite and Healy, 2005: 26)

Despite reservations expressed by commentators such as Douthwaite and Healy, and given the government's decision to abandon the AER competitions in favour of the REFIT scheme, the PSO Levy remains in place. In recent years the CER has calculated the levy to be so low, in relative terms, that the final payment for the

consumer was set to zero for both 2008 and 2009, which questions further its exact purpose.

The REFIT scheme itself has been capped at 1,450MW of installed capacity for eligible wind farm proposals. This restriction has raised concerns with industry commentators given the amount of planning applications being processed at present is double that figure at over 3,000MW. Questions have also been raised regarding the eligibility of applicants to avail of the scheme once the cap has been reached and, coupled with the uncertainty of a guaranteed grid connection, it has been suggested that many applicants are facing an uncertain future once their planning application has been considered (IWEA, 2010). A spokesperson for the Department of Communications, Energy and Natural Resources (DCENR) has confirmed that plans are afoot to extend the scheme beyond the 1,450MW cap, but state-aid approval needs to first be sanctioned at EU level before the department can in turn approve this. The department's spokesperson was not able to give a specific timeframe as to when this would happen.

5.5 The Spatial Context: National Planning Policy towards Wind Power

Given the importance of wind turbines as national strategic infrastructure and the multiple nuanced spatial factors one must consider when regulating their construction in accordance with the energy policy guidelines mentioned earlier, the relative complexity they engender becomes increasingly apparent. This is especially true when one considers the landscapes from which they harness the best wind regimes are frequently ones that:

...society values the most, often with high cultural significance, important ecological niches and rare "wildness" qualities.

(Ellis et al., 2009: 525)

The government, therefore, as part of its overall renewable energy strategy has had to consider the planning policies needed to best suit the energy supports it was implementing, while at the same time maintain a continued precedence for

planning to ensure the spatial integrity of the landscapes within which the turbines were to be erected. Working with the Department of Communications, Energy and Natural Resources⁶⁵ the then Department for Environment published its “Wind Farm Planning Guidelines”^{66,67} in 1996. This evolving document was to provide a roadmap for the planning departments within each local authority when dealing with the inevitable increase in planning applications for wind farms in the years ahead. It was also intended to help bring a degree of certainty to potential developers, who needed assurances that they were making a valid planning application in keeping with the guidelines. The guidelines also made clear that the local authorities were now obliged to incorporate a policy position on renewable energy into all future development plans, especially with regards to their strategy towards wind energy development; going so far as to provide the preferred wording for such policy statements as follows:

3.2 The policy statement should include the following:

- acceptance of importance of wind energy as a renewable energy source when carried out in an environmentally acceptable manner.
- an indication of the factors which would determine whether or not wind farm development would be open for consideration in a particular area. These would include:
 - whether an area has significant wind energy potential on the basis of the nature and extent of the wind resources in the area,
 - the suitability/strength of the grid and accessibility to it, - the suitability of the site, having regard to its other land use policies, including the need to protect areas of important built and natural heritage from inappropriate development, and

⁶⁵ At the time the department was operating as the Department of Transport, Energy and Communications.

⁶⁶ It is also worth noting that while this document has been continually revised and updated since its publication, in order to accommodate changes in national renewable energy policy, advancements in wind turbine technology and modification of procedures to encourage wind energy at a local planning level, Kerry County Council continues to refer to it, along with the revised 2006 versions, in the planning guidelines section of its website. The updated 2006 Wind Energy Development Guidelines supersede the 1996 document as far as the Department of Environment is concerned.

⁶⁷ The Department of the Environment, as the ministry was referred to from 1977 to 1997, was headed at the time by Brendan Howlin, a Labour Party minister, who formed part of the so-called “Rainbow Coalition” government of Fine Gael, the Labour Party and Democratic Left. It held power between 1994 and 1997, which was a key period when much of the government strategy was being formulated in relation to renewable energy and national responses to anthropogenic Climate Change. The department adopted its present name of Environment, Heritage and Local Government in 2002.

- any other (local) planning considerations, including measures to minimise the impact of proposed wind farms in the local environment.

(Department of the Environment, 1996: 5)

These guidelines ensured that each local government was aligned to national policy, while at the same time leaving allowances for the local authorities to interpret the guidelines as they saw fit, in accordance with local circumstance. This has resulted in the rate of wind turbine deployment varying considerably across the country, since the guidelines were first introduced. This can be explained in part as dependent on the varying wind regimes present in the areas administered by the various local authorities. Notwithstanding, the corporate culture found within each organisation has also been a significant factor. A number of developers expressed the opinion that they saw the attitude towards wind farm applications range from professional detachment to open hostility, depending on the planning regime within each local authority. It was intimated that the degree of success a given wind farm proposal could enjoy was very often dependent on the level of expertise and knowledge that the assigned planner had in relation to the specifics of wind-related structures and the relationship these structures had with the landscape. At times, however, it has been suggested that an application was more often considered predominantly on the aesthetic values of key policy drivers within the specific local authorities involved. These aesthetic values in turn influenced a certain “cultural attitude” within organisations where subordinate members in charge of processing applications would be well aware of the chances for final acceptance and would act in accordance with those probable outcomes rather than take each application entirely on its own merits.

It was not until the 2000 Planning and Development Act came into law that we begin to see all nationally applicable planning codes and regulations coming under the one piece of legislation. The Act brought together all previous post-1963 planning laws, including those pertaining to major infrastructure such as wind

farms⁶⁸. During the same year that this Act was brought into law the Renewable Energy Strategy Group (RESG) published *A Strategy for Intensifying Wind Energy Deployment*, which addressed in some detail the spatial planning considerations needed to promote wind energy deployment within the various local authorities. Chaired by John Fitz Gerald of the ESRI⁶⁹ for the Department of Public Enterprise between 1999 and 2000, and subsequently written by the group's facilitator Brian Ó Gallachóir, this report was commissioned partly in response to the government's 1999 Green Paper on Sustainable Energy. It made a number of key recommendations for the local authorities including a call to adopt a more "plan led" approach to the deployment of wind turbines in their respective jurisdictions. This process, it was suggested, should include:

...identifying areas which are deemed suitable or unsuitable for wind energy development, under the following categories

- Strategic areas – these key areas are deemed to be eminently suitable for wind farm development and should be reserved for such purposes.
- Preferred areas – these areas are suitable for wind farm development and should normally be granted planning permission unless specific local planning circumstances would support a decision to refuse permission in the context of the development plan.
- Areas open for consideration – applications for planning permission will be treated on their merits with the developer having a clear responsibility to demonstrate why the development should be granted permission.
- No-go areas – these areas are identified as particularly unsuitable for wind farm development.

(Renewable Energy Strategy Group, 2000: 9)

These recommendations would go on to become the cornerstone of wind energy policy for local authorities across the country and is certainly true for Kerry County Council as one can see in its latest *County Development Plan 2009-2015*. Cork County Council in comparison adopted a slightly more nuanced approach to its own wind energy strategy, incorporating work it carried out on wind regimes in the

⁶⁸ The Act would later be amended in 2006 under the Planning and Development (Strategic Infrastructure) Act, in order to streamline the consent procedures for major infrastructural projects, especially wind farms over a 50MW capacity. The Act gave An Bord Pleanála direct responsibility for deciding on such projects from the outset, thus bypassing the role the local authorities previously held.

⁶⁹ The Economic and Social Research Institute is a national, independent research body "that helps inform economic and social policymaking in Ireland" (ESRI, no date).

county into its policy framework. Both local authorities will be looked at in more detail in subsequent chapters. Another recommendation from the report related to the development of a national Wind Atlas⁷⁰ for Ireland, which would provide a digital map of the richest wind energy resources on a county by county basis. Information regarding the electricity transmission and distribution network for the country, in relation to the most applicable wind resources, was also to be made available with the atlas. Funded through the EU's ALTENER II Programme⁷¹ the Wind Atlas was launched in 2003 at the Fresh Air Wind Energy Conference in Sligo (SAEI, 2010) and disseminated to all local authorities within the state in an effort to guide them in developing their own wind energy strategies in forthcoming development plans. The Wind Atlas⁷² proved to be a strategically useful policy tool in this respect; however a planner working for Cork County Council at the time was somewhat disappointed with its level of detail, considering it to be well below what was needed to properly evaluate the site-specific merits of each planning application. This lack of appropriate detail did not stop what has been termed a "wind rush", with planning applicants using the Wind Atlas as the standard reference for identifying areas which could be deemed suitable or unsuitable for wind energy development (Renewable Energy Strategy Group, 2000).

Following on from the work carried out by the RESG in 2000, the government launched a consultation document *Options for a Future Renewable Energy Policy, Targets and Programmes* three years later in 2003. This document set out a number of sustainable resource targets for the electricity market and identified certain perceived barriers to achieving them. Contributors to the process ranged from academic researchers to wind industry companies such as Airtricity. One contributor, the CEO of the West Cork Leader Co-Op, had been aware of successive wind farm applications from previous AER competitions and saw a potential for concentrating development inland and away from the coastal areas of the county,

⁷⁰ Commissioned by the precursor to the SAEI, the atlas was developed in joint partnership by the now defunct consultancy firm Truwind Inc and ESBI Engineering.

⁷¹ ALTENER II, which operated between 1998 and 2002, funded research into renewable energy sources within the EU. It later became the Intelligent Energy - Europe programme.

⁷² Essentially an expanded and updated version of the Ireland chapter in the 1989 European Wind Atlas (Watson, 1999).

which had traditionally seen the greatest infrastructural and investment supports.

Stating that:

An analysis of trends from successive censii in 1991, 1996 and 2002 illustrate starkly the difficulties that many areas, particularly within the hinterland of the towns of Macroom and Dunmanway, have had in diversifying the economic base. Conversely, while these areas have had difficulty in stimulating tourism and service sector activity, these areas are precisely those that offer opportunities for renewable energy production. The areas designated by Cork County Council as Strategic Search Areas suitable for wind farm development are located within this nexus.

(Ian Dempsey, 2004)

These contributions led to the establishment of the Renewable Energy Development Group (REDG)⁷³, which was tasked with identifying a road map to deliver on the 2010 targets. In addition, a number of subgroups were also set up to contribute to the work of the REDG and culminated in the publication of the *All-island Energy Market: Renewable Electricity – A 2020 Vision* in 2005, which mapped out an all-island strategy for the next fifteen years up to 2020 (SAEI, 2010). In keeping with intergovernmental commitments made as part of the Northern Ireland peace process the government, along with its counterparts north of the border, sought to consolidate the two electricity markets on the island of Ireland under one common “all-island” strategy to be led by the Joint Steering Group that had been appointed in 2003. These efforts resulted in the establishment of the Single Electricity Market (SEM), discussed on page 136, with the two Regulatory Authorities; the republic’s Commission for Energy Regulation (CER) and the Northern Ireland Authority for Utility Regulation (NIAUR), overseeing the joint venture operated under Eirgrid PLC and SONI Limited.

This initiative did not change the spatial planning considerations for local authorities operating under either jurisdiction but it did bring an extra dimension to the contexts planners, especially those working in border counties, needed to consider when evaluating a given wind farm proposal. It also provided a template for six possible scenarios (or “portfolios” as referred to in Table 5.9, see below) that the

⁷³ The Renewable Energy Strategy Group had since disbanded, having completed its 2000 report.

island of Ireland could take in fostering greater wind energy development. This report provided a number of useful insights into the joint thinking of policymakers from both jurisdictions on the island at that time. As we can see from table, wind power remains the most significant renewable energy source in all six scenarios/portfolios.

	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4	Portfolio 5	Portfolio 6
LFG	68	68	68	68	68	68
Biogas	73	73	73	73	206	269
Biomass	25	25	25	25	92	167
Co-Firing	104	104	104	104	104	104
Sewage Gas	4	4	4	4	4	16
Ocean Tidal	70	70	70	70	200	200
Ocean Wave	0	0	0	0	0	1400
Wind	2000	4000	4000	4000	6000	8000

Table 5.9 Table of renewable generation targets for 2020, in MWe, for the eight key renewable energy resources, identified in the *All-island Energy Market: Renewable Electricity – A 2020 Vision*. Note that wind energy capacity is by far the greatest in all six portfolios/scenarios, with Portfolios 1 to 4 being easily achievable given the level wind farm applications going through the planning phase at present. Portfolios 5 and 6 are dependent on significantly greater financial supports in the years leading up to 2020 than have heretofore been realised, especially in relation to the potential rapid investment into Biogas, Biomass and the Ocean Tidal and Ocean Wave technologies that remain to be proven commercial opportunities. This table should be read in conjunction with Map 2, on page 161, which shows the geographic distribution of each portfolio/scenario and where the report sees the greatest development occurring for all the different technologies (Source: DCENR, 2008b: 6).

A note of caution should be taken with regard to these figures, however. Speaking to an official intimately involved in producing the report, it has been suggested that while the figures relating to wind energy are perfectly reasonable⁷⁴ those pertaining to both types of ocean energy are overly ambitious in the extreme. The figures used to calculate the estimates for both Ocean Tidal and Ocean Wave over all six portfolios/scenarios were in fact taken from an unproven technology source, which subsequently ran into all manner of difficulties when it was eventually trialled at its oceanic test site. These difficulties led to the eventual abandonment of that round of testing and the company promoting the technology had to go back to the

⁷⁴ Albeit all calculations were done using only one type of wind turbine, which could not accurately reflect the level of complexity needed to get a more precise estimate.

drawing board in order to address those failures. The official suggested that the emphasis on both forms of Ocean energy was highly aspirational and promoted on purely political grounds. Policymakers needed to be seen to champion the development of these new technologies, rather than it reflect any sort of proven commercial potential for the technologies at that time. Also, another note of caution needs to be highlighted here given, as we can see from Table 5.10, the bulk of wind energy capacity still remains in the grid or planning application stages. The majority of those applicants are unsigned and remain outside the REFIT scheme, and consequently are vulnerable to the European Commission’s decision on “state aid” (see page 138). The table refers to the total number of applicants across the three tranches of allocated capacity, Gates 1, 2 and 3 ⁷⁵.

Category	Capacity MWe
Grid Connected/Operational	723
Contracted with Grid	795
Unsigned Grid Applicant	3241
In Planning	949
Total	5708

Table 5.10 Table showing Ireland’s total wind energy capacity comprising of applicants currently connected/operational, contracted, unsigned or in planning. As they currently stand they are sufficient to meet the requirements for Portfolios 1, 2, 3 and 4 in Table 5.9 (Source: DCENR, 2008b: 8).

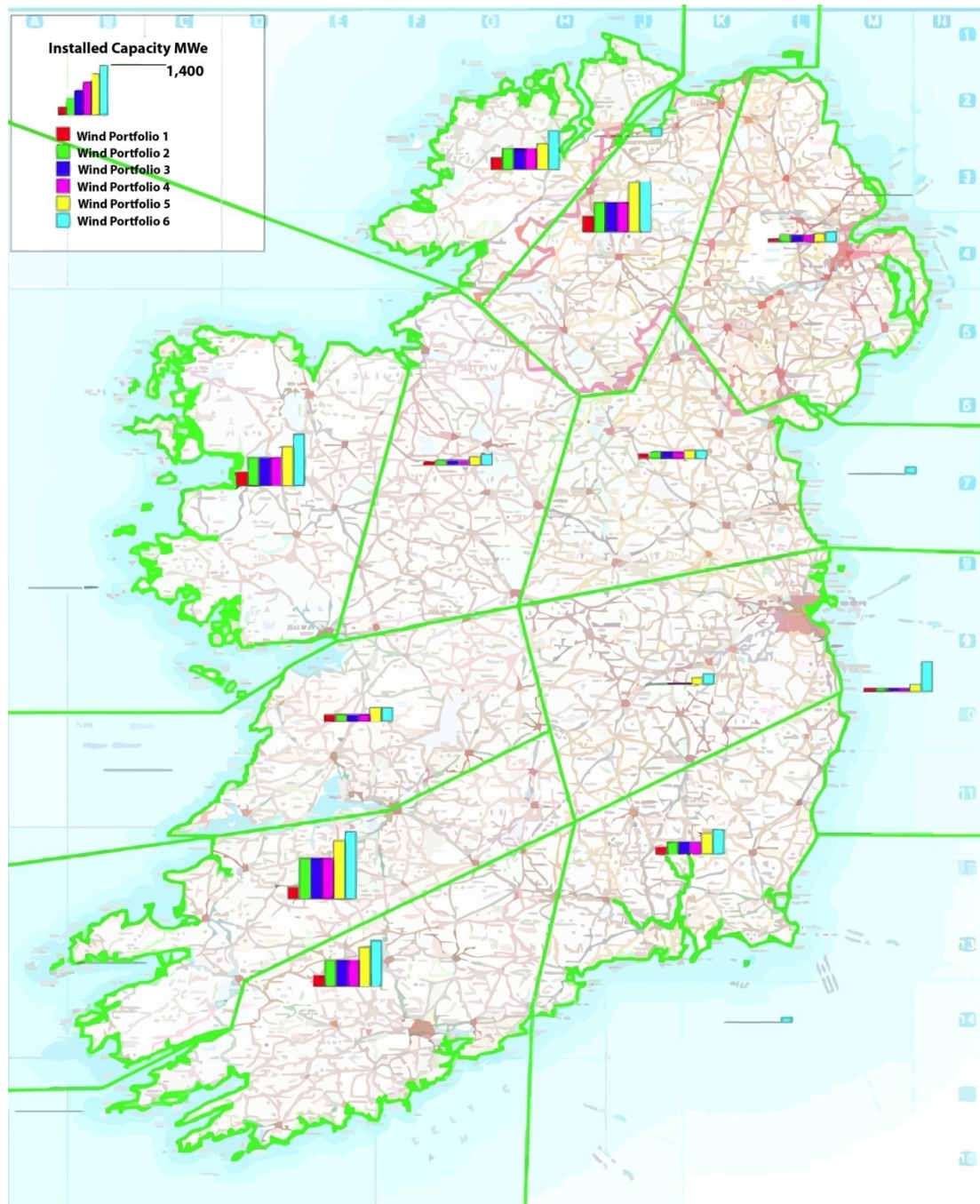
Gate	Size of Gate	Criteria set	All connection offers issued by
Gate 1	373MW (34 applicants)	2004	2005
Gate 2	1,321MW (121 applicants)	2006	2008
Gate 3	3,000MW (151 applicants)	2008	2010

Table 5.11 Timeframes for Gates 1, 2 and 3. Applicants for Gates 1 and 3 were selected along a chronological sequence of connection applications, while Gate 2 was based on a complex set of criteria including date of application, extensions, and system optimisation. When we compare the figures here to Table 5.10 we see that 1,014 MW lie outside the parameters of the Gate process, which is a concern for industry representatives such as the IWEA (Source: SEI, 2008: 32).

The report mapped out where it saw future, projected wind energy development in terms of the all-island power system, along spatially distributed regions of installed wind power capacity, again using the six portfolios/scenarios of projected wind

⁷⁵ Gate refers to the Republic of Ireland’s Group Processing Approach (GPA) to renewable generator electricity grid connections. Each round has a set limit on the amount of installed capacity available.

capacity to 2020. The report's authors divided the island into eleven onshore and ten offshore zones, as Map 2 below shows. Of the eleven onshore wind zones two incorporate the territory of Northern Ireland while the other nine are allocated to the Republic of Ireland.



Map 2 Map showing the wind generation zones for installed wind capacity for the island of Ireland, dependent on six different wind portfolio scenarios to 2020. Note the greatest wind capacity in all six scenarios lie to the western regions of the island (Source: DCENR, 2008b: 9).

From the map we can see that the most important identified regions of the island lie to the south-west, west and north-west counties in the Republic of Ireland and the western counties of Derry, Tyrone and Fermanagh in Northern Ireland “in terms of potential wind penetration in selected zones of the island” (DCENR, 2008b: 9). The same official throws some interesting light on to the decision making processes that went into the creation of these particular zones as they appear on the map. It has been suggested that they are somewhat of an artificial creation, since the final decision on how the zones would appear rested with the steering committee over the report, rather than with the consultants who carried out the research. The decision on how those zones were to appear on the map were made by representatives from Eirgrid and its Northern Ireland counterpart SONI, who were both on the steering committee; and while there was an emphasis on maximising the overall strength of the two electricity grids it does suggest that political factors were integral to the decision making process.

This departure into an all-island electricity network will have significant bearing on all counties in Ireland and the importance allocated to the south-west, west and north-western counties of the island is only set to increase in the future. Given the mixed levels of success thus far, due in large part to the decoupling of planning regulations and grid connection timelines (along with poor delivery of strategic infrastructure such as upgrading the national grid) it remains to be seen if these figures will ring true in 2020.

5.6 Conclusions

There is a common misconception that the era of EU funding opportunities for Ireland has now passed into history...In fact, Ireland...continues to benefit from access to a raft of funding opportunities, some of which are accessed on a national level and some available to innovative organisations pursuing initiatives that can demonstrate a ‘European’ angle.

(Gingles, no date)

This chapter has shown how the multi-level government structures of an EU member state have responded to policy initiatives from the supranational network.

It also concludes the first half of this thesis with an analysis of how turbulence develops in (supra)national and local policy flows. It began by looking at instances of turbulence at the supranational level, where concerns over energy security and climate change contributed to ideological conflicts over how best to meet those challenges. It then followed the policy chain to the national level and examined how Member States, in this case Ireland, incorporated many of the determinants for turbulence into its own energy and spatial strategies for wind, with often similar outcomes to those experienced at the supranational level.

The role geography has to play in our understanding of these processes can in its simplest terms be understood in relation to the regional responses to those wind energy strategies of national and supranational policy centres. While the AER competitions do not provide a complete picture of wind energy development at the time, since a significant number of projects went through the planning processes without ever being involved in these contests, analysis of the government's evolving attitude to the competitions provides a useful insight into how policy was translated into action at national and then local levels.

However, it should be noted that while the development of wind farms across the country has been somewhat sporadic to date, those counties that have gone on to embrace the technology have come under some criticism particularly in the pioneer counties of Cork, Kerry and Donegal (The Irish Times, 2002; Donegal Democrat, 2010). An important assessment comes from the NPWS, in its *Blanket Bog Conservation Status Assessment Report (2008)*, which highlights that over 70% of the total number of wind farms in the country had been built on blanket bogs, including a large proportion in the three pioneer counties. In the report they observed that:

on numerous occasions wind farms are located at the edge of designated sites that may have significant impacts on the status of blanket bog. Furthermore, wind farms have had serious impacts on undesignated blanket bogs and this is considered an increasing threat [and] by building on blanket bog (massive carbon stores) greenhouse gases are released to the atmosphere by direct degradation (excavation and removal of bog vegetation and peat, erosion or

peat slides) or by disruption of bog hydrology and capacity to form peat /store carbon). Thus, by impacting on carbon dynamics in peat soils in this way the construction of wind farms on blanket bog is likely to release greenhouse gases and impair the carbon sequestering function of the bog by impairing or causing the cessation of peat-formation.

(NPWS, 2008: 14)

Despite these concerns Kerry, Cork and Donegal will continue to be the most developed counties on the island in relation to built wind farms. The role that the NPWS has played in final planning permission decisions will be assessed in greater detail in the following three empirical chapters, most notably in Chapter Seven in relation to a specific wind farm proposal that would have impacted on a newly designated Natural Heritage Area (NHA). All three chapters will look at how EU and national wind energy policies were translated into local action in the main research area for this thesis, the regional southwest of Ireland. As they will show, these translations were not always successful and their significance can be determined by the fact that outcomes at the local level very nearly jeopardised Ireland's efforts to fulfil its obligations to meet EU renewable energy targets.

Chapter Six

Mobility and Turbulence in Response to New Policy Flows: Tarbert, County Kerry

Many features of chaos are mirrored in turbulent flows and this has led some writers on chaos to use the words interchangeably. Both terms appear in ordinary language, where they do have an overlap of meaning, and both are used in scientific settings where they do not have generally accepted, precise definitions. Whether satisfactory definitions of these terms can be found before the subjects are better understood is not clear. But practitioners of both subjects can name the symptoms that should be present before a process can be considered to be chaotic or turbulent.

(Spiegel, 1987: 87)

6.0 Introduction

From the outset, a fundamental objective of this research has been to assess public policy as a system of flows, in order to understand how these multi-scalar mobile exchanges generate instances of resistance at the sites where policy is eventually implemented. These places can and do have very real impacts on the relative success or failure of a particular policy, and local perception and representation play key roles in the acceptance/rejection of wind turbine proliferation amongst the usually small rural communities contextualised within these flows. While resistances to wind power policy have usually been framed as NIMBYism, section 3.4 has shown through the literature that local concerns have tended to be more nuanced than that rather pejorative assessment allows for. These communities are often seen as geographically isolated, however they are at the same time highly networked and socially engaged when it comes to responding to the perceived threat a proposed wind farm will have on *their* landscape. This chapter will look at one community's experience, the north Kerry town of Tarbert. Situated near the mouth of the Shannon Estuary, Tarbert has a long-established historical experience of industrial-scale electricity utilities.



Map 3 Overview Map of Tarbert Wind Farm proposal. The Case Study area appears in orange on the map. Note the presence of Beal 1 and 2 wind farms to the west of the study area (circles with capacities of 1.65MW and 2.55MW), which lie at the mouth of the Shannon Estuary and possess higher mean wind speeds than at Tarbert.

Since the Tarbert planning proposal was part of the first wave of commercial wind farm applications for the country, much of what will be discussed in this chapter is historical in nature, though feelings have remained notably acute for some members of the community despite the years that have passed since the final

planning decision was concluded. Tarbert is an interesting case study for a number of reasons and is in many ways illustrative of the institutional and local community dynamics that can become polarised and quickly confrontational when a planning dispute intensifies and ultimately hardens public opinion into *for* or *against* positions that become difficult to renegotiate from once they are adopted.

It also demonstrates how many local authorities were simply unprepared to adequately accommodate the new energy policies that the EU, in tandem with national government, was now advancing. Nor were they prepared for the near kinetic contests of opinion that the subsequent technology shift towards commercial wind energy would engendered amongst the local communities affected. Disputes around wind farms have in many ways shown that the rather simplistic, dualist notion of adopting an “either or” position when it comes to techno-environmental issues, the “ecocentric-anthropocentric’ continuum” Humphrey (2007) refers to, remains largely absent in contemporary highly networked, glocalised (Robertson, 1995; Khondker, 2004; Giulianotti and Robertson 2007) communities that are expected to accommodate them. This chapter will show that disputes centred on wind farms are by no means straightforward instances of NIMBYism, though it can be a factor, but rather are an amalgamation of contested ideologies on place identity and place protective action (Devine-Wright, 2009), neighbour-orientated animosities and pragmatic responses to real and imagined threats that become essential discourses to the protagonists involved.

6.1 Tarbert Wind Farm: a background to the proposal

The local government response to the EU’s renewable energy policies, going back to the mid-1990s, has already been assessed in the previous chapter. Kerry County Council, the local authority responsible for the spatial planning concerns of Tarbert and north Kerry in general was somewhat of an early-adaptor to wind energy policy and is set to surpass Donegal in terms of the number of wind farms operating within its boundaries in the coming years to 2020 (Belfast Telegraph, 2010). It should also be noted that the period during which both Kerry and Cork were to decide upon

their first wind farm proposals corresponded with Ireland reaching the height of its recent economic boom, the so-called Celtic Tiger years, from the mid-1990s to the early 2000s. Also, considering the prevailing attitude of the time towards persistent racheting up of investment in strategic infrastructural projects, and given that the construction industry was now beginning to pervade all corners of Irish life, this is not an insignificant factor in its own right.

While the increased self-confidence and economic “lift” experienced by many within Irish society at the time can be seen in a positive light, there was a certain degree of hubris or what Jeff Berman has described as a “develop at all costs” attitude that permeated certain sections of Irish society. Berman, a director of the wilderness advocacy organisation Colorado Wild, was criticising the plans of a Texas billionaire to construct a massive ski resort in a remote part of Colorado with all the inevitable environmental impacts that this development would have. This example provides a certain degree of correlation between Irish attitudes at the time and the Americanised notion of a “wind rush”, with developers involved in a dithyrambic scramble, both physically and rhetorically, to be part of this emerging “green” investment opportunity.

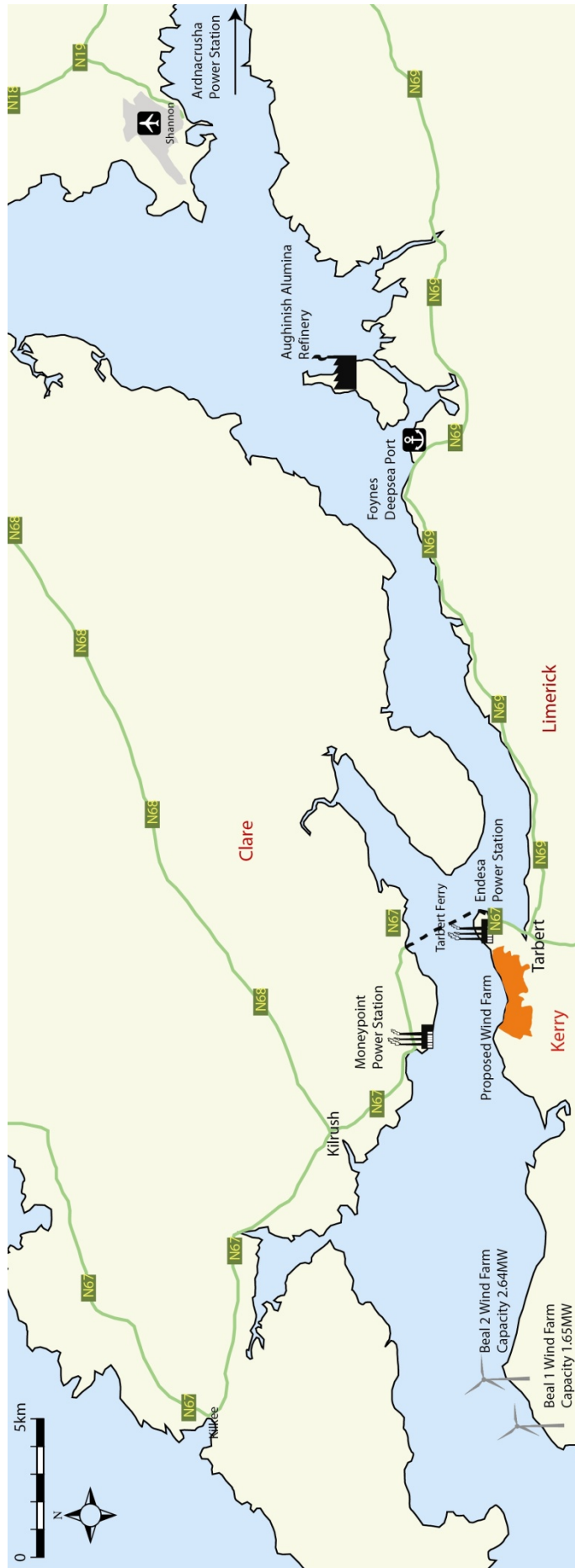
The north Kerry town of Tarbert, a popular town-name along the western seaboards of Ireland and Scotland (Murphy, 2009), has long historical ties to the Shannon Estuary. This link to water and trade is reflected in its Gaelic name, *An Tairbeart*, which has its roots in the Norse word meaning “isthmus” or “draw-boat”; most likely referring to the shape of the narrow strip of land that links the island to the mainland. As one can see from the figures below, the landscape along the estuary is relatively flat with the slight undulating, patchwork-effect field-systems that predominant in much of rural Ireland. When observing the aerial photograph in Figure 6.1, one can see that the lands meeting the estuary, especially on Tarbert Island; have experienced the greatest level of industrial development. The tall chimney stacks that rise from the edge of the water in the middle of the photograph indicate the intense industrial development associated with the Endesa Electricity Power Station located on the island.



Figure 6.1 Aerial photograph of Tarbert Island, Co. Kerry. Note the ferry port to the left of the electricity power station in the centre foreground. This image highlights the disparate nature of development along the Shannon Estuary, with areas of intense industrial activity, the power station and ferry terminal in the foreground, interspersed into a largely rural mixed-use landscape (Source: © John Herriott).



Figure 6.2 This photograph of Moneypoint, Ireland's largest (and only coal-fired) power station, was taken onboard the Killimer/Tarbert Ferry. As in *Figure 6.1* note the disparate nature of industrial development, with areas of intense industrial activity contrasting with the more rural land-use patterns found at the water's edge (Source: © Copyright Warren Buckley, licensed for reuse under the Creative Commons Licence).



Map 4 This map of the Shannon Estuary shows the Tarbert Wind Farm proposal in relation to some of the heavy industries located along its banks. Note that the proposed site for the wind farm was to sit adjacent to the heavy fuel oil (HFO), 590MW, Endesa Power Station situated on Tarbert Island. Endesa plans to build a new gas-fired facility beside the current plant with work to commence in 2012. The proposal will also be in plain view of the coal-fired power station at Moneypoint, on the north bank of the estuary. With an annual output of 915MW, Moneypoint is the State's largest electricity generating power station. Further east along the estuary Aughinish Alumina operates the largest alumina refinery in Europe, close to the deepsea port at Foynes and the subsequent shipping traffic it generates. While the hinterland may be largely rural the presence of heavy industry is obvious in the area and in some ways mirrors the dichotomous relationship wind turbines themselves share with this landscape.

However the surrounding landscape has also been influenced. If one observes closely one can see the numerous electricity pylons starting from the Endesa Electricity Power Station that disappear into the middle-distance, suggesting the visual impact of wind turbines may not have been as severe here as in other less-developed and less-populated parts of Cork and Kerry. Figure 6.2 offers an experiential view of the largest coal-fired power station in the country, at Moneypoint, as one would see it while traversing the estuary from Tarbert Island. The level of industrialisation here is hidden somewhat by the elevated riverbank but none the less it is a useful illustration of the type of heavy industrial development experienced along the estuary and the relationship it has with the surrounding landscape.

6.2 The Institutional Dynamics of a Planning Application: Tarbert, a Case Study

This atmosphere, which some commentators have referred to as a “wind-rush” (Mercer, 2003; Szarka, 2007) fostered a certain dynamic whereby both developers and local authority officials with varying levels of expertise were trying to come to terms with a somewhat unfamiliar energy technology that required institutional responses that individual planners were unable to provide on their own, especially during the early years of development. The proposal for Tarbert is one case in point.

It is generally agreed amongst the participant interviewees that Tarbert began to receive attention for potential wind development after comments were made in the mid-1990s by a Kerry County Council official at a workshop held to review the local authority’s 1996 development plan. At this meeting he questioned why attention had not been shown before to more industrialised, “working” landscapes in the county like Tarbert. Whether this official’s comments were just throw away remarks at the end of the meeting, as one interviewee has suggested or something more substantial, they do appear in Fehily Timoney & Company’s⁷⁶ planning application

⁷⁶ This Cork-based planning consultancy firm is now one of the most experienced wind energy consultants in the country.

to the council, on behalf of Tarbert Renewable Energy Ltd in 2001. Fehily Timoney took the official's comments from documents that came out of work carried out by Brian Ó Gallachóir titled the *Workshop Report: The Development Plan* as part of the council's 1996 review process and is reproduced as follows:

<p>Derek Daly, Kerry County Council</p>	<p><i>Why does development have to be in mountainous areas? What about more working landscapes, for example at Tarbert, Co. Kerry, which is an industrial site and which is believed to have quite a good wind regime and has a 200kv electrical connection?</i></p>
---	--

(Fehily Timoney, 2001: 10)

While the question is a valid one, it also set in motion a chain of events which ultimately led to a quite acrimonious dispute over how lands in Tarbert were to be used. It should also be noted that while both Fehily Timoney and the later An Bord Pleanála report both recognised that the planning official's comments bore no statutory weight in and of itself, it did still help to lend a sort of moral weight to the development, which Fehily Timoney were happy to use. Writing in 2003⁷⁷ on the state of Irish planning at the time, former president of the Irish Planning Institute, Ian Douglas, acknowledged the political aspect to planning in this country that can sometimes be forgotten:

planning is not solely concerned with plan preparation, it is also part of a political process aiming to balance all relevant interests - public and private – and resolving conflicting demands on space, place and the environment.

(Douglas, 2003)

Douglas was referring to the abuse of Section 140 motions in his article, which involved elected members of some local authorities, when dealing with one-off rural housing planning applications, using Section 140 of the Local Government Act 2001 to veto decisions made by members of the executive. Though not directly related to the planning decisions on wind energy installations, per se, it is a useful illustration of the political dynamics at play that can influence the final results of a given planning decision. It also helps to show how people's perceptions of a

⁷⁷ This article appears on the Construct Ireland website and can be accessed at <http://constructireland.ie/articles/0206planing.php>.

planning decision can be coloured by the wider political climate and how they understand the processes to work. The following two sections will address this in more detail.

6.2.1 The Planning Application: Kerry County Council

The original planning application was submitted to the planning department on 22nd February 2001 on behalf of Tarbert Renewable Energy Ltd (TRE Ltd), in conjunction with Airtricity, TRE Ltd's senior partner on the project. Due to the complex set of influences a spatial planning project may have on its environment such as roads, hydrology, atmospheric pollution, archaeological disturbance, to name but a few, numerous government bodies needed to be consulted. About three weeks after the initial submission the planning authority received a letter from the National Roads Authority stating that they had no problem with the proposal as there wasn't any need to carry out work on the public road network around Tarbert in order to facilitate the development. The Department of Public Enterprise, now the Department of Transport, also submitted a letter to the local authority through its Renewable Energy Division welcoming any renewable energy project which would contribute to a lessening of our dependence on fossil fuels in the production of electricity. While they had no comment to make on this specific case, they were still endorsing it as an example of national policy. Dúchas, the now defunct state heritage service, also communicated its expectation that an archaeologist would need to be present throughout the construction-phase of the development, in keeping with legislation.

Following on from these communications, and work carried out in its own offices, the planning authority requested further information from the applicant in April 2001, including:

- Additional photomontages including numbering of the individual turbines.
- A site layout plan indicating the location of the national grid line and all masts/lines and the proposed connection to same.
- Further detail of the impact of shadow flicker/movement on the individual dwellings in the vicinity.

- Further noise surveys are requested in the vicinity of the western environs of the town.
- The applicant is to liaise with the providers of MMDS⁷⁸ suppliers to request the precise details of transmission frequencies on any proposed interference. The applicant is also requested to elaborate on how the proposal will be integrated with any future industrial developments in the locality.
- The applicant is asked to comment on whether or not the proposal would interfere with navigational signals in the area.

(An Bord Pleanála, 2002: 8)

On the same day, 19th April 2001, as the request for further information was sent to the applicant, the planning department received a letter from Clare County Council expressing concern over the visual impact some of the more elevated turbines to the south and west of the development would have on scenic routes, which that county had designated in its Development Plan 1999. In a pre-planning meeting with Clare County Council, it had already been agreed that the linear configuration of the turbines, positioned in line with the estuary, would help to mask the existing electricity pylons already present near the site.

Tarbert Renewable Energy Ltd/Airtricity responded to the local authority's request in June of that year, providing all the information called for, including an updated Site Layout Plan and more photomontages of the proposed development. They also added an additional table indicating the number of houses that would be affected by the shadow flicker created as the turbine blades rotated at certain times of the year. The applicant also carried out a number of noise pollution surveys at Tarbert National School, which was estimated to be roughly seven hundred metres from the nearest turbine and would feature in later protests against the development. It was estimated that the presence of the turbines in the locality would add an additional two decibels to the general background noise of the school, which the inspector's report from An Bord Pleanála concluded would not have caused great concern or be legitimate grounds for complaint. Special emphasis was given to any likely affect noise from the turbines may have on the ability of teachers to conduct their classes

⁷⁸ MMDS (Multichannel Multipoint Distribution Service), now referred to as Business Radio Service (BRS), is the type of wireless telecommunications companies such as UPC (see p186) use to transmit their television and broadband services in Ireland.

inside the school building and was also deemed inadmissible. These findings however would later be disputed by those opposed to the development.

In addition to noise, the impact the turbines may have on television signals in the area was also looked at, with Chorus Cablelink (now rebranded as UPC) concluding that while the development would not directly disturb the workings of its transmission system a number of homes to the east of the development, facing Tarbert Island, may experience problems with reception once the turbines were constructed. The controversy around the interruption to television signals by wind turbines has rumbled on in Cork and Kerry for a number of years culminating in RTÉ, the state television and radio broadcaster, deciding in 2007 to seek planning permission to increase the mast height of its transmitter at Mullaghanish by an additional fifty metres (Irish Examiner, 2007), which they claimed was directly attributable to the construction of upland wind farms in the region.

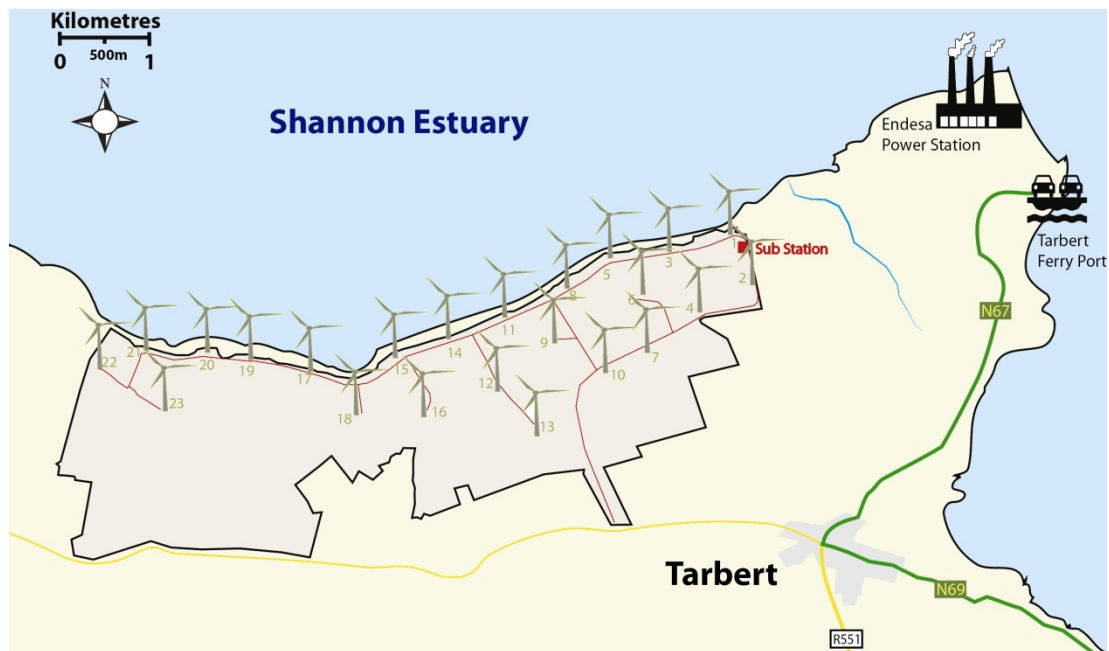
Another interesting contribution was made by the Shannon Foynes Port Company⁷⁹, which runs the second largest port operation in the country. They concluded that while they did not see any interference occurring to navigational signals in the estuary, they reserved their position on what influence the proposed wind farm would have on any future development of a deep sea port in the area. Given that the planning application indicated that any future industrial development would increase the roughness of the terrain around the wind farm, and as a consequence reduce wind efficiency and the subsequent energy yield, it is no surprise that Shannon Foynes Port Company would have some concern for the wind farm's influence on future developments in the area.

Tarbert Renewable Energy Ltd/Airtricity also submitted details to the council regarding the financial support they had secured for the project, including EU THERMIE⁸⁰ funding for six out of a total of twenty three turbines. Part of the

⁷⁹ See <http://www.sfpc.ie/>

⁸⁰ This shows the often considerable time-delay between the proposal stages and drawdown of funding for early wind farm projects. The JOULE/THERMIE Programme ran from 1994 to 1998 and

conditions for this funding was that the turbines were to be arrayed in a hexagonal formation with three of the THERMIE-funded turbines standing at a greater height to the other three. Arrayed in this way it was seen to be taking up the minimum spatial footprint and at the same time maximising energy efficiencies. This funding was also significant in that it provided an opportunity for local people to invest in the project; an achievement, in and of itself, given the prohibitive costs associated with developing a wind farm in Ireland.



Map 5 Map of the Tarbert Wind Farm proposal. Note the twenty three turbines to be situated along the shores of the Shannon Estuary, all serviced by the one road looping around the site. While the turbines would have been in close proximity to the Endessa power station they would have prevented possible future development of a deep sea port as put forward by the protesters.

The applicant submitted two further amendments to the proposal in September and October indicating the overall number of turbines was to be reduced to twenty installations, though all of the THERMIE-funded turbines were to remain. Changes were also made to the hub height of a number of turbines. A total of seven turbines on the eastern coastline were to be eighty metres in height, while the six turbines

was set up to encourage research and technological development into cleaner fossil fuels and renewable energy within the EU. Its aim was to encourage the sustainable development of useful local energy sources within a decentralised context. Partnerships were encouraged between universities, energy producers and users in an effort to foster greater social cohesion. The website for this programme is now unavailable but further information can be obtained at <http://www.biomatnet.org/secure/Ec/S471.htm>

situated in the western portion of the site were to be seventy metres, in an effort to address Clare County Council's concerns. The remaining seven turbines were to have a hub height of sixty metres and would be located in the middle and the elevated lands in the eastern section of the site. The applicant also made some minor changes to the positioning of two of the THERMIE-funded turbines and one of the other turbines in the project.

Less than nine months after the initial submission, Kerry County Council decided against the proposal and refused planning permission on the 8th November 2001, citing three reasons for its decision. These reasons were reproduced in the Inspector's report from An Bord Pleanála and are reproduced below:

1. The proposed development by nature of its location, the size and number of structures and its visibility from the tourist route would be seriously injurious to the visual amenity of the area and therefore would not be in accordance with the proper planning and development of the area.
2. Proposed structures by virtue of their proximity to the boundaries of the development would seriously injure the amenities and depreciate the value of property of adjoining land owners due to visual intrusion and noise arising from the development. The proposed development would, therefore be contrary to the proper planning and development of the area.
3. The proposed development is premature pending the completion and adoption by the Planning Authority of a wind farm development policy for the county.

(An Bord Pleanála, 2002: 10)

Planning permission was granted however for the erection of a forty metre pole-mounted wind measuring instrument (file no. 003323) to be sited on Tarbert Hill, which helped encourage Tarbert Renewable Energy Ltd to appeal the local authority's decision to An Bord Pleanála.

6.2.2 The Planning Appeal: An Bord Pleanála

The failure of Tarbert Renewable Energy Ltd and Airtricity to obtain planning permission would have effectively ended the project unless they felt that they had grounds to appeal the decision to An Bord Pleanála (ABP), which they duly did. Tarbert Renewable Energy Ltd was on the applicant name of the Inspector's report but essentially it was Airtricity that would be driving the appeal. Moving quite

rapidly following the planning authority's decision, another planning consultancy firm was hired to represent the company, Brian Meehan and Associates⁸¹, and an appeal was submitted to ABP on the 7th December 2001. Much of the original material submitted in the planning application to Kerry County Council was re-submitted as part of the new appeal. The number of turbines increased back to its original twenty three with great emphasis being placed on the fact that the appeal site was very specifically highlighted in Kerry's 1996 Development Plan as being zoned for industrial use only, along with other development plans prior to 1996. It also mentioned that planning permission had been granted as far back as 1983 for an oil refinery on some of the lands that made up the wind farm proposal, long before the Council decided to include the road bounding the southern lands of the site (the L1010) as a tourist route in the latest Development Plan. If anything, it was argued, precedence should go with earlier decisions for the site. It was also argued that in any case the majority of the tourist route was screened from the proposed development by Tarbert Hill. It was also highlighted that in allowing for planning permission for the wind measuring mast, ABP acknowledged that there were no tourist amenities present on the site. So as the appellant saw it, Kerry County Council's first reason for refusal could not stand up, as it was clear that the site was only fit for industrial use and the presence of a wind farm would in fact enhance local industrial development since it would provide a substation along with the electricity generated for the type of energy-intensive activities such industries would demand.

Meehan and Associates more or less ignored the issue of land values as stated in Kerry County Council's second reason for refusal and instead focused on the issue of noise that was also raised here. Referring to the detailed work carried out in the Environmental Impact Statement (EIS), and other submissions in the original application, the appellant stressed to ABP that the results of their research showed that noise levels were well within the guidelines and that Kerry County Council had no basis to refuse on the grounds of noise in relation to the development.

⁸¹ Efforts were made to speak with Brian Meehan, who handled the case on behalf of Tarbert Renewable Energy Ltd, but he has unfortunately since passed away.

The appellant also challenged the local authority's third reason to refuse, relating to the prematurity of the project "pending the completion and adoption by the Planning Authority of a wind farm development policy for the county" (An Bord Pleanála, 2002: 10). Since the site was already designated for industrial use in the Development Plan and planning permission had already been granted for industrial/energy use in the past, and with wind energy falling into both categories the issue was already closed as far as they were concerned. The appellant also mentioned Derek Daly's comments in the appeal, which were acknowledged in the Inspector's report as helping to indicate the suitability of Tarbert for wind energy development. They also referred to the fact that their venture was in line with national policy for promoting the development of renewable energies and highlighted that the strength of the project on logistical grounds alone made sense since the short proximity of the wind farm and substation to the national grid and the relative ease with which linkages could be made to the existing power station also strengthened their case.

An Bord Pleanála received twenty three submissions against the appeal from a number of third party observers including twenty one individuals and Tarbert Development Association. A submission in favour of the appeal was also submitted by the Tarbert Industrial Development Support Group, which was set up as a local response to the protests against the proposal. Brian Meehan and Associates reacted to two of the observations made against the appeal challenging opposition claims that there was no support for the project within the community around Tarbert and referred to its own public consultation documents that were attached to its submission. It also restated the fact that the land was already designated as zoned industrial and that ABP had already granted planning permission for a wind measuring mast near the site, further strengthening their case for development.

Drawing from a number of key documents at the time An Bord Pleanála provided a detailed analysis in its assessment of the appeal; addressing seventeen issues that were raised during the application; including wind farm policy, zoning, planning

history, visual impact, noise and concerns about shadow flicker. It also referred to the Department of the Environment's wind farm guidelines for the country's planning authorities, *Wind Farm Development 1996*, as well as the Irish Planning Institute's 1995 planning guidelines for wind energy to set the context within which this appeal was to be considered. Referring to sections 10.7 and 11.4 of the Kerry County Development Plan 1996 the An Bord Pleanála Inspector agreed with the appellant that the land was indeed designated for industrial use. He also noted that Kerry County Council had at that time recently published a draft document of its renewable energy policy for the county, in which wind was to play a significant role. In it, the local authority categorised four different land-types found within the county which would be used in its assessment for the appropriateness of a given wind farm application. They were:

1. Strategic areas: areas deemed eminently suitable for wind farm development and reserved for such purposes. Further analysis is required to define strategic areas.
2. Preferred areas: Areas suitable for wind farm development that should be granted planning permission unless specific local planning circumstances support a decision to refuse.
3. Areas open for consideration: Applications treated on their merits where the onus is on the developer to demonstrate why the development should be granted planning permission. Such areas require a site by site appraisal before any assumptions are to be made as to this suitability of the area for such development.
4. No go areas: These are areas that are identified as particularly unsuitable for wind farm development.

(An Bord Pleanála, 2002: 18-19)

According to the Inspector it was clear that the appeal fell within the third category: "open to consideration". He agreed that the proposal:

is in accordance with the government policy to facilitate the development of wind farms as a source of sustainable and renewable energy and that the existing site has many inherent advantages including (a) close proximity to the existing power station at Tarbert (b) the site is located outside a scenic area as designated in the Development Plan and has a number of large structures in close proximity including the proliferation of electricity pylons which would in my opinion lessen the impact of the turbines from a visual point of view. And (c) the site has a good wind energy regime on low lying land.

(An Bord Pleanála, 2002: 28)

However the Inspector also considered that the number and layout of turbines would cause “visual clutter” and recommended the turbines should be moved further away from the village and kept more in line to the coast. This would involve a separate planning application being submitted to address this since the alternations were material in nature. He concluded by agreeing with Kerry County Council on the following two points:

- The proposed wind turbines by reason of the proximity to residential development and the village of Tarbert would seriously injure the amenities and depreciate the value of property of residential dwellings in the vicinity due to visual intrusion and excessive noise arising from the proposed development. The proposed development would therefore be contrary to the proper planning and development of the area.
- The proposed wind farm development is premature pending the completion and adoption by the Planning Authority of “Renewable Energy Policy, a draft policy for Co. Kerry”.

(An Bord Pleanála, 2002: 29)

Despite their own inspector recommending that the local authority decision be upheld, the Board met on 25th June 2002 and decided to grant planning permission subject to thirteen conditions, which were mainly “in the interest of the visual amenity” or to do with ensuring that the development would be properly dismantled at the end of its lifecycle. The grounds for allowing the development to go ahead were set out as follows:

In arriving at our unanimous decision, the Board had regard to the zoning and history of the site, Government policy on wind farms as a source of sustainable and renewable energy, the inherent advantages of the site, the layout of the site, the statement of the Inspector that the Board should give cognisance in its decision to the fact that the site is not located in an area of prime or secondary amenity.

(Swift, 2002: 1)

The fact that the board did not follow the advice of its own inspector was not entirely lost on those who had campaigned against the project. This will be developed in more detail later in this chapter. Before this, however, since one now has an understanding of the dynamics of the planning application and the experiences as demonstrated at official level, it will be useful to know what it was

like for the local people who had tried to develop the project and who were at the forefront of the planning application.

6.3 Tarbert: Integrating the Community into the Wind Energy Development

With a population of less than one thousand people and located at the mouth of the Shannon Estuary this small community has been heavily dependent on the local power station⁸² as source of employment since 1964. At its height, in the 1980s, the plant employed two hundred and ninety people, many of them residing locally (Nolan, 2009). However as the plant began to decline its future was continually put into question up until January 2009 when it was purchased from the ESB. As recently as 2009 with a workforce of ninety people its new owners, Endesa Ireland, again initiated talks to reduce this number to fifty (Lucey, 2009). It was out of this constant threat of closure in the 1990s and 2000s, and in an effort to find an alternative employment source to the unreliable monopoly of the power plant, that a number of local business people began to look at wind power as a possible option, especially given the comments made by the Kerry County Council official at the time. From around the mid-1990s onwards wind power had increasingly come to be seen by some within the local authority as a viable development opportunity for depressed local economies, with healthy wind regimes, and Tarbert possessed many of the characteristics suitable for such a development.

⁸² The 590MW oil-fired power station was originally built in 1964 and is currently owned by Spanish energy giant Endesa. Its subsidiary, Endesa Ireland, intends to build a new open cycle gas turbine (OCGT) facility beside the existing plant by 2012. In 2009 Endesa disclosed that they intended to build the new power plant on the site of the existing power station. Permission from An Bord Pleanála was subsequently granted in December 2010 with an estimated 500 employed at the construction phase of the development alone (Lucey, 2010a). While An Taisce questioned the need for the project in light of the increased carbon emissions involved with the development, Tarbert Development Association welcomed it. A caveat for the permission as laid down by An Bord Pleanála, and similar to many wind farm projects, is the setting up of a community gain fund for the local community. Totalling €200,000 and comprising of four annual instalments of €50,000 each, the monies are to be managed by an agreed committee comprising of members of the local community in Tarbert and representatives of Kerry County Council and Endesa. Drawdown of the money will commence as soon as construction starts on the project (Lucey, 2010b).

At the same time a key company to emerge out of the burgeoning Irish wind energy sector was Airtricity⁸³. Set up by a former ESB employee, Eddie O'Connor, Airtricity was involved in a number of wind farm proposals at the time, of which those in counties Donegal, Cavan, Sligo and Wexford were successful. The business model it adopted for its proposal for Tarbert was unusual in the provision it made for three community-owned turbines as part of the initial planning proposal for the project. Finbar Tymon, a project manager for the company, set up Tarbert Renewable Energy Ltd (TRE Ltd)⁸⁴, with the aid of a number of local business people, who acted as local representatives for the project; they included Michael Lanigan, Pat Kelleher and Michael Hounihan.

Interviews with two of the three local representatives involved have provided some interesting insights into how people often become involved in business projects in this country. Pat Kelleher, for example, is not originally from the area. He moved to Tarbert with his wife, who was from the area, and set up a retail business in the town, a local supermarket. Of the three, he appears to have had the greatest involvement in the proposal, becoming part of the project after talking to his wife's cousin who was a project manager with Airtricity and saw it as an opportunity to encourage industrial development in the local community. He was aware that planning permission had been given for an oil refinery on the lands that would eventually become part of the planning application at one point in time (estimating it to be about 30-40 years ago) and saw the wind farm as a natural addition to efforts to develop the area. He cited three reasons for his involvement as follows: the participation of his wife's relation; a potential investment opportunity; and the positive spin-offs for his own business resulting from the increased spending that the extra employment it would generate. It was Mr Kelleher who approached two of his friends from Tarbert to become involved in the project. He was not keen to release their details however; as he felt that he'd rather not involve them again,

⁸³ Founded in 1997, it adapted the name *Airtricity*, from the original "Eirtricity", in 2002 to reflect the strong international element to its business. After it was purchased by Scottish and Southern Energy plc in 2008 the renewable energy division of the company has been rebranded as "SSE Renewables", commencing 1st January 2010 (Cooke, 2010).

⁸⁴ Set up as a *single member private company limited by shares*, the current status of the company is that it has been "dissolved" (Vision-net.ie, no date).

even in an analysis of past events, given the bad feelings that had been brought up at the time.

Mr Kelleher was convinced, as were his colleagues, of the merits of the project particularly in relation to the potential benefits for the town. Initially there were plans for one percent of the income generated by the wind farm, approximately €40,000 per annum, to go directly to the local community. A company would have to be set up to administer the funds, dividing it between the various local organisations including, amongst others, the local branch of the Gaelic Athletic Association and senior citizens groups, though neither Mr Kelleher nor any of his associates had any interest in administering these monies. With the community-owned turbines as their main focus, work began on developing the site to see if it was feasible for a wind farm. As Mr Kelleher remembers it, they initially decided the site would be best suited to a space saving design whereby six turbines in total would be sited in a circular formation, with three turbines higher than the other three, thus maximising the wind yield from a small amount of space. At the initial stages of the project there was EU funding made available, though he could not remember the name of the funding body, and investment opportunities were open to the local community for a limited timescale, starting at €1000. They estimated that investors who bought into the project at such an early stage would easily see a 100% return on their investment, post-construction.

They decided to use work already started on another planning application in Tournafulla⁸⁵ Co. Limerick as a template that could be applied in Tarbert. Airtricity, through its subsidiary Tarbert Renewable Energy Ltd. organised an Open Day after first approaching other local business people in the area. The Open Day was well attended with people coming to see what the proposal was all about, since wind farms were still relatively novel at the time. There was a video, miniature turbines on display and information on the grants available for the project. Mr Kelleher was

⁸⁵ Though this Airtricity wind farm was only completed in 2006 (Phase 1) and 2008 (Phase 2) work on its planning application had already begun prior to the planning application in Tarbert (Tynon, 2010).

also invited as a local representative for the project and was simply there to tell other locals of their visit to the wind farm project in Tournafulla. It was around this time however that he claims to have seen some suspicion on the part of a number of locals as to the motives behind his and his associates' involvement in the proposal. He felt that there was a suspicion that the triumvirate of local representatives were about to make a lot of money from the proposal at the expense of the rest of the community. He and his associates tried to allay these fears by assuring those who attended that they had not received any payment from Airtricity and would be investing in the project like everybody else in the village under the mechanisms they were helping to set up. Under these mechanisms the community had the opportunity to attain up to fifty percent ownership of the project through the shares option that would in turn be matched with EU funding of between €500,000 and €1million.

These fears were not allayed however and an increasing number of local people began to question the project. Michael Lanigan, another local representative and Chairperson of Tarbert Development Association (TDA) at the time when the proposal was first mooted, was forced to resign from his position within the association. He claims he was essentially pushed out and that the stance of TDA shifted from one of support for the wind farm to adopting a stridently anti-wind platform. TDA went on to lead the campaign against the project. Mr Lanigan states that he too saw the wind farm as an opportunity to bring much-needed jobs into the area, both in the construction phase and to a lesser degree in turbine maintenance once they were built. Though somewhat circumspect about events at the time Mr Lanigan did outline his role within the project's development and how it was received more generally within the community. As a local representative for the project he was not a member of Tarbert Renewable Energy Ltd but it was his understanding that for supporting the project he would be entitled to shares in the community-owned turbines once the wind farm was operational. Admitting that the proposal caused some "very bad blood in the village at the time" he claims that most of the people involved, both for and against, are now on friendly terms;

though there is still one individual who will not speak to him. He has since been invited back onto the TDA but has decided to remain outside for the time being.

Mr Kelleher suggested that he felt that maybe one of the reasons why the dispute escalated so far was in reaction to a past quarrel one of his associates had with some of those opposed to the proposal. He would not elaborate any further as to what those animosities may have been, but given the close community ties found within the area it is not entirely hard to believe that personal animosities may have had some role to play in the dispute.

As Airtricity's involvement became more apparent, coupled with the addition of another seventeen turbines⁸⁶ to the planning application, it became evident that a further three landowners would have to become part of the project, along with those who owned lands on the original site⁸⁷. As stated previously, the proposed land was designated industrial with no infrastructure and plenty of room for other developments to be incorporated into the site. Both Mr Kelleher and Mr Lanigan stated that the majority of land proposed for the development was not the same land designated for maritime industrial development, as claimed by the anti-wind campaigners later in section 6.4:

to be honest, the area where the land was proposed near Ballylongford, where LNG is now, the proposed turbines would have occupied a separate pocket of land to the deep-sea port. The turbine land was designated industrial as well but most of it was privately owned by an energy company, Shell I think it was. Airtricity approached them privately; we had nothing to do with that.

(Kelleher, 2009, Interview with author)

The issue about whether the proposed development was zoned for industrial use or not, did go on to form a significant part of the campaign against the proposal. Added to this were various rumours as to the affects such a development would have on local employment. Finbar Tymon, Airtricity's project officer and the

⁸⁶ These would be solely-owned by Airtricity.

⁸⁷ With industrial development projects being mooted for this part of the Shannon Estuary going back to the 1950s, all the lands west of the power station have been privately owned, mostly on back of the possible investment potential they offer.

company's representative in Tarbert Renewable Energy Ltd, identified one particular rumour that he was never able to dispel despite great effort on his part; that the siting of a wind farm would sound the death knell for the ESB power plant. Mr Lanigan also referred to another rumour he identified coming from ESB workers at the plant, in which they suggested in a private capacity that wind power would bring about the eventual end of traditional electricity production in Ireland and the ESB as it was then configured.

As efforts from the anti-wind farm campaign heated up, there is a broad consensus from those in favour of the proposal that Kerry County Council's eventual decision was heavily influenced by political pressure brought to bear on the local authority:

I think the council turned down the proposal because they wanted to "kick it to touch" and let An Bord Pleanála deal with it. They didn't want to have to make a decision that might influence election outcomes the upcoming year. Local politicians would have been getting phone calls from the protesters and would be less than happy to get involved.

(Kelleher, 2009, Interview with author)

Kerry County Council's decision was also unprecedented in a number of ways according to Finbar Tymon, who has suggested that it was the first time a local authority did not defend a planning decision they made on appeal to An Bord Pleanála. Usually the local authority would have a number of comments to make about the proposed planning application when a decision was appealed to An Bord Pleanála, but they chose not to do so in this instance. Those who were in favour of the project saw this as a signal to An Bord Pleanála that they were not against the application per se despite the judgement made against it. Kelleher (2009) concurred with this sentiment stating that "if the local authority observations provide no response on their part to a proposal it's almost taken as a given that they approve of it". In fact:

New ground was broken [nationally] with that decision. Kerry County Council just sent all the documents to An Bord Pleanála with no comment. We were told off the record that right up to a very advanced stage in the process they were in favour of the proposal, but in the end there was too much pressure from political sources imposed upon them.

(Tymon, 2010, Interview with author)

Considering the costs involved and the often protracted nature of the planning process in the opinion of those who were in favour of the proposal, it is not surprising that they take a somewhat jaundiced view of local authorities when dealing with large-scale energy infrastructural projects like wind farms. Kelleher reasoned from this that:

I don't think local authorities should be involved in decision making, though the model they've adopted now [with An Bord Pleanála being responsible for larger turbine developments from the start] makes more sense. They [the local authorities] are compromised in some ways due to the local councillors' involvement, just like the masts for the telephones or one-off housing. The councillors getting it in the neck to do something about it and if they want to get back in they do their best to sort out the "problem".

(Kelleher, 2009, Interview with author)

Despite broadly agreeing with each other on most aspects of the planning application, Kelleher and Lanigan do seem to differ as to why the project was never completed despite finally getting planning permission from ABP. Lanigan suggested that the main reason the planning permission lapsed was due to complications in the purchasing of the land for the site, whereby it was discovered that after they had gone through the whole planning process they realised one landowner had not actually signed over agreements to use his lands for the wind farm. He also claimed that this one land owner held out from committing to the project until it was no longer feasible. Kelleher, on the other hand, has a different understanding as to why the project ultimately failed, stating that he believed the excessive costs that would have been incurred in providing a grid connection to the development proved to be its downfall. The second explanation is reiterated by Finbar Tymon who also agreed that the costs for a grid connection made the project economically unsustainable. Such varying explanations can be partly explained by the passage of time and how much each man has chosen to remember of the project. Also, it is still the case that both Kelleher and Lanigan came to be seen as the local face for the proposal and because of this both men remain somewhat "allergic to committees" (Kelleher, 2009) and to wind farm developments to this day. Despite both men

conveying that the experience was ultimately a somewhat negative one, Kelleher concluded his interview on an upbeat if qualified note, stating that:

I think wind farms are a brilliant idea for farming communities like in Holland with their net metering system and the like...everything is very slow in this country and definitely more inclined towards big business. A community wind farm like ours is not always feasible. I did waste a lot of time on this and don't really get involved in wind farm projects anymore, but I did help two farmers in Limerick with the planning permission, out in Ashford and Ballock. They're eligible for Gate3, though they are small turbines. I bought a software package and learned from scratch how to use it. I was quite pleased about that.

(Kelleher, 2009, Interview with author)

6.4 Save Our Future Jobs: Boycott and Other Strategies against Development

The "can do" attitude, expressed in Pat Kelleher's previous statement and found in many within the wind energy industry, can also be identified in those who oppose such developments. The level of commitment needed to sustain a concerted campaign against a proposed development is not inconsiderable, even when one excludes the financial costs. Mary O'Connell, who was the Public Relations Officer (PRO) for the Action Against Wind Group (AAWG) during the protest, alluded to this in her interview. Following on from the Extraordinary General Meeting (EGM) and the forced resignation of Michael Lanigan as chairperson of Tarbert Development Association, the new personnel formed a sub-committee, the Action Against Wind Group (AAWG), to focus exclusively on coordinating the protest against the wind farm proposal. O'Connell talked of the countless hours spent in meetings that needed to be held and the steep learning curve that all members experienced, particularly at the initial stages of the protest, while at the same time trying to hold down full-time jobs and care for families. Consultations had to be held with other opposition groups at the time, in Clare and south Kerry; planning law needed to be studied; and all the information provided by Tarbert Renewable Energy Ltd in their planning application had to be examined. Each member of the sub-committee was assigned a specific task, as the need arose. The flexible attitude of those on the sub-committee, harnessed within a structured framework provided by the

development association itself, allowed it the space to formulate its strategies. John Fox, current PRO of Tarbert Development Association, stated that:

The main focus of the protest was always to protect the land-bank. That was the over-riding objective. The land-bank [part of which the proposed wind farm was to be situated] had always been designated for industrial use and was IDA-owned up until the 1980s when the Government sold it off to private land interests.

(Fox, 2009, Interview with the author)

This desire to “protect” the land-bank from a very specific type of development had deep resonances amongst all those who opposed the wind farm. The following sentiment from another protestor was also reflected in other interviews with the author:

While I’m pro-wind in general, I am anti-wind in Tarbert. They’re fine in the middle of nowhere but not here where it’s costing jobs. The site for the proposed wind farm would have been better suited for maritime industrial use, which would create more jobs than any wind farm ever could.

(Finucane, 2009, Interview with the author)

The perceived manner by which the previous board of TDA brought attention of the development to the general population of Tarbert also caused strong concerns. Seán Finucane, Treasurer for TDA at the time, who was also involved with the protest from very early on, claimed to have first heard of the wind farm proposal at a meeting held by the development association to discuss the project. He was immediately opposed to it:

I work for the ESB, so I know that the efficiency of wind turbines are very poor [when the] EGM has called at the time to find out what was going on. It turned out that the plan was for each member of the board [of Tarbert Development Association] was to get one turbine each, while three would go to the community. It caused a lot of controversy at the time. The chairman [of TDA] had to resign from his position because of it.

(Finucane, 2009, Interview with author)

Following on from the EGM, TDA became the driving force behind the protest through its Action Against Wind Group. A number of strategies were adopted to resist the planning proposal both at an official planning level and politically. These

strategies are now typical of those adopted by contemporary opposition groups formed to fight more recent proposals. Finbar Tymon spoke of pressure that was brought to bear on local political representatives, as alluded to earlier in the chapter. This claim was supported by Sean Finucane:

The two local politicians from the government party at the time, who represented the area, gave the least support. But then other Fianna Fáil politicians from further afield did, so I'm not sure if was a government led thing but definitely the two local Fianna Fáil councillors did very little to help us, whether they had interests in the development I don't know. I am apolitical by the way. I've no interest in giving Fianna Fáil a kicking or anything like that. I'm just saying that we got more support from the local Labour and Fine Gael representatives.

(Finucane, 2009, Interview with author)

As well as lobbying political representatives AAWG also organised a petition for those who opposed the scheme locally, gathering over seven hundred signatures. This total was disputed by Pat Kelleher who challenged its validity, suggesting the figure far exceeded the population of adults in Tarbert given the entire population, of the town and its environs, was barely over eight hundred persons.

In the end they had 700 signatures opposing the proposal, though I am not sure how since the adult population of Tarbert wouldn't reach that given we wouldn't have more than 800 people in the area. Signatures must have been gotten outside Tarbert...We also got signatures from those in favour of the proposal but ours were more of a sample of the population of the parish, getting a sample of signatures (one or two) from each road.

(Kelleher, 2009, Interview with author)

Never the less it enabled Mr Finucane to claim to that:

in fact 95% of the people of Tarbert were against the development. There was a petition signed by over 700 adults, not children etc, who were against the development, that's over 95% of the population in Tarbert.

(Finucane, 2009, Interview with author)

The use of statistics in the above way is one such strategy which can be used to great effect, particularly when carrying out a campaign through the media. As long as the percentage is repeated often enough, the message has been delivered.

Another tactic the protestors used was to focus on the perceived lack of jobs associated with wind farms, particularly post-construction.

Maurice FitzGerald [former owner of The Lanterns Hotel, Tarbert], he's passed away since, gave a very good interview on the radio at the time. He asked if Airtricity could guarantee 50 permanent jobs from the development. If they could there would have been a lot less opposition to the proposal.

(Finucane, 2009, Interview with author)

Despite the localised nature of the dispute, whereby of the opposition's campaign focused on providing information by way of parish news notes, interviews on local radio and the Kerryman newspaper, it did get national media attention on a number of occasions⁸⁸. It should also be noted that despite the eventual failure of opposition campaign to prevent the planning application being granted by An Bord Pleanála, it did manage to influence the local authority's decision on the matter. This is in no way insignificant, given what Finbar Tymon referred to as Kerry County Council's unprecedented decision to let An Bord Pleanála make the ultimate decision on the project.

All this came at a cost however to the local community. The divisive atmosphere that arose out of the opposition campaign to the wind farm is still felt today, though most have tried to put it behind them. Many of the protagonists interviewed reflected Seán Finucane's assertion that:

It did split the community in two and I don't know if it'll ever be the same again, but I've moved on. I bear no grudges to anybody. I know there's one shop in the village where I won't darken its door again but I bear no grudge to the shop owner. There's one shopkeeper in Tarbert who had to close up. He had the shop in the centre of the town and people stopped going to him when they found out he supported the development. He was very involved in promoting the development but eventually had to close up, but you can't alienate those that help you make a living.

(Finucane, 2009, Interview with author)

⁸⁸ See Anne Lucey's article "*Villagers vow to fight wind farm*" in the Irish Independent (13/08/2002) and Gordon Deegan's article "*Locals 'devastated' as wind-farm near Tarbert village gets go-ahead*" in the Irish Times (6/7/2002).

This sentiment was echoed by Pat Kelleher, who owned the shop Seán Finucane referred to, but he played down the belief that he was boycotted out of business.

It did divide the community. I'd often meet people on the street who were involved and some would avoid saying hello and things like that. Only a few people boycotted my supermarket at the time but not many, they were not significant. I sold the supermarket on after that. A lot of local businesses stayed neutral on the whole thing and you can't blame them really.

(Kelleher, 2009, Interview with author)

Whatever the real extent of the "boycott" was on Kelleher's business the fact remains that to this day relationships within Tarbert have been adversely affected by these events. Given that both sides of the protest wanted to see employment and industrial development for the area, it is important to recognise that they had very different perceptions as to how that was to be achieved and that these perceptions proved incompatible within the adversarial nature of the planning process.

6.5 Conclusions

People are reasonable minded in Tarbert...it's an open community here, open to outside influences and not so insular. In a more rural area there maybe is a chance of that more extreme reaction, but not here

(Lynch, 2009, Interview with author)

This chapter has detailed the issues surrounding one case study, a wind farm proposal in Tarbert, and situated it within the historical context of Kerry's evolving adaptations to the wind energy policies of the multi-level governance networks of the European Union, in relation to its spatial planning strategies. It has also shown how a comment from a local authority official can have rather unexpected consequences, setting in motion a rather turbulent chain of events that ultimately were not intended. Using the documents available from the local authority planning office and those from An Bord Pleanála it has provided an analysis of the planning application and catalogued the decisions that were made on it. This chapter also provided an account of those who were for and against the development and

charted how they influenced the course of the planning application as it was negotiated through, at first the local and then the national governmental flows that make up the planning process.

It has also suggested that many local authorities were largely unprepared to cope with the evolving energy policies of the EU (with all the nuanced, multidimensional factors that go with it) through traditional frameworks of local government, despite some actively embracing those policies. The decision to let the newly established An Bord Pleanála decide on the proposal, and relinquish its own authority, is somewhat indicative of the policy flows of contemporary multi-level governance networks where decision makers often release responsibility to another authority, or nodal point in the flow, in order to (rather contradictorily) maintain power and curry favour with a vengeful electorate. In concurrence with this explanation of a willingness to deviate decision-making responsibilities away from local democratic structures is the way political power is expressed by politicians within a significant proportion of local authorities across the country. On a number of occasions it has been expressed during interviews that the somewhat individualistic, prevaricating behaviour of local councillors is only ever shaken from inertia when a seat is threatened by a looming election. Whether this is a fair assessment or not history has shown the actions of local politicians to mirror those at national level, who have been equally quick to shift responsibility/blame to EU regulatory flows when introducing unpopular legislation. The subject of waste management at local level is a case in point, where elected officials across the state continually prevaricated on making a final decision on local waste management strategies (fundamentally adopting a do-nothing approach) until pressure from incoming EU directives forced national government to act. The introduction of the *Local Government Act 2001* quite specifically states that “every function of a local authority which is not a reserved function [of the elected members] is [therefore] an executive function” (DEHLG, no date), thus responsibility for waste management within all local authorities was rested from the elected officials and made the sole domain of the manager, a development which some have suggested as being a “significant success

in delivering impartial and professional local government” (DEHLG, no date) despite others criticising what this says about real local democratic engagement.

Speaking to a number of officials within Kerry County Council, it was impossible to get a definitive opinion on whether political involvement in executive decision making was common practice, in relation to this case study at Tarbert or in a wider planning context. Invariably any question to that effect was met with an uncomfortable silence, which possibly tells more than any obfuscating answer ever could. An area where local councillors have repeatedly been linked to accusations of undue influence in the planning affairs of the county have been with regards zoning and the way “vested interests often put intolerable pressure on Councillors who may sponsor developments at local authority level” (An Taisce, 2008/2010), particularly in relation to one-off housing. In fact, An Taisce⁸⁹ has highlighted figures from the Central Statistics Office (CSO) from 2003 that indicated the:

ratio of One-off Houses to new housing schemes (excluding apartments) is greatest in the counties of Galway, Mayo and Roscommon, where One-offs account for 60% of new housing grants, while in Cork and Kerry the equivalent figure is 59%. These figures are in stark contrast to comparative figures for the Dublin and Mid-East Regions where One-off housing grants accounted for 12% and 22% respectively, of all new house permissions.

(An Taisce, 2008/2009)

More recently, an acting Mayor of Killarney pleaded guilty in the Circuit Criminal Court to a breach of ethics⁹⁰ in attempting to influence a planning decision by Killarney Town Council in relation to rezoning of family lands (Hickey, 2009). While court cases like this remain relatively uncommon, the statistics continue to indicate a noticeable degree of political decision making in the planning system, whether from overt representation or by more subtle means. Despite this, difficulty persists in ascertaining the true extent of political influence within the multi-dimensional corporate structures that exist within local authorities.

⁸⁹ The Republic of Ireland’s equivalent to the UK’s National Trust.

⁹⁰ This charge was brought under legislation of the *Local Government Act 2001*.

Chapter Seven

Turbulence in Policy Flows: Energy, Habitat and the Cordal Wind Farm Proposal

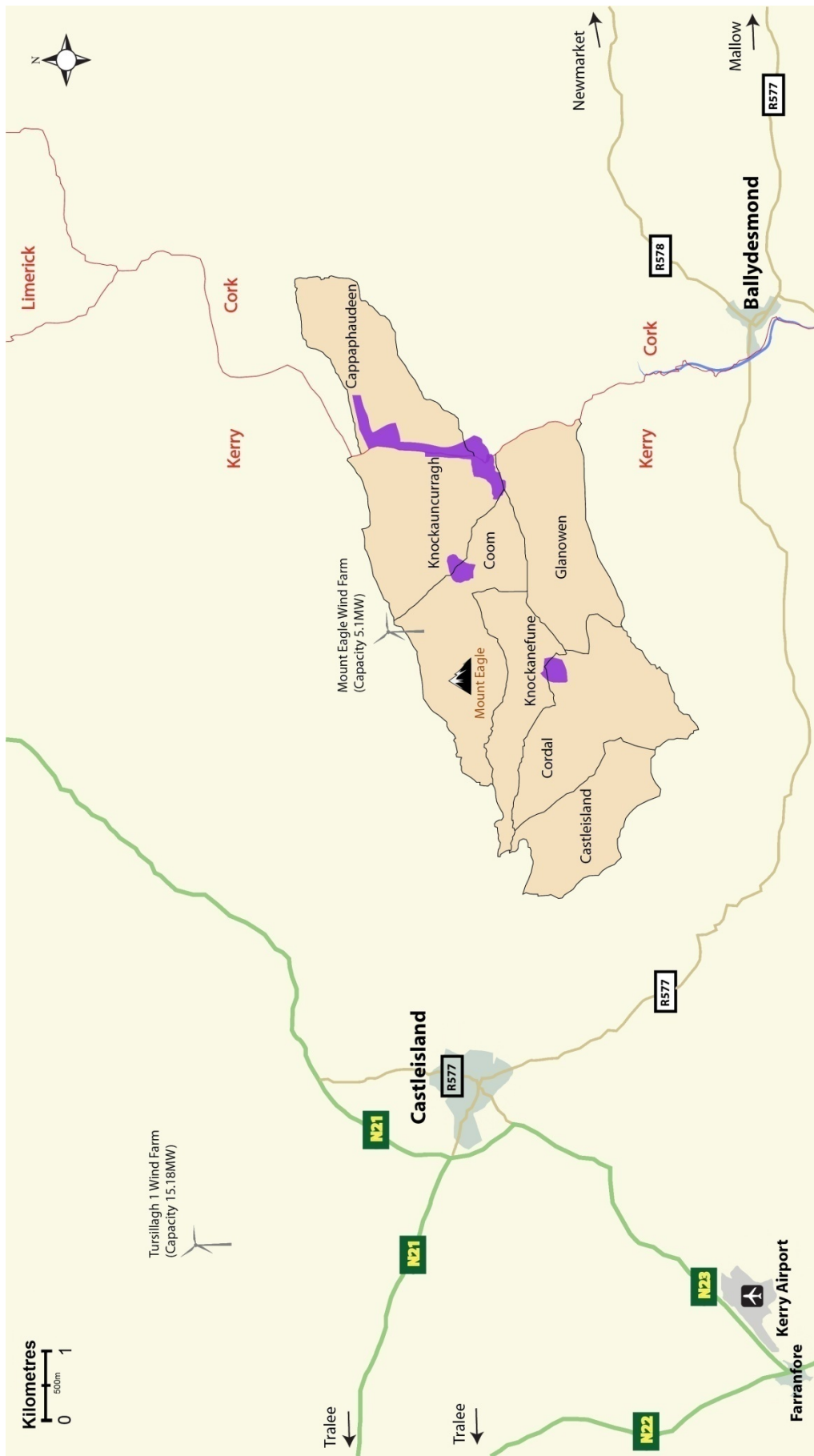
Nature may well be the keystone of the social construction of the rural, but it is also the tripping stone of the regulation of rural space, and its alluring power yet coy ambiguity will form the fissures of many a conflict as the quest for a sustainable countryside continues.

(Woods, 2003: 287)

7.0 Introduction

This chapter builds on earlier sections, which situate this research within geographical discourses on landscape, the production of space and the modernising energy technologies and policies that both regulate and generate contestations of governance, planning and power. It will develop these critical writings by considering how the policy interpretations of two local authorities can have very different consequences for a developer depending in which jurisdiction a planning application is made. While some elements of this case study, the Cordal Wind Farm proposal, are historical in nature it does differ from the Tarbert example in some respects. The company behind the Cordal wind farm proposal still contest that their planning application is very much “live” in *both* authorities, despite the planning decisions having been finalised and Cork ultimately refusing permission. This case study offers a unique insight into how local authorities have interpreted the national planning guidelines for wind energy and highlights the lack of uniformity of approach taken by local governments, by the very different conclusions each authority came to in response to changes brought about in implementing the Habitats Directive (92/43/EEC). This chapter also shows how the increased complexity of EU policy flows directly impact on the planning outcomes of individual wind power projects.

The landscape around the proposed Cordal Wind Farm comprises part of the Stacks and Glanaruddery Mountain ranges, with Mount Eagle and Knockanefune Mountain rising at the highest points. The area consists predominantly of commercial coniferous forest plantations, transitional woodland scrub and a number of upland blanket bogs not yet affected by commercial forestry. Since upland bog is now recognised as a globally scarce resource much of what remains has now been designated as in need of protection (NPWES, 2004). Land use patterns in the area, apart from commercial forestry, is mainly confined to domestic peat-cutting and sheep grazing. On the Cork side of the proposal (in the townland of Cappaphaudeen) the landscape type has been identified by Cork County Council as *Fissured Marginal and Forested Rolling Upland* in the local authority’s 2009 County Development Plan. The topography of this area is described as:



Map 6 Overview Map of the Cordal Wind Farm. Castleisland, which lies to the east of the affected townlands, highlighted, and Ballydesmond to the southeast of the map are the two main towns for the area. Note the NPWS Natural Heritage Area (NHA) in purple and the existing wind farm on the slopes of Mount Eagle. The NHA straddles both sides of the county boundary as well as occupying two other sites around Mount Eagle, in County Kerry. Note also the relatively short distance of the proposal to Kerry International Airport, close to Farranfore at the bottom left area of the map. Tursilagh Wind Farm lies to the north west of the proposal. The River Blackwater, an important waterway to counties Cork and Waterford rises in the area. It is represented here flowing past the town of Ballydesmond in line with the county boundary.

one of relatively steep and rolling mountainous upland, fissured by narrow river valleys and which slopes towards broad flat ground. Fields comprise grassland, much of which is of marginal agricultural quality, while there are also some areas of broadleaf woodland. Soils on these slopes and valley bottoms tend to be of poor quality and include blanket peat on upper slopes, which have resulted in intensive commercial coniferous plantations. (Cork County Council Planning Policy Unit, 2007: 104)

The River Blackwater, one of the key salmon fishing rivers in counties Cork and Waterford, also rises from the slopes of Knockanefune. Though an economically depressed area it does form part of the region known as Sliabh Luachra⁹¹ that is noted for its long heritage of traditional Irish music and literature, dating back to the 14th Century (Vallely, 1999). Given the lack of economic diversity found here, and what they consider to be its low landscape value (when compared to the tourist-friendly coastal zones to the south of both counties), both local authorities see it as a strategic area for potential wind farm development. Travelling through the area one can see a wind farm situated north of the town of Cordal, The Mount Eagle Wind Farm, comprising of six medium-sized Vestas V52 wind turbines. Another wind farm at Turisillagh can be seen to the North West attesting to the industry's presence with the company discussed in this case study, Saorgus Energy Ltd., playing a significant role in its development. So when it began to draw up its plans for another wind farm in the area the company was confident its efforts would indeed be rewarded.

7.1 Cordal Wind Farm: A Background to the Proposal

Co-founded in 1993 by Michael Barry and Aidan Forde, Saorgus Energy Ltd⁹², a Tralee-based wind power company, has grown to become a significant player in the domestic wind energy market. It currently owns a potential⁹³ total renewable energy portfolio of 700MW, of which 500MW will come on-stream once grid

⁹¹ Translated from Irish it means “mountain of rushes”, though in actuality it refers to the series of mountains in that area and not a single peak as the name suggests.

⁹² It initially operated as Western Windpower Ltd.

⁹³ The author has referred to it as “potential” since the company is still waiting on finalised grid connection offers from Eirgrid.

connection offers for Gate 2 and Gate 3 are finalised. Given the dearth of expertise in the wind industry at the time, Saorgus Energy shares a number of similarities to other wind power start-ups established during the 1990s. While both co-founders had previous business experience they came to the wind power industry from very different sectors. Aidan Forde had previously been predominantly involved in education, lecturing in geology at Trinity College Dublin, while Michael Barry's business experiences lay in Kerry's restaurant trade. However, Barry describes himself as having had a "hobby interest" in renewable energy going back twenty five years and after having spent some time at the Centre for Alternative Technology in Wales he was confident enough to set up the company with Aidan Forde. John Bourke⁹⁴ joined some time later and this triumvirate of directors has remained in control of the company ever since.

It would take, however, a further seven years before Saorgus was in a position to commission its first wind farm (in conjunction with Powergen Renewables) at Tursillagh, situated eight kilometres from Tralee, in 2000. Built on peat boglands overlooking the town, Tursillagh Wind Farm had the largest onshore wind turbine array in the country at that time (Energie-Cités, 2002). Marketed as essentially Ireland's first urban wind farm, under research conducted through the ALTENER II Programme, Tursillagh allowed Saorgus Energy to build up on its expertise through its collaboration with Powergen Renewables. Prior to this success Saorgus had managed to maintain a regular stream of income by providing a range of consultancy services, mainly through the leasing of wind-monitoring equipment and conducting environmental impact statements for clients within the wind energy industry. It also quite wisely chose to reinvest all monies generated from these activities back into the wind farm side of its business, thus enabling it to match the capital investment tendered by its much larger partner at Tursillagh. Saorgus Energy has also successfully managed to avoid any large-scale planning controversies over the course of its operations, having sold off its interests in the wind farm at

⁹⁴ John Bourke joined Saorgus Energy as an investor and co-director after giving advice to Michael Barry on how to best raise funds for the company while camped at the base station of Mount Everest in 1993. Barry was part of an Irish expedition, headed by Dawson Stelfox and Frank Nugent, while Bourke was a banker with Allied Irish Banks Investment Managers at the time (Weston, 2001).

Derrybrien in Galway, to Hibernian Wind Power Ltd, prior to the massive landslide and resulting media-storm that arose there⁹⁵.

The company's fortunes have continued to rise in recent years with its involvement in the Dublin Array, a subsidiary offshore wind farm proposed for the Kish and Bray Banks in the Irish Sea, approximately 10 km off the coasts of Dublin and Wicklow. Having secured 364MW under Eirgrid's current Gate 3 process, with a total capacity potential of 520MW should other agreements be finalised; it is estimated that the offer for connection will be made sometime in 2011, followed by construction starting in 2013 and a commission date sometime in 2015. Considering the misfortunes of other wind farm companies, highlighted in the next chapter, Saorgus Energy has shown a degree of business acumen often missing in other companies with similar backgrounds. However, despite the relatively unbroken run of continued good fortune experienced by the company it too has run into difficulty regarding the disconnect between the time-limiting preconditions set out in the planning legislation and the delays⁹⁶ many have experienced in obtaining a grid connection from Eirgrid; a contention that was highlighted during an interview with Michael Barry in 2009. Apart from having to reapply for planning permission, other scenarios that can arise include a change in the legal status of an area where wind turbines have been given planning permission; usually as a result of newly introduced legislation, for example from EU directives or statutory changes at national level, which can throw into doubt previously acceptable developments. The planning application for Cordal Wind Farm highlights how the time-delay between obtaining planning permission and a grid connection, and subsequent changes in legislation are negotiated and interpreted through the planning process resulting in often very unexpected outcomes for the applicant.

⁹⁵ It does, however, still own the land on which the wind farm is sited and continues to lease it to Hibernian Wind Power Ltd.

⁹⁶ The latest Planning and Development Amendment Bill has just been passed by Seanad Éireann and will go to committee stage in the Dáil later this month, June 2010. Section 23 of the bill amends Section 42 of the 2000 Planning and Development Act and deals with the extension of planning permission. Though amendments are still being made to it, department officials believe it will address the issues many industry commentators have raised about lapsing planning permission due to delays in the roll-out of grid connections.

7.2 Cordal Wind Farm: The Planning Application

Saorgus first showed its intention to develop the site at Cordal in the late 1990s. Initially it had intended to build sixty two 850kW turbines along the Cork and Kerry county boundary in the townlands of Knockanefune, Glanowen, Knockauncurragh, Coom, Cordal and Castleisland as shown on Map 7 below.

Documentation pertaining to the proposed wind farm from the company's environmental impact statement, and subsequently featured on the company's website, cited the following reasons as to why it believed the area to be suitable for exploitation, including:

- Wind speed measurements [to] indicate that they are high enough to justify the economic harnessing of the wind for electricity.
- The site is well served with roads within the site and from surrounding main roads.
- The site is reasonably close to the National Grid at various locations. This is necessary so that electricity can be exported from the wind farm.
- The turbines would not be visible from large areas of surrounding countryside and, where visible, it would mostly be a distant view.
- Few people live close to the site.
- The ecological quality of a large proportion of the area has already been substantially damaged by the presence of monoculture forestry and a monotonous cover of *Molinia* grasses in a significant portion of the site. The operation would not affect wild animals and plants.
- The site has been identified by the National Parks and Wildlife Service (NPWS) as a test area where the before and after effects of a wind farm on hen harrier (birds of prey) can be studied. The developers are also carrying independent research into hen harrier activity at the site and are in full co-operation with NPWS in this regard.

(Saorgus Energy, 2007: 3)

When the Cork element of the application, situated in the townland of Cappaphaudeen, was also factored in this ambitious project would have a combined installed capacity of 53.3MW; a massive proposal for that time, which is all the more startling when one considers the fact that Saorgus Energy had yet to commission a single wind turbine. Such was the identified potential for wind power in the area that the company was prepared to take on this and another, later successful project at Tursillagh; also near Castleisland. However, given the

consultatory nature of the planning process, by the time they were prepared to make a planning application to Kerry County Council in January 1998 their designs for Cordal Wind Farm had been scaled back to twenty three turbines, providing a capacity of just under 20MW (Kerry County Council, File No. 9811). However, despite the local authority making its decision in November 1998, permission was not granted for another year due to an appeal made against the applicant by Kerry International Airport, Cordal Development Association⁹⁷, Coom Organic Farm and a number of local residents to An Bord Pleanála (PL 08.109598). Taking a similar attitude to its planning decision at Tarbert, the local authority determined that it would only grant permission if An Bord Pleanála decided in favour of the project and only then once its own twenty one preconditions⁹⁸ were met by the company. Kerry Airport had “strenuous objections” on five grounds, particularly in relation to the disturbance the turbines would have to the flight path for Runway 6. These concerns were dismissed however at the An Bord Pleanála proceedings, after having been contradicted by the Irish Aviation Authority (IAA). The IAA had raised these concerns directly with Saorgus Energy⁹⁹ prior to the An Bord Pleanála meetings and had been subsequently satisfied with the company’s efforts to resolve them. Securing planning permission for the Kerry element of the project was essential to its overall success and Saorgus Energy made every effort to address these concerns since all the construction components of the project would be co-ordinated from the Kerry side of the development, on account of the topographical determinants that the area presented. As part of its defence of the project Saorgus Energy made strong representations to An Bord Pleanála referring to the fact that precedence had already been met for the area around Mount Eagle; drawing

⁹⁷ Cordal Development Association, adopting a similar stance to its sister organisation in Tarbert, county Kerry (discussed in greater detail in Chapter 6) objected to the development on nine counts. These included the wind farm’s visual impact, noise pollution, close proximity to Kerry Airport, light flashes, interference to telecommunications signals, obsolescence of turbines as experienced at Altamont Pass in California, potential impacts on wild birds, no foreseeable employment from the project itself and a general devaluation of property. These reasons would become standard objections by those opposed to wind farms in the area, in the years to come.

⁹⁸ The majority of these stipulations were minor alterations in keeping with the best practice guidelines of the planning department. A significant condition that the company did have to meet however, once approval was obtained from An Bord Pleanála and its fifteen conditions were also met, was a further scaling back on the number of turbines from twenty three to twenty one.

⁹⁹ It was during this appeal process that the company also rebranded itself; changing its name from Western Windpower Ltd to the current Saorgus Energy Ltd.

attention to the historical planning permission that the Board itself had granted three years previously, in 1995, for a wind farm in the same area, with turbines of a similar size to their own proposal. Eventually the company got conditional planning permission for twenty one turbines, along with the usual services for such a development including access roads, a control house and an anemometer mast, on 16th September 1999.

In light of their eventual successes, both with Kerry County Council and in the AER 3 competition, Saorgus Energy then moved to consolidate the Cordal project by applying for planning permission for a further twenty turbines at Cappaphaudeen in 2000 (Cork County Council, File No. 00/6084) and permission was granted a year later for the application on the 31st December 2001. Cordal Wind Farm would now have a combined generating capacity of 35MW, which was still not inconsiderable when compared to other contemporary projects around the country. The need to press on with the project was now more apparent than ever and the company set about securing a much coveted grid connection from Eirgrid¹⁰⁰ and the Commission for Energy Regulation (CER)¹⁰¹. Unfortunately, while the AER-approved project at Tursillagh was able to get a grid connection within the timeframe set out in its planning conditions, permission had expired for the Cordal project by the time Saorgus Energy was eventually awarded a grid connection under Gates 2¹⁰² and 3¹⁰³ of the Group Processing Scheme. With a target connection date of December 2011, it would never have been possible for the local authorities to prolong planning permission for what would have seemed like an indefinite period of time. A speedier issuance of a grid connection would have greatly improved the company's ability to complete the project within the original planning conditions, but this was

¹⁰⁰ Eirgrid was established in 2000.

¹⁰¹ The CER was established in 1999.

¹⁰² While the majority of grid connections had been offered by the end of 2007, there were some delays in applicants receiving their offer subsequently seeing the process carry on in to the early part of 2008. 122 renewable energy applicants were eligible for a grid connection in Gate 2, totalling 1,321 MW.

¹⁰³ The closing date for renewable energy applications for Gate 3 was 16th November 2007, prior to completion of Gate 2. Offers for grid connections to successful applicants started in December 2009 and are currently half-way through the eighteen month process, with 159 onshore wind applications, totalling 3250MW, have been submitted for consideration.

not to be the case. The delay in obtaining a grid connection has been a point of contention for many wind farm developers, so in an effort to help account for the time differences between obtaining planning permission and getting a grid connection the *Wind Development Guidelines*, issued by the government and discussed in section 5.2., clearly state that local authorities could exercise discretion when specifying the timeframe for certain planning permissions especially in relation to strategic infrastructural projects such as wind farms beyond the standard five years usually allowed:

Planning authorities may grant permission for a duration longer than 5 years if it is considered appropriate, for example, to ensure that the permission does not expire before a grid connection is granted. It is, however, the responsibility of the applicants in the first instance to request such longer durations in appropriate circumstances.

(Department of the Environment, 2004: 87)

However, planning departments across all the local authorities have more often than not chosen to adhere to the standard allowance of five years, as set down in the planning legislation, rather than exercise such discretion. New planning applications therefore had to be submitted to both local authorities, though as Saorgus Energy saw it, this should have been nothing more than a formality given that they had already been awarded planning permission on the same sites previously. On this occasion they decided to submit an application to the local authority in Cork first, in May 2007, and then one month later to Kerry County Council. While the land on which the turbines were to be sited remained the same, a number of changes were made to the overall structure of the proposed project. The number of turbines installed would be considerably less than before and the size of each individual turbine would now have nearly three times the generating capacity of the older models. The proposed turbines for the new application were to be what has become the industry standard, Enercon E-70s with a 2.3MW rating, which would also increase the overall capacity of the project to over 41MW, a veritable boon for the company should the applications pass this latest “planning hurdle”. As Saorgus put it in its application:

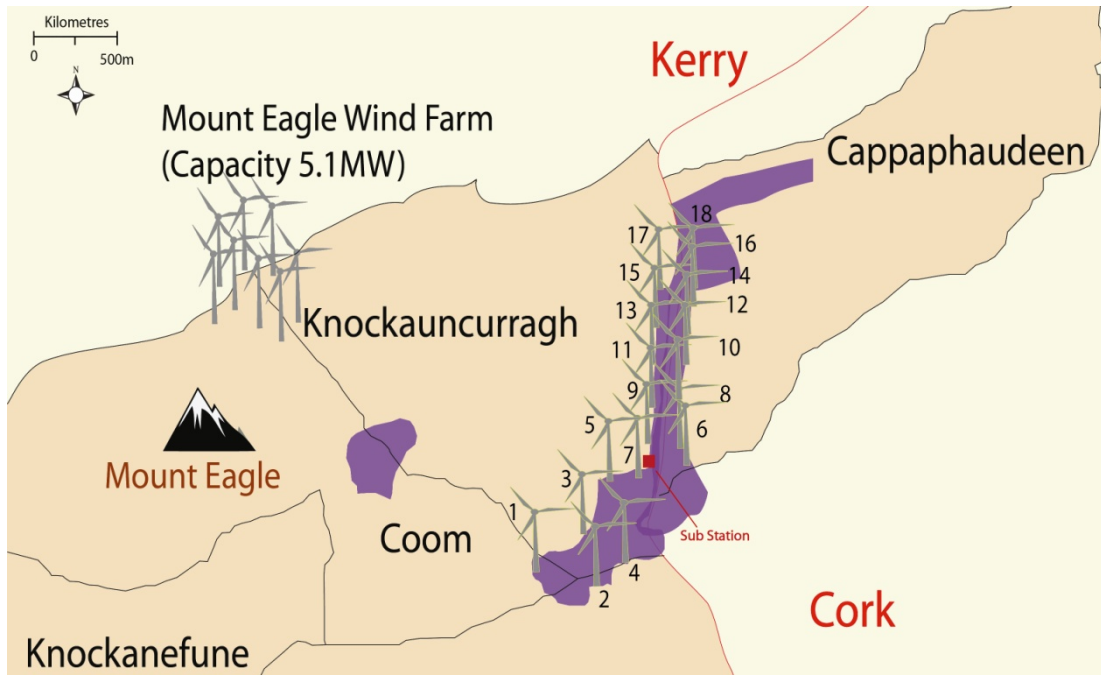
The full development will consist of 18 turbines (7 in Cork and 11 in Kerry) to be constructed instead of the 41 wind turbines (20 in Cork and 21 in Kerry) previously permitted at this site. The proposed wind turbines will have a maximum rotor diameter of 90m and a maximum hub height of 90m. The development in Co. Kerry will also consist of construction access, site road, a borrow pit, electricity substation, control house and anemometry mast.

(Saorgus Energy, 2007: 6)

The map below shows the relationship between the NHA and where the turbines were proposed to be sited in both counties. Leaving aside the size and number of turbines proposed for the site many aspects of the new proposals were indistinguishable from the previous applications. However the legislative context within which the new planning applications would now be evaluated had changed considerably between 1999 and 2007. Both local authorities had a raft of new legislation and guidelines to consider, in conjunction with the application's renewable energy merits, and these would now have a far greater influence on the process as a whole. As discussed in section 5.5, the 2000 *Planning and Development Act* came into force a year after Kerry County council granted permission for its section of the project. This act was subsequently amended in 2006 with the *Planning and Development (Strategic Infrastructure) Act*, making particular reference to wind farm developments, and was shored up with the continually evolving 1996 *Wind Development Guidelines*. Governments, both local and national, now began to assess planning applications by considering a wider range of determining factors than here to fore.

As well as structural planning and economic development considerations, planners now had to incorporate conservation strategies for wildlife species, standards in water and air quality, habitat conservation and climate change initiatives into their decision making as a response to national ratifications of directives enacted at EU level. The Habitats Directive (Council Directive 92/43/EEC) along with the updated 2009 Birds Directive (Council Directive 2009/147/EC) form the foundation to European nature conservation policy and spatial planners in local governments now, more than ever before, began to look beyond national planning legislation for guidance when considering newly submitted applications. As one local authority

official articulated, local authority policy makers are increasingly taking their cue from EU directives when formulating environmental policy for new county development plans, often bypassing national government in the process. A scenario which echoes Monica Salomon's (2008) work on global governance networks discussed in section 3.2.



Map 7 Map of the Cordal Wind Farm proposal. The majority of the eighteen turbines were proposed to be sited inside, or on the boundary of the Mount Eagle Bogs NHA (here highlighted in purple). Two of the planned turbines for the new development, in particular, would have impacted significantly on the newly designated NHA. However since the other turbines lay just inside or outside its boundaries, it is not inconceivable that construction work would have had a far greater impact than was alluded to in the planning application.

In relation to national policy, an act that would become instrumental in terms of how planners viewed Saorgus Energy's new planning applications for Cordal Wind Farm is the *Wildlife (Amendment) Act 2000*¹⁰⁴. Bringing the previous 1976 Wildlife Act up to date, it also established and provided protection to newly designated "natural heritage areas", giving greater legal protection to habitats and other features on the wider landscape, including hedgerows. As part of the Act all habitats that are designated Natural Heritage Areas by the National Parks and Wildlife Service (NPWS), including a far greater number of proposed Natural Heritage Areas

¹⁰⁴ The Wildlife (Amendment) Act can be read in its entirety at the following: <http://www.irishstatutebook.ie/2000/en/act/pub/0038/index.html>

(pNHAs), would now have increased legal protection from damage or interference to the wildlife species living there. Since the Act has passed into law:

The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection.

(NPWS, 2010)

This would prove to be game-changing as far as Saorgus Energy's new planning applications were concerned, particularly in Cork, since a number of the new turbines in the proposal were to be sited inside the 2005 designated Mount Eagle Bogs Natural Heritage Area (NPWS site code: 002449), which according to the NPWS is:

a site of considerable conservation significance consisting of upland blanket bog. Blanket bog habitat is a globally scarce resource. It is largely confined to coastal regions at temperate latitudes with cool, wet, oceanic climates. North-west Europe contains some of the best-developed areas of blanket bog in the world. The most extensive areas are found in Ireland and Britain. Upland blanket bogs, due to their exposure to severe climatic conditions at high elevations, are particularly vulnerable to erosion by human activities and extensive areas are currently undergoing active erosion due mainly to overgrazing. The current area of intact upland blanket bog in Ireland represents only a fraction of the original resource, due to the combined impacts of afforestation and overgrazing, and intact examples are therefore extremely valuable for nature conservation. Their long-term survival requires sensitive management. The site also supports important populations of three Red Data Book species – Hen Harrier, Red Grouse and Irish Hare.

(NPWS, 2004: 2)

International research into the impacts of wind farm developments on bird species had also grown apace with the increased deployment of turbines on the landscape. While a large majority of these reports have come from national agencies or actors within the wind industry itself, most have focused on study areas outside of Ireland such as in the UK (Countryside Council for Wales and English Nature, 1992; BirdLife International, 2002), Canada (Canadian Wildlife Service, 2005) and the United States (National Wind Coordinating Committee, 2001; Government of New Jersey, 2009). Academic contributions have also grown in number with works by Gill et al. (1996), Percival (2000), Drewitt and Langston (2006), Madders and Whitfield

(2006), Bright et al. (2008) and de Lucas et al. (2008) deserving of mention for their contributions to the debates. In 2003, the then Minister for Environment Martin Cullen, spoke in the Dáil of having commissioned two research studies into the impacts of wind farms on national conservation efforts to protect hen harriers, a designated Red Data Book species. The first research project, commissioned by Dúchas¹⁰⁵ for the department, focused primarily on a wind farm proposal that was about to begin development. The research objective was to chart all measurable impacts on an existing population of hen harriers in the area. Data would be collected during the siting of the new turbines through to the pre and post-construction phases of development. The second research project was carried out under contract by a third party (Cork Ecology) for the department on a built wind farm in county Kerry, having commenced operation the previous year in 2002. From what this researcher has been able to ascertain work on the second research project was allowed, in the words of a Cork Ecology representative, to “fizzle out”; while the report commissioned by Dúchas has never been published. Despite these setbacks at national level however, by 2002 Dúchas had managed to designate seventy five raised bogs for:

legal protection, covering some 23,000 hectares. These raised bogs are located mainly in the midlands. A further 73 blanket bogs, covering 37,000ha, mostly in western areas are also designated as NHAs. In addition, there are 630 proposed NHAs (pNHAs), which were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats. Some of the pNHAs are tiny, such as a roosting place for rare bats. Others are large - a woodland or a lake, for example. The pNHAs cover approximately 65,000ha and designation will proceed on a phased basis over the coming years...Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation.

(NPWS, 2010)

¹⁰⁵ Dúchas - The Heritage Service was established in 1995 and was the state's heritage agency, though it is now defunct having been abolished in 2003 due to widely held beliefs in some political circles that its work was holding up many of the country's major infrastructural projects. Its functions have been largely superseded by the Department of the Environment, Heritage and Local Government, through the National Parks and Wildlife Service and Office of Public Works (OPW). The Heritage Council has also taken up some of its responsibilities especially in relation to heritage and public policy.

As a result of these changing circumstances, planning authorities across the country began to adopt a more rigorous approach to the potential implications of the EU's Habitats Directive on local policy, particularly concerning protected species (notably the hen harrier in this instance) from the early to mid-2000s onwards. This was especially pertinent in counties Laois, Tipperary, Clare, Limerick, Cork and Kerry where a majority of Ireland's hen harrier population is located and where significant wind farm proposals could potentially encroach on the hen harrier's habitat. So much so that a €74m wind farm project by another wind farm developer, South Western Services Group, was thrown into doubt¹⁰⁶ as a result of its potential impact on the existing hen harrier population at its proposed wind farm at Knockacummer (File No. 04/8354), in county Cork (Hogan, 2004a). It was within this atmosphere of increasing sensitivity to the potentially negative environmental impacts, of what was until then still generally considered a largely positive "green energy" technology and the increased levels of sophistication local authorities were now assessing new projects that Saorgus Energy prepared to apply for planning permission for Cordal Wind Farm for a second time.

7.3 The Local Authority Decisions

7.3.1 Issues and Responses from Cork County Council

It is a particular objective to protect plant, animal species and habitats which have been identified by the Habitats Directive, Birds Directive, Wildlife Act (1976) and the Flora Protection Order (S.I. No. 94 of 1999).

(Cork County Development Plan, 2003: 141)

After taking over Dúchas' responsibilities in 2004 concerning the proposed Natural Heritage Areas (pNHAs), candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs), as well as existing NHAs and SACs, the National Parks and Wildlife Service informed Cork County Council of the pending changes in status of a number of proposed sites around the county, including Mount Eagle. Having set out its overall planning policy for nature conservation in Chapter 7 of its

¹⁰⁶ This project was eventually completed in 2010, with nineteen 2.5MW turbines, comprising 100MW of installed wind power generating capacity.

2003 *County Development Plan* the local authority documented five principles by which it would apply these policies. They included:

1. The natural and built environment, particularly those elements that are non-renewable and most valuable, need to be properly protected, managed and enhanced.
2. The conservation and enhancement of biodiversity, natural heritage, landscape and the built environment should be promoted as important elements of the long term economic growth and development of the county
3. The protection of Cork's physical heritage (including archaeology and historic buildings) is a tangible representation of the County's past and is a sound basis for economic growth and regeneration
4. The 'polluter pays' principle and the 'precautionary approach' principle are important elements of any planning policies that deal with environmental and heritage matters
5. The long term economic, social and environmental well-being of Cork requires water and air quality to be of the highest possible standard.

(Cork County Development Plan, 2003: 135)

Though largely concerned with water and air quality, environmental considerations were now more deeply embedded in all aspects of the local authority's planning policy and as part of its updated environmental blueprint for the county it intended to back up these principles by clearly stating that:

It is an objective to maintain the conservation value of all Natural Heritage Areas proposed for designation by Dúchas the Heritage Service, either before or during the lifetime of this plan.

(Cork County Development Plan, 2003: 81)

This marked a significant policy shift in planning attitudes towards NHAs and pNHAs, such as Mount Eagle, regarding what would now be deemed appropriate for development at these sites, while the NPWS' reaffirmation of Dúchas' policies only strengthened the status of NHAs within local environmental policy frameworks.

Submitting its proposal (File No. 07/7471) on the 2nd May, 2007, Saorgus entered into another lengthy process with the planning authority. Official requests for further information were made on two occasions (22nd June 2007 and 20th December 2007) according to the local authority's archives, with the company is recorded as responding to these calls on four separate occasions (5th June 2007; 6th

June 2007; 1st November 2007 and 6th December 2007). The presence of a number of proposed turbines to be sited inside the 2005 NHA on Mount Eagle was an obvious concern for council officials, who needed an increased level of detail from the applicant if it was to ensure that the local authority did not contravene any of its environmental obligations as set down in its 2003 County Development Plan. While the proposed wind farm did fall into an identified Strategic Search Area¹⁰⁷ the fact that the site also encroached upon a newly designated NHA raised a number of questions that the developer would need to resolve if the local authority was to be able to grant planning approval for the site. This need for additional detail of the applicant's plans resulted in the lengthy negotiations that Saorgus and the council would enter into over the coming months; with the council needing further clarification on the occasions mentioned above and thus further complicating the process. One such request letter was sent to the applicant in December 2007 requiring:

a revised technical report to assess the impacts of the temporary drainage measures proposed for the turbine foundations, and the excavation and temporary dewatering of the borrow pit on the ecology of the bog including direct removal of peat on characteristic bog plants. All detailed proposals in relation to construction, excavation and drainage should also be assessed by a wetlands ecology specialist in order to establish the impact of the development on the Blanket Bog habitat.

(Cork County Council, 2007)

The need for an ecology specialist was seen as essential since the planning authority had received correspondence from the Department of Environment, Heritage and Local Government (DEHLG) in June 2007 recommending that it refuse planning permission to the applicant. The DEHLG was gravely concerned that construction activity at the site would cause considerable drainage damage to the blanket bog NHA at Mount Eagle. In light of this, Cork County Council decided to defer its decision so that Sorgus would have an opportunity to respond to these concerns

¹⁰⁷ Strategic Search Areas were identified in the 2003 development plan as areas which had both relatively high wind speeds and a relatively low landscape sensitivity to wind turbines. Prospective developers were, and continue to be, encouraged to focus their efforts on these identified areas when searching for potentially suitable sites in the county.

and sent the company the request letter seeking detailed clarification on six key points arising out of the previous meetings. They included:

1. The technical report submitted should be revised to assess the impacts of the temporary drainage measures proposed for the turbine foundations, and the excavation and temporary dewatering of the borrow pit on the ecology of the bog. All detailed proposals in relation to construction, excavation and drainage should also be assessed by a wetlands ecology specialist in order to establish the impact of the development on the Blanket Bog habitat.
2. All details in relation to techniques to be employed to develop floating roads, buoyant foundations, dewatering of the borrow pit etc should be submitted. The applicant is informed that it is not permitted to deal with such proposals by condition for Natura 2000 sites.
3. A civil engineering method statement to deal with run-off of water occurring from proposed development should also be submitted.
4. In order to fully assess this application the applicant is informed that clarification in relation to the location of nest sites within 2km of the proposed windfarm and their proximity to the proposed locations of adjacent turbines is required. It is also recommended that turbines should not be located within 500m of nest sites.
5. The applicant is required to demonstrate that compensatory habitat management proposals to take place on land outside the ownership of the applicants have been agreed with the relevant landowners and the Forest Service should such measures require that previously forested land be maintained as open countryside.
6. In order for the application to be considered further the applicant should outline their proposals for a compensatory habitat management plan.

(Cork County Council, 2007)

Meeting on the 26th of February 2008, to discuss Saorgus Energy's responses to the council's requests, culminating in the company's clarification document submitted on 25th January 2008, the local authority's Heritage Officer and a representative from the NPWS reported that they still remained dissatisfied with the new information that they had received. The company's responses to the planning authority still lacked the attention to detail that was now expected of it and as far as the Heritage Officer was concerned the company had yet again failed to give enough detail as to how it intended to cancel the wind turbines' potentially negative:

impacts on the species (Hen Harrier) for which the Special Protection Area has been proposed and on the habitat (Blanket Bog) for which the Natural Heritage Area has been selected and designated.

(Cork County Council, 2008a)

Separate information provided in the clarification document from 25th January, regarding other concerns expressed by the planning authority, also failed to impress council officials who highlighted the paucity of information relating to the potential loss of species and habitat resulting from the development. Attention was drawn to the continued lack of detail, despite previous requests for clarification, concerning the company's intention to re-position a proposed turbine (No. 16) which lay within 300m of a recognised hen harrier nest site. Saorgus articulated to the council on previous occasions that it would move the turbine a further 300m away from its initial location but again had failed to provide any additional details as to where this new location would be. The environmental considerations of altering the proposed roads to accommodate the turbine's new location, and the loss of habitat all these actions would entail, was also absent and had not been addressed. In order that the local authority could make an informed assessment, incorporating the revised location of turbine 16, the applicant was:

advised to provide detailed information including full species lists relating to each turbine location and all other parts of the site which will be removed for the development of roads etc. The applicants should provide an assessment of the quality of habitat to be removed and are advised that an objective assessment of impact significance be made (see Criteria for Assessing Impact Significance (appendix 4) NRA Guidelines for Assessment of Ecological Impacts of National Road Schemes).

(Cork County Council, 2008a)

A suggestion was also made in the notes from this meeting (28th February) to provide an informal letter proposing the planning authority issue another notice of deferral to give Saorgus time to respond, but the local authority concluded that it could not leave the application go undecided beyond the designated decision date of 23rd March, 2008¹⁰⁸. Saorgus now had just over two weeks (14th March) to submit

¹⁰⁸ While the initial decision date for the application was scheduled for 12th Jun 2007, it had to be deferred on two subsequent occasions (22nd June 2007 and 20th December 2007). In both instances the planning authority considered the information submitted in response to its requests as "inadequate". A meeting had been organised between the planning authority, heritage officer and the developer in late February, but it was subsequently cancelled to allow for the heritage officer and the NPWS representative assess newly submitted information from the developer, received on 25th January, 2008. This new information was still deemed to be "totally inadequate" and an informal

all substantial additions to its application. Speaking in 2009 a Saorgus representative expressed a level of unhappiness towards the short length of time the company was allowed to make its final submission. However, council officials refuted this and had no problem making their own growing frustration with the applicant known; reporting on the 18th of March, the final date that the council would accept responses from the applicant, that:

Throughout the course of the application the applicant has been given ample opportunity to address the above issues yet continues to submit inadequate information in response. Should inadequate information be re-submitted again in response to letter of 14/3/08 refusal should be recommended for this development

(Cork County Council, 2008b)

Council officials expressed reservations that a company director had carried out the ecological study on the proposed site, as opposed to an independent specialist as they had specifically requested. The council decided to carry out its own independent hydrological assessment of the area and identified significant issues pertaining to drainage, water quality and the control of turbid water that the applicant had repeatedly failed to address. It also disagreed with the company's ecology study assessment of the wind farm site as:

a 'D or E site' in accordance with the NRA categories when it is clear that this is an internationally important (A) site, designated as a Natural Heritage Area under the Wildlife Act and proposed for designation under the EU Birds Directive.

(Cork County Council, 2008b)

The role of the Heritage Officer in providing expert advice to the planning authority was crucial in this instance and the planner's report makes continuous reference to that official's contribution throughout. Making its final decision on the 25th of March, the planning authority concluded that the applicant had failed to provide

letter was sent by the planning authority to the developer on the 29th February requesting the information that remained absent from the developer's latest submission. The developer would have been made aware on this occasion that no further deferrals could be made beyond the 23rd March deadline.

adequate information throughout the process and refused permission on the following two grounds:

1. On the basis of the information submitted, the Planning Authority is not satisfied that the proposed development would not cause significant damage to the bog and pollution of streams in the vicinity, which are first order tributaries of the Feale, Clydagh, Branagh and Blackwater Rivers. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

2. The proposed development is located within the Mount Eagles Bog NHA 2449. On the basis of the information submitted, the Planning Authority considers that the proposed development would materially contravene Policy Objective ENV 2-5 of the Cork County Development Plan 2003 (as varied) which aims to maintain the conservation value of all Natural Heritage Areas proposed for designation by Dúchas the Heritage Service.

(Cork County Council, 2008b)

7.3.2 Issues and Responses from Kerry County Council

Almost in tandem with its Cork application, Saorgus Energy submitted its planning application to Kerry County Council (File No. 07/2633) on 27th June 2007¹⁰⁹. By then it would have been aware of Cork's growing reservations and requests for further clarifications. The two planning authorities had planned to meet prior to the submission date to discuss how both authorities viewed the company's plans to develop Cordal Wind Farm, but Kerry officials were unavailable until the 20th July by which time the application had already been submitted. At this meeting, officials from both local authorities agreed that the company's EIS needed to be further developed for the two applications. By now, Cork had already agreed to defer its decision while the applicant processed requests for new photomontages and carried out a detailed assessment of the potential impacts of the turbines on the blanket bog situated on the Cork side of the project, while at the same time dealing with the new aviation issues raised by Kerry Airport and the IAA.

The proposed development on the Kerry side would consist of eleven E70 turbines running north to south in a similar pattern to the turbines to be sited to the east, on the Cork side of the county boundary. Again, similar in approach to the Cork

¹⁰⁹ Initially Saorgus was due to submit its Kerry application on 21st August but chose to bring the application forward in light of developments across the county boundary.

application, Saorgus Energy maintained much of the original design from its expired planning permission proposal (98/11), instead choosing to enhance and update elements of the application as required. On foot of its meeting with Cork County Council, officials from Kerry County Council sent the company a request letter on the 20th August seeking clarification as to how the issues raised by Kerry Airport and the IAA would be resolved. Though the new turbines would number ten less than the previous application, the IAA was now concerned of the consequences these new turbines would have on the day-to-day functioning of Kerry Airport, outside Farranfore, since they would be situated along one of its key flight paths. Standing at 135m tall, each of the eleven E70s were considerably taller than the turbines allowed in the previous application and would command a much greater presence on the landscape. In a letter to the local authority the manager of Kerry Airport contested the findings in Saorgus Energy's EIS, citing a number of "inaccuracies" explaining that:

It is a requirement that our [Instrument Landing System] ILS is checked twice annually by an aircraft, this is carried out on contract by Flight Precision Ltd. and part of their procedures is to fly a slice along the extended centreline from 12 nautical miles at a height of 1,500 ft above the aerodrome (1,600ft above mean sea level or 488 metres). The extended centreline takes the aircraft approximately over the 410 metre contour on the north side of Knockanafune which gives it a clearance of 78 metres over the existing terrain.

The centreline is in the approximate location of turbines 1 and 5 so the height will be increased by 125 metres (using 80m high hub) giving a total height of 548 metres at the site of Turbine 5.

It is obvious that an aircraft flying the procedure at 488 metres is going to crash into the Tower 60 metres below the blade tip.

(Kerry Airport Manager, 2007)

The Airport Manager also disputed Saorgus' contention in its EIS that its wind turbines would have no effect on flight instruments at the airport, including the ILS, and requested that the planning authority reapply the conditions set down in the An Bord Pleanála ruling for the previous planning application in 2004 (PL 04.210685). In its 20th August request letter to the company Kerry County Council required clarification on nine matters it needed resolving before it could grant planning permission.

1. The Planning authority has serious concerns regarding the effects of the proposed development in the Material Assets (aviation). The Planning Authority notes the detailed submission from Kerry Airport Ltd and the concerns regarding the inadequacies in the EIS (Effects on the Material Assets). Kindly consult with Kerry Airport Ltd in relation to this and submit a revised EIS with accurate information, taken account of the proposed New Instrument Landing system on Runway 08. Kindly submit full details of correspondence with Kerry Airport Ltd to the Planning Authority.
2. Kindly arrange to carry out a full feasibility study indicating if a safe missed approach procedure can be designed in relation to the proposed development. You are requested to consult with the Kerry Airport Ltd and the Irish Aviation Authority in relation to the same. Kindly submit full details of the feasibility study to the Planning Authority.
3. Kindly submit revised photomontages as part of the "*Zone of Visual influence Maps and Photomontages*", taking into account all operational and permitted wind farms in the vicinity of the proposed site/lands.
4. Kindly submit details of the proposed route of the construction / delivery vehicles to and from the proposed site. The applicant is advised to liaise with the Area Road Engineer of Kerry County Council regarding any proposed road alignments. Full details regarding the same and all correspondences shall be submitted to the Planning Authority.
5. Kindly submit 6 copies of revised site layout plan indicating all watercourses and existing drainage patterns within and abutting the proposed site.
6. You are requested to submit a revised site location map showing all land which adjoins, abuts or is adjacent to the land to be developed and which is under control of the applicant or the person who owns the land which is subject of the application in blue.
7. Kindly submit a detailed Compensation Habitat Management Plan in relation to the Hen Harrier, a protected bird under the *Wildlife Act (2000) and the EU Birds Directive (1979)*
8. Kindly indicate the flight path of the hen harrier in this area and the location of the proposed Wind turbines in relation to the same.
9. Kindly submit details regarding the proposed Meteorological Mast. The requested plans should indicate the proposed height and location of the same within the proposed site (6 copies)

(Kerry County Council, 2007)

While the local authority was waiting for Saorgus to respond to its requests, it received a letter from the Developments Applications Unit (DAU) of the DEHLG in October 2007. Mirroring correspondence made to its neighbour in county Cork the DAU recommended to the local authority that it refuse planning permission to the applicant since all of the eleven turbines proposed for the Kerry side of the wind farm would be sited completely or partially inside the NHA boundary and as such would jeopardise the integrity of the designated NHA. In light of this development the council decided to adopt a wait and see approach, giving the applicant time to reply to its requests. Subsequently on 11th December 2007 Saorgus wrote to Kerry

Airport offering to ask the Planning Authority to insert the five conditions the airport had called for as a precondition to it getting planning permission.

On the 19th February 2008 Saorgus submitted its response to the council, launching a robust defence of its application. On a number of instances it directly disputed issues raised by the planning authority in its request letter the previous August, especially with regard to those raised by Kerry Airport and the potential impact of the proposed turbines on the airport's Instrument Landing System. As part of its submission it also included Madders and Whitfield's 2006 paper on the impacts of wind farms on upland raptors in Scotland, along with a presentation the authors gave of their findings to Natural Research Ltd, the Scottish environmental consultancy, in an effort to show the minimal impact the wind farm would have on the hen harrier population in the area. Despite the DEHLG, Cork County Council and Kerry Airport remaining to be convinced by the applicant's contentions, Kerry County Council trusted the company's contributions enough to decide in favour of the development on 14th March 2008; granting planning permission for the requested eleven turbines and ancillary works on 17th April 2008.

Since obtaining planning permission from Kerry County Council, Saorgus has not constructed any turbines on the site to date. However, fortunately for the company, the granting of planning permission for the Kerry component of the project ensured its future since all access routes for construction will be situated on its side of the county boundary. A spokesperson for the company predicts construction to start sometime in 2012 once Eirgrid have finalised its offer of a grid connection later this year.

7.4 Conclusions

The divergent conclusions made by the two aforementioned local authorities in deciding to grant/refuse planning permission for a project that provided many similar challenges to both organisations is of considerable. Despite both local authorities using the same policy instruments and departmental planning guidelines

to assess the merits of the one wind farm application (including receiving similar recommendations to refuse planning for that application by the Department of Environment, which oversees the operation of the local government system) each planning authority chose to draw very different conclusions at the end of their respective planning processes.

It is possible that this case study reflects a wider malaise in local government responses to emergent socio-environment and energy planning policies. On the other hand, it could also be argued that it indicates a strong sense of local decision making, than might otherwise be the case. I am not convinced of this second argument. However, given the trend in planning decisions over the years Kerry County Council has tended to mirror the approach taken by other local authorities (Donegal County Council, for example) to wind development by providing overly favourable conditions in which wind industry operators can grow their businesses. However, this is often at a cost to other interests. The way each authority was allowed to interpret the same policy documents, with very different attitudes influencing the eventual outcome, illustrates the greater likelihood for complexity in the system. All discussions on local democracy aside, this is indeed problematic to national strategy since it increases the probability for turbulences or negative feedback cycles to occur resulting in the potential failure of the policy flow being promoted. Kerry's decision to allow permission for the proposal, despite pressure to do otherwise, can be seen as a case in point with regards to the unpredictability associated with agency held by actors in the flow system. It is also indicative of the competing, multi-dimensional interests found within local government structures most notably between the legislature and the executive.

The Cordal Wind Farm proposal provides an illustrative example of how individual planning authorities mediate the pressures made by locally-based business interests to develop their product or service against the wider societal considerations of local communities and the impact on existing infrastructure that must be taken into account when valuing landscape for development in adherence to national policy. Clearly there is a need for a greater:

understanding of the emerging diversities, complexities and enmeshments of
what was once a rather clear and straightforward practice
(Mol and van den Burg, 2004: 317)

These evolving enmeshments, with the Habitat's Directive as a case in point, in effect can generate greater uncertainty and opportunities for turbulence to occur given the way local actors now actively engage with globalised governance networks; at times ignoring national authority (Monica Salomon, 2008). This is especially true when we consider that governments have become more preoccupied with regulating mobilities over the more localised, spatially-specific considerations found within traditional planning practices. It also creates confusion amongst those interacting with local government structures who may consider the norms and practices they find applicable to one local authority holding less weight when dealing with another. As local governments across the EU increasingly defer to external legislative flows, beyond the traditional centres of authority found at national level, these complexities (and their increased potential for conflict within the policy flow itself) are only set to heighten in the coming years as energy and spatial pressures intensify in light of societal responses to the greater proliferation of wind turbines on rural landscapes.

Chapter Eight

Local Reaction to Consolidating Networks of Flow: Enniskeane, County Cork

Before I built a wall I'd ask to know
What I was walling in or walling out,
And to whom I was like to give offence.
Something there is that doesn't love a wall,
That wants it down. I could say "Elves" to him,
But it's not elves exactly, and I'd rather
He said it for himself. I see him there
Bringing a stone grasped firmly by the top
In each hand, like an old-stone savage armed.
He moves in darkness as it seems to me,
Not of woods only and the shade of trees.
He will not go behind his father's saying,
And he likes having thought of it so well
He says again, "Good fences make good neighbours".

(Robert Frost, 1914)

8.0 Introduction

This chapter will give an account of the relationship dynamics that can arise once a renewable energy company proposes to build a wind farm within a largely rural community. It will chart the progress of a company, Organic Power Ltd., from its initial efforts to develop a wind farm in Enniskeane, west Cork, to its continuation of those efforts at sites in the townlands of Newcestown and Castletownkenneigh; giving an account of a community protest against the proposal in those townlands that lie to the north and northeast of Enniskeane.

While in many ways similar to the previous two chapters, which highlighted how turbulence can arise within early adaptor communities and in the local institutional responses to complicated intergovernmental policy structures, this case study highlights the more common scenario found within the literature where a local community uses the planning systems of local government to resist a proposed wind farm development for their area. The circumstances surrounding this case study may in some ways more easily fit the pejorative NIMBYism narratives criticised by van der Horst (2007), Wolsink (1994; 2007) and Polaski and McCarthy (2010), but this case study shows once again how local community resistances are much more than just a 'not in my backyard' reaction to a perceived negative development. Rather it is more indicative of what Devine-Wright (2009) describes as place-protective actions stemming from localised reactions to perceived threats from proposed changes to a local area. This disruption to pre-existing place attachment narratives can generate far greater and more sustained animosity to a particular proposal than the rather abstract considerations associated with NIMBY, with the conflicts themselves being highly networked, supralocal affairs (Maciocco and Tagliagambe, 2009).

This increased complexity in how local communities respond to proposed planning developments, which are by no means exclusive to wind farms, is largely symptomatic of how contemporary rural communities are structured. These new ruralities that rely on the dynamic, highly mobile relationships local people have with the areas in which they live and the extralocal economic and institutional

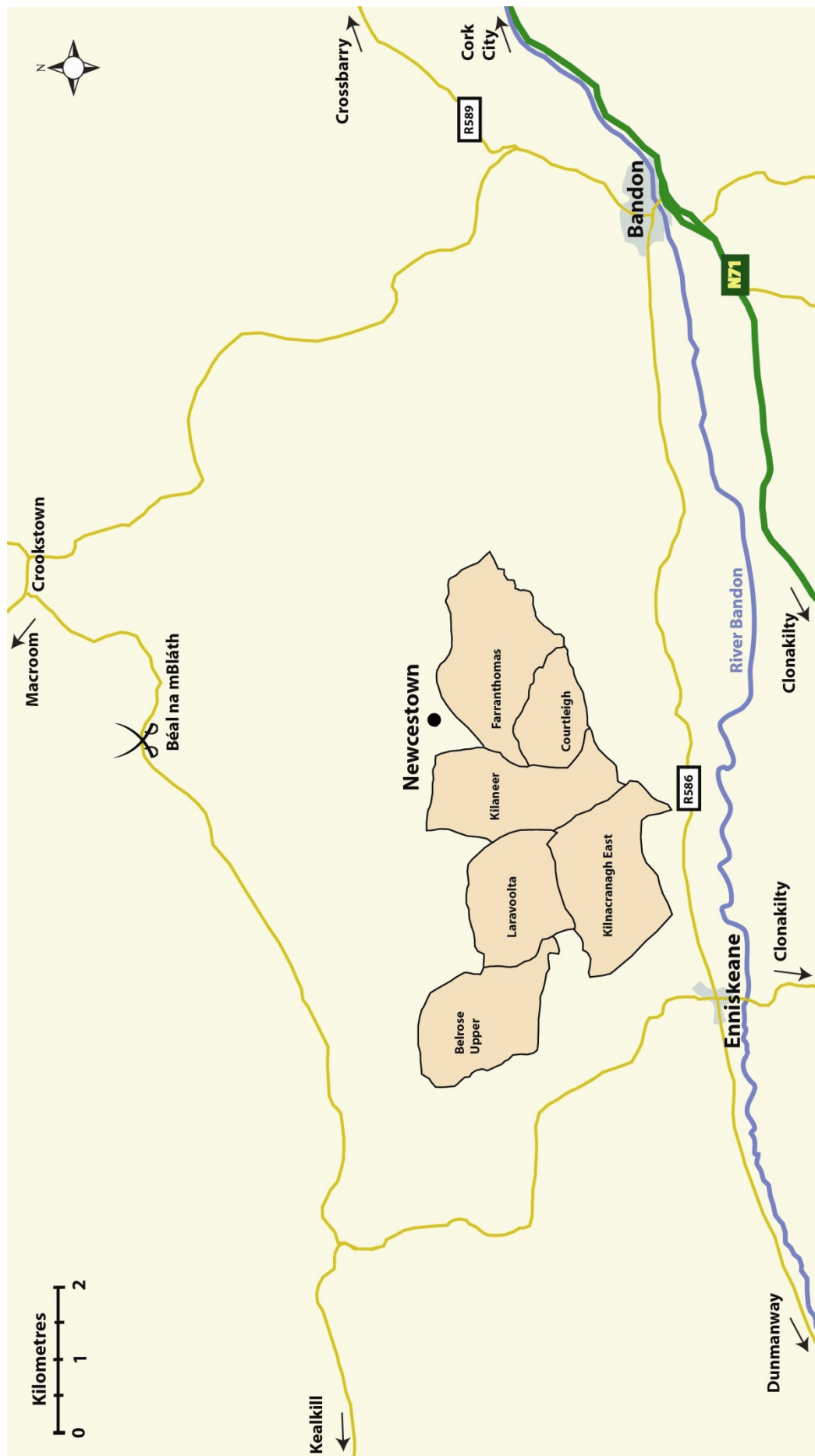
environments they must negotiate in order to sustain those lifestyles in areas that cannot support them, has a significant part to play in how local people negotiate locally-specific schisms such as a wind farm proposal. Again we will see that locally-specific animosities have as much to play in these dynamics as other more obvious reasons protagonists use to fight a proposal during the planning process.

The Cork County Council Planning Policy Unit describes the landscape around Enniskeane and Newcestown as consisting in the main of broad, fertile lowland valleys with high landscape sensitivity and value attributed to it. Of the three case studies mentioned in this thesis it is the least marginal in terms of soil quality and agricultural activity with intensive dairying and some tillage accounting for a majority of the farming practiced here. Lying to the west of the market town of Bandon, which (as the principal town in the area) the residents in the townlands described in this case study gravitate towards. Writing on Newcestown, the village that became the focal point of the protest, William E. Barrett gives an account of it dating back to the 1880s:

Newcestown was a village of no great size and of little renown. It derived its name from a British Captain Newce who had failed in an attempt to become the local Oliver Cromwell and who existed in the regional folklore as a rather ridiculous character. The people of the village were people of the soil who sent their share of young people abroad as emigrants and who, in their own remaining, settled firmly in one place and put down immovable roots. They were not compromisers in either religion or politics.

(Barrett, 1967: 16)

More recently Joseph McKenna (2011), writing on the Irish War of Independence 1919-1921, describes how fighting during that period often gravitated towards the area on a number of notable occasions. In fact, one of the leading Irish figures at that time, Michael Collins, was ambushed and killed just north of Newcestown near the crossroads at Béal na mBláth during the ensuing Civil War. History and place appeared to inform those at the centre of the Enniskeane Wind Farm protest, from what could be ascertained and the unwillingness to compromise, suggested by Barrett (1966) appeared to be in no way diminished during the time that constituted this case study.



Map 8 Overview Map of the Enniskeane Wind Farm proposal, which would have occupied townlands south of Newcestown and north of Enniskeane (as highlighted). This area of West Cork has an historic legacy of contestation going back generations, from the agrarian land wars in the 1880s and 1890s through to the revolutionary period at the beginning of the last century, the consequences of which still resonate with locals today. One notable site lies to the north of Newcestown at the Béal na mBláth (literally meaning Mouth of the Flowers or Mouth of the Ravine) where a pivotal member of Ireland's independence movement, Michael Collins, was killed in an ambush during the ensuing Irish Civil War. Commemorations are held there every year on the anniversary of his death.

8.1 The Enniskeane Wind Farm Proposal: A Prologue to Future Protest

In operation since 2006, Organic Power Ltd. (OP) is a Cork-based¹¹⁰ renewable energy company. It focuses its entire operation on developing three models of energy production, namely from wind power; pumped hydro-electric storage (PHES); and combined heat and power (CHP) from agricultural biomass waste. Though based in Cork it does have an international dimension with one of its advisors currently looking to develop potential energy projects in Greece. However, all of its projects remain situated in Ireland to date and despite a rather ambitious approach to commissioning these projects their degree of success can be described as being rather mixed at best. A stated goal on their website is to:

build a portfolio of dispatchable power projects using a polygeneration mix of non-polluting technologies which are both renewable and sustainable [with] 125MW of dispatchable renewable energy permitted and ready for construction by the end of 2010.

(Organic Power, 2009)

This ambitious target has not been achieved, however, given the difficulties that Organic Power has experienced in realising these projects, and according to their website they have since pushed back their deadline for construction to 2012 (Organic Power, 2011). Of the nine planning applications submitted to Cork County Council alone, comprising five different renewable energy projects, they have to date only been successful with one application. Another application is still under consideration, while the rest of have been rejected, were deemed to be incomplete, or needed further information to conclude the planning process. Of the four identified wind farm projects still under development, two have been granted planning permission: in Glashantooreen in county Kerry and Dromleena in county Cork¹¹¹ with a combined 22.9MW of electricity generation capacity. The other two projects, still in submission for planning permission, are situated in the townland of

¹¹⁰ Organic Power's head office is situated in Skibbereen and is financed by shareholders mainly from the Munster area.

¹¹¹ Liam Chambers spoke of a number of operational issues associated with this project, which may in time scupper OP's plans to develop it further.

Ballydehob¹¹² in county Cork and Glendeish in county Waterford. In fact their first planning application was submitted to Cork County Council in March 2006, followed by a submission to Kerry County Council in September of the same year for the erection of a 50m wind speed and direction measuring mast at Enniskeane (File No. 06/5619) and Farranfore (File No. 06/3578) respectively. The Enniskeane application was considered incomplete by Cork County Council and the Farranfore submission was refused due in the main to the Irish Aviation Authority's determination that the resultant wind farm would:

become the predominant obstacle immediately to the south of the airport.
(IAA, 25/7/2006)

However, these events did not deter Organic Power in its efforts to develop the Enniskeane proposal and in May 2006 they submitted a new planning application (File No. 06/6934) for a wind measuring mast in Kilnacranagh East, Enniskeane. Conditional planning permission was granted in August of the same year. This permission was to be considered temporary due to the reservations the adjudicating planning official at the local authority had regarding the proposal. The reservations included a strong scepticism of a sustainable wind regime for the area, the close proximity of housing to the north of the proposal and what he termed as the:

cumulative impacts that a number of small and dispersed wind farms may have visually on the receiving environment.
(Cork County Council, 2006)

These reservations should have alerted Organic Power to the challenges it would most likely have to face if they were to continue to develop the Enniskeane project beyond the installation of a wind measuring mast. This did not occur, and culminated in a protracted and at times bitter dispute between Organic Power Ltd

¹¹² Planning permission for the Ballydehob proposal was submitted around the same time as the Enniskeane proposal. It too is proving to be unpopular with local groups adopting a similar stance to that taken in Enniskeane. A number of members of the Mount Kid & Townlands Environment Meithal, who are opposed to the Ballydehob development, also attended the CANAG protests against the Enniskeane proposal.

and the Castletownkinneagh and Newcestown Action Group (CANAG); the action group that was comprised predominantly of members from the local community living in the townlands in which the turbines were to be situated.

8.1.1 “Basically we’d learned nothing and forgotten nothing”

Before studying the dispute in further detail however, it is important that one is aware of Organic Power’s background, in order to better understand how events unfolded. Liam Chambers, a farmer and landowner still living in Enniskeane, was a co-founder of the company along with his former colleague Maurice McCarthy. They set up the company in response to the lucrative investment opportunities open to the wind energy industry at that time. Chambers readily admits that his expertise lay as a “people person” rather than being able to bring much needed technical skills to the table, but such was the optimism at the time that it was not uncommon for members of many of the wind energy start-ups to be drawn from a variety of professions not immediately compatible to what one would expect was needed. In many ways Organic Power could easily be described as sharing much in common, both in terms of structure and experiences, with the early oil prospectors at the turn of the last century. Much like the characters in the film *There Will Be Blood* [2007], a majority of the work involved sourcing the sites suitable for the erection of wind turbines, meeting the local communities involved and sourcing the finances needed to make the projects happen. Absent of course are the more dramatic elements of the film, but the analogy is a useful one, because like the characters in the film, Organic Power was operating in what was in many ways unfamiliar territory; both in terms of the technology involved and the social and cultural tensions that could arise when negotiating how these new technologies are to be accepted by the communities directly affected by them.

It was Chambers who approached Maurice McCarthy to look at land he thought may be suitable for development in Enniskeane and together they decided to apply for planning permission for a wind measuring mast to estimate the real potential of the site. After successfully securing conditional planning permission for the mast on their second attempt they set about drumming up support for the proposal

amongst the local landowners in the area. Chambers identifies this period as the start to the troubles Organic Power would later experience with the local community. Initially they had planned to hold several small-scale meetings in each townland and address any issues the relevant community may have there. Locating the meetings in local halls, where available, was to be a next best option for them if the townland meetings were to prove too problematic. In the end they decided to opt for a series of large-scale meetings, which were held over three evenings in October 2007 at the Castle Ahan House in Enniskeneane town¹¹³, in order to accommodate the level of interest they saw coming from the local community. It has been suggested that a number of the landowners involved in the project were not happy with the pressure they were experiencing to forego their involvement with the project and it was felt that an open, large-scale forum would be the most appropriate format to air and resolve any grievances people may have had.

The decision to host the meetings in “a place where both the conversation and drink flow freely” (Castle Ahan House, 2010) was later questioned by Chambers given the hostile atmosphere on the nights in question and the ease of availability to alcohol on the part of some of the participants. The angry exchanges that erupted on the final night, causing it to be eventually abandoned, culminated in the Garda Síochána having to be called to restore order (O'Donovan, 2007). Though staff at the Castle Ahan House played down the events of that night it was serious enough for the police to become involved given that the chairman for the evening was threatened with a glass jug (O'Donovan, 2007). Chambers describes the meetings as “pretty rough” though he also suggests that they, meaning Organic Power, played into the hands of the protesters in a number of ways. Hosting one large meeting instead of a series of smaller ones provided a platform for what he describes as “professional agitators”, who came from as far away as county Westmeath, to wreck any chances they had of building trust with the local community. Chambers also suggested that some of the protesters were there merely to drum up business for a solicitor they worked for who specialised in

¹¹³ These meetings were held on the 15th, 16th and 17th of October.

opposing wind farm proposals; rather than for any real concern for what went on in the Enniskeane area. Describing the first two nights as being quite heated, with the “agitators” stifling any real debate, it was not until the last night that any real dialogue was engaged in, but that too was destroyed by events later that night. The decision to film the meeting in response to alleged threats that were made against some of the landowners supporting the proposal over the previous week also helped to engender a degree of distrust for the company. Maurice McCarthy, much to Liam Chambers’ regret, acquiesced to demands made from the floor to turn off the camera. Chambers suggests that the decision to turn off the camera only helped to create further suspicions of Organic Power and what their real motive was for filming, again stifling any chances of fostering trust between themselves and the community. A third factor, which Chambers also admitted to in all probability as a mistake on Organic Power’s part, was the choice of chairman they made for that last night. He describes the chairman as “disastrous”, who behaved quite arrogantly towards individual speakers in the crowd and only seemed to antagonise the more hot-headed participants present¹¹⁴, rather than drive proceedings forward or foster any sort of meaningful debate. He does not of course condone what happened that night, but rather he openly highlights the failures on the part of Organic Power to recognise their own weaknesses in responding to the more “professional” elements within the protesters, both that night and afterwards; some of whom would later prove to be more adept than Organic Power when it came to engaging with the planning process.

As the company’s Public Relations Officer (PRO), Chambers was only too aware of the negative consequences that events such as that night could have on any future efforts to foster trust with the community and bring the project forward. He compared Organic Power’s attitude towards those who were against the project as similar to the stubbornness exhibited by the French monarchs of the Bourbon

¹¹⁴ Chambers was further perplexed by the actions of some of the protesters that night who happened also to be landowners in the area. While openly condemning the proposal and Organic Power at the meeting, a number of them approached Chambers afterwards and suggested that he contact them about developing wind farms on their own properties when all the controversy around the Enniskeane proposal had “died down”.

Dynasty, using a quote made famous at the time whereby they were thought to have “learned nothing and forgotten nothing”¹¹⁵. This hubris and inability to engage with the protesters in any sort of meaningful sense worried Chambers greatly. Another issue that was to cause him increasing concern after the Enniskeane meeting was the ambiguous legal position of the land leases that they had negotiated with the relevant landowners. He felt that they were “skating on thin ice” since the agreements had not been given final approval by a solicitor and since they were, in effect, still selling company shares on the back of these leases he took issue with how the company was operating. Eventually losing faith in his colleagues’ ability to see the problems that, as he put it, were blatantly staring them in the face and he decided to leave the company he had helped to found, in 2008.

8.2 The Application: Preplanning and the Environmental Impact Assessment

Around the same time as events were unfolding in Enniskeane, Organic Power Ltd (OP) had also scheduled a pre-planning meeting with county planning officials to establish a common understanding between the company and the local authority as to what would and would not be considered acceptable. Subsequently OP submitted their pre-planning document to the local authority in May 2008. The company’s initial intention was to complete all consultation and environmental work by June 2008, with a mind to submitting their planning application the same month, as is evident in the work plan below:

Work plan and resourcing for the environmental studies

- Baseline studies commenced January 2006
- Initial pre-planning discussions with CCC¹¹⁶ October 2007
- Project defined December 2007
- Pre-planning consultations to be completed mid May 2008
- EIS to be completed May 2008
- Anticipated Planning Application June 2008

(Organic Power, 2008a: 9)

¹¹⁵ This quote has been credited to Charles Maurice de Talleyrand-Périgord, later known merely as Talleyrand. A French diplomat, who served under numerous French regimes including that of Louis XVI, his ability to survive the many intrigues of the French Revolution and then the Napoleonic dynasties ensured his fame amongst his contemporaries.

¹¹⁶ Cork County Council

Events did not go according to plan however and the company would continue to experience setbacks. In an effort to allay the fears expressed by the adjudicating planning official, when granting temporary permission for the wind measuring mast, they decided to scale back the number of proposed turbines from an initial eighteen to fourteen¹¹⁷:

Taking into account the above design criteria, an initial layout comprising 18 E70¹¹⁸ was examined. In the light of the environmental baseline data implications on background noise, this was reduced to 16 number E70 prior to public consultation. As a result of feedback from public consultation, and feedback from the County Council the proposal was amended to remove turbines in the Newcestown locality, and adapted to minimise visual and other environmental impacts. The final proposal is composed of 11 number E70 turbines and 3 number E44¹¹⁹ turbines, which will provide an installed capacity of 28MW, consistent with the lower end of the design criteria.

(Organic Power, 2008a: 10)

Their intention was to cluster these turbines in to four sites in townlands to the north and northeast of Enniskeane “on hilltops consistent with National Planning Guidelines for wind farms” (Organic Power, 2008a: 10). The number of turbines to be sited in each cluster eventually consisted of:

- 4 turbines in Belrose Upper, a townland of Enniskeane.
- 3 turbines, Kilnacranagh East, a townland of Enniskeane.
- 1 turbine, Laravoolta, a townland of Enniskeane.
- 6 turbines, Courtleigh, Farranthomas, both townlands of Newcestown.

¹¹⁷ This would have been considered a significant step by members of Organic Power. Liam Chambers explained that the business model adapted by the company was always to try for twenty turbines or more in a given planning proposal. This was due to their understanding that the cost-effectiveness of a project would increase or decrease subject to the number of turbines installed. This reduction in turbines would result in the proposal equalling 28MW of capacity, which when factoring in the relevant construction costs, including grid connection and underground cabling costs, would make the project less attractive to investors.

¹¹⁸ The Enercon E-70 wind turbine is a 2MW class turbine with a rotor diameter of 70-71 metres and has a maximum hub height of 113 metres. It is specifically designed for areas with high wind speeds with a cut-out wind speed of between 28 to 34 metres per second (mps) (Enercon, 2009).

¹¹⁹ The Enercon E-44 is a 900KW wind turbine with a rotor diameter of 44 metres. It is somewhat smaller than the E-70, with a maximum hub height of 55 metres. It too is designed for strong wind conditions with a cut-out wind speed of between 28mps to 34mps.

The map below provides a visual illustration of Organic Power’s intentions and how they saw the wind turbines were to be distributed across the landscape.



Map 9 Map of proposed wind farm with the relevant turbine sites indicated in the respective townlands. The River Bandon, an important game fishing river particularly for Atlantic salmon, frames the bottom of the map and attracts international visitors each year who come to fish its waters. The possible effect to tourism that the proposed turbines may have was also a concern repeatedly expressed by protesters.

Organic Power commissioned erm21c Ltd¹²⁰ to carry out the environmental assessment work needed for the planning proposal, including the pre-planning document and the Environment Impact Statement (EIS). Erm21c in turn hired a number of consultants to carry out much of the specialist work required, including soils, geology and hydrology analysis; archaeological and ecological studies; noise pollution and electromagnetic interference issues; any health and safety considerations; as well as the effects the project would have on traffic and roads in the affected areas. The work that erm21c carried out for OP would receive special

¹²⁰ Erm21c Ltd is a design company specialising in Environmental Impact Assessment (EIA) management and producing Environment Impact Statements (EIS) for the renewable energy sector. It is owned and operated by Organic Power’s managing director Maurice McCarthy.

mention for criticism in the planning report and was cited as having a number of “shortcomings” according to the council’s planning department. These will be analysed in further detail later in the chapter.

When one considers the stakes involved, it is not surprising that the level of detail required from the work, when applying for a strategic infrastructural project such as a wind farm, is significant. Both the Pre Planning Document and the Environmental Impact Statement (EIS) are substantial bodies of work, in their own right, in this instance running to thirty seven and forty three pages respectively. While the EIS is obviously the more important of the two, the Pre Planning document does help to provide a useful “roadmap” where the applicant can show its intentions to the local authority, which in turn can make suggestions to the applicant at an early stage as to what will and will not be acceptable. Using the Government’s Environmental Impact Assessment Regulations 1999, the EU Birds Directive and Cork County Council’s own County Development Plan (CDP) 2003 as a point of departure, it took Organic Power a further four months beyond the scheduled completion date of May 2008 before it had finished its work on the EIS. This was finally accomplished in September 2008. Comparable to Tarbert Renewable Energy Ltd and Saorgus Energy Ltd in earlier chapters, OP was obliged to consult with a number of local and national bodies and agencies in order to ensure that the project was not impacting on their day-to-day operations. These bodies included:

1. CCC Planning Department pre-planning discussion regarding: Scope of Visual Analysis, Grid Connection, submission format.
 2. CCC Roads Department regarding setback distance for turbines which are at less than 300m removed from tertiary public roads.
 3. Irish Aviation Authority regarding Air Safety and Navigation.
 4. RTE regarding Terrestrial TV/radio propagation
 5. ESAT/O2/Meteor/An Garda Síochána regarding mobile telephony antennae.
- (Organic Power, 2008b: 7)

The EIS also clearly aligned the applicant’s proposal to current EU and national policies on climate change, encouraging the local authority not to pursue a “Do-Nothing Scenario”. It strengthened its argument by suggesting that the local authority had an opportunity to reduce national annual carbon equivalent

emissions by 62,000 tonnes, taken from its estimates on the wind farm proposal itself. Obviously this opportunity would be missed were the planning permission to be refused. According to OP's calculations:

A do-nothing scenario would result in the avoidance of over €6 million in local revenue, and the national obligation to purchase fuel and carbon emissions rights worth almost €260 million, over thirty years. The only possible economic benefit of a do-nothing scenario is to avoid small and highly unlikely potential impacts on property values which in a worst case scenario would be in the range of [less] than €200,000¹²¹. Local economic benefits exceed improbable costs by a factor of 30:1, and national benefits by a factor of 1300:1. A do nothing scenario is not justifiable in this case from an economic perspective.

(Organic Power, 2008b: 11)

As OP saw it, when applying a cost benefit analysis to the proposal the potential financial benefits of the project clearly outweighed any negative environmental or aesthetic costs that would be incurred. This potential economic benefit would contrast to the more minor loss to visual amenities those living in the affected areas would experience. As far as OP was concerned:

The proposed development does not have nor will have any serious detrimental permanent environmental impacts on the area or surroundings. The only environmental benefit from a do-nothing scenario will be in not changing the visual landscape. That means to preserve the views as they are, the value of which is very subjective, depending on the individual. The development does not belong to any special amenity areas and the nearest visible point on scenic routes is the A85 which is 5-7km away and will have very limited exposure to visibility of the project. The substantial environmental benefit of net avoidance of 62,000 tonnes of CO₂ equivalent, should far outweigh any minor visual impacts. The project will help Ireland to become less dependent on oil imports for electricity production and meet its emissions reduction targets. Ireland is still one of the top European polluters per capita, and the Irish government will be paying high fines to buy their way out of not meeting the agreed CO₂ targets imposed by Europe.

(Organic Power, 2008b: 11)

Organic Power's optimistic position regarding the potential impacts of the wind farm failed to convince those local residents from the Enniskeane and Newcestown areas who were vehemently opposed to their plans. These residents adopted a now

¹²¹ These calculations were factored for house valuations at 2007 levels, when the property market was at the height of the housing bubble.

familiar model of resistance to a given planning application by forming an action group, Castletownkinneagh and Newcestown Action Group (CANAG), which would in time prove to be tenacious in their efforts to thwart OP's plans for the area.

8.3 "No Turbines In Our Community!" CANAG

Tom Barry talked of the struggle of his people, that the land was part of our soul. We cannot lose to speculative development!

(Galvin, 2009)

Formed in 2007 when the wind farm proposal was first mooted for the area and prior to the Enniskeane meeting, CANAG's operational activity can be described as rather reactive at best, comprising of a series of rather pragmatic responses to the various stages in the planning process. Intervals of dormancy were punctuated by periods of intense activity in response to a submission on the part of the applicant

or a stipulation or deadline set down by the local authority. These periods of intense activity can be summed up as following two phases of opposition. The first coincides with the pre-planning efforts of the applicant both within the community and at an official level. This period can be termed as somewhat of a "phoney war" whereby any opponents to a proposal, who may reside in the area, begin to organise themselves. The developers and their opponents both gain an understanding of the other's position at this stage. It is at this

CORK COUNTY COUNCIL-
We, Organic Power Ltd, Old Station, Marsh Road, Skibbereen, Co. Cork intend to apply for ten year permission to erect 14 no. Wind Turbines on 4 separate sites, of which 4 no. wind turbines with ancillary hardstand and assembly areas and 1 no. borrow pit are in the townland of Belrose Upper, 3 no. wind turbines with ancillary hardstand and assembly areas and 1 no. borrow pit area in the townland of Kilnacranagh East, 1 no. wind turbine with ancillary hardstand and assembly areas and 1 no. electrical sub-station are in the townland of Laravoolta, and 5 no. wind turbines with ancillary hardstand and assembly areas and 1 no. borrow pit are in the townlands of 'Courtleigh, and Farranthomas', and install underground fibre optic and electrical cables and ancillary works in the townlands of (Belrose Upper, Lissarourke, Laravoolta, and Kilnacranagh East), Enniskeane, Co. Cork and install underground fibre optic and electrical cables and ancillary works in the townlands of (Courtleigh, Farranthomas and Killaneer) Newcestown, Co. Cork and all ancillary associate site works including internal roadways and wheelwash facilities. This planning application will be accompanied by an EIS (Environmental Impact Statement). This Planning Application and EIS (Environmental Impact Statement) may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the Planning Authority during its public opening hours and a submission or observation in relation to the application may be made to the Authority in writing on payment of the prescribed fee within the period of 5 weeks beginning on the date of receipt by the Authority of the application.

**ORGANIC POWER
APPLY FOR
PLANNING
PERMISSION**

To the left is an extract from
the Southern Star.

Organic Power have applied
for planning permission for
FOURTEEN giant wind turbines
on four separate sites in the
townlands of

**BELROSE UPPER
KILNACRANAGH EAST
LARAVOOLTA
COURTLEIGH
FARRANTHOMAS**

Please attend the meeting at
8.30pm on Wed 25th Feb
at **NEWCESTOWN HALL** to find out
how to fight these plans which
affect you and your families

 **CANAG**
CASTLETOWN & NEWCESTOWN ACTION GROUP

Figure 8.1 An example of a CANAG protest flier (Source: CANAG, 2009).

time that the majority of opinions for and against a proposal appear to harden. The second phase of opposition in turn coincides with the pre-decision making stage of the planning process. This is the more intensive of the two phases of opposition and strategies first learned during the “dress rehearsals” of the pre-planning period are now reapplied with more vigour.

The degree of sophistication needed on the part of the opposition group to effectively carry out its activities during both of these two phases of opposition is substantial. This is especially so in terms of organisational cohesion around financing and time-commitment obligations, as well as fostering media and political interest in the protest. CANAG’s core team of Martin Galvin, Teresa Flynn and Gerry O’Mahony all spoke of the considerable time commitments demanded of them

when challenging the Enniskeane proposal. Much of the work carried out by CANAG was conducted

Figure 8.2 An example of a CANAG poster. CANAG’s communicative skills are clearly evident here, managing to convey very concisely a large amount of detailed information within a relatively low word count (Source: CANAG, 2009).

outside of office hours since many of its members were in fulltime employment during the campaign, therefore all meetings were held in the evenings in order to give as many local residents as possible the opportunity to attend. While CANAG’s team conducted much of the planning for the protest it was down to individuals within the action group to carry out specified tasks and provide equipment such as laptops and printers when the need arose. Money was collected at the end of each meeting to part-pay for the expenses incurred by the core team particularly for planning documents and the production of information leaflets and fliers.





Figure 8.3 Protest signs would appear at strategic locations around the village when a meeting was to be held. This example was positioned at the cross-roads which dominate the centre of the village © Breffní Lennon, 19/03/2009.

Convinced that the wind farm would be “catastrophic for the area” (Teresa Flynn, 2009) CANAG immediately set about disrupting OP’s efforts to develop the project. It was also instrumental in organising the two large demonstrations, both of which garnered considerable local media attention, at County Hall in 2007 and 2009. The first demonstration took place shortly after Organic Power had hosted its information evenings at the Castle Ahan House, in Enniskeane. This demonstration was designed to cause maximum exposure for CANAG’s concerns to the local authority’s political representatives

who were due to meet in the council chambers just after the protest started. Articles in the Southern Star and Cork Independent estimated the protesters present at between one hundred and one hundred and fifty, which is a significant organisational achievement when one considers the protest was held on a week-day morning and the transport needs of the protesters travelling from the Newcestown area to County Hall. The campaign went into a sort of hiatus shortly after this initial flurry of activity, with CANAG continuing to refuse to meet with Organic Power. Instead it focused its efforts on developing the now defunct website www.canagireland.com and newsletter¹²² to inform its members of significant

¹²² CANAG produced three newsletters in that period, which it later made available on the group’s website. Articles in the newsletters ranged from vox pops with local residents, to more detailed articles concerning the more negative wind power debates; as well as information on upcoming meetings. They also produced a CD of articles that weren’t featured in the newsletter due to space-constraints on the newsletter.

developments and upcoming events. The website featured media highlights of their campaign and provided information on how to write a valid objection letter to the local authority when the inevitable planning application was to be submitted by Organic Power. Linkages were also made to other action groups in Ireland and abroad; including Mount Kid & Townlands Environmental Meitheal (MKTEM)¹²³, the Irish Wind Energy Truth Alliance (IWETA), Friends of the Irish Environment and the American-based National Wind Watch. All four organisations featured the CANAG protest on their websites.

CANAG's use of the internet for both disseminating information and linking up with other protest groups proved very useful to many of its members especially on an operational basis. If a member was unable to attend a meeting he or she could keep abreast of the situation by logging on to the website. Peter Crossan, chairman of The Irish Wind Energy Truth Alliance (IWETA), was invited by CANAG to attend a number of their meetings and to advise them on how best to campaign against the planning proposal. While he attended the meetings on a voluntary basis Mr Crossan did get some of the money that was collected at these meetings to help pay for his travel expenses. Crossan's contribution to CANAG's campaign is seen by many as being invaluable, both in terms of the advice and experience he brought (Flynn, 2009; Blake, 2009). As one member of CANAG put it:

Peter Crossan has been a tower of strength to us; we couldn't have done it without him

(Blake, 2009)

However, it wasn't until Organic Power submitted its planning application, on 16th February 2009, that CANAG began its second more intensive phase of the protest. The general feeling from many of the CANAG members at the time was that they had been "caught on the hop" (O'Mahony, 2009) by OP's submission. The normal pattern of events which the planning process follows had lulled many of its members into a false sense of security whereby they presumed that OP had most

¹²³ MKTEM is still campaigning against another Organic Power wind farm proposal in Ballydehob.

likely abandoned its efforts to apply for planning permission, given the lapse in time between the Castle Ahan House consultation meetings and OP's eventual submission date. A well-attended public meeting was organised for the 25th of February in Newcestown Hall, which would become the focal point for the protest. The mood that night was sombre with most attendants listening intently to what was being said; while some asked questions relating to the planning process and who amongst the local landowners had in fact agreed to allow OP to build turbines on their land. Even at this early stage, the consensus at the top table, headed by Martin Galvin, was that the planning application would most likely be referred to An Bord Pleanála and the campaign against OP's proposal at county level was only the beginning of the protest as far as they were concerned. Despite being "caught on the hop" the participants quickly began to organise themselves and offered suggestions as to how best to drive the campaign forward. One member of the audience suggested that a second demonstration at County Hall would help to re-ignite interest in the protest amongst the local media. Similar in many ways to the campaign in Tarbert, courting the media was seen as vital if CANAG was to have any chance at stopping the wind farm from going ahead.

With less than four weeks before the March 23rd deadline for submissions, relating to the proposal, CANAG organised a series of weekly meetings for local residents to attend; on the 4th, 12th and 19th of March respectively. CANAG members offered advice on how best to write valid objection letters to the local authority and provided paper, computer and printing equipment at the final meeting for anyone who may not have had access to these facilities. Once the letters were completed CANAG members then provided stamped addressed envelopes to the participants. This high level of organisation was only matched by the raw and emotive reactions many participants at the meetings had towards Organic Power and its planning application. This feeling can be summed up in the opinion of one participant who described the development of wind turbines in the area as "running along the landscape like a cancer" (O'Mahoney, 2009); a sentiment that was echoed by many others present. Another participant spoke of his neighbour as "a sneaky little bastard" who had hidden his intention to support the wind farm from him. He was

particularly upset as the field beside his own property was to be used as an access road for one of the turbines. The poignancy of another participant's experience was not lost on the rest of the group present when he spoke of the categorical assurances he had received from a neighbour and lifelong friend, on whose land it was suggested that a number of the turbines were to be erected. He assured everyone present that his friend had not agreed to allow OP to build wind turbines on his land only to be told by Martin Galvin, who held up a copy of the planning application to prove his point, that in fact his friend had indeed signed up to the deal offered by OP. The look of disappointment on the elderly man's face and Martin Galvin's assurances momentarily stunned the audience into an uncomfortable silence.



Figure 8.4 Protest signage on telephone pole to the left of the photograph; seen when entering Newcestown village from the townland of Farranthomas to the south © Breffní Lennon, 25/02/2009.

Whether or not it was intentionally encouraged by CANAG, the emotionally-charged atmosphere that was present for a majority of the meetings did appear to focus many the participants towards completing the task in hand. As the meetings progressed a spontaneous volunteerism seemed to develop amongst many of the

participants. If a member of CANAG's core team was not able to carry out a particular task, a member from the audience would volunteer to complete it, with a significant number of campaign tasks being completed in this way. It was decided at one of the meetings that a petition of locals who were opposed to the development should be collected; calling to peoples' homes or collecting signatures outside church gates on the Sunday mornings leading up to the deadline for submissions. Again volunteers amongst the audience carried this out, collecting over two hundred signatures opposing the planning proposal. This petition was then used when lobbying media and political contacts in an effort to counter Organic Power's claim that a majority of people in the area were in favour of the development. Local radio stations, particularly C103FM was continually approached to do cover pieces on the protest or to counter any press releases issued by OP. Letters were written to the editors of a number of local newspapers and one was eventually published in the Irish Examiner (O'Mahony, 2009) a week before the deadline for submissions.

It was against this backdrop of intense activity that Organic Power approached the Gaelic Athletic Association (GAA) clubs in Newcestown and Castletownkenneigh in early 2009, offering each club €125,000 and €75,000 respectively (the Castletownkenneigh club was offered less money because it had fewer members than Newcestown GAA.), to be drawn down over a period of five years. These monies were to be a "community fund package" that each community would receive subject to the project going ahead. Writing in the Irish Examiner on the 19th of March 2009, Áilín Quinlan quoted Maurice McCarthy who referred to OP's claims that it had conducted;

a survey with local people asking them what they would like the money to be spent on – they said playgrounds and children's facilities, sports and improved internet access

(McCarthy, 2009; in Quinlan, 2009a)

Quinlan went on to quote McCarthy's reaffirmation of OP's claims that it had conducted a "house-to-house survey", which suggested that 85% of interviewees approved of the proposal. However Tony O'Driscoll chairman of the

Castletownkenneigh GAA club, Ó Mathúna, seemed to contradict McCarthy's assertions of an 85% approval rating for the project:

We had a meeting about this in February at which we decided we would not take up the offer, basically because many people who are very supportive of Ó Mathúna are against the proposal. We want to remain neutral.

(O'Driscoll, 2009; in Quinlan, 2009a)

With the increased media attention and the decision to turn down the offer of Organic Power's community funding by the two GAA clubs CANAG was now confident that the stage was set for a second and final media showdown with the company outside County Hall. This demonstration would have to be on par or even better attended than their 2007 protest if they were to maintain the now heightened media interest. After some initial debate it was agreed at the meetings that all collected objection letters and the petition would be handed in to county officials on the morning of the 23rd, while simultaneously holding a demonstration outside the County Hall building. As with CANAG's first demonstration, the county's local representatives were scheduled to meet that morning. The importance given, by many of CANAG's members, to the perceived power local county councillors have in influencing what was essentially a planning decision by the local authority's executive was not inconsiderable. This perception was in no way discouraged by the councillors who attended the CANAG meetings in Newcestown, who offered to act as a link between CANAG and the planner adjudicating on the Enniskeane proposal, or by those who spoke to the demonstrators on the 23rd. Kathleen Daly, senior planner with Cork County Council, went to great pains to explain that the local authority's elected representatives have no influence on the day-to-day decision making of the planning executive. Their influence rather, lies mainly in the drafting of the county development plans. Given this distinction, the overt politicisation of planning disputes such as the Enniskeane Wind Farm proposal often lead councillors to give an unrealistic expectation as to what they can achieve, especially when a strong executive branch is present in a given local authority. The protest at County Hall did give CANAG a final opportunity to counter Organic Power's assertion that the proposal had eighty five percent of locals approving of the development. In an

interview with Áilín Quinlan for the Irish Examiner, Martin Galvin who was clearly aiming his words at the planning officials deciding OP's planning application, said:

Organic Power claimed its proposals were accepted by 85% of residents in a survey they carried out – in that case why do we have more than 100 people out here protesting today, many of whom took time off work to be here?

(Galvin, 2009; in Quinlan, 2009a)

Whether or not the protest, or indeed the media campaign, had any direct bearing on the decision making of the planning officials involved in the proposal it did help to energise CANAG members during the post-protest period up to the date when the local authority would make its final decision. A number of meetings, held during this period, involved members talking of continuing the protest should the application be given permission by the county council and to the fundraising initiatives they would need in order to appeal to An Bord Pleanála. Despite this determination, however, the time leading up to the local authority's final decision was still held with trepidation for all CANAG members.



Figure 8.5 Members of CANAG protesting outside Cork County Hall, 23rd March 2009 © Breffní Lennon 23/3/009.



Figure 8.6 View of the CANAG protest from inside County Hall. In the foreground officials are launching Muintir Na Tíre's "Pride In Our Community" competition and it went ahead despite the protest outside. There was some interaction between those attending the launch and the protesters. The couple in the centre are looking outside, somewhat oblivious to the speaker. Local representatives were especially keen to be seen at both events © Breffní Lennon 23/3/009.



Figure 8.7 The CANAG protest outside Cork County Hall with local County Councillors for the area standing towards the front for the photographic opportunity it presented. Notice the freelance photographer (Denis Boyle) in the left foreground. His photographs would later appear in local newspaper reports of the event © Breffní Lennon 23/3/009.

8.4 Cork County Council's Planning Decision

It would take just of over two weeks, from the submissions deadline, for Cork County Council to decide on the Enniskeane Wind Farm proposal. Despite making a note of his initial negative impressions, conveyed during the preplanning stage of the proposal and previously when granting temporary planning permission for the wind measuring mast¹²⁴ (Planning No. 06/6934), the adjudicating planning official expressed a desire to adopt “a positive approach to the principle of the proposal” (Cork County Council, 2009b: 2) in his twenty page planning report. Organic Power had written to the council highlighting their misgivings regarding the continual vandalism of their signage, stating that they had to replace fifty three site notices “on a repetitive basis” (Organic Power, 2009). OP provided photographic evidence of the malicious tampering, which included:

- Removing the laminated pouches from the boards
- Throwing them on the hedgerows and into ponds and streams
- Taking a blunt instrument to the site notice and trying to remove it from the tree that it was securely attached to

(Organic Power, 2009)

The local authority acknowledged this very deliberate vandalism of the applicant's site notices, but was satisfied that the proposal was valid and that all site notices were in place when the county's Area Engineer carried out his inspection. There were, however, a number of shortcomings with the planning application itself, most importantly the Environmental Impact Statement¹²⁵ (EIS) that was submitted with Organic Power's application. These shortcomings included:

- Non-technical summary too short: it does not describe the general environmental impacts;

¹²⁴ In fact, when granting the planning permission, Cork County Council clearly stated that the monopole was to be completely dismantled once the three year permission had elapsed because “structure of this type is not acceptable in this location on a permanent basis” (Cork County Council, 2006: 2). Such language should have raised greater alarm bells within the Organic Power executive.

¹²⁵ Fehily Timoney & Company (FTC) had initially been approached by Liam Chambers during the early stages of the project to carry out the work eventually conducted by erm21c, but they decided against representing OP due to the “complicated nature of the project” (O'Regan, 2009).

- Policy based on superseded County Development Plan 2003;
 - does not identify all 3rd party property (including sites with current Permission);
 - does not present a full cumulative ZVI¹²⁶: Barna Wind Energy Scheme omitted (05/) to north.
- ZVI mapping scale too small and blurred;
- mapping does not show clearly the proximity and distance of property relative to WTG's¹²⁷ (noise & shadow flicker) or include ground level information / contour lines;
- Photomontage locations in the immediate surrounds of the scheme i.e. up to 1km inadequate.

(Cork County Council, 2009b: 1)

Such serious shortcomings are quite startling when one considers the amount of money that Organic Power is reputed to have spent in applying for planning permission for the Enniskeane proposal, which according to Liam Chambers totalled in the region of some €400,000. Whether or not erm21c Ltd was employed by Organic Power in an effort to save on costs is unclear, but it did prove to be an expensive decision on OP's part¹²⁸.

Another significant factor influencing the local authority's consideration of the proposal was the now changed circumstances under which the application could be scrutinised given:

the previous, now superseded, Policy Objective in the CDP¹²⁹ 2003¹³⁰ in relation to Wind Energy proposals has been adjusted to reflect national guidelines and local circumstances. The new Policy Objective includes 3 additional new criteria to be considered in relation to wind energy proposals:

- proximity and sensitivity of a recognised settlement;
- impact on archaeology and historic structures;
- impact on nature conservation in particular avoiding designated and proposed European sites.

(Cork County Council, 2009b: 2/3)

¹²⁶ Zone of Visual Influence (ZVI)

¹²⁷ Wind Turbine Generators (WTGs)

¹²⁸ During interview, Liam Chambers was very critical of Organic Power's decision to choose company directors to carry out the work, especially when they turned out to be "not as expert as I presumed them to be" (Chambers, 2010). This might explain some of OP's failings, since the learning curve experienced by the company would obviously have been steeper than other more experienced operators.

¹²⁹ County Development Plan.

¹³⁰ Organic Power's strategy towards relying on the 2003 CDP as a guideline for their application proved to be unwise. The Draft County Development Plan 2007 was available on the local authority's website during OP's pre-planning preparations and the intentions of the local authority would most likely have been conveyed to OP at the time.

The shortcomings of the applicant's EIS, most notably in relation to the mapping that failed to show clearly the proximity of the wind turbine generators (WTGs) relative to new and existing settlements, was obviously in clear breach of the new criteria set out in the 2009 County Development Plan (CDP). Cork County Council wrote that while the proposal lay outside the local authority's preferred area for wind farms this would not be an impediment to development since it did not fall within areas deemed strategically unsuitable either. So, already familiar with the landscape character and general geography of the area, the planning official for the local authority carried out his investigation of the proposed sites on the 1st April 2009, describing the visibility as "excellent". As he states in his report:

I then read all the objection letters, other representations, and examined the plans and particulars, including the EIS. My evaluation and assessment is grounded around S.34 of the Planning & Development Act 2000¹³¹ (as amended).

(Cork County Council, 2009b: 2)

The official observed that while there were one hundred and fifty two valid objection letters submitted to the council against the proposal, there was not a single letter in favour of the development in the county's file. He also referred to the applicant's public opinion survey, highlighting that it only asked respondents in general terms to renewable energy and the Enniskeane area and lacked depth in its questioning. It is interesting to note that while the majority of objection letters were written by individuals or families there was only one club or organisation that raised objection, the Coppeen Enniskeane & Newcestown Gun Club¹³². No businesses voiced their concerns, most likely adopting a similar stance to the GAAs

¹³¹ S.34 of the Planning and Development Act 2000 refers to Section 34 (Permission for development), which can be found on pages 55 to 61 of the act.

¹³² At a number of the Newcestown meetings members of the gun club expressed their concern regarding the negative impact the turbines may have on the nesting sites of one of their quarry birds, the woodcock, during the construction and operational phases of development. Sharing similar views to Birdwatch Ireland, regarding the impacts WTGs may have on the migratory flight-paths of this bird species and other wildfowl, Des Crofton of the NARGC, which represents a majority of gun club members in the country, said that while they supported renewable energy as a response to climate change, care was needed when building wind turbines since many of the migratory birds following the western palearctic flyways are "sight and fly-path loyal and cannot calibrate for changes in traditional flight-paths" (Crofton, 2009).

in the area and so remained neutral. Also, four of those who submitted objection letters reside in the UK suggesting at least some of Newcestown's residents live rather interconnected, globalised lifestyles and who know other people in different jurisdictions who are willing to share their concerns for what was proposed for their locality. These concerns included:

noise, shadow flicker, visual impact, damage to tourism / economy, house values, loss of TV / mobile phone reception, human health impacts, ecology, flower and fauna, affect on livestock / farming, density of population incompatible with wind farm, poor wind regime, cultural heritage, dividing community spirit, blades falling off, affect horses, hydrology, traffic impacts, affect local business, cumulative effects, conflicts with policy, WTG too tall, and affect on watercourses.

(Cork County Council, 2009b: 13)

As well as taking into consideration the concerns expressed in the objection letters, the planning official was also mindful that the requests for further information were still being sought by departments within his own local authority. Both the Environment Department and the Heritage Unit still needed clarification on the potential impacts to water quality, archaeology and wildlife species occurring in the area, despite what was submitted in the applicant's EIS. Representations were also made to the local authority from a number of the government bodies, and affiliates, including An Taisce, the Department of Environment Heritage & Local Government and the Fisheries Board all requesting more comprehensive assessments of the potential impacts of the proposed wind farm.

In assessing the application the planning official focused on the following nine criteria:

- The sensitivity of landscape
- The scale, size and layout of the project
- Visual Impact, from nine viewpoints in the proposed area
- Nature conservation
- Environmental Impacts, including noise and shadow flicker of the WTGs
- The visual impacts of all associated infrastructure

- Proximity and sensitivity of recognised settlements
- Impact on archaeology and historic structures
- Impact on designated and proposed European sites

The sensitivity of landscape was considered high due to the relatively open topography of the area offering a wide visibility within a five kilometre radius of the proposed wind farm. This would have a “very prominent impact” (Cork County Council, 2009b: 16) on the landscape. In addition, the scale, size and layout of project was deemed to be dispersed over a large area and “overall, the layout is random, and relates strongly to availability of lands as opposed to landform” (Cork County Council, 2009b: 16). Of the nine viewpoints submitted by the applicant relating to visual impact, the planning official agreed with five out of OP’s nine descriptions. The rest were considered to have a greater impact than the applicant had described them, being out of scale or overbearing, relative to the topography of the area. Tellingly, the ninth photomontage was considered “unhelpful”. Regarding the nature conservation and European sites issues, Cork County Council referred to the Heritage Unit’s request for further information about the presence of any Annex 1 species in the affected area, which had not been forthcoming in the applicant’s EIS. It was also estimated that a total of eight properties, the majority of which were less than five hundred metres from a turbine, would be impacted upon in some way from the noise or shadow flicker generated from the installations. The planning official also expressed concerns as to whether the application had sufficient authority over the lands needed to install the associated infrastructure and foresaw problems arising with the wind farm in the future, given that a grid connection was not confirmed and would be the dependent upon a separate application.

The planning official concluded by reiterating the point that the topography of the area affected by the proposal was unsubtle for large scale WTGs and such a project would not be in keeping with national guidelines. He was also unconvinced that the problems with the proposal could be resolved with smaller height turbines, given the substantial visual impacts the wind farm would still make on the landscape.

Given these deliberations he recommended refusing planning permission for the following reasons:

The proposed development by reason of its scale, extent, and dispersed layout within a populated lowland rural location and in close proximity to the designated village settlements at Newcestown and Castletown would seriously injure the amenities of property in around the vicinity of these settlements and compounded by the excessive overall height of the WTG's being entirely out-of-scale with the receiving landscape the proposal seriously conflicts with Policy Objective INF 7-4c of the County Development Plan 2009 and the proposal is therefore contrary to the proper planning and sustainable development of the area.

(Cork County Council, 2009b: 19)

The council's decision was greeted with jubilation from CANAG's members who felt vindicated by the news. This joy, however, was tempered with the realisation that Organic Power had four weeks to appeal the decision, which would then have seen the proposal go to An Bord Pleanála (ABP). No one in CANAG was really prepared for that given the financial cost of fighting the proposal at ABP level was estimated by Martin Galvin to run into the several tens of thousands of euro. There was widespread relief on 7th May, when CANAG learned that Organic Power would not be appealing Cork County Council's decision. CANAG had won.

8.5 Conclusions

This chapter has looked at how the issue of trust, or the distinct lack of it, has been a significant factor for those rural dwellers impacted by wind farm proposals in their area. While conducting the fieldwork for this case study Ragnar Löfstedt's (2005) notion of the "post-trust society" continually came to mind, given his contention that there persists to be an unceasing litany of factors that continue to erode public confidences in traditional government, institutional and business networks, especially regarding issues around the environment, health and religion. Over the course of the fieldwork national orthodoxies, such as the banking and property sectors, were beginning to spiral into freefall as a result of the 2008 Financial Crisis and anger over government inaction and perceptions of cronyism crept into

conversations centred around the immediate concerns of the wind farm proposal, giving a rather charged atmosphere to some of the CANAG meetings.

Organic Power's inability to engage in what Löfstedt refers to as "risk communication" saw initial attempts to foster a relationship of trust with the local community degenerate into an escalating cycle of entrenchment and retrenchment for both parties in the dispute. While it was not entirely the fault of the developer, since the adversarial nature of the planning process does not always lend itself to promoting cooperation considering the stakes can be so high. Nonetheless, the majority of blame for this escalating negative cycle does indeed lie with them. The stubbornness exhibited on the part of Organic Power, both in its testing of local authority planning guidelines and towards the community in and around Newcestown. While, it was matched by some within CANAG it was more in OP's interest to engage in a more open and consolatory manner given the circumstances. The insistence that the company rely on its "representative" survey only engendered greater ill-feeling within the community it professed to have engaged with, a factor that was not lost on the planning official adjudicating on the proposal. Once the company had lost the trust of the local community it was impossible to get it back and the offer of monies to the local sporting organisations at such a late stage in the process only further angered those opposed to the development, calling it nothing more than a bribe. Again, this did not represent any type of meaningful engagement with the community.

This chapter also offered a number of insights into the multi-relational dynamics in action within a community once a company proposes to develop a natural resource in the area. Old animosities come to the surface and friendships can become strained in response to the hardening of positions neighbours invariably end up taking when adopting a position for or against such developments. While NIMBYism can be a factor as to why local communities resist such proposals, it is by no means the dominant reason. Organic Power appeared on the face of it to act on the presumption that NIMBYism was driving a small minority to protest against the proposal, while the majority of local people were either largely indifferent or

secretly in favour of the plan; an assumption that led to disastrous results on its part. The damage to its reputation in the area will linger long after this proposal has been forgotten. Also, this type of dispute is by no means specific to the communities of rural west Cork but as Löfstedt states, the:

The public's lack of trust in regulators, industry officials and opinion-formers is [very much] manifested in the difficulty of siting and building industrial plants, whether with or without environmental impact, such as chemical plants and wind power parks.

(Löfstedt, 2005: 4)

A more plausible explanation to NIMBYism, as to why local resistances to a given proposal can become so strident, may be developed around the rubric of “defensive localism”, a concept developed from writings on urban poverty (Weir, 1993; 1994), delinquency and urban youth gang behaviours (Adamson, 2000), local responses to globalised agri-food systems (Winters, 2003), labour politics in Spain (Fischman, 2004) and the limits to local autonomy and power in municipal governments (Barron and Frug, 2005). Described as “the defence of local power in order to preserve the status quo” (Barron and Frug, 2005: 262) *defensive localism* can explain some of the dynamics and responses local communities have to powerful, mobile forces usually beyond their control. Indeed, many of the narratives on defensive localism are mirrored in Devine-Wright, and others, efforts to interpret such conflicts in terms of place attachment and similar such strategies designed to resist change in one's locality. Both approaches certainly illuminate much of the multi-relational dynamics that constitute such conflicts, but as we have seen in this thesis we need to view these disputes within the wider contexts that inform them.

CANAG was in many ways ultimately powerless to the numerous externalities at play, such as the planning authority's decision-making processes and the renewable energy policies that flowed from the European Union to its locality. Despite these externalities the group remained strictly localised in its focus, refusing to engage in wider debates over the relative merits for and against wind energy in a general sense, but rather concentrated on the inherently local consequences the proposal would have on the community. This focus allowed for a strong dynamic to emerge

which further strengthened the localised worldviews and relationships within the group, in order to meet head on the perceived threat that Organic Power came to represent. Martin Galvin's references to the exploits of former West Cork guerrilla leader Tom Barry and to the land being "part of the soul of local people", especially for those opposed to the proposal (as noted on page 221), stirred up strong emotional responses from many of those present at the CANAG meetings, and illustrates the potent, locally-specific reactions that can arise from the defensive impulses that emerge when a perceived threat appears to challenge the established status quo.

Chapter Nine

Conclusion

In the order of literature, as in others, there is no act that is not the coronation of an infinite series of causes and the source of an infinite series of effects.

Jorge Luis Borges (1952)

9.0 Introduction

Research that can unpick the dynamic subjectivities that frame wind farm disputes may offer insights capable of overcoming the current policy impasse.

(Ellis et al., 2007: 524)

This thesis has sought to understand public policy, on renewable energy, within the conceptual framework of it functioning as a network of flows. The notion of turbulence was then employed to explain how these complex mobilities, inherent in the multi-level governance networks that comprise the European Union, can be susceptible to instances of dislocation. Turbulence and entropy arise when a disruptive event occurs to inhibit the systems of flow within these mobile networks. Recent EU policy initiatives on energy have seen a move towards greater integration of the regulating networks in the trading bloc, with an emphasis on fostering indigenous low-carbon energy sources. At the same time, there has also been a growing recognition for the need to move to more diversified and dynamic energy portfolios that are able to meet the specific challenges of climate change and energy security.

Energy is a vital component in modern socio-environmental networks and our preoccupation with it is set to increase as we accelerate the technology shift towards renewable energy sources. How we utilise the energy currently at our disposal has also become increasingly problematic, as climate science has shown. Our understanding of the detrimental environmental consequences that result from how we exploit carbon-based energy (now more than ever) is informing the ways in which society needs to restructure for the post peak-oil future. Renewable energies will undoubtedly be essential to that future with wind powered electricity taking on a key role, especially in the short to medium term. These structural changes are also challenging how we view space, particularly the rural upland landscapes where a majority of wind turbines have been sited to date. It has been within this highly-spatialised *industry versus nature* paradigm that wind farms have been contextualised and contested. These contestations, in turn, have been played out in the local communities ultimately affected by European wind energy policy and have

been framed as exercises in NIMBYism on the part of the protesters. This assessment has itself been critiqued in recent years and researchers have increasingly tried to move beyond such assessments in an effort to explore the hidden transcripts that inform the multi-faceted and often complex reasons local people have for entering into conflict with national and EU policies.

9.1 Lessons Learned: The Thesis

This effort to understand those hidden transcripts that determine the success or failure of wind farm developments on the rural landscapes of west Cork and north Kerry has informed how this research project examined critical discourses around wind energy and its spatial and socio-environmental contestations. By employing this approach this thesis has achieved three notable appreciations of the processes at work.

First, it has shown how the policy frameworks operated by contemporary Member States of the European Union are often fluid, complex negotiated affairs that are subject to change as legislation moves through these multi-level governance networks. This mobility provides the opportunity to interpret these policies as operating within systems of flow, whereby a particular policy must move through a series of 'sluice-gates' (governments and regulators) before impacting on the local populations for whom it was intended. This flow, however, like all movements of fluid (and indeed gas) are subject to turbulence, either from those regulating the rates of flow or from those who are its recipients. Once we acknowledge that turbulences can occur, we must then try to understand the causal factors that contribute to creating such phenomena. Turbulence in a flow system can be created by either an external force, or from sites of entropy within the system itself, illustrating its complexity. In terms of policy, turbulence is very often the result of agency on the part of individuals or groups of actors negotiating and interpreting the flow. This theoretical framework has proved extremely useful in understanding the complex processes that go into EU policy cycles. This thesis has shown that crises within the policy cycle may occur from a single event or a series of influencing

factors, ranging from an ideological narrative that informs a policy as it is created at supranational level; to neighbourly animosities at the local level where it is implemented. It should also be noted that the likelihood for turbulence increases when analysts ignore the multi-relational elements that constitute contemporary dynamic, mobile policy systems. This type of analysis allows for an in-depth study to take place that follows the policy chain from supranational to local levels and demonstrates how highly contested, localised exchanges around a particular proposal can have unforeseen negative feedbacks that can influence a policy's final outcome.

Secondly, not only is mobility, as Cresswell (2006: 3) argues, “just as spatial – as geographical – and just as central to the human experience of the world, as place”, it also shares a dynamic, multi-dimensional relationship with place. Indeed, both mobility and place have informed and influenced each other, as was seen in the case studies found in this thesis, where we saw evidence of highly-localised places being impacted by globalised supranational policy flows. We also saw how this relationship is by no means one way, but rather as Giddens suggests:

The globalising tendencies of modernity are simultaneously extensional and intensional - they connect individuals to large-scale systems as part of complex dialectics of change at both local and global poles.

(Giddens, 1990: 177)

We saw how local people were far from passive actors or mere NIMBY naysayers, but were in fact highly-engaged and globally aware in their efforts to resist change within their locality, often using some of the instruments of the globalisation process against wind developers. We also saw how complex policy flows can be. Not only do they have a multi-dimensional relationship with place, but they have the same complex relationships with other flows in the multi-level governance network. Other EU policies, such as those concerned with biodiversity and habitat, can directly impact on local and (supra)national planning and energy policy, which in turn affect how they themselves are implemented creating outcomes unforeseen by the actors (re)negotiating these flows.

Thirdly, Wolsink (2007), Wüstenhagen et al. (2007) and others are correct: NIMBYism does not adequately explain why local people resist wind farm developments in their area, while at the same time accept the need for wind energy in a general sense. It is a factor, which can be explained by Spaargaren and van Vliet's (2000) study into the effects of consumption and lifestyles choices on the environment, but it is not the dominant consideration. The concept of defensive localism, as a means of explaining manifest responses to place in highly mobile (supra)national socio-environmental flows, and more specifically the reactions to the perceived threats that these mobilities engender, is worth further exploration. This is especially relevant within the context of the increasingly fluid, multi-dimensional mobile relationships that constitute many contemporary ruralities. At the very least it can be used to complement our understanding of place protective actions, as raised by Devine-Wright (2009), recognising the need to explore the role emotional attachment plays in such disputes. Understanding conflicts through the emotional attachment people have to a place (as it informs an individual's sense of self or identity) recognises the complexity that lies at the heart of these disputes and, as Devine-Wright suggests, provides a:

guide for future research, notably how different protagonists seek to anchor and objectify change, for example when projects are framed by opponents as 'industrializing' hitherto 'natural' places, and how such interpretations are adopted by local residents, interacting with place attachment to produce emotional, evaluative and behavioural responses.

(Devine-Wright, 2009: 437)

As Wolsink (2007) has argued, local resistances to wind farms cannot be dismissed as the egotistical motives of a vocalised minority, but rather issues around equity and fairness in decision-making, by both regulators and the companies attempting to engage with local communities, consistently came to the fore in my discussions with protesters. The need, as Wolsink suggests, for institutional changes that generate meaningful engagement and trust, while difficult, are required at the implementation stages of a policy flow. It is no longer appropriate, or productive, to ignore the educated, highly-mobile and locally-engaged communities that occupy

the rural spaces where policy-makers intend to site wind turbines. The case studies have shown that a top-down form of risk communication (Löfstedt, 2005), rather than a dialogue-driven approach, can prove unsuccessful as in the case at Enniskeane. While the Tarbert case study showed, rightly or wrongly, that the majority of local people there were not convinced a wind farm was the fairest and most rewarding (in terms of employment) investment/development opportunity for the area. Fighting the wind farm on the basis of potential future employment prospects from a different type of development (in their case a deep-sea port) may appear foolhardy to some, but at the same time it reflects a highly motivated, locally-aware population willing to fight the proposal on these grounds.

These three findings are important, if policy-makers are to fully understand their role as actors who both regulate and are subject to the processes that comprise their work, in order to minimise turbulences. This is especially pertinent considering the limited timeframe and resources we have to get things right, as cheap oil becomes a thing of the past. Also, when we consider the growing importance that the renewable energy sector will have in this post peak-oil future, along with the greater socio-environmental enmeshments that will occur as we move deeper into the technology shift towards renewables, the continued global/local responses to the challenges of climate change and energy security will ultimately decide how society is to be structured.

9.2 Conclusion: Ireland's Energy Question and the Natural Contract

There is also growing recognition the substantial role renewable energy will take in this post peak-oil low-carbon future both for the environmental and energy challenges mentioned earlier, but also as a means to reinvigorate the flagging global economy still reeling from the effects brought on by the 2008 Financial Crisis (Fitz Gerald and Valeri, 2009; EEA, 2010; White et al., 2010; ZhongXiang, 2010). Contributing to this debate, Micheál Martin (leader of Fianna Fáil and outgoing Minister for Foreign Affairs in the last government) talked as much in an interview given days before his party was to lose the 2011 Irish general election held last

February. His comments seemed to mark a growing political consensus that renewable energy will have a significant role to play in the eventual recovery of the Irish economy.

Energy, I predict, as we come through this recession will be the biggest issue and potential challenge to sustainable growth in this country over the next number of decades. Being part of a European-wide energy system is the key here. That was one of the reasons why I was so strong on the Lisbon Treaty, because it gave extra competence and capacity to Europe on the energy question. We saw what happened to some European states when Russia did certain things over a year and a half ago, so Europe is very focused on this in terms of ensuring European-wide energy security for the future of the European economy, including Ireland. What I think it really underlines for us is the need to go much stronger and faster in relation to renewable energy and alternative sources of energy.

(Micheál Martin TD, 2011)

However, given the mercurial nature of political debates this consensus may change considering given the highly influential ESRI's publication *A Review of Irish Energy Policy* two months later¹³³. The report's contention that the deepening economic recession in Ireland, along with the exceptionally high cost accessing capital that the Irish government must now endure, will:

greatly reduce the need for further new electricity generation over the coming decade. In turn, by reducing the overall size of the electricity system below the level that had been anticipated by 2020, a lower level of renewable generation will be required to meet current targets.

(Fitz Gerald, 2011: 11)

¹³³ Only recently the current Minister for Environment, Phil Hogan, backtracked significantly on the previous government's commitment to reducing this country's carbon emissions. A move that will, if implemented, have a negative impact on Ireland's renewable energy strategy long into the future. Despite giving a firm commitment in its programme for government to "publish a Climate Change Bill which will provide certainty surrounding Government policy and provide a clear pathway for emissions reductions in line with negotiated EU 2020 targets" (Department of the Taoiseach, 2011: 59) the current minister has clearly shown that this consensus is by no means unanimous with the debate again having shifted away from environmental concerns, and instead towards prioritising traditional economic structures. By adhering to pressure from vested interests in the farming and transport sectors (constituencies he has actively courted) the minister has proven to be "not only deeply misguided, but also negligent and even reckless in terms of actually achieving a transition to the low carbon economy he ostensibly favours" (The Irish Times, 2011: 17). While the debate has not yet concluded there is a distinct possibility that the government, in an effort to compromise in light of the current financial crisis, may hinder this country's ability to make the technological shift towards a low-carbon economy, and possibly consign it further years of economic and social uncertainty.

Despite expressing optimism for a return to growth in the short term, citing Bergin et al. (2010) and Devitt et al. (2010)¹³⁴ Fitz Gerald predicts it will not be enough to compensate for the massive fiscal losses incurred between 2008 and 2010. This cheerless assessment of the Irish economy for the coming years up to 2020 is tempered slightly by the suggestion that onshore wind capacity (as the most cost-effective renewable energy source at present) should still grow relatively well despite the difficulties experienced in other parts of the economy. Fitz Gerald adds another cautionary note to this analysis by suggesting that the disparities in the support mechanisms offered in both Ireland and the United Kingdom may become problematic in an all-island electricity context. Higher supports for wind energy providers in Northern Ireland may result in greater costs to consumers in the Republic of Ireland, a situation we may find some difficulty in sustaining.

Other commentators within the ESRI have gone so far as to suggest halting all investment into wind energy, given the current financial crisis (Richard Tol on Prime Time, 2010), and questions the fundamental economics of our wind energy strategy. By suggesting that subsidising the industry through the REFIT scheme is inherently bad for the Irish economy Tol argues that these subsidies do not stay within the economy, but rather are used to finance the foreign wind-based industries that supply this market with the turbines and other equipment needed for development. Surely this has more to do with how this government incentivises indigenous wind industry manufacturing, than how the energy itself is subsidised as part of the overall electricity market? There is an argument for looking again at how the wind energy sector is structured in this country, given its current design may not necessarily contribute to the sustainable growth TDs like Micheál Martin would wish for, or energy and carbon reduction targets ultimately expected of them (Lovell et al., 2009), as this thesis has shown.

By focusing solely on the financial aspects this type of analysis, while useful, also has its critics since it is essentially “focused solely on efficiency and technological

¹³⁴ Both are ESRI reports.

solutions through a technocratic and corporatist style of policymaking” (Schlosberg and Rinfret, 2008: 268). While scholars like Schlosberg and Rinfret are writing predominantly about the United States, such modes of thinking are never far from the policy agendas of the European Union, as we have seen in relation to feed-in tariffs. Considering the varying outcomes renewable (most notably wind) energy policy has achieved across Member States, this contention can be said to hold some merit. Christoff’s (1996) argument that this type of narrowly defined analysis provides for a minimum of change in corporate and political structures, or positive ecological outcomes, remains as pertinent today as it did some fifteen years ago and it needs to be considered with regards to current energy strategies if real economic recovery and socio-environmental advancements are to be made.

The persistent adherence to weak environmental governance across the European Union, which submits to normative technocratic imperatives over socio-environmental concerns, suggests a continuance of the business as usual paradigm for policy makers. It also explains why we have not seen the radical technology shift needed to protect and maintain the gains made in standards of living that have resulted from cheap oil. This rather depressing assessment is all the more apparent when we consider that the majority of actors responsible for devising and implementing public policy before the 2008 Financial Crisis still remain in positions of influence and are now responsible for designing Ireland’s economic recovery. Since the foundation of the state, Ireland’s policy makers have remained reflexively technocratic in their approach to issues of national concern and this normative mindset will not serve us well considering the challenges we are now starting to face. The importance policy makers must place on building effective environmental governance structures will have to increase if we are move towards effective economic sustainability with real socio-environmental justice.

Environmental governance is shaped by contradictory global imperatives for localization and globalization, which in turn raise important theoretical and practical questions of scale and interaction. Locally felt uncertainties are particularly significant in this context. The concrete institutionalization of mechanisms of participation should be assessed according to precise criteria of inclusion and deliberation. At the local level, especially, the democratic form

and content of decentralization, devolution, and participation remains open to debate and requires further investigation.

(Schachhuber, 2004)

Innes and Booher (2004; 2010) propose greater collaboration between institutions, industry and the communities affected, as a possible solution to the increased complexity found in contemporary planning issues, given the obvious failures of so-called “public participation” models which tend to “pit citizens against each other” (2004: 419). They suggest structures that encourage greater opportunities for meaningful dialogue and exchange are necessary.

When an inclusive set of citizens can engage in authentic dialogue where all are equally empowered and informed and where they listen and are heard respectfully and when they are working on a task of interest to all, following their own agendas, everyone is changed. They learn new ideas and they often come to recognize that others’ views are legitimate. They can work through issues and create shared meanings as well as the possibility of joint action. They can learn new heuristics.

(Innes and Booher, 2004: 428)

Such collaborative processes have significant transformative powers, enabling participants to “understand each other’s perspectives and in most cases build considerable trust” (Innes and Booher, 2004: 428). This collective effort can have significant transformative powers as Krauss (2010) has shown in Germany and is in contrast to the rather dismal experiences both industry actors and local communities have had to endure here, with the more common scenario of hosting information meetings and the limited dialogues that pass for “public engagement”. Referring to Healey (1997; 1998) and others’ writings on “institutional capacity” Innes and Booher describe how social, intellectual and political capital can combine to transform civic engagement processes.

As this capital grows and spreads through collaboration into interlocking circles and networks, the civic capacity of a society grows and participants become more knowledgeable and competent, and believe more in their ability to make a difference.

(Innes and Booher, 2004: 428)

Clearly, this has to be a better approach than the current, rather disengaged, technocratic and regulatory stance taken by governments, both at local and (supra)national levels. Relying on industry actors, no matter how progressive or “green” they may profess to be, is clearly not the most efficient or indeed appropriate way to consolidate new technology shifts away from traditional fossil fuel use, since some of the socio-environmental justice issues that come with oil and gas exploitation are in turn replicated with wind energy generation. This is especially true when we consider society’s changing consciousness towards the local and global processes that are involved in all aspects to human life on Earth, an awareness largely brought about by the socio-environmental debates of the past fifty years or so.

In his book, *The Natural Contract* (1992), Michel Serres uses the metaphor of the ship to describe his understanding of *globality*. Just like planet Earth, the ship is a self-contained, self-functioning unit, but at the same time remains fragile and vulnerable to potential outbursts of violence and the effects of unregulated pollution. Those sailors on board are bound to what he terms the natural contract, whereby liveable space is defined within the confines of the ship itself and the sea beyond enforces a certain level of self-control and discipline by way of its constant threat of drowning. Just in the same way as the cosmos defines our understanding of the spatial limitations of planet Earth, so too does this natural contract re-assert itself as our understanding of our place on the planet becomes truly global. Current debates on climate change, energy security and the emergence of renewable energy technologies reaffirms the presence of this natural contract just at a time when we started to see ourselves as possibly beyond-Nature.

Appendix A

Interviews

O'Regan, James (2008) Wind Farm Developer and Farmer. Interview conducted 18 March.

Kingston, Pat (2008) Co-owner, Currabue Windfarm. Interview conducted 21 March.

McCarthy, Seán (2008) KLADEA (now defunct anti-wind group). Interview conducted 08 June.

Conlon, Fergal (2008) Manager, West Cork Community Partnership. Interview conducted 08 July.

O'Sullivan, Finbarr (2008) Manager of energy project, West Cork Community Partnership. Interview conducted 08 July.

McCarthy, Maurice (2008) Managing Director, Organic Power Ltd. and erm21c Ltd. Interview conducted 18 July.

Barton, Colin (2008) Environmental Consultant, Cork Ecology Ltd. Interview conducted 22 July.

Fisher, Cathy (2008) Heritage Officer Kerry County Council. Interview conducted 22 July.

O'Donovan, Christine (2008) Training Co-ordinator/Business Adviser, The West Cork Enterprise Board Ltd. Interview conducted 15 October.

McCarthy, Martin (2008) Wind Engineer, SEAI Renewable Energy Information Office. Interview conducted 21 October.

O'Brien, Dearbhla (2008) Customer Relations Officer, EirGrid. Interview conducted 10 November.

O'Sullivan, Jon (2008) Manager, Operations Policy & Performance, EirGrid. Interview conducted 10 November.

Barnes, Nigel (2008) Anti-wind campaigner and author of *An Ill Wind – An Objection Against Windfarms in Ireland*. Interview conducted 07 November.

Gargan, Quentin (2008) Ecologics / Green Party candidate / Bantry Concerned Action Group Interview conducted 11 November.

Cunningham, Larry (2008) Official, Cork County Council. Interview conducted 11 November.

Murphy, Dymphna (2008) Official, Cork County Council. Interview conducted 12 November.

Cunningham, Peter (2008) Executive, Airtricity. Interview conducted 12 November.

O'Leary, Joe (2008) Carriganima Community Association. Interview conducted 12 November.

Keohane, Faughna (2008) Macroom Town Engineer. Interview conducted 12 November.

Cappock, Grace (2008) Press Advisor, Department of Communications, Energy and Natural Resources. Interviews conducted 12 and 18 November.

Kelly, Angela (2008) Anti-wind campaigner for Country Guardian. 14 November.

Wickham, Jane (2008) Administrator, Meitheal na Gaoithe (Irish Wind Farmers Co-operative Society Ltd.) Interview conducted 17 November.

Manning, Maurice (2008) Managing Director, Carriganima Wind Farm. Interview conducted 17 November.

McCarthy, Michael (2008) Senator, Labour Party. Interview conducted 17 November.

Lang, Steven (2008) Consultant, Westwind Energy Engineering. Interview conducted 18 November.

Walsh, Michael (2008) CEO, Irish Wind Energy Association Ltd. Interview conducted 01 December.

O'Keeffe, Jim (2008) Teachta Dála, Fine Gael Party. Interview conducted 03 December.

Blount, Pat (2008) Treasurer, Meitheal na Gaoithe (Irish Wind Farmers Co-operative Society Ltd.). Interview conducted 09 December.

O'Callaghan, Conor (2008) Councillor, Cork County Council. Interview conducted. 09 December.

Wright, Ian (2009) Co-editor, Forest Network Newsletter and anti-wind campaigner. Interview conducted 07 January.

Corcoran, Kevin (2009) Deep ecologist, hill-walking advocate and wind sceptic. Interview conducted 20 February.

Crofton, Des (2009) National Director, National Association of Regional Game Councils (NARGC). Interview conducted 27 April.

Crofton, Terry (2009) Anti-wind campaigner, Ballydehob, Co. Cork. Interview conducted 25 February.

Sheehan, Eddie (2009) CEO, Micro Wind Systems. Interview conducted 14 April.

Brett, Pat (2009) Ecopower Ltd. Interview conducted 14 April.

O'Donovan, Frank (2009) Reporter, Southern Star Newspaper. Interview conducted 24 April.

Crofton, Des (2009) National Director, NARGC. Interview conducted 27 April.

Blake, Brian (2009) Member, CANAG. Interviews conducted 06, 19, 23 March.

Blake, Sue (2009) Member, CANAG. Interviews conducted 06, 19, 23 March.

Flynn, Teresa (2009) Secretary, CANAG. Interviews conducted 06, 12, 19, 23 March.

O'Mahony, Kieran (2009) Local publican and member of CANAG. Interviews conducted 12 and 19 March.

O'Mahony, Jerry (2009) Engineer and Treasurer of CANAG. Interviews conducted 12 and 19 March

Galvin, Martin (2009) President, CANAG wind action group. Interview conducted 23 March.

Egan, Siobhán (2009) Senior Conservation Officer - Policy & Advocacy BirdWatch Ireland. Interview conducted 11 April.

White, Gerry (2009) Manager, Market & Technology Developments, ESB International. Interview conducted 14 April.

Crossan, Peter (2009) Spokesman, Irish Wind Energy Truth Alliance (IWETA). Interviews conducted 14 April and 18 December.

Daly, Kathleen (2009) Senior Planner, Cork County Council. Interview conducted 20 April.

Ryan, Brian (2009) CEO, Hibernian Wind Power, wind consultant, ESB. Interview conducted 20 April.

Murphy, Joan (2009) Chairperson, Tarbert Development Association (TDA). Interview conducted 20 April.

O'Connell, Mary (2009) PRO of the Action Against Wind Group – Tarbert Development Association. Interview conducted 05 May.

Fox, John (2009) Public Relations Officer, Tarbert Development Association. Interview conducted 05 May.

Quinlan, Áilín (2009) Reporter and Feature Writer for Irish Examiner Newspaper. Interview conducted 18 June.

Lehane, Kathleen (2009) Against wind farm development in Tarbert. Interview conducted 14 July.

Finnucane, Seán (2009) Against wind farm development in Tarbert. Interview conducted 15 July.

Barry, Michael (2009) Director, Saorgus Ltd. Interview conducted 16 July.

Manning, David (2009) Public Affairs Manager, Airtricity. Interview conducted 21 July.

Costelloe, Anna-Marie (2009) Planner, Kerry County Council. Interview conducted 22 July.

O'Regan, Fionna (2009) Principal Engineer, Fehily Timoney & Company. Interview conducted 27 July.

Connolly, Emer (2009) Official, Planning Section, Department of the Environment, Heritage & Local Government. Interview conducted 26 November.

Ospina, José (2009) Eco-development and energy consultant, worked with Organic Power Ltd. Interview conducted 27 November.

Maloney, Susan (2009) Official, An Bord Pleanála. Interview conducted 06 December.

Mulvihill, Johnny (2009) In favour of wind farm development in Tarbert. Interview conducted 08 December.

Kelleher, Pat (2009) Director, Tarbert Renewable Energy Ltd (TRE Ltd). Interview conducted 09 December.

McGuirk, Clodagh (2009) Former Planning Support Officer, Cork County Council. Interview conducted 18 December.

Lynch, Patrick (2009) Supported Tarbert wind farm proposal. Interview conducted 18 December.

Buck, Brendan (2010) Planning Consultant and creator of An Irish Town Planner's Blog. Interview conducted 06 January.

Ryan, Raymond (2010) Brian Meehan and Associates - Tarbert ABP submission. Interview conducted 06 January.

Whitfield, Dexter (2010) Director of European Services Strategy Unit (formally the Centre for Public Services, founded 1973), Adjunct Associate Professor, Australian Institute for Social Research, University of Adelaide and author of *Global Auction of Public Assets: Public Sector Alternatives to the Infrastructure Market & Public Private Partnerships*. Interview conducted 06 January.

Lanigan, Michael (2010) Ex-Chairman of Tarbert Development Association and Director, Tarbert Renewable Energy Ltd (TRE Ltd). Interview conducted 11 January.

Tymon, Finbar (2010) Consultant for Airtricity and Director of Pollution Free Electricity Ltd. Interview conducted 11 January.

Falvey, Angela (2010) Official, Planning Department, Cork County Council. Interview conducted 29 March.

Chambers, Liam (2010) Co-founder of Organic Power Ltd. Interview conducted 06 April.

Casey, Sharon (2010) Heritage Officer, Cork County Council (Cordal Windfarm application). Interview conducted 15 June.

Good, Jervis (2010) Divisional Ecologist (Southern Division) with the National Parks and Wildlife Service (Cordal Wind Farm application). Interview conducted 15 June.

Kennelly, Alan (2010) Official, Planning Unit, Kerry County Council. Interview conducted 14 June.

McCullen, Pat (2011) Official, ESB International. Consultant on 2008 All Island Electricity Grid Study. Interview conducted 17 May.

Appendix B

Key Elements of Feed-in Tariff Policy Design

- Provide tariffs for all potential developers, from householder to utility companies.
- Provide financial security – ensure that tariffs are high enough to cover costs, encourage development and provide reasonable return on investment. Guarantee tariffs for a long enough time period to ensure high enough rate of return. The long-term certainty that results from guaranteed prices over perhaps 20 years allows companies to invest in technology, to train staff, and establish other services and resources with a longer-term perspective. This certainty also makes it easier to obtain financing, as banks and other investors are assured a guaranteed rate of return over a specified period of time. In fact, even banks in Germany lobbied the Bundestag for a continuation of feed-in laws in 2000.
- Remove barriers to grid connection. Guaranteed access to, and strategic development of the national grid are essential elements in developing investor confidence.
- Appropriate and streamlined administrative and application processes. In general, FITs are easier to administer and enforce than quota systems, and are more transparent. As with quota systems, policy makers are required to establish targets and timetables, and to determine which technologies are qualified (type and scale).
- Public acceptance. This is likely to be engendered by low costs to end consumers in particular, and demonstrable policy successes (Swain, 2004)

In addition some technologies may need extra support that should not necessarily be provided within a feed-in law. Innovative technologies that are still under development may therefore be better served with tax incentives or soft loans, for example. The same may apply to stand-alone projects.

(Source: Mendonça, 2007: xvii)

Appendix C

Evaluations of the Various Feed-in Tariff Designs

Advantages	Disadvantages
Investment security Transparency Incentives to build a plant early in time, because the level of remuneration is decreasing along with the plant prices Incentive for technological improvement Lower burden on electricity consumers	If the degression rate is set for many years, the system is not very flexible, in the case of varying technology prices due to structural changes, e.g. increased prices of steel or silicon. It is difficult to set an appropriate degression rate, due to the difficulties in predicting technological learning, which is for example related to the cumulative amount installed capacity

Appendix C, Table 1 Evaluation of a feed-in tariff design with a tariff degression (Source: Klein et al., 2006/2010: 43)

Advantages (premium tariff design)	Disadvantages (premium tariff design)
Higher compatibility with electricity markets More demand orientated Provides an incentive to feed electricity into the grid, in times of peak demand	In case of a fixed premium investment security may be reduced (this problem is avoided with a premium depending on the electricity price) Operators of wind and solar power plants can hardly influence the time of electricity generation and therefore have less chances of feeding electricity into the grid at peak demand

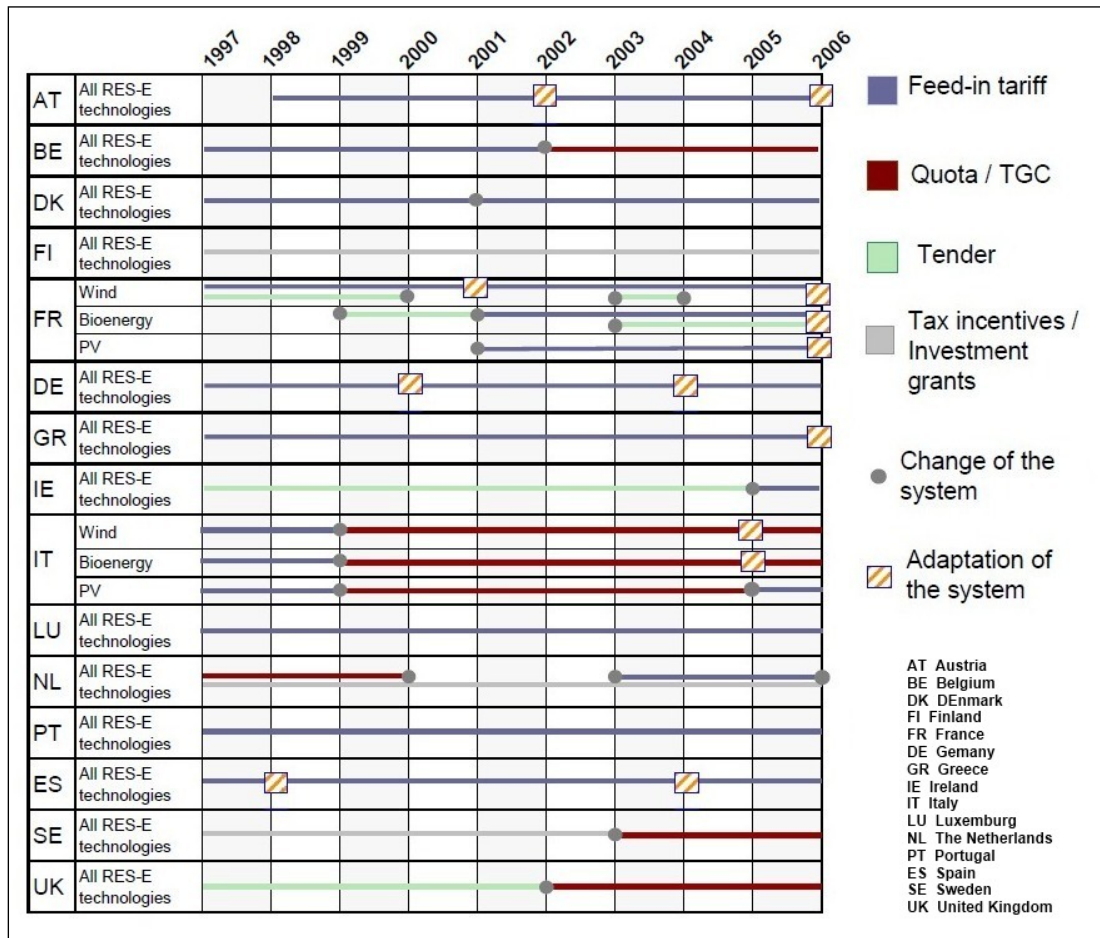
Appendix C, Table 2 Evaluation of a premium tariff design compared to a fixed tariff design (Source: Klein et al., 2006/2010: 54)

Advantages	Disadvantages
Good system to take electricity demand into account More market orientated than just one tariff level Possibility to make RES-E generators more sensitive for electricity demand Incentive to feed electricity into the system, when it is needed most	Higher administrative complexity than one tariff level RES-E generators might not always know, when the electricity demand is high Does not make much sense for wind and solar power, because the operators cannot influence the electricity generation

Appendix C, Table 3 Evaluation of demand orientated tariff levels (Source: Klein et al., 2006/2010: 61)

Appendix D

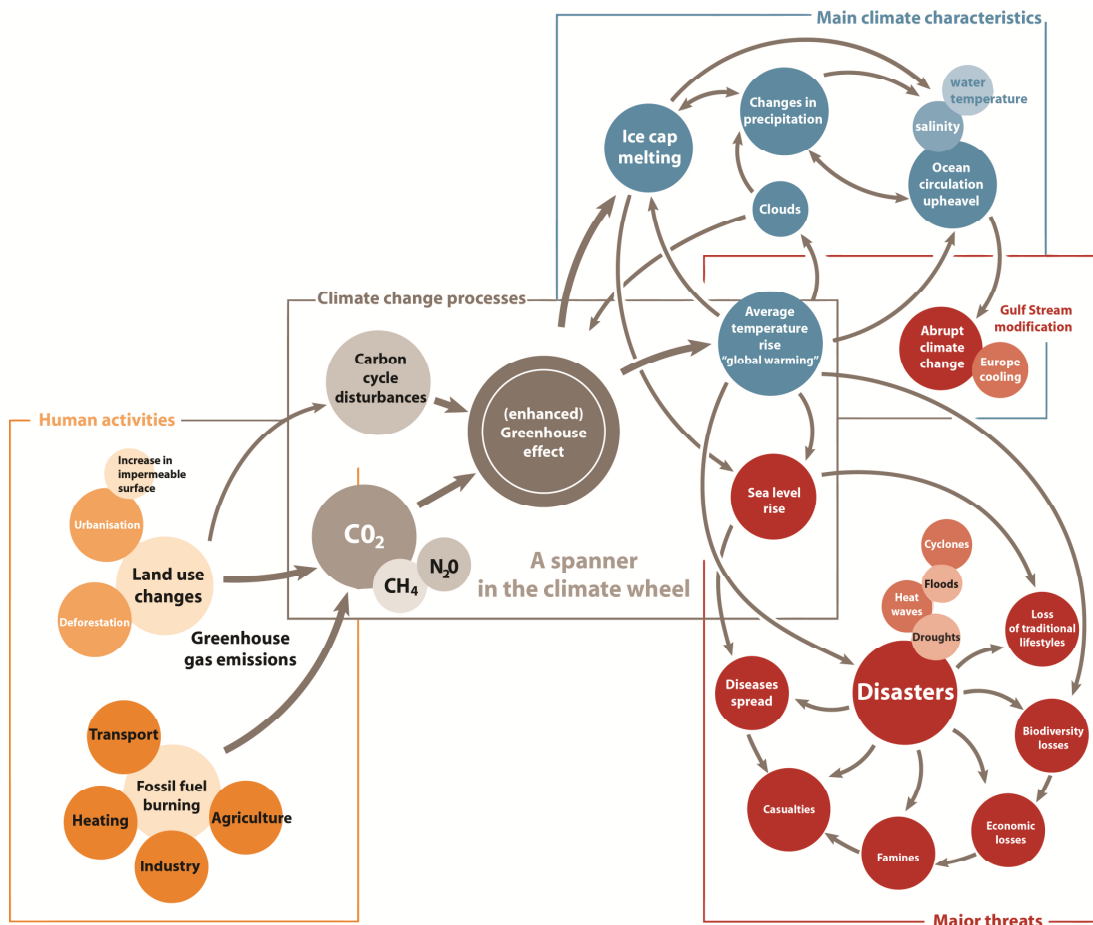
Evolution of the Main Policy Support Schemes in selected EU Member States



The evolution of the main policy support schemes in selected EU Member States from 1997 until 2006 (Source: Ragwitz et al., 2007: 34).

Appendix E

Climate Change: Processes, Characteristics and Threats



“Climate change: processes, characteristics and threats. Most people have heard about climate change, they might even express a real concern about it, but how many would actually consider it a threat? Because the changes can be slow and sometimes difficult to identify within the normal variation of climatic conditions, many of us think they will not affect our lives. However, some parts of the world are already being severely affected by climatic change – both the people and the environment. And unfortunately, it appears that many developing countries bear the brunt of global warming, when the problem is mostly due to the actions of developed countries” (Source: UNEP/GRID-Arendal, 2005).

Appendix F

Ireland's Electricity Transmission System

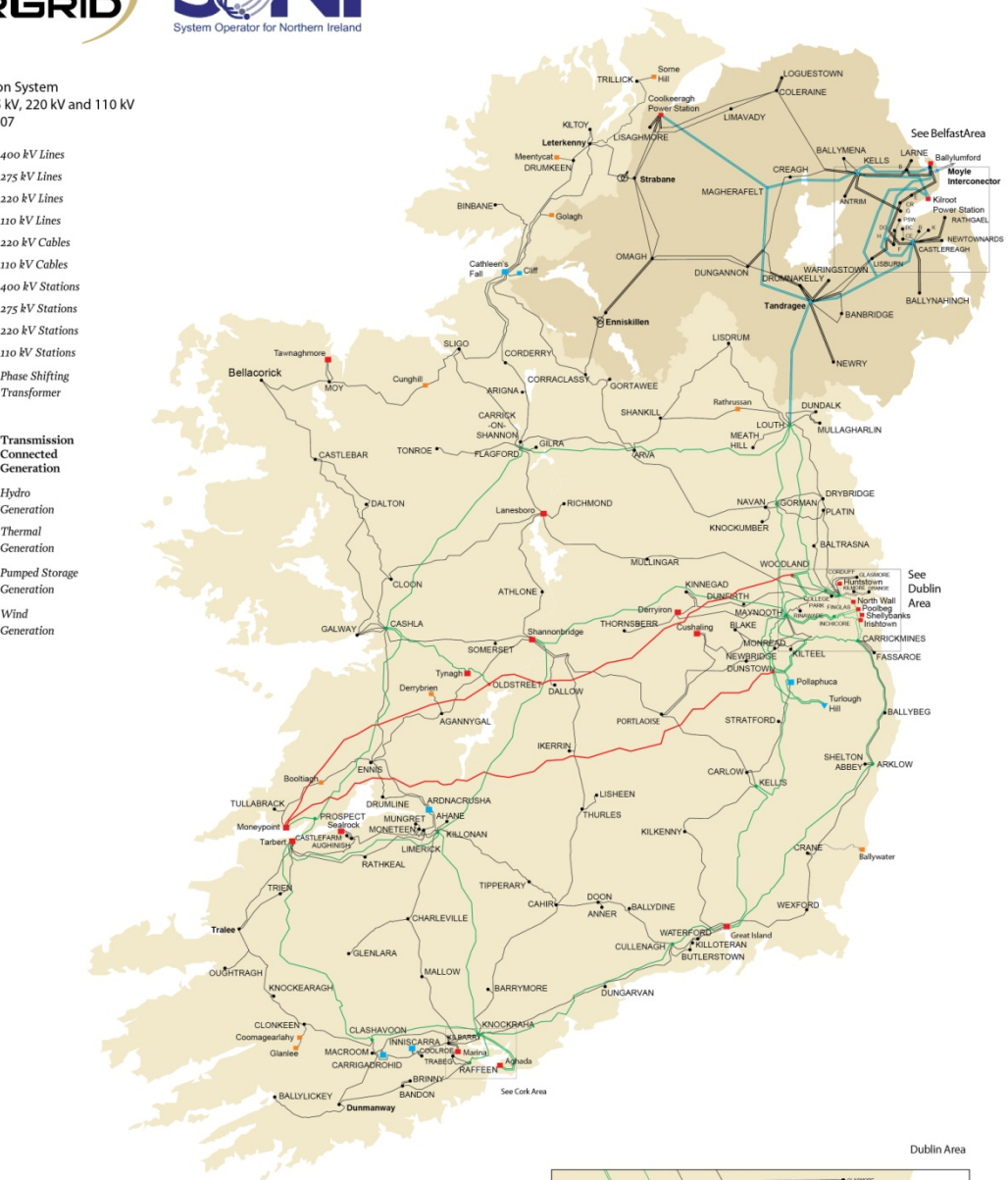
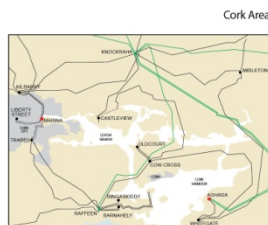
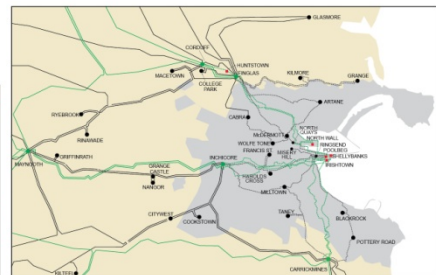


Transmission System
400 kV, 275 kV, 220 kV and 110 kV
October 2007

- 400 kV Lines
- 275 kV Lines
- 220 kV Lines
- 110 kV Lines
- - - 220 kV Cables
- - - 110 kV Cables
- 400 kV Stations
- 275 kV Stations
- 220 kV Stations
- 110 kV Stations
- ⊗ Phase Shifting Transformer

Transmission Connected Generation

- Hydro Generation
- Thermal Generation
- ▼ Pumped Storage Generation
- Wind Generation



(Source: eirgrid.com, 2011).

Bibliography

(Please find enclosed at the end of this thesis a CD-Rom containing a digital copy of this bibliography, along with the relevant hyperlinks)

- Aalen, F.H.A. (ed.) (1996) *Landscape Study and Management*. Dublin: Boole Press.
- Abed, K.A. and El-Mallah, A.A. (1997) *Capacity factor of wind turbines*. In *Energy* 22 (5): 487–491.
- Abrar, S., Lovenduski, J. and Margetts, H. (1998) *Sexing London: The gender mix of urban policy actors*. In *International Review of Political Science*, 19 (2): 147–171.
- Ackermann, T. and Soder L. (2000) *Wind energy technology and current status: a review*. In *Renewable and Sustainable Energy Reviews* 4 (4): 315-374.
- Adamson, C. (2000) *Defensive localism in white and black: a comparative history of European-American and African-American youth gangs*. In *Ethnic and Racial Studies*, 23 (2): 272-298.
- Adey, P. (2010) *Mobility*. Key Ideas in Geography. London and New York: Routledge.
- Adshead, M. and Quinn, B. (1998) *The Move From Government to Governance: Irish development policy's paradigm shift*. In *Policy & Politics*, 26 (2): 209-225.
- Ahmed, K. (1994), *Renewable Energy Technologies: A Review of the Status and Costs of Selected Technologies*. World Bank Technical Paper Number 240 Energy Series. Washington: The World Bank.
- Airport Manager (2007) *Letter to Kerry County Council Re Planning Application 07/2633*. Sent 01/09/2007.
- Aitchison, J. (1996) *The World Heritage Convention: Cultural Sites and Landscapes*. In Aalen, F.H.A (ed.), *Landscape Study and Management*. Dublin: Boole Press.
- Aitken M., McDonald, S. and Strachan, P. (2008) *Locating “power” in wind power planning processes: the (not so) influential role of local objectors*. In *Journal of Environmental Planning and Management* 51 (6): 777-799.
- Alberts, D.J. (2007) *Stakeholders or subject matter experts, who should be consulted?* In *Energy Policy* 35 (4): 2336-2346.
- Albrechts, L.A. and Madelbaum, S.J. (eds.) (2005) *The Network Society: A New Context for Planning?* London and New York: Routledge.
- Alcamo, J., Leemans, R. and Kreileman, E. (eds.) (1998) *Global Change Scenarios of the 21st Century—Results From the Image 2.1 Model*. Oxford: Elsevier.
- Alexander, G. (1996) *Overview*. In Boyle, G. (ed.), *Renewable Energy: Power for a Sustainable Future*. Toronto: The Open University.
- Alexander, G. and Boyle, G. (2004) *Introducing Renewable Energy*. In Boyle, G. (ed.), *Renewable Energy*. Oxford: Oxford University Press.
- Alfé, M., Christiansen, T. and Piedrafita, P. (2008) *Comitology Committees in the Enlarged European Union*. ARENA Working Paper No. 18, September 2008. [Online] Available: [here](#). (Accessed: 12/03/2009).
- Allen, J. (2003) *Lost Geographies of Power*. Oxford: Wiley-Blackwell
- Alvesson, M. and Sköldberg, K. (2009) *Reflexive methodology: new vistas for qualitative research*. London: Sage Publications Ltd.

An Bord Pleanála (2002) *An Bord Pleanála Inspector's Report, Ref: PL08.127717*. An Bord Pleanála. [Online] Available: [here](#). (Accessed: 10/10/2008).

An Taisce (2008/2010) *Policies on Rural Built Environment: An Taisce Policies on the Rural Built Environment*. [Online] Available: [here](#). (Accessed: 13/05/2011).

Anderson, K., Domosh, M., Thrift, N. and Pile, S. (eds.) (2002) *Handbook of Cultural Geography*. London: Sage Publications Ltd.

Andolina, C., Casale, C., Cingotti, M. and Savio, S. (1998) *Visual Compatibility of Wind Power Plants with the Landscape: Possible Methods for preliminary Assessment*. In Ratto, C.F. and Solari, G. (eds.), *Wind Energy and Landscape*. Oxford and New York: Taylor & Francis.

Andrew, C. and Goldsmith, M. (1998) *From Local Government to Local Governance - and Beyond?* In *International Political Science Review*, 19 (2): 101-117.

Andrew, C. and Milroy, B.M. (eds.) (1988) *Life Spaces: Gender, Household, Employment*. Vancouver: The University of British Columbia Press.

APERe (2000) *Analysis of the Electricity Sector Liberalisation in European Union Member States pursuant to Directive 96/92/EC on the Internal Market in Electricity*. Study realised for the EU-Japan Centre for Industrial Cooperation. [Online] Available: [here](#). (Accessed: 11/07/2010).

Armitage C.J. and Conner, M. (2005) *Efficacy of the theory of planned behaviour: a meta-analytic review*. In *British Journal of Social Psychology* 40 (4): 471-479.

Armstrong, F. and Blundell, K. (2007) *Energy...Beyond Oil*. Oxford: Oxford University Press.

Arnstein, S.R. (1969) *A Ladder of Citizen Participation*. In *Journal of the American Institute of Planners*, 35 (4): 216-224.

Arthington, A.H., Brizga, S.O. and Kennard M.J. (1998) *Comparative Evaluation of Environmental Flow Assessment Techniques: Best Practice Framework, Occasional Paper No 25/98*. Land and Water Resources Research and Development Corporation.

Atkinson, P. and Hammersley, M. (1994) *Ethnography and Participant Observation*. In Denzin, N.K. & Lincoln, Y.S. (eds.), *Handbook of Qualitative Research*, 248-61. Thousand Oaks, CA: Sage.

Babu, K.L. and Kumara, B.K.H. (2009) *Environmental Flows in River Basins: A case study of River Bhadra*. In *Current Science*, 96 (4): 475-479.

Bache, I. and Flinders, M. (eds.) (2004) *Multi-level Governance*. Oxford: Oxford University Press.

Backstrand, K. and Lovbrand, Eva. (2006) *Planting Trees to Mitigate Climate Change: Contested Discourses of Ecological Modernization, Green Governmentality and Civic Environmentalism*. In *Global Environmental Politics*, 6 (1): 50-75.

Bahro, R. (1994) *Avoiding Social & Ecological Disaster: The politics of world transformation*. Bath: Gateways Books.

- Barkenbus, J. (1998) *Expertise and the Policy Cycle*. Paper published by the Energy, Environment, and Resources Center, The University of Tennessee, September 1998. [Online] Available: [here](#). (Accessed: 11/01/2008).
- Barnes, T. and Gregory, D. (eds.) (1997) *Reading Human Geography: the poetics and politics of inquiry*. London: Arnold.
- Barrett, W.E. (1967) *The Red Lacquered Gate: The early days of the Columban Fathers and the courage and faith of its founder, Fr. Edward Galvin*. Bloomington: AuthorHouse.
- Barriball, K.L. and While, A. (1994) *Collecting data using a semi-structured interview: a discussion paper*. In *Journal of Advanced Nursing*, 19 (2): 328–335.
- Barrios, L. and Rodríguez, A. (2004) *Behavioural and Environmental Correlates of Soaring-Bird Mortality at On-Shore Wind Turbines*. In *Journal of Applied Ecology*, 41 (1): 72-81.
- Barron, D.J. and Frug, G.E. (2005) *Defensive Localism: A View of the Field From the Field*. In *The Journal of Law & Politics*, 21 (2/3): 261-291.
- Barthes, R. (2000) *Mythologies*. Lavers, A. (trans.). London: Vintage Books.
- Bartley, B. and Kitchin, R. (eds.) (2007) *Understanding Contemporary Ireland*. London: Pluto Press.
- Batley, R. and Stoker, G. (eds.) (1991) *Local Government in Europe - Trends and Developments*. London: Palgrave Macmillan.
- Batterbury, S.P.J. (2010) Re: Speculations. In email sent to the Critical Geography Forum, 2/8/2010.
- Bauman, Z. (1987) *Legislators and Interpreters: On Modernity, Post-modernity and Intellectuals*. Cambridge and Oxford: Polity Press.
- Bauman, Z. (2000) *Liquid Modernity*. Cambridge and Oxford: Polity Press.
- Bechhofer, F. and Paterson, L. (2000) *Principles of Research Design in the Social Sciences*. London: Routledge.
- Beck, U. (1992) *Risk society: towards a new modernity*. London: SAGE Publications.
- Beck, U. (1995) *Ecological Politics in an Age of Risk*. Weisz, A. (trans.) Cambridge and Oxford: Polity Press.
- Beck, U. (1999) *What is Globalization?* Cambridge and Oxford: Polity Press.
- Beck, U. (2008) *World at Risk*. Cambridge and Oxford: Polity Press.
- Beck, U., Giddens, A. and Lash, S. (1994) *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*. Palo Alto: Stanford University Press.
- Beetham, D. (1996) *Theorising Democracy and Local Government*. In King, D. and Stoker, G. (eds.), *Rethinking Local Democracy (Government Beyond the Centre)*. London: Palgrave Macmillan.

- Belfast Telegraph (2010) *Over 50 new windfarms to be built in Donegal*. [Online] Available: [here](#). (Accessed: 11/01/2011).
- Belkin, P. (2008) *The European Union's Energy Security Challenges*. CRS Report for Congress. [Online] Available: [here](#). (Accessed: 21/01/2011).
- Bell, D., Gray, T. and Haggett, C. (2005) *The 'Social Gap' in Wind Farm Siting Decisions: Explanations and Policy Responses*. In *Environmental Politics* 14 (4): 460-477.
- Bellamy Foster, J., Clark, B. and York, R. (2010) *Capitalism and the Curse of Energy Efficiency: The Return of the Jevons Paradox*. In *Monthly Review* 62 (6). [Online] Available: [here](#). (Accessed: 11/11/2010).
- Bender, B. (1993) *Introduction: Landscape-Meaning and Action*. In Bender, B. (ed.), *Landscape: politics and perspectives (Explorations in Anthropology)*. Basingstoke: Berg Publishers.
- Bender, B. (1996) *Landscape and Anthropology*. In Aalen, F.H.A. (ed.), *Landscape Study and Management*. Dublin: Boole Press.
- Benson, J.K. (1982) *A Framework For Policy Analysis*. In Rogers, D. and Whitten, D. (eds.), *Inter-organizational Coordination*, Ames: Iowa State University Press.
- Berg, D. E. (2007) *Wind Energy Conversion*. In Kreith, F. and Goswami, D. Y. (eds.), *Handbook of Energy Efficiency and Renewable Energy*. Danvers: CRC Press.
- Berger, G. (2003) *Reflections on Governance: Power Relations and Policy Making in Regional Sustainable Development*. *Planning Theory & Practice*, 5 (3): 219-234.
- Bergin, A., Conefrey, T., FitzGerald, J. and Kearney, I. (2010) *Recovery Scenarios for Ireland: An Update*. In *ESRI Quarterly Economic Commentary*, Summer. Dublin: Economic and Social Research Institute.
- Bergmann, S. and Sager, T. (eds.) (2008) *The Ethics of Mobilities: Rethinking place, exclusion, freedom and environment*. Farnham: Ashgate.
- Bertoldi, P. and Rezessy, S. (2006) *Tradable Certificates for Energy Savings (White Certificates) - Theory and Practice*. *Institute for Environment and Sustainability*. EUR22196EN. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Beurskens, L.W.M. and Hekkenberg, M. (2011) *Renewable Energy Projections as Published in the National Renewable Energy Action Plans of the European Member States: Covering all 27 EU Member States*. Report reference ECN-E--10-069. [Online] Available: [here](#). (Accessed: 01/03/2011).
- Bevir, M. (2010) *Democratic Governance*. New Jersey: Princeton University Press.
- Bignami, F.E. (1999) *The Democratic Deficit in European Community Rulemaking: A Call for Notice and Comment in Comitology*. *Duke Law Faculty Scholarship*, Paper 18. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Bird, R.M. and Ebel, R.D. (2007) *Fiscal Fragmentation in Decentralized Countries: subsidiarity, solidarity and asymmetry*. Cheltenham: Edward Elgar Publishing.

- Black, B.C. and Flarend, R. (2010) *Alternative Energy*. In Historical Guides to Controversial Issues in America Series. Santa Barbara: ABC-CLIO, LLC Press.
- Blindenbacher, R. & Nashat, B. (2010) *The Black Box of Governmental Learning: The Learning Spiral — A Concept to Organize Learning in Governments*. For World Bank Independent Evaluation Group, Washington: The World Bank.
- Böhringer, C. and Vogt, C. (2003) *Economic and Environmental Impacts fo the Kyoto Protocol*. In The Canadian Journal of Economics, 36 (2): 475-494.
- BOI (2009) *Bank of Ireland launches a new €100 million fund for renewable energy projects in Ireland - €200m earmarked for the sector*. Bank Of Ireland Press Release, 23 February, 2009. [Online] Available: [here](#). (Accessed: 25/02/2009).
- Bonanno A. (2006) *The State and Rural Polity*. In Cloke, P.J., Marsden, T. and Mooney, P.H. (eds.), Handbook of Rural Studies, Chp19. London: Sage Publications Ltd.
- Booher, D.E. (2008) *Civic Engagement and the Quality of Urban Places*. In Planning Theory & Practice, 9 (3): 383-394.
- Boone, J. (2005) *The Aesthetic Dissonance of Industrial Wind Machines*. In Contemporary Aesthetics, 3. [Online] Available: [here](#). (Accessed: 11/05/2009).
- Borges, J.L. (1952) *Other Inquisitions, 1937 - 1952*. In Simms, L.C. (trans.) (1975), Texas Pan American Series. Austin: University of Texas Press.
- Borrás, S. (2003) *The Innovation Policy of the European Union: From government to governance*. Cheltenham: Edward Elgar.
- Bourdieu, P. (1991) *Language and Symbolic Power*. In Thompson, J.B. (ed.), Raymond, G. And Adamson, M. (trans.). Cambridge: Polity Press.
- Bourdieu, P. (2004) *Sketch for a Self-Analysis*. Nice, R. (trans.). Cambridge: Polity Press.
- Boyes, R. (2009) *Comment: Gazprom is not a market player, it's a political weapon*. The Times, 7th January. [Online] Available: [here](#). (Accessed: 14/04/2011).
- Boyle, G. (1996) *Solar Photovoltaics*. In Boyle, G. (ed.), Renewable Energy: Power for a Sustainable Future. Toronto: The Open University.
- Boyle, G. [ed.] (2004) *Renewable Energy*. Oxford: Oxford University Press.
- Boyle, R., Humphreys, P.C., O'Donnell, O., O'Riordan, J. and Timonen, V. (2003) *Changing Local Government: A Review of the Local Government Modernisation Programme*. CPMR Research Report 5. Dublin: Institute of Public Administration. [Online] Available: [here](#). (Accessed: 10/08/2010).
- BP (2007) *BP Statistical Review of World Energy*. BP. [Online] Available: [here](#). (Accessed 07/01/2008).
- Bradley K.StC. (1997) *The European Parliament and Comitology: On the Road to Nowhere?* In European Law Journal 3 (3): 230-254, September 1997.

- Breukers, S. and Wolsink, M. (2007) *Wind power implementation in changing institutional landscapes: An international comparison*. In *Energy Policy* 35 (5): 2737-2750.
- Bright, J., Langston, R., Bullman, R., Evans, R., Gardner, S. and Pearce-Higgins, J. (2008) *Map of bird sensitivities to wind farms in Scotland: A tool to aid planning and conservation*. In *Biological Conservation*, 141 (9): 2342-2356.
- British Wind Energy Association (2000) *Planning for wind energy—A guide for regional targets*. London: BWEA. [Online] Available: [here](#). (Accessed: 14/11/2007).
- Brooks, S. and Gagnon, A.G. (eds.) (1990) *Social Scientists, Policy, and the State*. New York: Praeger Publishers.
- Bruckner, T., Edenhofer, O., Held, H., Haller, M., Lüken, M., Bauer, N. and Nakicenovic, N. (2010) *Robust Options for Decarbonization*. In Schellnhuber, H.-J., Molina, M.J., Stern, N., Huber, V., and Kadner, S. (eds.), *Global Sustainability: A Nobel Cause*. Cambridge and New York: Cambridge University Press. Online open access version available: [here](#). (Accessed: 27/01/2011).
- Brundtland Commission (1987) *Our Common Future: A Global Agenda for Change*. Report of the World Commission on Environment and Development. Oxford: Oxford University Press.
- Brunsson, N. (2000) *The Irrational Organisation: Irrationality as a basis for organizational action and change*. Copenhagen: Fagbokforlaget.
- Bruyn, S.T. (1966) *The Human Perspective in Sociology: the methodology of participant observation*. New Jersey: Prentice-Hall Inc.
- Bryman, A. (2004) *Social Research Methods*. Oxford: Oxford University Press, 2nd Edition.
- Bulkeley, H. and Mol, A.P.J. (2003) *Participation and Environmental Governance: Consensus, Ambivalence and Debate*. In *Environmental Values* 12 (2): 143-154.
- Bulkeley, H., Watson, M. and Hudson, R. (2007) *Modes of governing municipal waste*. In *Environment and Planning A*, 39 (11): 2733-2753.
- Burke, R. (2010) *Birds of prey cause a storm at €50m windfarm project*. In *Sunday Independent, Business Section*, 4: 1. Sunday, November 4th, 2009.
- Burton, T., Sharpe D., Jenkins, N. and Bossanyi, E. (2001) *Wind Energy Handbook*. Chichester: John Wiley & Sons Ltd.
- Busch, N.E., Weijnen, M., Wilkinson, W.B., Greer, H., Fuhr, F., Forlani, F., Mégie, G., Wagenr, U. (2000) *Five Year Assessment Report Related to the Specific Programme: Energy, Environment and Sustainable Development, Covering the Period 1995-1999*. European Commission's Energy, Environment and Sustainable Development Programme Five-Year Assessment Panel. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Businessgreen.com (2011) *Delbeke: EU must reassess commitment to post-2012 Kyoto Protocol*. 12 January. [Online] Available: [here](#). (Accessed 20/01/2011).

Buttel, F.H., Spaargaren, G., and Mol, A.P.J. (2006) *Epilogue: Environmental Flows and Twenty-First-Century Environmental Social Sciences*. In Spaargaren, G., Mol, A.P.J., Buttel, F. H. (eds.), *Governing Environmental Flows: Global Challenges to Social Theory*. Massachusetts: The MIT Press.

Buttimer, A. (ed.) (2001) *Sustainable Landscapes and Lifeways: scale and appropriateness*. Cork: Cork University Press.

Byrne, J., Toly, N. and Glover, L. (eds.) (2006) *Transforming Power: Energy as a Social Project (Energy and Environmental Policy)*. New Jersey: Transaction Publishers.

CA&L Goodbody Solicitors (2007) *Into Thin Air: Renewable PPAs, CfDs and the Transition to the Single Electricity Market*. Energy and Natural Resources Unit. 4th June 2007.

Callanan, M. (2003) *The Role of Local Government*. In Callanan, M. and Keogan, J.F. (eds.), *Local government in Ireland: inside out*. Dublin: Institute of Public Administration.

Callanan, M. and Keogan, J.F. (eds.) (2003) *Local Government in Ireland: Inside out*. Dublin: Institute of Public Administration.

Callon, M. (1986a) *Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Brieuc Bay*. In Law, J. (ed.), *Power, Action, and Belief: A New Sociology of Knowledge?* London: Routledge & Kegan Paul.

Callon, M. (1986b) *The Sociology of an Actor-Network: The Case of the Electric Vehicle*. In Callon, M., Law, J. and Rip, A. (eds.), *Mapping the Dynamics of Science and Technology: Sociology of Science in the Real World*. Houndmills, UK: Macmillan.

Calthrope, P. (1993) *The Next American Metropolis: ecology, community, and the American Dream*. New York: Princeton Architectural Press.

Calvey, D. (2000) *Getting in the Door and Staying There: A covert participant observational study of bouncers*. In Lee-Treweek, G. and Linkogle, S. (eds.), *Danger in the Field: Risk and Ethics in Social Research*, pp. 41-60, London: Routledge.

Campbell, C.J. (1997) *The Coming Oil Crisis*. Brentwood: Multi-Science Publishing Company.

Campbell, C.J. (2003) *When Will The World's Oil And Gas Production Peaks?* In Douthwaite, R. (ed.), *Before The Wells Run Dry*, Feasta in association with Lilliput Press and Green Books.

Campbell, C.J., (2005) *The meaning of oil depletion and its consequences*. In *Petroleum Geology: North-West Europe and Global Perspectives – Proceedings of the 6th Petroleum Geology Conference*, Vol. 6:11-19.

Campbell, S. and Fainstein, S.S. (eds.) (2003) *Readings in Planning Theory*. Oxford: Blackwell Publishing.

Carroll, W. (2007) *Hegemony and Counter-Hegemony in a Global Field*. In *Studies in Social Justice*, 1 (1): 36-66.

- Carver, J. (2001) *A Theory of Governing the Public's Business: Redesigning the Jobs of Boards, Councils, and Commissions*. In *Public Management Review*, 3 (1): 53 - 72.
- Casey, J. (1995) *Here comes the sun*. In *Civil Engineering*, 65 (10): 54-57.
- Cashmore, A.R. (2010) *The Lucretian swerve: The biological basis of human behavior and the criminal justice system*. In *Proceedings of the National Academy of Sciences*, 107 (10): 4499-4504. [Online] Available: [here](#) (Accessed: 20/05/2010)
- Castells, M. (1996). *The Information Age: Economy, Society, and Culture Volume I: The Rise of the Network Society*. Oxford: Wiley-Blackwell.
- Castells, M. (1997). *The Information Age: Economy, Society, and Culture Volume II: The Power of Identity*. Oxford: Wiley-Blackwell.
- Castells, M. (1998) *The Information Age: Economy, Society, and Culture Volume III: The End of the Millennium*. Oxford: Wiley-Blackwell.
- Castells, M. (2000) *Materials for an exploratory theory of the network society*. *British Journal of Sociology*, 51 (1): 5–24.
- Castells, M. (2006) *Space of Flows*. In *Geographical Approaches*. [Online] Available: [here](#) (Accessed: 26/01/2006).
- Castells, M. (ed.) (2004) *The Network Society: A Cross-cultural Perspective*. Cheltenham: Edward Elgar Publishing.
- Castle Ahan House (2010) *Internet promotional material for Golreland.com*. [Online] Available: [here](#). (Accessed: 04/02/2010).
- Cavallo, A.J., Hock, S.M. and Smith D.R. (1993) *Wind Energy: Technology and Economics*. In Johansson, T.B., Kelly, H., Reddy, A.K.N. and Williams, R. (eds.), *Renewable Energy: Sources for Fuels and Electricity*. Washington D.C.: Island Press.
- Cavanagh, J. and Mander, J. (eds.) (2004) *Alternatives to Economic Globalization: A Better World Is Possible*. San Francisco: Berrett-Koehler Publishers; 2nd edition.
- Centre for Sustainable Energy (2011) *Common Concerns About Wind Power*. [Online] Available: [here](#). (Accessed: 06/06/2011).
- CER (2009a) *East-West Interconnector will move Ireland closer to heart of European electricity sector*. Press Release – Sunday 29 March. [Online] Available: [here](#). (Accessed: 08/05/2010).
- CER (2009b) *Public Service Obligation Levy 2009/2010*. Proposed Decision Paper, 29th June 2009, Reference: CER/09/084. [Online] Available: [here](#). (Accessed: 08/05/2010).
- Chandler, J.A. (ed.) (1993) *Local government in liberal democracies: an introductory survey*. London: Routledge.
- Chang, S.-H. (2005) *Responsive Public Services in Building a Harmonious Society*. Workshop On Public Administration Strategies That Help Or Hinder Societal Harmony. At the Network of Asia-Pacific Schools and Institutes of Public Administration and Governance (NAPSIPAG) Annual Conference, Beijing. [Online] Available: [here](#). (Accessed: 11/08/2010).

- Chichilnisky, G. (2010) *The foundations of statistics with black swans*. In Mathematical Social Sciences 59 (2): 184-192.
- Christensen, P. and Lund, H. (1998) *Conflicting Views of Sustainability: the case of wind power and nature conservation in Denmark*. In European Environment 8 (1): 1-6.
- Christoff, P. (1996) *Ecological Modernisation, Ecological Modernities*. In Environmental Politics, 5 (3): 476-500.
- Ciccantell, R.S. (2004) *A Continental Electricity Industry*. In Rugman, A. (ed.), North American Economic and Financial Integration (Research in Global Strategic Management, Volume 10). Bingley: Emerald Group Publishing Ltd.
- Clark, N. (2011) *Inhuman Nature: Sociable Life on a Dynamic Planet*. London: SAGE Publications Ltd.
- Clegg, B. (2009) *Ecologic: The truth and lies of green economics*. London: Transworld Publishers.
- Clerkin, D. (2008) *NTR nets €850 million after sale of subsidiary Airtricity*. In Sunday Business Post, 06/01/2008. [Online] Available: [here](#). (Accessed: 06/01/2008)
- Clinch, J.P. (2007) *Academia, Applied Research and the Planning Profession*. In Planning Theory and Practice 8 (4): 423-426.
- Cloke, P. J. and Little, J. (1997) *Contested Countryside Cultures: Rurality and Socio-cultural Marginalisation*. Oxford: Routledge.
- Cloke, P.J. (1997) *Country backwater to virtual village? Rural studies and 'the cultural turn'*. Journal of Rural Studies, 13 (4): 367-375.
- Cloke, P.J. (2007) *Rurality and Creative Nature-Culture Connections*. In Clout, R.J.C. (ed.), Contemporary Rural Geographies: Land, Property and Resources in Britain: Essays in Honour of Richard Munton, Chp6. London: Routledge.
- CNN (2000) *Green groups grade ski areas*. [Online] Available: [here](#). (Accessed: 11/05/2009)
- Coelingh, J.P. (1999) *Geographical dispersion of wind power output in Ireland*. Irish Wind Energy Association, Reference: E60059.
- Cohen, M. (1997) *Risk Society and Ecological Modernisation: Alternative Visions for Post-Industrial Nations*. In Futures, 29 (2): 105-119.
- Coleman, M. (2007) *The Best Is Yet To Come*. Dublin: Blackhall Publishers.
- Coleman, M. (2009) *Back From The Brink: Ireland's road to recovery*. London: Transworld Ireland.
- Collins, N. (1985) *Clientelism and Careerism in Irish Local Government: The Persecution of Civil Servants Revisited*. In Economic and Social Review, 16 (4): 273-286.
- Collins, N. (1986a) *The 1985 Local Government Elections in the Republic of Ireland*. In Irish Political Studies, 1 (1): 96-102.

- Conserve Magazine (2007) *It Takes Energy to Get Energy*. Editorial, April 1, 2007.
- Convery, F., Jaraite, J. and Di Maria, C. (2008) *Transaction Costs Incurred By Firms In The EU ETS - Irish Case Study*. Presentation to The First Phase of the European Emissions Trading Scheme in Perspective - Main Lessons and Implications for the Future of the EU ETS. [Online] Available: [here](#). (Accessed: 01/10/2010).
- Cooke, J. (2010) *Airtricity's development business renamed SSE Renewables*. Press Release 4th January 2010. [Online] Available: [here](#). (Accessed: 04/01/2010).
- Cooke, N. (2008) *Wind energy blown off course*. In Sunday Business Post, 4th May. [Online] Available: [here](#). (Accessed: 15/01/2009).
- Cooke, R., Cripps, A., Irwin, A. and Kolokotroni, M. (2007) *Alternative Energy Technologies in Buildings: Stakeholders Perceptions*. In Renewable Energy, 32 (14): 2320-2333.
- Coones, P. (1996) *Geographical Approaches to the Study of Landscape*. In Aalen, F.H.A. (ed.), *Landscape Study and Management*. Dublin: Boole Press.
- Copus, C. (2004) *Party politics and Local Government*. Manchester: Manchester University Press.
- Corbett, R. (2009) EU scare stories coincide with Euro election build-up. On Blog - Richard Corbett, Wednesday, February 25, 2009. [Online] Available: [here](#). (Accessed: 10/10/2009).
- Cordis (no date; a) Fifth Framework Programme, 1998-2002. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Cordis (no date; b) *Promotion of renewable energy sources in the Community (ALTENER programme), 1993-1997*. [Online] Available: [here](#). (Accessed: 03/02/2009).
- Cordis (no date; c) *Multiannual programme for the promotion of renewable energy sources in the Community, 1998-2002*. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Cork County Council (2006) *Planning Report, File No. 06/6934*. 26th June. Cork County Council Planning Department Archive.
- Cork County Council (2007) *Request Letter, 20/12/2007*.
- Cork County Council (2008a) *Heritage Officer's Report, File No. 07/7471*. 29/02/2008. Cork County Council Planning Department Archive.
- Cork County Council (2008b) *Planning Report, File No. 07/7471*. Cork County Council Planning Department Archive.
- Cork County Council (2009a) *County Development Plan 2009*. [Online] Available: [here](#). (Accessed: 26/09/2009).
- Cork County Council (2009b) *Planning Report, File No. 09/4457*. 9th April. Cork County Council Planning Department Archive.

Cork County Council Planning Policy Unit (2007) *Cork County Draft Landscape Strategy*. [Online] Available: [here](#). (Accessed: 30/09/2011).

Cory, K., Couture, T. and Kreycik, C. (2009) *Feed-in Tariff Policy: Design, Implementation, and RPS Policy Interactions*. National Renewable Energy Laboratory Technical Report, NREL/TP-6A2-45549. [Online] Available: [here](#). (Accessed: 26/09/2009).

Cosgrove, D. (1984a) *Social Formation and Symbolic Landscape*. Madison: University of Wisconsin Press.

Cosgrove, D. (1984b) *Geography is Everywhere: Culture and Symbolism in Human Landscapes*. In Gregory, D. and Walford, R. (eds.), *Horizons in Human Geography*. London: MacMillan Press.

Cosgrove, D. (1985) *Prospect, Perspective and the Evolution of the Landscape Idea*. In *Transactions of the Institute of British Geographers*, 10 (1): 45-62.

Cosgrove, D. (2006) *Modernity, Community and the Landscape Idea*. In *Journal of Material Culture* 11 (1-2): 49-66.

Cosgrove, D. (2008) *Geography & Vision: seeing, imagining and representing the world*. London and New York: I.B. Tauris.

Cosgrove, D. and Daniels, S. (eds.) (1988) *The Iconography of Landscape*. Cambridge: Cambridge University Press.

Cosgrove, D. and Domosh, M. (1993) *Author and authority: writing the new cultural geography*. In Duncan, J.S. and Ley, D. (eds.), *Place/culture/representation*, Chp2. London: Routledge.

Council of Europe (1985) *European Charter of Local Self-Government*. European Treaty Series - No. 122 – Local Self-Government, Strasbourg, 15.X.1985. [Online] Available: [here](#). (Accessed: 30/05/2011).

Cowell, R. (2007) *Wind Power and 'The Planning Problem': The Experience of Wales*. *European Environment* 17 (5): 291-306.

Cowell, R. (2010) *Wind power, landscape and strategic spatial planning - the construction of "acceptable locations" in Wales*. In *Land Use Policy* 27 (2): 222-232.

Cowell, R. and Owens, S. (2006) *Governing space: planning reform and the politics of sustainability*. In *Environment and Planning 'C', Government and Policy*, 24 (3): 403-421.

Cowell, R. and Owens, S. (2011) *Revisiting ... Governing space: planning reform and the politics of sustainability*. In *Environment and Planning 'C', Government and Policy* 28 (6): 952-957.

Cowell, R., Bristow, G. and Munday, M. (2011) *Acceptance, Acceptability and Environmental Justice: The role of community benefits in wind farm development*. In *Journal of Environmental Planning and Management* 54 (4): 539-557.

Coyle, C (2006) *Ill wind blows for turbines as hundreds join protest*. In *The Sunday Times*, July 30th, 2006. [Online] Available: [here](#). (Accessed: 26/03/2009).

- Crang, M. (1998) *Cultural Geography*. Routledge Contemporary Human Geography Series. London: Routledge.
- Cresswell, T. (1996) *In Place/Out of Place: Geography, Ideology and Transgression*. Minneapolis: University of Minnesota Press.
- Cresswell, T. (1997) *Imagining the nomad: mobility and the postmodern primitive*. In Strohmayer, U. and Benko, G. (eds.), *Space and Social Theory: Geographical Interpretations of Post-Modernity*. Oxford: Blackwell.
- Cresswell, T. (2001) *Geosophy, Mobility and Other Ways of Knowing*. In Adams, P., Hoelscher, S., and Till, K. (eds.), *Textures of Place: Essays in Honor of Yi-Fu Tuan*. Madison: University of Wisconsin Press.
- Cresswell, T. (2006) *On the Move: Mobility in the Modern World*. London: Routledge.
- Cresswell, T. (2010) *On Turbulence*. Keynote Lecture presented in UCC, 13th May 2010.
- Cresswell, T. (ed.) (2000) *Mobilities*. In *New Formations: a journal of culture/theory/politics*, 43: Special Issue.
- Crossan, P. (2006) *Talk of wind energy is mostly hot air*. In Irish Independent, Letters Page, Thursday, 17 August, 2006. [Online] Available: [here](#). (Accessed: 01/08/2008).
- Crossan, P. (2006) *Wind energy is useless*. In Irish Independent, Letters Page, Thursday, 26 October, 2006. [Online] Available: [here](#). (Accessed: 01/08/2008).
- Crouch, D. (2010) *Flirting with space: thinking landscape relationally*. In *Cultural Geographies*, 17 (1): 5-18.
- Crutzen, P.J., Mosier A.R., Smith, K.A. and Winiwarter, W. (2007) *N₂O release from agro-biofuel production negates global warming reduction by replacing fossil fuels*. In *Atmospheric Chemistry and Physics*, 8 (2): 389-395.
- Cuddy, M. (2005) *Rural Development in Ireland: An Overview*. In Phelan, J., Bogue, P. and Mulhall, L. (eds.) *Rural Living: An Analysis of 1249 Households in the Republic of Ireland*. National University of Ireland.
- Dale, A. (2001) *At The Edge: Sustainable development in the 21st century*. Vancouver: UBC Press.
- Damborg, S. (2003) *Public Attitudes towards Wind Power*. Danish Wind Industry Association. [Online] Available: [here](#). (Accessed: 25/05/2010).
- Davidoff, D. (1965) *Advocacy and Pluralism in Planning*. In *Journal of the American Planning Association*, 31 (4): 331-338.
- Davies, A. (2001) *What Silence Knows - Planning, Public Participation and Environmental Values*. In *Environmental Values* 10 (1): 77-102.
- Davis, H. (1996) *QUANGOs and Local Government: A changing world*. London: Frank Cass & Co. Ltd.

- De Laquil III, P., Kearney, D., Geyer, M. and Diver R. (1993) *Solar-Thermal Electric Technology*. In Johansson, T.B., Kelly, H., Reddy, A.K.N. and Williams, R. (eds.), *Renewable Energy: Sources for Fuels and Electricity*. Washington D.C.: Island Press.
- de Lucas, M., Janss, G.F.E., Whitfield D.P. and Ferrer, M. (2008) *Collision fatality of raptors in wind farms does not depend on raptor abundance*. In *Journal of Applied Ecology* 45 (6): 1695–1703.
- de Oliveira Matias, J. C. and Devezas T. C. (2007) *Consumption dynamics of primary-energy sources: The century of alternative energies*. In *Applied Energy* 84 (7-8): 763-770.
- de Vries B.J.M., van Vuuren, D.P., and Hoogwijk, M.M. (2007) *Renewable energy sources: Their global potential for the first-half of the 21st century at a global level: An integrated approach*, *Energy Policy* 35 (4): 2590-2610.
- Deleuze, G. (1986) *Foucault*. Hand, S. (trans.) (1988). London: The Athlone Press.
- Deloitte & Touche (2009) *Jobs and Investment in Irish Wind Energy: Powering Ireland's Economy*. Special report commissioned by the Irish Wind Energy Association.
- Dempsey, I. (2004) *Letter regarding wind energy and community developments*. [Online] Available: [here](#). (Accessed: 30/05/2010).
- Dennehy, E., Howley, M., Ó Gallachóir, B. and Barriscale, A. (2010) *Renewable Energy in Ireland 2010 Update*. Dublin: Sustainable Energy Authority of Ireland.
- Denscombe, M. (2007) *The Good Research Guide: For small-scale social research projects*. Maidenhead: Open University Press.
- Desforges, L.C. (1997) *Travelling to Peru: Representation, Identity and Place in British Long-haul Tourism*. Unpublished Ph.D. thesis, Department of Geography, University College London.
- Devezas, T.C. and Modelski, G. (2003) *Power law behavior and world system evolution: A millennial learning process*. In *Technological Forecasting and Social Change* 70 (9): 819-859.
- Devine-Wright, P. (2005a) *Local aspects of UK renewable energy development: exploring public beliefs and policy implications*. In *Local Economy*, 10 (1): 57-69.
- Devine-Wright, P. (2005b) *Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy*. In *Wind Energy*, 8 (2): 125-139.
- Devine-Wright, P. (2009) *Rethinking NIMBYism: The Role of Place Attachment and Place Identity in Explaining Place-protective Action*. In *Journal of Community & Applied Social Psychology* 19 (6): 426–441.
- Devine-Wright, P. and Howes, Y. (2010) *Disruption to place attachment and the protection of restorative environments: a wind energy case study*. In *Journal of Environmental Psychology* 30 (3): 271-280.
- Devine-Wright, P., McAlpine, G. & Bately-White, S. (2001) *Wind turbines in the landscape: an evaluation of local community involvement and other considerations*

in UK wind farm development. 32nd Annual Conference of the Environmental Design Research Association, Edinburgh, Scotland, July 3-6th.

Devitt, C., Hennessy, H., Lyons, S., Murphy, L. and Tol, R.S.J. (2010) *The Energy and Environment Review 2010*. ESRI Research Series, No. 19. Dublin: Economic and Social Research Institute.

Dobson, A. (1990) *Green Political Thought*. Harper Collins Academic Press.

Dogan, R. (1997) *Comitology: Little procedures with big implications*. In *West European Politics* 20 (3): 31-60.

Dollard, G. (2003) *Local government finance: trends in revenue and expenditure*. In Callanan, M. and Keogan, J. (eds.) *Local Government in Ireland: Structures, Functions and Developments*. Dublin: Institute of Public Administration.

Domosh, M. (1991) *Beyond the frontiers of geographical knowledge*. *Transactions of the Institute of British Geographers, New Series*, 16 (4): 488-490.

Donegal Democrat (2010) *Leave Donegal landscape alone - wind farm objectors*. Friday, 5 February, Local News. [Online]. Available: [here](#). (Accessed: 08/01/2011).

Doty, S. and Turner, W.C. (eds.) (2009) *Energy Management Handbook*. Seventh Edition. Lilburn: The Fairmont Press.

Douglas, I. (2003) *Telling It Like It Is: The state of Irish planning*. Construct Ireland [Online]. Available: [here](#). (Accessed: 07/01/2010).

Douthwaite, R. (2004) *Wind Energy*. Localplanet.ie. [Online] Available: [here](#). (Accessed: 01/05/2008).

Douthwaite, R. [ed.] (2003) *Before the Wells Run Dry: Ireland's Transition to Renewable Energy*, Feasta in association with Lilliput Press and Green Books.

Douthwaite, R. and Healy, D. (2005) *Subsidies and Emissions of Greenhouse Gases from Fossil Fuels: A report to Comhar the National Sustainable Development Partnership On Behalf of Feasta, the Foundation for the Economics of Sustainability and Friends of the Irish Environment*. [Online] Available: [here](#). (Accessed: 20/05/2010).

Drewitt, A.L. and Langston, R.H.W. (2006) *Assessing the impacts of wind farms on birds*. In *Ibis*, 148 (1): 43-56. Special Issue: Wind, Fire and Water: birds and renewable energy.

Drexhage, J. (2008) *Climate Change and Global Governance - Which Way Ahead?* In Bernstein, S., Brunneé, J., Duff, D.G. and Green, A.J. (eds.), *A globally integrated climate policy for Canada*. Toronto: University of Toronto Press.

Drexhage, J., Murphy, D., Brown, O., Cosbey, A., Dickey, P., Parry, J.E., Van Ham, J., Tarasofsky, R. and Darkin, B. (2007) *Climate Change and Foreign Policy An exploration of options for greater integration*. © International Institute for Sustainable Development. [Online] Available: [here](#). (Accessed: 09/03/2010).

Düttmann, A.G. (2000) *Between Cultures: Tensions in the struggle for recognition*. Woodgate, K.B. (trans.). London: Verso.

- Dunn, W.N. (2007) *Public Policy Analysis: An Introduction*. New Jersey: Prentice Hall.
- Dunn, W.N. and Kelly, R.M. (eds.) (1992) *Advances in Policy Studies Since 1950*. Policy Review Annual, Volume 10. New Brunswick: Transaction Publishers.
- Dyson, M., Bergkamp, G. and Scanlon, J. (eds.) (2003) *Flow: The Essentials of Environmental Flows*. Switzerland and Cambridge: IUCN.
- Easterby-Smith, M., Thorpe, R., and Lowe, A. (eds.) (1991) *Management Research: An Introduction*. London: Sage Publication.
- Easterly, W.R. and Wetzel D.L. (1989) *Policy Determinants of Growth: Survey of Theory and Evidence*. Policy Research Working Paper Series 343. Country Economics Department, World Bank.
- Ecotricity (2008) *Ecotricity: turning electricity bills into windmills*. Ecotricity promotional material. [Online] Available: [here](#). (Accessed: 11/11/2008).
- Edsall, T.B. (1984) *The New Politics of Inequality*. New York: W.W. Norton & Company.
- EEA (2001) *Renewable energies: success stories*. European Environment Agency Environmental Issue Report No. 27. [Online] Available: [here](#). (Accessed: 15/10/2008).
- EEA (2004) Energy Subsidies in the European Union: A Brief Overview, European Environment Agency. [Online] Available: [here](#). (Accessed: 11/11/2008).
- EEA (2008) EN34 Energy Subsidies. [Online] Available: [here](#). (Accessed: 19/01/2009).
- EEA (2010) *The European environment - state and outlook 2010: synthesis*. European Environment Agency, Copenhagen.
- Egenhofer, C., Fujiwara, N., Åhman, M. and Zetterberg, L. (2006) *The EU ETS: Taking Stock and Looking Ahead*. European Climate Platform (ECP) Background Paper No. 3. [Online] Available: [here](#). (Accessed: 10/07/2010).
- Eirgrid (2005) *Transmission Forecast Statement 2005-2011*. [Online] Available: [here](#). (Accessed: 07/01/2008).
- Eirgrid (2007) *The Transmission Forecast Statement 2007-2013*. [Online] Available: [here](#). (Accessed: 07/01/2008).
- Eirgrid (2010) *All-Island Transmission Map (January 2010)*. [Online] Available: [here](#). (Accessed: 07/01/2008).
- Elcock, H. (1994) *Local Government: Policy and Management in Local Authorities*. London: Routledge.
- Eldredge, N. (1994) *The Miner's Canary: Unraveling the Mysteries of Extinction*. New Jersey: Princeton University Press.
- Elhefnawy, N. (2006) *Toward a Long-Range Energy Security Policy*. In *Parameters*, 36 (1): 101-14.

Ellerman A.D., Joskow, P.L. and Harrison, D. (2003) *Emissions Trading in the U.S.: Experience, Lessons and Considerations for Greenhouse Gases*. Prepared for the Pew Center on Global Climate Change. [Online] Available: [here](#). (Accessed: 13/06/2010).

Ellerman, A.D., Convery, F.J., de Perthuis, C. and Alberola, E. (2010) *Pricing Carbon: The European Union Emissions Trading Scheme*. Cambridge: Cambridge University Press.

Elliott, D. (1996) *Tidal Power*. In Boyle, G. (ed.), *Renewable Energy: Power for a Sustainable Future*. Toronto: The Open University.

Ellis, G., Barry, J., and Robinson, C. (2007) *Many ways to say 'no', different ways to say 'yes': applying Q-methodology to understand public acceptance of wind farm proposals*. In *Journal of Environmental Planning and Management* 50 (4): 517–551.

Ellis, G., Cowell, R., Warren, C., Strachan, P., Szarka, J., Hadwin, R., Miner, P., Wolsink, M. and Nadaï, A. (2009) *Wind Power: Is There A "Planning Problem"? Expanding Wind Power: A Problem of Planning, or of Perception? The Problems Of Planning—A Developer's Perspective Wind Farms: More Respectful and Open Debate Needed, Not Less Planning: Problem "Carrier" or Problem "Source"? "Innovative" Wind Power Planning*. *Planning Theory & Practice* 10 (4): 521-547.

Elthama, D.C., Harrison, G.P. and Allen S.J. (2008) *Change in public attitudes towards a Cornish wind farm: Implications for planning*. *Energy Policy* 36: 23-33.

Enercon (2009) *E-70 Wind Turbine factsheet*. [Online] Available: [here](#). (Accessed: 30/10/2009).

Energie-Cités (2002) *Case Study: Wind farm in Tralee, Ireland*. [Online] Available: [here](#). (Accessed: 15/04/2009).

energybulletin.net (2011) *Peak Oil Primer*. [Online] Available: [here](#). (Accessed: 17/03/2011).

energyefficiencynews.com (2010) Ireland hits 2010 target of 15% renewable electricity. 28/05/2010. [Online] Available: [here](#). (Accessed: 21/03/2011).

EREC (2009) *Renewable Energy Policy Review: Ireland*. European Renewable Energy Council. [Online] Available: [here](#). (Accessed: 08/05/2010).

ERM (1998) *Limitation and Reduction of CO2 and Other Greenhouse Gas Emissions in Ireland*. Published by the Stationary Office. Environmental Resources Management in association with Byrne O'Cléirigh & Economic and Social Research Institute for the Department of Public Enterprise and the Department of the Environment and Local Government. [Online] Available: [here](#). (Accessed: 01/04/2009).

ESRI (no date) *About ESRI*. [Online] Available: [here](#). (Accessed: 29/01/2010).

eufundings.com (2010) *Intelligent energy – Europe II 2010 work programme*. [Online] Available: [here](#). (Accessed: 11/12/2010).

EurActiv (2009) *Energy and climate change: Towards an integrated EU policy*. EurActiv Network. [Online] Available: [here](#). Published: 08 January 2009/Updated: 06 July 2009. (Accessed: 13/06/2010).

EurActiv (2011) *EU renewable energy policy*. [Online] Available: [here](#). Published: 02 August 2007 | Latest updated: 11 March 2011. (Accessed: 16/04/2011).

Europa (no date) *Glossary*. [Online] Available: [here](#). (Accessed: 10 August 2010).

European Commission (1996) *Energy for the Future: Renewable Sources Of Energy - Green Paper for a Community Strategy*. [Online] Available: [here](#). (Accessed: 01/05/2008).

European Commission (1997a) *COMMISSION COMMUNICATION relating to the methodology for analysing State aid linked to stranded costs*. Official Journal No. L 073, 14/03/1997 P. 0005. [Online] Available: [here](#). (Accessed: 05/08/2010).

European Commission (1997b) *COUNCIL DIRECTIVE 97/11/EC*. Official Journal No. L 073, 14/03/1997 P. 0005. [Online] Available: [here](#). (Accessed: 03/08/2010).

European Commission (1998) *Climate Change - Towards an EU Post-Kyoto Strategy*. Communication from the Commission to the Council and the European Parliament. COM(1998) 353 final. 3rd June. [Online] Available: [here](#). (Accessed: 01/12/2010).

European Commission (2001) *DIRECTIVE 2001/77/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market*. Official Journal No. L 283/33, 27/10/2001. [Online] Available: [here](#). (Accessed: 05/07/2008).

European Commission (2006) *GREEN PAPER, A European Strategy for Sustainable, Competitive and Secure Energy*. Brussels, 8.3.2006, COM (2006) 105 final. [Online] Available: [here](#). (Accessed: 03/08/2010).

European Commission (2007a) *Renewable Energy Road Map - Renewable energies in the 21st century: building a more sustainable future*. Brussels, 10.1.2007, COM(2006) 848 final. [Online] Available: [here](#). (Accessed: 03/08/2010).

European Commission (2007b) *The EU in the world: The foreign policy of the European Union*. © European Communities. [Online] Available: [here](#). (Accessed: 03/01/2011).

European Commission (2008a) *Proposal for a Directive of the European Parliament and the Council on the promotion of the use of energy from renewable sources*. Brussels, 23.1.200. [Online] Available at: [here](#). (Accessed: 07/03/2011).

European Commission (2008b) *Financial perspective: Europe invests in your future, Concrete benefits for the citizens*. [Online] Available at: [here](#). (Accessed: 03/08/2010).

European Commission (2010) *Europe's Energy Portal*. [Online] Available: [here](#). (Accessed: 17/05/2010).

European Commission (no date) *EU strategy and instruments for promoting renewable energy sources*. Presentation given by European Commission, DG Energy and Transport. Available: [here](#). (Accessed: 11/08/2010).

European Commission, DG-Research (2006) *The State and Prospects of European Energy Research Comparison of Commission, Member and Non-Member States – R&D Portfolios*. [Online] Available: [here](#). (Accessed: 15/08/2010).

European Competition (no date) *COMMISSION COMMUNICATION relating to the methodology for analysing State aid linked to stranded costs*. [Online] Available: [here](#). (Accessed: 10/07/2010).

European Wind Energy Technology Platform (2008) *Strategic Research Agenda: Market Deployment Strategy, FROM 2008 TO 2030*. [Online] Available: [here](#). (Accessed: 31/05/2010).

Eurostat (2010) *15 - A revised urban-rural typology*. In Eurostat regional yearbook 2010. [Online] Available: [here](#). (Accessed 01/10/2011).

Eurostat (2011) Country Profiles. [Online] Available: [here](#). (Accessed 01/10/2011).

Everett, B. (1996) *Solar Thermal Energy*. In Boyle, G. (ed.), *Renewable Energy: Power for a Sustainable Future*. Toronto: The Open University.

EWEA (2009) *Wind Energy - The Facts: A guide to the technology, economics and future of wind power*. London: Earthscan Publications.

EWEA (2010) *Legal Framework for Wind Energy*. European Wind Energy Association website. [Online] Available: [here](#). (Accessed 31/08/2010).

EWEA/Greenpeace (2005) *Windforce 12: a blueprint to achieve 12% of the world's electricity from wind power by 2020*. Global Wind Energy Council. [Online] Available: [here](#). (Accessed: 11/04/2009).

Fáilte Ireland (2008) *Visitor's Attitudes on the Environment: Wind Farms*. Survey conducted by Fáilte Ireland's Environment Unit, 2008, No.3. [Online] Available: [here](#). (Accessed: 11/12/2008).

Fairley, P. (2007) *Massive Offshore Wind Turbines Safe for Birds*. In Technology Review, MIT. [Online] Available: [here](#). (Accessed: 12/02/2007).

Farrell, K.N. (2003) *Complexity and Democratic Theory: Building a new Cosmopolis for the 21st century*. Paper submitted to A Dual International Conference on Ethics, Complexity & Organisations, London School of Economics and Political Science, 16-17 September.

Faulconbridge, J.R. and Hall, S. (2009) *Organisational geographies of power: Introduction to special issue*. In *Geoforum*, 40 (5): 785-789.

Fehily Timoney (2001) *Planning application to Kerry County Council on behalf of Tarbert Renewable Energy Ltd, Ref. 01/144*. Kerry County Council Planning Section.

Feick, J. (1992) *Comparing Comparative Policy Studies - A Path Towards Integration?* In *Journal of Public Policy*, 12 (3): 257-285.

- Fellows, A. (2000) *The Potential of Wind Energy to Reduce Carbon Dioxide Emissions*. Glasgow: Garrad Hassan.
- Fine, M. (1994) *Dis-stance and Other Stances: Negotiations of Power Inside Feminist Research*. In Gitlin, A.D. (ed.), *Power and method: political activism and educational research*, Chp1, pp 13-36. London: Routledge.
- Fischer, C. and Preonas, L. (2010) *Combining Policies for Renewable Energy: Is the Whole Less than the Sum of its Parts?* Resource for the Future Discussion Paper No. 10-19 (March 12). [Online] Available: [here](#). (Accessed: 05/08/2010).
- Fischer, F. and Forester, J. (eds.) (1993) *The Argumentative Turn in Policy Analysis and Planning*. Durham and London: Duke University Press.
- Fischman, R.M. (2004) *Democracy's Voices: Social Ties and the Quality of Public Life in Spain*. New York: Cornell University Press.
- Fisher, D.R. and Freudenburg, W.R. (2001) *Ecological Modernization and Its Critics: Assessing the Past and Looking Toward the Future*. In *Society and Natural Resources*, 14 (8): 701-709.
- Fitzgerald, J. (2011) *A Review of Irish Energy Policy*. 2010, ESRI Research Series No. 21. Dublin: ESRI. [Online] Available: [here](#). (Accessed: 27/04/2011).
- Fitzgerald, J. and Valeri, L.M. (2009) *Answer to our energy needs blowing in the wind*. In *The Irish Times*, Wednesday, December 16th. [Online] Available: [here](#). (Accessed: 05/12/2010).
- Flavin, C. (1996a) *Power Shock: The Next Energy Revolution*. *World Watch Magazine/Journal* 9 (1): 10-21.
- Flavin, C. (1996b) *Windpower: Small, But Growing Fast*. *World Watch Magazine/Journal* 9 (5): 35-37.
- Flavin, C. and Lenssen, N. (1990) *Beyond the Petroleum Age: Designing a Solar Economy*. Washington: World Watch Institute.
- Forester, J. (1993) *Critical Theory, Public Policy, and Planning Practice: Toward a Critical Pragmatism*. Albany: State University of New York Press.
- Forester, J. (1999) *The Deliberative Practitioner: Encouraging Participatory Planning Processes*. Massachusetts: The MIT Press.
- Forsythe, D. (2007) *CANAG show their solidarity*. *Cork Independent*. 25th October [Online] Available: [here](#). (Accessed: 21/03/2009).
- Fouquet, D. and Johansson, T.B. (2008) *European renewable energy policy at crossroads - Focus on electricity support mechanisms*. In *Energy Policy*, 36 (11): 4079-4092.
- Friedmann, J. (1993). *Toward a Non-Euclidian Mode of Planning*. In *Journal of the American Planning Association* 59 (4): 482-485.
- Frost, R. (1914) *Mending Wall*. In *A Boy's Will and North of Boston*, 2008 reprint. New York: Dover Publications.

- Fry, G. (2004) *Culture and Nature Versus Culture or Nature*. Chp5, p75-81. In Jongman, R.H., (ed.), *The New Dimensions of the European Landscape*. New York: Springer.
- Funtowicz, S. and Ravetz, J. (1994) *The worth of a songbird: ecological economics as a post-normal science*. *Ecological Economics* 10 (3): 197-207.
- Funtowicz, S. and Ravetz, J. (2003) *Post-Normal Science*. In *Ecological Economics Encyclopedia*, Chp3. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Gallagher, P.W., Shapouri, H., Price, J., Schameld, G. and Brubakera, H. (2003) *Some long-run effects of growing markets and renewable fuel standards on additives markets and the US ethanol industry*. In *Journal of Policy Modeling* 25 (6-7): 585-608.
- Garavan M. (2006) *Understanding the media: An interview with Mark Garavan of Shell to Sea*. On Blog - MediaBite, a shot at bias in the media, 14th October 2006. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Gardner, P., H Snodin, H., Higgins, A. and McGoldrick, S. (2003) *The Impacts of Increased Levels of Wind Penetration on the Electricity Systems of the Republic of Ireland and Northern Ireland: Final Report*. Report for Commission for Energy Regulation/OFREG NI. © Garrad Hassan and Partners Limited.
- Gargan, Q. (2009) *ESB offers 9c to micro-generators*. Boards.ie, Sustainability & Environmental Issues. [Online] Available: [here](#). (Accessed: 06/07/2009).
- Gatty, H. (1958) *Nature is Your Guide: How to find your way on land and sea by observing nature*. London: William Collins Sons & Co. Reprinted 1999 as *Finding Your Way Without Map Or Compass*. New York: Dover Publications.
- Geller, H. (2002) *Energy Revolution: Policies for a Sustainable Future*. Washington: Island Press.
- George, S. (2007) *Budgeting for the Future, Building Another Europe: European economic policies from a civil society perspective*. Rome: Sbilanciamoci! ebook. [Online] Available: [here](#). (Accessed: 10/10/2009).
- Gewessler, L. and Lottj, F. (2010) *27 National Action Plans = 1 European Energy Policy? An analysis of six National Renewable Energy Action Plans*. Belgium: Green European Foundation. [Online] Available: [here](#). (Accessed: 13/01/2011).
- Giddens, A. (1990) *The Consequences of Modernity*. Stanford: Stanford University Press.
- Giddens, A. (1991) *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford: Stanford University Press.
- Giddens, A. (2000) *Runaway World: How globalisation is reshaping our lives*. New York: Routledge.
- Giebel, G. (2007) *A Variance Analysis of the Capacity Displaced by Wind Energy in Europe*. In *Wind Energy* 10 (1): 69-79.

Gingles, R. (no date) *EU funding: Rumours of its demise are greatly exaggerated*. EU Programmes and Communications Officer with the Irish Regions Office in Brussels. Irish Examiner feature, EU in Ireland. [Online] Available: [here](#). (Accessed: 18/05/2010).

Gipe, P. (2002) *Design As If People Matter: Aesthetic Guidelines For A Wind Power Future*. In Pasqualetti, M.J., Gipe, P. and Righter, R.W. (eds.), *Wind Power In View: Energy Landscapes In A Crowded World*. San Diego: Academic Press.

Gipe, P. (2009) *Irish Minister of Energy Announces Microgeneration Net Tariff: Small Wind Included*. Wind-works.org. [Online] Available: [here](#). (Accessed: 18/05/2010).

Giulianotti, R. and Robertson, R. (2007) *Forms of Glocalization Globalization and the Migration Strategies of Scottish Football Fans in North America*. In *Sociology*, 41 (1): 133-152.

Gladwell, M. (2000) *The Tipping Point: How Little Things Can Make a Big Difference*. New York and London: Little Brown.

Glaser, B.G. and Strauss, A.L. (1967) *The discovery of grounded theory: strategies for qualitative research*. New Jersey: Aldine Transaction Publishers.

Global Wind Energy Council (no date) *European Union; Main market developments in 2009*. [Online] Available: [here](#). (Accessed: 31/05/2010).

Goldemberg, J. (2007) *Ethanol for a Sustainable Energy Future*. *Science* 315 (5813): 808-810.

Golding, E. W. (1955) *Generation of Electricity by Wind Power*. London: E & FN Spon.

Goldsmith, Z. (2009) *The Constant Economy: How to create a stable society*. London: Atlantic Books.

Gornitzka, A., Kyvik, S. and Stensaker B. (2003) *Implementation Analysis in Higher Education*. In Smart, J.C. and Tierney W.G. (eds.), *Higher Education*, Springer.

Greer, J. and Bruno, K. (1996) *Greenwash: Reality Behind Corporate Environmentalism*. New York: Apex Press.

Grubb, M., Vrolijk, C. and Brack, D. (1999) *The Kyoto Protocol: A Guide and Assessment*. London: Earthscan Publications.

Grubb, M.J. and Meyer, N.I. (1993) *Wind Energy: Resources, Systems, and Regional Strategies*. In Johansson, T. B. (ed.), *Renewable Energy: Sources for Fuels and Electricity*. Washington D.C.: Island Press.

Gubrium, J.F. and Holstein, J.A. (2001) *Handbook of Interview Research: Context & Method*. London: SAGE Publications Ltd.

Gudmundsson, H. (2005). *Mobility as a Policy Concept*. In Thomsen, T.U., Nielsen, L.D. and Gudmundsson, H. (eds.), *Social Perspectives on Mobility*, pp 107-126. Aldershot: Ashgate.

Haas, R., Meyer, N.I., Held, A., Finon, D. Lorenzoni, A., Wiser, R. and Nishio, K.-I. (2008) *Promoting Electricity from Renewable Energy Sources - Lessons Learned from*

the EU, United States, and Japan. In Sioshansi, F.P. (ed.), *Competitive Electricity Markets - Design, Implementation, Performance*. Chp12. [Online] Available: [here](#). (Accessed: 10/03/2009).

Hajer, M.A. (1995) *The Politics of Environmental Discourse: Ecological Modernisation and the Policy Process*. Oxford: The Clarendon Press.

Hall, S. (ed.) (1997) *Representation: Cultural Representations and Signifying Practices*. (Culture, Media and Identities series). London: Sage Publications Ltd

Hancock, M.D. (1983) *Comparative Public Policy: An Assessment*. In Finifter, A.W. (ed.), *Political Science: The state of the discipline II: Vol.2*, pp 283-308. Washington: American Political Science Association.

Hannigan, J.A. (1995) *Environmental Sociology: A Social Constructivist Perspective*. London & New York: Routledge.

Haraway, D. (1988) *Situated Knowledges: The science question in feminism and the privilege of partial perspective*. In *Feminist Studies*, 14 (3): 575-97.

Hardin, G. (1968) *The Tragedy of the Commons*. *Science*, 162 (3859): 1243-1248.

Harding, S. (1986) *The Science Question in Feminism*. Ithaca, New York: Cornell University Press.

Hardy, L. (2008) *Civic Engagement in EU Affairs: A Role for Local Government?* Conference paper at Political Studies Association Conference, Swansea, April, 2008.

Harper, P. (2009) *Gazprom turns off taps on Ukraine's gas supply (again)*. Far Side Stocks. [Online] Available: [here](#). (Accessed: 03/08/2010).

Harrison, D. Klevnas, P. Sorrell, S. and Radov, D. (2005) *Interaction of Greenhouse Gas Emission Allowance Trading with Green and White Certificate Schemes*. National Economic Research Associates Economic Consulting. [Online] Available: [here](#). (Accessed: 13/06/2010).

Harron, S. (2008) *Planning for Wind Energy in Donegal*. 11th December 2008. Presentation. [Online] Available: [here](#). (Accessed: 19/09/2010).

Hartmann, P. and Apaolaza Ibáñez, V. (2007) *Managing customer loyalty in liberalized residential energy markets: The impact of energy branding*. *Energy Policy* 35 (4): 2661–2672.

Harvey, D. (1990) *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford: Wiley-Blackwell.

Harvey, D. (2005) *A Brief History of Neoliberalism*. Oxford: Oxford University Press.

Harvey, L.D.D. (2010) *Energy and the New Reality 1 - Energy Efficiency and the Demand for Energy Services*. London: Earthscan Publications.

Hauff, V. (2007) *Brundtland Report: A 20 Years Update*. Key note speech for the meeting organised by the Belgian Federal Council for Sustainable Development, Egmont Palais Brussels, October 17th. [Online] Available: [here](#). (Accessed: 19/04/211).

- Haverty, A. (1982) *Windmills and other inventions - the hostile climate in Ireland*. In Politico, Tuesday, 01 June. [Online] Available: [here](#). (Accessed: 19/04/211).
- Hayer, M. (1996) *Ecological Modernisation as Cultural Politics*. In Lash, S., Szerszynski, B. and Wynne, B. (eds.), *Risk, Environment and Modernity: Towards a New Ecology*. London: SAGE Publications Ltd.
- Healey, P. (1993) *Planning Through Debate: The Communicative Turn in Planning Theory*. In Fischer, F. and Forester, J. (eds.), *The Argumentative Turn in Policy Analysis and Planning*. Durham and London: Duke University Press.
- Healey, P. (1996) *The communicative turn in planning theory and its implications for spatial strategy formations*. In *Environment and Planning B: Planning and Design*, 23 (2): 217-234.
- Healey, P. (1997) *Collaborative Planning: Shaping Places in Fragmented Societies*. London: MacMillan.
- Healey, P. (1998) *Building institutional capacity through collaborative approaches to urban planning*. In *Environment and Planning A*, 30 (9): 1531-1546.
- Healey, P. (2008) *Civic Engagement, Spatial Planning and Democracy as a Way of Life*. *Planning Theory & Practice*, 9 (3): 379-414.
- Heaney, S. (1966) *Storm on the Island*. In *Death of a Naturalist*. London: F&F.
- Heinberg, R. (2004) *Power Down: Options and Actions for a Post-Carbon World*. British Columbia: New Society Publishers.
- Hesse, J.J. and Sharpe, L.J. (1991) *Local Government in International Perspective: Some Comparative Observations*. In Hesse, J.J. (ed.), *Local government and urban affairs in international perspective: analyses of twenty Western industrialised countries*. Baden-Baden: Nomos Verlagsgesellschaft.
- Hickey, D. (2009) *FF councillor pleads guilty to breaching zoning ethics legislation*. In *Irish Examiner*, Friday, 13 March.
- Hill, J., Nelson, E., Tilman, D., Polasky, S. and Tiffany, D. (2006) *Environmental, economic, and energetic costs and benefits of biodiesel and ethanol biofuels*. In *Proceedings of the National Academy of Sciences*, 103 (30): 11206-11210.
- Hinchliffe, S. (2003) *'Inhabiting' - Landscapes and Natures*. In Anderson, K., Domosh, M., Pile, S. and Thrift, N. (eds.), *Handbook of Cultural Geography*. London: SAGE Publications Ltd.
- Hirsch, E. (1995) *Landscape: Between Place and Space*. In Hirsch, E. and O'Hanlon, M. (eds.), *The Anthropology of Landscape: Perspectives on place and space*. Oxford: Oxford University Press.
- Hirschheim, R.A. (1992). *Information Systems Epistemology: An Historical Perspective*. In R. Galliers (Ed.), *Information Systems Research: Issues, Methods and Practical Guidelines*, pp 28-60. London: Blackwell Scientific Publications.

- Hochman, G., Sexton, S. and Zilberman, D. (2010) *Food and Biofuel in a Global Environment*. In Handbook Of Bioenergy Economics And Policy. Part of Natural Resource Management and Policy series. 33 (4): 267-286. New York: Springer.
- Hoekman, S.K. (2008) *Biofuels in the U.S. – Challenges and Opportunities*. In Renewable Energy 34 (1): 14-22.
- Hoffman, S. (1982) *Reflections on the Nation-State in Western Europe Today*. In Journal of Market Studies, 21 (1): 21-38.
- Hogan, T. (2004a) *Bird of prey harries massive €74m wind farm out of the sky*. Irish Independent, National News, Tuesday, June 01, 2004. [Online] Available: [here](#). (Accessed: 01/11/2008).
- Hogan, T. (2004b) *Urban sprawl is 'devastating' rural landscapes*. In Irish Independent, National News, Thursday, November 18, 2004. [Online] Available: [here](#). (Accessed: 03/11/2008).
- Hogan, T. (2006) *Environment is being ruined by wind farms*. In Irish Independent, National News, Thursday, 05 October, 2006. [Online] Available: [here](#). (Accessed: 03/11/2008).
- Hoggan, J. and Littlemore, R.D. (2009) *Climate Cover-Up: The Crusade to Deny Global Warming*. Vancouver: Greystone Books.
- Hohmeyer, O. (1988) *Social Costs of Energy Consumption: External Effects of Electricity Generation in the Federal Republic of Germany*. Berlin: Springer-Verlag.
- Holden, L. (2001) *Taboos: Structure and Rebellion*. In Monograph Series No. 41. The Institute for Cultural Research.
- Hood, C. (1998) *The Art of the State: Culture, rhetoric, and public management*. Oxford: Oxford University Press.
- Hooghes, L. and Marks, G. (2001) *Types of Multi-Level Governance*. In European Integration online Papers (EloP), 5 (11): 1-32. [Online] Available: [here](#). (Accessed: 11/04/2011).
- Hoogwijk, M. (2004) *On the global and regional potential of renewable energy sources*. Utrecht University. [Online] Available: [here](#). (Accessed: 13/06/2009).
- Hoogwijk, M., de Vries, H.J.M., Turkenburg, W.C. (2004) *Assessment of the global and regional geographical, technical and economic potential of onshore wind energy*. In Energy Economics 26 (5): 889–919.
- Hoogwijk, M., van Vuuren, D., de Vries, H.J.M., Turkenburg, W.C. (2006) *Exploring the impact on cost and electricity production of high penetration levels of intermittent electricity on OECD Europe and the USA*. In Energy 32 (8): 1381-1402.
- Hopkins, P.E. (2007) *Positionalities and Knowledge: Negotiating Ethics in Practice*. In ACME: An International E-Journal for Critical Geographies, 6 (3): 386-394.
- Hoppe, R. and Jeliakov, M. (2006) *How Policy Workers Define Their Job: A Netherlands Case Study*. In Colebatch, H.K. (ed.), The Work of Policy: An International Survey. Oxford: Lexington Books.

- Hoppe-Kilpper M. and Steinhauser, U. (2002) *Wind Landscape in the German Milieu*. In Pasqualetti, M.J., Gipe, P. and Richter R.W. (eds.), *Wind Power in View: Energy Landscapes in a Crowded World*. London: Academic Press.
- HöPpner, C., Frick, J. and Buchecker, M. (2008) 'What Drives People's Willingness to Discuss Local Landscape Development?' In *Landscape Research*, 33 (5): 605-622.
- Hornborg, A. (2001) *The Power of the Machine: Global Inequalities of Economy, Technology, and Environment*. California: AltaMira Press.
- Howlett, M. and Ramesh, M. (2003) *Studying Public Policy: Policy Cycles and Policy Subsystems*. Oxford: Oxford University Press.
- Howley M., Ó Gallachóir B.P., Dennehy E. and O'Leary, F. (2008) *Renewable Energy in Ireland 2008 Report - Focus on Wind and Biofuels*. Presentation at Report Launch, Nov 12 2008, Dublin.
- Howley, M., Dennehy, E. and Ó Gallachóir (2010) *Energy in Ireland 1990–2009*. SEAI, Energy Policy Statistical Support Unit, Dublin, Ireland.
- Howley, M., Ó Gallachóir, B. And Dennehy, E. (2008) *Energy in Ireland 1990–2007*. SEI, Energy Policy Statistical Support Unit, Dublin, Ireland.
- Howley, M., Ó Gallachóir, B. and Dennehy, E. (2009) *Energy in Ireland 1990–2008*. SEI, Energy Policy Statistical Support Unit, Dublin, Ireland.
- Howley, M., Ó Gallachóir, B., Barriscale, A. and O'Rourke, K. (2003) *Profiling Energy Consumption and CO2 Emissions in Industry – Sensitivity to Carbon Taxation and Emissions Trading*. Sustainable Energy Ireland, Dublin, Ireland.
- Howley, M., O'Leary, F. and Ó Gallachóir, B. (2007) *Energy in Ireland 1990–2006*. SEI, Energy Policy Statistical Support Unit, Dublin, Ireland.
- Hubbert, M.K. (1956) *Nuclear Energy and the Fossil Fuels*. In *Drilling and Production Practice*, American Petroleum Institute.
- Hughes, E. (1999) *Policies and Priorities for Ireland's Landscape*. Conference Paper No.8, Policies and Priorities for Ireland's Landscape: The Heritage Council, Tullamore, Ireland, 49-52, April 1999.
- Hughes, J.A., O'Brien, J., Rodden, T. and Rouncefield, M. (2000) *Ethnography, communication and support for design*. In Luff, P., Hindmarsh, J., & Heath, C. (eds.), *Workplace Studies: Recovering work practice and informing system design*. Cambridge: Cambridge University Press.
- Hulme, M. (2007) *The appliance of science*. In *The Guardian*, Wednesday, 14 March, 2007. [Online] Available: [here](#). (Accessed: 5/05/2009).
- Humphrey, M. (2007) *Ecological Politics and Democratic Theory: The challenge to the deliberative ideal*. London: Routledge.
- Hunt, S.D. (1991) *Positivism and Paradigm Dominance in Consumer Research: Toward Critical Pluralism and Rapprochement*. In *Journal of Consumer Research*, 18 (1): 32-44.

- IEC (2000) *Financing Renewables: the energy of the future*. Energy Show 2000 workshop proceedings, Wednesday 17 May. Irish Energy Centre with support from the ALTENER programme. [Online] Available: [here](#). (Accessed: 31/05/2010).
- Inforce-Europe (no date; a) *Structural Funds: Wind Power* [Online] Available: [here](#). (Accessed: 12/04/2010).
- Inforce-Europe (no date; b) *What are the EU Structural Funds (SF)?* [Online] Available: [here](#). (Accessed: 31/05/2010).
- Infose-Europe (no date; c) *EU Energy Policy: - Intelligent Energy for Europe*. Available: [here](#). (Accessed: 31/05/2010).
- Inglis, F. (1977) *Nation and community: a landscape and its morality*. In *Universities Quarterly*, 30 (4): 444-61.
- Ingold, T. (2000) *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*. Taylor & Francis Ltd.
- Ingold, T. (2008) *Earth, sky, wind, and weather*. In Hsu, E. and Low, C. (eds.), *Wind, Life, Health*. Oxford: Blackwell.
- Innes, J. and Booher, D. (2004) *Reframing public participation: strategies for the 21st Century*, *Planning Theory & Practice* 5 (4): 419-436.
- Innes, J. and Booher, D. (2010) *Planning with Complexity: An Introduction to Collaborative Rationality for Public Policy*. Oxon & New York: Routledge.
- Institutional Investors Group on Climate Change (2010) *Shifting Private Capital To Low Carbon Investment: An IIGCC Position on EU Climate and Energy Policy*. [Online] Available: [here](#). (Accessed: 17/04/2011).
- International Energy Agency (2004) *Renewable Energy: Market Policy and Trends in IEA Countries*. © OECD/IEA, 2004. [Online] Available: [here](#). (Accessed: 01/03/2009).
- International Energy Agency (2010) *World Energy Outlook 2010*. © OECD/IEA, 2010.
- Inwood, B. and Gerson, L.P. (eds. and trans.) (1994) *The Epicurus Reader: Selected Writings and Testimonia*. Cambridge: Hackett Publishing.
- Ireland. DCENR, Department of Communications, Energy and Natural Resources (2008a) *All Island Electricity Grid Study: Study Overview*. [Online] Available: [here](#). (Accessed: 04/01/2009). Dublin, Ireland.
- Ireland. DCENR, Department of Communications, Energy and Natural Resources (2008b) *All Island Electricity Grid Study: Workstream 1, Renewable Energy Resource Assessment*. [Online] Available: [here](#). (Accessed: 04/01/2009). Dublin, Ireland.
- Ireland. DEHLG, Department of Environment, Heritage and Local Government (no date) *Division of Responsibility between the Manager and Elected Council*. [Online] Available: [here](#). (Accessed: 27/04/2011). Dublin, Ireland.
- Ireland. DEHLG, Department of Environment, Heritage and Local Government (1996) *Wind Energy Development Guidelines*. Irish Government, DOEHLG Publications. [Online] Available: [here](#). (Accessed: 01/11/2007). Dublin, Ireland.

Ireland. DEHLG, Department of Environment, Heritage and Local Government (2000) *Landscape and Landscape Assessment, Consultation Draft of Guidelines for Planning Authorities*. Dublin, Ireland.

Ireland. DEHLG, Department of the Environment, Heritage and Local Government (2004) *Wind Energy Development DRAFT* (July 2004). Dublin, Ireland.

Ireland. Department of Communications, Energy and Natural Resources (2010) *National Renewable Energy Action Plan IRELAND: Submitted under Article 4 of Directive 2009/28/EC*. [Online] Available: [here](#). (Accessed: 01/03/2011).

Ireland. Department of Communications, Marine and Natural Resources (2003) *Operational Programme For Economic Infrastructure 1994 - 1999, Ireland, Final Report*. Original print 17-02-03; Updated 26 March 2003. [Online] Available: [here](#). (Accessed: 08/05/2010). Dublin, Ireland.

Ireland. Department of the Taoiseach (2011) *Statement of Common Purpose*. Dublin, Ireland. [Online] Available: [here](#). (Accessed: 04/11/2011). Dublin, Ireland.

Irish Examiner (2007) *Windfarms interfering with RTE reception*. Irish Examiner Opinion 30th April, 2007. [Online] Available: [here](#). (Accessed: 13/12/2007).

Irish Independent (2006) *A growing Irish protest*. In Irish Independent, Analysis, Saturday, 12 August, 2006. [Online] Available: [here](#). (Accessed: 13/12/2007).

Irish Regions Office (no date) *Regions of Ireland: Regional Authorities*. [Online] Available: [here](#). (Accessed: 11/11/2009).

IWEA (2007) *Wind to exceed 1000MW by year end*. Irish Wind energy Association. [Online] Available: [here](#). (Accessed: 21/12/2007).

IWEA (2010) *Current Issues*. [Online] Available: [here](#). (Accessed: 31/05/2010).

IWEA (2011) *County Wind Map*. [Online] Available: [here](#). (Accessed: 31/03/2011).

Jacobsson, S. and Lauber, V. (2005) *Germany: From a Modest Feed-in Law to a Framework for Transition*. In Lauber, V. (ed.), *Switching to renewable power: a framework for the 21st century*. Chp 6, 122-158. London: Earthscan Publications Limited.

Jacobsson, S., Bergek, A., Finon, D., Lauber, V., Mitchell, C., Toke, D. and Verbruggen, A (2009) *EU renewable energy support policy: Faith or facts?* In *Energy Policy* 37 (6): 2143–2146.

Jansen, J.C. (2003) *Policy Support for Renewable Energy in the European Union: A review of the regulatory framework and suggestions for adjustment*. Report on 'Renewable Energy Trends' under ECN project number 7.7448. [Online] Available: [here](#). (Accessed: 31/01/2010).

Jauhiainen, J.S. (2006) *In Post-modern Technologised Landscapes*. In Terkenli, T.S. and d'Hauteserre, A. (eds.), *Landscapes of a new cultural economy of space*. Springer.

Jenkins, J.C. and Klandermasn, B. (eds.) (1995) *The Politics of Social Protest: Comparative Perspectives on States and Social Movements*. London: UCL Press.

- Jenkins, W. (1978) *Policy Analysis: A Political and Organizational Perspective*. New York: St. Martin's Press.
- Jensen, K.B. and Jankowski, N.W. (1991) *A Handbook of Qualitative Methodologies for Mass Communication Research*. New York: Routledge.
- Jessop, B. (2003) *The Governance of Complexity and the Complexity of Governance: Preliminary Remarks on some Problems and Limits of Economic Guidance*. [Online] Available: [here](#). (Accessed: 09/03/2011).
- Jobert, A., Laborgneb, P. and Mimler, S. (2007) *Local acceptance of wind energy: Factors of success identified in French and German case studies*. In *Energy Policy* 35 (5): 2751–2760.
- Joerges, C. and Neyer, J. (1997) *From Intergovernmental Bargaining to Deliberative Political Processes: The Constitutionalisation of Comitology*. In *European Law Journal*, 3 (3): 273–299.
- Joerges, C. and Vos, E. (eds.) (1999) *EU Committees: Social Regulation, Law and Politics*. Oxford: Hart Publishing.
- Johansson, M. and Laike, T. (2007) *Intention To Respond To Local Wind Turbines: The Role of Attitudes and Visual Perception*. In *Wind Energy* 10 (5): 435-451.
- Johansson, T. B., Kelly, H., Reddy, A. K. N., and Williams, R. H. (1993) *Renewable Fuels and Electricity for a Growing World Economy: Defining and Achieving the Potential*. In *Energy Studies Review* 4 (3): 201-212. [Online] Available: [here](#). (Accessed: 13/05/2010).
- John, G. and Reve, T. (1982) *The Reliability and Validity of Key Informant Data from Dyadic Relationships in Marketing Channels*. In *Journal of Marketing Research* 19 (4): 517-524. Special Issue on Causal Modeling.
- Johnson, J.M. (2001) *In-Depth Interviewing*. In Gubrium, J.F. and Holstein, J.A. (eds.), *Handbook of Interview Research: Context & Method*, Chp5, London: SAGE Publications Ltd.
- Johnston, R.J. and Taylor, P.J. (1995) *Geographies of Global Change: Remapping the World in the Late Twentieth Century*. Oxford: Blackwell Publishers.
- Johnston, R.J., Taylor, P.J. and Watts, M.J. (eds.) (1995) *Geographies of Global Change: Remapping the world in the late twentieth century*. Oxford: Blackwell Publishers.
- Joint Steering Group (2004) *All-Island Energy Market: A Development Framework*. [Online] Available: [here](#). (Accessed: 22/01/2011).
- Jolly, L. (2001) *The Commercial Viability of Fuel Ethanol from Sugar Cane*. In *International Sugar Journal*, 103 (1227): 117-25.
- Jones, M. (2009) *Phase space: geography, relational thinking, and beyond*. In *Progress in Human Geography*, 33 (4): 487-506.
- Jongman, R.H. (ed.) (2004) *The New Dimensions of the European Landscape*. New York: Springer.

- Jorgensen, D.L. (1989) *Participant Observation: A methodology for human studies*. Applied Social Research Methods Series, Volume 15. Thousand Oaks: Sage.
- Junginger, M., Faaij, A., Turkenburg, W. (2005) *Global experience curves for wind farms*. *Energy Policy* 33 (2): 133–150.
- Kaldor, M., Karl, T.L. and Said, Y. (eds.) (2007) *Oil Wars*. London: Pluto Press.
- Kalt, J.P. and Zupan, M.A. (1990) *The Apparent Ideological Behavior of Legislators: Testing for Principal-Agent Slack in Political Institutions*. In *Journal of Law & Economics*, 33 (1): 103-131.
- Kaltschmitt, M., Streicher, W. and Wiese, A. (eds.) (2007) *Renewable Energy: Technology, Economics and Environment*. Berlin: Springer.
- Kathlene, L. and Martin J.A. (1991) *Enhancing citizen participation: Panel designs, perspectives, and policy formation*. In *Journal of Policy Analysis and Management*, 10 (1): 46–63.
- Kearney, R. (2006) *Navigations: Collected Irish Essays 1976-2006*. Dublin: Lilliput.
- Kennedy, K. and Moore, M. (2003) *Going the Distance: Why Some Companies Dominate and Others Fail*. New Jersey: Financial Times/Prentice Hall.
- Kerry County Council (2007) *Request Letter 20/08/2007*.
- Kerry County Council (2009) *County Development Plan 2009-2015*. [Online] Available: [here](#). (Accessed: 21/09/2009).
- Keyhani, A., Marwali, M.N. and Dai, M. (2010) *Integration of Green and Renewable Energy in Electric Power Systems*. Hoboken: Wiley.
- Keyzer, M.A., Merbis, M.D. and Voortman, R.L. (2008) *The Biofuel Controversy*. In special issue: "Measuring the Economic Effects of Competition Law Enforcement". *De Economist* 156 (4): 507-527. [Online] Available: [here](#). (Accessed: 05/12/2008).
- Khondker, H.H. (2004) *Glocalization as Globalization: Evolution of a Sociological Concept*. In *Bangladesh e-Journal of Sociology*, 1 (2): 1-9.
- Kim, Y.-C. and Ball-Rokeach, S. J. (2006) *Civic Engagement From a Communication Infrastructure Perspective*. In *Communication Theory*, 16 (2): 173–197.
- Kissane, B. (2002) *Explaining Irish Democracy*. Dublin: University College Dublin Press.
- Kitzinger, J. (1994) *The methodology of Focus Groups: the importance of interaction between research participants*. In *Sociology of Health & Illness*, 16 (1): 103–121.
- Kitzinger, J. (1995) *Qualitative Research: Introducing focus groups*. In *British Medical Journal*, 311 (7000): 299-302.
- Kjaer, A.M. (2004) *Governance: Key Concepts*. Cambridge: Polity Press.
- Kjellberg, F. (1977) *Do Policies (Really) Determine Politics?* In *Policy Studies Journal* 5 (s1): 554–570. Special Issue.

- Klein, A., Merkel, E., Pfluger, B., Held, A., Mario Ragwitz, M., Resch, G. and Busch, S. (2006/2010) *Evaluation of different feed-in tariff design options – Best practice paper for the International Feed-In Cooperation*. 3rd edition, update by December 2010. EEG and Fraunhofer.
- Klemperer, P. (2010) *What is the top priority on climate change?* In Schellnhuber, H.-J., Molina, M.J., Stern, N., Huber, V., and Kadner, S. (eds.), *Global Sustainability: A Nobel Cause*. Cambridge and New York: Cambridge University Press. Online open access version available: [here](#). (Accessed: 27/01/2011).
- Klosterman, R.E. (2003) *Arguments for and Against Planning*. In Campbell, S. and Fainstein S.S. (eds.), *Readings in Planning Theory*, Chp4. Oxford: Blackwell.
- Kobos, P.H., Erickson, J.D., Drennen, T.E. (2005) *Technological learning and renewable energy costs; implications for US renewable energy policy*. *Energy Policy* 34 (13): 1645–1658.
- Kocieniewski, D. (2010) *As Oil Industry Fights a Tax, It Reaps Subsidies*. The New York Times, [Online] Available: [here](#). Published: July 3, 2010. (Accessed: 15/08/2010).
- Kolesas, M. (1998) *The Making of Citizenship in Argentinian Local Politics: Between Municipalization and Municipalism*. In *International Political Science Review*, 19 (2): 131-146.
- Kolstad, C.D. (2000) *Spatial Environmental and Resource Economics: Selected Essays of Charles D. Kolstad*. New Horizons in Environmental Economics Series. Cheltenham: Edward Elgar Publishing.
- Koning, N. & Mol, A.P.J. (2009) *Wanted: institutions for balancing global food and energy markets*. In *Food Security*, 1 (3): 291-303.
- Kooiman, J. (ed.) (1993) *Modern Governance: New government-society interactions*. London: SAGE Publications Ltd.
- Kovacevic, A. (2009) *The Impact of the Russia–Ukraine Gas Crisis in South Eastern Europe*. Oxford Institute for Energy Studies. [Online] Available: [here](#). (Accessed: 03/08/2010).
- Krauss, W. (2010) *The ‘Dingpolitik’ of Wind Energy in Northern German Landscapes: An Ethnographic Case Study*. In *Landscape Research* 35 (2): 195-208. Special Issue: Landscapes of Energies
- Kübler, D. (1999) *Beyond Nimbyism: Urban Conflict Resolution in Swiss Drug Policies*. Chp3, 43-65. In Khan, U. (ed.), *Participation beyond the ballot box: European case studies in state-citizen Political Dialogue*. London: UCL Press.
- Kumar, N., Stern, L.W. and Anderson, J.C. (1993) *Conducting Interorganizational Research Using Key Informants*. In *The Academy of Management Journal* 36 (6): 1633-1651.
- Kunstler, J.H. (1993) *The Geography of Nowhere: The rise and decline of America’s man-made landscape*. New York: Touchstone.

- Kunstler, J.H. (2005) *The Long Emergency: Surviving the converging catastrophes of the 21st Century*. London: Atlantic Books.
- Kunzig, R. and Broecker, W. (2008) *Fixing Climate: The story of climate science – and how to stop global warming*. Green Profile in association with Sort of Books.
- Kvale, S. (1996) *InterViews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks, CA: Sage Publications.
- Lafferty, W. and Hovden, E. (2003) *Environmental policy integration: towards an analytical framework*. *Environmental Politics* 12 (3): 1-22.
- Lasswell, H.D. (1956) *The Decision Process: Seven Categories of Functional Analysis*. Maryland: University of Maryland Press.
- Latour, B. (1987) *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press.
- Latour, B. (1988) *The Pasteurization of France*. Cambridge, MA: Harvard University Press.
- Latour, B. (1999) *On Recalling ANT*. In Law, J. and Hassard, J. (eds.), *Actor Network Theory and After*. Malden, MA: Blackwell.
- Lauber, V. (2004) *REFIT and RPS: options for a harmonised Community framework*. In *Energy Policy*, 32 (12): 1405-1414.
- Lauber, V. (2005a) *Renewable Energy at the level of the European Union*. In Reiche, D. and Bechberger, M. (eds.), *Handbook of Renewable Energies in the European Union: Case Studies of the Eu-15 States*. Chp 2, pp 39-53. Frankfurt: Peter Lang Publishing.
- Lauber, V. (2005b) *The Politics Of European Union Policy On Support Schemes For Electricity From Renewable Energy Sources*. In Windworks.org, *Renewable Tariffs (General Articles)*. [Online] Available: [here](#). (Accessed: 29/07/2010).
- Lauber, V. (ed.) (2005c) *Switching to renewable power: a framework for the 21st century*. London: Earthscan Publications Limited.
- Laurier, E. (2003) *Participant Observation*. In Clifford, N.J. and Valentine, G. (eds.) *Key Methods in Geography*, Chp9, pp 133-149. London: SAGE Publications Ltd.
- Law, J. (1992) *Notes on the Theory of Actor-Network: Ordering, Strategy and Heterogeneity*. In *Systems Practice* 5 (4): 379–93.
- Law, J. (1999) *After ANT: Complexity, Naming, and Topology*. In Law, J. and Hassard, J. (eds.), *Actor Network Theory and After*. Malden, MA: Blackwell.
- Leach, M., Scoones, I. and Stirling, A. (2010) *Dynamic Sustainabilities: Technology, Environment, Social Justice*. London: Earthscan.
- Lefebvre, H. (1974) *The Production of Space*. Nicholson-Smith, D. (trans.) Oxford: Blackwell Publishing.
- Lefebvre, H. (1995) *Introduction to Modernity: Twelve Preludes September 1959 – May 1961*. Moore, J. (trans.). London: Verso.

- Lefebvre, H. (2009) *State, Space, World: selected essays*. Brenner, N. and Elden, S. (eds.), Moore, G., Brenner, N. and Elden, S. (trans.). Minneapolis: University of Minnesota Press.
- Leggett, J. (2005) *Half Gone: Oil, Gas, Hot Air and the Global Energy Crisis*. London: Portobello Books.
- Leighninger, M. (2006) *The Next Form of Democracy: How Expert Rule Is Giving Way to Shared Governance - And Why Politics Will Never Be the Same*. Nashville: Vanderbilt University Press.
- Lilley, K. (2004) *Denis Cosgrove*. In Hubbard, P., Kitchin, R. and Valentine, G. (eds.), *Key Thinkers on Space and Place*. London: SAGE Publications Ltd.
- Local Government Act (2001) *Executive functions*, Part 12, Chapter 1, Section 149, 4. [Online] Available: [here](#). (Accessed: 13/05/2011).
- Löfstedt, R.E. (2005) *Risk Management in Post-Trust Societies*. London & Sterling: Earthscan.
- Longhurst, R. (2003) *Semi-structured Interviews and focus Groups*. In Clifford, N.J. and Valentine, G. (eds.) *Key Methods in Geography*. Chp8, 117-132. London: SAGE Publications Ltd.
- Lorenz, E.N. (1963) *Deterministic Nonperiodic Flow*. In *Journal of Atmospheric Sciences*, 20 (2): 130–141.
- Lorenz, E.N. (1972a) *Low order models representing realizations of turbulence*. In *Journal of Fluid Mechanics*, 55 (3): 545-563.
- Lorenz, E.N. (1972b) *Predictability: Does the Flap of a Butterfly's Wings in Brazil set off a Tornado in Texas?* Paper given to AAS Section on Environmental Sciences New Approaches to Global Weather: GARP (The Global Atmospheric Research Program). Massachusetts Institute of Technology.
- Lovell, H., Bulkeley, H. and Owens, S. (2009) *Converging agendas? Energy and climate change policies in the UK*. In *Environment and Planning C: Government and Policy* 27 (1): 90–109.
- Lovelock, J. (2006) *The Revenge of Gaia: Why the Earth is fighting back and how we can still save humanity*. London: Penguin Books.
- Low, C. and Hsu, E. (2008) *Introduction*. In Hsu, E. and Low, C. (eds.) *Wind, Life, Health*. Oxford: Blackwell.
- Lowe, P. and Ward, N. (2007) *Sustainable rural economies: Some lessons from the English experience*. In *Sustainable Development* 15 (5): 307-17.
- Lowi, T.J. (1972) *Four Systems of Policy, Politics and Choice*. In *Public Administration Review*, 32 (4): 289-310.
- Lucey, A. (2009) *Dismay at plan to cut staff at Tarbert power station*. In *The Irish Times*, 5th December. [Online] Available: [here](#). (Accessed: 05/12/2009).
- Lucey, A. (2010a) *Councillors welcome new Tarbert power plant*. In *The Irish Times*, 2nd March. [Online] Available: [here](#). (Accessed: 05/12/2010).

- Lucey, A. (2010b) *Approval for new power plant in Tarbert*. In The Irish Times, 31st December. [Online] Available: [here](#). (Accessed: 31/12/2010).
- Lucey, A. (2011) Rare sea eagle killed by wind turbine. In The Irish Times, 4th April. [Online] Available: [here](#). (Accessed: 04/04/2011).
- Lucretius (50 B.C.E.) *De Rerum Natura (On the Nature of Things)*. Leonard, W.E. (trans.) Book II: 319-28. [Online] Available: [here](#). (Accessed: 07/10/2010).
- Lukes, S. (1974/2005) *Power: A Radical View*. Basingstoke: Palgrave Macmillan.
- Lund, H. (2010) *Renewable Energy Systems: The Choice and Modeling of 100% Renewable Solutions*. Amsterdam: Academic Press.
- Lund, P.D. (2007) *Upfront resource requirements for large-scale exploitation schemes of new renewable technologies*. In Renewable Energy 32 (3): 442–458.
- Lynas, M. (2007) *Six Degrees: Our future on a hotter planet*. London: Harper Perennial.
- Maalouf, A. (2000) *On Identity*. Bray, B. (trans.). London: The Harvill Press.
- Macalister, T. (2010) *Wind-power lobby warns of tariff 'Trojan horse': Wider subsidies pose risk to renewables, claim firms as Tories, green activists and Ofgem review scheme*. The Guardian, Thursday 1 April 2010. [Online] Available: [here](#). (Accessed: 10/05/2010).
- MacCallum, D. (2008) *Participatory Planning and Means-Ends Rationality: A Translation Problem*. Planning Theory & Practice, 9 (3): 325-343.
- Macherey, P. (1998) *In a Materialist Way: selected essays*. Montag, W. (ed.), Stolze, T. (trans.). London: Verso.
- Maciocco, G. and Tagliagambe, S. (2009) *The Local-Supralocal Relationship*. In People and Space: New Forms of Interaction in the City Project (Urban and Landscape Perspectives). Dordrecht: Springer.
- Macpherson, H. (2006) *Landscape's ocular-centrism – and beyond?* In Tress, B., Tress, G., Fry, G. and Opdam, P. (eds.), From Landscape Research to Landscape Planning: aspects of integration, education and application. Dordrecht: Springer.
- Madders, M. and Whitfield, D.P. (2006) *Map of bird sensitivities to wind farms in Scotland: A tool to aid planning and conservation Upland raptors and the assessment of wind farm impacts*. In Ibis, 148 (1): 43-56. Special Issue: Wind, Fire and Water: birds and renewable energy.
- Mandelbaum, S.J. (2006) *In Defense of Armchair Theorizing*. In Planning Theory, 5 (2): 203-207.
- Manderscheid, K. (2009) *Unequal Mobilities*. In Ohnmacht, T., Maksim, H., and Max Bergman, M. (eds.), Mobilities and Inequality, Farnham: Ashgate.
- Market Observatory for Energy (2009) *Europe's energy position – markets & supply*. This publication is based on the Commission Staff Working Document '2009 Annual Report of the Market Observatory for Energy', SEC (2009) 1734 of 21 December 2009. [Online] Available: [here](#). (Accessed: 05/08/2010).

- Marks, G. and Hooghes, L. (2004) *Contrasting Visions of Multi-Level Governance*. In Bache, I. and Flinders, M. (eds.), *Multi-Level Governance: Interdisciplinary Perspectives*. Oxford: Oxford University Press.
- Marsh, M., Sinnott, R., Garry, J. and Kennedy, F. (2008) *The Irish Voter: the nature of electoral competition in the Republic of Ireland*. Manchester: Manchester University Press.
- Martin, M. (2011) *Election 2011: Party Leader Phone-In*. On Today with Pat Kenny RTÉ Radio One, 22 February.
- Maruyama, Y., Nishikido and M. and Iida, T. (2007) *The rise of community wind power in Japan: Enhanced acceptance through social innovation*. *Energy Policy* 35 (5): 2761-2769.
- Mauil, H.S. (2011) *World Politics in Turbulence*. In *Internationale Politik und Gesellschaft*, 1: 11-25.
- Mayntz, R. (2006) *From government to governance: Political steering in modern societies*. In Scheer, D. and Rubik, F. (eds.), *Governance of Integrated Product Policy*. Sheffield: Greenleaf Publishing.
- Mbamara, O.O. (2002) *The Order of Things*. In *Poems of Life*. San Francisco: Watermark Press.
- McCall, G. J. and Simmons, J. L. (1969) *Issues in Participant Observation: A text and reader*. London: Addison-Wesley.
- McCright, A.M. and Dunlap, R.E. (2003) *Defeating Kyoto: The Conservative Movement's Impact on U.S. Climate Change Policy*. In *Social Problems*, 50 (3): 348-373.
- McDonagh, J., Varley, T. and Shortall, S. (2009) *A Living Countryside? The Politics of Sustainable Development in Rural Ireland*. Perspectives on Rural Policy and Planning Series. Farnham: Ashgate Publishing Ltd.
- McDonald, F. (2011) *Oil prices to keep rising as peak production reached in 2006*. In *The Irish Times*, Friday, 29 April.
- McIntosh, A. (2008) *Hell and High Water: Climate change, hope and the human condition*. Edinburgh: Birlinn.
- McKenzie Hedger, M. (1995) *Wind power: challenges to planning policy in the UK*. In *Land Use Policy* 12 (1): 17-28.
- McKibben, B. (1989) *The End of Nature*. New York: Random House.
- McKibbin, W.J. and Wilcoxon, P.J. (2002) *The Role of Economics in Climate Change Policy*. *The Journal of Economic Perspectives* 16 (2): 107-129.
- McLaren Loring, J. (2006) *Wind Energy Planning in England, Wales and Denmark: Factors Influencing Project Success*. In *Energy Policy*, 35 (4): 2648-2660.
- McManus, M. (1993) *The Republic Of Ireland*. In Chandler, J.A. (ed.), *Local government in liberal democracies: an introductory survey*. London: Routledge.

- McMillan, E. (2006) *Complexity, Organizations and Change: An Essential Introduction*. Routledge Studies on Complexity in Management. London: Routledge.
- McNay, L. (2003) *Out of the Orrery? Situating language*. Journal of Political Ideologies, 8 (2): 139-156.
- Mecer, D. (2003) *The Great Australian Wind-Rush and the Devaluation of Landscape Amenity*. In Australian Geographer, 34 (1): 91 – 121.
- Meghen, P.J. (1973) *Local Government in Ireland*. Dublin: Institute of Public Administration.
- Meinig, D.W. (1979) *The Interpretation of Ordinary Landscapes: Geographical Essays*. New York: Oxford University Press.
- Memon, P.A., Kirk, N.A. and Selsky, J.W. (2011) *Limits to Ecological Modernisation as a framework for sustainable fresh water governance*. In Land Use Policy, 28 (3): 534-541.
- Mendonça, M. (2007) *Feed-In Tariffs: Accelerating the Deployment of Renewable Energy*. World Future Council. London: Earthscan.
- Mercer, D. (2003) *The Great Australian Wind Rush and the Devaluation of Landscape Amenity*. In Australian Geographer, 34 (1): 91-121.
- Meredith, D. (2006) *The changing distribution of Ireland's rural population 1996 – 2006: An urban / rural analysis*. RERC Working Paper 15. Teagasc, Athenry.
- Merriam, S., (1988) *Case Study Research in Education: A Qualitative Approach*. California: Jossey-Bass Publishers, pp. 4-25.
- Mertens, D.M. (2007) *Transformative Paradigm: Mixed Methods and Social Justice*. In Journal of Mixed Methods Research 1 (3): 212-225.
- Michaud, K., Carlisle, J.E. and Smith, E.R.A.N. (2008) *Nimbyism vs. environmentalism in attitudes toward energy development*. In Environmental Politics 17 (1): 20-39.
- Michel, A.N. and Miller, R.K. (1977) *Qualitative Analysis of Large Scale Dynamical Systems*. In Bellman, R. (ed.), Mathematics in Science and Engineering, Vol. 134. New York: Academic Press.
- Mitchell, C., Bauknecht, D. and Connors P.M. (2006) *Effectiveness through risk reduction: a comparison of the renewable obligation in England and Wales and the feed-in system in Germany*. In Energy Policy 34 (3): 297-305. Special Issue: Renewable Energy Policies in the European Union.
- Mitchell, W.J.T. (ed.) (1994) *Landscape and Power*. Chicago: University of Chicago Press.
- MNP (2007) *China now No. 1 in CO2 emissions; USA in second position*. Netherlands Environmental Assessment Agency, Press Release, 19/06/2007. [Online] Available: [here](#). (Accessed: 07/01/2008).
- Mol, A.P.J. (1996) *Ecological Modernisation and Institutional Reflexivity: Environmental reform in the late modern age*. In Environmental Politics 5 (2): 302-323.

- Mol, A.P.J. (1999) *Ecological modernization and the environmental transition of Europe: between national variations and common denominators*. In *Journal of Environmental Policy & Planning*, 1 (2): 167-181.
- Mol, A.P.J. (2007) *Boundless Biofuels? Between Environmental Sustainability and Vulnerability*. In *Sociologia Ruralis* 47 (4): 297-315.
- Mol, A.P.J. (2010a) *Ecological modernization as a social theory of environmental reform*. In Redclift, M.R. and Woodgate, G. (eds.), *The International Handbook of Environmental Sociology*, Second Edition. Cheltenham: Edward Elgar Publishing.
- Mol, A.P.J. (2010b) *The Future of Transparency: Power, Pitfalls and Promises*. In *Global Environmental Politics*, 10 (3): 132-143.
- Mol, A.P.J. and Jänicke, M. (2009) *The Origins and Theoretical Foundations of Ecological Modernisation Theory*. In Mol, A.P.J., Sonnenfeld, D.A. and Spaargaren, G. (eds.), *The Ecological Modernisation Reader: Environmental reform in theory and practice*. London and New York: Routledge.
- Mol, A.P.J. and Sonnenfeld, D.A. (eds.) (2000) *Ecological Modernisation Around the World: perspectives and critical debates*. Oxford: Routledge.
- Mol, A.P.J. and Spaargaren, G. (2000) *Ecological Modernisation Theory in Debate: A Review*. In Mol, A.P.J. and Sonnenfeld, D.A. (eds.), *Ecological Modernisation Around the World: Perspectives and Critical Debates*. Oxford: Routledge.
- Mol, A.P.J. and Spaargaren, G. (2003) *From additions-and-withdrawals to environmental flows: Reframing debates in environmental sociology*. Paper presented at the conference "Environment and the Treadmill of Production", Madison, Wisconsin, USA, 31 October to 1 November. [Online] Available: [here](#). (Accessed: 05/12/2009).
- Mol, A.P.J. and Spaargaren, G. (2006) *Toward a Sociology of Environmental Flows: A New Agenda for Twenty-First-Century Environmental Sociology*. In Spaargaren, G., Mol A.P.J. and Buttel, F.H. (eds.), *Governing Environmental Flows: Global Challenges to Social Theory*. Massachusetts: The MIT Press.
- Mol, A.P.J. and Spaargaren, G. (2009) *Ecological Modernisation and Industrial Transformation*. In *A companion to environmental geography*. In Castree, N., Demeritt, D., Liverman, D., Rhoads, B. (eds.), *A companion to environmental geography*. Oxford : Wiley-Blackwell.
- Mol, A.P.J. and van den Burg, S.W.K. (2004) *Local Governance of Environmental Flows in Global Modernity*. In *Local Environment*, 9 (4): 317 - 324.
- Mol, A.P.J., Spaargaren, G., Sonnenfeld, D.A. (2009) *Ecological modernisation: three decades of policy, practice and theoretical reflection*. In Mol, A.P.J., Sonnenfeld, D.A., Spaargaren, G. (eds.), *The Ecological Modernisation Reader: Environmental reform in theory and practice*. London/New York: Routledge.
- Monbiot, G. (2006) *Heat: How we can stop the planet burning*. London: Penguin.

- Moote, M.A., McClaran, M.P. and Chickering, D.K. (1997) *Theory in Practice: Applying Participatory Democracy Theory to Public Land Planning*. In *Journal of Environmental Management*, 21 (6): 877-889. New York: Springer.
- Moragues-Faus, A. and Ortiz-Miranda, D. (2010) *Local mobilisation against windfarm development in Spanish rural areas: new actors in the regulation arena*. In *Energy Policy* 38 (8): 4232-4240.
- Morgan, D. L. (1996) *Focus Groups as Qualitative Research*. Qualitative Research Methods Series, Vol. 16. California: Sage Publications Ltd.
- Morgan, H. (ed.) (2001) *Information, Media And Power Through The Ages*. Dublin: University College Dublin Press.
- Mormont, M. (1990) *Who is rural? Or how to be rural: towards a sociology of the rural*. In Marsden, P., Lowe, P. and Whatmore, S. (eds.), *Rural Restructuring: Global Processes and Their Responses*. London: David Fulton.
- Morris, I. (2010a) *Why the West Rules - for Now: The Patterns of History, and What They Reveal About the Future*. Farrar, Straus and Giroux Publishers.
- Morris, I. (2010b) *Interview: Why the West Rules - for Now: The Patterns of History, and What They Reveal About the Future*. On Today with Pat Kenny, RTÉ Radio 1, 03/11/2010.
- Morton, R.B. (1991) *An Analysis of Legislative Inefficiency and Ideological Behavior*. In *Public Choice*, 69 (2): 211-222.
- Moseley, M.J. (2003) *Rural Development: Principles and Practice*. California: Sage Publications Ltd.
- Munday, M. Bristow, G. and Richard Cowell, R. (2011) *Wind farms in rural areas: How far do community benefits from wind farms represent a local economic development opportunity?* In *Journal of Rural Studies* 27 (1): 1-12.
- Munns, J.M. (1975) *The Environment, Politics, and Policy Literature: A Critique and Reformulation*. In *Political Research Quarterly*, 28 (4): 646-667.
- Murphy, J. (2000) *Editorial: Ecological Modernisation*. In *Geoforums* 31 (1): 1-8.
- Murphy, J. (2009) *At the Edge: Walking the Atlantic Coast of Ireland and Scotland*. Highland Scotland: Sandstone Press.
- Murtagh, B. (2004) *Collaboration, Equality and Land-use Planning*. *Planning Theory & Practice* 5 (4): 453-469.
- Nadaï, A and Labussière, O. (2010) *Birds, Wind and the Making of Wind Power Landscapes in Aude, Southern France*. In *Landscape Research* 35 (2): 209-233. Special Issue: Landscapes of Energies
- Nadaï, A. (2007), *"Planning", "siting" and the local acceptance of wind power: Some lessons from the French case*. *Energy Policy* 35 (5): 2715-2726.
- National Forum On Europe (2010) *Tánaiste criticises European Commission moves on corporate tax base*. Forum Debates. [Online] Available: [here](#). (Accessed: 21/04/2011).

- National Wind Watch (2007) *Industrial Wind: High Costs • Low Return*. [Online] Available: [here](#). (Accessed: 10/06/2007).
- Nature (2008) *Handle with care*. Editorial in *Nature*, 455 (7211): 263-430.
- Nersesian, R.L. (2007) *Energy for the 21st Century: A Comprehensive Guide to Conventional and Alternative Sources*. New York: M.E. Sharpe.
- Newman, L. and Dale, A. (2005) *The role of agency in sustainable local community development*. In *Local Environment*, 10 (5): 477-486. London: Routledge.
- Nguyen, K.Q. (2007) *Impacts of wind power generation and CO2 emission constraints on the future choice of fuels and technologies in the power sector of Vietnam*, *Energy Policy* 35 (4): 2305–2312.
- Nolan, D. (2009) *ESB's farewell to Tarbert*. In *The Kerryman*, 11th March, 2009. [Online] Available at: [here](#). (Accessed: 13/03/2009).
- Noor, M. (2008) *Case Study: A Strategic Research Methodology*. In *American Journal of Applied Sciences* 5 (11): 1602-1604.
- Nooteboom, S. and Teisman, G. (2003) *Sustainable Development: Impact Assessment in the Age of Networking*. In *Planning Theory & Practice*, 5 (3): 285-308.
- Nowika, M. (2006) *Mobility, space and social structuration in the Second Modernity and Beyond*. In *Mobilities* 1 (3): 411-436.
- NPWS (2004) *Mount Eagle Bogs NHA: Site Synopsis (002449)*. [Online] Available: [here](#) (Accessed: 01/06/2010).
- NPWS (2008) *Blanket Bog Conservation Status Assessment Report 2008*. [Online] Available: [here](#) (Accessed: 01/06/2010).
- NPWS (2010) *Natural Heritage Areas (NHAs)*. [Online] Available: [here](#) (Accessed: 01/06/2010).
- Nuclear Free Local Authorities (2005) *Powerful connections: How nuclear energy finds its way into the Irish electricity grid*. In *Briefing*, March, No. 42. [Online] Available: [here](#) (Accessed: 05/01/2011).
- Ó Dubháin, G. (2008) *Wind turbines a blow to key tourism area*. In *Irish Examiner*, Letters Page, Thursday, July 17, 2008.
- Ó Gallachóir B. P., Gardner P., Snodin H. & McKeogh E. J. (2007) *Wind Energy Systems Security - The Grid Connection Moratorium in Ireland*. *International Journal of Energy Technology and Policy* 5 (5): 633 – 647.
- O'Connor, H. (2010) Email on ENERGIE to Breffní Lennon. 3 September 2010
- O'Connor, J. (1994) *Is Sustainable Capitalism Possible?* In O'Connor, M. (ed.), *Is Capitalism Sustainable?: Political Economy and the Politics of Ecology*. Chp8, 152-175. New York: The Guilford Press.
- O'Donnell, R. (2000) *The New Ireland in the New Europe*. In O'Donnell, R. (ed.), *Europe: The Irish Experience*. Dublin: Institute of European Affairs. [Online] Available: [here](#). (Accessed: 28/4/2011).

- O'Donovan, F. (2007) *CNAG to discuss wind turbine plans with Organic Power Ltd.* The Southern Star. 27th October. [Online] Available: [here](#). (Accessed: 30/10/2007).
- O'Donovan, F. (2009) *CANAG protest against plans for wind turbines.* In Southern Star, Local News, Saturday, March 28, 2009.
- O'Leary, F., Ó Gallachóir, B. and Howley, M. (2004) *Renewable Energy in Ireland: Trends and issues 1990 - 2002.* SEI [Online] Available: [here](#) (Accessed: 01/04/2009).
- O'Mahony, K. (2009) *Let's take the wind out of turbines propaganda.* Irish Examiner, Saturday, 14th March. [Online] Available: [here](#). (Accessed: 21st March 2009).
- O'Neill, H. and Warren A. (2001) *Energy Efficiency Report: European Union Member States Report.* EurACE Project. [Online] Available: [here](#). (Accessed: 01/04/2009).
- O'Regan, T. (2008) *A Guide to Undertaking a Landscape Circle Study in Seven Easy Steps.* Cork: Landscape Alliance Ireland.
- O'Rourke, E. (2000) *The Reintroduction and Reinterpretation of the Wild.* In Journal of Agricultural and Environmental Ethics 13 (1): 145-165.
- O'Rourke, E. (2005) *Landscape Planning and Community Participation: Local Lessons from Mullaghmore, the Burren National Park, Ireland.* In Landscape Research, 30 (4): 483-500.
- O'Toole, F. (2009) *Ship of Fools: How Stupidity and Corruption Sank the Celtic Tiger.* London: Faber and Faber.
- Okely, J. (1997) *Picturing and Placing Constable Country.* Olwig, K.F. and Hastrup, K. (eds.), *Siting Culture: The Shifting Anthropological Object*, London: Routledge.
- Oktayer, N. (2007) *Regional Policy and Structural Funds in the European Union: The Problem of Effectiveness.* In Ankara Review of European Studies, 7 (1): 113-130.
- Olesen, G.B., Szoleczky, J., West, P., Bedi, E. and Niki Fowler, N. (2006) *Study of the Introduction of Renewable Energy in the EU.* Report by International Network for Sustainable Energy – Europe (INFORSE-Europe). [Online] Available: [here](#). (Accessed: 13/08/2010).
- Olsson G. (1992) *Lines of Power/limits of language.* Minneapolis: University of Minnesota Press.
- Olwig, K.R. (1986) *Nature's Ideological Landscape.* London: Allen & Unwin.
- Olwig, K.R. (1993) *Sexual cosmology: nation and landscape at the conceptual interstices of nature and culture; or, what does landscape really mean?* In Bender, B. (ed.), *Landscape: politics and perspectives (Explorations in Anthropology).* Basingstoke: Berg Publishers.
- Organic Power (2008a) *Pre Planning Submission: Proposed 28MW Wind Farm at Enniscean, Co. Cork.* May 2008. Organic Power Ltd. Planning Folder, File No. 06/6934.
- Organic Power (2008b) *Environmental Impact Statement: Proposed 28MW Wind Farm at Enniscean, Co. Cork.* November 2008. Organic Power Ltd. Planning Folder, File No. 06/6934.

Organic Power (2009) *Letter to Cork County Council Re: vandalism of site notices*. 19th March. Planning Folder, File No. 06/6934.

Organic Power (2011) *Responsible Energy for a Sustainable Climate*. [Online] Available: [here](#). (Accessed: 02/04/2011).

Oslender, U. (2007) *The Resurfacing of the Public Intellectual: Towards the Proliferation of Public Spaces of Critical Intervention*. ACME: An International E-Journal for Critical Geographies, 6 (1): 98-123.

Pahad, E. (2005) *Political Participation and Civic Engagement*. In *Progressive Politics 4.2*. [Online] Available: [here](#). (Accessed: 11/05/2010).

Palang, H. and Fry, G. (2003) *Landscape Interfaces*. In Palang, H. & Fry, G. (eds.), *Landscape interfaces: cultural heritage in changing landscapes*. Boston: Kluwer Academic Publishers

Pallot, J. and Yamamoto, K. (2002) *Government or Governance? Japan's New Balance Sheet In International Perspective*. In Montesinos, V. and Vela, J.M. (eds.), *Innovations in Governmental Accounting*. Chp10. Boston: Kluwer Academic Publishers.

Palmer, K., Burtraw, D. (2005) *Cost-effectiveness of renewable electricity policies*. *Energy Economics* 27 (6): 873–894.

Parks, J. (1981) *The Wind Power Book: all the information you need to make the wind work for you*. Palo Alto: Cheshire Books.

Pasqualetti, M.J. (2000) *Morality, Space, and the Power of Wind-Energy Landscapes*. *Geographical Review* 90 (3): 381-394.

Pasqualetti, M.J. (2011a) *Opposing Wind Energy Landscapes: A Search for Common Cause*. In *Annals of the Association of American Geographers* 101 (4): 907-917.

Pasqualetti, M.J. (2011b) *Social Barriers to Renewable Energy Landscapes*. In *Geographical Review* 101 (2): 201–223.

Pasqualetti, M.J., Gipe, P. and Righter, R.W. (eds.) (2002) *Wind Power In View: Energy Landscapes In A Crowded World*. San Diego: Academic Press.

Patton, M.Q. (2005) *Qualitative Research*. In *Encyclopedia of Statistics in Behavioral Science*. San Francisco: Wiley.

Pearce, F. (2006) *The Last Generation: How Nature Will Take Her Revenge for Climate Change*. Bodelva: Eden Project Books.

Pearce, R. (2001) *The EU fifth framework RTD programme*. In *Power Engineering Journal*, 15 (6): 289-292.

Peinke, J., Schuamann, P. and Barth, S. (eds.) (2007) *Wind Energy: Proceedings of the Euromech Colloquium*. Berlin: Springer.

Pellow, D.N., Schnaiberg, A. and Weinberg, A.S. (2000) *Putting the ecological modernization thesis to the test: The promises and performances of urban recycling*. In Mol, A.P.J. and Sonnenfeld, D.A. (eds.), *Ecological Modernisation Around the World: perspectives and critical debates*. Oxford: Routledge.

- Pender, H. (2004) *Public Policy, Complexity and Rulebase Technology*. The Australia Institute, Discussion Paper Number 67, June 2004, ISSN 1322-542. [Online] Available: [here](#). (Accessed: 10/01/2009).
- Percival, S.M. (2000) *Bird and wind turbines in Britain*. *British Wildlife* 12 (1): 8-15.
- Persson, A.O. (2006) *Hadley's Principle: Understanding and Misunderstanding the Trade Winds*. In *History of Meteorology 3*, International Commission on the History of Meteorology (ICHM). [Online] Available: [here](#). (Accessed: 07/01/2008).
- Peterson, J. (2002) *The College of Commissioners*. In Peterson, J. and Shackleton, M. (eds.), *The Institutions of the European Union*. Oxford: Oxford University Press.
- Philo, C. (1992) *Neglected rural geographies: A review*. In *Journal of Rural Studies*, 8 (2): 193-207.
- Piattoni, S. (2009) *Multi-Level Governance in the EU: Does it Work?* Presentation made to the Globalization and Politics: A Conference in Honor of Suzanne Berger, MIT, May 8th and 9th. [Online] Available: [here](#). (Accessed: 01/12/2010).
- Picou, S. (1999) *Theoretical Trends in Environmental Sociology: Implications for Resource Management in the Modern World*. Presentation to the Social and Economic Planning Conference, Park City, Utah, August 24-26. [Online] Available: [here](#). (Accessed: 01/12/2010).
- Pierson, P. (1993) *When Effect Becomes Cause: Policy Feedback and Political Change*. In *World Politics*, July, 45 (4): 595-628.
- Pimentel D., Giampietro M. and Ulgiati S. (1997) Feasibility of Large-Scale Biofuel Production. *BioScience*, 47 (9): 587-600.
- PlanLoCal.org.uk (2010) *About PlanLoCaL*. [Online] Available: [here](#). (Accessed: 29/04/2011).
- Plummer, K. (1983) *Documents of Life: An Introduction to the Problems and Literature of a Humanistic Method*. London: Allen and Unwin.
- Polaski, K. and McCarthy, M. (2010) *Social Acceptance of Wind Energy*. Presentation to IWECC, March 2010. [Online] Available: [here](#). (Accessed: 01/12/2010).
- Pollack, M.A. (2003) *Control Mechanism Or Deliberative Democracy? Two Images of Comitology*. In *Comparative Political Studies* 36 (1-2): 125-155.
- Press Association (2010) *Donegal 'wiped off crisis HQ maps'*. In *Irish Independent*, Wednesday April 21st. [Online] Available: [here](#). (Accessed: 15/12/2010).
- Putnam, D.R. (2000) *Bowling Alone*. London: Simon & Schuster.
- Quaschnig, V. (2008) *Renewable Energy and Climate Change*. Jourdan, H. (Trans.) IEEE Press.
- Quinlan, Á. (2009a) *Second GAA club rejects funds from West Cork wind energy firm*. *Irish Examiner*, 19th March, pp. 14.
- Quinlan, Á. (2009b) *West Cork protests against windmill plan*. In *The Irish Examiner*, 24th March, pp11.

Ragwitz, M., Held, A., Resch, G., Faber, T., Haas, R., Huber, C., Morthorst, P.E., Jensen, S.G., Coenraads, R., Voogt, M., Reece, G., Konstantinaviciute, I. and Heyder, B. (2007) *Assessment and Optimisation of Renewable Energy Support Schemes in the European Electricity Market*. Karlsruhe: OptRes.

Ragwitz, M., Resch, G., Faber, T. and Huber, C. (2005) *Monitoring and evaluation of policy instruments to support renewable electricity in EU Member States*. Karlsruhe: Fraunhofer Institute Systems and Innovation Research. [Online] Available: [here](#). (Accessed: 09/05/2011).

Rauschmayer, F., Paavola, J. and Wittmer, H. (2009) *European governance of natural resources and participation in a multi-level context: An editorial*. In *Environmental Policy and Governance* 19 (3): 141–147, May/June. Special Issue: European Governance of natural resources: participation in a multi-level context.

Ray, C. (2003) *Modelling the interlocal dynamics of rural development Europe: conceptual and methodological discussion*. Policies, Governance and Innovation for Rural Areas, International Seminar 21-23 November 2003, Università della Calabria, Arcavacata di Rende. [Online] Available: [here](#). (Accessed: 04/05/2009).

Ray, C. (2006) *Neo-endogenous rural development in the EU*. In Cloke, P.J., Marsden, T. and Mooney, P.H. (eds.), *Handbook of Rural Studies*, Chp19. London: SAGE Publications Ltd.

Redclift, M. and Sage, C. (1998) *Global Environmental Change and Global Inequality North/South Perspectives*. In *International Sociology* 13 (4): 499-516.

Redclift, M. and Sage, C. (1999) *Resources, Environmental Degradation and Inequality: The consequences of globalization for the South*. In Hurrell A. and N. Woods (eds.), *Inequality in World Politics*. Oxford : Oxford University Press.

Refabrica.com (2010) *Interconnectors in UK*. [Online] Available: [here](#). (Accessed: 21/03/2011).

REN21 (2008) *Renewables 2007 Global Status Report*. Worldwatch Institute, Renewable Energy Policy Network, Washington D.C. [Online] Available: [here](#). (Accessed: 01/04/2009).

REN21 (2009) *Renewables 2009 Global Status Report*. Worldwatch Institute, Renewable Energy Policy Network, Washington D.C. [Online] Available: [here](#). (Accessed: 21/09/2010).

REN21 (2010) *Renewables 2010 Global Status Report*. Worldwatch Institute, Renewable Energy Policy Network, Washington D.C. [Online] Available: [here](#). (Accessed: 21/09/2010).

REN21, (2005) *Renewables 2005 Global Status Report*. Worldwatch Institute, Renewable Energy Policy Network, Washington D.C.

Renewable Energy Strategy Group (2000) *Strategy for Intensifying Wind Energy Deployment*. Ireland, Department of Public Enterprise. [Online] Available: [here](#). (Accessed: 01/04/2009).

- Richardson, J. (2006) *Policy-making in the EU: interests, ideas and garbage cans of primeval soup*. In Richardson, J. (ed.), *European Union: power and policy-making*. Chp1. New York: Routledge.
- Rifkin, J. (2000) *The Age of Access: The new culture of hypercapitalism where all of life is a paid-for experience*. New York: Jeremy P. Tarcher/Putnam.
- Ringel, M. (2006) *Fostering the use of renewable energies in the European Union: the race between feed-in tariffs and green certificates*. In *Renewable Energy*, 31 (1): 1-17.
- Róbert, P. (2010) *Stratification and Social Mobility*. In the *Handbook of European Societies*. Chapter 17, pp 499-536. New York: Springer.
- Roberts, P. (2004) *The End of Oil: The Decline of the Petroleum Economy and Rise of a New Energy Order*. London: Bloomsbury.
- Robertson, R. (1995) *Glocalization: Time-Space and Homogeneity-Heterogeneity*. In Featherstone, M., Lash, S. and Robertson, R. (eds.) *Global Modernities*. London: Sage Publications Ltd.
- Roche, D. (1982) *Local Government in Ireland*. Dublin: Institute of Public Administration.
- Rogers, S. (no date) *Greenpeace Awards BP with 'Emerald Paintbrush' for Worst Greenwashing of 2008*. Earth First website. [Online] Available: [here](#). (Accessed: 11/05/2009).
- Rogner, H.H. (2000) *Energy resources and technology options*. In *World Energy Assessment*, Chapter 5, (World Energy Council). UNDP, New York.
- Rosenau, J.N (2006) *The Study of World Politics: Globalization and Governance*, Vol. 2. Oxon: Routledge.
- Rosenau, J.N. (1992) *Governance, order, and change in world politics*. In Rosenau, J.N. and Czempiel, E.O. (eds.), *Governance Without Government: Order and change in world politics*. Cambridge: Cambridge University Press.
- Rosenau, J.N. (1997) *Fragmegration*. In Rosenau, J. (ed.), *Along the Domestic-Foreign Frontier: Exploring Governance in a Turbulent World*. Cambridge: Cambridge University Press.
- Rosenau, J.N. (2000) *The Governance of Frigmegration: Neither a World Republic nor a Global Interstate System*. In *Studia Diplomatica*, LIII (5): 15-39. [Online] Available: [here](#). (Accessed: 15/03/2011).
- Rosenau, J.N. (2003) *Distant Proximities: Dynamics beyond Globalization*. New Jersey: Princeton University Press.
- Rothard, M.N. (2009) *Anatomy of the State*. Ludwig von Mises Institute.
- Rotolo, T. (2006) *Democracy's Voices: Social Ties and the Quality of Public Life in Spain (review)*. In *Social Forces*, 84 (4): 2354-2355.
- RTÉ News (2009) *Jobless rate could hit 400,000 – Cowen*. 4 February. [Online] Available: [here](#). (Accessed: 4 February 2009).

- Ruelle, D. (1995) *Turbulence, Strange Attractors, and Chaos*. World Scientific Series on Nonlinear Science, Series A, Volume 16. London: World Scientific.
- Ruelle, D. and Takens, F. (1971) *On the Nature of Turbulence*. In *Communications of Mathematical Physics* 20 (3): 167–192.
- Sabatier, P.A. and Jenkins-Smith, H.C. (1999) *The advocacy coalition framework: an assessment*. In Sabatier, P.A. (ed.), *Theories of the Policy Process*, pp. 117–166, Boulder: Westview Press.
- Sachs, I. (2007) *The Biofuels Controversy*. United Nations Conference on Trade and Development. Discussion note prepared for the conference on "Biofuels: an option for a less carbon-intensive economy", 4-5 December 2007, Rio de Janeiro, Brazil. Reference: UNCTAD/DITC/TED/2007/12
- Salomon, M. (2008) *Local Governments as Foreign Policy Actors and Global Cities Network-Makers: The Cases of Barcelona and Porto Alegre*. Paper presented at 49th Annual ISA Convention, San Francisco, CA, March 26th – March 29th, "Bridging Multiple Divides".
- Saorgus Energy (2007) *Environmental Impact Statement*. Company archive.
- Scannell, L. and Gifford, R. (2010) *The relations between natural and civic place attachment and pro-environmental behavior*. In *Journal of Environmental Psychology* 30 (3): 289–297.
- Schachhuber, A. (2004) *Social Movements, Environmental Governance, and Rural Territorial Development: An International Perspective*. Unpublished Ph.D. thesis, Department of Political Science, York University, Toronto, Ontario, Canada. [Online] Available: [here](#). (Accessed: 21/09/2011).
- Schama, S. (1995) *Landscape and Memory*. New York: Alfred A. Knopf.
- Scharpf, F. (1997) *Games Real Actors Play: Actor-centered Institutionalism In Policy Research (Theoretical Lenses on Public Policy)*. Boulder: Westview Press.
- Schlosberg, D. and Rinfret, S. (2008) *Ecological Modernisation, American Style*. In *Environmental Politics*, 17 (2): 254–275
- Schoen J.W. (2008) *Should Big Oil give up tax breaks — or get cuts?* msnbc.com. [Online] Available: [here](#). (Accessed: 15/08/2010).
- SEAI (2010a) *History of the Wind Atlas*. [Online] Available: [here](#). (Accessed: 11/05/2010).
- SEAI (2010b) *Policy Initiatives*. [Online] Available: [here](#). (Accessed: 11/05/2010).
- SEAI (no date) *Renewable Energy in Business & Industry*. Webpage [Online] Available: [here](#). (Accessed: 11/05/2010).
- SEAI (no date) *Understanding Renewable Energy - FAQ's*. Sustainable Energy Authority of Ireland. [Online] Available: [here](#). (Accessed: 9 July 2009).
- Searchinger, T., Heimlich, R., Houghton, R.A., Dong, F., Elobeid, A., Fabiosa, J., Tokgoz, S., Hayes, D. and Yu, T.H. (2008) *Use of U.S. Croplands for Biofuels Increases*

Greenhouse Gases Through Emissions from Land-Use Change. In *Science* 319 (5867): 1238-1240.

SEI (2003) *Attitudes Towards the Development of Wind Farms in Ireland*, Sustainable Energy Ireland. [Online] Available: [here](#). (Accessed: 07/01/2008).

SEI (2004a) *Economic Analysis of RES-E Support Mechanisms*. ANNEX I “OVERVIEW OF RES-E STRATEGIES” to (Draft) Final Report Study on the Economic Analysis of RE Support Mechanisms in the electricity generation sector, prepared for Sustainable Energy Ireland (SEI). Vienna, September 15. [Online] Available: [here](#). (Accessed: 10/05/2010).

SEI (2004b) *Final Report on Policy Consideration for Renewable Electricity to 2010*. Report Prepared for the Renewable Energy Development Group (REDG) By the Short Term Analysis Group (STAG). [Online] Available: [here](#). (Accessed: 20/12/2007).

SEI (2006) *Renewable Energy Development 2006: An overview of policy and strategy evolution*. Roinn Cumarsaids, Mara agus Acmhainni Nadura, April 2006. [Online] Available: [here](#). (Accessed: 21/12/2007).

SEI (2008) *A Guide to Connecting Renewable and CHP Electricity Generators to the Electricity Network*. Guide prepared for Sustainable Energy Ireland by: Econnect Ireland. [Online] Available: [here](#). (Accessed: 21/12/2007).

Seidman, I. (2006) *Interviewing as Qualitative Research: A Guide for Researchers in Education and the Social Sciences*. New York: Teachers College Press. Third Edition.

Selman, P. (2010) *Learning to Love the Landscapes of Carbon-Neutrality*. In *Landscape Research* 35 (2): 157-171. Special Issue: Landscapes of Energies

Serres, M. (1977/2000) *The Birth of Physics*. In Webb, D. (ed.), Hawkes J. (trans.). Manchester: Clinamen Press.

Serres, M. (1982) *Hermes: Literature, Science, Philosophy*. In Harari, J.V. and Bell, D.F. (Eds.). Baltimore and London: The Johns Hopkins University Press.

Serres, M. (1992) *The Natural Contract*. MacArthur, E. and Paulson, W. (trans.). Ann Arbor: The University of Michigan Press.

Seymoar, N.-K., Mullard, Z., and Winstanley, M. (2009) *City to City Learning*. Vancouver: International Centre for Sustainable Communities. [Online] Available: [here](#). (Accessed: 05/02/2010).

Shannon, K. (2010) *Decline in U.S. Natural Gas Imports is Causing Panic in Leading Exporting Nations*. Money Morning, April 19, 2010. [Online] Available: [here](#). (Accessed: 13/12/2010).

Shapiro, M. (2001) *Administrative Law Unbounded: Reflections on Government and Governance*. In *Indiana Journal of Global Legal Studies*, 8 (2): 369-377.

Sheehy, E. (2003) *City and county management*. In Callanan, M. and Keogan, J.F. (eds.), *The Role of Local Government: Inside out*. Dublin: Institute of Public Administration.

- Sheller, M. (2008) *Mobility, Freedom and Public Space*. In Bergmann, S. and Sager, T. (eds.), *The ethics of mobilities: rethinking place, exclusion, freedom and environment*, Farnham: Ashgate.
- Shi, C. (2009) *Perspective on Natural Gas Crisis between Russia and Ukraine*. Review of European Studies, Vol. 1, No. 1, June 2009. [Online] Available: [here](#). (Accessed: 30/07/2010).
- Shirky, C. (2010) *Cognitive Surplus: Creativity and Generosity in a Connected Age*. London: Allen Lane.
- Shockley, K. (2009) *Environmental Policy With Integrity: A Lesson from the Discursive Dilemma*. In *Environmental Values* 18 (2): 177-199.
- Shurman-Smith, P. and Hannam, K. (1994) *Worlds of Desire, Realms of Power: A Cultural Geography*. London: Arnold.
- Shuy, R.W. (2001) *In-Person Versus Telephone Interviewing*. In Gubrium, J.F. and Holstein, J.A. (eds.), *Handbook of Interview Research: Context and Method*, Chp26, 537-557. London: Sage Publications.
- Siebers S.C. (2008) *The EU Constitution and the Union's Democratic Deficit*. Article in Khovanova, K., Dogan N. and Kovalev, M. (eds.), *Expanded EU: From Autonomy To Alliance*. Rodopi Press, SSRN. [Online] Available: [here](#). (Accessed: 08/09/2009).
- Solomon, B.D., Barnes, J.R. and Halvorsen, K.E. (2007) *Grain and cellulosic ethanol: History, economics, and energy policy*. In *Biomass and Bioenergy* 31 (6): 416-425.
- Sorensen, B. (2000) *Renewable Energy*. London: Academic Press (Second Edition).
- Sorrell, S., Harrison, D., Radov, D., Klevnas, P. and Foss, A. (2009) *White certificate schemes: Economic analysis and interactions with the EU ETS*. In *Energy Policy*, 37 (1): 29-42.
- Spaargaren, G. and Mol, A.P.J. (1992), *Sociology, Environment and Modernity: Ecological Modernisation as a Theory of Social Change*, *Society and Natural Resources* 5 (4): 323-344.
- Spaargaren, G. and van Vliet, B. (2000) *Lifestyles, Consumption and the Environment: The ecological modernization of domestic consumption*. In *Environmental Politics*, 9 (1): 50-76.
- Spaargaren, G., Mol, A.P.J. and Buttel, F.H. (2000) *Introduction: Globalization, Modernity and the Environment*. In Spaargaren, G., Mol, A.P.J. and Buttel, F.H. (eds.) *Environment and Global Modernity*. California: Sage Publications Ltd.
- Spiegel, E.A. (1987) *Chaos: A Mixed Metaphor for Turbulence*. In *Proceedings of the Royal Society of London, Series A: Mathematical and Physical Sciences*, 413 (1844): 87-9.
- Stake, R. (1995). *The Art of Case Research*. California: Sage Publications Ltd.

- Staudt, L. (2000) *Status and Prospects for Wind Energy in Ireland*. IWEA report. [Online] Available at: [here](#). (Accessed: 01/04/2009).
- Staudt, L. (2007) *Ireland's Energy Outlook*. Centre for Renewable Energy, Dundalk IT. [Online] Available: [here](#). (Accessed: 21/01/2008).
- Steiner, R. (1950, 2001) *The Esoteric Aspect of the Social Question: The individual and society*. Wehrle, P. (trans.). London: Rudolf Steiner Press.
- Stewart, D. W., Shamdasani, R.N. and Rook, D.W. (2007) *Focus groups: theory and practice*. California: Sage Publications Ltd.
- Steyaert, C. (1997) *A qualitative methodology for process studies of entrepreneurship: creating local knowledge through stories*. In *International Studies of Management and Organisation*, 27 (3): 13-33.
- Stiebler, M. (2008) *Wind Energy Systems for Electric Power Generation*. Berlin: Springer.
- Stiglitz, J.E. (2002) *Globalization and Its Discontents*. London: Penguin.
- Stiglitz, J.E. (2007) *Making Globalization Work: The Next Steps to Global Justice*. London: Penguin.
- Stoker, G. (1998) *Governance as theory: five propositions*. In *International Social Science Journal*, 50 (155): 17–28.
- Stone, D. (1988) *Policy Paradox and Political Reason*. New York: Harper Collins.
- Sultana, F. (2007) *Reflexivity, Positionality and Participatory Ethics: Negotiating Fieldwork Dilemmas in International Research*. In *ACME: An International E-Journal for Critical Geographies*, 6 (3): 374-385.
- Sutton, S. (2005) *Predicting and explaining intentions and behaviour: how well are we doing?* In *Journal of Applied Social Psychology* 28 (15): 1317–1338.
- Swift, B.F. (2002) *Board Direction, Ref: PL08.127717*. An Bord Pleanála. [Online] Available: [here](#). (Accessed: 06/03/2009).
- Szarka, J. (2006) *Wind power, policy learning and paradigm change*. In *Energy Policy* 34 (17): 3041-3048.
- Szarka, J. (2007) *Why is there no wind rush in France?* In *European Environment*, 17 (5): 321-333. Special Issue: Managing wind power deployment in Europe: the political and regulatory environment, Cowell, R. and Strachan, P.A. (eds.).
- Taleb, N.N. (2007) *The Black Swan: The Impact of the Highly Improbable*. London: Penguin.
- Tate, J. (2001) *Beyond NIMBYism: The Evolution of Social Attitudes to Biotechnology*. Chp12, 135-150. In Smout, T.C. (ed.), *Nature, Landscape and People Since the Second World War*. East Linton: Tuckwell Press.
- Taylor, D. (1996) *Wind Energy*. In Boyle, G. (ed.), *Renewable Energy: Power for a Sustainable Future*. Toronto: The Open University.

- Taylor, D. (2004) *Wind Energy*. In Boyle, G. (ed.), *Renewable Energy*. Oxford: Oxford University Press.
- Taylor, J.R. (2006) *The Role of Citizens in the Planning Process*. Conference paper Vancouver World Urban Forum III at Habitat Professionals Forum Networking Session, June 22.
- Taylor, P.J. (2000) *World Cities and Territorial States under Conditions of Contemporary Globalization*. In *Political Geography*, 19 (1): 5-32.
- Taylor, P.J. (2005) *New Political Geographies: Global civil society and global governance through world city networks*. In *Political Geography*, 24 (6): 703-730.
- Taylor, S. (2010) *Narratives of Identity and Place*. London and New York: Routledge.
- Tellegen E. (1991) *Techniek: oorzaak of oplossing van milieuproblemen*. In Mol, A.P.J., Spaargaren, G. and Klapwijk, A. (eds.), *Technologie en Milieubeheer. Tussen Sanering en Ecologische Modernisering*. The Hague: SDU.
- Tellis, W. (1997a) *Application of a Case Study Methodology*. In *The Qualitative Report* 3 (3) September Issue. [Online] Available: [here](#). (Accessed: 30/09/2011).
- Tellis, W. (1997b) *Introduction to Case Study*. In *The Qualitative Report* 3 (2) July Issue. [Online] Available: [here](#). (Accessed: 30/09/2011).
- The Congress of Local and Regional Authorities (2006) *The European Charter of Local Self-Government - 20th anniversary (Local and Regional Action No.8) (2006)*. [Online] Available: [here](#). (Accessed: 11/08/2010).
- The Economist (1995) *The Future of Energy: The Battle for World Power*. In *The Economist*. Vol. 337 Iss. 7935, Oct. 7, 1995: 23-26.
- The Irish Regions Office (no date1) *Impact of the EU Structural Funds in Ireland (1989-2006)*. [Online] Available: [here](#). (Accessed: 06/03/2009).
- The Irish Regions Office (no date2) *Regions of Ireland: the Border*. [Online] Available: [here](#). (Accessed: 06/03/2011).
- The Irish Times (2002) *Opposition to Donegal wind farm*. In *The Irish Times*, page 2, October 15th.
- The Irish Times (2011) *Editorial: Backtracking on climate change*. In *The Irish Times*, Friday, November 4th.
- The Secret Life of the National Grid (2010) *Wiring the Nation*. Television programme. BBC Four. UK. 27 October.
- The Times (1929) *Cables Over The Sussex Downs*. Letter to the Editor. 3 October.
- Thomas, A., Chataway, J. and Wuyts, M. (1998) *Finding Out Fast: Investigative Skills for Policy and Development*. California: Sage Publications Ltd.
- Thompson, D. (2008) *Counter-Knowledge: How we surrendered to conspiracy theories, quack medicine and fake history*. London: Atlantic Books.
- Thomsen, T.U., Nielsen, L.D. and Gudmundsson, H. (eds.) (2005) *Social Perspectives on Mobility*. Ashgate: Aldershot.

- Tiersky, R. (ed.) (2004) *Europe Today: National politics, European integration and European security*. Oxford: Rowman & Littlefield.
- Tokar, B. (1997) *Earth For Sale: Reclaiming ecology in the age of corporate greenwash*. Cambridge, MA: South End Press.
- Toke, D. (2005a) *Are green electricity certificates the way forward for renewable energy? An evaluation of the UK's Renewables Obligation in the context of international comparisons*. In *Environment and Planning C* 23 (3): 361–374.
- Toke, D. (2005b) *Explaining Wind Power Planning Outcomes: Some Findings From A Study In England and Wales*. *Energy Policy* 33 (12): 1527-1539.
- Toke, D. and Strachan, P.A. (2006) *Ecological Modernization and Wind Power in the UK*. In *European Environment*, 16 (3): 155-166.
- Tol, R.S.J. (2005) *An emission intensity protocol for climate change: an application of FUND*. In *Climate Policy*, 4 (3): 269-287.
- Tol, R.S.J. (2010) *Interview on: Prime Time* [television], RTÉ One, 15 December.
- Tress, B. & Tress, G. (2003) *Scenario visualisation for participatory landscape planning - a study from Denmark*. *Landscape and Urban Planning* 64 (3): 161-178.
- Tress, B., Tress, G., Fry, G. and Opdam, P. (eds.) (2006) *From Landscape Research to Landscape Planning: aspects of integration, education and application*. Dordrecht: Springer.
- Turmes, C. (2009) *EU economic recovery plan: Barroso proposes golden handshake for outdated energy sources*. The Greens/European Free Alliance press release. 28/01/2009. [Online] Available: [here](#). (Accessed: 07/02/2011).
- Turnpenny, J., Nilsson, M., Russel, D., Jordan, A., Hertin, J. and Nykvist, B. (2008) *Why is integrating policy assessment so hard? A comparative analysis of the institutional capacities and constraints*. In *Journal of Environmental Planning and Management* 51 (6): 759–775.
- Twidell, J. and Weir, A. (1986) *Renewable Energy Resources*, London: E & FN Spon.
- Twyman, C., Morrison, J. and Sporton, D. (1999) *The Final Fifth: Autobiography, reflexivity and interpretation in cross-cultural research*. *Area*, 31 (4): 313-325.
- Tyndall, J. (1861) *The Bakerian Lecture: On the Absorption and Radiation of Heat by Gases and Vapours, and on the Physical Connexion of Radiation, absorption, and Conduction*. In *Philosophical Transactions of the Royal Society of London*, 151: 1-36.
- Tyndall, J. (1869) *On the Blue Colour of the Sky, the Polarization of Skylight, and on the Polarization of Light by Cloudy Matter Generally*. In *Proceedings of the Royal Society of London*, 17: 223-233.
- UK. Department of Trade and Industry (2003) *Energy Consumption in the United Kingdom*. DTI, UK. [Online] Available: [here](#). (Accessed: 07/01/2008).
- Ulrich, W. (2007) *Philosophy for Professionals: Towards Critical Pragmatism*. In *Journal of the Operational Research Society* 58 (8): 1109-1113.

- UNEP/GRID-Arendal (2005) *Climate Change: Processes, Characteristics and Threats*. In UNEP/GRID-Arendal Maps and Graphics Library. [Online] Available: [here](#). (Accessed: 16/05/2011). Retrieved 11:20pm.
- UNFCCC (2010) *The Mechanisms under the Kyoto Protocol: Emissions Trading, the Clean Development Mechanism and Joint Implementation*. [Online] Available: [here](#). (Accessed: 09/12/2010).
- UNFCCC (2007) *UNFCCC Executive Secretary: worst effects of climate change can be staved off if appropriate international action to mitigate is speedily taken*. Press Release. [Online] Available: [here](#). (Accessed: 09/12/2010).
- Unger, R.M. (1998) *Democracy Realized: the progressive alternative*. London: Verso.
- Urry, J. (2000) *Mobile Sociology*. In *British Journal of Sociology*, 51 (1): 185–203.
- Vaccaro, I., Smith, E.A. and Aswani, S. (eds.) (2010) *Environmental Social Sciences: Methods and Research Design*. Cambridge: Cambridge University Press.
- Vaccaro, I., Smith, E.A. and Aswani, S. (eds.) (2010) *Environmental Social Sciences: Methods and Research Design*. Cambridge: Cambridge University Press.
- Vallely, F. (1999) *The Companion to Irish Traditional Music*. New York: NYU Press.
- van der Horst, D. (2007) *NIMBY or not? Exploring the relevance of location and the politics of voiced opinions in renewable energy siting controversies*. In *Energy Policy* 35 (5): 2705–2714.
- van Vliet, B., Chappells, H. and Shove, E. (2005) *Infrastructures Of Consumption: Environmental Innovation In The Utility Industries*. London: Earthscan Publications Limited.
- van Vuuren, D.P., Cofala, J., Eerens, H.E., ostenrijk, R., Heyes, C., Klimont, Z., den Elzen, M.G.J. and Amann, M. (2006) *Exploring the ancillary benefits of the Kyoto Protocol for air pollution in Europe*. In *Energy Policy*, 34 (4): 444-460.
- Varnelis, K. (2010) *Why did actor-network theory run out of steam?* varnelis.net blog. [Online] Available: [here](#). (Accessed: 30/09/2011).
- Vision-net.ie (no date) *Tarbert Renewable Energy Limited*. [Online] Available: [here](#). (Accessed: 11/01/2010).
- von Malmberg, F. and Strachan, P.A. (2005) *Climate Policy, Ecological Modernization and the UK Emission Trading Scheme*. In *European Environment*, 15 (3): 143-160.
- Voss, J.-P. and Kemp, R. (2005) *Reflexive Governance for Sustainable Development – Incorporating feedback in social problem solving*. Paper given at the European Society for Ecological Economics (ESEE) Conference, June 14-17, Lisbon.
- Walker, G. (1995) *Renewable energy and the public*. In *Land Use Policy* 12 (1): 49-59.
- Walker, G. and King, D. (2008) *The Hot Topic: How to tackle global warming and still keep the lights on*. London: Bloomsbury.

- Walker, W., Devine-Wright, P., Hunter, S., High, H. and Evans, B. (2010) *Trust and Community: Exploring the meanings, contexts and dynamics of community renewable energy*. In *Energy Policy* 38 (6): 2655–2663.
- Wallace, H. (2005) *An Institutional Anatomy and Five Policy Modes*. In Wallace, H., Pollack, M. Young, A. (eds.), *Policy-Making in the European Union (The New European Union Series)*. Chp3. Oxford: Oxford University Press. 5th Edition.
- Walsh, M. (2009) *Delivering Ireland's 2020 Targets*. Presentation, Irish Wind Energy Association, 26th March 2009. [Online] Available: [here](#). (Accessed: 12/09/2009).
- Wang, M., Wu, M. and Huo, H. (2007) *Life-cycle energy and greenhouse gas emission impacts of different corn ethanol plant types*. In *Environmental Research Letters* 2 (2): 024001.
- Warren C. R. and Birnie, R. V. (2009) *Re-powering Scotland: windfarms and the 'energy or environment?' debate*. *Scottish Geographical Journal* 125 (2): 97-126.
- 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* 48 (6): 853–875.
- Watson, M. and Bulkeley, H. (2005) *Just Waste? Municipal waste management and the politics of environmental justice*. In *Local Environment: the International Journal of Justice and Sustainability*, 10 (4): 411-426.
- Watson, R. (1999) *The Irish Wind Atlas*. In Peterson E.L. (ed.), *European Wind Energy Conference 1999: Wind Energy for the Next Millennium*, Proceedings of the European Wind Energy Conference, 1-5 March 1999, Nice, France, pp1097-1100. London: Earthscan Publications Limited.
- Weart, S.R. (2003) *The Discovery of Global Warming*. Massachusetts and London: Harvard University Press. Revised and Expanded Edition edition (2008).
- Weeks, L. and Quinlivan, A. (2009) *All Politics is Local: A guide to local elections in Ireland*. Cork: The Collins Press.
- Wehling, P. (1992) *Die Moderne als Sozialmythos: Zur Kritik sozialwissenschaftlicher Modernisierungstheorien*. Frankfurt/New York: Campus.
- Weir, M. (1993) *Race and Urban Poverty: Comparing Europe and America*. In *Brookings Review*, 11 (3): 22-27.
- Weir, M. (1994) *Urban Poverty and Defensive Localism*. In *Dissent*, 41 (3): 337-42.
- Weiss, J.A. (1982) *Coping with Complexity: An Experimental Study of Public Policy Decision-Making*. *Journal of Policy Analysis and Management* 2 (1): 66-87.
- Wengraf, T. (2001) *Qualitative Research Interviewing: Semi-Structured, Biographical and Narrative Methods*. London: SAGE Publications Ltd.
- Wessels, W. (1998) *Comitology: fusion in action. Politico-administrative trends in the EU system*. In *Journal of European Public Policy* 5 (2): 209-234.
- West Cork Tourism (2009) *West Cork Tourism*. [Online] Available: [here](#). (Accessed: 31 March 2010).

- Weston, C. (2001) *Saorgus plans £34m wind farm in Galway*. In the Irish Independent, Monday, November 12, 2001. [Online] Available: [here](#). (Accessed: 10/05/2010).
- While, A., Jonas, A.E.G. and Gibbs, D. (2010) *From sustainable development to carbon control: eco-state restructuring and the politics of urban and regional development*. In Transactions of the Institute of British Geographers, 35 (1): 76-93.
- White, A. (2007) *Irishness, Whiteness and Place: the political geographies of asylum seeker dispersal in contemporary Ireland*. Public Geographies Working Paper, Department of Geography, University College Cork. [Online] Available: [here](#). (Accessed: 11/07/2007).
- White, D.F. and Wilbert, C. (eds.) (2009) *Technonatures: environments, technologies, spaces and places in the twenty-first century*. Ontario: Wilfrid Laurier University Press.
- Widgren, M. (2002) *Three perspectives on landscapes*. Paper presented at 20th Session of the Permanent European Conference for the Study of Rural Landscape. Tartu-Otepaa, Estonia
- Wilkes, J. (2011) *EU Will Exceed Renewable Energy Goal of 20% by 2020*. [Online] Available: [here](#). (Accessed: 12/05/2011).
- Wilkinson, R. and Pickett, K. (2009) *The Spirit Level: Why equality is better for everyone*. London: Penguin Books.
- Wilkinson, S. (1986) *Feminist Social Psychology: Developing theory and practice*. Philadelphia: Open University Press.
- Williams, R. (1976) *Keywords: A Vocabulary of Culture and Society*. 1983 Revised Edition. New York: Oxford University Press.
- Windaction.org (2007) *Wind turbines would be disaster for state forests*. Opinions section, winaction.org website. [Online] Available: [here](#). (Accessed: 10/06/2007).
- Winters, M. (2003) *Embeddedness, the new food economy and defensive localism*. In Journal of Rural Studies, 19 (1): 23–32.
- Wolsink, M. (1994) *Entanglement of Interests and Motives: Assumptions behind the NIMBY-theory on Facility Siting*. In Urban Studies 31 (6): 851-866.
- Wolsink, M. (2000) *Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support*. In Renewable Energy 21 (1):49–64.
- Wolsink, M. (2006) *Invalid theory impedes our understanding: A critique on the persistence of the language of NIMBY*. In Transactions of the Institute of British Geographers 31 (1): 85–91.
- Wolsink, M. (2007a) *Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives'*. In Renewable and Sustainable Energy Reviews 11 (6): 1188–1207.

- Wolsink, M. (2007b) *Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation*. *Energy Policy* 35 (5): 2692-2704.
- Woltjer, J. (2002) *The 'Public support machine': notions of the function of participatory planning by Dutch infrastructure planners*. In *Planning, Practice and Research* 17 (4): 437-453.
- Wood, N., Marsh-Patrick, A., Akehurst, P., Spencer, I., Sorensen, M., Ritchi, A., Radov, D., Harrison, D. and Kleynas, P. (2005) *EU emissions trading scheme benchmark research for phase II, Final Report*. Entec UK Ltd. and NERA Economic Consulting. [Online] Available: [here](#). (Accessed: 07/11/2009).
- Woods, M. (2003) *Conflicting environmental visions of the rural: windfarm development in mid Wales*. In *Sociologia Ruralis* 43 (3): 271-288.
- Woods, M. (2005) *Rural Geography: Processes, Responses and Experiences in Rural Restructuring*. London: SAGE Publications Ltd.
- World Bank (2011) *Energy imports, net (% of energy use): Data Indicators*. [Online] Available: [here](#). (Accessed: 21/01/2011)
- World Energy Council (1994) *New Renewable Energy Resources—A Guide to the Future*. London: Kogan Page Limited. World Energy Council.
- Wright, A. and Firth, S. (2007) *The Nature of Domestic Electricity-Loads and Effects of Time Averaging On Statistics And On-Site Generations Calculations*. *Applied Energy* 84 (4): 389-403.
- Wüstenhagen, R., Wolsink, M. and Bürer, J.M. (2007) *Social acceptance of renewable energy innovation: An introduction to the concept*. *Energy Policy* 35 (5): 2683-2691.
- Wylie, J. (2007) *Landscape*. Key Ideas in Geography Series. London and New York: Routledge.
- Yamin, F. (2000) *The Role of the EU in Climate Negotiations*. In Gupta, J. and Grubb, M.J. (eds.), Chp4., *Climate Change and European Leadership: A Sustainable Role for Europe?* Environment & Policy Series, Vol. 27. Dordrecht: Luwer Academics Publishers.
- Yeates, N. (2002) *Globalization and Social Policy: From Global Neoliberal Hegemony to Global Political Pluralism*. In *Global Social Policy*, 2 (1): 69-91.
- Yiftachel, O. (2006) *Re-engaging Planning Theory? Towards 'South-Eastern' Perspectives*. In *Planning Theory*, 5 (3): 211-222.
- Yin, R.K. (2003) *Case Study Research: Design and Methods*. California: Sage Publications Ltd.
- Zelner, B.A., Henisz, W.J. and Holburn, G.L.F. (2009) *Contentious Implementation and Retrenchment in Neoliberal Policy Reform: The Global Electric Power Industry, 1989-2001*. In *Administrative Science Quarterly* 54 (3): 379-412.

Zerocarbonista.com (2008) *Mission statement*. [Online] Available: [here](#). (Accessed: 11/11/2008).

ZhongXiang Z. (2010) *China in the Transition to a Low-Carbon Economy*. In Economics Study Area Working Papers 109, East-West Center.

Zobel, R.A. (1999) *The European Union Fifth Framework Programme*. In Management of Engineering and Technology 2: 571-576.

Zwart, I. (2007) *Local Deliberation and the Favouring of Nature*. In Environmental Values 16 (4): 485-511.