CONFLICT AND COMMUNITY BASED RENEWABLE ENERGY: A CASE STUDY FROM THE MOUNTAINS OF NORTH CAROLINA

By

JACOB WATSON SADLER

(Under the Direction of Hilda E. Kurtz)

ABSTRACT

Electricity is one of the most significant influences on modern society, yet there is criticism concerning the environmental impacts of our electric system. This study is an investigation of environmentally based arguments in a conflict over a proposed wind farm in Ashe County, North Carolina. Specifically this project investigates how the scale of environmental concerns defines the spaces of dependence of those involved and shapes the spaces of engagement which secures them. Further, this project will investigate how a local third party, non-profit organization has affected those spaces of dependence and spaces of engagement while promoting a model for community based renewable energy in the county, following the failure of the original wind farm proposal. This project argues that environmental concerns did indeed define individual's spaces of dependence and shape the spaces of engagement. Further, it appears that the local non-profit has had an affect on these spaces.

INDEX WORDS: Politics of Scale, Community Based Renewable Electricity, Wind Energy, Alternative Energy, Spaces of Dependence, Spaces of Engagement, Scale Frames, Expressions of Scale, North Carolina, Electricity, Environmental Concerns

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JACOB WATSON SADLER

B.A., Appalachian State University, 2007

A Thesis Submitted to the Graduate Faculty of the University of Georgia in Partial Fulfillment of Requirements for the Degree

MARSTER OF ARTS

ATHENS, GEORGIA

2010

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JACOB WATSON SADLER

Major Professor: Hilda E. Kurtz

Committee: Amy Trauger
Steve Holloway

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
May 2010

DEDICATION

I dedicate this project, the time, and the energy working on it, to my wife. Her sacrifices humble me, her endurance makes me proud, her hope lifts my spirit, her level mind steadies me, and for her I am eternally grateful. Thank you.

I would also like to dedicate this project to my parents, whose sacrifices, advice, and open minds I depend on. Thank you both.

I further dedicate this project to the rest of my family whose influence, input, and support are invaluable. Thank you all.

ACKNOWLEDGEMENTS

I would like to thank first and foremost Dr. Hilda Kurtz. I would have been lost without her guidance, support, advice, intellect, and encouragement. This project would not have been completed without her.

I would also like to thank Dr. Amy Trauger and Dr. Steve Holloway for their support and guidance in this project.

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CHAPTER I

INTRODUCTION

In the last 150 years the need for reliable, inexpensive, safe, and constant electric power has profoundly influenced developed economies across the globe, particularly the United States. Today, even an hour without electric power can temporarily cripple a city or region, and bring almost all of its daily operations to a screeching halt. Every year, dependence on and demand for electricity increases in the U.S., even as the current electric system reaches the peak of its efficiency. The current system of electricity production centralizes control within each stage of operation in the hands of a few individuals or groups of individuals. It relies on and reproduces end-users who are dependent on large amounts of electric power and who remain unaware of the complex network of relationships that have brought it to their fingertips.

Of particular interest to this research project, electricity production has entailed environmental costs in communities where resources are extracted, and where massive amounts of electricity are generated and transmitted. Environmental degradation in relation to electricity production is spread unevenly across the country, with some regions, such as the Southern Appalachians, with its coal deposits enduring a significant burden of hardship and pollution in order to satisfy nationwide demand for electricity.

In order for electricity to continue to power our world without ignoring the social and environmental relationships involved in its production, some advocates believe a shift must be made towards a more decentralized, visible, renewable, and flexible system. Some advocates of this shift have suggested that electric power systems need to be distributed and sustained, where

possible, within the very communities that demand them. Community-based electricity production could challenge the calculus of environmental externalities in the current system by placing responsibility and accountability for various social and environmental effects of production directly in the hands of the people affected by the system.

This research will engage with these issues by examining a controversy over renewable electricity production that has recently sparked conflict in Ashe County, North Carolina. There, between the fall of 2006 and summer of 2007 intense debates were waged over an application to the North Carolina Utilities Commission for the installation of between 25 and 28 large scale wind turbines on Big Spring Mountain. The application was denied by the commission, but following the initial phase of the conflict there is now an initiative to promote smaller scale, community-based energy in its place. This study draws upon a conceptual framework informed by the geographic literature on the politics of scale in an attempt to articulate, analyze, and better understand the complexities of this conflict, and its relationship to broader tensions within the electric system.

This controversy was based primarily on the environmental impacts which the proposed wind farm would have. The purpose of this study is to address the scale at which environmental concerns are articulated on each side of the controversy, and to understand the implications of these environmental concerns as they shape the controversy throughout is course. Specifically, I investigate first how the scale at which environmental issues were framed defined the spaces of dependence constructed in the initial phase of the Ashe County wind controversy. Spaces of dependence can be understood, according to Cox (1998), as the spaces in which individuals maintain the necessary relationships for day-to-day life. Second, I investigate how the expressions of scale that environmental issues were framed upon shaped the spaces of

engagement in the initial phase of the controversy. Here, spaces of engagement represent the spaces in which spaces of dependence are secured (Cox 1998) and expressions of scale represent, according to Kurtz (2002, 2003), the ways in which scale is invoked and wielded to assert a claim. Finally, I investigate the how the current efforts of a local non-profit organization, the Appalachian Institute for Renewable Energy (AIRE), to promote community-based renewable electricity affect the spaces of dependence and spaces of engagement that were established in the initial phase of the conflict

Organization of Thesis

Chapter Two sketches the background for the Ashe County controversy in order to better situate this study. I first characterize the current electric system looking briefly at its basic structure and function. Next, I review alternatives to the current electric system, and articulate several key tensions between the current system and its alternatives. I provide next a background on community-based renewable electricity. This literature emerges as one of many possible alternatives to the current system. Through my analysis of this literature I find that the success of community-based project may depend on the active involvement of third party organizations. Critically missing within the literature, however, is an analysis of a third party organization's effectiveness in actively working with a community towards a project. Finally, I provide a background on the Ashe County wind controversy. Here I offer critical information which better situates this case study within a larger context.

Chapter three provides a detailed review of the geographic literature which informs this thesis. Introducing the literature on the politics of scale, I identify five major themes in this literature which shape the conceptual framework for this study Scale theorists have

demonstrated that geographic scale is produced socially (Smith 1987, 1993); is produced through conflict (Jones 1998, Herod 1992); is both fluid and fixed (Swygedouw 1997a, Brown and Purcell 2005, Brenner 2001); has the ability to simultaneously empower and disempower (Jonas 1994); and is a relational concept (Agnew 1997, Brown and Purcell 2005). McCarthy (2005) identifies a significant gap in the scale literature, noting that environmental issues have not been well addressed in work on the politics of scale. This thesis addresses that gap, and draws partially on Actor Network Theory, and specifically the work of Sneddon (2002, 2003) as a means to address environmental concerns within the politics of scale literature. Finally, I offer an overview of my specific conceptual framework which links Cox's (1998) ideas of spaces of dependence and engagement with Kurtz's (2002, 2003) ideas of scale frames and expressions of scale.

Chapter Four describes the research design and methodology for this study. The study takes the form of a qualitative case study. Data collection consisted of amassing archival data and conducting semi-structured interviews. The archival data was primarily composed of transcripts from the North Carolina Utilities Commission docket on the case, field notes from individuals involved in the case, and news publications. The interview participants were found within the NCUC docket and contacted either by email or telephone to set up an interview. Data analysis consisted of a critical discourse analysis of the data, and utilized data coding, note taking, and N-VIVO qualitative analysis software. After sketching out the scope of this analytical approach, I describe in detail the process of analysis for this study.

Chapters Five and Six are the analysis portions of my thesis, and are divided between the initial phase and the current phase of the controversy. I argue first that spaces of dependence are defined by the scale at which environmental concerns are framed. Second, I argue that spaces of

engagement are shaped by the expressions of scale which environmental issues are framed upon. I then argue that AIRE's efforts to promote community-based renewable electricity in the wake of the initial controversy have had a limited effect on the spaces of dependence and engagement established in the initial phase of the case, although the potential for change is more significant based on their outlined goals and objectives.

The final chapter of my thesis offers a conclusion. A summary of the analytical arguments and findings from my analysis is followed by a discussion of the significance of the project as it relates to the literatures on the politics of scale and community-based renewable electricity. I then point out some of the critical limitations of my research, and suggest a number of important questions not addressed fully by my thesis as well as areas of work left for further research.

CHAPTER II

BACKGROUND

Current system

The current electric industry is quite complex, and even those within the industry have difficulty understanding the details of its operation, design, and behavior (Warkentin-Glenn 2006). The system's operation and regulation is highly disaggregated spatially, materially, and functionally. Somewhat paradoxically, however, as a central characteristic, the current electric industry privileges large scale, highly centralized, operation which is premised on economies of scale, reliant on fossil fuel energy resources, and which externalizes environmental factors.

As Nye (1990) points out in his historical overview of electricity in the U.S., the use of various energy sources play a critical role in the way in which societal processes play out:

> The energy systems a society adopts create the structures that underlie personal expectations and assumptions about what is normal and possible…Each person lives within an envelope of such natural assumptions about how fast and far one can go in a day, about how much work one can do, about what tools are available, about how that work fits into the community, and so forth. These assumptions together form the habitual perception of a sustaining environment that is taken for granted as always there (Nye 1990)

Electricity is no exception to Nye's claim about energy systems. His claim underscores the importance of social influences on the development of electricity as an energy system, but critically points out that the ways in which that system can effectively hide the necessary relationships which make it possible to begin with. As Nye goes on to point out, "[a] technology is not merely a system of machines with certain functions; it is part of a social world. Electrification is not an implacable force moving through history, but a social process that varies

from one time period to another and from one culture to another." (Nye 1990, 385). Ultimately, the development of electricity in the United States, in the century between 1870 and 1970 led to the relationship between society and electricity that can be seen today. In that short amount of time the current configuration of the electric system has intertwined with societal dependence on electricity, and at present, even an hour without electric power can temporarily cripple a city or region, and bring almost all of its daily operations to a screeching halt. Every year, dependence on and demand for electricity increases in the U.S., even as the current electric system reaches the peak of its efficiency.

The electric industry began to coalesce in the mid to late 19th century. The primary energy sources prior to electricity were natural gas and coal. Gas and coal fired lamps, stoves, and furnaces were considered dirty and unsafe, but were necessary for day to day life. Electricity was designed to offer a cleaner, safer alternative energy choice. As with many notable technological advances, the future of the electric industry stemmed from the debates and decisions made by some of the early prominent minds involved in electricity development. Of particular note were the debates between Thomas Edison and George Westinghouse and Nikola Tesla, among others, over which type of electric current should be used, and how the electric system as a whole should thereby operate (Munson 2005). Edison supported an industry characterized by many smaller and more distributed generators, which would create a direct current of electricity. Direct currents are relatively low voltage, and can only be effectively distributed over short distances. Westinghouse, Tesla, and economist and businessman Samuel Insull argued in favor of alternating current systems (AC). Alternating current requires huge generators and high voltage transmission; enormous initial investment in this system is thereby justified by achieving economies of scale and producing and distributing ever more electricity. The design supported

by Insull and others won out (Munson 2005), and the electric system developed based on economic principles which favored ever-increasing size and growth.

Since then, “the larger the better” has been the cry of regulators, public utilities, and investors alike, and the industry has become increasingly centralized both spatially and operationally. In every phase of the sequenced electric system model, from resource extraction , to generation, transmission, distribution, and consumption, the electric industry is characterized by a concentration of capital controlled by an ever diminishing number individuals and groups, vertical integration, and production predicated on economies of scale (Bouffard & Kirschen 2008). Furthermore, the current model of electricity production encourages the externalization of environmental conditions in relation to it.

Coal generates almost half (49%) of the electricity used in the U.S. and over 60% in the Southeast region currently (EIA, 2008d). Almost 86% of coal produced in the United States comes from just thirty producers (EIA, 2008d), and the top ten producers produce more than all other coal companies combined (USDL 2008). The majority of resource extraction for electricity production is controlled by a relatively small number of firms, and extracted on a large scale. These structural conditions for extraction are reproduced in the organization of generation and distribution. The underlying goal of generation is to produce the most electricity with the fewest number of power stations possible and to always have enough supply to meet demand. Thus, large central generators which rely on an economy of scale will generate more profit for utilities than will small scale systems, and are the preferred method of generation. The larger the generating capacity of a power station the cheaper the fuel resource becomes and the sheer volume of production will generate large profits. Fewer high-capacity power stations leads to a spatial centralization of the system, and produces the need to transmit electricity over very long

distances. Transmission refers to the movement of high voltage power across large distances using very large wires and towers while distribution refers to the low voltage, local, short distance movement of electricity (Makanskik 2007). Electricity in the form of alternating current power moves at the speed of light and cannot be effectively stored. The electric industry is thus the quintessential just-in-time business model because the exact amount of electricity supply must be generated at the exact level of its demand. Electricity, according to the current system, must be generated and consumed simultaneously. In order for this to occur, first high voltage transmission wires carry electricity long distances, then the voltage is powered down at substations and transmitted through low voltage distribution wires. The cumulative effect of this phase of electric operation is that the highly centralized spatial character is a necessary condition of the industry, yet remains relatively unnoticed.

There are in excess of 300,000 miles of high voltage wires in the U.S. today (EIA 2003). These wires are networked together into grids. Three very large interconnected grid networks are in place in the U.S., and these are regulated to assure power which is bought and sold is done so reliably (EIA 2008b). Even though the grid system is regulated by government entities, the grid network is privately owned. The owners of the grid are typically major utility companies or independent operators. The grid's use is very capital intensive and it is dependent on producing and distributing very large amounts electricity to justify investment.

Following high voltage transmission, thousands upon thousands of miles of small power poles and wires link small consumers of electricity to distant producers. The scale operation for electric producers is so large yet made relatively invisible because of the mundane qualities of the distribution network. These wires connect directly to homes and in many cases the only connection consumers have with their electricity are their light switches, circuit boxes, and

power meters. Further distancing consumers from their electricity's various points of origin are consumer marketing companies. In many cases utilities generate, transmit, and sell their electricity directly to consumers. In other cases, consumers purchase electricity from small sales companies who are responsible only for distribution, and who purchase electricity from large producers who send the electricity through the high voltage grid. For example, a small municipal utility district might purchase electricity from a very large private investor-owned utility or from an independent power producer depending on the prices offered on a power exchange and then sell it to their consumers who do not know how or where their power is actually being generated.

Proponents of this system claim that without it, the comfort and convenience it provides to everyday life would not exist, and the enormous demand for electricity could not be met by any possible alternative. Centralized generation, reliant on massive quantities of fuel, and the capacity to transmit power over long distances are deemed necessary to meet demand. Critics of the current electricity system argue that it generates unnecessary environmental costs which occur at a range of spatial scales (Lovins 1976, Flavin & Lenssen 1994). Environmental opponents to the current electric industry, along with others who cite issues of social equity and energy security are seeking alternative designs and solutions which can effectively meet large scale demand, but without the same perceived impacts.

Alternative Visions to the Current Electric System

Alternatives to the electric system were first articulated during the energy crisis of the 1970's (Lovins 1976, Luhmann 1979, Schumacher 1974). The primary vision for alternative electricity is based on small scale design, conservation, visibility, and use of renewable/ non-fossil fuel energy. These fundamental characteristics comprise a holistic alternative to the current

electric industry that can be described broadly using terms such as embedded, distributed, and decentralized. Even though there is yet no consensus on a definition for these terms, or what specific technologies and applications such a design would utilize (Pepermans et al. 2005), many if not most advocates agree that broadly defined decentralization is the most effective alternative to the current electric industry (Lenssen & Flavin 1996). A decentralized electric system can in this way be defined to mean a diverse, appropriate, and flexible distribution of capital and resources in the hands of many individuals, networks, or groups of individuals and employed within small, but fluid, scales of operation.

Although the a decentralized electric system does not yet materially exist, there are well-developed ideas in circulation as to what a decentralized structure would look like. In a decentralized system, the consumer rather than the producer of electricity is the driving force that shapes the structure of the system (Lovins 1976). Consumers are diverse in terms of end-use, motivation, and levels of consumption, and industrial, commercial, and residential users each need different amounts of electricity for different purposes. In a decentralized system, consumers identify their electricity needs and take an active role in deciding how they receive it. This affects the rest of the system from the bottom level up.

Significantly, such decentralized distribution would be spatially limited. In order to limit the distance of transmission and distribution, the methods of generation must become smaller in scale and appropriate to the resources of a place (Feder 2004). The generating capacity of a decentralized system is much smaller across the network of producers than is a centralized structure, and the average generation per station would be much smaller. A decentralized system of generation would be a dispersed and diverse network of various types of generation closely linked to each other, rather than a hub system of large producers fueled by resources extracted

only to create the largest profit margins. Combined with appropriate resource use, a decentralized system requires that there must be consumer motivation to improve the social and environmental conditions embedded within their spaces where electricity is produced, distributed, and ultimately used. As such, renewable energy choices are most often the resources proposed for a decentralized structure. Wind power, solar energy, fuel cell technology, tidal energy, hydropower, and micro-hydro are all self-sustaining sources of energy which are dependent on location, and which can operate on a small scale to provide electricity to consumers who want to have a say in how they their electricity is produced and distributed.

It is important to note that the characteristics of a decentralized system have not been explicitly defined, nor is there a universal model for how such a system would operate in reality (Pepermans et al 2005). What is present is a desire for change, articulated in a range of goals for a decentralized system; there is however no single existing method by which to achieve those goals. Instead, the greatest promise of change is in the incorporation of decentralized practices such as industrial co-generation, conservation, small scale generation, and renewable resources, which could begin to alleviate some of the problems identified as deriving from the current industry (Lovins 1976). One such alternative practice that embodies the goals a decentralized system, is community-based renewable electricity.

Community-based Renewable Electricity

Community-based renewable electricity (CBRE) represents a decentralized alternative to the current electric industry which focuses on small scale electric generation and community stake-holding. The guiding principle behind CBRE is that communities will 'embed' the environmental and social impacts of electricity generation into their community by taking an

active and accountable role in the generation, distribution, and use of their own electricity (Houghton 2000, 189). However, a specific and universal design for a CBRE project does not exist, and the definition of CBRE varies widely according to the project's size, purpose (to offset end-use power consumption vs. to sell power to the grid), ownership (single local vs. multiple local vs. municipal local vs. municipal utility vs. commercial owners) and interconnection (behind the meter vs. to the distribution grid vs. to the transmission grid) (Bollinger 2004, 2). While there is as yet no single set of parameters for CBRE, there has been an increased focus on this approach in the past 5 to 10 years which has provided an important starting point for future research in this area.

A body of scholarly work on community-based renewable electricity is emerging predominantly in the United Kingdom, and to a lesser extent in the United States. Two overarching themes within this work investigate first, the roles of community participation in CBRE projects and second, the importance of trust and social embeddedness in social outcomes of CBRE projects (Walker and Devine-Wright, 2007). These themes, although highly related, and contingent upon one another, nevertheless emerge as separate areas of inquiry and analysis.

Community participation in CBRE projects is an important theme about which the majority of scholars have written. There is a logical connection between community participation and the operation, success, or enthusiasm for CBRE projects, and it follows that without community participation there can be no CBRE project. The appearance of this idea in the literature is an important first step in understanding CBRE. Analyzing the emergence of community-based emphasis in UK renewable energy policy, Walker et al (2008b) aims to address the extent to which ‘local activism’ has been linked to ‘national policy’ (Walker et al 2008b). The findings from this study demonstrate that healthy public support for community-based projects has

supported and thus linked smaller scale interests to a larger scale. However that support is based on a diverse array of projects which vary in terms of size, activity and outcome. Community participation is thus highly varied from place to place and dependent on public perception of national policies and perceived outcomes. Through an analysis of the effects of local interest in renewable energy on centralized public policy, Smith (2007) links positive community participation to favorable public policy. This relationship between public policy is echoed by other scholars who point to increased 'institutional support' to engender greater community participation (Rogers 2008). While these scholars point towards support from public policy and institutionalization, others find that that public perception and participation is contingent on more local issues (Devine-Wright 2005). Devine-Wright finds that perception of CBRE projects in the UK is fairly positive, although diverse, and that increased 'locally embedded development' in CBRE programs will be strongly supported. Importantly, there is an established link between the need for trust and embeddedness and healthy community participation.

The ideas of trust and community building, and embeddedness as they relate to CBRE projects is the second dominant theme within this body of work. In a report to the UK Economic and Social Research Council, Walker et al (2006) demonstrate that trust plays a significant role in the activities and outcomes of community-based projects. Walker also finds that diversity and adaptability among CBRE projects is necessary to effectively function in communities and situations which themselves are diverse (2007a). Blanket, universal approaches to CBRE are perceived negatively by communities, who discount them as distant and not part of the community. In separate work, Walker (2008a) demonstrates that CBRE cannot play a significant role in alleviating 'energy poverty,' and demonstrates that CBRE projects may have a limited scope in terms of creating community equity. In an attempt to understand the role of CBRE in

strengthening the 'fabric of civic life', Hoffman and High-Pippert (2005) find that diversity in actual community-based approaches produces diversity of social outcomes. Similar to Walker, they point out that universal project design reduces support for CBRE project because of perceived large-scale imposition.

The scholarly work concerning community-based renewable electricity in the US is comparatively limited. Even though attention has been paid to energy alternatives, the absence of material on CBRE is most likely a result of the limited success of such community-based programs in the U.S. (Bollinger 2004). It appears that various barriers to entry have limited the success of community programs, and perhaps in turn limited the research done on them (Bollinger 2004) As a result of decades of pressure from powerful, highly centralized, and large scale entities within the electric industry, the regulatory, tax, financing, and market structures in the U.S. electric industry favor economies of scale and not small scale, community-based operation (Bollinger 2004; 2001). In addition, cultural barriers limit interest in such alternative forms of electricity production (Bohn & Lant 2009).

The regulatory framework for electricity production supports the large economies of scale which dominate the electric industry. A highly disaggregated regulatory system which varies by state offers little in the way of federal oversight which could stabilize the industry and create uniform regulatory practice (Warnkentin-Glenn 2006). Currently some states have unrestricted regulation, while others demand complete oversight. The way in which public utilities, investor-owned utilities, and power administrations operate, as well as the way in which electricity is purchased and distributed, differs from state to state. As a result, "the responsibilities of utilities and generators with respect to interconnection have not been clearly defined in the U.S., and as a result, the cost (or even feasibility) of interconnection to the grid often becomes a significant

barrier to smaller projects" (Bollinger 2001) In addition, the ability of small, community-based programs to acquire licensure, as required by various regulatory and oversight policies is difficult, time consuming and costly.

Tax barriers present a second barrier to community-based renewable energy. As Bollinger (2004) points out, "the United States tax code encourages wind ownership by big businesses, not personal investors (or even small businesses)." Unlike in Europe, no form of wind ownership, except for net metered applications, generates revenue that is free from personal income. The primary result of the current tax code is that even while many non-profit organizations, municipal, and cooperative utilities qualify for tax free status, there are fewer tax incentives which can benefit investment in small scale renewable energy and enable investors to recoup the initial costs involved.

Another barrier to community-based renewable electricity in the United States is the market configuration of the electric industry. First, many communities who seek out and establish a successful community-based program are isolated and far removed from any sort of market on which to sell their electricity. Without potential profitability it is extremely difficult for communities to attract investment and financing. Further, market policies instituted from the Public Utilities Regulatory Policies Act of 1978 (PURPA) limit the ability for small-scale projects to succeed. As well, the Renewable Portfolio Standards for most states establish a minimum percentage sales must come from renewable resources and "provide artificial, guaranteed markets for high priced electricity" (Bollinger 2004). According to Bollinger, the investment incentive for renewable energy is created for large scale enterprise by fictitious market design which makes it more profitable.

To make matters worse for CBRE projects, financing conventions for small-scale electric

development which these projects require is risky and limits the success of CBRE programs further. The financing of wind power is typically done through ‘project finance’, meaning that up to 80% of the money borrowed for a given project is leveraged by the lenders against the future income generated by the project. This is extremely risky for lenders, and as a result typically lending opportunities are only offered to the largest companies and corporations who can operate at economies of scale and justify to the lender’s team of accountants and engineers that their project will be successful. Because start-up costs are high for electricity projects, and revenue is slow to arrive, there is little incentive for lenders to lend under an already risky scenario to smaller operations whose guarantee of profitability is limited, thanks to the regulatory, tax, and market barriers which currently exist.

The economic and regulatory barriers are undeniably important. The policies and relationships between economic and political processes and the electric industry serve to meet the needs of the current electric system and not the alternatives. However, it is extremely important to discuss the cultural and societal stance toward alternatives to the current electric system, because of the important relationship that exists between society and electricity.

The most often cited cultural rationale which impedes alternative electric projects is known as NIMBYism, an acronym that stands for ‘Not In My Back Yard.’ Bollinger (2001) argues that the details of social opposition appear too nuanced to be so broadly labeled as simply NIMBY, and points towards more deeply rooted arguments which limit the success of CBRE programs, such as poor community solidarity. However, there is a critical relationship concerning cultural attitudes and institutional barriers, which has not been thoroughly addressed.

The most common outcome for alternative energy projects is that large scale, utility size renewable projects take the place of CBRE projects as a result of the institutional barriers which

limit the ability for smaller scale operations to be successful. The result is that negative societal attitudes toward CBRE programs appear to stem from widespread opposition to large scale projects. However the relationship between cultural and institutional barriers appears to stem from much more than a superficial NIMBY argument.

Looking more closely at the cultural, societal, and behavioral opposition to alternative forms of electricity, the relationship between society and electricity, particularly in the modern context, can be illuminated further. First, there exists an important separation in mainstream understanding between how electricity is perceived, and how electricity is created and transmitted. This separation is in part a direct result of the electric industry's desire to centralize, and produce electricity far away from the points of end use. Second, the current electric system's model for supply and demand has promoted a sense of 'entitlement' among American consumers for constant, limitless, and reliable electricity (Sovacool 2008, 165). This sense of entitlement has led American end-users to become defensive when confronted with the option to change from the status quo. American 'freedom' is directly related to consumer choice freedom, and any threat to the consuming ability of American lifestyles is considered undesirable (Sovacool 2008,170).

Cultural opposition to alternative forms of electricity, ultimately appears to be a result of a "clash of values" according to Sovacool (2008, 193). This 'clash of values' is a result of differentiated symbolic meanings of alternative electricity, a diversity in function and value which electricity provides different people, and additionally a general lack of attention given to alternative forms of electricity which contributes to the polarization of perceptions concerning electricity, and prevents any changes to the structure of system outside of industry and market-led initiatives.

First, the ‘symbolic meaning’ of alternative electricity goes beyond places opposition against larger structural forces. For many opposed to renewable energy, the most significant problems cited result from lack of community input, lack of economic benefit, or lack of representation in policy making or permitting. As Sovacool notes, “rural residents, for example, often resent urban developers who wish to build electricity projects in their midst” (Sovacool 2008, 193). This resentment stems in many ways from an insider-outsider framework which pits rural residents with the resource against power-hungry consumers.

Second, a ‘diverse range of values’ and uses of electricity can be used to argue against for alternative electricity. Sovacool (2008, 195) notes that various ‘economic, ecological, social, and security’ concerns limit the support for alternative electricity because of differing points of view. Those who hold economic values to be most important feel that consumer entitlement to market driven costs for energy is necessary, and that alternatives only need to be sought out when prices are driven too high. Ecological values focus on concerns over sustainability, pollution, and impact on the environment; here environmental concerns are again used as leverage against alternatives to the current electric system. Social values typically defend energy as an inherent right. These values shape arguments toward price, so that even the poorest individuals can purchase electricity for cooking, lighting, etc.

Finally, those who value energy security focus on the constant supply of electricity. Arguments made against alternative electricity in this way, claim that alternative technologies are not constant, and can cause problems with the effective delivery of supply to end users. The ‘heterogeneity’ of values associated with the electric system limit the degree to which consensus policy can be made, and the degree to which alternative forms of electricity can emerge. Instead

the electric system maintains its shape, and in particular remains to be shaped by the relationship between demand for electricity and supply.

Aside from the 'clash of values,' environmental concerns over alternatives to the current electric system have become an enormous obstacle, and have shaped opposition and conflict over alternative energy choices time and again. Primarily environmental concerns are raised over the various types of alternative and conventional forms of electricity generation. Environmental concerns for wind, hydroelectric, and solar power have all been articulated by opposition groups, particularly in the places near their installation. As Sovacool (2008) points out, wind power opponents often cite 'visual intrusion on sensitive landscapes, noise, and avian mortality;' hydroelectric opposition often cites 'displacement of population, effects on rivers and groundwater, and downstream affects on ecosystems;' and opposition to solar power has claimed 'sequestration of land areas for centralized facilities, visual intrusion, and use of toxic materials in manufacturing' all have negative impacts (Sovacool 2008, 189). The environmental concerns which opposition groups leverage, can be seen with nearly every type of electric generating facility. These concerns, however, are most often contextually based, place-specific, and depend on the perceived threat to the surrounding environment, but nevertheless relate directly to the environmental impacts of alternative electricity as a whole.

Alternatives to the current electric system, including community-based renewable electric systems appear to offer an effective socially and environmentally benign alternative to the current electric system. The scope and scale of the barriers to entry into electricity production appear to limit the ability of community-based systems to succeed unless they can find the resources to overcome those barriers beyond the community level. Barriers to the success of community-based electric systems typically emanate from higher levels of power and control

than the communities can hope to engage with. Knowledge, skills, and influence are often scarce in smaller communities, but are essential in order to successfully overcome the challenges to entry posed by powerful social, political, and economic interests that have influence in the electric industry. If alternatives to the current electric system, such as community-based renewable programs, are to succeed, communities must be able to find the resources to challenge the barriers at a much larger scale than their own.

Hinshelwood (2001a) finds in the UK that "by positioning a renewable energy scheme within a broader framework" local communities can gain leverage against larger scale barriers. She identifies third party organizations as a key factor enabling communities to develop renewable energy programs:

> In most cases designing a community-based project requires active liaison with other organizations, whether they are local community groups, public sector agencies, companies, donors or other charities. In many cases it requires working at different levels across different sectors. (Hinshelwood 2001a)

Although Hinshelwood finds that communities must keep funding sources 'close' to maintain control over the project, she articulates the potential importance of organizations which can provide knowledge, funding, and other resources specifically to support CBRE programs. While Hinshelwood signals the importance of third party organizations for CBRE projects she fails to explore this potential with detailed empirical evidence. The missing evidence leaves an important area for research, as third party organizations may offer the most effective strategy for such energy programs to overcome barriers to entry. As well, Hinshelwood, among others (Walker 2008; High-Pippert 2005; Hoffman 2007; Devine-Wright 2007), focus their work in the U.K, leaving analysis of U.S. based projects as another important area for study. As a result, the means and ability of community-based electric programs to attempt to mobilize resources and begin to challenge these barriers to entry is left as a significant area for research; first, however, a

better understanding of the barriers to entry into alternative electricity production is needed.

The relationship between societal processes and the electric system are quite complex and intriguing. Importantly, the spatial dimensions of the electric system, as well as the structure of the system are directly influenced by social relations and patterns. Alternatives to the current electric system challenge this established and powerful relationship. Community-based renewable electricity offers one possible alternative; however, regulatory, financial, tax, market, and cultural barriers all stand in the way of success for such projects. Additionally, cultural barriers to alternative electricity are also linked to the relationship between society and electricity. Opposition to alternative electricity solutions, can be useful to explore this relationship because opposition itself is a product of the electric system as a result of the ways in which consumer behavior, values, and environmental concerns are articulated. While alternative efforts to change the current electric system may appear to be straightforward, upon closer inspection, such efforts are in reality much more complex and nuanced than they appear on the surface.

The Ashe County Conflict

In the summer of 2006 Dr. Richard Calhoun, a local physician founded Northwest Wind Developers LLC (NWWD) to explore the possibility of developing a wind turbine electric generating facility on his property on Big Springs Mountain in Ashe County, North Carolina. On October 27th, 2006 he applied to the North Carolina Utilities Commission (NCUC) for a Certificate of Public Necessity and Convenience permit. This permit essentially deems the project acceptable for the needs of consumer demand for electricity. The proposed project was to be around 50 megawatts, compared to the average base load coal fired facility which generates

over 1000 megawatts, and the total cost of the project was estimated at between 60 and 65 million dollars. At the time the application was submitted, NWWD was in the process of negotiating preliminary purchase agreements for the electricity with the local Blue Ridge Electric Co-op (BREMCO) yet no formal agreements, reports, or studies had been conducted

NWWD's project was the first of its kind in North Carolina, and the first application for such a project within the NCUC, but this was not the first time wind power in the mountains of North Carolina had been a sensitive issue. Between the years of 1978 and 1984, NASA operated a large experimental wind turbine in Watauga County, on Howard's Knob, 1,000 vertical feet directly above the town of Boone. This turbine was not extremely popular, yet there was little opposition to it, primarily because the project had a fixed timeline and the inconvenience was to be short lived for local residents. While this project did not last very long on the mountaintop, it did influence wind power in the mountains, and future wind projects, because of its relationship to the 1983 Mountain Ridge Protection Act.

The Mountain Ridge Protection Act of 1983, or the 'Ridge Law' as it is locally known, was developed by the state legislature, following the construction of a 20 story condominium on top of Sugar Mountain, in Avery County, NC two counties to the south of Ashe County. This Act limits construction to residential units, and imposes a height restriction of 40 feet on all ridge-top construction. Under the law, each county decides whether to impose these restrictions on all mountain land at or above 3,000 feet above sea level, or 500 feet above a valley floor. Because both Ashe and Watauga Counties have very high average elevations, these counties decided to protect all land 500 feet or above a valley floor. There are exemptions however, which include chimneys, cell towers, flagpoles, and windmills. The exemption for wind mills has become the key point of debate concerning wind power in the mountains.

The interpretation of 'windmills' within the Ridge Law, has been under scrutiny because of its relationship to the NASA turbine. The most recent interpretation was made in 2002 in response to a proposed Tennessee Valley Authority wind farm on Stone Mountain along the border of North Carolina and Tennessee. The TVA assumed wind mills were interpreted in the Ridge Law as turbines, because when the Ridge Law was written, NASA's experimental turbine in Boone was still in operation and had to be grandfathered into the bill somehow, or else NASA would have had to shut it down immediately. Thus the original reading of the 'wind mill' exemption in the Ridge Law was assumed to allow for wind turbines. However, following the TVA's pursuit of the Stone Mountain wind farm, Roy Cooper, the state's Attorney General at the time argued that windmills did not allow for wind turbines of large size or grouping of the TVA facility (Robertson 2002). Critically however, Cooper made a footnote to his final interpretation saying that the TVA should use a site that had already been strip mined.

As a result of the interpretation, the TVA abandoned their project, because the only land they could develop was partially situated in North Carolina and had not previously been impacted significantly by other forms of development such as strip mining. Ultimately however, Cooper's interpretation was read to allow turbines as long as a project would be visually sensitive to the surrounding environment, and uncertainty remained whether the Ridge Law would allow for electricity generating wind turbines or not. (Robertson 2002).

While the Ashe County case was not western North Carolina's first interaction with wind energy, it was the first such project put before the North Carolina Utilities Commission, and Dr. Calhoun's application was well-publicized in the community. What ensued was a vigorous and heated debate between citizens opposed to the wind development and those in favor of the development. The events and debate quickly triggered action, particularly on the side of the

opposition. Numerous objections were filed with the NCUC, and a non-profit organization, The Friends of Ashe County was founded for the sole purpose of opposing the development.

The procedural rules established by the NCUC did not require that NWWD or Dr. Calhoun announce the details of this permitting process to the community, and very few people knew about the project, or its proposed scope and scale. However, in November of 2006 a neighbor of Dr. Calhoun was informed of the project and mentioned it to a realtor who was showing land nearby. This action, according to the realtor, negatively affected his client's interest in buying land there, and he immediately spread word around the realty community in Ashe County. In December a non-profit organization, the Friends of Ashe County (FAC) was formed for the purpose of raising awareness of this project and intervening in the NCUC proceedings. Their members spoke at community meetings, published letters in the local papers, and published and distributed a brochure highlighting four key points against the proposed development. The FAC's four main concerns were to save the natural character of the ridge tops, protect land value and investment in mountain real estate, to distinguish between wind mills and wind turbines as they pertain to the 1983 NC Ridge Law, and finally to demonstrate the consequences of 'industrial wind complexes.' Within a matter of weeks, a significant portion of the community was concerned and a request for a public hearing was filed.

On January 25th, 2007 a public hearing was held in the county courthouse. Individuals were allowed to sign up beforehand if they wished to speak, and were given 5 minutes to address the commission. Over 200 people showed up by many accounts, and the majority of those at the hearing who had wished to speak were not allowed time to do so. Those that did speak, voiced their concerns either for or against the project, but according to several individuals who attended the meeting, what emerged from this meeting was further confusion. Distinct lines had been

drawn between the proponents and the opponents of the project, and in particular an insider-outsider tension was felt between Ashe County residents and members of the Appalachian State University community in adjacent Watauga County. Following the meeting, the NCUC requested that NWWD address the concerns and questions that were voiced during the meeting, and conduct the necessary impact studies, however NWWD asked for a 6 month extension to the case in order to do that.

During the period following NWWD's request for an extension, the FAC was able to gain the support of the John Locke Foundation (JLF), a North Carolina-based independent non-profit think tank which promotes free market, free society, and constitutional ideology. For their part they offered legal council, media support, and advisory council in support of the FAC's objectives. FAC also enlisted further support from the Americans for Balanced Energy Choices (ABEC) which represents a more market-based opposition to renewable electricity choices, and they partnered with another local organization the Keepers of the Blue Ridge (KBL) whose sole mission is to prevent utility-size wind turbines from being installed in the Appalachian Mountains, and was created in response to the construction of the nearby Buffalo Mountain TVA wind farm.

With legal council, and significant community support, the FAC filed a motion to dismiss the application, and lobbied the Ashe County Commission to pass zoning ordinances which would essentially eliminate the possibility for wind development and make sure that NWWD's project would not succeed. In June of 2007, Ashe County passed a wind power ordinance severely limiting the prospect of wind power in the area. Later that month, the application was dismissed by the NCUC because NWWD lacked the funds to follow through with the project and failed to provide the necessary information and impact studies the NCUC required in the initial

application, which according to many opponents and proponents alike was grossly inadequate.

Following the application by NWWD many of the proponents of the project sought to prevent this case from effectively ending the prospect of wind power in the area. In the fall of 2007, as a direct result of the NWWD's failed application, a non-profit organization, the Appalachian Institute for Renewable Energy (AIRE) was formed to promote a community-based approach to wind energy in Ashe County. AIRE was formed by a group of proponents of the NWWD project who felt that community-based wind power could be supported in the county, particularly if the community could directly benefit from it, because they felt that much of the original opposition had been conditional. AIRE's mission is to encourage small scale, community-controlled wind power. Further, AIRE seeks to assist such initiatives in overcoming the vast array of institutional barriers and to ferment positive cultural attitudes towards a smaller, direct involvement project.

The success of AIRE thus far has been somewhat limited. First, no successful projects have been started in Ashe County since AIRE's creation. Second, North Carolina Senate Bill 1068, which receives a vote in May 2010, will dramatically affect AIRE's ability to develop wind projects. SB1068, re-interprets the 1983 Ridge Protection Act by requiring that any windmills in the protected Ridge areas must directly serve a residence, and be no taller than 100 feet. While this bill could potentially and severely limit the ability to pursue wind power in the mountains of North Carolina, it represents just another barrier which AIRE hopes to help communities face in the pursuit of community-based renewable energy.

CHAPTER III

LITERATURE REVIEW: THE POLITICS OF SCALE

Introduction

In this project, I examine the ways in which individuals frame environmental concerns as they relate to a proposed wind farm in Ashe County, North Carolina. Specifically I examine how those environmental concerns define the rationale of individuals both opposed to and in support of the project. I examine how individuals argue for and defend their rationales, and then examine the ways in which a third party organization's efforts to promote community-based wind power in Ashe County affects these environmental rationales following the dismissal of the initially proposed wind farm. In order to do this, I draw from the geographic literature on the politics of scale, which contributes a critical conceptualization of social processes and social conflict and struggle to my analysis. While this body of work most greatly affects my research, the politics of scale literature appears to privilege social actors in the formation of scale (McCarthy 2005). In an attempt to aid the analysis of environmental issues from a politics of scale framework, however, the role of the environment will be supported by a brief examination of actor-network theory, specifically the concepts from this literature which argue that environmental and social conditions alike affect scale.

Politics of scale

The politics of scale literature offers a useful lens through which to examine the Ashe County wind energy controversy. The politics of scale refers to a broad set of ideas conceived to

better understand the spatial and social complexity and depth of conflicts. Scale itself is a central concept within geography, yet its conceptualization is precarious and difficult to articulate. The politics of scale literature attempts in many ways to articulate its conceptualization, and to challenge the notion that scale in space is ontologically given (Marsten 2000). Fundamentally, scale represents space; however the ways in which scale actually represents space are unclear. As Howitt (1998) points out, scale can be expressed through size, level, or significance. According to Howitt, in some ways scale can represent the size of an area in terms of physical space or area, but in other ways scale can represent space in terms of distinctions such as global, national, local, etc. While the concept of scale is rather vague and difficult to define, it is precisely this intangible and imaginative quality which privileges the complex conceptualization that exists within this literature.

The literature on the politics of scale is quite broad, yet has emerged largely out of a political economy tradition, to analyze processes such as globalization of capital, state restructuring, and labor organization (Brenner, 1997; Herod, 1991). Five themes in particular emerge within this body of work which are of significance to this project. These particular ideas establish that scale is produced socially (Smith 1987, 1993; Herod 1991, 1997; Swyngedouw 1997; Cox 1998; Marston 2000; Leitner 1997; Jones 1998), that scale is socially producing and has the ability to simultaneously empower some while disempowering others (Towers 2000; Williams 1999; Jones 1998; Cox 1998; Leitner 1997; Jonas, 1994) that scale is produced through conflict (Smith, 1993, Herod 1991, 1997; Leitner 1997; Brenner 2000; Cidell 2006), that scale is simultaneously fluid and fixed (Swyngedouw, 1997; Smith, 1993; Brenner 1999), and that scale is a relational concept (Meadowcroft, 2002; Agnew, 1997; Howitt 1998; Kelly, 1999). These themes have in many ways traced the narrative of the politics of scale literature and represent the

some of the most significant concepts within the body of work. Taken together, these ideas form the basic framework for this thesis research, and shape the research questions pursued here.

Scale is produced socially

The central theme or concept shaping this body of work is that scale is produced socially, or in other words, is socially constructed (Smith 1987, 1993; Herod 1991, 1997; Swyngedouw 1997; Cox 1998; Marston 2000; Leitner 1997; Jones 1998). Scale, it is argued, is not merely spatial, but indeed socio-spatial. Conceptually this is quite powerful. As Swyngedouw (1997a) notes, "[a]ll social life is necessarily 'placed' or 'situated', and engaging place is fundamental to maintaining the process of life itself". Swyngedouw is acknowledging a fundamental claim that essentially connects human activity to space. Cidell (2006:143) expands upon this claim specifically relating human-space interaction to scale. She notes that "we should not take for granted labels such as local, regional or even global, but rather consider them social constructions." This claim has a number of implications.

First, if social agents are connected spatially, as this framework would suggest, then the production of space is inherently tied to societal action. Thus, secondly, societal action is dependent on some understanding of space and spatial relations. The implications of Cidell's (2006) argument are that the commonly cited scales such as urban, regional, and global have no meaning or context without a societal element, and similarly social action cannot take place without an understanding of situatedness and place. Next, if scale is socially produced, then the relationships between and among scales are socially produced. Finally, as a result of scale's social production, scale is produced through particular and vested power relations. Swyngedouw points this out saying, "Scaled places, then, become the embodiment of social relations of

empowerment and disempowerment and the arena through which they operate" (Swyngedouw 1997b).

This research project is fundamentally grounded in this very concept, and recognizes that scale is a social construction. The importance of this idea is twofold. First, it enables investigation of scale as it is framed by human actors, which this project explicitly attempts to do. Second, because scale is socially produced, it is also socially perceived and thus reproduced. This idea enables the research to analyze not only the individual's own contribution to the production of scale, but also their perception of scale and subsequent contribution to the reproduction of scale.

Scale is produced through conflict

The politics of scale literature not only argues that scale is a social production, but it also points out repeatedly that conflict is the main mechanism through which scale is produced. In other words, as Jones (1998) points out, "scale is the result of contestation" (Jones 1998:26). Scholars point out that social conflict produces scale by utilizing spatial understandings to comprehend and articulate the conflict itself (Herod 1992, 1997; Cidell, 2006; Williams 1999; Towers 2000; Kurtz 2002; Leitner 1997). Delaney and Leitner (1997) point out specifically that political contestation is the main mechanism through which scale is produced. The politics through which scale, and its inherent power structures are produced, is precisely where the term 'politics of scale' is coined.

Looking more closely at this idea we can see that conflict is directly related to the notion that scale is socially produced and embodies power relations. For two or more groups of social actors to understand that there is conflict in the first place, there must be a conceptualization of

space which privileges one group over another. The conflict itself can only be understood through the production of scale, that is to say conflict produces scale, but at the same time scale provides the necessary understanding for the conflict to exist. The idea that conflict produces scale directly influences this research project. By analyzing the struggle over wind power in Ashe County, I will investigate the nexus at which scale is contested and in turn reproduced. I will, in short be investigating a moment in which scales are produced.

Scale can simultaneously empower and disempower

A third key concept in this body of work claims that scale can socially empower and disempower (Jonas, 1994; Swyngedouw 1997). In other words, scale is not only socially produced, but also socially producing (Herod, 1991; Williams 1999). The social processes through which scale is articulated, namely conflict, simultaneously create power for some and take away power from others. The result is that new social outcomes and scales are produced. Political action in the European Union (Leitner 1997) and contract bargaining (Herod 1997) are both examples of the socially producing ability of scale. Andrew Jonas highlights these dynamics in his observation saying that:

> On the one hand, domineering organizations attempt to control the dominated by confining the latter and their activities to a manageable scale. On the other hand, subordinated groups attempt to liberate themselves from these imposed scale constraints by harnessing powers and instrumentalities at other scales (Jonas 1994)

This idea is critical not only to the argument that scale is socially produced through conflict, and at the same time socially producing, but it is also critical to this thesis research. In the Ashe County conflict scale is used as a means to secure and empower the actors who employ it. In order to gain leverage in their arguments, both sides of the conflict must simultaneously find a way to assert the legitimacy of their claim(s) while at the same time undermining the

legitimacy of the other side's arguments. The recognition that scale has the ability to empower and simultaneously disempower, and to create new social outcomes in the process, is fundamental to this conflict.

Scale is both Fluid and Fixed

Given the concepts presented by the literature, that scale is produced socially and produces social outcomes through conflict, a question then arises that asks what dynamic enables scale to be produced and producing simultaneously? The answer to that question is not a simple one. On the one hand, scale is 'fluid' (Swyngedouw 1997a); because conflict and political struggle are constantly changing and reproducing scale, the very nature, shape, and character of scale is constantly changing. The fluid dynamic of scale is well articulated by Swyngedouw (1997) and Brenner (2001). According to Swyngedouw:

> Scale, both in its metaphorical use and material construction, is highly fluid and dynamic, and both processes and effects can easily move from scale to scale and affect different people in different ways, depending on the scale at which the process operates. Similarly, different scalar narratives indicate different causal moments and highlight different power geometries in explaining such events. Scale is, consequently, not social or politically neutral, but embodies and expresses power relationships (1997a).

Swyngedouw notes here that scale is only effective at translating power relations through its reconstitutive and changing dynamic; this concept plays a key role in my analysis of the Ashe County conflict. However, for scale to obtain any meaning, for scale to wield any form of authority or power, or for scale to privilege authority or power to some and not to others, it must remain static or 'fixed' for some amount of time (Smith, 1993; Brenner, 2001; Brown and Purcell 2005)

While theorists note that scale is fluid and changing, the fluid nature of scale does not mean that scale can never be fixed. Rather, it is important to note that scale, and the power that

resides in various forms within scale, can and must be fixed or 'nested', as Smith (1993) and Brown and Purcell (2005) note. While Swygedouw points out that scale is fluid, he also acknowledges existing and fixed forms of power which exist at various scales, noting that "[s]cale reconfiguration, in turn, challenges existing power relations, questions the existing power geometry, and thus, expresses the effects of sociospatial struggles" (Swyngedouw 1997a). The notion that scale is fluid is in fact dependent on the notion that scale is fixed, at least for a certain amount of time. This is important because for scale to produce new social outcomes, and for power relations or dynamics to change within scales, power must first be fixed at a particular scale before it can shift. Smith articulates this shifting mechanism as 'jumping'(Smith 1993). 'Jumping' scale can be understood to mean the process that 'signals' the level at which politics is articulated or engaged with (Swyngedouw 1997a). This 'jumping' is possible because, according to Smith, space is dynamic, and struggles within space can be 'stretched' or 'contracted' so that meaning and power at different scales can be enabled (Smith 1993). The dynamic nature of scale as it is conceptualized in the literature is both fluid and fixed. This concept further recognizes that scale is socially produced and socially producing, and that scale has the ability to simultaneously empower and disempower.

The claim that scale is both fluid and fixed is essential for the theoretical grounding of this research project. Acknowledging first, that scale is produced socially, second that it is produced through conflict, and third that it has the ability to empower some while disempower others does not complete the analysis of scale. An essential question remains unanswered, what is the dynamic nature of scale that allows it to create new social outcomes? In the case of the Ashe County wind energy controversy, how are existing scales used to generate, through conflict, new social outcomes? The dynamic nature of scale helps shape the answers to these

questions. First, scale as a fluid concept allows this thesis research to address the issue of change, and secondly scale as a fixed concept allows the study to begin in a certain context. Specifically, I use these insights to focus my analysis on the nexus between existing and shifting scales, or in other words, between the scales in which power and rhetorical leverage are derived, and the dynamic shifting of power in those scales into new ones. At a basic level, the conceptualization of the dynamic qualities of scale allows me to analyze change in scale over time.

Scale is a relational concept

Although understanding that scale is socially produced through conflict and political struggle is important, the conceptualization of scale is not complete. In fact, having established these first two themes within the politics of scale literature, it is here that the concept of scale itself must be revisited. The fundamental characteristic of scale, which is recognized by this body of work, is that scale is a relational concept (Agnew, 1997; Kelly, 1999; Howitt, 1998; Brown and Purcell, 2005). This is to say that an articulation of one scale is necessarily embedded in another. Critically, the way one scale relates to another, which it must, is open to variation because of its social production (Brown and Purcell, 2005).

An examination of a single scale cannot occur, because, according to Brenner (2001), a "singular connotation" of scale is merely an examination of a particular place or region or territory. Rather examination of scale requires a "plural connotation", an analysis between and among various relationships that interact at a range of scales. For example, an analysis of a local scale cannot be achieved in isolation, rather it must consider the range of relationships that exist between it and national or global or regional scales. This relational quality defines scale as something which is dynamic, socially produced, and socially producing. For example, in the

Ashe County case, the relational conceptualization of scale allows both opponents and proponents of wind power to express scale in different ways, yet each for the purpose of producing their respective desired outcomes.

The themes which emerge in the politics of scale literature are critical for geographic analysis. Space is conceptualized in a way which privileges social processes and which views space, and scale for that matter, as social constructions. Importantly, this literature acknowledges that various power, organizational, and discursive relationships exist between and among scales. Critically for this research project, those various relationships can be invoked, changed, and perceived differently by social actors in ways which produce and reproduce new outcomes, scales, relationships. However, critically missing from the literature is an overt effort to discuss the environmental dimensions of various politics of scale (McCarthy 2005).

The environmental question

The key contributions within the literature on the politics of scale relate to socio-spatial interaction; however, there is a significant gap in this body of work which fails to deal explicitly with environmental issues, and the role of the environment in defining scale and influencing the relationships which exist between and among scales. McCarthy (2005) observes importantly that work on the politics of scale has focused on the social production of scale, yet critically absent from the literature is a more concerted effort to identify how natural and/ or environmental events produce scale (Marston 2000, Williams 1999, Brenner 1997). Similarly, McCarthy argues, the politics of scale literature continues to reproduce a 'culture/ nature dualism' which in turn continues to privilege the cultural in the production of scale (McCarthy 2005). This is a significant gap especially when considering that many social movements and conflicts are driven

because of natural or environmental concerns. McCarthy argues that scale theorists should examine environmental conflicts and in particular consider more carefully the work of environmental non-governmental organizations as sources of social and environmental conflict and scalar production.

McCarthy (2005) notes that for those authors who have tackled environmental issues through a politics of scale framework, the role of the environment is clear, yet largely maintains a 'culture/ nature dualism'. For example Meadowcroft (2002) demonstrates in his analysis of a controversy over a proposed mineral mine in the UK that the environmental concerns on both sides of the issue were nevertheless socially defined, and that environmental problems are actually translated into social issues:

> After all, environmental disturbances are only defined as 'problems' because they are experienced as problematic by humans, because they are perceived to have consequences for our health or welfare, because we are shocked when established expectations are frustrated, or because we are disturbed by changes our intervention are causing in the non-human natural world. And as social phenomena their scale dimensions relate not just to physical processes but to social structures, practices and understandings." (Meadowcroft 2002, 172)

While Meadowcroft's argument fails to negotiate environmental issues in terms of their relationship to the production of social scale, and constituting environmental issues as separate, he begins to bring various aspects of social and environmental scales together. In particular his discussion of 'natural limits' (Meadowcroft, 2002, 174) draws attention to the connection between social processes and their engagement with the environment. According to Meadowcroft, these natural limits represent the finite material qualities of the planet and suggest "that the scales which we really need to pay attention to are those where such limits may be breached" (Meadowcroft 2002 175). This implies a more deeply connected relationship between society and the environment

On the other hand, some scholars have dealt with the issues of environment and scale, linking social and environmental processes in scalar development. Brown and Purcell (2005) for example, in their discussion of development in the Brazilian Amazon, demonstrate that the scale of environmental concerns can be framed in such a way that allows social struggle to draw from scales in which effective power can be used. As Brown and Purcell point out, grassroots organizations in Brazil framed the 'rain forest crisis' in such a way that support for their cause could be generated and leveraged against the powerful interest groups that were lined up against them at other various scales. However, emphases on the environmental qualities of this conflict are still conceptually overshadowed to a great degree by social influences such as the formation of resistance movements, which limit environmental issues to the position of a catalyst within social conflict.

While there has been some engagement in the politics of scale literature with environmental issues, the link or relationship between the social and environmental qualities of scale still remains blurred. Of particular interest to this project, and to the politics of scale literature as a whole, Sneddon (2002, 2003) explicitly recognizes this blurred distinction and suggests a framework to address it; Sneddon draws on actor-network theory to call for 'symmetry' between social and environmental actors:

> For example, ecological accounts of scale run into trouble when they provide the rationale for constructing management activities around scales with measurable material qualities, such as a river basin, without giving due attention to the political and economic construction of scales that almost never reflect the physical scale of the entity in question. Conversely, work on the dynamics of socially defined and mediated scales too often overlooks the important ways in which ecological networks actively create and influence an assortment of scalar entities. An actor-network approach might assist in resolving such divergences by insisting that the social and ecological construction of scale be examined symmetrically" (Sneddon 2003, 2235)

Sneddon's central argument asserts that the relationships between human and non-human actors

both need to be analyzed in earnest, neither being mutually exclusive. Lebel (2005) echoes Sneddon's thesis in his discussion of the governance of water resources, asserting that "[s]cales are a joint product of social and biophysical processes" (Lebel 2005, 16). Expanding on this notion, Lebel goes on to argue that human and non-human processes, when considered more symmetrically, can distinguish between scale based and place based issues..

The 'symmetry' which both Sneddon (2002, 2003), Lebel (2005), and others (Murdoch 1997; Sayre 2005) claim to be critical in understanding environmental issues and conflicts within a politics of scale framework, is derived from actor-network theory (ANT). ANT is a social theory developed by Callon (1992), Law and Latour (1985), among others, which attempts to understand the dynamics of material and conceptual relationships. As Murdoch (2000) points out, "ANT examines the complex composition of networks in the modern world and seeks to understand how the networks gain their strength and how they achieve their scope" (Murdoch 2000, 410).

ANT's emphasis on the agency of all material and conceptual entities in the formation of networks and the consolidation of power is a key insight which some scholars have employed within a politics of scale framework. The idea of 'symmetry' expresses the notion of agency on the part of all actors in a network not just by social or human influences and actors. Latour articulates this idea by saying:

> ANT is not the empty claim that objects do things 'instead' of human actors: it simply says that no science of the social can even begin if the question of who and what participates in that action is not first of all thoroughly explored, even though it might mean letting elements in, which, for lack of a better term, we would call non-humans, (Latour 2005, 72)

This 'symmetry' between human and non-human actors, is derived from the idea that power is constantly shifting, and can be wielded by a 'heterogeneous' network of actors. As Murdoch

points out, “ANT believes power is exercised by complex associations of the social, natural, the technological and so on” (Murdoch 2000, 410)

The notion of ‘symmetry,’ and in particular Sneddon’s use of this concept (2002, 2003) is of some importance to the politics of scale. He argues that the politics of scale literature has struggled with addressing environmental conditions in the processes that create scale and redefine it. While Sneddon does not take a stance against the claim that scale is socially produced, his claim is rather that within scale’s social production, environmental agents must be considered. More specifically, he utilizes ANT to claim that scale is produced socially through a ‘heterogeneous’ set of actors, and that within a framework for analysis those wide ranging and diverse types of actors must be analyzed ‘symmetrically’ and without prejudice or priority.

Concerning the case of Ashe County the ideas which the ANT literature offers are important. Through the ‘symmetry’ between its analysis of human and non-human actors alike, ANT does indeed respond to McCarthy’s (2005) call to eliminate the culture/nature dualism present in the politics of scale literature. McCarthy points out that within the politics of scale literature culture and nature are treated separately, but he argues that the boundaries between the two are actually more complex and connected. ANT provides the tools with which to illuminate the connections and complexities between society and the environment, and has been demonstrated to do just that by Sneddon (2002, 2003).

In order to address environmental issues as they relate first to issues of scale, and second to issues surrounding the electric industry, I must have a framework which does not privilege an analysis of the social, but which in a ‘symmetrical’ way can analyze the diverse range of actors and issues involved. However, my engagement with environmental issues using ANT will be quite limited. Rather I adopt a conceptual framework which is loosely guided by ANT’s ability

to illuminate the connections between society and the environment and to examine human and non-human actors alike, but which explores environmental issues through a robust examination of an alternative set of ideas within the politics of scale literature.

Conceptual Framework

The more specific conceptual framework for this project draws on the work of Cox (1998) and Kurtz (2002, 2003) to examine the controversy in Ashe County, North Carolina and the efforts to promote community-based renewable energy production. The ideas which these two scholars present derive from the larger literature on the politics of scale literature, and will be deployed alongside the ANT ideas which have been articulated by Sneddon (2002, 2003).

Spaces of Dependence and Spaces of Engagement

In his analysis of local governments and neighborhood conflicts, Cox (1998) identifies a 'scale division' within the 'politics of space.' Specifically, Cox questions the assumption that the 'scale character of politics' is defined in terms of its spatial form. To demonstrate this claim, for example, Cox challenges the notion that local government, for example, is 'necessarily local' (Cox 1998, 1), by identifying a division between the 'content' and 'form' of a 'local politics of space' and linking them to scales other than the 'local.' This division is comprised of what he terms 'spaces of dependence' to represent the content of a politics of space and 'spaces of engagement' to represent its form . These concepts are useful for analyzing the terms of arguments for and against renewable electricity production in Ashe County.

Representing the 'content of a politics of space,' Cox defines 'spaces of dependence' as the "localized social relations upon which we depend for the realization of essential interests and for

which there are no substitutes elsewhere" (Cox, 1998, 2). This concept assumes individuals have spaces upon which they depend for day to day life. However, the notion of spaces of dependence can also refer to hidden spaces which do not appear on the surface to be critical for 'essential interests'. The terms with which Cox articulates his idea are left open to the analysis of the researcher. For example, the social relations and the important interests which Cox identifies in neighborhood conflicts in England can and will be different than an analysis of similar conflicts in France. In other words, spaces of dependence are a significantly useful tool, but the specificities of those spaces depend on the analysis at hand.

Cox's conceptualization of spaces of dependence, however, has two significant shortcomings. First, these spaces privilege social relations, a point which I argue validates McCarthy's (2005) claim that the politics of scale literature fails to closely consider the importance of environmental actors. As well, Cox fails to closely examine what characterizes the term 'dependence.' While he suggests that 'dependence' refers to the essential qualities for daily life, he fails to expand upon that idea and categorize the types of dependence which may exist. I argue that this requires further conceptualization, in particular 'dependence' may be characterized by relationships with non-social actors.

Cox articulates the other part of the 'scale division' as 'spaces of engagement.' He defines these as "the space[s] in which the politics of securing a space of dependence unfolds" (Cox, 1998, 2). In other words, spaces of engagement represent the 'form' which a politics of space takes. Because spaces of dependence, according to Cox, are necessarily tied to a degree of either fixity and mobility, conflict has the ability to challenge the organization and flow of relationships within these spaces. Additionally, that conflict can in some way change the nature of the original spaces of dependence. Spaces of engagement represent the point or points at which conflict

produces or reproduces outcomes that affect spaces of dependence and which defines the way in which that that production occurs. For example, Cox analyzes a neighborhood conflict which results in policy being passed through local government and suggests that it represents a very different space of engagement than would a local non-profit sponsored mediation between opposing parties that results in a handshake agreement. Importantly, the case-specific analysis of the spaces of engagement involved will determine the scale at which conflict occurs and in which spaces of dependence are produced or reproduced.

The mechanism through which the two spaces are mediated is what Cox terms 'networks of associations' (Cox, 1998, 2). As Cox points out, in order for the content of a politics of space, or in other words the spaces of dependence, to be articulated, they must "incorporate those [individuals, agencies, or institutions] who can exercise some indirect influence through (e.g) their command of resources critical to them" (Cox 1998 7). However, Cox fails to distinguish the various types of agents or agencies or individuals within these networks which have the ability to actually 'exercise' influence. This is a key gap in his work because the form which a space of engagement assumes is dependent on the influence and power which is comprised in the network. I suggest that a further division needs to be articulated which distinguishes between the types of networks which 'exercise' different types of influence.

According to Cox, the networks of association that mediate between the content and form of a politics of space, in essence, deal with the dynamics of scale, and the tensions between fluid or fixed scale. He points to Smith's (1993) idea of 'jumping scale' as the primary means of contesting spaces of engagement through the movement from 'local' to 'global' arenas (Jones, 1998, 25). The idea of networks of associations works well with the idea of 'jumping' of scale, which can, as Jones states, "shift between spaces of engagement, and which may be broader or

narrower than spaces of dependence in any particular instance" (Jones 1998: 25) Through this discussion, Cox essentially claims that networks of association mediate a shift of power from a space of engagement to a space of dependence. It is important to note, however, that although these 'networks' mediate between spaces, they are not the mechanism by which the spaces of engagement are produced. The way in which these spaces are produced is not adequately addressed by Cox, and this is the key gap in his work which I intend to address.

In Ashe County, spaces of dependence were defined by both the opponents and proponents in the initial controversy in such as way as to make use of existing spaces of engagement, and later redefined to address a community-based approach. However, Cox's conceptualization is limited in its attention paid to mechanisms through which spaces of dependence are created and defined. In order to understand how these spaces come into existence, I draw on Kurtz's (2002, 2003) work on scale frames.

Scale Frames and Expressions of Scale

Kurtz (2002, 2003) offers insight into the actions of environmental NGOs and other actors engaging in scale politics. In her discussion of the siting controversy in St. James Parish, Louisiana, over the Shintech PVC manufacturing facility, she draws on Delaney and Leitner's (1997) work which suggests that scale actually represents a process of 'framing' reality, and that the politics of scale is actually a process of forming contending framings of scale. Kurtz's analysis examined the geographic scale at which ideas of 'environmental racism' and environmental justice were 'framed' in the context of this conflict "as both opponents and proponents sought to frame the debate in scalar terms which they deemed most favorable to their interests" (Kurtz 2002, 251). Kurtz pays close attention to the contrast found in environmental

injustice between ‘local experience’ and the ‘broader social and political processes’ which interact with local experience.

Ultimately, Kurtz articulates her conceptual analysis through the notion of ‘scale frames.’ According to Kurtz, “[s]cale frames are conceptualized as a type of collective action frame that does the work of ‘naming, blaming, and claiming [Snow and Benford 1992]’ all with central reference to, and differentiation by, particular geographic scales” (Kurtz 2002:254). Scale frames represent an important concept, particularly in dealing with environmental justice issues where, as Kurtz notes, scale ‘plays an important role.’ In short, scale frames create strength in the framing of meaning by referencing geographic scale.

Kurtz is quick to point out, however, that there are different possibilities which actors can use to ‘invoke’ scale, by constructing “expressions of scale”(Kurtz 2002:254) These expressions of scale are directly related to ‘scale frames’ in that they derive influence from geographic scale, yet they remain analytically distinct from scale frames because they do not represent scale itself, but rather they call upon the scale established in the scale frame in various ways in order to place that influence in a particular context. The various ‘expressions of scale’ which are identified are scale used as an analytical category, i.e. bounded research or administrative areas; ‘scale as a means of exclusion and legitimation’, meaning the characterization of a space or group will ‘necessarily include some people while excluding others’; and finally scale expressed as a ‘territorial framework for power (Kurtz 2002:255)

The overarching characteristic of each of these expressions of scale is that each expression can serve to project the desires of those using it, while underplaying the desires or impact elsewhere. The fact that scale frames, through the nature of their expressions of scale, can be contested, leads Kurtz to identify ‘counter scale-frames’ which “are not collective action frames

per se but work to counter or undermine one or more elements of the scale oriented collective action frames" (Kurtz 2002, 256). .

'Scale frames' and 'expressions of scale' are critical to my analysis of the Ashe County conflict. These ideas are expanded upon, however, by linking them to Cox's notions of spaces of dependence and spaces of engagement. Specifically, Cox fails to identify the mechanisms through which these spaces are formed and defined. I argue that scale frames define spaces of dependence, and expressions of scale shape spaces of engagement. Spaces of dependence, the social relations and 'essential interests' which are required to maintain day to day life, I argue, do not pre-exist, but are defined socially. They are defined through scale frames, which identify, lay claim to, and entrench spaces of dependence by referencing geographic scale. Further, I argue that spaces of engagement can only defend, secure, or affect spaces of dependence by invoking scale through 'expressions of scale' which act to assign the needs of those using it, and simultaneously minimize the needs of others.

Conclusion

The significance of this conceptual framework is found first in its analysis of environmental issues, which McCarthy (2005) identifies as a missing element in the politics of scale literature. While some, including Sneddon (2003, 2005), have attempted to do this by using concepts adopted from Actor Network Theory, I include both human and non-human actors in my analysis of the Ashe County controversy by more thoroughly examining Cox's (1998) concepts of spaces of dependence and spaces of engagement.

Second, Cox (1998) fails to identify the mechanism by which spaces of dependence and engagement are created. In this analysis of the Ashe County controversy, I expand upon his

definition of ‘dependence;’ and characterize the ‘influences’ of different types of spaces of engagement. I contend that Kurtz’s (2002, 2003) idea of scale framing, enables spaces of dependence to be defined by actors, and the idea of expressions of scale shape the spaces of engagement. I further argue that the ability for scale framing and expressions of scale to define or shape these spaces is in fact a reflexive process wherein, for example, spaces of dependence determine the scale of the issues that are framed and simultaneously the framing of issues at a given scale determines how the spaces of dependence materialize. The proposed project seeks to understand the spaces of dependence and engagement present throughout controversy over renewable energy in Ashe County by understanding how arguments on both sides were framed. It appears that environmental issues were central in the initial controversy and remain present in the promotion of CBRE in the area.

CHAPTER IV

RESEARCH DESIGN AND METHODOLOGY

Research Questions

The literature on the politics of scale as well as the literature on community-based renewable electricity provides excellent conceptual and empirical literatures from which to analyze the conflict in Ashe County, and the subsequent shift towards a community-based model for wind energy. The goals of this research are to examine the ways in which individuals frame environmental concerns as they relate to a proposed wind farm in Ashe County, North Carolina. Specifically I examine how those environmental concerns define the rationale of individuals both opposed to and supportive of the project. Also I examine how individuals argue for and defend their rationale. I later examine the ways in which a third party organization's efforts to promote community based wind power in Ashe County affects environmental rationale following the dismissal of the initially proposed wind farm. The research questions guiding this endeavor are as follows:

1.) How did the scale at which environmental issues were framed define the spaces of dependence constructed in the initial phase of the Ashe County wind controversy?

2.) How did the expressions of scale by which environmental issues were framed shape the spaces of engagement in the initial phase of the Ashe County wind Controversy?

3.) During the current phase of controversy in Ashe County over wind power, how do AIRE's efforts to promote community-based renewable electricity affect the spaces of dependence and spaces of engagement that were established in the initial phase of the conflict?

These questions attempt to first gain a broad understanding of the role of environmental issues during the Ashe County conflict. Second, these questions seek to understand how spaces of dependence as well as spaces of engagement were defined and constructed within the controversy. Cox is astute to identify these spaces, however, the mechanism by which those spaces are defined and constructed is largely under-specified. Kurtz's work on 'scale frames' and 'expressions of scale' serve this purpose. While Kurtz articulates expressions of scale as the method by which scale is invoked in the creation of scale frames, the two concepts can usefully be separated in order to better analyze Cox's work. This project seeks to illuminate a linkage between the construction of spaces of dependence and the construction of scale frames, and further aims to highlight the relationship between expressions of scale and the shaping of spaces of engagement. These research questions seek to link the two sets of concepts through the empirical analysis of the Ashe County conflict. Both opponents and proponents alike appear to actively construct and define their spaces of dependence in the initial conflict, and their rhetoric deals largely with environmental issues. The spaces of engagement wherein both sides are brought together in conflict, appear to be defined and constructed by the ways in which scale is expressed, or in other words how their spaces of dependence are 'invoked.' Finally, this project seeks to understand how AIRE's efforts to promote CBRE are related to definitions of spaces of dependence.

Research design (Qualitative Case Study)

In order to address these questions and best analyze the ongoing situation in Ashe County, a qualitative research design is most appropriate. The questions which are of importance here do not deal with quantity or correlation in a quantitative sense. Rather, the questions which this project will attempt to address will require interpretive analysis, and context to begin to answer. A qualitative research design is necessary to answer such questions because of the open ended, context-dependent character of the data, which can which can possibly yield analysis between areas of concrete data, and can be interpreted beyond apparent correlation. In tandem with the qualitative nature of this project, the overarching design of the research will be in the form of a case study.

The case study format suits this particular investigation most appropriately because of the blurred boundaries between the empirical character and 'real world context' of the case (Yin 2005. 13). The 'why' and 'how' questions which this project addresses are most appropriately analyzed through a case study design. Also the case study format is chosen for this project because the 'prior development of theoretical propositions' is not to be imposed, but rather established in a way so that they 'guide' the research (Yin 2005. 14). Finally, because of the varied and open ended nature of the data at hand, the case study design and method will allow the data to 'converge' upon the point of inquiry, rather than adhering to closely bounded analysis which may not take into account the context or quality of the variables.

The design of this project as a qualitative case study is well-suited for discourse analysis as the primary method of examining the data. Here, discourse refers broadly to the interactive use of written and spoken language as a means of constructing meaning and understanding. The most important forms of discourse for this project will be archival and interview-based data. This

research design is used in conjunction with specific methods of data collection and analysis in order to provide a detailed picture of the Ashe County wind controversy leading up to and during the past and current phases.

Data Collection

The data for this analysis came from both archival records and semi-structured interviews. The archival records most relevant to this case were the North Carolina Utilities Commission meeting hearings transcriptions and relevant documents which consists of testimony from over 50 individuals at two separate public meetings, as well as letters of support and opposition from over 20 individuals. Additional archival data includes transcripts from Ashe County Commission hearings, town hall meeting transcriptions, and North Carolina and Ashe County legislation concerning wind energy and the ridge laws. The archival data used in this analysis are as follows:

Selected Documents Filed Under North Carolina Utilities Commission Docket: SP-167 Sub 1- Northwest Wind Developers, LLC

- Order Dismissing Application Without Prejudice 07/26/2007
- Attorney Pittman's Motion to Withdraw as Applicant's Attorney In This Matter 07/24/2007
- Intervenor - Friends of Ashe County's Motion to Dismiss Application Prior to Deadline 07/20/2007
- Northwest Wind Developers' Update to Application 07/18/2007
- Order to Show Cause 07/13/2007
- Public Staff's Recommendation on Disposition of Case 07/13/2007
- "FAC's" Motion to Dismiss or in the Alternative Preclude New Evidence by Applicant 07/09/2007
- Consumer Statement of Position Letter (Member of Keepers of the Blue Ridge) 03/28/2007
- Consumer Statement of Position Letter (President, Blueridge Birders) 03/26/2007
- Consumer Statement of Position Email with Commission Staff Response 03/21/2007

- Consumer Statement of Position Email and Commission Staff Response 03/13/2007
- Consumer Statement of Position Email and Staff's Response (1) 02/27/2007
- Transcript of Testimony (Heard 2-13-07) 02/20/2007
- Official Exhibits for Hearing 2-13-07, Vol. 1 02/19/2007
- Consumer Statement of Position Letter (1) 02/16/2007
- Consumer Statement of Position Email (1) and Commission Staff Response 02/14/2007
- Consumer Statement of Position Email (1) 02/14/2007
- Order Granting Motion for Revised Procedural Schedule 02/13/2007
- Consumer Statement of Position Emails and Staff's Responses (5) 02/13/2007
- Consumer Statement of Position Letter (1) 02/13/2007
- Resolution of Ashe County Board of Commissioners 02/12/2007
- Applicant's Motion for Revised Procedural Schedule 02/12/2007
- Friends of Ashe County's Petition to Intervene 02/09/2007
- Consumer Statement of Position Letters and Staff Responses (2) 02/09/2007
- Consumer Statement of Position Letter with Articles Attached (In File, Not Scanned) 02/09/2007
- Hamilton & Fields' Notice of Appearance 02/07/2007
- Order Granting Petitions to Intervene (Hamilton & Fields) 02/06/2007
- Transcript of Testimony Heard: 1/25/07 in Jefferson, NC 02/05/2007
- Notification of Applicant's Change in Representation 02/05/2007
- Consumer Statement of Position Letter 02/05/2007
- Official Exhibits for Hearing on 1-25-07 02/05/2007
- Consumer Statement of Position Letter 02/02/2007
- Consumer Statement of Position E-Mails and Staff Responses (3) 02/02/2007
- Consumer Statement of Position Letter 02/01/2007
- Consumer Statement of Position Email and Commission Staff Response (1) 01/31/2007
- Concerned Citizens of Ashe County's Comments and Petition to Intervention 01/31/2007
- Blue Ridge EMC's Notice They Will Not File Direct Expert Testimony & Additional Findings/Suggestions 01/31/2007
- Public Staff's Testimony of Kennie D. Ellis 01/31/2007
- Attorney General's Notice of Intervention 01/30/2007
- Public Staff's Statement of Position 01/30/2007
- Consumer Statement of Position Letter and Commission Responses (4) 01/29/2007
- Consumer Statement of Position Letter - Opposition from Walter Clark - 3rd Revision 01/23/2007
- Consumer Statement of Position Emails (3) and Commission Staff Responses 01/23/2007
- Northwest Wind Developers' Expert Testimony 01/22/2007
- Consumer Statement of Position Letter (Dr. Dennis Grady, ASU Energy Center) 01/19/2007

- Environmental Defense, Southern Alliance for Clean Energy & NC Sustainable Energy Assoc.'s Comments 01/19/2007
- Order Granting Extension of Time to File Testimony 01/12/2007
- Northwest Wind Developers, LLC's Exhibits and Motion for Extension to File Testimony 01/12/2007
- Consumer Statement of Position Letter 12/07/2006
- Letter Stating N.C. State Clearinghouse's Receipt of Project for Intergov. Review 11/30/2006
- Order Scheduling Hearing and Requiring Publication of Notice 11/22/2006
- Consumer Statement of Position Email and Commission Staff's Response (1) 11/22/2006
- Consumer Statement of Position Letter 11/20/2006
- Letter of Support from P. Cox 11/02/2006
- Northwest Wind Developers, LLC's Amendment to Application 10/31/2006
- Application for Approval for Electric Generation Facility Consisting of 25-28 Windmills, Ashe County 10/27/2006
- Ashe County Board of Commissioners Agenda Regular Meeting 2/5/2007
- Ashe County Board Of Commissioners – "An Ordinance to Regulate Wind Energy Systems in Ashe County, NC

In addition to data from the NC Utilities Commission docket, extensive media coverage also provided a wealth of data. Newspaper publications from the *Mountain Times, Jefferson Post, Watauga Democrat, Winston Salem Journal, Charlotte Observer, Appalachian Voices* were most accessible. As well, websites of various organizations including Keepers of the Blue Ridge, Appalachian Institute for Renewable Energy, Americans for Balanced Energy Choices, John Locke Foundation provided archival data.

Semi-structured interviews provided the remainder of the data collected for this project. The semi-structured interview format provided an important degree of freedom, while still maintaining structure which focused attention on the research questions (Hay 2000). Interviews were conducted in Ashe and Watauga Counties. The interviews lasted between 45 and 90 minutes in length and were recorded when allowed and subsequently transcribed to provide text form data. The shortest interview was 28 minutes and the longest was over 120 minutes. In total

16 in person interviews were conducted, a total of 18 individuals were interviewed in the process. As well, 8 short telephone interviews were conducted, lasting approximately 15 minutes each, with individuals who were unable to meet in person.

In order to select individuals to be invited to interview, I first identified all persons involved in the North Carolina Utilities Commission proceedings in this case. Second, a contact list was put together from the NCUC transcripts, from which names were linked with either addresses, phone numbers, or email addresses found on public record. However, of the targeted individuals, 25 had no contact information. Third, individuals were called or emailed up to 3 times. From those efforts, 24 responded positively to be interviewed in person or over the phone and 41 individuals either could not be reached or did not respond to my contacts.

The semi-structured interviews were conducted first with individuals who were identified through 'target sampling' as prominent within the case (Appendix A). The founders of AIRE, The FAC, as well as particularly vocal citizens were among the first to be targeted for interview. I did attempt to find interview participants who were not from the initial target sample, the method of identifying potential interviewees through contact with target research participants is known as the 'snowball method' and can be quite effective in indentifying critical insight from individuals or groups who may be 'hidden' at the outset of the research (Thomson 1997, Vogt 1999). However, no individuals were revealed through this process that were not initially targeted.

Of the 24 respondents, 18 participants were interviewed in person. Of all in person interviews that were conducted 9 interviews were with opponents of the wind farm proposal, and 9 were with proponents. Critical to the project, the founder of AIRE was interviewed as well as 3 of the founders of the main opposition group, Friends of Ashe County. Further, phone interviews

were made with the Georgia Interfaith Alliance, a partner with AIRE, as well as with opposition group Keepers of the Blue Ridge, and the Blue Ridge Birders.

The in person interviews were conducted where possible. In total 8 were held in the Ashe County Public Library, 5 were held in the interview participants place of work, and 3 were held over coffee or lunch. The interviews in the library were the most successful. The quiet atmosphere, and a sense of research formality was present. A private and comfortable conference room was reserved and used for the interviews. Individuals sat facing a window looking out onto Mt. Jefferson, a local landmark, and interestingly this invoked a wide number of comments and visibly connected the participants to the discussion at hand. The interviews held at the participants places of work, were somewhat more relaxed, possibly due to the participant's familiarity with the surroundings. The interviews held in public areas were most difficult. Distractions were abundant, recording was difficult, and time felt more limited. The phone interviews were the most informal, and were strategically shorter so as to not try the participant's patience, often dealing with strained reception or unclear or inaudible words and sentences.

The interview questions attempted to draw responses that dealt with a number of issues surrounding the spaces of dependence and engagement that shaped the Ashe County controversy (Appendix B). In particular the questions dealt with environmental issues and relationships with the environment, as these appeared in pilot research to be of utmost concern to all parties involved. I framed the interview questions around a number of broad themes which appeared first in my pilot research, and were clearly established as research themes following the first four interviews.

These themes included environmental issues, participant's relationships with the environment, their day to day lives, their involvement with the case, as well as themes of health,

responsibility, stewardship, heritage, and legacy. These themes attempted to gain from the interviewees an understanding of their values which could be related to the formation of their spaces of dependence. Questions dealing with interviewees' relationships with the environment attempted to understand what is most important to them, and how they perceive their environment spatially. Establishing the participant's day-to-day life, their background, and relationship with the county was also important because it sets the stage for many of their responses dealing more specifically with the issue at hand, and explicitly defines in many ways their spaces of dependence. Themes of health, responsibility, stewardship, legacy, and heritage were often brought up before I could ask a specific question. These themes were very beneficial as they most often elicited responses which defined their spaces of dependence, and related directly to their environmental concerns, but without being directly asked to do so. These questions provided the starting point for analysis which deals with context and language used in participant responses and which were critical to shaping the spaces of dependence and engagement as they relate to this case in particular.

Data Analysis

Analysis of the interview and archival record data was conducted through a critical approach to discourse analysis. 'Critical discourse analysis' is a method which privileges discourse from dialogue or text in research by asserting that forms of conversation, written word, interviews, and archival records are well suited relating to and understanding the social context, action, and practice in which they were conceived (Gill 1996, Tonkiss 2004). From the discourse analysis, an open ended, contextually-based examination can yield a well-rounded and robust final analysis. In particular, this project relied on the critical form of discourse analysis to

understand and interpret underlying motivations, values, and balances of power present in the discourse.

An important element of the literature on the politics of scale, which critical discourse analysis can begin to illuminate, is the recognition that within conflict, scale and space simultaneously empower some while disempowering others (Swyngedouw 1997, Jonas 1994). This shifting balance of power which scale can create is readily apparent in the past and current phases of the Ashe County controversy. The scale at which spaces of dependence and engagement, in this case study, are constructed attempts to draw strength from the scale at which they are articulated. More specifically, both sides of the controversy in Ashe County articulate spaces of dependence with which they seek to derive advantage and then attempt to protect or benefit those spaces by leveraging their perceived advantage in spaces of engagement. Critical discourse analysis allows this research to attempt to identify the strengthening and weakening of position and space through the articulation of scale. Questions emerged during the analysis, and a flow from question to question enabled a fluid interpretation of the data based on context and language. The actors in this case study are primarily individuals. Their discourse is the conflict; it is the data. By engaging with the context and language present in the discourse critical information such as power, emotion, obligation, and desire can emerge, while other forms of analysis may fall short of achieving these.

The first step in discourse analysis is qualitative data coding. Using N-VIVO software, I identified nodes or categories which appeared most frequently in the discourse. Through this guided qualitative research method and design, increasingly coherent insights into the research question can be generated.

In order to gain a better picture of what the process of data coding would yield, I

conducted a preliminary analysis of testimony heard by the NC Utilities Commission. I chose the statements of five individuals from each side of the initial phase of the controversy, from which I could identify and analyze those ideas and themes which appear most critical in this case. During my initial coding, the underlying issues that each side was concerned with began to emerge, but still did not present a complete picture. While some issues such as home and property were solely the domain of opponents to the project, and coal, regionalism, and global environmental issues were solely the domain of proponents, the analysis revealed both sides were using similar terms, but with different rationales. For example, health concerns were raised by opponents consistently, they were afraid that wind turbines would cause severe health trauma. However, the proponents of the project cited health concerns for a much larger area. They claimed that the health of the region was in jeopardy if coal power continued to dominate. Similarly, and perhaps more interestingly, concerns over children and future generations were raised by both sides. Opponents wanted to protect the area's beauty and natural quality for their children. They did not want their children to have to see wind turbines instead of farm land and mountain ridges. They did not want their investment in property to diminish for their children, and they did not want to pass down a different landscape than was passed down to them. The proponents however, were concerned with the future generations of people in Appalachia as a whole. They cited families affected by mountain top removal coal mining, and diminishing air quality for future generations. They felt that it this project embodied a responsibility to future generations, as well as to past generations, by not destroying the mountains outright.

The five broad themes derived from the preliminary analysis then served as a starting point for more thorough analysis. They included environment, home, heritage, health, and responsibility. Of these 'environment' is perhaps the broadest category or theme. However,

environmental issues appear to be at the heart of the case study in question, and lumping data broadly into this category allowed a further filtering and categorization for analysis. 'Home' served to broadly group ideas of personal space, as they are understood in the data to represent either individual places, or places that are connected to larger areas. This helped to identify how spaces of dependence are being conceived. Ideas of heritage are important, because this also helps to understand how spaces of dependence are being conceived. Ideas of' home' and 'heritage' are closely tied to 'health' and 'responsibility.' Both of these loosely paired categories guided the analysis of spaces of dependence and how they were shaped by both opponents and proponents. Questions emerged that addressed at which scale(s) are health issues articulated, and who is responsible for energy choices.

Concluding my preliminary analysis, I felt that the proponents of the project were much more idealistic. Ideas of stewardship and morality were present, and the range of arguments that they made were at a broad level. The rhetoric which they used seemed to frame environmental concerns in a way which pressured the local individuals with feelings of obligation and responsibility to a much larger whole. Being a leader in renewable energy, ending global warming, stopping mountain top removal, and protecting Appalachian brethren all culminated with a sense of duty that the individuals near the project should have to endure change because it is helping others, most of whom are far away. The opponents of the project presented a much different picture. Their concerns framed environmental issues on a much smaller scale. They felt the proposed wind farm was a form of outside pressure to exploit their community. They felt that hardships were being thrust upon them, and were not willing to sacrifice the beauty, health, quiet, and property value of their land. They were concerned with the local area, their family, their neighbors, their community and county. They placed environmental concerns, literally on

their land. There is certainly an element of NIMBY to their argument. Two individuals even stated that they support renewable energy, but either not on their land, or not in this way. However, NIMBYism does not appear to be the explanation. These folks placed their concerns in their back yard, certainly, but they were most concerned with the way in which it was happening. They felt the proposed project was something which would only benefit interests far beyond their community, their environment was threatened by a form of exploitation which was both highly visible and shielded by anti-global warming rhetoric. Importantly, my preliminary analysis indicated that environmental issues were at the center of the controversy.

Following my preliminary analysis I gathered a much more robust set of data, primarily supported by new data from semi structured interviews. The interview process itself actually served as my first method of analysis. My interviews were conducted based on themes rather than specific lists of questions, although I did have prepared questions as well. During the interviews I was forced to conduct analysis while listening. In order to facilitate a sequence of questions I had to maintain intense concentration between what the speaker was saying, how it related to my themes, what my next question would be, and explore various tangents of information which I might feel were important to the speaker. As a result, following each interview I had essentially performed an initial analysis.

My first action following the preliminary analysis, data collection and interview process was to divide my data between the opponents and the proponents of the case. Although there were some individuals who were neutral in this case, aside from the utilities commission who is legally obligated to be impartial, their testimony and involvement in the case was extremely limited.

The second portion of my analysis assigned attributes to each individual of the two sides of the controversy and their corresponding testimony or interview transcripts. The first attribute I assigned was gender. I divided the data by gender because I felt that because gender is part of reality, and gendered decisions can often be different. While I wanted to investigate this attribute to see if any significant patterns emerged, no patterns materialized. I next assigned location to each individual on both sides of the debate. I felt that their residence would be particularly important, especially given the insider/outsider dynamic which was readily apparent in the data. The final attribute I assigned was occupation. I used broad titles for this attribute, such as retiree, or housing industry to represent a range of possible lifestyles and livelihoods. I formed these categories more broadly because general sets of trends or themes that I emerged within the data as being most important for a larger group of individuals. For example, realtors and home builders both fall into my attribute assignment of housing industry. This appeared relevant given the concerns on both sides that particular occupations were leveling specific arguments.

Following the division of the data and the assignment of attributes I conducted a first round of reading and queries which analyzed various aspects of the data. During my reading, and listening of recordings, I took memo notes which took into account the tone, demeanor, attitude, and overall character of the data. I then assigned nodes to important passages and key words. The nodes, or categories, I established were sometimes broad and sometimes specific, depending on the nature of the data. For example, some broad nodes I assigned to data were environment, coal, view, streams, children, history, and legacy. Some specific nodes I assigned were: mountain top removal in west Virginia, coal slurry accident in Tennessee, children's health in Raleigh, struggling Christmas tree farm, and watercolor painting are examples of specific nodes. My

purpose in this phase of analysis was to simply to engage intensively with the data, and discern what was important to the individual's who were speaking. I planned to then assign each node to broader categories in future steps. The queries I conducted during this phase of my analysis included word count, word search, and comparative searches to search for patterns. The effectiveness of the queries, however, was somewhat limited, although I was able to gain confidence in initial coding of the data through comparison to the queries.

The next step in the analysis consisted of a very real effort to interact with the data. Following my initial reading and coding, I wanted to go back through the data with a broader and more critical lens, instead of a specific lens to pick out key phrases of interest. This process I found very useful. As I read through the data, I placed myself in its context. I asked the data questions as I read, and I took notes on those questions and my reactions. I attempted not only to put myself in the speaker's role, but also put myself in the role of the audience of the speaker. I found that by 'pretending' in a way, I could interact with the data and gauge my reaction while better understanding the position and context of the speaker or the data. For example, by working through this process with the archival data, I could immerse myself in the moment the data was created and become actively engaged with the data rather than passively reading through and becoming lost in assumptions which may be unfounded.

The next step was to read through the data with an eye to my research questions. I searched for meaning and context that related to spaces of dependence, spaces of engagement, scale frames, and expressions of scale, specifically as they related to my research questions. I found this useful because I could engage the data from the perspective of the research question, and find out what the data had to answer. Again, for example, I was attempting to actively

engage the data and place myself in the moment, this time with a close lens applied from the research questions.

My next step was to code the data into much more manageable nodes, or tree nodes as NVIVO describes them. By analyzing the context and content of the categories, or nodes, which I had established previously, I could then begin to categorize them more broadly. By detecting larger patterns and themes I was able to move nodes from more a more focused and narrow tier or categories, to a much more broad set of categories that encompassed the critical elements found within the specific nodes. This coding process formed 'trees' of nodes which were as follows:

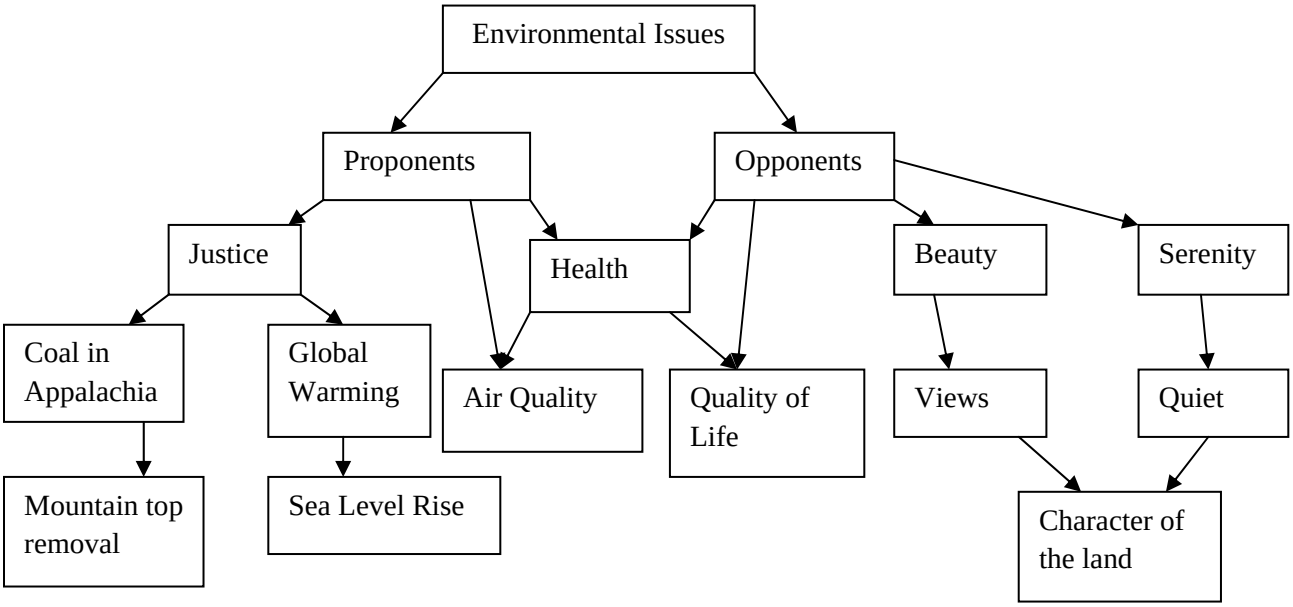

Figure 4.1 Coding of Environmental Issues

I organized the environmental issues which emerged into 4 major categories. These were justice, health, beauty, and serenity. Each of these categories had a wide range of first tier and second tier nodes attached to them, appearing in Fig. 4.1 are only first tier nodes, to serve as an example. In the following figures I demonstrate the coding process for issues related to environmental issues, spaces of dependence and spaces of engagement.

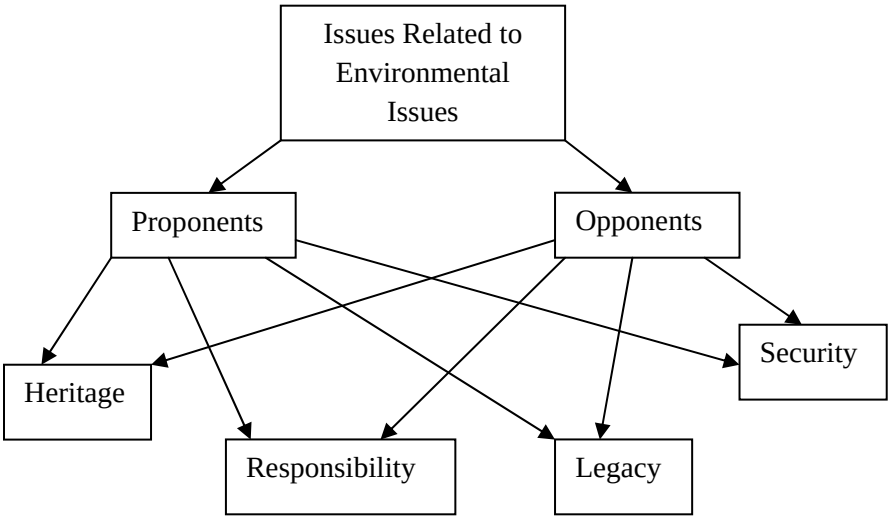

Figure 4.2 Coding of Issues Related to Environmental Issues

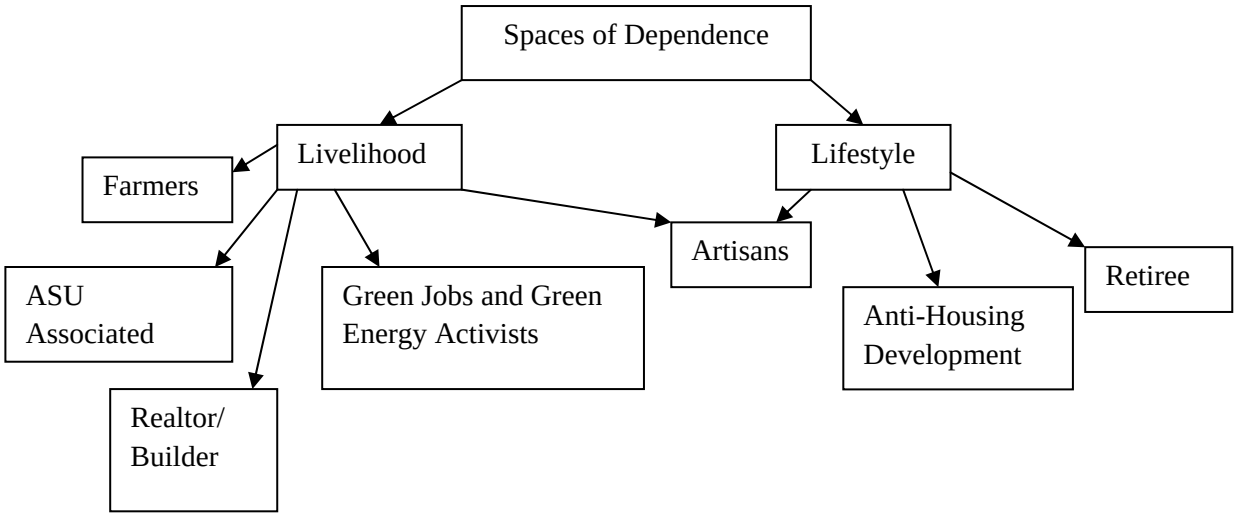

Figure 4.3 Coding of Spaces of Dependence

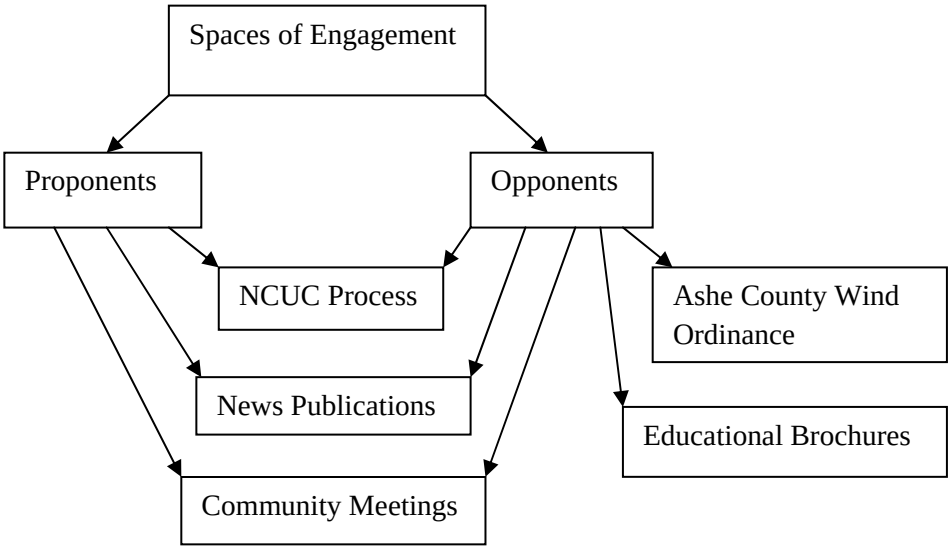

Figure 4.4 Coding of Spaces of Engagement

The above demonstrate my coding process. However absent from the figures is my further analysis; following coding I assigned further detail to these categories. Specifically, I guided my coding process by expanding upon the work of Cox. Spaces of dependence I divided between livelihood and lifestyle categories to distinguish between aspects of those spaces which I felt were important through reading of the data. Likewise, spaces of engagement I divided between official and unofficial to distinguish between the types of process each side were engaging in.

The visual connections which I was able to construct through the coding process, also served to enhance my conceptual analysis as well. The overarching conceptual framework, placed Kurtz's ideas of 'expressions of scale' and 'scale frames' in operation with Cox's concepts of 'spaces of dependence' and 'spaces of engagement.' This framework was divided and separated into a simplified form in order to produce my final analysis, however, as a result of simplifying my analytical narrative much of the nuance between and among these concepts was lost. In order to bring to light a greater depth and level of distinction within my framework, however, a concept map proved useful (See Fig. 4.5). The primary intention of this concept map

is to illustrate the interconnection between the broad and complex set of ideas which Kurtz and Cox articulate.

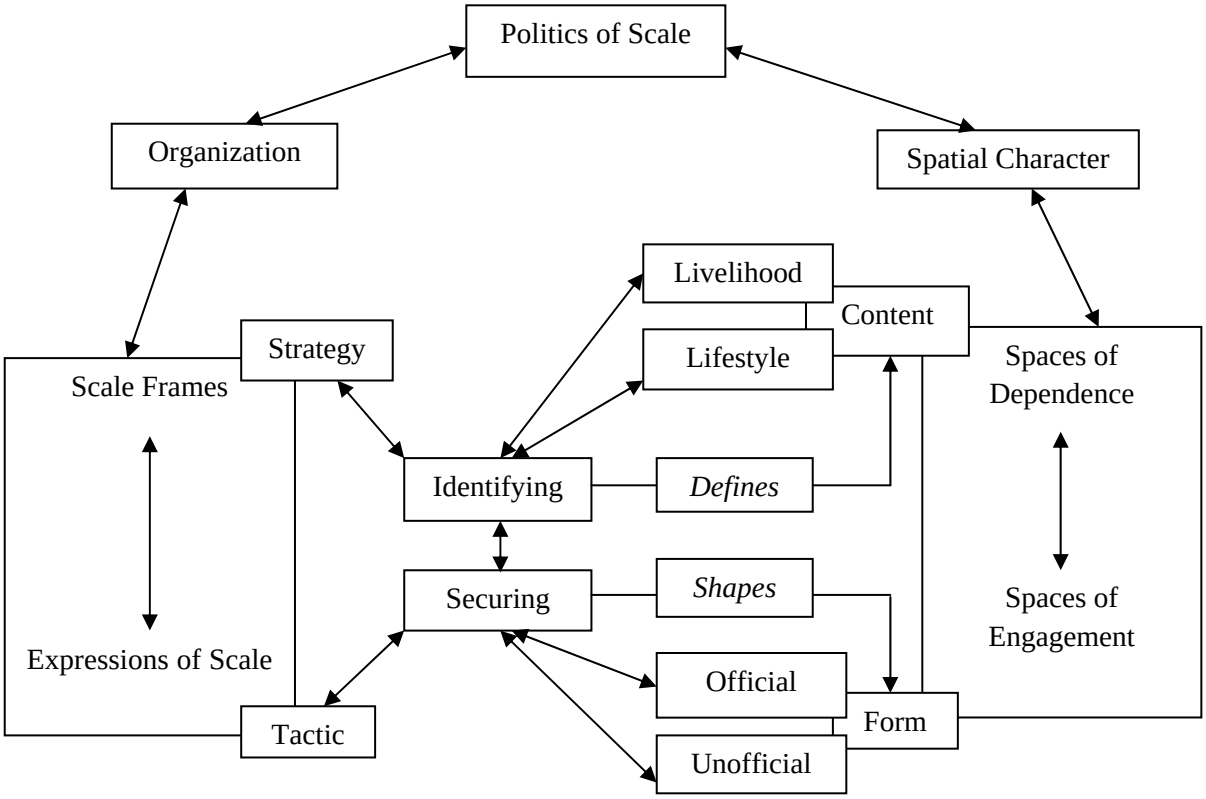

Figure 4.5 Concept Map

The final element of my analysis occurred through writing and description of my analysis. This process is dependent on its layers, and is inherently iterative. There is no one point where, as the researcher, I feel the data has been explored to its maximum potential. Rather, there is always depth and substance left remaining in the data which could be explored. This potential can either lie in the data itself, or in the process of analysis, but this potential for greater depth constantly remains. As a result of this iterative process, I argue that writing and discussion of my analysis is also a process within the analysis itself. As such, I concluded my analysis with the satisfaction that the most significant elements present within the data had been explored and addressed.

CHAPTER V

ANALYSIS: PHASE 1

Northwest Wind Developers Application for 'Utility Scale' Wind Farm

In this chapter I analyze the events in the first phase of the Ashe County case. I argue that this case study includes two distinct phases. These two phases warrant separate analysis and investigation, but are explored with a similar agenda and conceptual framework. The first phase involved Northwest Wind Developer's (NWWD) application to the North Carolina Utilities Commission (NCUC) for the permits to construct a 'utility' scale wind farm on Big Springs Mountain with between 25 and 28 wind generators. The application was later withdrawn from the utilities commission as NWWD met intense opposition to the project and the NCUC granted a Motion to Dismiss the case.

The second phase of events involves the creation of the Appalachian Institute for Renewable Energy (AIRE), a non-profit organization whose objectives are to promote a community-based model for wind energy in response to the events in Ashe County. While the events in each phase of this case study are distinct in some ways, I focus my analysis on the ways in which they are connected. I do this by drawing my analysis from a shared conceptual framework.

I argue in my analysis that environmental issues are critical to the articulation and use of scale within this controversy. These issues are critical conceptually because they allow for a more thorough examination of the dynamic between society and the environment. This dynamic is seldom discussed in the literature on the politics of scale, yet is central to this case study

because connections between environmental and social actors are deployed through scale frames and expressions of scale. I argue first that environmental issues are being framed through scales which define the spaces of dependence of social actors; second that these environmental issues are expressed in a way which shapes spaces of engagement; and that AIRE's efforts to promote community-based wind energy in the county have had a limited affect on these spaces thus far, although the organization still focuses their efforts on doing so.

The primary investigation of the first phase asks first, how did the scale at which environmental issues were framed define spaces of dependence, and second, how did the expressions of scale through which environmental issues were framed shape spaces of engagement? I divide my analysis between proponents and opponents of the case. While some individuals did hold neutral positions, the very few who remained neutral did so because of professional obligation. The questions I pose apply directly to opponents and proponents of the project because the controversy emerged within the debate between the two sides. This analysis is grounded in a conceptual framework linking the articulation of spaces of dependence to scale frames, and the shaping of spaces of engagement to expressions of scale (Cox 1998; Kurtz 2002, 2003).

Phase I: Northwest Wind Developers Application for 'Utility Scale' Wind Farm

Northwest Wind Developer's October 2006 application for a Certificate of Public Necessity and Convenience for a utility scale wind turbine electric generating facility was the point of a deeply felt controversy in Ashe County, North Carolina. Both proponents and opponents of the application held strong convictions and argued intensely for their positions. The following is a discussion of this controversy, the convictions, opinions, the arguments of those

involved, and the ways in which the conflict played out during the first phase of events. Through analysis of testimony from involved individuals to the North Carolina Utilities Commission, and interviews with individuals involved in the case, I argue that the scale of environmental concerns each side articulated defined their spaces of dependence. Further, I argue that the ways in which the scale of environmental concerns was invoked defined the spaces of engagement through which the controversy played out.

Phase I: Part I: Scale Frames and Spaces of Dependence

Spaces of dependence, according to Cox (1998) are the spaces in which the necessary relationships for daily life are sustained. These spaces represent the content of a politics of space in Cox's view, and form the rationale for a given set of opinions and arguments to be contested. Examining the case in Ashe County, an understanding of the spaces of dependence which both proponents and opponents articulate is necessary to understanding the controversy as a whole and the dynamic between environmental and social actors. The arguments of each side in this case are derived from their respective spaces of dependence. Defining those spaces of dependence allows us to better understand the positions held by those involved and how they were contested.

I argue that the spaces of dependence which formed the opinions of both sides of the controversy were primarily derived from environmental issues and concerns. I argue that the environmental concerns of the opponents are framed at a local and smaller scale, and that the proponents of the wind farm application frame their environmental concerns at larger scales, such as regional, national, and global (See Table 5.1). First I examine the scales at which these

environmental concerns are framed, and second I examine how the scale of these concerns defines each side's spaces of dependence.

Table 5.1 Evidence of Scale Framing of Environmental Concerns

	Scale	**Evidence**
Opponents	Local	"Ashe County is a beautiful county with wonderful citizens living there. The land and the mountains have a natural beauty that cannot be replaced. Because of the beauty and its wonderful citizens, I purchased this land nine years ago with the intent of building a home there someday. This project will ruin the natural beauty of a large portion of Ashe County" (NCUC Docket 167 Sub1)
Proponents	Regional	This [wind power] can be central to a new mountain economy. (Interview Brian Summers)
	National	But more important than that, I'm an American and my great, great, great, great grandfather Samuel Miller came to this country on a dream in 1718 and built one of the oldest houses in Russell County, Virginia. I understand association with place. (Interview Samuel Crisp)
	Global	It seems to me as both a local citizen and a world citizen, people ought to be concerned about how we use energy and sustainability (Interview Geoff Boyle)

Scale Framing

The scale at which environmental concerns were framed were different on each side of the debate in Ashe County (Table 5.1). To examine the scales through which each side framed their environmental concerns I look first at issues which are directly related to the natural environment. Second, I look at the scales at which issues that are indirectly related to the natural environment are framed. This analysis of scale framing will then serve as a platform from which to analyze spaces of dependence.

It is important, however, to briefly illuminate the framing of each side's environmental concerns in a critical light. The language used in the controversy in Ashe County over wind power centers around environmental issues, either directly or indirectly. Critically, the language

which each side uses situates those concerns in different ways. According to Cox (1998) these concerns represent the content of the controversy. In other words the spaces of dependence in this case are formed around these concerns. However, each side frames their content and concern in different ways. The ways in which each side differentiates their concerns relates to the scale at which they are framed. Essentially, each side is constructing scale frames to articulate their environmental concerns. According to Kurtz (2002) scale frames assume the role of 'naming, blaming, and claiming' an issue with particular 'reference to geographic scale (Kurtz 2002, 254). Upon analysis of the language used by each side to articulate their concerns, I argue that each side is actually creating scale frames with reference to environmental issues, in a way which articulates and in turn defines the content of the controversy, the spaces of dependence. The opponents of the proposed wind farm articulated a number of environmental concerns which were distinctively framed at a local level, namely *beauty*, *serenity*, and *health*. These concerns represent the qualities which opponents did not want to see changed at a local scale, which were associated primarily with Ashe County, and which opponents of the NWWD project felt were threatened by the installation of a large wind farm (See Table 5.2).

Table 5.2 Evidence of Opponent's Broad Environmental Concerns

Concern	**Evidence**
Beauty	"This project will ruin the natural beauty of a large portion of Ashe County" (Interview Charlie Fields)
Serenity	"We are concerned over the noise pollution from the turbines: (NCUC Docket 167 Sub1)
Health	"The list of symptoms associated with these turbines is quite extensive, including sleep problems, headaches, dizziness, exhaustion, anxiety or irritability, anger, depression, ringing in the ears and problems with concentration and learning" (NCUC Docket 167 Sub1)

These three categories are based on a large set of concerns which were articulated during the application process. The patterns and themes which emerged in the specific concerns of the

opponents, I then categorized broadly into each of these three categories. By examining each of these categories (Table 5.2), a better understanding of the opposition's primary concerns and the scale through which those concerns are framed can be derived.

The first issue, *beauty*, represents concerns raised by opponents about the aesthetics of the environment in Ashe County, and is perhaps the single most important concern voiced by the opposition. Aesthetic beauty, as an issue about which the opposition is concerned, encompasses primarily the visual perception of the environment. The aesthetics of the mountains are highly valued, and the mountains of Ashe County are those which the opponents cite repeatedly when describing the pleasing views of the mountains. When Jim Herringsworth was asked in an interview what he felt was most threatened by the proposed project, he replied:

> The natural beauty of the area, constructing a wind turbine facility here with some of the oldest and most beautiful mountains on the planet and decide its ok to do this to them, I don't see the logic to that, there is just no reason to destroy the natural beauty of this place for the sake of making money off of wind. (Interview Jim Herringsworth)

In this passage the speaker is framing the beauty of the 'area' locally. He perceives that this beauty is threatened because of interests which place money above beauty, an ordering of values which in his view is wrong. The beauty of the mountain environment is cited over and over again by those who either testified before the NCUC or were interviewed. Even more so, the specific features of Ashe County such as the trout streams, the New River, the foliage, the wildlife, and the winter rime ice were all features which the opponents felt were threatened by the wind farm. Walter Clark stated in an interview:

> I am worried about losing the connection we have with the natural environment, there are fewer places where people can go and actually experience a view that is not obstructed in some way by something man made. And standing on a place like Bluff Mountain or Mount Rogers and looking at Sugar Top, it is hard to imagine you know a structure standing 3 times higher than that and spread out along the ridge. You know again, for me it is spiritual. (Interview Walter Clark)

Here again, the opponent is framing his concern locally, even citing names of specific mountains. Using these names is important to him. It demonstrates he is connected to the environment, which he is arguing to be important, and by ascribing names to these places they become immediately situated in a context which carries with it a specific history and meaning. The context of these places also then carries with it the speaker's concern.

The second issue which the opposition is concerned with relates to the *serenity* of the local environment. Serenity is used as a broad category to represent the non-visual qualities about the environment in Ashe County. More specifically, this category represents the auditory and olfactory perceptions of the local environment which instill in certain individuals a sense of peacefulness or calm. As John Goodhart stated to the NCUC:

> To the Commission and the powers that be, I would like to go on record saying that my family and I are opposed to the wind turbines in Ashe County. I moved here for the beauty and the quietness of the area. (NCUC Docket SP-167 Sub1)

The speaker in this excerpt is drawing attention to the fact that he and his family changed their entire lives to move to Ashe County because of the value they placed in the local environment. The serene character of the local environment is highly valued, and this is a key concern for opponents. Scot Pope summarized the concerns over the serenity of the local environment in an interview by saying:

> You know I think that yeah, for me personally, it was a love for the mountains that drove my opposition. For other people that were living close to the site, for them it was a quality of life issue. A lot of the people who live in the Big Springs area are folks who moved there in search of peace and solitude. And all of the sudden there was this thing, and they were concerned. They were scared, and they felt a little betrayed by a neighbor who hadn't mentioned anything to them. (Interview Scot Pope)

Here, this opponent is also pointing out that he and some of his neighbors, changed their entire lives so that they could enjoy the serenity of the environment, which he believes is specific to Big Springs Mountain itself. He is framing the local environment around the lives of the people within it, and vice-versa.

The third issue, the *health* of the local residents is another prominent theme which opponents frame at a local level. Their claim is that wind mills will threaten the health benefits which are associated with the local environment. As Scot Pope testified to the NCUC:

> I believe the construction, maintenance, and operation of this facility in such close proximity to my 60 year old permanent residence on Willie Walker Rd. would have a detrimental, potentially devastating, effect on my health, my well-being, and the quality of my remaining life. I am currently 53 years old and would be approximately 80 years old at the end of the facility's projected life-cycle of 25 years. (NCUC Docket 167 Sub 1)

Another man John MacKnee testified the NCUC saying the following:

> Since August, my wife and I have been doing research on this. I'm going to start crying. This may be the most important few minutes of my life because if this project goes through, my children, my wife, my farm -- I have two milk cows, my cows are all going to be devastatingly affected. These turbines are 400 feet tall. They make a horrendous noise. There are health problems. I have a whole list of health problems here, people that have had to move away from their family farms in Nova Scotia and it's just, it's devastating. (NCUC Docket 167 Sub 1)

In both of these passages the health of the individuals and their families are framed at a local scale. Each of the speakers references their relationship with the local environment, and 'their' property in particular. The opponents claim these health issues derive from qualities in the environment such as clean air or the lights and sounds associated with the local surroundings in Ashe County. The framing of these concerns however contrasted strongly to the scale of concerns held by the proponents of the application.

By contrast, the proponents of NWWD's application framed their environmental concerns at much larger scales. They articulated a number of environmental issues for which

they support the project. I place these concerns into two broad categories of *environmental justice* and *health* (See Table 5.3). These categories represent a much different set of scales than do the opponent's categories and represent issues which supporters felt the wind farm could benefit. Here the scales at which environmental concerns were framed were at the state, regional, national, and global levels. Together, the two categories represent a much wider range of environmental concerns held by the proponents of the original project.

Table 5.3 Evidence of Proponents Broad Environmental Concerns

Concern	**Evidence**
Environmental Justice	Knowing that we were doing something about global warming and air pollution from coal plants.
Health	All these new coal plants would increase health threatening air pollution if they are constructed

First and most often cited by proponents were concerns of *environmental justice*. In particular, individual's cited time and again the negative environmental impacts of coal, yet there is no coal in Ashe County. Mountain top removal mining practices, emissions from coal fired power plants, asthma related illnesses, and destruction of the environment in general were of most prominent concern. As Bob White stated before the NCUC:

> They take the mountaintops and they dump them into the valley. So the places where we live, all of us live, can -- would be filled in if we lived in the coal fields. And those valley fields could be a mile wide and four miles long. They take the waste from processing the coal and cleaning it and put it into sludging helmets, which can hold billions of gallons. One above a friend of mine's house, which is where she used to live in Martinsburg in West Virginia, holds almost -- will hold almost eight billion gallons of coal sludge. (NCUC Docket 167 Sub1)

These issues were raised by proponents first at a regional level with the claim that certain regions bore more environmental damage than others. Often individuals spoke of the

Appalachian region, and their concerns would immediately target the coal regions of Virginia, Kentucky, West Virginia, and Pennsylvania. These concerns related the impact of the proposed wind farm to preventing the environmental damage attributed to coal mining.

> I've watched as whole mountains were blown apart to scrape out successive layers of coal. Much of the light in this room is likely coming from a devastated mountain in east Kentucky or in southern West Virginia or in southwest Virginia. I've witnessed the terrible effects that this mining has on mountain communities in Appalachia. I've also seen wind turbines out west and also here in the east. Believe me, there is no comparison when it comes to impacts. (NCUC Docket 167 Sub1)

Even broader than coal mining in Appalachia were the concerns related to global warming and climate change. Ann Goss testified to this central concern in an e-mail sent to the NCUC:

> I strongly believe this would be a step forward. We're already seeing the effects of global warming; hotter summers, melting glaciers, droughts, pest outbreaks, warmer winters, rising sea levels. I know by putting up wind turbines it isn't going to stop all of this from happening, it would help though. (NCUC Docket 167 Sub1)

In all of these passages the speakers are articulating environmental justice concerns, and framing them at larger scales. The use of state and regional names brings the proposed wind farm immediately into a larger scale of importance. These concerns were of utmost importance to the majority of the proponents. Most of these individuals felt that the proposed wind farm was a necessary step in creating a just and clean environment for the global population and the shift away from fossil fuel based energy systems.

The second way in which proponents articulated their environmental concerns was in terms of *health*. These concerns were closely related to the proponents concerns about environmental justice. First, there were concerns related to the use of coal generated electricity and its impact on the health of the people and environment which results. Ralph Grosswald testified to the NCUC saying:

> My own wife now has been diagnosed with asthma directly related to air pollution. So it is a personal thing for everybody and the opportunity to move in a progressive direction is something that I think everyone in our community can benefit from. I feel like it's time for us to start thinking about our own health and the benefits to our community rather than just selfish, personal issues of whether or not they're concerned about having a wind generator nearby. (NCUC Docket 167 Sub1)

In this excerpt, the speaker is relating the regional impact of coal fired air pollution to health risks. He then encourages 'everybody' to stop being 'selfish.' His argument, in other words, is relating to the opponents that the health concerns which are occurring locally are part of a much larger scale issue, which will affect the health of many people as a result of widespread use of coal. These concerns framed the health and quality of the environment by citing, for example, the loss of habitat for certain tree species and high rates of particulate-related asthma at state, regional, and national levels. As Jim Sanderson articulated in an interview:

> There is no national issue that now has more credible scientific consensus than global climate change and the anthropogenic, the human caused disruptions of national weather cycles affecting not only our coastal populations, but our mountain climate, our agriculture here and our vulnerable hardwood forests. Those of you who live here and live in the county know that our trees are not as healthy as they were ten years ago, 20 years ago, and a lot of this has to do with some climate change right here. (Interview Jim Sanderson)

Here Mr. Sanderson identifies health concerns in the local area which are directly effected by global scale climate issues. Further, proponents were concerned with the health and quality of the environment globally, and repeatedly cited global health related to climate change as a key issue for which they supported the proposed wind farm.

While the environmental reasons which both sides of the controversy explicitly cite were of foremost importance, there were a wide range of other issues which emerged that each side framed at similar scales, but which indirectly express environmental concerns. These issues were related to *heritage*, *legacy*, *security*, and *responsibility* (See Table 5.4). Importantly, these issues

were articulated by both sides in ways which framed their concerns at the same scales as the issues which directly relate to the environment.

Table 5.4 Evidence of scale framing

	Opponents	**Proponents**
Heritage	The mountains you're talking about here are the oldest mountains in the world. They are so old they have been worn down to their present height. You that you have to ask yourselves whether or not you are willing to change the look of these mountains that have existed as they are, for the sake of building this project. (NCUC Docket 167 Sub1)	There is a time when the values and the symbols that reproduce a culture become less and less meaningful, you have to look forward to say what does our culture need to survive at this point. And, I saw more upside to having a project happen. (Interview Geoff Boyle)
Legacy	The land that we live on has been in my wife's family since 1824, and I would like to extend this land to my children and grandchildren, let them live it. , but we need some method that we as landowners can make money to pay the taxes to live on it. (Interview Jim Herringsworth)	I remember worrying about my children and worrying about them years from now. I really am, I think it is very uncertain for people your age, I am concerned for my daughter's generation. (Interview Jim Sanderson)
Security	My fear about that proposal based on its size was ultimately do damage to the state's ridge protection law. Which I have done a lot to protect. So in my interest was to protect the ridge law. (Interview Walter Clark)	Its probably one of the only resources the state has to alleviate the energy crisis. (Interview Greg Hopewell)
Responsibility	The insidious intrusion of this overwhelming project onto our beloved mountains is an insult to God and nature! I sincerely hope your decision will be in the best interest of the "many" who cherish nature's beauty and benefits of which we are so blessed! (NCUC Docket 167 Sub1)	It wouldn't be right for us here to lose green power only to have it carelessly used elsewhere. (NCUC Docket 167 Sub1)

First, both opponents and proponents of the proposed wind farm were concerned with the heritage of the land and the environment. The opponents of wind power framed their concerns about heritage at a very narrow, local level. The most common concern was that this proposed wind farm did not blend in to the surrounding landscape and culture present in Ashe County. In a

letter to the NCUC one individual talks about this connection which she illustrates through her mother's grave:

> Her grave is high on a mountain overlooking Manoa Valley. That mountaintop graveyard is holy ground. The world is really, really beautiful from up there. Moses went to the mountaintop to hear from God and it is our mountain custom that when our time comes, we meet God in our final resting place on the mountaintop. (NCUC Docket 167 Sub1)

Here, the opponent refers to the 'customs' of the mountain culture, which are literally, in the form of the graveyard, and figuratively a part of the local environment. In most cases, the heritage of the land was represented by the mountainous terrain. In particular, opponents felt that the 1983 Ridge Protection Act was not only part of the heritage of the landscape and the environment in the mountains, and in Ashe County, but that it also protected the ridges, and defined what was important about the environment in the area, the mountains.

On the other hand, the proponents of the wind farm framed ideas of heritage at a much larger scale. In particular, proponents claimed that Appalachian resourcefulness and ingenuity were a part of this region's history which should not be ignored. It was felt by those in favor of the turbines, that the ability to make use of the surrounding environment and landscape for survival was not only a part of the history of the region, but a necessary interaction between people and the environment to preserve Appalachian culture.

Second, ideas of the legacy of the environment in Ashe County are framed by both sides of the controversy in different ways. The opponents of the project wanted to leave a legacy which leaves the local mountains untouched, or relatively untouched. As Maria Whaley stated to the NCUC:

> I'm also here to speak for my children who are already talking about where they will build their homes when they're ready to settle down and come home. I'm here to speak for my grandchildren who aren't even born yet. I want to teach them what my mother taught me about wildlife and canning and wild flowers. I want to teach them in the same garden where my mother taught me, I'm here to speak for my brother who is laid to rest on that

> land. I've made a promise that I would be there to care for his final resting place for the rest of my life and to care for my parents in their home when they can't care for themselves and then to care for their final resting place until my kids take over to take care of mine. This proposed project will change that.(NCUC Docket 167 Sub1)

In this passage, the opponent is framing the legacy of her family in light of the local environment. She is arguing that the character of the environment which she valued would be compromised by the wind farm. Individual's wanted to leave behind a local environment which looks just as it does today. Another individual stated: "What we are is caretakers, if that is true we must be very vigilant to protect our mountains for future generations. If we put turbines on every mountain ridge, the mountains will be gone forever" (NCUC Docket 167 Sub 1). As well, many opponents wished for the local environment to return to an even more rural and undeveloped landscape. The preservation of the ridge tops, the rivers, and the 'mountain air's peace and quiet' are the most important legacy opponents wish to leave.

Proponents of the project, however, want the legacy of this case to be at a much larger scale. They want to see wind power in Ashe County as a turning point for environmental justice by beginning to put an end to fossil fuel consumption. Berkley Brown testified in an NCUC town hall meeting saying:

> The sun is a gift to grow our crops, the rain that we get is a gift and so is the wind. And I feel like when my two-and-a-half-year-old daughter asks me in 20 years, "mom, what did you do," that I can actually say something that I did to help shift the situation that we're in right now. And everybody is totally entitled to your opinion and this is mine. And that's all I have to say. (NCUC Docket 167 Sub1)

Here the proponent is framing her concerns at a large, but somewhat unspecified scale. She doesn't identify a particular scale in this passage, but she states she wants her daughter to appreciate what she did for the current situation, which appears in her testimony to relate to various forms of global crisis. Supporters of the wind farm also want to see a legacy shaped by becoming a state and national leader in renewable energy, and by trying to put an end to coal

mining in Appalachia, and global warming. Each side has deep and real concerns for future generations, and the environment that will be bequeathed to them years from now. While opponents want to preserve the beauty of Ashe County, proponents want to protect the environment for the region and for the planet.

Next, issues of security emerge on both sides of the debate. Security, although not always explicitly identified as a term, nevertheless appears conceptually over and over again. For example, opponents of the project repeatedly cite concern for the future economic growth of the county. As Jeremy Chamberlain responded during an interview:

> With the New River and the Blue Ridge Parkway literally in our backyard, Ashe County provides a beautiful, rugged and breath-taking escape from the hustle and bustle of over-crowded city life. Will we lose this aspect of our economy with the additions of turbine farms? Will people still want to visit amidst the 400 foot high windmills that run constantly and are within sight of surrounding vistas? (Interview Jeremy Chamberlain)

In this passage, the speaker expressing concern for the economic security of the county, and relating it directly, and by name, to various points in the county which he feel will be threatened by the wind farm. Economic security is then directly related by the opponents to the environmental qualities of the area. They claim that the county's economic security is dependent on tourism, home construction, and is therefore dependent on the beauty, serenity, and character of the mountains. Security for the opponents is a local issue.

On the other hand the issues of security which shaped proponent's environmental concerns were framed at national and global levels. In particular national energy security, and the global reduction of fossil fuel usage was an important factor for many individuals. Asking one proponent of the project in an interview what benefit he saw from the wind farm, he replied saying, "The main benefit would have been just the cost of power probably staying lower in case something happened to the foreign oil" (Interview Greg Hopewell) Economic security was seen by proponents of the wind farm as relating directly to these national and global issues. The future

of the county depended on the ability of the people to adapt, and fill the need for these larger issues.

Finally, issues related to responsibility were directly related to environmental concerns, and illustrate the different scale frames each side of the controversy articulates. Opponents of the case felt responsibility in two ways, each of which frame their concerns a local scale. First, individual's felt responsibility to protect the heritage, legacy, and beauty of the county's landscape and mountains, as one opponent stated in an interview, "It is our duty to explore and utilize alternative energy sources, but not at the expense of the mountains' natural beauty" (Interview Jim Herringsworth). Second, opponents feel a responsibility to speak out against the proposed wind farm to protect the people of the county, who depend on the landscape and the environment for jobs and for peace of mind.

Proponents of the wind farm, however, felt a much different sense of responsibility which they framed in very different ways. The responsibility supporters felt was for the Appalachian region first. A majority of proponents claimed that because Ashe County has a wind resource and no coal resources, it is the responsibility of the county to alleviate some of the burden of counties throughout Appalachia who do have coal, and who must endure negative environmental impacts as a result. Benji Burrell states this concern by saying:

> And I personally feel that I owe it to those people in the coal fields to do something in my backyard that helps them, that keeps that from happening anymore. Regardless of global warming, which is -- I mean, which is going to affect all of us anyway. So because of the cancers and because of almost a million acres of our mountains just north of here in Virginia and Tennessee and Kentucky and West Virginia have been destroyed because we consume a lot of energy personally as a country, I think we have to support in every way possible any opportunity we can to do something other than burn coal for energy. (NCUC Docket 167 Sub1)

Here the speaker directly cites the coal fields in other states. By naming these states he is not only placing his concern outside of the local area, but into the whole region. As well, he

places those regional concerns for coal mining into a national and global context, and relates those concerns directly to his support for the proposed wind farm.

Second, proponents felt a responsibility to the state and the nation as a whole to use this opportunity to become a leader in promoting renewable energy. Finally, the majority of supporters felt a responsibility to support the proposed wind farm to protect the planet, and fight against global warming and global climate change.

The scales at which the environmental concerns of both sides are framed are very different. As I have shown, opponents of the project frame their explicit environmental concerns and their implicit concerns at a local level. In contrast, the proponents of the project frame their environmental concerns at state, regional, national, and global levels. These differences in scale are very real. The scales at which these concerns are framed, however, have not been fully explored. In order to more completely understand the differences in scale between sides of the controversy, I will next examine how the scale of these concerns defines each side's spaces of dependence.

Spaces of Dependence

According to Cox (1998) spaces of dependence represent the content of a politics of space. Critically however, he fails to closely examine what defines and forms the content that those spaces represent. I argue that these spaces are defined by the scale framing of key issues. In the Ashe County case, those issues relate to environmental concerns. The text of the transcripts from the NCUC docket and interviews with some of those involved in this case demonstrates that each side is constructing scale frames to articulate their environmental concerns. Kurtz (2002) points out that these frames articulate the issue at hand through 'naming, blaming and

claiming.' I argue that this articulation of scale frames is what defines Cox's concept of a space of dependence, and what forms the content of a politics of spaces. This defining quality of scale frames in the Ashe County case can be seen by examining the ways scale is used to comprise spaces of dependences.

While Cox (1998) offers a conceptualization of spaces of dependence he also fails to identify what comprises and characterizes the dependence that exists within those spaces outside of an abstract framework of economic dependence. What is made clear, by Cox, however, is that 'dependence' is the essential quality inherent in these spaces. In order to look at how the scale of environmental concerns actually defines spaces of dependence in the Ashe County controversy, a better understanding of the sources of dependences which underscore both sides of the debate is necessary.

I categorize the sources of dependence in the Ashe County case into two categories, livelihood and lifestyle. (See Table 5.5) These two categories are used to embody a range of dependences which appear throughout the testimony and interviews with those involved in the case. Critically, the language with which sources of dependence are constructed with defines the set relationships which encapsulates them and directly influences the scale at which environmental concerns were framed by each side. What appears in the language used in the text of transcripts and interviews demonstrates that the sets of relationships which people are dependent upon are not socio-economic alone. In fact, this case demonstrates that the sources of dependence which people rely on are in fact premised upon the relationships that exist between society and the environment. These sources of dependence are then defined by the scale at which they are framed. In other words, the sources which comprise the spaces of dependence are actually defined by the scale frames of environmental concerns.

Table 5.5 Primary Forms of Dependence

	Subset	Livelihood	Lifestyle
Opponents	Realtor/ Builder	X	
	Retiree		X
	Artisan		X
Proponents	ASU Affiliated	X	
	Green Jobs/ Green Energy Activists	X	
	Farmers	X	
	Anti-Housing Development		X

Livelihood represents an individual's set of relationships which are necessary for day to day survival and existence. Jobs, sources of income, and the ability to secure the basic needs of daily life are all concerns I place in this category. This is certainly one of the most significant sources of dependence for many people. However, analyzing the language of testimony and interviews, there appears to be another significant source of dependence which does not fall into the category of livelihood, that source is lifestyle.

Lifestyle, on the other hand, represents the set of relationships in an individual's life which are desired. This is not to distinguish between need and desire, because many individuals expressed the sentiment that lifestyle choices were very much needed for daily life. The distinction is that lifestyle sources of dependence are not necessarily required for day to day life by most people, and must be described as such by those who do require them. Through analysis of the use of language in transcripts and dialogue, I place leisure, activity, hobbies, and comfort in this category and categorize lifestyle choices as a separate source of dependence which is indeed necessary for some.

These two broad categories encompass the range factors which motivated individuals in this case. I argue that a better understanding of how the scale of environmental issues defines

spaces of dependence can be achieved through an examination of these sources. In order to explore these sources of dependence I will first examine the motivations of the opponent group and follow with a similar discussion of the proponent's sources.

The opponent's of the proposed wind farm come from a very diverse range of lifestyles and livelihoods. While the opponent group was large and diverse, however, I examine three of the most outspoken subsets within this group, who put forth the arguments that were supported by the larger group of opponents. I explore the livelihoods and lifestyles of the realtor and home builder subset, the retiree subset, and the artisan subset.

The realtor and home builder subset of the opponent group was the largest, most outspoken, and most organized in terms of opposition to the proposed wind farm. This was primarily because of the significance of property values and the housing market to the county and to their livelihoods. Since the late 1980's the North Carolina High Country has become increasingly popular for retirement and second home ownership. The earliest development in the area came in Watauga and Avery Counties very nearby. Beginning in the late 90's however, Ashe County began to see a huge influx of retirees and second home owners. According to one realtor, in the 10 years leading up to the proposed wind farm the average price per acre had gone from $1,000 to $10,000, and the average realtor had increased sales revenue ten fold as well. In terms of livelihood, a large number of builders and realtors felt that their businesses, many of which were new in the last 10 years, were in jeopardy. In testimony before the NCUC, Darrel Hamilton made the following statement:

> I am here as a representative of the Ashe County Home Builders Association. We're an association of about over a hundred strong, somewhere in the 125 range. We represent an industry that produces over 1,600 direct jobs in this county. We're the largest industry in this county. We and that's not counting the related people who work in over 20 banks, lending institutions, the mortgage companies, the insurance companies, survey crews. I could go on. But our organization is opposed to these vehemently. I want to go on record

> and make sure that that's aware. We cater and sell and build -- I personally build to retirees and second home market. These people come here to look out our pristine ridge tops. We support renewable energy, but we don't support it at the raping of our ridge tops (NCUC Docket 167 Sub 1).

In this passage the speaker makes clear the importance of the building industry to his life, his colleagues, and the community. In order to identify and emphasize (?) their dependence on the housing market, this group argued that the main reason they are able to do business is because of the natural beauty and serenity of the area. Not only do the majority of realtors and builders enjoy this beauty as well, but their clients come here seeking a lifestyle which the natural environment affords. One local realtor stated in an interview, "I had clients, and the minute they found out they put everything on hold. Because they wanted to know, they are coming up here and they want this view, they don't know if there are going to be these big monstrous wind mills in the distance that they are going to see." This subset's livelihood was the primary threat perceived by NWWD's proposed wind farm, but so too were their lifestyles, and the lifestyles of their clients.

The retired population in Ashe County is more than significant. Aside from tourism, and second home buyers, serving the needs of retirees who move to Ashe in their 'golden years' is one of the primary economic drivers in the county. A great number of retirees, however, opposed the wind farm as it was proposed. This is primarily due to the lifestyle motivations of this group. Of the retired individual's who spoke out against the wind turbines, the affect on the view of the mountains, and the affect on their overall health were of utmost concern, and the two are closely related. These individuals came to the mountains to 'escape' the busy lives they once lived. As William Shire stated in an interview:

> I worked all my life to reach a point where I could escape from Charlotte and come to a place that was quiet and secluded and peaceful and you know to come to that point in my life where this is where I hope to live the rest of my life, and to find out that somebody

> could come in and destroy it and take the peace and the quiet and seclusion away from me not for a year or two, but for the rest of my life.(Interview William Shire)

By pointing out that he has worked to get to this point, and is finished with that part of his life, this opponent is relating his dependence on the environment directly to a lifestyle choice. This subset has for the most have secured their monetary needs and have come here to experience peace, quiet, solitude, and relaxation. The retired population came to Ashe County to be in its unique environment. Another retiree claimed in an interview, We moved to Ashe County to enjoy the beautiful mountains, the quiet environment and the beautiful starlit skies. Living within one mile of the wind farm will be devastating for us." That environment also contributes to their health. The quiet, the calm, and the peace of the mountain views do a great deal for the retired population's perceived health. Furthermore, many individuals in this population felt that the property values were threatened by the wind farm, and that their investment would be weakened. Not only was their retired lifestyle threatened by the wind turbines, but they argued that their health too was being threatened.

The last distinguishable subset group of opposition came from artisans. This group consisted primarily of artists and small-scale organic farmers, most of whom had moved to Ashe County to pursue their craft. This part of North Carolina is renowned for its crafts, and there are three notable craft schools in the adjacent counties. For this group, their lifestyles and livelihoods are intimately connected. For this group, livelihoods are an extension in many ways of their lifestyle. These individuals not only create their art, cheese, organic blueberries, produce, etc for sale, but they also do it because of the personal benefits as well. The arguments that this group made claimed that the proposed wind farm threatened the local views, aesthetics, and environment in such a way that it took away from their ability to derive pleasure from their lifestyle choices. As is the case, their lifestyle choices are also their livelihoods. One artist stated

that, “It is incredible to see Jefferson Avenue in West Jefferson as a gallery row” (NCUC Docket 167 Sub1). In this quote, the speaker is concluding her testimony about to the retreat of art and art culture from this area in the past, and how in recent years the county has seen a significant resurgence in the art community. For this artisan group, the perceived destruction of the local environment would also destroy a significant part of their lifestyle and livelihood.

The proponents as well, come from a diverse range of backgrounds. In a similar fashion I explore the sources of dependence generated through livelihood and lifestyle. The arguments made by supporters of the wind farm also came from a distinguishable subset of groups, just as the opposition did. The arguments supporting the wind farm were made primarily by members of four subset groups, Appalachian State University faculty and students, green job and green energy activists, local farmers, and local anti-housing development residents.

Appalachian State University is located in adjacent Watauga County. It is the largest university in the area, and the largest employer in this part of the state. The university has a long tradition of research in appropriate technology, renewable energy, and sustainable development, and has created departments in these areas that are among the first in the nation. The ASU faculty members and students who spoke in favor of the proposed wind farm did so, not only as concerned citizens, but also with the credentials of the university and the appropriate technology and sustainable development departments in particular. As Denis Scanlin testified:

> As Director of the Appalachian State University (ASU) Energy Center I wish to add to the record factual information developed over the past several years in regard to the potential development of utility scale wind projects in the western North Carolina mountains. Researchers at the Energy Center have been involved in several studies on aspects of this issue that may be pertinent to your deliberation.(NCUC Docket 167 Sub1)

In this excerpt, the speaker is referencing his title to support his claims, and at the same time relating his career to wind power in the area. For these individuals, their livelihoods and lifestyle

choices were connected. This group was motivated not only by the benefit this wind farm could have on their careers at the university, but also because of their lifestyle choices which were directly related to their livelihood interests.

Similar to the ASU--affiliated subset, another proponent subset was comprised of individuals whose livelihoods and lifestyles depended on alternative energy. Among those who supported the project were individual's from NC Small Wind Initiative, WNC Renewable Energy Initiative, *Appalachian Voices*, an environmental justice news source, Carolina Clean Air Coalition, a non-profit organization which protests coal related issues; and High Country BioFuels, a local 'green' energy company. This group is dependent on the demand for alternative energy solutions for their livelihoods, and were primarily motivated by this. As one graduate student from ASU stated "The vision I see is being able to produce relatively free electricity without destroying my Kentucky homeland or fighting a war for foreign oil. I would love to get a job and be a part of a project such as this in Ashe County" (NCUC Docket 157 Sub 1). Here the speaker is directly referencing his own desire for employment in this field and relating it to the wind farm. The group's lifestyle choices are closely related to their livelihoods, and as a result of this connection, the most significant arguments that this group made were based off of livelihood motivations. Leonard Ball, a professor in the appropriate technology department at Appalachian State, concluded in an interview:

> I think there needs to be more diversity in the utilities mix, so we can be less dependent on a lot of other types of fuels that we are using like coal and nuclear, and then it would also spur the growth of additional green jobs, and that would um, be on as local level as well, you know one wind farm is not going to provide many long term jobs, but it will provide a couple and more during installation. (Interview Leonard Ball)

Another group which supported the proposed wind farm was comprised of farmers and farm bureau representatives. Not only did local farmers speak out, but members of the county

and state level farm bureaus spoke in favor of the project. In an NCUC hearing in Raleigh, NC, the state's Farm Bureau representative, Paul Sherman, made the following statement:

> Farm Bureau is deeply concerned about the negative impact of rising energy costs and development pressures on North Carolina's farm families, rural citizens and agribusinesses. These costs are jeopardizing our state rule economy and squeezing the budgets for hard-working citizens. Wind power projects will add to the diversification in North Carolina's energy portfolio facing its rise in fuel cost. Construction and operation of wind turbines will provide additional employment opportunities and tax base for rural economy… Leasing income from wind projects provide additional income to rural land owners while allowing family farms to resist development pressures as they choose" (NCUC Docket 167 Sub 1).

The primary motivations for farmers had to do with livelihood. As one farmer noted, it is next to impossible to get by as a farmer in the mountains. He pointed out that the Christmas tree industry, the most significant cash crop in Ashe, had become virtually stagnant, and prices had not gone up in 35 years. Farmers were very concerned with their ability to make a living, and the prospect of leasing their land to develop wind turbines was very promising, as many farmers in the Midwest have made a very good living doing the same thing.

The fourth group supporting the proposed wind farm was comprised of residents of Ashe County who were opposed to housing development. This group was primarily motivated by lifestyle choices. The most common argument made by this group was against the environmental destruction of the mountains caused by housing development. As Ted Robertson stated in an interview:

> You have a choice, really, we are talking about a choice between covering a mountain with wind turbines and covering it with houses. Now wind turbines, they have their scars, but they can be taken down, for the most part the mountain will be ok. But the houses they are not as easy to erase, and you know we're talking about legacy I kind of feel like the two alternatives the wind turbines are the better legacy, if we have to choose, and I think we probably do have to choose, between something like that and real estate development. (Interview Ted Robertson)

It was argued by Ted, and echoed by other members of this group that instead of building second homes and using natural resources for construction was much more harmful than building wind turbines which could benefit a much greater population. The perceived view shed impact of wind turbines was more appealing than home construction, and for most in this group it was a tradeoff. If there were going to be development in the mountains, why not make it something useful to more people? One gentleman spoke to this point saying, “If I flatten it down and put a house on every top of it, all its going to do is generate pollution. Windmills do not generate pollution” (NCUC Docket 167 Sub1) However, there was also concern by some in this group that continued housing development would raise taxes so high they could not afford to live in the county anymore. This phenomenon has already begun in Ashe, and many individuals have already been forced out, and in this way their livelihood motivates their argument. For the most part, however, this group is motivated by lifestyle choices which do not kindly receive continued housing development.

To summarize my analysis of spaces of dependence, I argue first that environmental issues were of central importance to this controversy. Second, the scale at which opponents and proponents of the proposed wind farm framed environmental issues were different. Opponents framed their argument at a localized level, their environmental concerns were based on the beauty, serenity, and health of the local environment. The proponents on the other hand framed their environmental concerns of justice and health at the much larger scales, comprising state, regional, national, and global levels.

Further, I argue that these environmental concerns defined each side’s spaces of dependence. I claim that spaces of dependence are defined through the relationship between these environmental concerns and the livelihood and lifestyle qualities of ‘dependence’ on each

side of the controversy. What remains to be seen, however, is to uncover how the scale of environmental concerns are invoked by both sides of the debate, and how in turn spaces of engagement are shaped.

Phase I: Part II

Spaces of Engagement are, according to Cox (1998) are "the space[s] in which the politics of securing a space of dependence unfolds" (Cox, 1998, 2). Cox points out that spaces of engagement assume the 'form' of a politics of space, as opposed to the 'content' which is represented by spaces of dependence. The spaces of engagement in Ashe County, were the spaces in which the controversy took shape and produced outcomes that 'secured' the spaces of dependence that were defined by the scale of the environmental concerns of the opponents. In other words, the spaces of engagement in this controversy shaped the way in which spaces of dependence were secured.

Cox's conceptualization of spaces of engagement argues that the form of a politics of space is mediated from its content, or spaces of dependence, through what he terms 'networks of associations.' These networks of associations represent the individuals, agencies, or institutions which translate the content of a conflict into a point of engagement. What can be understood from Cox's work is that there are various sources of power found within these networks of associations, which then effect the form of a space of engagement. I argue however, that Cox fails to closely examine that effect. What emerges in the language and text of the Ashe County case, however, offers insight into the ways spaces of engagement are shaped and the form that they assume.

To expand upon Cox's work, I characterize these spaces of engagement as either official or unofficial and I argue that these spaces are shaped by Kurtz's (2002) notion of 'expressions of

scale. These expressions of scale, invoke the scale of environmental issues that, I argue, defines the spaces of dependence. As Kurtz (2002, 2003) points out, expressions of scale can serve to project the desires of those using it, while underplaying the desires or impact elsewhere to secure their respective spaces of dependence.

The focus of my analysis here investigates the ways in which the expressions of scale that environmental issues were framed upon, shape the spaces of engagement in the initial phase of the Ashe County wind Controversy. I argue that the expressions of scale used by each side are based on the perceived power inherent to the scale frames which each side used to premise their environmental concerns and define their spaces of dependence.

Spaces of Engagement

In order to examine the ways in which expressions of scale define the spaces of engagement in the Ashe County controversy, I first discuss the types of spaces in which each side attempted to secure their position and their spaces of dependence. In Cox's discussion of spaces of engagement, or the form of a politics of space, he fails to closely address what effect networks of associations have on the form those spaces actually take, and why.

In an attempt to identify the form which spaces of engagement take I distinguish these spaces into two broad categories, official and unofficial. Official spaces are those spaces which are formed through formal processes and networks of associations , which derive their power from institutions such as the legislative or judicial system. These institutions can represent power from local to state or even national levels, depending on the case, but what remains constant is that the networks and processes which form an official space are formal and easily recognizable.

As a result the boundaries of official spaces and the form which they assume are often well defined.

Unofficial spaces, on the other hand, derive their power from informal networks and processes such as social or cultural consciousness. These forms of power are not necessarily insignificant or less effective than official spaces, the distinction lies simply in form. The boundaries and form of unofficial spaces of engagement are less defined as a result of the more informal processes and networks of associations which define them. It is important to note, that the distinction between official and unofficial spaces is not cut and dry, and these spaces have the ability to effect one another. The distinction lies in the form of the space rather than their effectiveness per se. However, in the Ashe County controversy, the distinction between these two types of spaces is important, and is made clearer upon examination of the expressions of scale used by each side and the way those expressions shape the spaces of engagement.

Each side of the controversy in Ashe County was actively involved in attempting to secure their spaces of dependence. In order to successfully secure those spaces, each side had to bring their arguments into spaces of engagement (See Table. 5.6). Cox (1998) argues that 'networks of associations' come together at points to form these spaces. In the Ashe County case, these spaces take a number of forms, which all relate to the networks of associations, either official or unofficial, from which they derive their power. For example, the NCUC process stems from a network of associations involving the state government, the history of the utilities industry, and federal utility regulation. The spaces which it effects relate to a network of utility companies, the consuming public, or the state's ability to use imminent domain for example. Similarly The 'Ridge Law' stems from the state legistlature, various interpretations of the law, and the topography of the state. While a law may not always represent physical space, the

associations the law has with the language of the legal code that gives it authority over physical space, and the ability to contest that language do represent a space of engagement. It is important to note however, while Cox claims these spaces emerge from networks of association, I argue that they can not be considered spaces of engagement until spaces of dependence are contested through expressions of scale.

While both sides of the controversy were active most of these spaces, the expressions of scale which each side utilized to secure their spaces was different. As a result, each side shapes these spaces of dependence in different ways. In order to analyze the dynamic between expressions of scale and spaces of engagement, I first look at each side's participation in the identified spaces of engagement.

Table 5.6 Official and Unofficial Spaces of Engagement

	Opponents	**Proponents**
Official	NCUC Process	NCUC Process
	NC Mountain Ridge Protection Act	NC Mountain Ridge Protection Act
	Ashe County Wind Ordinance	
Unofficial	Community Meetings	Community Meetings
	News Publications	News Publications
	Educational Brochures	

The proponents of the case, including NWWD, sought to secure this project through the NCUC application process, including public hearings. The other official space of engagement the proponents of the project placed their argument in was the NC Mountain Ridge Protection Act, or 'Ridge Law' for short. The unofficial spaces of engagement which the proponents were active in included news publications and community meetings in which they tried to garner support for the project..

The utilities commission application process served as the proponent's primary official space of engagement. The supporters of the project, including the developer, limited their official engagement to the utilities commission because the certificate of necessity for which they were applying was a required procedure and no further action could be taken on the project until it was approved by the NCUC. The NCUC is a quasi-judicial body. They have their own set of legal regulations and requirements. One such requirement is the certificate of necessity and convenience, which anyone wanting to construct an electric generating facility must obtain. As such, the application process was absolutely necessary to developing the proposed wind farm. Without the certificate of necessity, no further plans could be so much as even discussed. Because of the critical nature of the NCUC application it became the focus of the proponents' attention. Not only did NWWD contribute all of the necessary documents to begin the process, but as support spread, further action was taken to give the application strength. First, prior to the initial public hearing, NWWD's lawyer representing them in the case resigned. Legal council is required by the NCUC, and so at the last minute supporters of the project found a lawyer who could represent Dr. Calhoun pro bono. Second, faculty from ASU conducted preliminary wind studies at the proposed site. They then sent in their findings to the utilities commission with the university's name associated with it to give it legitimacy. As well, ASU students and faculty testified at the both of the public hearings related to the application. The final way proponents used the NCUC process as an official space of engagement was through testimony. Testifying before the utilities commission is a legal undertaking similar to court, and all those testifying must be sworn in. One supporter testified to the importance of the NCUC proceedings, saying," I felt compelled to come here tonight and just say just a few things. I really believe in this process and I think it's an important part of our future towards renewable energies" (NCUC

Docket 167 Sub 1). The concerns which the proponents articulated at those hearings were voiced within an official space of engagement in an attempt to secure, through legal means, their spaces of dependence.

The second official space of engagement which the proponents were active in, concerned the Ridge Law of 1983. For many, the ability for wind power to be developed in the mountains of North Carolina hinged on the interpretation of the law's clause concerning exempted structures. The law states that 'windmills' are exempt from the law, and as a result this law, and its interpretation was pursued by the proponents to allow for wind generators on protected ridges. Denis Scanlin testified before the NCUC and presented the following:

> I discussed this in several meetings with individuals from North Carolina interested in energy issues in 2002. We obtained copies of the bill and read it carefully. There is some ambiguity in the language of the bill and the word 'windmills' was not defined. So I tried to identify individuals that were involved in the bill to clarify things for us. I contacted David Diamond who chaired the subcommittee that developed the bill, and Margaret Hayden who introduced the House version of the bill. Both indicated to me in phone calls that the exemption for wind mills was placed in the bill specifically to exempt electricity producing wind mills and the MOD-1 in particular. David Diamond has signed a statement concerning this, which I have here today. Two other individuals with knowledge of the Ridge Law have indicated the exemption for windmills was included specifically to exempt electricity producing windmills and the MOD-1 in particular. (NCUC Docket 167 Sub1)

The interpretation of the term windmills became a central issue for the proponents, not only in the NCUC hearings but also through letters written to members of the state congress. As well, the issue was brought up repeatedly in dialogue between sides of the debate. In particular the distinction between the term 'windmills' and 'wind turbines' became critical. Because of the language of the Ridge Law, supporters of the proposed project not only use the term windmills in their testimony and discussion, but clearly avoid the word 'turbine' and attempt to prove that 'windmills' represent wind generators. Further, the proponents claim that wind mills were

exempted in order to promote renewable energy. Harvard Ayers testified at a NCUC hearing saying:

> I believe our legislators wanted to exempt wind energy producing devices that could potentially help our nation and state produce clean, inexpensive, sustainable, electrical energy with local resources. This basic conclusion has been verified by four knowledgeable individuals who witnessed the bill's development and adoption firsthand. Alternative explanations have not been verified (NCUC Docket 167 Sub1)

Aside from the utilities commission process and the interpretation of the Ridge Law, the proponents only other active spaces of engagement were unofficial. News publications were the primary means through which proponents attempted to garner further support for the project, and secure their objectives. In particular, the Mountain Times, Appalachian Voices, and pro-wind internet sites all published articles in support of the wind farm project, or with a bias in favor of the project.

While news publications were a relatively constant effort on the part of proponents of the project, community meetings were also held in an effort to promote the proposed wind farm. Between March and May of 2007 several residents and wind energy supporters organized three town hall meetings at the Riverview Community Center in the town of Lansing, near to the proposed wind farm site. While these meetings were meant to be held for open dialogue and education for residents who did not know much about wind power, the tension between opponents and proponents in attendance escalated many times into heated and hostile exchanges. Steve Owen stated in an interview:

> I learned from the testimony and by having some town hall meetings at the Riverside community center which was kind of the epicenter of this conflict, out on the north fork. Some of those meetings were very rugged and very ugly. I learned just from talking to some of those people that support or resistance can be conditional. That's kind of what I took away from it personally. (Interview Steve Owen)

Although the meetings were advertised locally for the purpose of discussion, many felt that the meetings were pro-wind rallies, and the debate remained frozen without constructive engagement to facilitate the dialogue or education which the meetings were promoted to be.

The opponents of the case were also actively involved in securing their spaces of dependence in many of the same official and unofficial spaces of engagement. The opposition utilized the NCUC process, and became actively and legally involved in the application itself. As well they pursued an interpretation of the 'Ridge Law' which met their needs, and further, the opponents of the project passed a wind ordinance through the Ashe County Commission. Unofficially, the opposition directed their efforts into spaces of engagement including community club meetings, news publications, and educational brochures.

The NCUC application process was the first spaces which the opponents engaged. Understanding the significance of the application process, and understanding the necessity of its approval, the opposition focused their initial efforts on making sure the NCUC denied NWWD's application. Their efforts to ensure the application was not approved were numerous. First, testimony on behalf of the opposition was made under oath at the two public hearings, as well as through written correspondence. These efforts were identical to those of the proponents of the case, in that their purpose in testifying was to actively secure their objective through an official space of engagement Jeremey Chamberlain stated this in an interview saying:

> I attended the hearing for the Energy Commission representatives at the Ashe County courthouse January 25th, and was dismayed to hear repeated proponents of the project from Watauga county (which has local ordinances protecting their ridges from such construction) stating their support of the wind project as an extension of their "green energy" lobby. Again, I support green energy, but I also support the respect for personal property, and legal rights that will be violated by siting twenty-five or more 300-400 foot wind turbines within less than a mile of many Ashe county citizens' homes. (Interview Jeremy Chamberlain)

Second, a group of opponents filed for a 501c-3 non profit organization. This organization, the Friends of Ashe County (FAC), was created specifically to contest NWWD's application. This contestation was facilitated first through testimony and written correspondence with the NCUC, but also through direct filings against the applicant. FAC's first order of business had been to hire a lawyer to represent them. Once a lawyer had been hired, and the non-profit status of the FAC had been approved, they could legally motion against the actions of NWWD which they did and filed for a petition to intervene. The next motion filed against NWWD was to request the application be dismissed. This was done on the grounds that NWWD failed to "amend its application and provide additional direct expert testimony" and further claims that "the application is incomplete and that it does not address the necessary prerequisites for the Commission to enter an order approving it." The NCUC granted NWWD additional time to fulfill the deficiencies in the application which included providing evidence of funding, however the FAC filed a letter to the NCUC saying "the undisputed record in this docket demonstrates that the Applicant has not satisfied the minimum prerequisites of the statute to permit conditional approval and that the issuance of a conditional approval for the sole express purpose of obtaining financing is not a sufficient basis for the Commission to issue a conditional approval." The application was later dismissed based on the motion filed by FAC.

Further action by the opposition within the confines of the NCUC application process was made by two other non-profit organizations. First, the Keepers of the Blue Ridge testified on two occasions to speak out against the proposed wind farm. Second, the FAC sought out the support of the John Locke Foundation (JFL). The JLF is a North Carolina-based independent non-profit think tank which promotes free market, free society, and constitutional ideology. For their part they offered advisory legal council in support of the FAC's objective, sent a letter to

the NCUC suggesting that NWWD should be held responsible for any costs associated with eminent domain requirements for transmission and distribution of any electricity generated, and testified before the NCUC stating concern for "the government giving him powers that he wouldn't normally have" (NCUC Docket 167 Sub 1).

Aside from the NCUC application process, a second official space of engagement was also used by the opposition. At the same time the NCUC process was being conducted, opposition members worked to develop and pass a wind power ordinance within the county. On January 31st, 2007, 6 days after the first NCUC public hearing, the Ashe County Board of Commissioners called a meeting to discuss "A proposed ordinance of the operation, development and construction of wind generation in Ashe County" (*Mountain* Times 02/01/2007). From February to June of 2007 a wind ordinance was developed and put to a vote. The final ordinance was approved unanimously by the commission on June 16th, 2007, 10 days before the NCUC officially dismissed the application. According to the ordinance:

> Wind power is a clean, inexhaustible, reliable, and economical source of energy that can help reduce dependence on fossil fuels, help to preserve and protect the environment, and help to create new jobs and sustainable forms of development. As a result of these benefits, wind power has become the fastest growing energy source in the world and is helping to satisfy the growing demand for electricity cleanly and affordably. At the same time, the unregulated construction of wind energy systems results in legitimate concerns with respect to noise and vibration, poses a potential hazard to air navigation, and detracts from the natural beauty and aesthetic integrity of Ashe County and the North Carolina mountains. The Ashe County Board of Commissioners finds that in order to provide for the health, safety, and welfare of the citizens of Ashe County, and in order to balance the encouragement of an environmentally clean form of energy with the protection of the County's natural scenic beauty, it is necessary and appropriate to provide for the regulation of wind energy systems as set forth in this Ordinance.

The ordinance requires that turbines be no taller than 199 feet, or 35 feet above vegetation on protected ridges; they must blend in as much as possible; they must be setback 1000 feet from adjacent property lines; their aggregate noise must not exceed 5 decibels; the view sheds of the

Blue Ridge Parkway and all State and National Forests is protected; and a permit is required to be certified by a professional engineer. These requirements alone would eliminate the possibility for NWWD to develop their proposal. To further discourage wind development the ordinance calls for a 20 part study to be conducted on the following areas: demographics; noise; visual impacts; public services and infrastructure; cultural and archaeological impacts; recreational resources; public health and safety; hazardous materials; land-based economics; tourism and community benefits; job creation and ad valorem tax projections; topography; soils; geologic and groundwater resources; surface water and floodplain resources; wetlands; vegetation; avian impact assessment; wildlife; and rare and unique natural resources assessment. The approval of this ordinance, and the process which it underwent to become approved, was entirely action on the part of the opposition within an official space of engagement. As one opponent claimed in an interview, "At the end of the day we pushed local government to do something, and we got the ordinance passed, myself included." Further, this ordinance was an effort to draw attention to another official space of engagement, the ridge protection act.

The opponents were also active in pursing an interpretation of the 1983 Ridge Law, and specifically its exemption for windmills. The main argument was that the law was not intended for a purpose similar to NWWD's proposed wind farm. Walter Clark testified before the NCUC saying:

> Now there are some who have questioned the Attorney General's interpretation of the ridge law. They argue that the windmill exception, as it's called, was added specifically to accommodate the wind turbine that was erected on Howard's Knob in Boone in the late 1970's. Even if this argument were to hold some truth, and I don't It was an experimental structure. And think it does, Howard's Knob was a single structure. was an experiment. It stood about half the size of today's modern turbines. To argue that this exception opens the door for potentially hundreds of 300 to 400 foot high wind turbines in western North Carolina I think personally is a huge stretch. I think it's a disservice to North Carolina, in fact.(NCUC Docket 167 Sub1)

The opposition also grounded their claims to the ridge law, stating that its original intention was to protect the mountains. One individual stated in an interview that, “The law is here to protect us and that's what the law's for, so let's get the job done. Let's just enforce the law and protect our beautiful mountains.” As well, the opposition made the conscious distinction between ‘wind mills’ and wind turbines. They not only used the term turbines more frequently in testimonies and interviews, but also attempted to make the distinction within the interpretation of the law, as one individual stated in a cross examination during an NCUC hearing, “Wind turbines (which produce electricity) and windmills harness mechanical energy for water pumping or grinding grain.” While the Ridge Law did not factor into the NCUC’s decision to dismiss the case, nor did an interpretation of the law occur during the process, it was nevertheless a key space of engagement on both sides.

The unofficial spaces of engagement which the opposition attempted to secure their objectives, included community club meetings, news publications, and educational brochures. The initial efforts made by opponents to the projects were at community club meetings, including the Rotary Club and the Lions Club. There, members of the FAC explained the situation and attempted to garner support for their cause. One member of the FAC who spoke at a Rotary meeting stated in an interview that, “I am not a public speaker, I am not someone who is going to jump up and take a stand, but in this case I guess it got me to that point.” As well, members of the FAC attended the meetings held by proponents of the case to hand out fliers outlining their arguments against the turbines. Later, news articles were published speaking out against the proposed project. One article in particular, written by a member of the FAC, superimposed images of wind turbines onto an image of Big Springs Mountain, to give readers a sense of what they would look like. The FAC also published a brochure argued to save the

natural character of the ridge tops, protect land value and investment in mountain real estate, to distinguish between wind mills and wind turbines as they pertain to the 1983 NC Ridge Law, and finally to demonstrate the consequences of 'industrial wind complexes. As well, the Ashe County Chamber of Commerce held a town hall meeting to discuss the proposal, but this was, as one attendee noted, held with "continued hostility toward pro-wind supporters" (*Mountain Times* 2/13/07)

The spaces of engagement that both sides were involved in served to secure their spaces of dependence. While most of these spaces were the same, each side used those spaces for a different purpose. (Cox (1998) argues that 'networks of associations' come together to form these spaces. As a result, each of the spaces of engagement present in the Ashe County case emerge from networks which derive their power from either official or unofficial sources. Critically however, these spaces have to be shaped in a way which serves the function of securing a space of dependence. Cox fails to articulate, however, precisely how these spaces are shaped for this purpose. I argue that expressions of scale are the mechanisms through which this is done in the Ashe County spaces of engagment.

Expressions of Scale

The spaces of engagement in this controversy, were the official and unofficial points where spaces of dependence were secured. These spaces of engagement, their use, and effectiveness, however, were shaped through the 'expressions of scale' which each side used to invoke scale and employ its power. Expressions of scale, as Kurtz (2002, 2003) notes, can serve to project the desires of those using it, while underplaying the desires or impact elsewhere to secure their respective spaces of dependence. The following analysis investigates the ways in which the expressions of scale that environmental issues were framed upon, shape the spaces of

engagement in the initial phase of the Controversy. I argue that the expressions of scale used by each side are based on the perceived power inherent to the scale frames which each side used to premise their environmental concerns and define their spaces of dependence.

The expressions of scale which I identify in this case represent the ways in which scale, and scale frames, are invoked and in turn spaces of dependence are attempted to be secured. Because of their role in securing spaces of dependence, I argue that expressions of scale in fact shape spaces of engagement. Further, spaces of engagement do not gain their full meaning and form until actors within those spaces present their arguments. Thus a space of dependence also does not come into its full meaning until an expression of scale is articulated. This is because expressions of scale acts to give an argument power, specifically by referencing scale frames, which in turn define an individual's spaces of dependence. Therefore, I argue that expressions of scale represent the moment at which a space of engagement takes full shape by representing the scale frames which secure and define of a space of dependence.

Table 5.7 Evidence of Expressions of Scale

	Expressions of Scale	**Rhetoric of Expression**
Opponents	Exclusion and Legitimation	Insider-Outsider
Proponents	Territorial Framework	Greater Good
	Counter-Scale Frame	NIMBYism

Specifically, I argue that the opponents in this case articulate an expression of scale which Kurtz (2002, 2003) identifies as a "means of exclusion and legitimation" (2002, 255). The opponents use local scale arguments in a way which 'necessarily includes some people while excluding others.' As Kurtz notes a common rhetoric for this type of expression sees "community activists make strategic decisions about how to characterize both the social

demographics and spatial extent of the aggrieved population" (2002, 255) In the Ashe controversy this expression of scale used by the opposition is defined by an insider-outsider rhetoric.

The insider-outsider dynamic is ever present in the arguments of the controversy's opposition. They employ this expression by taking local concerns and privileging them over larger scales because of perceived claim to the land, whether through property, heritage, or knowledge. This dynamic allows locals to claim decision making ability within specific spatial or social dimensions. Many of the letters and testimony presented to the NCUC is evidence of this, with a majority of Ashe residents prefacing their arguments with their relationship to the county. As Charlie Fields stated in an interview:

> I don't like the idea of Ashe County or any other county being used to produce energy for Charlotte, and I felt like the size and scope of the project on Big Springs, that is what we were looking at. I like the idea of small scale, I like the idea of residential wind turbine, yea I feel a responsibility to use wind that way, but I don't want to see the mountains industrialized.(Interview Charlie Fields)

This rhetoric emerged within the controversy in three distinct ways. First insider-outsider rhetoric is employed through tension between Ashe County and Watauga County citizens, second this type of argument was used to claim that 'utility' or 'industrial' scale wind development was only going to benefit residents outside of the county and burden the residents within the county, and finally it is employed between Ashe County natives and non-natives.

Ashe County and Watauga County share a common border, however, in the minds of many Ashe County residents that border may as well be the only commonality between the two. There has been a rather long standing tension between the two counties which, according to Tom Holly of the Ashe Historical Society, can be traced back to allegiances during the civil war. However, the more recent tension between the two counties has developed on two fronts. First

the tourism and housing markets have created competition between the two counties over the past 30 to 40 years. During this time Watauga has taken the lion's share of economic benefit while Ashe has only begun to do so in the past 10 years. As Bill Shipe stated in an interview; "Yea some people were almost belligerent about it and you know it was real derogatory. You know Watauga has a wind ordinance, so they are coming here to do it, well why not in *their* back yard, you know?"Second, the university in Watauga, ASU, has often taken unsolicited roles in Ashe County's business, with the most controversial being the development and implementation of a zoning code in the 70's which Ashe County resident's despised, and would later change. The tension between the two counties which emerged during the wind controversy related directly to both of these tensions, especially since most of the opponents felt that the only support for the project was coming from Watauga residents. As one opponent claimed in an interview, "Yea there is a mistrust between uh people from ASU."The two most common arguments made by opponents of the project, were first that Watauga residents were only arguing for wind in Ashe County because they have already developed their economy and have passed a wind ordinance banning such large turbines. Second, opponents took particular aim at every proponent who had ties with ASU. One opponent voiced her concern in a letter to the NCUC saying, " I am disturbed that the discussion of wind energy relies heavily on Appalachian State University's reports and research" (NCUC Docket 167 Sub-1). Another opponent stated in an interview that:

> When we went to the public hearing at the courthouse, there were two sides. There were two sides, there was the side for wind and the side against. Everybody for wind was associated with the university and Watauga and everybody against was the local Ashe county people. What became kind of, they outlawed wind in Boone, and then all the Boone people wanted to come put them over here, its kind of like if it is so good why don't you put them over there if there is no issue with them and it doesn't effect tourism. (Interview Jeremy Chamberlain)

Here the speaker identifies the sides of the controversy, and he immediately contextualizes them as either insiders or outsiders. It was also felt that ASU students and faculty were using their title to fulfill idealistic dreams in a county they really knew nothing about. The arguments made by opponents consistently illustrated this tension between the two counties, but this was not the only insider-outsider rhetoric which was employed.

The second way in which the insider-outsider rhetoric was employed by the opposition was against the 'utility scale', 'industrialized', and 'commercial' character of the proposed wind farm. The opposition presented an argument which claimed that the wind farm, although proposed by Ashe County citizen Dr. Calhoun, represented interests from outside of the community which would not benefit Ashe County. This rhetoric against 'industrial' scale wind finds its roots in opposition to the set of relationships, flows, and spaces of the current electric industry. The opposition essentially argued that the wind farm was designed to operate as a part of the current, centralized electric system. The result of this argument places the burden of the electric system's operation within spaces far removed from the major points of end use and which externalizes damages to the surrounding environment. It was understood that because of the size of the proposal, the electricity that it generated, along with the potential benefits, would be transmitted outside of the county. As a result, it was also believed that the proposed wind farm would not benefit the community, but rather that the wind farm would destroy the local environment, and in turn the livelihoods and lifestyles associated with it. To the opposition, NWWD's project represented the outsider interests of large 'industrial' scale electric generation without benefiting the county and at the expense of the local environment.

The final way opponents used insider outsider rhetoric was arguing stemmed from tension between native and non-native Ashe County residents. Native Ashe residents who

opposed the wind farm felt that the majority of the supporters of the project were non-natives, usually retirees. The natives felt that the non-native did not have the same privilege as they did, nor did they feel that non-natives could just come into the county and start dictating the change that they wanted to see without having roots in the county. Josh Johnson emphasized this distinction in his testimony to the NCUC, saying:

> My name is Josh Johnson. I'm a native of Ashe County. My roots in this county can be concerned citizen of Ashe County…as a native of Ashe County, my concern and one of my major enjoyments of growing up and living in this county has been the natural and scenic beauty of the area. It's been the New River, it's been the mountaintops, it's been the state parks that I've enjoyed. It's been the views that I've enjoyed from those parks and those mountaintops. (NCUC Docket 167 Sub1)

In this excerpt, the first point the speaker makes is that he is an Ashe County native. He is attempting to establish himself and his argument by placing himself in a context of privilege. This privilege derives from his status as a native, which infers he may have a greater sense of the county, its history, and what is best for its citizens. In a real way he is attempting to legitimize his opposition through his insider status.

This sense of privilege was used in both a cultural and an economic sense, with the native residents often claiming they knew what was best for the county in both ways. This particular claim portrayed industrial sized turbines as non-native entities, which would come in without a history in the county and would exploit the it for its resource. Furthermore, while Dr. Calhoun is an Ashe County native, he was considered as one individual states, a “local elite”, having been involved in politics, and being far wealthier and educated than most Ashe Residents.

Through the insider-outsider framework, an expression of scale of ‘exclusion and legitimation’ can be seen. This framework is used to contest the proposed wind farm and to secure the opposition’s spaces of dependence. The local scale concerns of the opposition are echoed in the formation of the insider outsider framework, because it attempts to legitimize the

concerns within the county while attempting to exclude concerns that lie outside. The function of their expression of scale, to secure a space of dependence, demonstrates that the spaces within which those expressions are used are in fact spaces of engagement. The proponents of the case, utilize their expressions of scale in a similar way.

The proponents of the proposed wind farm utilize a different expression of scale than the opponents, although in the same way they are attempting to secure their spaces of dependence. They use a similar expression to what Kurtz identifies as a "territorial framework" (2002, 255) wherein larger scales are utilized to consolidate power in the hands of those employing the expression. The expression of scale used by proponents in Ashe County relies on larger scales for legitimacy and authority that then necessitates action at smaller scales. The proponent's expression of scale, however, is somewhat different from Kurtz's definition of a territorial framework. In the Ashe County case, proponents articulate a territorial framework which utilizes scale without referencing distinct territorial boundaries. Essentially the expression used in Ashe references scale in a more abstract sense, rather than claiming legitimacy through distinguishable and progressively larger bounded territorial jurisdictions. Here proponents use rhetoric driven primarily by the promotion environmental justice and for a greater good at regional and global levels.

The greater good arguments used by the proponents of the wind farm related most often to environmental justice issues associated with coal in Appalachia and global warming. As Patricia Coates stated in an interview:

> Compared to the loss of life and hazards associated with fossil fuel and nuclear energy, wind power generation of electricity is largely benign. No one can forget the horrors of the meltdown at Chernobyl, the Exxon Valdez spill, wars fought for oil or the outright raping of the land that is mountaintop removal. Rising levels of pollution are causing our children and elders to suffer from increased asthma rates. Their livers overloaded with heavy metals and lungs struggling to breathe in the hydrogen sulfide gas laden air leaking

> from nearby mines. In fact, our entire ecosystem is teetering on the brink of disaster. Fisheries worldwide are poisoned from deposition of heavy metals like mercury. Our children may live to see the polar icecap disappear and climatic balance turn to chaos. (Interview Patricia Coates)

Emphasis was placed on scales of a larger level. Proponents emphasized their responsibility to the region, nation, and planet. One proponent used the term 'world citizen' and another stated his support as a 'citizen of the planet.' As well this argument was also used to claim the wind farm would make the state a leader in renewable energy and would bring the county as a whole economic benefit. One supporter stated in an interview that, Ashe County has the opportunity to become a leader, not only in the state, but on a national level and this process could be a model that other counties and states could follow in the future." These claims utilized the power of larger spatial and social scales to garner support. Even simple phrases like 'going green' or 'alternative energy' have these larger scales built into them because of the vast support for such projects. This type of territorial framework, however, was not very effective against the opposition's expression of scale, and so a counter-scale frame was then used by the proponents of the project.

Counter-scale frames, according to Kurtz, "work to counter or undermine one or more elements of the scale-oriented collective action frames. They could be targeted at one or more of the components of a scale frame and also at one or more expressions of scale that lend the scale frame its force, meaning, and effectiveness" (2002, 256). In the Ashe County controversy the proponents of the case attempted to take away the effectiveness of the opponents' expression of scale and scale frames by enlisting Not In My Back Yard (NIMBY) counter-scale rhetoric.

Many proponents of the case, frustrated in the back and forth of the controversy and debate, began to claim that the opposition's arguments were a result of a NIMBY syndrome. They implied that local concerns held by the opposition were only because the 'locals' didn't

want to contribute to a greater good by sacrificing their ‘back yard’ so to speak. The essence of this argument attempts to take local concerns and invalidate them by saying they are not big enough. As Ged Moody stated before the NCUC:

> Please believe me when I say that the "not in my backyard" syndrome as a society can't work because every windmill, every solar site, every renewable energy site that will ever happen is in somebody's backyard. And the Energy Commission, I urge you to look at this from a micro view. Look at it for every person in this state. Look at it from a nation as a whole, from every person on this planet. Allow these types of systems to be studied further. Please allow it. (NCUC Docket 167 Sub1)

Here the speaker is explicitly identifying the opposition as NIMBY. He then calls upon the NCUC commissioners to contextualize this project at state, national, and global levels. He positions a greater good argument directly after his claim of NIMBYism in a way which simultaneously legitimizes his own claim while attempting to discredit the opposition. However, the counter-scale frame used by the proponents of the case only incited anger on the part of the opposition, most of whom took offense to being associated with NIMBY claims. This argument claims that opposition is derived not from a desire to move the burden elsewhere, but a perception that the burden is being imposed on them by others. As a result this tactic only fueled the insider-outsider rhetoric of the opposition who rebutted the proponent’s argument saying NIMBY claims are made by outsiders.

In the proponents version of a ‘territorial framework’ expression, and in their counter-scale frame of NIMBYism they are invoking an expression of scale. In these ways the proponents are attempting to legitimize the scale of their environmental concerns, and diminish the opponents insider-outsider framework. In order to make these claims, the proponents sought out spaces within which to secure their own spaces of dependence. In this way spaces of engagement were formed, and in turn shaped by the expressions of scale which they used.

As Kurtz (2002) claims, expressions of scale are used to invoke scale rhetorically for the purpose of legitimizing a claim. Both sides of the debate in Ashe County utilize these expressions of scale as a way of geographically situating and claiming legitimacy for their own claims. In Ashe County, these expressions of scale are used to reference the scale at which each side framed their environmental concerns. By invoking these expressions of scale, each side of the controversy is shaping the space of engagement within which the expression is invoked. In this way spaces of engagement are shaped by expressions of scale. Importantly, those spaces do not fully come into existence as spaces of engagement, per se, until the moment an expression of scale is invoked. This is because a space of engagement, which represents the form of a politics of space, must involve an active attempt to secure a space of dependence (Cox 1998). While according to Cox, 'networks of associations' may present logical spaces *for* engagement, I argue that the actual production of spaces *of* engagement does not occur until the moment an expression of scale is used to shape that space into one where a space of dependence is contested.

To summarize my analysis of spaces of engagement, I argue that expressions of scale do in fact define the spaces of engagement in the case. I argue because spaces of engagement are created through argument, and expressions of scale form the argumentative rhetoric of both sides, spaces of engagement become fully shaped at the moment an expression of scale is articulated and in that way the space is defined. I claim that the expressions of scale used by the opponents uses scale as a means of exclusion/ inclusion and legitimation, which is characterized by insider-outsider rhetoric. I further claim that the proponents of the case use scale as a territorial framework for power which uses rhetoric for a greater good, but also the proponents use a counter scale frame enlisting NIMBY rhetoric in an attempt to invalidate the opposition.

These expressions of scale then define the spaces of engagement on both sides of the controversy, which define a combination of official and unofficial spaces.

Conclusion

Concerning the initial phase of the case study, I first argue that both sides of the controversy are primarily concerned with the potential impact on the environment that the wind farm would have. I argue that these concerns are framed at different scales by each side. With evidence from interviews and transcripts from the North Carolina Utilities Commission, I identify those scales upon which environmental issues are framed. The opponents of the case frame their environmental concerns as a local scale, while the proponents of the wind farm frame their concerns at regional, national, and global scales. I further argue that the scales which each side frame their environmental concerns, reflexively define each side's spaces of dependence.

Continuing my analysis of the first phase of the case study, I argue that the spaces of engagement through which each side attempts to secure their spaces of dependence are shaped by expressions of scale which are based off of the initial framing of environmental concerns. I argue that the expressions of scale used by each side are different. The opponents of the project use an expression that uses scale to exclude and legitimize their locally based concerns. This is done through insider-outsider style rhetoric. The proponents of the project express scale through a territorial framework for power. The rhetoric which the proponents use seeks justify their support through the promotion of a greater good that privileges larger scale concerns. The proponents also attempt to take away from the effectiveness of the opposition's expression by enlisting a counter scale frame. This counter scale frame uses Not In My Back Yard rhetoric to

try and diminish local concerns and the insider-outsider rhetoric, by claiming the opposition is only opposed to this because it benefits a larger population

The conclusions of my analysis find that environmental actors are not only significant to the politics of scale, but necessary. This controversy serves as an excellent example because of the explicit nature of the controversy's emphasis on environmental issues, and the scale at which those issues are framed. I also find that this case directly relates the spatial nature of the current electric system to the opposition to the proposed wind farm. This is evidenced through insider-outsider rhetoric's arguments against industrial scale generation distribution to distant locations.

CHAPTER VI

ANALYSIS: PHASE II

Community-based Renewable Electricity and The Affect of the Appalachian Institute for Renewable Energy

The remainder of my analysis deals with the second phase of events in Ashe County. This analysis primarily derives from a need to examine the ability of third party organizations to liaise with community-based renewable electricity projects (Hinshelwood 2001). The primary focus of my investigation asks how the Appalachian Institute for Renewable Energy's efforts to promote community-based renewable wind energy affect the spaces of dependence and spaces of engagement that were established during the first phase of the controversy. The conceptual framework (Cox 1998; Kurtz 2002, 2003) remains the same for this phase of the investigation, and is in fact essential to understand how these two separate phases are connected.

On June 26th, 2007 NWWD's application was dismissed by the NCUC because Dr. Calhoun had withdrawn his application. This was due to the extremely high costs associated with the requirements of the NCUC, and because of the ever increasing severity of barriers in his way. Dr. Calhoun expressed his frustration in a letter to the NCUC, saying:

> When this process started I felt certain that private individuals and land owners could negotiate the maze of governmental oversight. Now I'm not sure. It appears to me that only big business has that ability. I'm impressed with the amount of "deep pockets" one would have to have to do all the preliminary work. I'm sorry I don't have that reserve and at present am unwilling to place my family's financial future at further risk. I envision a conditional Certificate as the only avenue for the project, if we want to maintain local control and benefit the local community to the maximum degree. I understand the Motion to Dismiss, but this is such an important issue for our community, state, nation, and our Good Planet Earth. Our future is at hand and we must address our energy needs. This project and others to come in the future would be a step towards a clean, reliable, and

> inexhaustible form of energy. Many states have been successful with projects like this. North Carolina has the fuel resource and should embrace this potential.(NCUC Docket 167 Sub1)

Following the dismissal of the proposed wind farm, however, the prospect of wind energy in Ashe County is still present. In early 2008, a small number of advocates in favor of the initial project founded The Appalachian Institute for Renewable Energy (AIRE), a non-profit organization based in Watauga County, to keep the possibility of wind power alive in the area.

AIRE was founded in direct response to the controversy in Ashe County to directly combat the negative social and environmental impacts of large-scale and non-renewable electricity production in the Southern Appalachians through community scale action, and to shift the perception of wind power in Ashe County. The inspiration for the project came from the founder's experience in the coal regions of Appalachia and more directly, from the intense opposition he encountered during the controversy in Ashe County. The initial funding for the organization came from in part by a grant to promote non-coal alternatives for electricity, and in part to promote sustainable eco-communities. The inspiration and funding for the organization tied directly into the organization's main objectives, which they articulate as the following:

> "Create a dynamic and functioning organization with the skills and resources necessary to develop and sustain local renewable energy projects…; Engage and inform local communities about the economic, social, and environmental benefits of community-owned renewable energy and energy conservation; Create and defend supportive renewable energy public policies at all levels of government…; Facilitate the development of renewable energy projects that are envisioned, planned, installed, and owned by local communities to provide sustainable environmental and economic benefits to the community; Stimulate sustainable economic development in Appalachia through the creation of a community-based renewable energy network." (AIRE 2008)

AIRE explicitly outlines their efforts to develop CBRE projects and promote sustainable economic development by focusing on organizational and financial capacity, community outreach, policy research and education, and sustainable economic development through

grassroots style advocacy. These objectives have led AIRE to pursue a number of projects which, I argue, attempt to affect the spaces of dependence and spaces of engagement established in the initial controversy, in order to pursue a community-based model for wind energy in Ashe County.

Since AIRE's creation in 2008, the organization has been involved in a number of projects. These have included organizing tours to the Buffalo Mountain wind generating facility in Tennessee, holding educational sessions for local citizens and policy makers, mapping local wind resources, and representing the interests of community wind projects on the North Carolina Wind Working Group, which is a state level organization for the promotion of wind energy. As Steve Owen, the founder of AIRE stated concerning some of these initial efforts:

> I travelled to the wind farm on Buffalo Mountain in TN with a couple of people who were against the project. We went over to look at the TVA site over there and that was an opportunity just to talk to people and listen and in that particular case, actually truly tried to use dialogue to understand instead of trying to use it to carve out a position. So I learned a lot from those particular folks.

However, of AIRE's past and current projects, the organization has focused on four projects in particular. The first project involved discussion with Ashe County residents following NWWD's application process and a formal analysis of the events there. The second project is entitled the Community Megawatt Initiative, and features a community owned solar panel installation. The third major project AIRE has undertaken is known as Mineshine, and is their model for promoting future community energy projects. Finally, AIRE has been actively involved in recent developments concerning the 1983 Mountain Ridge Protection Act. These projects in particular demonstrate the potential for AIRE to

affect changes in the spaces of dependence and engagement which the organization appears to strive for.

In late 2007 and early 2008, the founders of AIRE sought out more information related to wind energy in Ashe County. Steve Owen, AIRE's primary founder had been an active supporter of NWWD's application, and had noticed that many of the opponents argued that they supported alternative energy and wind energy, but just not at that size and scope. In order to place AIRE's objectives within the recent events in Ashe, AIRE conducted a formal analysis of the arguments made by the opponents of the project. This was done in part through on the ground dialogue with opponents of the project in what AIRE describes as the North Fork Community Wind Group. Jeff Boyer, a co-founder of AIRE, described this effort and its barriers in an interview:

> For about a year or so, after the Calhoun proposal and the hearings we set up a north fork community wind group out there on the north fork of the new river. And um, we were exploring the possibility of doing an LLC out there with uh wind co-op and um, every time we held a meeting was that people who are against wind and who were wanting to make the ordinance up there as restrictive as possible would show up at our meetings, either quietly or sometimes as voice opposition, but there were always there in one form or another. (Interview Jeff Boyer)

The analysis from the North Fork group and from the founder's experience with both sides of the controversy was presented at a conference on Ethics and the Environment in the spring of 2008. The main arguments which AIRE made in their analysis was that open dialogue and education were not present, and that when presented in a non-threatening way pro-wind information could encourage opponents of the project to consider community-based wind power alternatives.

The next project AIRE embarked on became known as the Community Megawatt Initiative. AIRE defines this project's purpose saying:

> The Community Megawatt Initiative seeks to partner with our many township neighbors to plan and develop community owned solar energy systems right here in *our town*…In fashioning these solar energy systems, residents create jobs *here*, raise *locally owned* investment opportunities, and forge *community owned* civic infrastructure which positively improves the economy and natural environment of all. (AIRE 2009)

The emphasis of this excerpt focuses AIRE's objectives on the local scale, and associates their project inclusively with the community. AIRE designed this project to demonstrate the practicality and benefit of community-based models for renewable energy. Solar energy was chosen because it is far less controversial and visible. On the other hand, one of the main goals of this project is to raise visibility of this model and promote all types of renewable energy. Although the initial phase of the project has been very successful and many community members are accepting of it, the project thus far has been limited to Watauga County.

The third project AIRE is in the process of working on is known as Mine Shine. The purpose of this project is to create a model for community-based energy programs to achieve success (See Fig 6.1). In this model host organizations such as schools or faith based organizations such as NC Interfaith Light or other interest groups, generate a membership of individuals motivated by alternative energy. Those members donate to a Mine Shine branded campaign of their choice, probably through a web based interface. Those donations along with others from arts and entertainment based events, community investors, and local energy activists, then fund the community-based project in question as well as AIRE. AIRE then coordinates further fundraising and serves the needs of the project by providing legal, engineering, financing, and advisory support. Steve Owen described this role in an interview, saying:

> Yea I think so, I think there role could be um you know the place to go when a community wants to do something like this where a community wants to do something, you know AIRE can be there to try to make all the connections, connect the turbines to dollars to investors to ownership models and its very complex I think they could be a resource to help develop community-based… What we learned hitting our heads on the wall with this project, is that People want to do this, but usually they understand it through Mickey Mouse economics too, so there is a lot of hand holding, a lot of capacity we could help with and our idea at that level is to help build local capacity not just to push them aside and say you do this.

This project, while still in its infancy, is designed to be the centerpiece of AIRE's program and is the axis along which AIRE seeks to fulfill the core of their objectives.

The fourth project with which AIRE has been involved relates to the 1983 Mountain Ridge Protection Act, and the interpretation of the 'wind mill' exemption. Following NWWD's application the state senator representing Ashe and Watauga County, Steve Goss, proposed a bill which formed a permitting process for wind turbines in the mountains and reinterpreted wind mills in the Ridge Law to allow turbines up to 100 kilowatts of capacity. This process took into consideration project size and impact, and according to AIRE "addressed the legitimate concerns that have been raised by those who oppose wind power as well as those who may conditionally support it." The bill, however, was rewritten by members of the senate committee on Agriculture, Environment, and Natural Resources, and lobbied for by the John Locke Foundation and Keepers of the Blue Ridge. The rewritten bill is according to AIRE, "a ban on wind in the mountains" and redefines the 'Ridge Law'. The redefinition of the ridge law reads that wind mills are allowed only if "the windmill is associated with a residence, and the primary purpose of the windmill is to generate electricity for use within the residence, and the windmill is no more than 100 feet from the base to the turbine hub" (SB 1068, 6). Following the rewriting of the bill, AIRE launched a campaign in conjunction with other pro wind organizations to have the original language re-established. Phone calls, web postings, and letter writing campaigns were held over

the span of a week to petition the state senate. As Steve Owen stated, "We rallied support and just awareness, the public was not aware of this change in the language, and then it was going to committee and then it was going to the senate floor and the public did not know about this. So we were able to raise awareness." However the language in the bill was not changed, and voted on 43-1 in favor. The state house will conduct a final vote in May of 2010, and AIRE's efforts until then remain the same.

AIRE's efforts to promote community-based energy, and wind energy specifically, are notable. I argue however, that their efforts have had a relatively limited effect on the spaces of dependence and spaces of engagement established in the initial phase of the controversy compared to the potential for change which they see and which they strive for. Separately I analyze the potential and actual changes which AIRE has contributed to in the spaces of dependence and engagement established during the initial phase of the controversy. I argue that, while limited, AIRE's efforts have however had some effect.

While spaces of dependence were a critical component to the initial controversy, AIRE's potential to change these spaces comes primarily through long-term vision and the visibility of their projects. AIRE appears to recognize that these spaces are the most difficult to change, as they relate environmental concerns deeply with cultural concerns. AIRE sees changes emerging in the long run, through changes in attitude and rhetoric. Steve Owen describes this goal as it relates to the Mine Shine project:

> Tying them in to this regional idea of Mine Shine, that is where our vision is right now, and we think that would work in terms of our mission getting significant projects out there and kind of shifting cultural attitudes kind of bending the model of energy production back to where decentralized production is part of this.

This long term vision for change is based off the visibility and benefits which AIRE feels its projects create. In terms of visibility, AIRE believes that once people see community-based renewable in action, they will make a connection to a larger cause. AIRE feels that this connection will emanate from perceived benefits that people, specifically opponents of wind power, can tangibly grasp at local scales as well as larger regional or global scales. The actual affects which AIRE has had on shifting the spaces of dependence and the scale of environmental concerns through which they are framed, thus far, however, has been somewhat limited.

The spaces of dependence which were established in the initial controversy, were framed and defined by the scale of each side's environmental concerns. AIRE's efforts to promote community-based renewable energy in the area have affected these spaces in an interesting way, primarily however, for the supporters of the initial project. Through AIRE's projects and objectives, a new sense of scale has been defined for the proponents of the project which recasts spaces of dependence through a local and community scale. Not only are the terms 'local' and 'community' prominent in AIRE's operations, the fundamental purpose of their projects reconstitutes scale into a much smaller level. The purpose of these projects has encouraged proponents of wind energy to alter the scale of their arguments about global warming and coal mining, and focus on the local environment, and the benefits renewable energy can have on a much smaller scale. While this affect has reached the proponent group, AIRE has in a way only served to reinforce the spaces of dependence articulated by opposition, through a similar promotion of the community scale environment.

AIRE's potential to shift the spaces of engagement and expressions of scale which were established in the initial controversy has also been central to the organization's

mission. The primary axis along which AIRE seeks to change spaces of engagement focuses on expressions of scale. Specifically AIRE seeks to achieve this change in two ways. First, AIRE seeks to change the insider-outsider rhetoric present in the original opposition group's expression of exclusion and legitimation. Steve Owen describes this effort in an analysis of AIRE's role in Ashe County, saying:

> AIRE is working to fuse these protest efforts with its advocacy of community wind. Policies at the county and state levels are problematic for wind, as the Ashe County experience shows, thus the importance of enlisting the work of these advocacy organizations. However their direct participation in place-specific community wind projects is subject to claims of "outsider meddling." As AIRE develops its participatory model, this sensitivity has to be balanced with the need for grassroots solidarity, and specific knowledge and capacity requirements.(Owen 2008)

Here Owen explicitly cites the insider-outsider dynamic, claiming that 'outsider meddling' is a significant problem. The potential for challenging that dynamic, he suggests, lies within a framework of participation and 'grassroots solidarity' between both sides of the debate. The grassroots structure of AIRE's operations is intended to enlist support by enabling the organization to become a part of the community, and to eliminate the insider-outsider tensions by demonstrating an understanding of the community and offering community benefits which empower small communities instead of threatening them. This potential emerges clearly by examining the effect of AIRE's community-based model for electricity on the opposition's perceptions of the current electric system.

One of the key points that the opposition to the NWWD project made, was against the 'utility scale', 'industrialized', and 'commercial' nature of the proposal. Importantly, this argument was framed within the insider-outsider expression of scale. This argument asserted that the proposed wind farm, although an Ashe County citizen's idea, was not part of the county and

represented external interests which would not benefit the local area. Critically, this claim is drawn from the set of relationships, spaces, and flows of the current electric industry.

To the opposition, the 'industrial' character of the proposed wind farm represented interests outside of the county. It was believed by those against the project, that the wind farm was designed to operate within the set of relationships and spaces associated with the centralized electric system and as a result would place the burden of its operation in Ashe County, far away from the locations where its benefit would be received. Additionally, it was felt that the operation of the wind farm would externalize damage to the surrounding environment as a secondary and assume little or no responsibility for environmental degradation.

The effect of the opposition's argument against the size and scope of the project placed Ashe County at odds against the electric system as it is currently structured. It was felt that because of the size of the proposal, the electricity that it generated would be transmitted to the major urban centers in the state. Because of this relationship, it was believed that the proposed wind farm would not benefit the community, but rather that the wind farm would damage the local environment, and as a result the livelihoods and lifestyles associated with it.

For AIRE's part, this aspect of the opposition's insider-outsider expression of scale is critical to their mission. The organization hopes to redirect the set of relationships, spaces, and flows associated with the current electric system which the opposition argued against, through a community-based model. The potential of their efforts to do this directly effects the opposition's expression of scale by placing a network of relationships and flows associated with electricity within the local community in a beneficial way. The cumulative potential effect of AIRE's community-based projects challenge the opposition's insider-outsider expression of scale, by focusing bottom-up efforts within a local scale, and offering direct benefit on a community level.

The second way AIRE seeks to alter expressions of scale is to eliminate the NIMBY rhetoric which emerged during the initial controversy as a counter scale frame to take credibility away from the opposition. Steve Owen described this goal in an interview saying, "Our precondition is that social goals be at the center of its mission, vision, and identity. As such, an explanation for local resistance to wind projects that moves beyond the simplistic assumptions of NIMBYism and community wind as a counter tactic merge. AIRE believes that conditional support for wind energy in Ashe County is based off of the lack of perceived benefit for the community, and the organization feels that for community-based renewables have the ability to succeed because they eliminate the NIMBY rhetoric of the proponents.

The expressions of scale which were articulated during the initial controversy and the spaces of engagement which they shaped have changed slightly on both sides as a result of AIRE's objectives. Through the projects which AIRE has since undertaken, the expression of scale which proponents of wind energy now use has shifted from a territorial framework for power, which demands local action to change in order to address larger scale issues from the top down, to a territorial framework in which local action articulates the change needed at larger levels from the bottom up. In other words, instead of larger scale forces exercising power over smaller scales, smaller scale issues define problems and exercise power collectively at larger scales.

The benefit for AIRE's projects from this, is that first it is harder for the opposition's framework of exclusion and legitimation to operate. AIRE's small scale approach is far less threatening from an insider-outsider point of view, and allows AIRE to articulate larger scale problems from a relatable position. This is evidenced first in the grassroots efforts discuss and open dialogue with the opposition, to interpret the ridge

law, and through AIRE's Mine Shine model, which incorporates a collective body of members all acting at their own local level to encourage a change at a larger level. Steve Owen articulates the change in perceived threat which has resulted from the Mine Shine project in an interview:

> Right now the way we do that is the small scale experiments, where the public can be involved. And ownership. And right now we are doing it with solar, because it is fairly non-threatening, so we have a small experimental roof in community ownership, which is a part of the model. And as we learned from Ashe County, that people, if they are going to support, it need to have some benefit from it. (Interview Steve Owen)

In this passage, Steve Owen articulates AIRE's response to the opposition's insider-outsider expression of scale by claiming that solar is less threatening, and as a result can penetrate a community more easily and demonstrate a benefit. While the changes which AIRE has actually effected through their efforts has been somewhat limited thus far, I would argue that the potential for change in their projects and their mission has begun incrementally to alter the spaces and expressions established in the initial controversy.

Following the abandonment of the Calhoun's NWWD project, AIRE's efforts have altered the spaces of dependence and engagement in a way which has convinced some Ashe County citizens, including some of those from the FAC who were opposed to NWWD's development, to reconsider the possibility of wind energy in Ashe County, especially if it is designed as a community-based project. As Steve Owen, the founder of AIRE, writes

> Participants have reflected on the original proposal there to discover that indeed, the largeness of the project (both the proposed scale at 22 to 25 turbines and unit size of turbines), lack of community consultation during the application process, and the missing articulation of community benefits contributed to initial resistance. Furthermore, they recognized the effectiveness of real estate, homebuilder, and tourism-backed campaigns to discredit wind power. Some have expressed annoyance at having been manipulated by anti-wind rhetoric. This feeling of manipulation contributed to their willingness to engage in discussion and exploration about a smaller wind project that community members can control. (Owen, Boyer 2008)

With an arsenal of individuals well versed in legislation, policy, finance, engineering, education, and more, AIRE hopes to assist the citizens of Ashe County achieve a valuable, just, and profitable source of energy. Steve Owen and Jeff Boyer characterize AIRE's success to date by saying:

> The excitement is that the community itself may have rescued the very idea of wind from the jaws of defeat, and that an authentic Appalachian form of community-based renewable energy is in the offing." (Owen, Boyer 2008)

Conclusion

In this chapter I have analyzed second of the two phases of a case study surrounding an application for a utility scale wind farm in Ashe County, North Carolina. The first phase analyzed the application process for the wind farm, and the controversy which it incited in the community. The second phase of the case study analyzed the efforts of a non-profit organization, the Appalachian Institute for Renewable Energy, to promote community-based renewable electricity in the wake of the failed application and initial controversy.

I examined the ways in which AIRE has attempted to effect change on the spaces of dependence and engagement established in the initial phase of the case. I argue that AIRE's efforts exist in potential and realized form. The potential AIRE has for changing these spaces is significant, and the organization has outline how and why they want to change these spaces. However, the realized change, I argue, which AIRE has effected on these spaces is somewhat limited. I argue, however, that AIRE has effected change on these spaces by abandoning NIMBY rhetoric, promoting grassroots style advocacy, demonstrating local benefit, and through articulating change and benefits as a more localized scale which allows the organization to penetrate the insider-outsider rhetoric of the initial opposition. Finally, I find that the barriers to

alternative electricity, and specifically community-based renewable electricity, are directly related to the scale at which they operate, and that efforts at a localized scale can offer a significant challenge to significant barriers.

CHAPTER VII

SIGNIFICANCE

In this thesis I investigated a controversy in Ashe County, North Carolina over an application for a wind farm on Big Springs Mountain, and I also investigated the efforts of a non-profit organization, the Appalachian Institute for Renewable Energy, to promote community based renewable electricity following the application's dismissal by the North Carolina Utilities Commission. I argued that the controversy was primarily generated by the perceived environmental impact the proposed wind farm would have. It is precisely this difference over environmental concerns which directed my research questions.

My first research question, asked how did the scale at which environmental issues were framed define the spaces of dependence constructed in the initial phase of the Ashe County wind controversy? In order to examine this question I divided my analysis between the scale framing of environmental concerns and spaces of dependence. In my discussion of scale frames I argue that these concerns are framed at different scales by each side. I argue that the opponents of the case frame their environmental concerns as a local scale, while the proponents of the wind farm frame their concerns at regional, national, and global scales. I then examine the spaces of dependence which each side wanted to protect, by examining the livelihoods and lifestyles of subset groups on each side of the controversy. I examine these spaces, and their characteristics, through a lens derived from the scale frames I previously identified. I argue that the scales which each side frame their environmental concerns, reflexively define each side's spaces of dependence.

My second research question asks, how did the expressions of scale that environmental issues were framed upon shape the spaces of engagement in the initial phase of the Ashe County wind Controversy? In order to examine this question I divide my analysis between spaces of engagement and expressions of scale. First I investigate the actual spaces of engagement which each side used to in an attempt to secure their spaces of dependence. I find that each side was active in a range of official and unofficial spaces through which they argued their positions. I then examined the expressions of scale which each side used to invoke the scale frames of their environmental concerns. I argue that the spaces of engagement through which each side attempts to secure their spaces of dependence are reflexively shaped by expressions of scale. The opponents of the project use an expression of scale which excludes others and legitimizes their locally based concerns. This argument is made through insider-outsider style rhetoric. The proponents of the project, on the other hand, express scale through a territorial framework for power. The rhetoric which the proponents use justifies their support by privileging larger scale concerns. The proponents also attempt to take away from the effectiveness of the opposition's expression by enlisting a counter scale frame. This counter scale frame uses Not In My Back Yard rhetoric to try and diminish local concerns and the insider-outsider rhetoric, by claiming the opposition is only opposed to this because it benefits a larger population. My final research question asked, during the current phase of controversy in Ashe County over wind power, how do AIRE's efforts to promote community based renewable electricity affect the spaces of dependence and spaces of engagement that were established in the initial phase of the conflict? In order to address this question, I investigate the development and operation of the non-profit AIRE. I examine the ways in which AIRE has attempted to effect change on the spaces of dependence and engagement established in the initial phase of the case. I examine four separate

projects which AIRE has taken on since its formation. I then examine how these projects, along with AIRE's goals effect potential or realized change to the spaces. The potential AIRE has for changing these spaces is significant, however, the realized change, I argue, which AIRE has effected is somewhat limited. I argue that the realized change which AIRE has effected on these spaces comes from abandoning NIMBY rhetoric, promoting grassroots style advocacy, demonstrating local benefit, and by articulating change and benefits as a more localized scale.

The significance of this case study contributes to the literature on the politics of scale. First, I link and expand upon the ideas put forth by Cox (1998) and Kurtz (2002, 2003). Cox articulates his ideas of spaces of dependence and spaces of engagement, because he feels that there is a specific difference between the way scale exists in daily life, and how it is used and constituted during conflict. However, Cox fails to specifically address how these two spaces are created, other than to simply divide the politics of scale into two areas of analysis. My investigation is an attempt to analyze how these spaces are produced. Specifically I argue that spaces of dependence are formed through the framing of scale, or as Kurtz articulates, scale frames. I contend that scale frames are the mechanism by which spaces of dependence 'name' and 'claim' the scale which defines them. I make a similar argument regarding Cox's spaces of engagement. I argue that these spaces are formed and take shape through, as Kurtz articulates, expressions of scale. I contend that the spaces of engagement in which spaces of dependence are secured must invoke scale in order, not only to derive power to secure spaces of dependence, but to shape their argument and specifically the space in which it is made. Linking these two ideas is the primary significance of my investigation, but not its only contribution.

As well, this project is significant because it addresses environmental issues, which McCarthy (2005) identifies as remaining underprivileged in the politics of scale literature. I

contribute to this gap by incorporating ideas of symmetry and heterogeneity derived from Actor-Network Theory. These concepts, as used by Sneddon (2003, 2005) allowed my investigation to view environmental actors as separate from social actors, yet mutually inclusive. In other words, I was able to understand environmental actors as separate from social actors, which McCarthy claims is necessary, yet I maintain the necessary dialectic between actors both human and non-human.

Additionally, the significance of this case study can be seen in its contribution to the literature on community based renewable electricity. Within this body of work there is little research done in the U.S., and there is no research on the effectiveness of third party organizations ability to successfully work with a community to develop a CBRE project, even though as Hinshelwood points out, the ability of communities to liaison with third party organizations is critical to their success. AIRE's purpose and objectives directly address U.S. community based renewable energy programs' need for third party assistance by providing time, resources, and skills while engaging multiple levels of action by simultaneously educating the public, facilitating funding opportunities, and influencing policy decisions on behalf of community based programs.

Beyond these contributions, I find that this case directly relates the nature of the current electric system to the opposition to the proposed wind farm. This is evidenced through insider-outsider rhetoric's arguments against industrial scale generation distribution to distant locations and the cultural barriers which stand in the way of alternative energy programs. I also find that the barriers to alternative electricity, and specifically community based renewable electricity, are directly related to the scale at which they operate, and that efforts at a localized scale can offer a significant challenge to significant barriers.

The limitations of this project, however, must be noted when claiming the significance of my investigation. First, my engagement with Actor-Network Theory is not as fully developed as it could possibly be. This is in part due to the depth of material on this subject, but more as a result of its specific relationship with the literature on the politics of scale (Sneddon2005), in the priority which that literature had in my investigation. Second, my methodology, while utilizing critical discourse analysis, was not focused specifically on power relations. Rather my investigation focused on scale, which implicitly wields power in its own distinct way. Further, rather than focusing on power relations explicitly, the focus of my investigation required I examine the mechanisms which invoke scale itself, rather than the ability of those scales to actually produce an outcome through the power relations inherent in its scale. Finally, there is the limitation of time. While, a number of intriguing facets of this case study emerged, I was not able to investigate them all as a result of time constraints, and the precedence of my research questions.

The limitations of my project, however, leave a number of questions unanswered, and provide room for further investigation. First, how did the non-human and non-environmental actors affect the events and outcomes of the case. Specifically, how did technology related to electricity generation and transmission effect the spaces of dependence and engagement of the case, and how did they affect opposition and support for the project? Beyond that question, how does the trust and hope for continually progressive and advancing technology shape the events and outcome of this case? Concerning power, this project fails to answer the question, how did power at various scales affect the case, and what actors human or non-human, exercised the most power at any given scale. Regarding my conceptual framework, I do not address Cox's idea of 'networks of associations' thoroughly in my analysis. Cox claims these networks mediate

between spaces of dependence and engagement; however, my analysis focused on the production of these spaces, what defines them or shapes them. While analyzing these networks is a useful area for future research, it was beyond the scope of this thesis. Finally, given the current timeline of the second phase of this project, the most logical next question remains the effectiveness of AIRE as an organization. AIRE is a very new organization, and has projects on the very near horizon. It remains to be seen how the organization will actually effect the spaces of dependence and engagement established in the initial phase in any significant way.

Importantly this project serves as an attempt to understand how groups of people can work together to produce a just social and environmental space. This project will hopefully contribute meaningfully as another source of knowledge which may help or inspire others to produce spaces of improved social and environmental conditions. Perhaps with time, open dialogue, acceptance, and awareness, this analysis can make such contributions.

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APPENDICIES

APPENDIX A: MEDIA COVERAGE

- "Commissioners Look at County Recreation Needs and Revisit Wind-Energy Ordinance" Mountain Times 3/13/2008
- "County Shows Support For Wind Ordinance" – Mountain Times 7/20/2006
- "Proposed Wind Turbines Spark Controversy in Ashe" – Mountain Times 1/25/2007
- "Commissioners Plan Wind Turbines Discussion" – Mountain Times 2/1/2007
- "Public Hearing Allows Airing of New Wind Farm Proposals" – Mountain Times 7/12/2007
- ""Commissioners Approve First Reading of Ashe County Ordinance to Regulate Wind Energy Systems" – Mountain Times 2/8/2007
- "Plan to Harvest Wind Gets Unlikely Foes" – Charlotte News Observer 2/10/2007
- "ASU Professor Testifies About Wind Turbine Turmoil" – Watauga Democrat 2/12/2007
- "Wind Energy Stirs Strong Feelings in Western NC" – Blowing Rock Journal 6/15/2007
- "Trying to Catch the Wind: A Western NC Man Wants to Start the States First Wind Farm, But Barriers are High" – The News and Observer 6/30/2006
- "Proposed Wind Farm Public Hearing Scheduled for January 25" – Mountain Times 1/25/2007
- "State Lawmakers Reject Wind Power" – Newsobserver.com 7/14/2009
- "Wind Resistant: Turbine Farm Generates Opposition in Ashe"- Windaction.org 2/19/2007
- "Commissioners Approve First Reading of Ashe County Ordinance To Regulate Wind Energy Systems – Windaction.org 2/8/2007
- "North Carolina Man Abandons Wind Farm Plan" – Jim Brumm *Journalist* 7/26/2007
- "Guides for Wind Farm Get Initial OK" – Rose Mountain Farm Blog 2/6/2007
- "Commissioners Hear Support For Wind Farms in Ashe County" - Visitashecounty.com 2007
- "Wind Energy: Not A Lot of Hot Air" - Indyweek.com 4/15/2009
- "Wind Energy Ordinance" – Visitwatauga.com 2008
- "Public Hearing For Creston Wind Turbine Project" – High Country Press

1/25/2007

- “Decision Delayed on NC Wind Farm Plan” – Reuters.com 2/14/2007
- “Going Backwards! Senators Ban Wind in WNC” – Aire.nc.org messageboard
- “Ashe County Man Gives Up on Wind Farm” – Wind-watch.org 7/28/2007
- “Wind Farm Application Dismissed” – Activerealtync.com
- “Renewable Energy Ventures Weighed Prospects in NC” – Charlotte Business Journal 3/2/2007
- “Windmills Generate Lively Debate in Ashe: Renewable Energy Needed Some Argue” – Energy Central 1/27/2007
- “Public Hearing on Wind Farm May Prompt Vote” – Windwatch.org 2/4/2007
- “Wind Project Order” – Visitwatauga.com 2007
- “Ashe County Wind Mills Hearing Scheduled” – Activerealtync.com 2007
- “Wind Farm Fails to Generate Support” – Environmentnorthcarolina.com 7/28/2007
- “Wind Farm Application Dismissed” – Activerealtync.com
- “County Passes Wind Energy Ordinance” – Windaction.org 7/18/2007
- “Wind Energy Ordinance” – Activerealtync.com 2007
- “Wind Project Order” – Activerealtync.com 2007

APPENDIX B: CONSENT FORM FOR PARTICIPANTS

I ,_____ agree to take part in a research study titled “The Politics of Scale and Community Based Renewable Energy”, conducted by Jacob W. Sadler (706-542-2856) or (434-962-7234), from the Department of Geography at the University of Georgia under the direction of Dr. Hilda Kurtz (706-542-2329) from the Department of Geography at the University of Georgia. I understand that my participation is voluntary; I can refuse to participate or stop taking part at any time without giving any reason, and without penalty or loss of benefits to which I am otherwise entitled. I can ask to have information related to me returned to me, removed from the research records, or destroyed.

The reason for the study is to better understand how opposition and/ or support for community based renewable energy in Ashe County, North Carolina is framed, taking into special consideration natural and environmental rationale on both sides.

I will not benefit directly from this research. This research will benefit the participant through thoughtful and conscious reflection of the events in question. Further the participant will benefit from this research by discussing their opinions in depth and engaging in attentive conversation with the researcher. This research will help the researcher better understand how controversy over environmental issues is framed within a community.

If I volunteer to take part in this study, I will be asked to take part in a one time semi-structured interview lasting approximately 45 minutes. This interview will be audio-taped.

All audio tapes will be destroyed at the end of this research.

Other than sitting or talking for approximately 45 minutes, no discomforts or stresses are expected.

Participation in this study does not entail any known risks.

Any information that is obtained in connection with this study and that can be identified with me will remain confidential and will be disclosed only with written permission.

"The researcher will answer any further questions about the research, now or during the course of the project, and can be reached by telephone at: (434-962-7234).

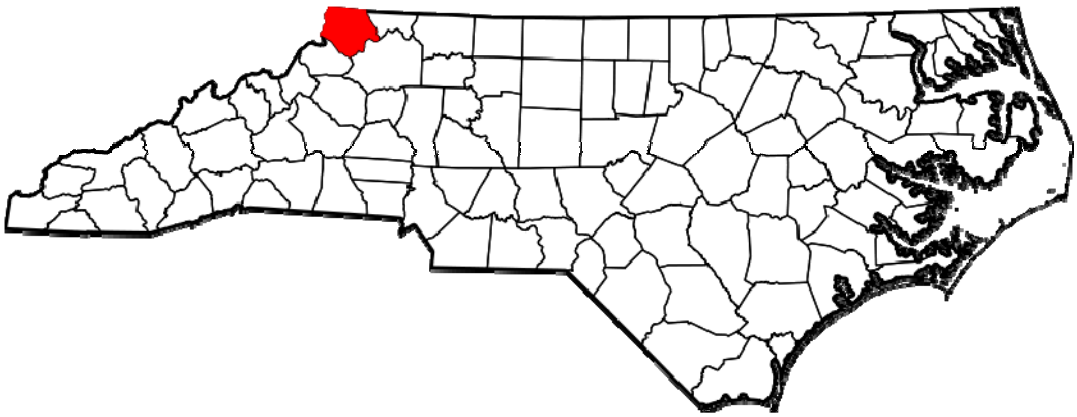
I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

_____	_____	_____
Name of Researcher	**Signature**	**Date**
Telephone: _____		
Email: _____		
_____	_____	_____
Name of Participant	**Signature**	**Date**

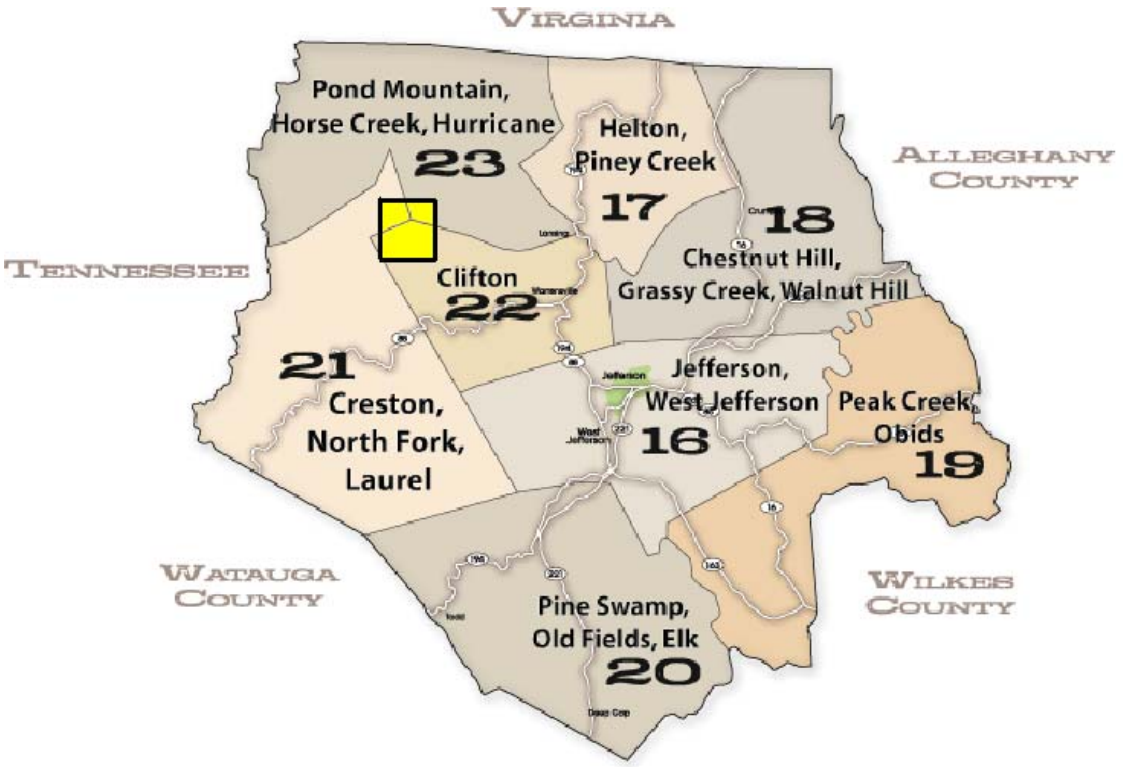
Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

APPENDIX C: ASHE COUNTY



APPENDIX D: GENERAL AREA OF NWWD'S PROPOSED WIND FARM



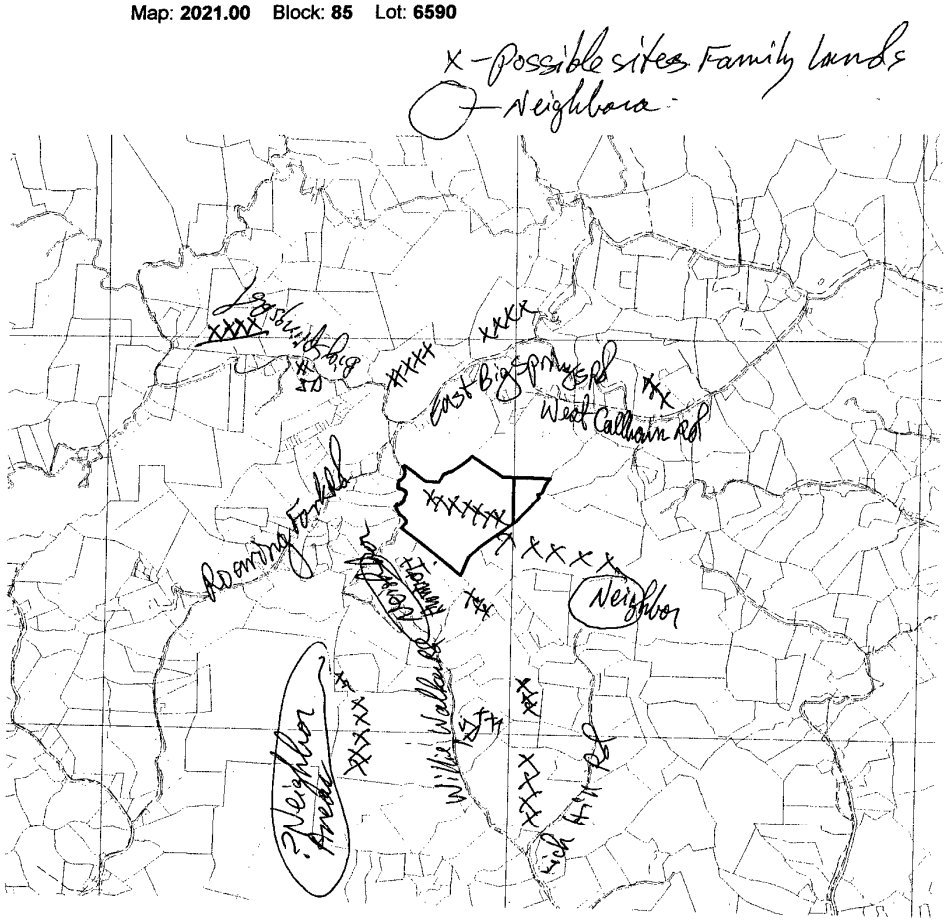
APPENDIX E: PROPOSED SITE OF WIND FARM

(Source: NWWD LLC Application
NC Utilities Commission Docket
SP-167 Sub 1)

Exhibit "B"

Ashe County NC Tax Parcel Data

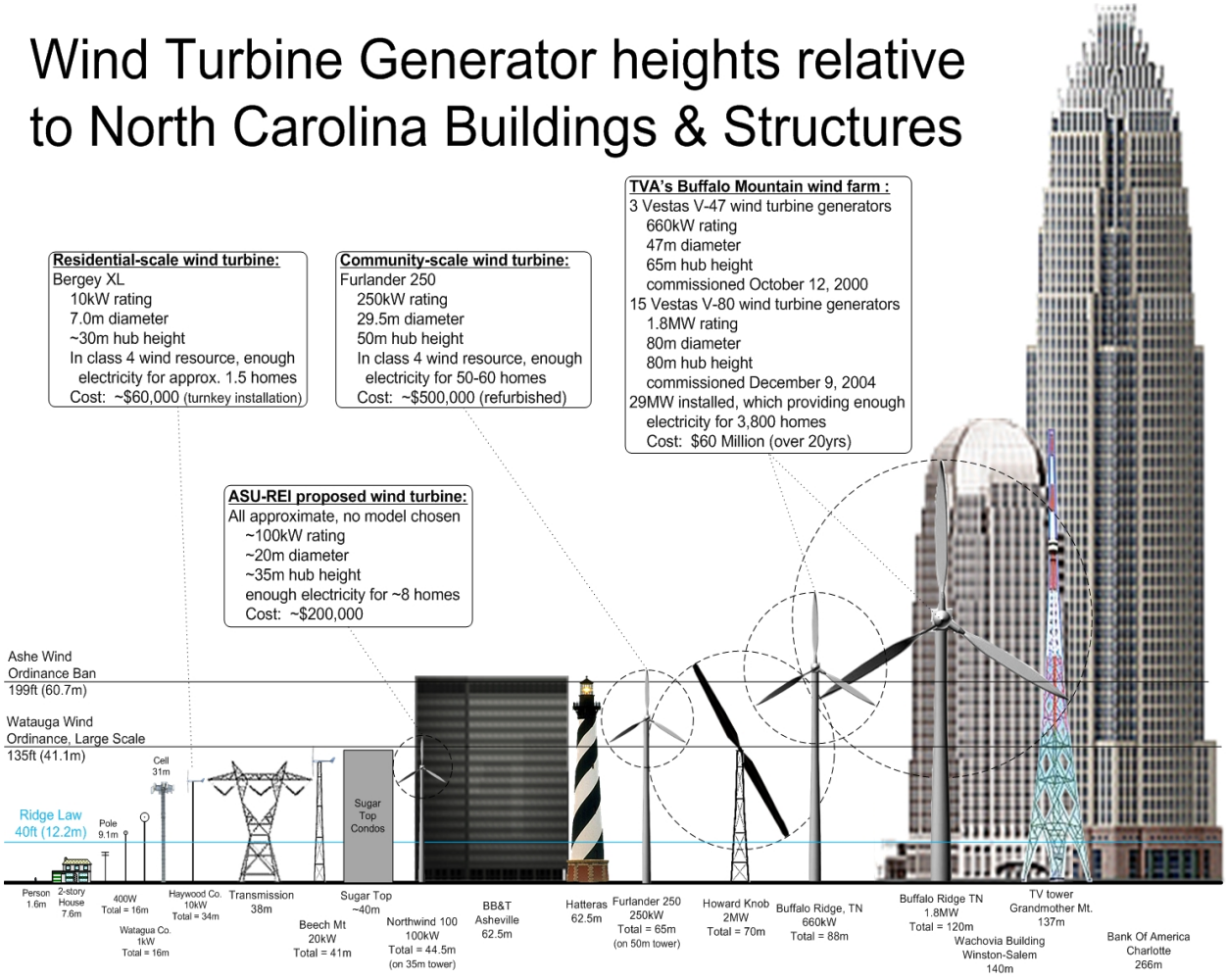
Parcel: **02076-001** Account: **18239** DB: **341** Pg: **2374** Yr: **2006**
Owner: **CALHOUN, RICHARD KEITH**
Map: **2021.00** Block: **85** Lot: **6590**



0 3000 6000
Approximate Scale in Feet

N

APPENDIX F: WIND TURBINE HEIGHTS
(Source: AIRE)



APPENDIX G: AIRE'S MINESHINE PROJECT FLOW CHART
Source (AIRE)