

When the Well is Poisoned: Local Knowledge, Power, and the Politics of Scale in Shaping a Socially Responsible Wind Energy Strategy in Appalachia

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Abstract

Recent efforts to develop wind power in Appalachia have sparked intense local conflicts, often splitting environmentalists and communities. The authors present a multi-sited case study centered in northwestern North Carolina, the location of a 50-megawatt wind farm proposal. Tactics of opposition groups and counter-tactics of wind power advocates are discussed in this paper. Opposition has often been labeled NIMBY (not in my back yard). However, the authors' findings reveal both a more nuanced explanation of local resistance and a possible way forward. Beneath overly general NIMBY explanations of resistance, the authors find that scale, siting, planning, and local benefit impact the acceptance of wind projects. Understanding the forces that shape local knowledge is vital for the participatory development of a socially and environmentally responsible wind power strategy in Appalachia. Community-owned wind, the counter-tactic that both recent events across western North Carolina and the authors propose, must be grounded in tangible social, economic and environmental goals, not driven solely by technological determinism. Scaling-up wind power in ways not to dissuade conditional wind supporters and organizing community wind around social goals is a crucial challenge and opportunity.

Introduction

This paper concerns current political battles over wind energy development in Appalachia. We identify both the anti-wind¹ actors' well funded local-to-federal tactics to stop or minimize the adoption of wind power and an appropriately scaled and ethical set of responses for expanding the use of this renewable energy resource in the region. Since developing such a strategy is the mission of our newly constituted Appalachian Institute for Renewable Energy (AIRE), its efforts to respond to the problem of compromised local knowledge through a counter-experiment with community-owned wind power are described.² Citizen participation in planning and frequently having an ownership stake in their energy supply is the most hopeful and effective path to rapid adoption and

acceptance of renewable energy.

We describe a multi-sited case unfolding across the mountains of North Carolina. A wind controversy was sparked there by the state's first utility-scale wind farm application filed at the state utilities commission. The case narrative begins with a brief explanation of the history of wind energy in North Carolina, and is followed by a description of the drama provoked when Northwest Wind Developers, LLC applied for its utilities commission permit. We follow state and local governments' policy responses, and anti-wind agents responses to the prospect of wind development. A major utility's application for a new 1,600 mega-watt pulverized coal plant to be constructed near Charlotte is included in the case. Recent utility-scale wind developments in West Virginia, a major site of mountaintop removal coal mining, provide comparative insights about the opposition to wind as well as to illuminate just and sustainable pathways for communities, states and Appalachia as a whole.

Our paper draws broadly from the literatures of social and ecological sciences, ethics and technology, public journalism, wind energy movement research, as well as our own case study data.³ We follow the research of Wolsink (2007), and Kempton et al. (2005) whose works deconstruct the overly broad and sometimes pejorative NIMBY explanatory theory of resistance to refine our local understandings of the conditions under which communities might welcome wind energy development. Byrne et al. (2006) provide the broad societal context of energy and responsibility grounded in Lewis Mumford's early social theory on "carboniferous capitalism" (Byrne, Toly, and Wang 2006:ix).

Our research problem focuses on how proponents of wind energy understand

the possibilities for change to more sustainable forms of energy in the face of apparent NIMBY-ism and anti-wind misinformation campaigns, which, as our case shows, have the resources to shape powerful anti-wind messages. This complex hegemony impedes the adoption of more energy conservation and renewable energy alternatives, even as the climate crisis and ecological problems associated with fossil fuel supply steadily become more acute.

We argue that a more open, democratic participatory practices, and a more decentralized system of energy production are necessary in order to check the narrowly based corporate-state energy hegemony. We are not calling for the abandonment of state and national energy grids, but we do call for the restoration of a much greater balance between locally and extra-locally generated and owned power systems. Here we take the position that widespread social innovation, and not a reductionistic technological-financial determinism may be the path to greater conservation and acceptance of locally produced renewable energy.

Energy and Ethical Responsibility

Our discussion of responsibility deals with the dilemma of compromised local knowledge in communities where wind projects are being proposed. How should pro-wind actors counter the anti-wind campaigns that seek to sway public opinion against wind energy development? We identify four themes that figure prominently in our case to analyze so-called NIMBY resistance to wind power:

1. anti-wind “misinformation” campaigns that “poison the well” of local knowledge,

2. resistance to centralized, top-down wind energy facilities siting and planning,
3. Appalachian culture and landscape in relation to appropriate project scale, and
4. the importance of local community control and benefits.

Our fieldwork in the Western North Carolina communities makes it clear that NIMBY explanations grossly oversimplifies a complicated reality of perceptions and sentiments about what constitutes popular self-interest with regard to energy appropriation and use. Because of Appalachia's long history of resistance and "fighting back" at the grassroots (Fischer 1993), we know that people, under the appropriate conditions can come to recognize their long-term interests. The evidence also confirms that despite concerted corporate attempts to poison the attitudinal well, local citizens can deconstruct these efforts and go on to fashion more just and sustainable energy and livelihoods strategies.

Acknowledging the immensity of environmental-energy challenges, including global warming (see for example, Brown 2002; Romm 2007) and peak oil (Campbell 1988; Deffeyes 2001; Heinberg 2003; Goodstein 2004; Simmons 2005) and the need for rapid and systematic responses, we argue that a balance between decentralized and centralized energy systems will better meet these urgent challenges than unbalanced, overly centralized ones. In the end, the questions of who decides and who benefits in putative democracy must side with the pluralistic voices and will of the people to avoid further delays and needless conflict.

Sites of Contestation

Wind energy in North Carolina has a short but complicated history. In 1979, on top of Howard's Knob in Boone, the U.S. Department of Energy and NASA built what was then the largest windmill in the world. It was disassembled in the early 1980s after it fulfilled its research mission. Some members of the public perceived the windmill to be an abysmal and expensive failure. Three years later (Owen and Boyer 2006:118),

Just south of Howard's Knob, stands a reminder of inappropriate economic development and its lingering consequences. In 1982, an out-of-state developer leveled the top of Little Sugar Mountain to erect a 10-story condominium [Sugartop]. It was promoted as economic development in a "poor county," but to local residents it was seen as a desecration of nature. The North Carolina General Assembly enacted the Mountain Ridge Protection Act in July 1983 to prevent further development on mountain ridges. Ironically, this law has been used to bar wind projects as the Tennessee Valley Authority discovered in 2002 when it withdrew its proposed utility scale wind project west of Boone after the N.C. Attorney General's unfavorable reading of the statute.

Wind power is found on mountain ridges, but mountain slopes and ridgelines are of great commercial value to real estate developers as well. The town of Boone passed a controversial steep slope development ordinance in June 2006. Developers and allied interests waged a vigorous, yet unsuccessful, public battle to prevent the ordinance's passage. Other municipalities and counties in Western North Carolina have followed suit with similar ordinances, and the state is now considering a bill that would require sellers of mountain land to disclose the presence of geologic slope hazards. Realtors, developers, contractors, and the tourism industry came out strongly opposed to the windmill farm.⁴ Interestingly, many of the same arguments they used to *resist* government regulation in Boone were being used in Ashe County to ask *for* regulation.

Ashe County (NC) wages wind power war

In the summer of 2006, Watauga County, in the northwest corner of North

Carolina, passed the states first county wind ordinance. In doing so, the county set an important precedent. With the ridge law as a barrier awaiting interpretation, the county moved forward on wind, backed by a legal memo drafted by the county's attorney. The opinion paved the way for passage of the ordinance by asserting that windmills were exempted from the law (Capua 2006).⁵ It also drew the attention of state policy-makers, environmentalists, and advocates on both sides of the wind debate (Kimrey 2006).

Appalachian State University's Small Wind Initiative⁶ played a central advocacy role for this ordinance and in promoting wind energy in general. With no projects proposed, the ordinance unanimously passed the county commission vote in June 2006. In neighboring Ashe County, it was a different story. The Ashe County wind proposal, put forth by a local physician with family land holdings, triggered a major controversy because of its imagined scale (Mitchell 2007).⁷ The term "wind farm" quickly took on threatening connotations in the mountains. The Watauga County planning director steering the wind ordinance through the process saw wind farms as high-impact development, and shied away from any mention of them—and the Ashe County project was to be big. In fact, at a proposed 50 megawatts, it would be more than twice the size as the 2002 TVA proposal.⁸

As word of the proposal began to reach the public, an escalation in rhetoric and activism quickly formed. Exclusionary tactics were deployed to subdue the pro-wind voices. Jeff Boyer, attempting to placate the tensions by making a rational plea for renewable energy, tried to organize a town meeting but was shut out by a group of bankers, realtors, and tourism officials. Finally, the local chamber of commerce hosted a town hall meeting amidst continuing hostility toward the pro-wind supporters.

Those advocating and doing research on wind systems at Appalachian State became the target of this hostility as the Ashe project became widely publicized in the lead up to the utilities commission hearings. Participants in the debate from outside Ashe County were quickly labeled as outsiders. The Appalachian State University (ASU) faculty on the project were accused of having personal, such as working toward tenure or simply doing this work to get grants. And as it unfolded, claims that such selfish intentions were driving ASU's Ashe wind support became a considerable rallying point for anti-wind forces. It is worth noting how easy it is for realtor-developers, many not natives themselves but with ties to local businesses, to whip up insider/outside sentiment in mountain counties whose citizens have long experienced economic development as forces imposed upon local communities from outside their region.

The weather cold, windy, and snowy on the evening of the utilities commission hearing did not thwart a large turnout at the county courthouse. Besides the throng of locals mobilized by the controversy, international wind developers, and environmental activists from across the state attended. Those speaking against the Ashe project frequently rekindled images of Howard's Knob as a symbol of the false promise of wind energy (Mountain Times 1999:n.p.).

The indications soon showed Howard's Knob generation less of electricity than of eccentricity...The woosh of the steel blades - actually through the blades as they stood stock-still - was producing less power than pranksters, as a local group of college students started a group called the Wooshies.

The Charlotte Observer took full journalistic advantage with a story on a "full-blown mythical cult," and a lead that if you placed a giant windmill in front of ten thousand college students "someone had to tilt."

An unpublished undergraduate history paper described the failure perception this way (Thompson 2003),

Critics of the Mod-1 had many complaints about the experimental machine. Its costs ran close to \$30 million and it operated only a small fraction of the time it stood on Howard's Knob, only 330 hours out of a possible 29,112. The Mod-1 produced only 75,000 kilowatt hours of electricity out of a possible 43,668,000. It incurred massive repair bills. It created problems with excessive noise and interfered with television reception. The Mod-1 lacked efficiency.

Still, the project did not result in total failure. Scientists researching the possibilities of implementing wide scale production of power from wind gained new knowledge from the Mod-1 program. Researchers on the Mod-1 project established the fact that a local utility company could operate such a machine. They discovered problems faced by megawatt windmills, like excessive noise, and developed solutions for these problems, like slowing the blades. Researchers also discovered how to effectively integrate electricity from such a machine into a local power grid and how to operate one from a remote location. NASA left the Mod-1 project optimistic about the future of producing electricity from wind, with one official telling a Hickory, North Carolina, newspaper that in regard to allegations that the Mod-1 failed, "It was not the kind of failure that makes us worry about whether wind turbines are going to work."⁹

Derisive references to old technology are evidently commonplace among wind's detractors. An often-drawn parallel is with the wind farms in California (Kempton, et al. 2005:136-137). Yet, some of the speakers testifying at the January 2007 hearing were knowledgeable and not intimidated by the aggressive anti-wind tactics. For example, one speaker challenged the Howard's Knob failure symbolism (NCUC Docket No. SP-167, Sub 1, Jan. 2007:147-148):

The technology [a previous speaker] described to you a few minutes ago was 35 years old. Now you compare the technology of a 1973 Ford with a 2006 Ford and that's the difference in the technology we're talking about. We have an opportunity and what we do with that opportunity and how we deal with that opportunity can have an

enormous beneficial effect on our community. This will be the largest single investment of capital in the people of Ashe County in the history of this county. That's you and me. And that investment is in you and me because these people think that you and me, the people in this room, can make this thing work.

Changing land-use and the concomitant changing local culture is part of the community wind opportunity. Western North Carolina, and many areas in southern Appalachia more generally, have seen a proliferation of vacation home developments in recent years. Much of that landscape in places like Boone (Watauga County), North Carolina has taken on suburban land-use characteristics (Rothrock, Tager, and Whitlock 2003; English and Huss 2005:165-171). Loss of agricultural production and livelihoods has hastened this land conversion from family holdings to subdivisions and gated communities (Boyer 2007; Beaver 2007). What has emerged, and continues develop in this land-use transition is a landscape of consumption.¹⁰ Anthropologist Patricia Beaver alludes to the class tension that is bound up in this form of land development by differentiating the 1970s “back to the land” movement with the current gated community development trend. She says (2007:113, emphasis added),

gated community developers in western North Carolina have harnessed the power of pristine wilderness imagery to attract a set of affluent Americans . . . who seek to create community behind locked gates through which their *neighbors are not welcome*. Yet they have the power to rend the fabric of the communities to which they are blind or *whose character they dismiss*.

The Ashe wind controversy helped expose this uneasy tension between “locals” and vacation home development. The Ashe County Home Builders Association’s representative claimed direct responsibility for creating about 1,600 jobs in the county as well as secondary jobs in (NCUC Docket No. SP-167, Sub 1, Jan. 2007:102-103),

over 20 bank lending institutions, the mortgage companies, the insurance companies, survey crews. I could go on. But our organization is opposed to these [windmill farms] vehemently. . . . I personally build to retirees and second home market. These people come here to look at our pristine ridge tops. We have a—and we support renewable energy, but we don't support it at the raping of our ridge tops.

Always appropriated in the context of a threat, one speaker unwittingly cut to the underlying dynamic that had been driving land liquidation—that developers were predators (NCUC Docket No. SP-167, Sub 1, Jan. 2007:100).

You know, if these things go in and half the land values go down, I would really like to see my land values go down. I've got two gated communities going in and I'm not so sure that I am really pleased about the whole business of development. . . . I'd like to see my land prices go down. I'm not quite sure how I'm going to pay the tax.

An elderly gentleman illustrated a rather polite yet strong local feeling about real estate development. The speaker said (NCUC Docket No. SP-167, Sub 1, Jan. 2007:161):

I am probably the closest resident to this site, windmill site. And the wife and I have been discussion (sic) this and talking it over for a few months. And we've had to make a decision on how we felt about it. We either had—this ridge here, it lays to where you can drive over it, which is very unusual for a mountain of 5,000 feet and we like to drive over it. In the summertime it's beautiful. And if this windmill farm is not—if it don't come, this property is going to be developed. And our discussion is which we would rather have, the windmill or the housing all over the side of this mountain. So we've reached a decision that we would rather have the windmills.

An institutional participant echoed a similar adversarial perspective toward land and taxes (NCUC Docket No. SP-167, Sub 1, Jan. 2007:138-139):

I'm here to represent Farm Bureau in Ashe County. And what we believe that a person owns land has a right to make an income off of that land, whatever he wants to grow on it, whatever he wants to use it for is to make a profit by using his land. So whenever we think

about profit off of land, we're not talking about selling it and being down the river, we're thinking about using it and that it will stay with us. And I know a lot of people says we'll – you know, if we have land, these taxes are getting so high on it we're having to sell. But maybe there will be some land that we could have land and use it. We know that the realtors, they want to get your property and they can make a profit on it also, but I feel like that in this country in Ashe County that they're moving here for other adversity properties, whether they want to build a house on it, whether they want to use it for some other reason.

Anti-wind protests in Ashe County continued after the utilities commission hearing in January 2007. The February 2007 follow-up hearing in Raleigh was well attended by forces on both sides of the controversy. Anti-wind voices repeated many of the same claims they had made in the previous month's hearing and in other fora, such as the fear of declining property values, the loss of tourism dollars, and irreversible damage to pristine environments. They especially targeted the ridge law as settled law thus making windmills illegal.

Others made the trip to Raleigh to testify in favor of the project. Notably they were individuals not associated with any organized group involved in the controversy. One speaker embodied a local knowledge of the environmental issues favoring wind energy (NCUC Docket No. SP-167, Sub 1, Feb. 2007:42-44):

Now, will I build a windmill? I don't know. It depends on what happens here. But we need some way to bring industry to Ashe County. We've lost it over the years. We used to be able to go to a factory and work. I had to leave myself to make a living. I spent 30 years right here in Raleigh. And I went back home, and that's where I want to stay. But to keep it, something's got to change.

So I strongly encourage you, as quick as possible, to approve this application and let it get started. It will save barrels of oil, it will save coal fields, it will help the environment. And those of them who would purport—I mean, if I told some people, hey, I've got eight, ten, twelve miles of ridgelines, I don't really know how many,

if I flatten it down and put a house on every top of it, all it's going to do is generate pollution. Windmills do not generate pollution. I strongly encourage you to approve this and let the county regulate it in a way that will be practical and feasible for all of us who live there and will stay there until we die.

Meanwhile wind opponents deluged the commission with letters and emails urging it to reject the application. The resistance group, Friends of Ashe County had been formed and had filed a petition to intervene in the utilities commission case. The applicant asked the utilities commission to alter its procedure, thus allowing the various required environmental impact studies to be deferred until after a ruling on the ridge law. Also requested, but denied, was the issuance of a conditional permit, which would have allowed the applicant to pursue capital. While the utilities commission granted the first request on February 13, 2007 (NCUC Docket No. SP-167, Sub 1, 2007:Order Granting Motion), the large investment in the permitting and pre-planning process began to weigh heavy on the applicant. In response, Calhoun leveled the following claims of hegemony (NCUC Docket No. SP-167, Sub 1, 2007:Applicant update):

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 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...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 forms of energy.

Several residents, and wind power supporters, of the North Fork communities organized three town hall sessions at the local Riverview Community Center along the banks of the north fork of the New River. The first session was held on March 20, 2007. Approximately 60 people turned out. The session was billed as balanced and for

the purposes of information and dialogue. As participants filed in, one attendee muttered, “if he’s here, I know where this is going” referring to a pro-wind environmentalist and director of a regional environmental advocacy group. The insinuation was that the town hall meeting was a pro-wind session in disguise. This demeanor prevailed as tensions in the room were high throughout the two-hour session, and had to be moderated frequently by an impartial facilitator. Afterwards, conversation continued. One participant commented on the suggestion that North Carolina’s consumption is a problem for coalfield communities by claiming that, “That’s their problem. They lost control of their land...it’s their problem! We’re not going to lose control of our land.” He then passed out compact fluorescent bulbs and a brochure for Friends of Ashe County. We learned later that he was the son of a prominent real estate agency broker in Ashe County.

While the Ashe application has been withdrawn in the NC Utilities Commission, other numerous community wind projects are being envisioned. Those future projects will be better informed as a result of the controversial but pioneering effort in Ashe. Though only one wind case is currently before the utilities commission (and it is on the coast), several coal and nuclear projects are being considered by the state’s big utilities. Noteworthy as well are their efforts to promote conservation at ratepayer expense.¹¹ The corporate takeover of renewable energy may be hard for alternative energy adherents to swallow, but such a takeover of energy conservation may be the ultimate transgression for community-minded relocalization proponents.

The lessons from Ashe reveal challenges for community wind, as Dr. Calhoun expressed above. For example, the North Carolina Wind Working Group (WWG) is

now discussing the series of pre-permitting studies that Calhoun faced. A de facto penalty of scale is essentially imposed all but large utility-scale projects, if community, and small or residential-scale projects are all required to perform the same studies. The model ordinance being developed by the WWG seeks to remedy this bias.

Appalachian State: wind science, and the slow walk toward regional leadership and sustainability

Ashe County's observations about Appalachian State University's increasing focus on green energy and sustainability are correct. Founded in 1984 by Dr. Dennis Scanlin, the Appropriate Technology Program is the nation's oldest continually operating program of its kind. It has graduated hundreds of students with expertise in solar, wind, micro-hydro, sustainable building design and other renewable energy technologies and applications. Since 2002, Scanlin and his associates have received \$541,000 in successive grants from US DOE and the NC State Energy Office that have focused primarily on wind energy research; their Western NC Small Wind Initiative also provides direct outreach to individuals, communities and institutions interested in pursuing wind (and solar) power.

One year before world's first Earth Summit in Rio (1991), Dr. Jeff Boyer started the interdisciplinary Sustainable Development Program, which also has trained hundreds of students in sustainability principles and with local, regional and international outreach projects. Graduating students have worked at all levels; one worked for two years helping to organize and chair caucuses on sustainability for mountain world regions at the United Nations Commission on Sustainable Development (UNCSD). The Appropriate Tech and SD programs have joined forces on several occasions, including a national solar education project in Honduras in 1993. Until recently, however, and

despite the campus participation in Governor Hunt's voluntary task forces on the greening of state government facilities (1999-2001), significant conservation and greening of energy and the university's physical plant lagged. It was the students, especially from the Technology program, that demanded that the university should "walk as well as talk" environmental sustainability. Appalachian State University (ASU), in Boone, allowed the student body to hold referendum on renewable energy. Administrators approved the initiative in summer 2004. The result was the establishment of the ASU Renewable Energy Initiative (REI) through a democratic process in which the student body voted to impose a five-dollar per semester surcharge to raise funds for converting the campus to renewable energy sources (ASU-REI 2008). The REI is currently working towards the installation of a community-scale wind turbine on campus and aims for a summer 2008 installation (personal communication, Ged Moody, director REI, April 3, 2008, Boone, NC).

With growing concern about global warming and natural resource degradation at home, with soaring costs of fossil fuels, Appalachian's students, faculty and administrators in this past year have intensified efforts to "walk the walk."¹² The current efforts to green Plemmons Student Union as the heart of campus teaching and action has the active support of most students, the service learning program (ACT), and a very capable director of Student Programs. Finally, a group of concerned faculty met last month (March 2008) with the Chancellor and Provost about the need for re-organization "at the top" in order to achieve the goals of North Carolina's 17 campus strategic plan, UNC Tomorrow¹³. This includes a very significant 20 percent reduction in electricity consumption by 2010 and 30 percent by 2015, and greater sustainable

development outreach to the communities in our respective regions. A university sustainability council has been formed; since the March meeting the Provost now says publicly that to become a regional and national leader in environmental sustainability is a key niche for the university. Demonstrative of ASU's potential leadership impact, a small liberal arts college in the NC mountains for whom AIRE was presenting community wind possibilities, responded that it would likely follow ASU's lead. We shall now see if, indeed, Appalachian State can soon claim that mantle.

Appalachian Coal in Carolina energy politics

Pro-wind voices in the Ashe County controversy brought renewables into the discourse, and juxtaposed wind power with Duke Energy's concurrent effort to build a new pulverized coal-burning plant near Charlotte. This struggle frames a compelling sustainable production and consumption story linking the MTR movement with energy politics in North Carolina. The trains hauling coal from central Appalachia down to the power plants in North Carolina is a visceral reminder of this material, social and political relationship. The national anti-coal movement is emerging in the North Carolina mountains. It includes many environmentalists also opposed to the exclusive pursuit utility-scale wind projects as well as Dr. Calhoun, applicant in the Ashe wind project. He continues to make the case that new coal plants threaten the climate and public health. Besides Duke Energy's Cliffside plant, Calhoun points to a new plant in Abingdon, Virginia. He contends that this plant threatens the mountains of North Carolina because of its close proximity and westward prevailing winds (personal communication, January 25, 2008, Raleigh, NC).

Duke Energy secured the necessary permits to construct a new pulverized coal

plant west of Charlotte despite the protests of various clean air groups.¹⁴ The NC Utilities Commission issued its certificate of necessity and convenience on February 28, 2007. The NC Division of Air Quality, despite well-organized citizen protests, followed suit on January 30, 2008 and issued its permit for the project. Protesters noted that while Duke CEO Jim Rogers was using the rhetoric of carbon caps and green energy in the national media, his company worked the political back channels intensively to bring more dirty coal to the state's already foul air. Citizens groups claimed that the oversight responsibilities of public agencies (utilities commission and division of air quality) were anything but transparent and democratic. The Canary Coalition and allied groups organized "citizens' hearings" in Raleigh, Charlotte, and Asheville to demonstrate the DAQ's contempt for public due process. For media consumption, hearing organizers placed empty chairs at the front of the conference room with placards that read "DAQ- absent!"

Several North Carolina grassroots groups are currently organizing the "Stop Cliffside" campaign. NC WARN (2008) posts on its webpage, a YouTube ad showing a caricature of Duke CEO Jim Rodgers with a green halo over his head, a "D" logo for Duke Energy with a dollar symbol in the center, and the corporate name as "Dupe Energy."¹⁵ Another group, Energy Action Coalition circulated an email call to vote for "the foolies—Fossil Fools award 2008" with actively campaigning for Rogers.¹⁶ The award ended up a few blocks farther down Charlotte's Tryon Street with Bank of America's CEO, Ken Lewis. The bank won for its "massive support of dirty coal" (fossilfools08 2008). The bigger news is that Rodgers agreed to meet with climate scientist James Hansen after several advocacy groups worked for months to connect

Duke's actions to the climate crisis (Eilperin 2008). Hansen gave talks in Charlotte and Chapel Hill, entitled *Averting Climate Catastrophe: Power Plants or Clean Energy - Who Decides?* (Carolinas Clean Air Coalition 2008). Rodgers attended the talk in Charlotte.¹⁷

If this carboniferous capitalism is a cultural production, we find in our present case, one example of its hegemonic strategy. In North Carolina, one of the states two big utilities, Progress Energy, changed its name from Carolina Power and Light in 2000.¹⁸ The word *progress* is synonymous capitalist growth and a hoped for prosperity. Doubtless it is the work of a sophisticated corporate branding project. Indeed, the company's marketing emphasizes, "our area's growing energy needs" (Progress Energy 2008-a). In fact, their new campaign introduction states its, "commitment to innovation and environmental responsibility while meeting growing energy demands" (Progress Energy 2008-b).

At the state policy level, North Carolina passed a renewable portfolio standard law in the summer of 2007 that also made demand growth a normative assumption.¹⁹ The anti-wind voices use this claim to trivialize the amount of carbon that wind power could displace. This has also created a conflict that environmentalists and other advocates of renewable energy are struggling to resolve. Avram Friedman, spokesperson for the Canary Coalition²⁰ called attention to the fact that the inevitability of demand growth went unchallenged during debate on the bill. Equally important, Friedman points out the complicity of some environmental groups in uncritically perpetuating this inevitability myth (Freidman 2007, emphasis added):

In changing the energy paradigm toward renewables, conservation and efficiency, the biggest obstacle to overcome is not the energy

industry's opposition or the mindlessness of elected officials who make decisions. The biggest obstacle is the resistance of the environmental community's leadership that has lost touch with its roots, the grassroots, and has become *lost in the delusion that meaningful change can be affected through weak proposals and compromise with the industries* and power brokers that have a vested interest in *greater energy consumption*. The biggest obstacle is the doubt that prevents us from awakening to our own empowerment and prevents us from asserting the truth as we see it and as the scientific community has related it to us. The results of numerous polls tell us that a large majority of the population wants strong government action to address climate change and air pollution. The environmental community needs to start acting like it represents the majority.

Here we see an example of states following the national trend of increasing (and not decreasing) its reliance on coal. North Carolina's recently passed Renewable Energy and Energy Efficiency Portfolio Standard (Senate Bill 3) makes no mention of wind and yet encourages new coal plants at ratepayer expense.²¹ North Carolina produces some 60% of its electricity from coal. Nationwide, electricity demand is predicted to grow by 41% from 2007 to 2030, with coal to ultimately supply 57% of that (Energy Information Administration 2007:82).

For example, Progress Energy's efforts to construct a peak generating plant near Asheville, NC sparked a wave of direct action protests. Although the utility scrapped plans for its Woodfin oil-fired plant (north of Asheville) in the face of protests, it continues to pursue peak generation in area. Progress Energy organized what it named the Community Energy Advisory Council (CEAC) and held its first meeting in June 2007. On its agenda was a public dialogue on a "balanced energy future." It announced the availability of \$25,000 for charitable community projects, a move that drew the article title, *Spreading Some Sugar*, in a local blog (Hopping 2007). It indicated that in

order to qualify, an organization must be a legitimate non-profit organization and that “organizations that pose a threat or conflict with the goals, products, or employees of Progress Energy” (Hopping 2007) would not be eligible. Yet, as the blogger acknowledges, Progress is generally considered to be a good corporate neighbor relative to other utilities. An informal group self-organized as a counter-weight to CEAC, and became known as the Sustainable Energy Council of Western North Carolina.²²

AIRE (Appalachian Institute for Renewable Energy) is working to fuse these protest efforts with its advocacy of community wind. Policies at the county²³ 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.

Wind power in Central Appalachian Coalfields

The coalfield activists have made considerable headway in bringing the cause of stopping MTR to the wider public. The linkages of wind energy to their cause have informative parallels to the North Carolina case. Short of developing this story, we draw insights from the Greenbrier County, where the Beech Ridge project currently awaits its fate in the West Virginia Supreme Court. The tourism industry and environmentalists are engaged in an acrimonious battle in Greenbrier over the wind farm proposal. But one of the interesting attributes to this case is that in neighboring

Raleigh County, the MTR movement has voiced outspoken support for the project. This has provoked a sharp split among environmental groups (Curren 2006; Lohan 2007).

Both sites exhibit some signature aspects of the forces that poison the well, just as the in most widely known wind battle in the United States, the Cape Wind proposal in Massachusetts (Williams and Whitcomb 2007). The sheer project scale of Cape Wind dwarfs anything that has been proposed in North Carolina. However, the Beech Ridge wind project in Greenbrier is to be large, with roughly the same number of turbines as Cape Wind. Anti-wind groups have formed in Greenbrier.

Shaping local knowledge

While both the West Virginia and North Carolina cases involve “poisoning the well”²⁴ and the politics of scale (read regional-national contaminating the local-regional), the West Virginia case with its long-standing legacy of a centralized “King Coal” clearly possesses greater time depth. Greenbrier involves state governmental authorities continual efforts to counter West Virginia’s negative image as the center of King Coal’s devastation of a land and its people through mountaintop removal (MTR). State authorities fast-tracked a Chicago-based corporation’s permit to construct large-scale wind project in Greenbrier County with little local consultation. Moreover, no arrangements were made for the sharing of benefits from this local power generation. Their stance put them at odds with the nearby MTR protesters who argue that any scale of wind development was preferable to the irreversible devastation of MTR. This top-down imposition of large wind farms helps explain the splits among environmentalists in both West Virginia and North Carolina.

Local tactics that poison the well

What do we mean by the well of local knowledge? Briefly, this refers to the shared experiential understandings that community members have of their place-based natural, material, social, and cultural worlds over time. We also imply that such knowledge is often subverted, subjugated, and reduced to lower standing in wider political, economic, and scientific worlds (Foucault 1980).

The North Carolina case involves, first, an active campaign on the part of the realtor-developer-tourist industry to undercut a proposed wind farm through a media campaign using “fear and misinformation,” much of it taken from anti-wind front groups. They use common themes and “authoritative sources” that trace to anti-wind front groups backed by the coal industry. The local anti-wind groups flood local newspapers with paid advertising and letters to the editor that describe how pristine views and thus local property values and economies will be destroyed.

To illustrate the rhetoric appropriated by anti-wind actors, we present a short discourse analysis of Friends of Ashe County brochure. We model this critique on the discourse analysis portion of Haggett and Toke’s (2006:112-117) study in England in which they used mixed methods (discourse analysis and regression analysis) to study wind opposition.²⁵

During the height of the Ashe controversy, the group circulated a three-panel brochure with its main points represented on the front panel,

1. “SAVE OUR RIDGE TOPS”
2. The subheading read, “Protect your investment in Mountain Real Estate.”
3. The cover panel shows two photographs, one of an undisturbed mountain vista and the other showing five large windmills in a tight cluster and one

superimposed old farm-style windmill.

4. At the bottom of the panel is the phrase “A closer look at the consequences of Industrial Wind Complexes.”

The ridge top protection reference (line 1) taps two important veins. One is the ridge law, which is deemed sacred by environmentalists. Two, the notion of views as a commodity which developers and the tourism industry claim are vital the area’s prosperity. This is a point of conjunction between some environmentalists and vacation homeowners. Both groups are very protective of the ridge law, which itself has become useful in shaping knowledge through rhetoric.

Investment in mountain real estate (line 2) is a clear reference to vacation homeowners. These are non-resident, and more importantly “non-local” in a cultural sense. The land for the vacation home development boom in Western North Carolina has been supplied by locals no longer able to pay property taxes on family land and no longer able to derive a livelihood farming it. The growing presence of these newcomers in the eyes of many natives signifies an unwelcome shift from landscapes of production to landscapes of consumption (Zikin 1991). It is the anti-wind newcomers who are promoting the new landscapes of consumption attitudes by denigrating the industrial nature of modern windmills as an aesthetic negative.

The photographs (line 3) are strategic, particularly the one of windmills. The large modern windmills are portrayed as “industrial” (see line 4) and the old-fashioned farm windmill is meant to evoke reference to a clause in the ridge law that exempts windmills. The newcomer anti-wind agents have seized on, and repeated many times, a line in the state attorney general’s letter to TVA that the windmills intended to be

exempted were single solitary farm windmills. Even “windmill”, the term in use in when the NASA windmill stood atop Howard’s Know in Boone, has been strategically altered to “wind turbine” thus fitting more neatly into the industrial wind complex imagery. These detractors vigorously argue the distinction between windmill and wind turbine. Most tellingly, the appropriation of “industrial” has specific meaning. Industry is seen as out of place in a tourist economy and it connotes something large and intrusive on a rural landscape. Until the recent deindustrialization of much of southern Appalachia, small farming and small industry have more than a half-century synergistic coexistence. In the native practical view, if a windmill works why not use? The Ashe County brochure’s inner panel contained the following anti-wind bullets:

1. Making Informed Decisions
2. Private Property Rights
3. Green Power—NOT what it seems (will not displace “conventionally” produced power; costs twice as much; condemnation proceedings will be necessary for new power lines)
4. And in a graphic box is this, “INDUSTRIAL WIND COMPLEXES ARE NOT ‘Windmills’”

Distilling the realtor-developer brochure, one must conclude the following: 1) The sacrosanct value of private property rights, especially with pristine views, 2) Windmills constitute a threat to property values, 3) discredit green power, 4) rigid adherence to an untested interpretation of the ridge law. The brochure claims that any alternative positions are based on false information or ignorance.

Haggett and Toke suggest that local anti-wind groups deflect NIMBYism

counter-claims by universalizing the innate values of the particular landscape to a broad segment of the population (2006:114). This tactic has been used in a modified form by the Friends of Ashe County. Rather than leverage the pristine nature imagery directly, they seek to enlist a broad group of nature loving vacation homeowners who “invested” in mountain real estate for its scenic qualities.

Other tactics are employed as well. They aggressively lobby local political officials, including those in adjoining areas and other jurisdictions, to ban or severely regulate wind energy through zoning ordinances, and they also take their campaigns into the legal process by filing petitions to intervene in the state utilities commission proceedings. For example, Ashe County commissioners hastily passed an ordinance that severely limited the possibility of even small residential-scale windmills. Given that the western part of the state has been subdivided, property parcels are often small. By instituting a large setback requirement, the commission essentially banned wind power in Ashe County with its ordinance. The elite mountain town of Blowing Rock, in adjoining Watauga County passed a full-fledged ban on wind energy. A spokesperson of Friends of Ashe County, the group that spearheaded the anti-wind efforts in Ashe County, lauded the town council’s move. In a letter to the editor, he called it “courageous” for its recognition of the importance of the “viewshed” in the tourism industry (Lewis 2007). Clearly, the Ashe County knowledge well has been effectively poisoned.

As if trends in Ashe County were not enough, they soon acquired a state-national ally with the active engagement of the John Locke Society. Representatives have monitored the developments, testified at utilities commission hearings, and

attended public fora on wind. They have attempted to discredit ASU researchers' renewable energy can be a jobs engine by hiring their own "peer reviewers" to discredit their methodologies and claiming a lack of transparency (Carolina Journal staff 2008). Interestingly, John Locke have contradicted their pro-property rights position by asserting that the Ashe wind applicant did not have unlimited property rights.

National tactics affecting the local

We could not describe the tactics of local anti-wind agents, without briefly pointing to the national organizations' tactics especially since their national-to-local linkages are important in knowledge shaping. Here, the "well" must be seen as not only knowledge of the local, but also local knowledge of wider collectivities. That knowledge is essential in the construction of national citizenship. We have just mentioned the state/national John Locke Society's smear campaign to block wind in Ashe County and across the region. As a recent *Washington Post* article reported, the "Coal Industry Plugs into Campaigns" (Mufson 2008) identifies the industry's massive stake in national politics. According to the *Post*, the coal and allied electric utilities have waged a \$35 million campaign in primary and caucus states to "rally public support for coal-fired electricity and to fuel opposition to legislation that Congress is crafting to slow climate change" (Mufson 2008:n.p.). The industry trade groups and their non-profit organizations are well organized and strategic in their application of rhetoric. Watchdog organizations refer to them as "front groups." The group discussed in the *Post* article above is Americans for Balanced Energy Choices (ABEC),²⁶ a benign name for a coal and utilities front group whose budget was increased four-fold in September of 2007 according to the *Post* article. SourceWatch (2008) puts that

budget at \$30 million. From their website, we find the following (Americans for Balanced Energy Choices 2008),

To date, over 150,000 community leaders from all across the country have joined ABEC as a means of keeping informed on what is happening with energy and environmental policies at both the state and federal levels. Primary funding for ABEC's outreach efforts come from America's coal-based electricity providers.

As a group, we believe that America can continue to make great progress in improving environmental quality while at the same time enjoying the benefits of using domestic energy resources like coal to meet our growing demand for affordable, reliable and clean energy. In a word ... we believe in technology.

Clean coal (so-called) is the technology to which they refer as one sees on their home page. A chunk of black coal is shown plugging in to an orange extension cord. But the technological rhetoric is not the only one the group appropriates. "Energy security" is code for using coal for gas-to-liquids (and other domestic sources) so as to reduce reliance on foreign sources. Coal as an export attributable to booming Asian demand is touted as "good for trade."

These organizations have been dubbed "astroturf" (SourceWatch 2008 b), defined as "grassroots program that involves the instant manufacturing of public support for a point of view in which either uninformed activists are recruited or means of deception are used to recruit them." SourceWatch differentiates astroturf from grassroots (2008 b):

Unlike genuine grassroots activism which tends to be money-poor but people-rich, astroturf campaigns are typically people-poor but cash-rich. Funded heavily by corporate largesse, they use sophisticated computer databases, telephone banks and hired organizers to rope less-informed activists into sending letters to their elected officials or engaging in other actions that create the appearance of grassroots support for their client's cause.

We see signature markers of these front groups in both West Virginia and North

Carolina. Numerous local grassroots anti-wind groups provide links on their websites and cite studies from astroturf organizations. Their resource pages link to national anti-wind groups, and to groups such as ABEC. For example, one of the Ashe County protest groups cites the work of Glen Schleede in its filing with the utilities commission (NCUC Docket No. SP-167, Sub 1, Jan. 2007: Consumer Statement, Keepers of the Blue Ridge). Mr. Schleede's papers also appear in similar anti-wind groups communications in West Virginia (Mountain Communities for Responsible Energy 2008). He is cited as an authoritative voice in their attempts to discredit wind power. His chief claims are that the government heavily subsidizes wind power and that wind is a nominal strategy for offsetting fossil fuel electric generation. Our intent here is not to critique the merit of such claims, nor to question his qualifications, but rather, to illustrate the extra-local element of local wind protest. Schleede also surfaced in the Cape Wind controversy according to the author of *Cape Wind: Money, Celebrity, Class, Politics, and the Battle for our Energy Future on Nantucket Sound* (Whitcomb and Williams 2007). *The Hidden Influence of Coal*, a blog post by the book's co-author (Williams 2008) asserts:

But it's always important to keep in mind: the U.S. Information Agency has predicted that when wind technology gets a true foothold in the United States, it's the coal industry that's going to lose market share.

The very first complaint I ever had about a Cape Wind story that I wrote was for a story I wrote on the project for *Scientific American*. A man named Glen Schleede contacted the magazine and complained that the case for wind was over-stated in the article. He signed his name to the letter, and added his academic Ph D credentials.

When my editor asked me to look into the issues raised by this man, the first thing I found was that he had spent much of his professional career in Washington -- representing King Coal.

Schleede's still up to his old tricks. Just imagine: Now he's producing papers that complain about "Big Money" and wind energy. In all these papers, Schleede "forgets" to tell people about his relationship to coal.

Schleede was formerly Senior Vice President of the National Coal Operators Association. He also is listed as an Advisory Council member of Consumer Alert, a non-profit organization concerned with "excessive growth of government regulation at the national and state levels" (SourceWatch a 2008). According to SourceWatch, Consumer Alert developed the National Consumer Coalition, which in turn, developed the Cooler Heads Coalition.²⁷ These are industry friendly organizations that advocate free market solutions, fight government regulation, and attempt to cast doubt on global warming.

The corporate media, especially the *New York Times*, *Washington Post*, *Los Angeles Times*, and the *Wall Street Journal*, play a significant hegemonic role in shaping beliefs about global warming. The philosophy of balanced journalistic coverage in which a "countervailing 'denial discourse'" is given roughly equal attention to scientific findings on the threat of global warming (Boykoff and Boykoff 2004:126) allows a small group of skeptics to amplify their viewpoint. "Focusing attention on 'both' sides of the story regarding action due to global warming, the...press in effect provide[s] a 'balanced' coverage of a very unbalanced issue" (Boykoff and Boykoff 2004:133).²⁸

In the face of our paramount need to shift away from these polluting and greenhouse gas producing energy arrangements constitutes an effort to perpetuate this hegemony at all cost. As we have just seen, a major weapon in their arsenal is to poison the many local wells of knowledge throughout Appalachia and beyond.

Community wind and institutional support: constructing an ethical counter-tactic

The struggles we have described contain problems of local, regional, and global scales— the climate crisis, the political economy of energy, and the complex resistance that renewable energies face. While we are not overly sanguine about the transformation of our energy system, we do believe community wind in Appalachia is an important step. One 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. What we have observed is that labels of “pro-wind” and “anti-wind” are overly broad and tend to obscure a middle ground on which some anti-wind actors may support wind development. Wind power advocate Paul Gipe (2004) calls this middle ground between corporate wind farms and small residential wind power systems “The Third Way.”

Besides the legal and regulatory challenges posed by the lack of legal interpretation of the ridge law, by state policy and regulatory politics, and by the possibilities that municipalities or counties will ban wind, there are issues regarding local acceptance. Community wind may be that “third way” between large utility-scale wind farms and vehement resistance to wind that is sometimes mischaracterized as NIMBYism.

An institutional counter-weight to address these issues was formed during the height of the Ashe County controversy. The Appalachian Institute for Renewable Energy (AIRE) was established to provide grassroots education and outreach, policy advocacy, and to argue for renewable energy as a cornerstone of sustainable economic development. Originating from the funder’s concern about global warming, AIRE

sought to link Central Appalachia's coal mining issue with consumption and the need to increase renewables capacity. Other organizations and/or programs on which AIRE is being modeled are Windustry²⁹, Coop Power³⁰, PennFuture³¹, Community Based Energy Development³², Power Naturally³³, and Community Owned Energy³⁴. AIRE's initial thrust has been to rebut anti-wind groups' claims but more importantly, it has listen to community protest. AIRE has organized tours for local leaders to TVA's Buffalo Mountain wind site, held education sessions for citizens and policy makers, and represented community wind on the NC Wind Working Group. To locate potential community wind sites, it has integrated GIS mapping by creatively merging conservation land trust datasets with maps that identify wind resources, property parcels, power grids, and other important features such as sensitive viewshed and conservation areas. Among AIRE's participants are bankers, attorneys, engineers and educators. One affiliated educator has long experience in organizing worker-owned cooperatives.

Currently the United States can claim a growing number of successful community wind projects in terms of bringing energy savings, economic return and social vitality to its members (Asmus 1998; Wockner 2005; Powell 2006).³⁵ One of the significant contributions to the local economy is localizing currency circulation, which is a core tenet of sustainable communities (Shuman 1998). In comparing the impacts that corporate-owned versus community-owned wind have on the local economy, evidence clearly points to the latter strategy as providing the greater local benefits (Morris 2007; Kildegaard and Myers-Kuykindall 2006; Galluzzo 2005). Admittedly most of the emerging community wind projects are in the mid-west with 1000 acre

farms and relatively few siting problems. In contrast, the more densely populated rural Appalachia must contend with much smaller tracts with wind ridges and property boundaries in closer proximity. Despite these challenges, western North Carolina is blessed with some of the best wind resources in the terrestrial eastern United States (Western NC Small Wind Initiative [see wind resource maps], Appalachian State University, 2008).

The need for many local instances of clean energy production becomes apparent when we focus on North Carolina as a whole. One estimate for the state puts the economic drain at \$1.6 billion per year given its 97% out of state generating fuel import (Environmental Defense, et al. 2007).

Case Analysis

Analyzing local struggles over wind power siting not only helps to explain resistance, it also raises broader questions for proponents of wind power. Overcoming “front group” propaganda while respecting the agency of local actors, addressing conflicts of scale in policy and economic spheres that affect community wind, and the larger societal questions of energy and climate. These questions matter from the perspective of critical theory and social movements whose intent is both problem critique and solutions focused. Thus, we go beyond description of the conflict and utilize community wind dialogically to understand the conditionality of support. To restate the questions we posed at the outset, how should renewable energy movement make its way toward a sustainable energy future, and how do actors in this movement approach the struggle in shaping local knowledge?

Unpacking NIMBYism

As Kempton et al. (2005:125) argue, understanding why local resistance emerges is left unexplained by accepting a simple NIMBY explanation. Wolsink recognizes that “the “announcement of a project suddenly creates a vested interest, and therefore it creates a state of vigilance, which starts a process of thinking and deliberation” (2007:2699). A bottom-up participatory philosophy requires the acknowledgement of this state of vigilance, and a strategy to allow for citizen engagement in the controversy.

Two categories of discourse emerged from the Ashe County controversy. One is the landscape aesthetic consciousness, typically referred to the “viewshed,” where project scale and siting enter the dialogue. The other can be described in terms of sovereignty and livelihoods where planning processes and local benefits enter the dialogue.

One element common to both the Ashe and Greenbrier anti-wind movements is their particular construction of nature. All participants in the wind controversies have socially constructed images of viewshed and landscape (pristine, wild, majestic, etc.). The dominant resistance to wind has been from real estate related interests who see wind turbines as detrimental to their business interests. The staunch support of the “ban on windmills” ridge law interpretation comes from real estate and tourism interests. Back-to-the-landers³⁶ that embrace community wind but reject corporate wind also adopted this position. This back-to-the-lander view illustrates to us that the NIMBY attributes drive a project’s acceptance or rejection by local residents. The real estate and tourism subset of local resistance exhibited the signature NIMBY rhetoric, chiefly that wind is fine just put it someplace else. Wind as a threat to the viewshed, by their logic

was thus a threat to their pocketbooks. Back-to-the-landers are motivated by another landscape aesthetic that has less to do with economics than with social constructed values of nature. Hence, they are more likely to conditionally support wind. The analyses put forth that aim at to lessen visual impacts resonate in our case sites (Pasqualetti, et al. 2002) and are important to improving the favorable conditionality. However, project scale remains a highly sensitive issue. This is also an issue for which pending legislation has been proposed in North Carolina with HB 1821³⁷ that calls for viewshed and tourism impact studies before wind projects are permitted.

The NIMBY question begs a wider discussion of justice and fairness. Coalfield residents protesting MTR and the grassroots anti-wind protest in Ashe County, NC and Greenbrier County, WV universally express a sense of unfairness. They argue that their landscape should not be the sacrifice for excessive consumption elsewhere. Wolsink makes a distinction here between “distributional and procedural fairness” in which “the crucial factor is not that residents have strong intentions to shift the burden to others, but that they consider it unfair that others, or the decision makers, shift the burden to them” (2007:2701). Hence, as we have observed in Ashe County, those conditionally embracing wind variously reject it (on a utility-scale) by arguing that excessive consumption elsewhere should not come at their social or ecological exploitation. Greenbrier protesters also claimed this, but with MTR wind proponents from coalfield communities expressing outrage at their own exclusion from this same principle. The shifting-the-burden argument is not satisfying however because the end result is business as usual.

Protesters in Ashe and Greenbrier argued that wind developers are another form

of corporate exploitation of the area's people and landscape. Yet in Ashe, the would-be wind developer was a local individual, thus some of the exploitation rhetoric took on the rhetoric of elitism. In either case, we wonder, along with the environmental justice movement, when the consuming public will hear the coalfield communities whom have made the national sacrifice argument for years. Ignoring them, we tacitly endorse a distributional injustice and acquiesce to procedural bias that perpetuates the injustice. A community-owned wind turbine is a symbol of responsibility to us.

Community wind strategies in a corporate world

In our efforts to develop a balanced decentralized-centralized wind and renewable energy strategy, we conclude that some compromise between “Small is Beautiful” (Schumacher 1973; 1999) and corporate perspectives are necessary. But is this possible? This crucial question of scale is problematic for many back-to-the-land wind supporters who embrace an agrarian localism that borders on anarchism. We the authors do not accept this worldview. Moreover, we and our “agrarian localist” neighbors doubt that community renewable energy initiatives alone are sufficient to 1) displace carbon to slow global warming, and 2) power our complex society's massive energy consuming infrastructure through a just and equitable transition period to a low-carbon economy. We are, however, more optimistic that it could lead to a transcendent energy awareness. Yet a critical problem remains. In arguing that we scale-up rather than down, the energy sector including corporate wind developers, and the political economy of energy are likely to be community wind partners in what some will see as an unholy alliance.

“Painting lipstick on the gorilla” (Short 2002:45) will not be enough to remove the public's blinders to clean energy and what may be required to attain it. The gorilla

metaphor points to the wind industry's "invader" (2002:45) mentality on rural landscapes driven by its focus on profit and expansion. However accurate this metaphor is, we believe that moving into community wind will necessitate some degree of engagement with industry–utilities and wind developers alike. At this critical juncture, we risk fracture of a nascent coalition of wind supporters. For example, the anti-coal movement, especially the more militant groups may be reluctant to join our efforts. It also implies that attention to landscape aesthetics alone is insufficient to scale-up capacity.

The alternative energy movement used to be "alternative" (Glover 2006) and as such, scale³⁸ was small. But technological evolution of wind ultimately morphed into a corporate form when small business enterprises developed the technologies only to have them suppressed by large corporations, then bought out, and finally incorporated into their business model in marginal ways (Hess 2003:8-9).

Accepting the scaling-up scenario, major differences in philosophical orientations to environmental issues pose problems for community wind. Strategies can either work within the dominant political economy or imaginatively redefine political economic assumptions. One such strategy located in the latter is ecological modernization (Dryzek 2005:162-169). EM is a pragmatist approach defined in the 1980's by social scientists Joseph Huber and Martin Janicke as an environmentally-oriented reform of the capitalist political economy. EM is not an adversarial project, rather it is embodied in the notion that companies profit by going green, as argued by such titles as *Natural Capitalism: Creating the Next Industrial Revolution* (Hawkin and Lovins 1999).

Community wind might thrive with an EM approach, and it may be necessary to work with rural electric cooperatives, perhaps the large utilities, capital, and regulatory agencies. The problem with EM for some is “as an elite-oriented policy, there is little concern with *labor or equity issues*, or with the general problem of *reducing consumption*” (Hess 2003:11, emphasis added). Based on our observations, particularly the Ashe County case, this resonates with protesters’ criticisms of larger-scale projects. Given the lack of progress renewables have made in Appalachia, we are inclined to explore what Hess sees as an opening with the bifurcation within the dominant capitalist discourse between “jobs versus the environment” and the greening of production via EM. He argues that EM is “far from sustainable” but that it reflects a “shift in the politics of legitimation and the way in which industrial development policy is framed” (2003:11).

Indeed, formerly marginalized ideas such as peak oil and global warming are now appearing in mainstream political circles. For example, the NC State University-based Institute for Emerging Issues 2008 conference background paper entitled *North Carolina’s Energy Futures: Realizing a State of Opportunity* (Institute for Emerging Issues 2008) acknowledged peak oil and climate change are real threats. Even so, these admissions are couched in “proactive responses” that require the state to “grow its economy and its population while confronting higher energy prices, developing alternative energy sources and mitigating the environmental consequences of growing energy demand” (Institute for Emerging Issues 2008:1).

Hess sees “hybrid organizations at the frontiers of the private sector and civil society” (2003:21). We place community wind and the organizations attempting to

bring economics, equity and environment into their development strategies in this category. Economists may level the charge of inefficient,³⁹ but we suspect from our observations that communities see great rational and egalitarian values in goals other than profit. The AIRE experiment takes Hess seriously in developing its mission, strategies, and methodologies for promoting community wind in Appalachia.

Here, movement actors most dedicated to strident counter-discourse, might ask if risks of engaging in elements of EM are advised. Our answer is yes, so long as the aim is to instigate a new energy-economic paradigm that goes deeper than talk of economic rationalization embedded in ideas such as eco-efficiency (Brown 2001). In a sense, the ends, when they are not compromised, justify the means. Peter Brosious makes a compelling argument for engaging the system and that “using the master’s tools” (2006:249) is a worthy application in pursuit of social and ecological goals. We tend to agree with Brosious when he says this is a timely and valid approach if sustainability “cannot compete in domains where power and influence are unapologetically exercised as a matter of course” (2006:249). Indeed, AIRE is deploying sophisticated GIS mapping, innovative capital formation ideas, while retaining its core belief in people and participation. Still, we recognize the words of caution: “[I]n the thirty years that the sustainable energy movement has aspired to change the conventional regime, its social commitments and politics have become muddled. A telling sign of this circumstance is the shifted focus from energy politics to economics” (Byrne and Toly 2006:13). Being strategic is not the problem, they reason. Rather, their concern is “whether victories in the everyday of incremental politics have been balanced by attention to the broader agenda of

systemic change and the ideas needed to define new directions” (Byrne and Toly 2006:14).

One might ask if community wind is too little and too late in offsetting carbon. The world leader in installed capacity, Germany, had developed 88% of its capacity from community-owned as of 2000 (Kildegaard and Myers-Kuykindall 2006). Favorable policy contributed to the German success, which included a priority focus on farmers. Germany undertook a policy that Denmark had pioneered whereby utilities were required to purchase power from all renewable sources in a given supply area. The law was intended to help internalize the cost of conventional production and to help pay for the benefits of renewables. Utilities also fell under the tariff, which helped limit their opposition to the policy. But of special interest is the following effect (Sawin 2004:28, emphasis added):

Soon after the first pricing law was established, *farmers, small investors, and start-up manufacturers* started to create a new industry from scratch, and wind energy development in Germany began a steady and dramatic surge.

“As of 2002, about 85 percent of the installed wind capacity in Denmark was owned by farmers or cooperatives, and at least 340,000 Germans had collectively invested nearly \$14 billion in renewable energy projects” (Sawin 2004:42). The crucial ownership question reveals that “[t]hrough cooperatives, people share in the risks and benefits of renewable energy often avoid problems associated with obtaining financing and paying interest; play a direct role in the siting, planning, and operation of equipment; and gain a sense of pride and community (Sawin 2004:42).” Japan has also experienced the rise of community wind through “social innovation” (Maruyama, et al. 2007:2761)

whose result has been to “change the rules of risk—benefit distribution and the role of social actors” (Maruyama, et al. 2007:2761). Similar visionaries in the U.S. will have to deal with a federal policy that favors corporate interests. The federal Production Tax Credit (PTC) is a well known barrier, but a less often discussed issue is Securities and Exchange Commission (SEC) requirements. Here, the ability of cooperative proposals is severely limited by expensive SEC requirements (Farrell 2008). The Appalachian cases in which AIRE is involved are shaped by similar social goals, policy and capital incentives, common to community wind in other parts of the United States (Bolinger and Wiser 2006).

Policies in place to support community wind are important and this climate currently falls short of Germany. However, we see sufficient opportunities to press forward with experiments in community wind in Appalachia. As such, the questions turn to organization. As community wind implies, and our dedication to social primacy dictates, forms of social and economic organization require democratic participation.

Hence (Mooney 2004:77):

what is needed are mechanisms and institutions that permit the sustainability of struggle in legitimate institutions. In the United States, one of the most important and commonly proclaimed values is that of democratic forms of participation. It is argued here that formal cooperation privileges a democratic structure within an economy that is generally driven by quite different social forces and forms of organization.

Cooperatives are a potential organizational form for achieving this. As global forces continue to undermine community, especially rural community, the potential for a renewable energy project to reinvigorate local economic life, strengthen social relations, and restore a sense of local stewardship looks to us like a very moral and ethical counter-

tactic. This is in the spirit of Bill McKibben's "Deep Economy" (2007). The possibilities of such a structural transition are not unimaginable. Exponential change might be nearly as possible as mere linear change with proper leverage, strategy, mindset, and potential to transcend paradigms (Meadows 1999; Forrester 1971).

Social or technological primacy as guiding principle?

A crucial justification for widespread sustainable energy strategies is the formidable problem of mass consumption on our society and a globalizing world. It is causing widespread degradation and exhaustion of life-giving resources within and beyond Appalachia. Ivan Illich (1974:22) put it this way:

The energy crisis cannot be overwhelmed by more energy inputs. It can only be dissolved, along with the illusion that well-being depends on the number of energy slaves a man has at his command. For this purpose, it is necessary to identify the thresholds beyond which power corrupts, and to do so by a political process that associates the community in the search for limits.

As a group of Appalachian coalfield community activists learned during their two-year effort as delegates at the United Nations Commission on Sustainable Development,⁴⁰ the term *sustainable energy* can be slightly altered to mean *energy for sustaining development*. This satisfies the fossil and nuclear sectors' desire to ramp up production for growing demand; an action they justify as *energy democracy*. Such "political chicanery" (Dubash and Williams 2006:161) up and down the vertical axis of authority becomes increasingly possible as energy problems are reduced to technical and managerial exercises. Thus, we aim to broaden the analysis beyond narrow, instrumental justifications. Lewis Mumford noted over four decades ago that modernity's formula has been to increase energy use to fuel ceaseless economic

growth, which he termed “carboniferous capitalism” (Byrne, Toly, and Wang 2006:ix). The pro-wind debate among the actors in our case is bracketed by ecological modernization and relocalization (Dryzek 2005).⁴¹ These are important reference points that bound a complex political terrain on which we believe a significant strategic opportunity to build a renewable energy movement rests. Here we find a potentially fruitful tension between technological primacy (with its tendency for cooptation) and social goals. The renewable energy movement historically saw “Conventional energy systems [as] monuments to exploitative social hierarchies, unresponsive to social needs and uncaring of their environmental impacts, and were part of a rampant industrialism inimical to the human prospect” (Glover 2006: 252). Thus, renewable energy (or alternative energy as it was once called) was a technical means to a social end.⁴² The importance of this ordering of society, environment, and technology has been noted in the literature (Commoner 1971; Bateson 1972; Dovers and Handmer 1993). Rural land loss in Appalachia means a loss of local farms and food production and rural lifeways. Technological primacy has played a role in this as some agrarian writers have noticed (Wolf 2004; Berry 1997). Broadly, technology is seen in this light as mere practical instruments and not part of material culture.

Participation and Local Democracy

Advocates of grassroots sustainable development often rely on “local knowledge” as the philosophical foundation for social change in the face of environmental and social injustices. We take heart in Highlander Center’s founder and educator, Myles Horton, when he argued to always speak the truth even when confronting power. His radically democratic stance was that “common” people have uncommon abilities to develop a

critical awareness of their own collective potentials in political conflicts, discover their own interests and see through the hypocrisy of the powerful (Adams 1992). However, we have observed that this well of local knowledge is subject to manipulation. The struggles we have documented in this paper illustrates how anti-wind groups shape local knowledge, compromise and co-opt it, by means, and toward ends that run counter to sustainability.

Participation implies democracy. But the tactics employed to cast doubt about global warming or the efficacy of renewable energy are antithetical to the notion of democracy. As veteran media watchdog, John Stauber observed (Hansen 1999), there is nothing inherently wrong with arguing a position, but the problem is that:

[P]ublic relations has become a huge, powerful, hidden medium available only to wealthy individuals, big corporations, governments, and government agencies because of its high cost. And the purpose of these campaigns is not to facilitate democracy or promote social good, but to increase power and profitability for the clients paying the bills. This overall management of public opinion and policy by the few is completely contrary to and destructive of democracy.

Without accurate information on major issues, ordinary citizens are less likely to take rational and informed positions. As we described earlier, the tactics of national propaganda campaigns on the behalf of the energy establishment, are sophisticated and very well funded. On a local scale, how are citizens denied information and access on controversial issues?

Ordinary citizens, generally speaking, are excluded from meaningful public input by several methods including controlling standing in a debate, controlling the visibility of task force work conducted on behalf of the public by appointees, and by

controlling agendas, setting and schedules for public meetings (Holland et al. 2007:181-183). They consider the “penultimate” controlling method used where the other methods have failed to be “freezing out” whereby dissenting participants are ignored (2007:184). The Cliffside hearing is an example. The Division of Air Quality held only one hearing in the remote part of a rural county where the plant will be built and the anti-coal movement actors allege that they were frozen out.

Participatory processes have to be viewed critically as well. For example, participation has been called “political homeopathy” that prescribes well-regulated doses of dissent to constrain substantial challenge (Brosious 2006:231). Brosious goes on to state, “‘participation’ represents a regime of civility intended to contain and domesticate dissent by creating a somewhat inauthentic ‘place at the table’” (2006:231).⁴³ We see this problem, for example, in the Progress Energy community grant program mentioned above. Indeed, a lively debate has followed around the question of taking the money or not.

Building a movement on the foundation of participation requires a certain theoretical faith in public consciousness and rationality. Hence, a major assumption (perhaps not the only one) is that the public sees its own interests at stake and will make rational choices. Holland et al. observed the propensity for “rational publics” (2007:253) in their ethnographic fieldwork in Western North Carolina. Similarly, Dryzek’s (2005:22) modification of the Foucauldian notion of hegemony wherein the public can engage in rational comparison of discourses is encouraging. A participatory approach implicitly accepts that, “where truth is not arrived at, it is not because individual citizens or the publics they form are irrational but because citizens are not

sufficiently informed about their interests or not sufficiently involved as participants in governance to begin with, or because elites act demagogically” (Holland et al. 2007:253).

Conclusion: Fighting back in the lost Kingdom of Ashe

The early contours are emerging for community owned renewable energy projects at various sites in Western North Carolina. The most significant is on the North Fork,⁴⁴ the site of Dr. Calhoun’s proposed wind farm and epicenter of Ashe County’s protests. 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. This is a positive turn. Suspicions do remain. One resident asked at the initial wind meeting, “this doesn’t have anything to do with the doctor up at the courthouse does it’ (meeting at Riverview Community Center, March 24, 2008)? Calhoun had served on the county commission just before his application, and therefore the perceptions of Dr. Calhoun as a powerful, local elite.⁴⁵ Nevertheless, more than two dozen residents in and near the original Calhoun viewshed are working together to determine sites, cost and form of cooperative organization for a socially and geographically appropriate array of individual landowner and shared

sitings for small-to-medium-sized windmills. 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.

Bibliography

- The Power to Choose: North Carolina's Clean Energy Future. 2007. Environmental Defense; North Carolina Sustainable Energy Association; American Lung Association of North Carolina; Carolinas Clean Air Coalition; Conservation Council of North Carolina; Environment North Carolina; North Carolina Conservation Network; North Carolina Council of Churches; North Carolina Sierra Club; North Carolina Waste Awareness Reduction Network; Southern Alliance for Clean Energy; Southern Environmental Law Center; Students United for a Responsible Global Environment.
- Adams, Frank. 1992. *Unearthing Seeds of Fire: The Idea of Highlander*. 4th ed. Winston-Salem: John F. Blair. Original edition, 1975.
- Americans for Balanced Energy Choices. 2008. 2008 [cited March 20, 2008]. Available from <http://www.americaspower.org/>.
- Asmus, Peter. 1998. Landscapes of power: can renewable energy help Native Americans reclaim their resources? *The Amicus Journal* 18 (4):3.
- ASU-REI. Appalachian State University- Renewable Energy Initiative. Appalachian State University 2008 [cited March 25, 2008]. Available from <http://rei.appstate.edu/>.
- Bateson, Gregory. 1972. *The Roots of Ecological Crisis*. In *Steps to an Ecology of Mind*. Chicago: The University of Chicago Press. Original edition, 1972.
- Berry, Wendell. 1997. *The Unsettling of America: Culture & Agriculture*. 3rd ed. Berkeley, Los Angeles, London: Sierra Club Books. Original edition, 1986.
- Bolinger, Mark, and Ryan Wiser. 2006. A comparative analysis of business structures suitable for farmer-owned wind power projects in the United States. *Energy Policy* 34:1750-1761.
- Boyer, Jefferson. 2006. Reinventing the Appalachian Commons. *Social Forces* 50 (3):217-232.
- Boykoff, Maxwell T., and Jules M. Boykoff. 2004. Balance as bias: global warming and the US prestige press. *Global Environmental Change* 14 (2):125-136.
- Brosius, Peter. 1999. Analysis and Interventions: Anthropological Engagements with Environmentalism. *Current Anthropology* 40 (3):277-309.
- . 2006. Seeing Communities: Technologies of Visualization in Conservation. In *The Seductions of Community: Emancipations, Oppressions, Quandries*, edited by G. Creed. Santa Fe: School of American Research Press.
- Brown, Donald. 2002. *American Heat: Ethical Problems with the United States' Response to Global Warming*. Lanham, MD: Rowman & Littlefield Publishers, Inc.
- Brown, Lester. 2001. *Eco-economy: Building an Economy for the Earth*. New York and London: W.W. Norton & Co.
- Byrne, John, and Noah Toly. 2006. Energy as a Social Project: Recovering a Discourse. In *Transforming Power: Energy, Environment, and Society in Conflict*, edited by J. Byrne, N. Toly and L. Glover. New Brunswick, NJ: Transaction Publishers.

- Byrne, John, Noah Toly, and Leigh Glover, eds. 2006. *Transforming Power: Energy, Environment, and Society in Conflict*. 9 vols. Vol. 9, *Energy and Environmental Policy Series*. New Brunswick, NJ: Transaction Publishers.
- Campbell, C.J. 1988. *The Coming Oil Crisis*. Brentwood, Essex, England: Multi-science Publishing Co. Ltd.
- Capua, Andrea N. 2006. Legal Memorandum (Appendix to Watauga County Ordinance to Regulate Wind Energy Systems), Planning and Inspections: Watauga County, NC.
- Carolina Journal staff. 2008. Peer Review Questions ASU Report. *Carolina Journal*, January 10, 2008, n.p.
- Carolinas Clean Air Coalition. Action Alerts. *Carolinas Clean Air Coalition 2008* [cited April 2, 2008]. Available from http://www.clean-air-coalition.org/action_alerts.htm.
- Commoner, Barry. 1971. *The Closing Circle: Nature, Man, and Technology*. New York: Random House.
- Curren, Erik. 2006. The bizarre dance of wind power: Local opponents and right-wing think tanks (on-line). *The Augusta Free Press 2006* [cited March 25, 2008]. Available from [http://www.augustafreepress.com/stories/storyReader\\$40128](http://www.augustafreepress.com/stories/storyReader$40128).
- Daly, Herman. 1996. *Beyond Growth: The economics of sustainable development*. Boston: Beacon Press.
- Deffeyes, Kenneth S. 2001. *Hubbert's Peak: The Impending World Oil Shortage*. Princeton and Oxford: Princeton University Press.
- Dryzek, John. 2005. *The Politics of the Earth: Environmental Discourses*. 2nd ed. New York: Oxford University Press. Original edition, 1997.
- Eilperin, Juliet. 2008. New Focus on Coal's Part in Warming. *Washington Post*, April 6, 2008.
- Energy Information Administration. 2007. *Annual Energy Outlook 2007: With Projections to 2030*, edited by D. o. Energy.
- English, Mary R., and Sean T. Huss. 2005. *Population and Urbanization*. In *A Land Imperiled: The Declining Health of the Southern Appalachian Bioregion*, edited by J. Nolt. Knoxville, TN: University of Tennessee Press.
- Farrell, John. 2008. *Broadening Wind Energy Ownership by Changing Federal Incentives*. Minneapolis, MN: New Rules Project.
- Fisher, Stephen, ed. 1993. *Fighting Back in Appalachia: traditions of resistance and change*. Philadelphia: Temple University Press.
- Forrester, Jay. 1971. *Counterintuitive Behavior of Social Systems*. Cambridge, MA.
- fossilfools08 press release. 2008. Bank of America CEO Kenneth Lewis Named Fossil Fool of the Year. *Charlotte Business Journal*, April 1, 2008, n.p.
- Foucault, Michel. 1980. *Power/Knowledge: Selected Interviews & Other Writings 1972-1977*. Edited by C. Gordon. New York: Pantheon Books.
- Friedman, Avram. Senate Bill 3—What went wrong and how to fix it. *Mountain Area Information Network (MAIN) 2007* [cited March 17, 2008]. Available from <http://avram.sustainablewnc.org/>.
- Galluzzo, Teresa Welsh. 2005. *Small Packages, Big Benefits: Economic Advantages of Local Wind Projects*. Mount Vernon, IA: The Iowa Policy Project.
- Gipe, Paul. 2004. *Wind Power: Renewable Energy for home, Farm, and Business*. White River Junction, VT: Chelsea Green.
- Goodstein, David. 2004. *Out of Gas: The end of the oil age*. New York: W.W. Norton & Company, Inc.

- Gordon G. Brittan, Jr. 2002. *The Wind in One's Sails: A Philosophy*. In *Wind Power in View: Energy Landscapes in a Crowded World*, edited by M. J. Pasqualetti, P. Gipe and R. W. Righter. San Diego, CA: Academic Press.
- Haggett, Claire, and David Toke. 2006. *Crossing the Great Divide--Using Multi-Method Analysis to Understand Opposition to Windfarms*. *Public Administration* 84 (1):103-120.
- Hansen, James. 2008. *Censoring Science: Inside the Political Attack on Dr. James Hansen and the Truth of Global Warming*. *Democracy Now!*, March 21, 2008.
- Hawken, Paul, Amory Lovins, and L. Hunter Lovins. 1999. *Natural Capitalism: Creating the Next Industrial Revolution*. Boston: Little, Brown and Company.
- Heinberg, Richard. 2003. *The Party's Over: Oil, War and the Fate of Industrial Societies*. Gabriola Island, BC: New Society Publishers.
- . 2004. *Power Down: Options and Actions for a Post-Carbon World*. Gabriola Island, BC, Canada: New Society Publishers.
- Hess, David J. 2003. *The Green Technopole and Green Localism: Ecological Modernizations, the Treadmill of Production, and Regional Development*. Paper read at Symposium of the Treadmill of Production, at University of Wisconsin at Madison.
- Holland, D., D. Nonini, L. Bartlett C. Lutz, M. Frederick, T. Guldbrandsen, and E. Murillo. 2007. *If This is Democracy: Public Interests and Private Politics in a Neoliberal Age*. New York: New York University Press.
- Hopping, Michael. 2007. *Sugar Time*. Michael Hopping blog. [cited March 25, 2008]. Available from <http://www.michaelhopping.com/features/pesaga.html#CEAC7>
- Illich, Ivan. 1974. *Energy and Equity, Ideas in Progress*. London: Calder & Boyars, Ltd.
- Institute for Emerging Issues. 2008. *North Carolina's Energy Futures: Realizing a State of Opportunity*. In *Emerging Issues Forum*. Raleigh, NC: Institute for Emerging Issues.
- Jensen, Derrick. 1999. *War on Truth- The Secret Battle for the American Mind: An Interview with John Stauber*. *The Sun*, March 1999.
- Kempton, Willett, Jeremy Firestone, Jonathan Lilley, Tracy Rouleau, and Phillip Witaker. 2005. *The Offshore Wind Power Debate: Views from Cape Cod*. *Costal Management* 33:119-149.
- Kildegard, Arne, and Josephine Myers-Kuykindall. 2006. *Community vs. Corporate Wind: Does it Matter Who Develops the Wind in Big Stone County, MN?* Morris, MN: University of Minnesota, Morris.
- Kimrey, Erin. 2006. *A Regulatory Framework for Wind Energy in North Carolina*. Masters, Nicholas School of the Environment and Earth Sciences, Duke University, Durham, NC.
- La Capra Associates, Inc. 2006. *Analysis of a Renewable Portfolio Standard for the State of North Carolina*. Raleigh, NC: North Carolina Utilities Commission.
- Langhelle, Oluf. 2000. *Why ecological modernization and sustainable development should not be conflated*. *Journal of Environmental Policy & Planning* 2 (4):303-322.
- Lewis, Phil. 2007. *Comments on Blowing Rock Action*. *Watauga Democrat*, June 25, 2007.
- Lohan, Tara. 2007. *Wind vs. Coal: False Choices in the Battle to Resolve Our Energy Crisis*. *Alternet*, February 15, 2007.
- Lovins, Amory, E. Kyle Datta, Thomas Feiler, Karl Ra'bago, Joel Swisher, Andre' Lehmann, and Ken Wicker. 2002. *Small is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size*. Snomass, CO: Rocky Mountain Institute.
- Madsen, Travis, and Rob Sargent. 2006. *Making Sense of the "Coal Rush": The Consequences of Expanding America's Dependence on Coal*. Boston, MA: U.S. PIRG Education Fund.

- Maruyama, Yasushi, Makoto Nishikido, and Tetsunari Iida. 2007. The rise of community wind power in Japan: Enhanced acceptance through social innovation. *Energy Policy* 35:2761-2769.
- McKibben, Bill. 2007. *Deep Economy: the wealth of communities and the durable future*. New York: Henry Holt and Company, LLC.
- Meadows, Donella H. 1997. *Places to Intervene in a System*. Whole Earth.
- Mitchell, Monte. 2007. Wind energy stirs strong feelings in Western N.C.: Concern over views prompts Blowing Rock council to ban windmills, even in backyards. *Winston-Salem Journal*, June 15, 2007, np.
- Mooney, Chris. 2005. *The Republican War on Science*. New York: Basic Books.
- Mooney, Patrick. 2004. Democratizing Rural Economy: Institutional Friction, Sustainable Struggle and the Cooperative Movement. *Rural Sociology* 69 (1):76-98.
- Morris, David. 2007. *Energizing Rural America: Local Ownership of Renewable Energy Production is the Key*. Washington: Center for American Progress.
- Mountain Communities for Responsible Energy. 2006. [cited March 25, 2008 2006]. Available from <http://www.wvmcre.org/beechnridge.htm>.
- Mufson, Steven. 2008. Coal Industry Plugs Into the Campaign. *Washington Post*, January 18, 2008, n.p.
- Mumford, Lewis. 1964. Authoritarian and Democratic Technics. *Technology and Culture* 5:1-8.
- Nolt, John, ed. 2005. *A Land Imperiled: The Declining Health of the Southern Appalachian Bioregion*. Knoxville, TN: University of Tennessee Press.
- North Carolina Utilities Commission. 2007. NCUC Transcript of Public Hearing on January 25, 2007, Docket No. SP-167, Sub 1.
- . 2007. Order Granting Motion for Revised Procedural Schedule, NCUC Docket No. SP-167, Sub 1.
- . 2007. NCUC Transcript of Public Hearing on February 13, 2007, Docket No. SP-167, Sub 1.
- . 2007. Applicant update to revised procedural schedule, NCUC Docket No. SP-167, Sub 1, N. C. U. Commission: North Carolina Utilities Commission.
- . 2007. Consumer Statement, Keepers of the Blue Ridge, NCUC Docket No. SP-167, Sub 1: North Carolina Utilities Commission.
- Odum, Howard T., and Elisabeth C. Odum. 2001. *A Prosperous Way Down: principles and policies*. Boulder, CO: University of Colorado Press.
- Owen, Steve, and Jeff Boyer. 2006. Energy, Environment, and Sustainable Industry in the Appalachian Mountains, United States. *Mountain Research and Development* 26 (2):115-118.
- Pasqualetti, Martin J., Paul Gipe, and Robert W. Righter, eds. 2002. *Wind Power in View: Energy Landscapes in a Crowded World*. San Diego, CA: Academic Press.
- Powell, Dana E. 2006. Technologies of Existence: The indigenous environmental justice movement. *Development* 49 (3):125-132.
- Progress Energy. About Us—Advertisements. *Progress Energy* 2008 [cited March 17, 2008]. Available from http://www.progress-energy.com/aboutus/ads/BalSol_intro.pdf.
- . About Us. *Progress Energy* 2008 [cited March 17, 2008]. Available from <http://www.progress-energy.com/aboutus/ads/index.asp?relatedlink=225>.
- Romm, Joseph. 2007. *Hell and High Water: Global Warming—the Solution and the Politics—and What We Should Do*. New York: HarperCollins.

- Rothrock, Kent, Miles Tager, and David Whitlock. 2003. Forces of Change: Watauga County, North Carolina. Boone, NC: MountainKeepers.
- Sawin, Janet L. 2004. Mainstreaming Renewable Energy in the 21st Century. In Worldwatch Paper 169, edited by T. Prugh. Washington, DC: Worldwatch Institute.
- Schumacher, E. F. 1999. small is beautiful: Economics as if People Mattered. Point Roberts, WA and Vancouver, BC: Hartley & Marks Publishers, Inc. Original edition, 1973.
- Shuman, Michael H. 1998. Going Local: creating self-reliant communities in a global age. New York: The Free Press.
- Simmons, Matthew. 2005. Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy. Hoboken, New Jersey: John Wiley & Sons, Inc.
- SourceWatch a. 2008. Americans for Balanced Energy Choices. Center for Media and Democracy, March 14, 2008 [cited March 20, 2008]. Available from http://www.sourcewatch.org/index.php?title=Americans_for_Balanced_Energy_Choices.
- b. Astroturf. Center for Media and Democracy 2008 [cited March 25, 2008]. Available from <http://www.sourcewatch.org/index.php?title=Astroturf>.
- Thompson, Natasha. 2003. The "Giant Drunk" of Boone, North Carolina: A Historical Examination of the Mod-1 Wind Turbine. Boone, NC: Appalachian State University.
- Williams, Wendy. 2008. The Hidden Influence of Coal. Cape Wind-The Book (blog), February 28, 2008.
- Williams, Wendy, and Robert Whitcomb. 2007. Cape Wind: Money, Celebrity, Class, Politics, and the Battle for Our energy Future on Nantucket Sound. New York: Public Affairs.
- Wockner, Gary. 2005. Solar Power, Lakota Empowerment. World Watch, July/Aug 2005, 12-18.
- Wolf, Robert. 2004. The Triumph of Technique: The Industrialization of Agriculture and the Destruction of Rural America. Waukon, IA: Ruskin Press. Original edition, 2000.
- Wolsink, Maarten. 2007. Wind power implementation: The nature of public attitudes: Equity and fairness instead of 'backyard motives'. Renewable and Sustainable Energy Reviews 11 (6):1188-1207.
- Zikin, Sharon. 1991. Landscapes of Power: From Detroit to Disney World. Berkeley: University of California Press.

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¹ To label a position as “anti-wind” or “pro-wind” is, we realize, relativistic and antithetical to our claim that local resistance is more nuanced. We use the term as a heuristic descriptor referring to positions that have been taken in public discourse that exhibit resistance to wind in varying degrees.

² AIRE received its seed funding from the Mental Insight Foundation in Sonoma, CA. The Foundation’s board of directors had become concerned about global warming. AIRE’s work is locally and regionally situated, aiming to facilitate community-owned wind projects as a strategy to sensitize the public to the broader, more systemic issues of energy, to foster greater citizen activism in support of renewable energy policy, and also to bring “rate payers” into the mountain top removal mining protest, via grassroots dialogues of a moral and emotional nature between coal mining areas and “consumers.” For more information, see AIRE’s website at www.aire-nc.org.

³ Owen and Boyer engaged in participant observation based on multiple angles of reproach. Boyer is a community member at the site of the Ashe County controversy, an advocate of sustainable development, and a scholar-activist. Owen is a resident of Watauga County, engaged in scholar-activism, and directs the pro-wind advocacy group that emerged from the Ashe controversy.

⁴⁴ Individuals from real estate, tourism, and building trades expressed their personal support for the wind project, despite their trade associations’ formal objection to the project. The Ashe County Board of Realtors approved \$50,000.00 to fight the project. A wider discussion on the regional realtor “MountainsSpeak” email list showed that property rights and clean energy were positive factors for some individual supporters.

⁵ For purposes of disclosure, Andrea Capua, Esq. is the wife of Steve Owen, co-author of this paper.

⁶ See <http://wind.appstate.edu/swiwind/swi.php> (viewed on March 25, 2008).

⁷ The Ashe wind proposal was made by Northwest Wind Developers, LLC. See NC Utilities Commission Docket No. SP-167, Sub 1 (see all filings and orders at <http://ncuc.commerce.state.nc.us/cgi-bin/flrdocs.ndm/INPUT?compdesc=NORTHWEST%20WIND%20DEVELOPERS%20C%20LLC&numret=001&comptype=SP&docknum=167&suffix1=&subNum=1&suffix2=&parm1=000125994>).

⁸ TVA eventually erected its windmills at Buffalo Mountain, northwest of Knoxville, TN.

⁹ Paper may be downloaded from this link;

http://toto.lib.unca.edu/sr_papers/history_sr/seniorpap_hist.htm#2003; scroll down to year 2003 and author name then click link for download. (viewed on March 25, 2008)

¹⁰ Holland et al. used this term in their ethnographic research describing environmental movements in Watauga County, NC. The term is borrowed from Zikin’s (1991) *Landscapes of Power: From Detroit to Disney World*.

¹¹ Duke Energy’s “Save a watt” program is currently before the NC Utilities Commission. See docket number E-7, Sub 831 (<http://ncuc.commerce.state.nc.us/cgi->

bin/webview/senddoc.pgm?dispfmt=&itype=Q&authorization=&parm2=TAAAAA72170B&parm3=000126792; viewed on March 25, 2008).

¹²It is difficult to calculate the motivating effects of an increasingly popular perception that the extreme droughts we residents of Appalachia and the southeast have recently suffered is related to global warming. This together with the view that government officials, especially in Washington, have wittingly thwarted policies to ameliorate global warming's effects, is of growing general concern. Moreover, the quite visible, steady deforestation of the mountains and the rapid loss of farmland to commercial and residential development all seem to add to a growing sense that the time for idle speculation or study of environmental sustainability is over.

¹³ See <http://www.nctomorrow.org/> (viewed on March 31, 2008).

¹⁴ This was taking place during the highly visible TXU buyout in Texas. See <http://www.edf.org/page.cfm?tagID=583> (viewed on March 25, 2008).

¹⁵ See <http://www.ncwarn.org/> (viewed on March 25, 2008).

¹⁶ See <http://energyactioncoalition.org/foolies/> (viewed on March 25, 2008).

¹⁷ The *Charlotte Observer* has removed the links on its website to newspaper coverage of Hansen's talk. Charlotte is the corporate headquarters of Duke Energy. Coverage of the Chapel Hill talk is at <http://www.newsobserver.com/news/v-print/story/777434.html> (viewed on April 4, 2008).

¹⁸ Besides Raleigh-based Progress Energy, Duke Energy, headquartered in Charlotte is the other large NC utility. These, along with Atlanta-based Southern Company and FPL in Florida are the southeast's large electric utilities.

¹⁹ Senate Bill 3, known as the *Renewable Energy and Efficiency Portfolio Standard*. The bill as signed into law by NC Governor Mike Easley can be viewed at <http://www.ncga.state.nc.us/Sessions/2007/Bills/Senate/HTML/S3v6.html> (viewed on March 16, 2008).

²⁰ The Canary Coalition has taken a leading role in the counter-discourse on energy in North Carolina. See <http://www.canarycoalition.org/> (viewed on March 22, 2008).

²¹ Senate Bill 3 also specifically mentions methane-produced electricity from eastern NC's large confined animal feeding operations (hog waste). The state commissioned study by La Capra Associates (2006:32-33) determined that 1,000 megawatts of wind in WNC are possible in their "expanded case scenario" requiring 5% of the 1,850 miles of ridgeline. This scenario is in recognition of the various political and policy barriers to wind power in WNC. Even with the national trend toward more consumption, we acknowledge developments like have occurred in Kansas, where the governor is setting the pace to keep new coal plants from being built there.

²² See <http://www.sec-wnc.org/>.

²³ At the county level, there are 24 Western North Carolina counties considered to have good wind resources according to research done by Appalachian State University's Small Wind Initiative (see <http://wind.appstate.edu/windresources/countymaps.php> ; viewed on March 21, 2008). The Cherokee Reservation, also in the western part of the state, also has wind resources.

²⁴ "Poisoning the well" is the metaphor we use for local knowledge that is compromised by industry campaigns, front groups, and local protest groups often using information from the former.

²⁵ Theirs is in part a methodological argument in favor of mixed methods (quantitative and qualitative). We do not draw from their use of regression analysis. Also, the discourse analysis they use derives from social psychology, not from critical discourse analysis, which analyzes patterns in the discourse to understand social relations.

²⁶ See <http://www.americaspower.org/> (viewed on March 20, 2008).

²⁷ See <http://www.globalwarming.org/index.php> (viewed on March 25, 2008).

²⁸ For more on the tactics of discrediting global warming science, see *The Republican War on Science* (Mooney 2005). Also see an interview with Dr. James Hansen (2008) on Democracy Now!

http://www.democracynow.org/2008/3/21/censoring_science_inside_the_political_attack (viewed on March 22, 2008).

²⁹ <http://www.windustry.org/>

³⁰ <http://cooppower.coop/>

³¹ <http://www.pennfuture.org/default.aspx>

³² <http://www.c-bed.org/>

³³ <http://www.powernaturally.org/Programs/Wind/toolkit.asp>

³⁴ <http://communityownedenergy.com/>

³⁵ See also Windustry for case studies at <http://www.windustry.org/>.

³⁶ Back-to-the-landers may be an overgeneralization, but the descriptor is intended to bracket a classification of residents from that 1960's and 1970's movement, as well as other rural neighbors who are actively attempting to defend the landscape and rural social organization.

³⁷ Read the draft bill and see other information on HB 1821- DENR Permits for Siting Wind Energy Systems at

<http://www.ncleg.net/gascripts/BillLookUp/BillLookUp.pl?Session=2007&BillID=h1821> (viewed on March 25, 2008).

³⁸ Scale in this sense refers to large versus small windmills and number of turbines to an installation.

³⁹³⁹ See Herman Daly's excellent critique of neo-classical economic theory for more on the efficiency and distributional maladies of the field (1996).

⁴⁰ The Appalachian Coalition for Just and Sustainable Communities convened a delegation of coalfield community activists for the United Nations Commission on Sustainable Development (CSD) 14th and 15th sessions in 2006 and 2007. The authors were participants in the delegation. For information on the delegation, see www.stopmtr.org.

⁴¹ These discourses involve generally favorable positions toward renewables but gaps exist in their positions. Conversely, the Promethean discourse (Dryzek 2005) would have it that there are no resource constraints in future energy production, and thus, business as usual.

⁴² This distinction sheds light on a discursive regime often employed by anti-wind actors to undercut what may oftentimes be overly broad claims of wind energy's societal benefits. Reliability, for example, was not an attribute valued by the alternative energy movement. However, mass consumers have come to expect that power will be available on-demand with the flip of a switch. Wind energy alone is an intermittent power source and its opponents are quick to exploit this fact, using such terms. "Alternative" energy

has been replaced by the mainstreaming of renewable energy, and it has been subsumed into the centralized grid and normalized culturally.

⁴³ This is akin to Marcuse's idea of "repressive tolerance"-the allowance of a certain amount of dissent by dominant power so as to give the appearance of democracy.

⁴⁴ The North Fork is the long valley carved by the North Fork of the New River. It borders the Tennessee line on its west and the rugged Amphibolite Range to its east, across which lie the South Fork of the New River and the North Carolina town of Boone. Several small, unincorporated communities are located in the North Fork basin, including Creston, Warrensville, and Lansing.

⁴⁵ An indication of policy scale (as opposed to project scale) is revealed in Dr. Calhoun's response to the utilities commission (Calhoun 2007) wherein he claimed a procedural bias in favor of large corporations and against individuals. At the same time, Ashe county residents tended to see him as a local elite operating out of self-interest and out of public view.