FRAMING THE MASSACHUSETTS CAPE WIND DEBATE

AMONG ACTIVE ONLINE PUBLICS

by

Bennett I. Benson

(Under the Direction of Bryan H. Reber)

ABSTRACT

The proposed offshore Cape Wind Energy Project in Massachusetts would be the first of its kind in the United States. Activist groups have lobbied for and against this project since 2001. This research consists of a content analysis of activist groups' master frames and online comments on Cape Wind news articles retrieved from *The Boston Globe* website. The most salient advocacy master frames concerned environmental benefits, like the production of clean energy, and political benefits, such as energy independence. The most salient opposition master frames regarded economic risks, primarily concerning an increase in the cost of electricity. Advocacy comments were recommended more often than opposition comments, although opposition comments appeared earlier in response to Cape Wind news articles than advocacy comments. Opposition comments containing aesthetic risks were recommended more often than other opposition comments.

INDEX WORDS: Wind energy, Framing, Activist groups, Renewable energy, Not-in-my-backyard, Public relations, Online comments

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DEDICATION

I dedicate this project to the Neil O. & Jean C. Norman Foundation. I will always remember your generous and continued support throughout my graduate study at the University of Georgia.

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Introduction

For any news consumer, energy coverage is difficult to avoid. These days, American energy independence, foreign oil supplies, and sustainable energy are routine news topics. Energy stories have fittingly filled many newspaper pages, as the adverse effects of fossil fuel-based energies have taken their toll on Americans' land, air, and checkbooks. Dominant energy coverage in the media ranges from the 1970s – when skyrocketing global oil prices and scarcities caused people to wait hours to fill their automobiles with gasoline – to the present news cycles, when the BP oil spill and unrest in the Middle East renewed the call for sustainable, locally produced energy sources. In the past decade, the mere mention of "sustainability" has increased 10 times in *The New York Times* (Tolland, 2010). Even businesses are using the recent green movement to design products and energy projects that appeal to environmental consumer values (Peattie, 1999). The sustainability movement can be witnessed at hundreds of American universities, including the University of Georgia (Elder, 2008). The University of Georgia Office of Sustainability's founding last year demonstrates the prominence and mainstream nature of clean energy (Shearer, 2010).

The true value behind these proposals, legislation, and feel-good thinking, however, depends on actual results. Credible public opinion polling has shown American citizens value clean energy and believe the government and businesses should invest in renewable energy technology (Bolsen & Cook, 2008). Politicians have repeatedly called for energy independence since the global energy crisis in the 1970s caused major structural changes in how we consume energy (Donavan, 2009). At a governmental level, the U.S. Department of Energy pursues a

variety of renewable energy sources unique to specific locations. Solar, wind, biomass, and geothermal energy are all growing in importance to the American electrical grid. According to the U.S. Department of Energy, 24 states have enacted binding renewable portfolio standards that set state goals for a certain percentage of energy to come from renewable sources by a given date, and several more states have passed non-binding renewable energy targets (See Table 1 for more details). Global competition has further encouraged American policymakers and businesses to promote growth in sustainable energy sectors, before other nations outpace the United States in clean energy capabilities. However, past research has shown our willingness to engage in environmental behavior depends on our surrounding social context (Haller & Hadler, 2008), and Americans may differ from citizens of other countries by being less likely to engage in pro-environmental behavior (Cordano, Welcomer, Scherer, Pradenas, & Parada, 2010). In addition, people can feel involved in environmental behavior without actually acting upon their beliefs (Lubell, 2004).

As this research shows, people can vary on their environmental actions and support for renewable energy. Frequently, renewable energy projects face significant opposition when they are proposed in a community. Opponents of such projects are oftentimes labeled NIMBYs, an acronym that stands for not-in-my-backyard. In this context, NIMBYs refer to people who broadly support renewable energy projects, as long as those projects are not installed near them. State policymakers have to carefully adapt legislation and energy projects for their own population, natural resources, and political environment, among other variables. Some research has supported the concept of NIMBYism, while other studies have discredited it altogether.

This thesis seeks to understand how people communicate about and perceive the Cape Wind Energy Project, a proposed offshore wind farm in Massachusetts. If built, it would be the

first offshore wind farm in the United States. Currently, Massachusetts has minimal wind energy capacity, and the Cape Wind Energy Projects has progressed through nearly a decade of permit processes, legal battles, and public hearings. In the meantime, two activist groups have fervently fought for and against Cape Wind. In 2001, after the project's inception, The Alliance to Protect Nantucket Sound formed to halt the construction of Cape Wind. Clean Power Now, a local Massachusetts group, began in 2003 to support Cape Wind's passage. Both activist groups presented themselves as environmental organizations while having opposite goals. Together, they have engaged in almost a decade of public debate with state policymakers, Massachusetts residents, businesses, utility companies, lawyers, and federal officials.

In this thesis, I have examined whether these two groups successfully conveyed their ideas and arguments to an active public audience. By examining online news comments and comparing them to the activist groups' original messages, this research measures public opinion about the Cape Wind Energy Project compared to the two activist groups' communication materials. Has the advocacy group touted environmental benefits when most supporters use economic arguments in public discourse? Does the opposition group demonstrate the typical NIMBY-type response compared to past research? Does either activist group have more support from *The Boston Globe's* readership? The Alliance to Protect Nantucket Sound and Clean Power Now had nearly a decade to voice their opinions through media channels and direct communication strategies with their publics. This research seeks to learn whether their work paid off by asking the following questions.

- What are the pro- and anti-wind energy activist groups' frames?
- What pro- and anti-wind energy activist frames are most repeated by active publics?

- Are any frames found within news comments recommended significantly more or less by online readers?
- Does the chronology of online comments differ significantly by frame?

Historical Background

In November 2001, Cape Wind Associates, LLC applied for a permit to construct an offshore wind farm on federal waters in Massachusetts' Nantucket Sound. Cape Wind Associates, LLC requested 24 square miles of seafloor to build a grid of 130 wind turbines (Mineral Management Service, 2009). The wind farm would vary from four to 11 miles off the coastline. The proposed wind farm would provide an estimated 75% of electricity for people living on Cape Cod and its surrounding islands, including Martha's Vineyard and Nantucket Island (Mineral Management Service, 2009). The Department of Energy estimated the wind farm would produce a maximum of 468 megawatts, with an average output of 182 megawatts (Mineral Management Service, 2010). In other words, the offshore wind farm would power 400,000 houses in the area (Krasny, 2010). Each wind turbine would stand at a maximum height of 440 feet (Mineral Management Service, 2010).

The Cape Wind Project progressed through a series of federal and state approval processes from 2001 to 2010. The U.S. Army Corps of Engineers conducted an environmental impact statement (EIS) in 2004; however, Cape Wind was referred to the Mineral Management Service the following year (Mineral Management Service, 2010). The Mineral Management Service subsequently began its own EIS. Massachusetts approved the wind farm in 2005, allowing Cape Wind Associates, LLC to bury two cables through state waters to connect Cape Wind to Yarmouth, Mass. (Daley, 2005). In 2009, the Mineral Management Service released its EIS. The new EIS said the offshore wind farm would have negligible-to-minor adverse effects

on most wildlife, socioeconomic conditions, water quality, noise, cultural resources, recreation, and navigation, among other variables (Mineral Management Service, 2009). However, the report noted the Cape Wind Energy Project could moderately impact views, avian wildlife and marine mammals (Mineral Management Service, 2009). Overall, the environmental impact statement supported Cape Wind and claimed that Nantucket Sound was a better site for an offshore wind farm than nine comparison locations.

During the permit process, opponents scrutinized Cape Wind for economic, political and environmental reasons. Critics prominently ripped Cape Wind on economic reasons, because its electricity would cost twice the amount of cheaper, nonrenewable sources (Ailworth, 2010b). Even retailers like Wal-Mart voiced opposition to the proposed wind farm due to the possible electrical cost increases (Ailworth, 2010c). Additionally, the costs associated with the project rose throughout the permit process. When it was first proposed, Cape Wind Associates, LLC estimated the project's cost at $700 million (Mineral Management Service, 2009). By 2010, these cost estimates had increased to $2.5 billion (Daley, 2010a). The Cape Wind developers also were criticized for seeking two types of federal tax credits, although Cape Wind qualified for only one under existing law (Cassidy, 2010). Even the public utilities and state departments associated with Cape Wind drew fire. Barbara Durkin, a Cape Wind opponent, said the Department of Public Utilities was "deceptive" and "misleading" in how it managed the permit process for the wind farm (Cassidy, 2010).

On the other hand, the project had support from primary stakeholders and the public of Massachusetts. Massachusetts Governor Deval Patrick has advocated for federal approval of the Cape Wind Energy Project since 2006 (Levenson, 2010). He continually touted the potential of Cape Wind's job creation. Although both opponents and supporters of the project have claimed

to have public opinion on their side, polls indicate the majority of Massachusetts residents support the project. A *Boston Globe* poll conducted in September 2010 found that 69% of the Massachusetts public supported the project and 20% opposed it (Wirzbicki, 2010). However, the poll showed that residents were wary of possible increases in energy prices due to Cape Wind (Wirzbicki, 2010). Cape Wind had support from outside of Massachusetts as well. Six governors of states along the East Coast, including Rhode Island, Delaware, Maryland, New York, and New Jersey, sent a letter to the Department of the Interior urging Ken Salazar to approve the project (Daley & Finucane, 2010). These policymakers want to construct future renewable energy projects off their own coastlines. Several Massachusetts business groups, including the Progressive Business Leaders Network and the New England Clean Energy Council, supported the project throughout its permit phase (Ailworth, 2010a). Furthermore, foreign and domestic companies began new businesses in Massachusetts after the state appeared to become a promising location for wind energy (Ailworth, 2010a). (See the timeline in Table 2 for details.)

On April 28, 2010, Ken Salazar, secretary of the Department of the Interior, approved the lease of federal waters to Cape Wind Associates, LLC (Krasny, 2010). The Nantucket Sound wind farm had finally cleared the last major federal hurdle. Several months later, a Massachusetts Supreme Judicial Court ruled to provide Cape Wind Associates, LLC with the final permits to begin construction on the project (Daley, 2010b). For the moment, the fight against Nantucket Sound seemingly had ended.

Regardless of the outcome, the Alliance to Protect Nantucket Sound devoted countless resources and hours to fighting Cape Wind. According to the Alliance's 990 Forms, the activist group raised more than $3 million in 2007 and nearly the same amount in 2006 and 2008. It

used these funds extensively for lobbying, legal services, and public relations consulting. Nonprofits have to disclose on 990 Forms all services they paid for in excess of $50,000. In 2006, the Alliance spent almost $60,000 for public relations counsel from two agencies, The McGowan Group and Corrigan Communications. Apparently, the Alliance spent less on public relations and communications in 2007, although it once again hired The McGowan Group in 2008. These expenditures on public relations helped the Alliance hone its communication materials for the media and public. The Alliance to Protect Nantucket Sound's argument has been framed consistently around economic, environmental, and social reasons for not building the wind farm. Even after Ken Salazar approved Cape Wind, the Alliance filed new lawsuits against the wind farm developers, although the activist group faces substantial debt after years of fighting the offshore wind farm (Rezendes, 2010).

On the other hand, the pro-wind activist group Clean Power Now realized its goal when Ken Salazar approved Cape Wind. Clean Power Now began in 2003 as part of the CLEAN network, a nationwide organization of grassroots organizations that promotes clean energy. Unlike the Alliance to Protect Nantucket Sound, Clean Power Now did not have millions of dollars in financial resources. According to the group's 990 Forms, contributions to Clean Power Now never exceeded a total of $300,000 from 2007 to 2009. If Clean Power Now hired outside consultants for public relations, it never paid these consultants more than $50,000. Additionally, during this time, Clean Power Now had the Massachusetts government on its side, so it would not have to spend much lobbying for Cape Wind. However, Clean Power Now operates under the CLEAN network and partnered with the Civil Society Institute. These two groups may have spent their own financial resources while Clean Power Now concentrated on local activism. Clean Power Now also largely depends on local involvement and support. After

beginning in 2003, Clean Power Now claims it had more than 6,500 members by 2007 and 12,500 members by 2010. While not as powerful financially as the Alliance to Protect Nantucket Sound, Clean Power Now's political support, individual members, and partner organizations gave the activist group influence in the public sphere and the media.

The two activist groups consistently tried to sway public opinion to their side through the decade using similar tactics. Both Clean Power Now and the Alliance to Protect Nantucket Sound were constantly involved in this proposal and approval process for Cape Wind. Their members could be seen in local newspaper coverage, on street corners with signs and on social media sites broadcasting their message. The Alliance to Protect Nantucket Sound and Clean Power Now both depend on volunteer hours and charitable donations and consider themselves environmental organizations. Despite the similarities, the two organizations' arguments in opposition or in favor for the Nantucket Sound wind farm varied substantially.

National Background

Over the last decade, many states passed renewable portfolio standards to set a binding target for energy consumption produced by renewable energy sources. Energy legislation encourages the production of wind, solar, geothermal, and other renewable energy sources to complement traditional, nonrenewable energy sources. In the last 15 years, 29 states have adopted renewable portfolio standards, and each state enacts renewable portfolio standards specialized to its own natural resources, social context, and political constraints (Villaire, 2008). For example, Hawaii is looking for ways to connect offshore wind farms across the islands throughout the state (Nisese, 2010). Renewable energy advocates in Colorado are trying to establish the state as a key player in solar energy (Johnson, 2010). And in Ohio, policymakers have drawn up plans to create a wind farm on Lake Erie (Barr, 2010). Each state is trying to

build economical renewable energy projects fitting to its own setting, and each renewable energy project comes with its own group of advocates and opponents. In fact, one of the few large-scale renewable energy projects without significant opposition is in a rural region in northern Sweden on the Baltic Sea (Preel, 2010). Despite stiff opposition in some of these instances, policymakers have pursued spending money on renewable energy legislation, because demand-side policies are more successful at encouraging sustainable energy development than supply-side policies (Menz & Vachon, 2006).

Although each state pursues renewable energy initiatives specific to that state, wind energy has recently attracted more attention on a national level in the past 30 years. In 2009, the United States invested a cumulative $66 billion (based on 2009 dollar valuation) in wind energy since the early 1980s (Wiser & Bolinger, 2010). The United States added 9,994 MW of new wind energy capacity to its electrical grid in 2009, trailing only natural gas as the second largest new resource added that year (Wiser & Bolinger, 2010). The Department of Energy continues pursuing wind energy as an economical method to produce renewable energy in the United States, and it has examined how to feasibly provide 20% of the United States' energy from wind by 2030 (Department of Energy, 2008). In past public opinion polls, the majority of Americans overwhelmingly approved of wind energy as an alternative power source. In a February 2006 Pew Research poll, 82% of Americans said they wanted to increase federal funding for research on wind, solar and hydrogen technologies (Bolsen & Cook, 2008). A Gallup poll in 2009 showed that 77% of Americans wanted the government to increase financial support of alternative energies while only 8% wanted financial subsidies to decrease (Jones, 2009).

Massachusetts Background

Massachusetts adopted its own renewable portfolio standards for regulated utilities and competitive suppliers in 1997. Massachusetts' renewable energy goals began at one percent in 2003 and increased by one-half percent each year until 2009. However, before 2009, Massachusetts passed the Green Communities Act of 2008. The new act separated the state's renewable energy goals into two classes and required the state to adopt renewable energy more aggressively, raising the annual renewable energy adoption rate to one percent. The two classes differentiate between constructing new renewable resources and using existing resources. Class 1 Renewable Portfolio Standards include the construction of new solar panels, wind farms, biomass energy, tidal energy, and other sustainable energy sources. The wind farm in Nantucket Sound qualifies as a Class 1 Renewable Portfolio Standard. Existing renewable energy sources and options like waste energy qualify for Massachusetts' Class 2 Renewable Portfolio Standard. Massachusetts' goal is to provide 15% of the state's energy with Class 1 energy sources by 2020, while continuing to increase this energy output by one percent each subsequent year. Class 2 sources primarily come from preexisting structures, subsequently playing a smaller role in Massachusetts' long-term renewable energy plan. The new plan pressured Massachusetts utilities and energy providers to construct renewable energy developments in the state or risk missing clean energy targets. The state's 2010 Clean Energy Plan explains its need to develop local renewable energy sources since all fossil fuel energy is located out-of-state or in foreign countries. The plan highlights Massachusetts' need to develop renewable energy sources to prevent paying for energy from other states or countries.

Literature Review

Framing

Framing theory expands upon psychological and sociological concepts and theories, combining them with communication research. In particular, framing theory introduces a psychological component to agenda setting, especially second-level agenda setting. Agenda setting began in a seminal study by McCombs and Shaw (1972) that demonstrated how issue saliency transfers from the media agenda to the public agenda. Agenda setting as theoretical area grew quickly. Second-level agenda setting showed how the media could promote the saliency of attributes as opposed to issue saliency (Kiousis & McCombs, 2004). Second-level agenda setting asserts that the news media can influence how people think about a topic by selecting and highlighting salient attributes of an issue, while ignoring other attributes (Kiousis, Mitrook, Wu, & Seltzer, 2006). Framing then evolved into an extension of second-level agenda setting in news media discourse; however, communication researchers have interpreted and explained framing theory in their own manner. Gamson and Modigliani (1989) defined a frame as a central organizing idea that makes sense of an issue and suggests the involved stakes. Goffman (1974) defined a frame as a "schemata of interpretation." Pan and Kosicki (1993) state that news media frames are a "cognitive device used in information encoding, interpreting, and retrieving.… Framing, therefore, may be studied as a strategy of constructing and processing news discourse as a characteristic of the discourse itself" (p. 57). Participation in the public discussion requires framing; solely by being involved in a discussion, people and organizations frame issues (Pan & Kosicki, 2003).

Kirk Hallahan (1999) said framing covers seven theoretical areas, including psychology, speech communication, economics, organizational decision making, health communication, political science, and media studies. As such, framing has been applied to a multitude of theoretical areas. Framing is unique in how it refers to communication packaging and the subsequent links to psychological processes. Broadly, Hallahan says a frame can be understood as a window or portrait frame "drawn around information that delimits the subject matter and, thus, focuses attention on key elements within. Thus, framing involves processes of inclusion and exclusion as well as emphasis" (p. 207).

The concept of framing can also be applied to values and how value framing changes among demographics. Shah, Domke, and Wackman (2003) evaluated how value frames differ from material frames in two separate demographic groups: evangelical Christians and college students. The researchers used the issue of universal health care, either framing it in ethical or material terms. Ethical terms discussed the universal right to health care and how people should have access to medical treatment. The material frame discussed economic considerations for providing everyone with health care. According to this research, value frames affect voter choice strategy at a significant level; however, the effect is heavily mediated by the issue interpretation of each person. Similarly, Gordon and Miller (2004) showed that the effectiveness of value framing during the 2000 presidential debates depended on the audience's predisposition. Again, value framing of communication mattered, but so does the interpretation and demographics of the audience.

Public relations practitioners partake in framing by either highlighting certain aspects of information or withholding certain points (Zoch & Molleda, 2006). Entman (1993) explained how public relations practitioners and organizations use frames: "Frames select and call attention

to particular aspects of the reality described, which logically means that frames simultaneously direct attention away from other aspects" (p. 54). Framing involves specific selection and salience of an issue. In that sense, framing highlights a particular attribute of a problem or solution, a recommendation, and subsequently tries to establish a causal relationship among problems (Entman, 1993). Entman (1993) summarized this idea, saying that frames "define problems…diagnose causes… and make moral judgements" (p. 55).

Hallahan (1999) identified seven models of framing used by public relations practitioners. These models are situations, attributes, choices, actions, issues, responsibility, and news. Most relevant to this project are the framing choices that involve attributes, issues, and news. Attribute framing involves accentuating certain objects and information and focusing a frame on a central position. Issues framing explains how groups and stakeholders vie against one another to explain the same situation in their own terms. Finally, news framing can measure how successful public relations practitioners or activist groups are at communicating their preferred frames to the news media and the public. News framing that reaches a news outlet or reporter has an increased chance to reach a larger audience (Hallahan, 1999).

In addition to news reporters and public relations practitioners, activist groups are inherently framing by participating in public discourse and by communicating with the media, their members, policymakers, and other publics. According to Snow and Benford (2000), activist groups engage in framing with collective action frames. Collective action frames provide an interpretive frame for events and problems and seek to mobilize stakeholders (Snow & Benford, 1988). Snow and Benford (1988) said activist groups' collective action frames encompass three "framing tasks" to solve a problem or resolve an issue. The first task is to identify the problem and attribute blame. Snow and Benford called this "diagnostic framing."

Secondly, activist groups must propose a solution, called "prognostic framing." Lastly, activist groups need a uniting message for their members – a rally call, essentially – which Snow and Benford defined as "motivational framing."

Collective action frames can be broadly organized into a "master algorithm" (Snow & Benford, 2000). Although frames function differently in terms of flexibility and rigidity, master frames are inclusive and flexible. In other words, master frames are broad enough to connect social movements (Snow & Benford, 2000; Luther & Miller, 2003). Master frames are supported by sub frames, which are claims that support the master frames (Reber & Berger, 2005). The effectiveness of master frames can be evaluated by how well the frames "resonate" with certain publics (Snow & Benford, 2000). Resonance measures the ability of collective action frames to mobilize a group. The ability for a frame to resonate with an audience depends upon the frame's credibility and relative salience. The salience of a frame depends on the frame's cultural relevance and centrality. Centrality measures how essential a frame is to a movement. Snow and Benford (2000) said an activist movement's ability to mobilize stakeholders depends on how well it aligns its beliefs, ideas, and values with its stakeholders.

News media help activist groups communicate their goals to the public. By supporting activist groups and amplifying their message to a larger audience, news media increase the possibility of changing social structure or public policy (McCluskey, 2008). Additionally, news media tend to give more positive coverage to activist groups that lack significant media or personnel resources (McCluskey, 2008). Under increasing media clutter, activist groups have turned to online strategies as well to communicate directly to their publics and build relationships. Online communication can reflect the nature of the group as a whole (Mabry, 2003). However, some scholars have concluded that activist groups are not utilizing online

communication to its full potential (Zoch, Collins, Sisco, & Supa, 2008; Taylor, Kent, & White, 2001).

Activist Groups

Activist groups play important roles in both opposing and advocating for public projects and shaping public discourse. According to Coombs and Holladay (2010), activist groups are motivated by their members who perceive themselves to hold the moral high ground by taking a stand (Heath & Palenchar, 2009). While businesses are financially accountable by making profits for their owners and shareholders, activist groups are accountable to their stakeholders by carrying out their mission.

Activist groups have the ability to work with businesses and government or stand fully against them (Dozier & Lauzen, 2000; Stokes & Rubin, 2010). Grunig's (Dozier, Grunig, & Grunig, 2001) excellence theory proposes two-way symmetrical communication as the normative communication style for an organization and its publics in a communication campaign. According to Grunig (2006), public relations can maximize its value through two-way symmetrical communication. However, activist groups have been criticized for colluding with businesses or governments when stakeholders see the activist group as betraying its own mission (Coombs & Holladay, 2010).

In opposition to Grunig's excellence theory, activist groups may be best off in achieving their goals by avoiding symmetrical communication. According to Grunig, symmetrical communication can lead to a win-win situation for both the public and organization (Grunig, 1993; Grunig, 2006). Critical theory suggests, however, a symmetrical world view does not adequately offset the resource disparity between corporations and activist publics, and, instead,

may lead to corporations exerting a hegemonic effect over their constituencies (Dozier & Lauzen, 2000; Roper, 2005).

Dozier and Lauzen (2000) say a paradox exists in understanding the normative practice of public relations between organizations and activist groups. Activist groups often do not have the resources to undertake public relations according to the excellence theory, and organizations have trained public relations professionals whose role is to overcome activists. The win-win zone as designated by the excellence theory may not exist in this case, and excellence theory does not accommodate irreconcilable differences. Coombs and Holladay (2010) also noted the difference between activist public relations and corporate public relations. They say corporations tend to favor their primary stakeholders only and activist organizations have to be mindful of all their members. A primary difference is that activist groups view their cause as noble, and corporations view activists as an obstacle. In this manner, activist groups perceive themselves as holding the moral high ground by opposing organizations with more financial resources. Like Dozier and Lauzen (2000), Coombs and Holladay (2010) questioned whether symmetrical public relations practice produces a hegemonic effect by incorporating the activist organization into the corporate identity.

Although public relations researchers have produced a significant amount of research concerning mainstream public relations, some public relations scholars have called for a broader approach to public relations scholarship. In particular, these scholars would like to see more research about activist groups and public relations practiced at a non-corporate or non-government level. Dozier and Lauzen (2000) argued that research questions in public relations should be expanded to include more micro-level and macro-level analysis, in addition to explaining opposing viewpoints. The researchers say public relations scholarship has historically

focused on one level of analysis, because professors teach students who are eventually hired by organizations, and some public relations scholars are still active as professional consultants. These factors tend to foster an "intellectual myopia, a systemic near-sightedness regarding alternative perspectives" (p. 7). Another way to look at it is that "activism is largely studied by public relations scholars from the perspectives of organizations with pockets deep enough to hire professional public relations practitioners" (p. 8).

Public relations scholarship has room to expand its research on social movements, that is, ideas that begin at the micro-level but grow to the macro-level. Powerless groups that lack resources eventually gain power and momentum during this process. Dozier and Lauzen (2000) described a case study between Greenpeace and Du Pont. In this study, Greenpeace never intended to reach a consensus with Du Pont. The organization used radical environmentalism tactics to rally its stakeholders around its cause. Dozier and Lauzen (2000) argued for critical theorists and public relations scholars to work together, which could lead to further scholarship in public relations. The authors also assert that critical theory asks whose interests are best served by our own scholarship.

Sine and Lee (2009) explain that social movements can change and create markets and foster entrepreneurial activity. According to Sine and Lee (2009), social movements challenge the status quo and promote a "new set of assumptions, norms, values, and regulations" that shape the opportunities available for entrepreneurs. They examined how social movements shape the economic conditions state-by-state for wind energy from 1978-1992. Environmental group membership and activism played a large part in determining the development of a viable wind energy sector. Activist groups framed the issue as the moral high ground and vilified traditional energy sources. The environmental social movement also lobbied state governments and

advocated for increased wind energy economic activity. In this manner, the social movements changed the normative entrepreneurial activity for a state's energy production.

Not-In-My-Backyard Effects

Public works often face opposition from local activists even when the majority of people support the work or cause. Gallup polls show that a majority of Americans want to see more renewable energy projects pursued at a national level (Jones, 2009); however, these projects often conflict with people at a local or regional level. Researchers and journalists define this situation as the Not-In-My-Backyard effect. NIMBY projects have high public approval ratings from the overall population, but face staunch local opposition. Robert Cialdini cites two major reasons to explain the NIMBY effects (Rosenthal, 2011). First of all, public projects tend to encounter tough local opposition when the project is at odds with that publics' normative environment and behavior. Secondly, people respond more actively to immediate rewards or consequences than far-off problems (Rosenthal, 2011).

NIMBY responses have occurred to a variety of public works, including nuclear energy, chemical plants, solar energy projects, and wind farms (Johnson, 2010; Walsh, Warland, & Smith, 1993; Cockle, 2009). However, NIMBY-responses can change depending the social context and geographic location. For example, a study in California found that people who lived closer to the Altamont wind farm disapproved more of wind energy (Thayer & Freemen, 1987). Research in European nations with populations more accustomed to wind power exhibit no NIMBY effect (Devine-Wright, 2005; Wolsink, 2000). These differences in NIMBY responses have caused researchers to question it as a valid theoretical construct (Wolsink, 2000).

The NIMBY effect can be exacerbated by commercial groups. Julia Jahansoozi's (2007) research showed how a relationship between a commercial entity and the public can deteriorate

quickly when the public lacks trust in the developer. She examines the Sundre Petroleum Operators Group and the community it operates in. The SPOG had used the community, their land, and their way of life without giving anything back. In effect, the SPOG did not practice corporate social responsibility in any form. The community based its way of life around agriculture, and this naturally led to land disputes with the SPOG. For years, there was little to no two-way communication and the relationship deteriorated between the organization and community. Eventually, community members and industry officials met together in order to build trust and foster a better relationship. No longer was the community ostracized from the industry. Transparency played an essential role in building a stronger relationship between the community and the SPOG, by demonstrating that the organization was truthfully taking steps to work with the community (Jahansoozi, 2007).

Regarding wind energy, previous research has shown that opposition to local wind farms is related to governance, technology, landscape aesthetics, issues of participation, and power inequalities (Ellis, Barry, & Robinson, 2007). Devine-Wright's (2005a) research has shown that people and communities exhibit better attitudes toward wind farms when they are involved in the project or have part ownership. Local involvement, in either political or economic terms, has a positive effect on public perceptions (Krøhn & Damborg, 1999; Devine-Wright, 2005b, Ellis, Barry, & Robinson, 2007). On the other hand, when developers and businesses do not consult the affected communities and fully control a public project's planning and development, communities can feel marginalized. People who live close to wind turbines have also voiced concerns over adverse health effects from excessive noise and wind energy's erratic production (Cockle, 2000; Cox, 2008). Robert Thayer and Carla Freeman (1987) found that supporters of wind energy who lived further away from wind turbines identified with the pro-environment

symbolism of wind turbines. However, people who lived closer to wind farms found them to appear more unnatural and less aesthetically pleasing on the landscape.

Previous Wind Energy Research

Scholars in both the United States and Europe have conducted extensive research on public perceptions of wind power. One renewable energy British researcher, Patrick Devine-Wright, has prolifically published research about wind energy and other energy developments. His relevant work for this thesis includes a study about community participation during the construction of a wind farm development in South Wales (Devine-Wright, 2005b). He studied how policymakers could successfully implement renewable energy projects and avoid NIMBY-type responses from local opponents. Simultaneously, Devine-Wright studied how the public perceives renewable energy projects.

According to Devine-Wright (2005b), community involvement in renewable energy projects can be constructed on a continuum from "information led" to "ownership led." Along this continuum, policymakers and private industry reach a consensus with the community to form a partnership. In this study, Devine-Wright looked at a community-owned wind farm in an area that was once destroyed by coal mines. Profits from the wind farm were returned to the community, although this situation was unique since the community has been previously devastated by nonrenewable energy projects. Devine-Wright concluded that renewable energy developments can be less controversial and more likely to succeed if businesses and government actively engage the community (e.g., give tours or hold town meetings), give profits back to the community, and provide the community with part ownership (Devine-Wright, 2005b). This way, the community benefits from its locally generated energy, and the public has better attitudes on wind farms when they are involved or have part ownership (Devine-Wright, 2005a).

Additionally, local involvement, in either political or economic terms, has a positive effect on public perception. When industries do not consult the communities and completely control a project's planning and development, communities can feel marginalized.

Devine-Wright argues for more theoretically sound empirical research about alternative energy perceptions (Devine-Wright, 2005a). He said future research should focus on social constructs of wind farms, since most research has so far concerned aesthetic and technical matters. However, more empirical research can be conducted on the visual appeal of wind turbines, since these perceptions change with number of turbines, size, color, landscape, and other variables. So far, quantitative research has provided evidence that both supports and discredits the NIMBY effect. Maarten Wolsink's (2000) multidimensional model showed how multiple variables go into the public perceptions of wind farms, and NIMBYism explains only a small portion of these perceptions and attitudes (Devine-Wright, 2005a).

Wolsink (2000) claimed institutional factors have greater weight on the development of wind farms than public acceptance measures. According to Wolsink, NIMBY attitudes about wind energy include noise pollution, spoiled scenery, ruined aesthetic qualities, unreliability of supply, and expensiveness. He illustrates how institutional differences in Germany and the Netherlands have dictated a different climate toward adopting wind power, despite both countries having a similar level of public acceptance to wind farms. Germany's "electricity feed law" encourages organizations other than only utilities to adopt wind energy, while renewable energy laws in the Netherlands primarily target utilities. According to Wolsink, the Netherlands' political structure provides utilities with more power to lobby against wind projects and halt development. Although public acceptance may not be the primary factor in determining the

development of wind energy, the public can shape the political and institutional climate surrounding wind energy and other renewable energy sources (Wolsink, 2000).

Other European researchers have also discovered minimal evidence of a NIMBY effect related to wind energy. Krøhn and Damborg (1999) found no NIMBY effect in Denmark where 98% of the population receives some electricity from wind energy. Based on one study, people who live closer and are more familiar with wind farms hold positive attitudes toward them (Krøhn & Damborg, 1999). In areas where wind energy is established, Charles Warren, Carolyn Lumsden, Simone O'Dowd, and Richard Birnie (2005) even discovered a "reverse-NIMBY" effect, although this circumstance seems to vary by region. However, another large-scale study in Wales showed a strong NIMBY effect in opposition to wind farms, especially in areas with little to no familiarity with wind energy developments (Krøhn & Damborg, 1999). Longitudinal studies demonstrated that acceptance of wind farms increases after the construction of turbines and people become familiar with the wind development. Public acceptance also increases when the public is involved in the development of the wind farm, but public opinion can sour when the public is removed from the decision-making process (Krøhn & Damborg, 1999). Cultural differences may also play a role in determining whether a country's public is more or less accepting of wind projects. According to Gudykunst (1987), countries can have quite different sociocultural variations on concepts like individualism or collectivism. Significant cultural differences can even occur within a single country. Regardless, perceptions of wind turbine aesthetics may be the best indicator of support. A study in Scotland and Ireland showed that aesthetic perceptions of wind turbines had the largest influence on whether individuals supported or opposed renewable wind energy projects (Warren, Lumsden, O'Dowd, & Birnie, 2005).

In the United States, some American researchers have provided evidence supporting the NIMBY effect. Thayer and Freeman (1987) conducted a study in California about the Altamont wind farm, one of the largest in the United States. NIMBYism played a large role in the study, as residents living closer to the wind turbines liked them less. Respondents who had positive impressions of wind turbines also had positive attitudes toward the symbolic attributes of wind energy. For supporters, wind farms represented progressive values, safety, efficiency, and future progress. People who were opposed thought the wind farm looked cluttered and unnatural. The group with positive impressions largely ignored the wind farm's visual effect, claiming nonrenewable energy developments like coal mines and oil fields are not aesthetically pleasing either (Thayer & Freeman, 1987). A study by Jeffrey Swofford and Michael Slattery (2010) found that regions in Texas, the leading U.S. state in terms of wind energy, also exhibited a NIMBY effect. While Texans generally favored wind energy, people who lived closest to wind turbines had less favorable impressions of wind energy than those who lived farther away (Swofford & Slattery, 2010).

Legislation has a powerful effect in encouraging the adoption of wind power across different states (Menz & Vachon, 2006). After comparing 37 states with wind power, Fredric Menz and Stephan Vachon (2006) showed how the development of wind capacity depended not only on the natural endowment in wind resources, but also on particular policies adopted by state governments to promote alternative energy. In addition, consumer choice to allow for wind power does not increase the development of wind energy. The researchers say that, for most people, wind power is still too expensive given that nonrenewable fuel does not include its negative externalities in its cost. As such, demand-side policies, such as regulation and restrictions, are still currently more successful at encouraging wind development over voluntary

supply-side policies (Menz & Vachon, 2006). Furthermore, wind power potential does not necessarily mean wind farms will be installed in certain states (Bohn & Lant, 2009). Rather than energy potential, the growth of wind energy in United States depends on population distribution, transmission line accessibility, and existing energy policies, such as renewable portfolio standards and permit processes for wind farms (Bohn & Lant, 2009). Additionally, other statistical models have shown price and green marketing are insignificant determinants in which states install wind power (Bohn & Lant, 2009).

Based on the introduction and literature review, this project will pursue the following research questions. The research questions use framing theory to study a possible NIMBY-situation regarding a wind energy project in Massachusetts. The research questions examine both activist group communication and public opinion.

Research Questions

The research questions ask how two activist groups, Clean Power Now and the Alliance to Protect Nantucket Sound, have framed their messages in the past decade and whether online discourse among active publics reflects these messages.

RQ1: What are the pro- and anti-wind energy activist groups' frames?

RQ2: What pro- and anti-wind energy activist frames are most repeated by active publics?

RQ3a: Are any frames found within news comments recommended significantly more or less by online readers?

RQ3b: Does the chronology of online comments differ significantly by frame?

Methodology

Content Analysis Phase One – Identifying Activist Group Master Frames

Each activist group provides information subsidies, such as news releases and newsletters, dating back to their respective formations. Clean Power Now has more than 70 news releases on its website, while the Alliance to Protect Nantucket Sound website contains nearly 300 news releases. News releases were chosen over other information sources, such as newsletters or web pages, to create a master coding mechanism. News releases were selected because they are distributed to media outlets with the intent to garner media attention and frame the resulting news story (Zoch & Molleda, 2006). Organizations strategically craft information subsidies in a manner to guide public perception and achieve a certain outcome (Hallahan, 1999). Clean Power Now and the Alliance to Protect Nantucket Sound framed their messages to either increase or decrease public support for the Cape Wind Energy Project. Each organization designed its communications to highlight certain attributes about the project with the goal to influence public opinion.

Twenty news releases from March 2008 to June 2010 were downloaded from the Clean Power Now website on Dec. 9, 2010. Likewise, 26 news releases from February 2009 to June 2010 were downloaded from the Alliance to Protect Nantucket Sound website. The range of dates ensured a similar sample size of news releases from each organization. The master code sheet was then developed from this sample of news releases and designed to capture the activist groups' master frames about the Cape Wind Energy Project and, more generally, wind energy. The master frames were sorted according to the framing categories developed by Stephens, Rand

and Melnick (2009). The six risk and benefit categories include economic, environmental, technical, political, aesthetic, and health and safety (Stephens, Rand, & Melnick, 2009). These researchers constructed the wind energy frames based on Luhmann's social theory of ecological communication (Luhmann, 1989). Luhmann, a sociological systems theorist, proposed that modern societies are comprised of functional subsystems that interact and frame responses within their own environment. According to Luhmann (1989), communication among the functions of science, education, economy, law, religion, and politics is necessary to tackle environmental issues. The unique features inherent to each functional subsystem can determine how environmental and ecological problems are framed.

In this project, Clean Power Now's wind master frames highlight Cape Wind's benefits, whereas the Alliance to Protect Nantucket Sound's master frames highlight the risks. The resulting coding mechanism organizes the activist groups' master frames according to the six risk and benefit categories.

Content Analysis Phase Two – Measuring Public Opinion

In the second phase of research, a content analysis was conducted on news comments from *The Boston Globe* website. The content analysis of news comments used the coding mechanism developed from the activist groups' news releases.

The Boston Globe was chosen for analysis because it is the largest newspaper in Massachusetts, has the highest online readership of any newspaper in Massachusetts, and archives its comments along with its online news articles. It was chosen over its primary competitor, the *Boston Herald*. According to the 2008 Newspaper Audience Ratings Report (Meo, 2008), *The Boston Globe* has 759,000 unique online readers each week while the *Boston Herald* has 200,000 online readers per week. Including both print and online newspaper

editions, *The Boston Globe* reaches 44% of the designated market audience while the *Boston Herald* reaches 25% of the market audience. Based on the reports in each newspaper's respective media kits, *The Boston Herald* website generates 33.7 million monthly page views while the *Boston Globe* has more than 200 million page views each month.

A sample of news articles was drawn by searching for *The Boston Globe's* online archives between January 2010 and June 2010. This time frame represents the most salient news coverage of the proposed Cape Wind Energy Project. Several searches were conducted to ensure that all appropriate articles were included in the content analysis. A search of "Cape Wind" yielded 140 results. A secondary search of "wind energy" and "Nantucket Sound" yielded 58 results. This second search was conducted to make sure all relevant news articles about Cape Wind were included in the final sample; however, it did not add extra articles to the sample. Out of the 140 articles found from the "Cape Wind" search, 34 news articles and 4 opinion pieces were selected to gather the entire sample of news comments. The opinion pieces are three prominent editorials written by *The Boston Globe* editorial staff and one written by Audra Parker, the president of the Alliance to Protect Nantucket Sound. The 102 remaining results included two duplicate articles; 28 reader opinion pieces and letters to the editor; and 53 news articles that used "cape" and "wind" unrelated to the Cape Wind Energy Project. The last 19 discarded articles mentioned the Cape Wind Energy Project, but they focused on a different subject. These articles were typically about politicians, sustainability, or other energy projects.

The 38 selected news articles and their corresponding comments were downloaded on Nov. 24, 2010 (see Table 3). The first article in the sample, "A decision in sight on Cape Wind dispute," was published on Jan. 5, 2010, and the last article, "Six groups file first suit to halt wind farm," was published on June 26, 2010. Comments published to these articles after Nov.

24, 2010, were not included in the sample. The quantity of comments on news articles ranged from only three comments on "Decision puts the state at the forefront of wind industry, business leaders say" to 305 comments on "Residents voice sorrow, resignation, hope." Both of these stories were published on April 29, 2010, one day after the U.S. Department of the Interior approved the lease for the Cape Wind Energy Project. In total, the 38 news articles and editorials had 1,665 comments. Each article averaged 44 comments.

The Boston Globe has a strict comment policy that allows it to delete comments with swear words, hate speech, spam, personal attacks, libel, and advertisements. *The Boston Globe* reserves the right to edit or delete comments, or ban the author of the comment altogether. This comment policy, while restrictive, can make online comments less toxic and combative compared to a fully open, anonymous comment policy (Gsell, 2009). Comments that violated the *Boston Globe's* policy had been previously removed from online discussions. The final sample of 1,665 comments does not include comments that violated the newspaper's comment policy.

Online comments were then coded and assigned categories based on the master coding mechanism. The arguments identified in the news comment section were matched to the frames developed by the activist groups. Comments from supporters of Cape Wind were coded according to Clean Power Now's coding mechanism. Opposition comments were coded according to the Alliance to Protect Nantucket Sound's coding mechanism. Additionally, *Boston Globe* readers often responded to one another by quoting previous comments. Duplicate frames found in quotes were not counted twice in the final sample.

The content analysis of comments allowed the coders to measure the most frequently mentioned attributes about the Cape Wind Energy Project among active publics. The content

analysis reveals the most salient public perceptions about the project. Additionally, *The Boston Globe* allows readers to "recommend" a news comment. The number of recommendations given to a comment was also recorded. Online readers do not have to be an active commenter or registered on *The Boston Globe* website to recommend a comment, so recommendations can measure latent public opinion about a specific comment.

The researcher then coded the entire sample of online comments using the coding mechanisms developed from analyzing the activist group frames. Master and sub frames used by the activist groups were found in 493 comments. Comments with frames make up 29.6% of the total sample of 1,665 comments.

To ensure the reliability of the coding mechanism, a University of Georgia journalism graduate student separately coded 396 comments from nine articles, corresponding to 23.7% of the total comments. A sample size greater than 20% was chosen to ensure the cross-coding process included a larger percentage of the sample than two related studies; Stephens, Rand, and Melnick (2009) and Reber and Berger (2005) used 20% and 10% of their samples, respectively, to assess the reliability of their studies. The second coder was trained to use the coding instrument and given several examples of frames in news comments. An intercoder reliability measurement was used on each of the six categories, similar to how Stephens, Rand, and Melnick (2009) coded the six framing categories in newspaper articles. The intercoder reliability measurement ensured consistency between the two coders. The indices used to measure intercoder reliability were simple agreement and Scott's pi index. Like Stephen, Rand, and Melnick's (2009) study, the two intercoder values were chosen to compare a liberal measurement, simple agreement, against a conservative measurement, Scott's pi index. An

acceptable Scott's pi value is above 0.50 (Scott, 1955), although some researchers have approved Scott's pi values as low as 0.45 (Riffe, Lacy, & Fico, 1998).

Like the original coding, the comments coded for the reliability check were divided into frames from Clean Power Now and the Alliance to Protect Nantucket Sound. The lowest simple agreement among all categories was political risk with 87.7%. Again, political risk had the lowest reliability measurement with a Scott's pi index of 0.75. All other Scott's pi values were above 0.80, meaning that each category exceeded the threshold of 0.50 (see Table 4). Scott's pi values were not calculated for the technical risk and aesthetic benefit categories, because the activist groups did not use attributes relevant to these categories in their news releases. After ensuring consistency between the coders and validity of the coding instrument, all risk and benefit categories were included in the data analysis.

Results

Activist groups' master frames – *RQ1*: What are the pro- and anti-wind energy activist groups' frames?

Frames Clean Power Now uses in its news releases

Clean Power Now's master frames (See Appendix 1) were coded according to the six benefit categories as defined by Stephens, Rand, and Melnick (2006). Clean Power Now's economic master frames concerned *long-term cost savings* and the *creation of jobs*. Environmental master frames related to *Cape Wind's clean energy production*. Health and safety frames claimed *Cape Wind would not disrupt navigation* and *promotes a healthier living environment*. Beneficial political master frames were about *energy independence*, especially in regard to *reducing consumption of foreign oil*. Finally, the technical benefits were about *wind energy promoting a clean energy future*. Clean Power Now did not use aesthetic frames in its news releases.

Frames the Alliance to Protect Nantucket Sound uses in its news releases

The Alliance to Protect Nantucket Sound's master frames (See Appendix 2) were also coded according to the six risk categories as defined by Stephens, Rand, and Melnick (2006). The Alliance to Protect Nantucket Sound's economic master frames claimed *Cape Wind will increase electricity prices* and *result in a loss of jobs*. Environmental risk frames said the *project would harm wildlife* and *destroy the natural environment*. Health and safety risk master frames claimed *the project would disrupt naval and aerial navigation*. Political risk master frames claimed *Cape Wind received excessive public subsidies* and *would privatize Nantucket Sound*.

Lastly, aesthetic master frames concerned *Cape Wind negatively affecting the scenery and "natural beauty" of Nantucket Sound.* The Alliance reinforced its aesthetic risk frame by often referring to Nantucket Sound as a "*national treasure."* However, the Alliance did not use any frames in its news releases that fit within the technical risk category.

Frames from *The Boston Globe's* online comments – *RQ2*: What pro- and anti-wind energy activist frames are most repeated by active publics?

Comment summary

The content analysis of the 1,665 online comments resulted in a final sample of 493 comments containing frames (see Table 5). Comments with frames make up 29.6% of the total sample. Comments related to Clean Power Now and the Alliance to Protect Nantucket Sounds comprised, respectively, 41.4% and 58.6% of the comments with frames sample. In total, there were 204 comments containing frames from Clean Power Now and 289 comments containing frames from the Alliance to Protect Nantucket Sound. The final sample included comments written by 293 *Boston Globe* users, and each online commenter wrote an average of 1.66 comments. Most *Boston Globe* users wrote only one comment, although 63 users had more than one comment included in the sample (see Table 6). Only four users had more than 10 comments in the final sample. Of the four users who wrote more than 10 comments, three opposed Cape Wind and one supported Cape Wind.

The comments were evenly distributed across all the articles, with each article averaging approximately 13 comments. However, a few articles contained a substantial number of comments. The article "Residents voice sorrow, resignation, hope," which was published on April 29, 2010, had 65 comments in the final sample (13.2%). "Cape Wind OK'd in first for the nation," published on April 29, 2010, and "A better site for Cape Wind," published on Jan. 13,

2010, each had 34 comments (6.9%). The last article that supplied more than one-twentieth of the comments was *The Boston Globe* editorial, "Though wind power isn't free, benefits justify extra costs," published on May 13, 2010, which had 27 comments (5.5%).

Analysis of activist group frames found in online comments

Opposition frames

The Alliance to Protect Nantucket Sound opposition frames had a final sample size of 289 comments (see Table 7). Nearly half of the comments contained frames relating to economic risk (47.4%). Within the economic risk category, more than four in 10 (44.3%) contained the master frame "Cape Wind increases electrical costs" and one-fifth (20.8%) pointed out that Cape Wind could more than double electricity costs. Fewer comments (9.0%) said that wind energy was more expensive relative to other energies. Only a few comments (2.4%) had the sub-frame that Massachusetts ratepayers already pay some of the highest rates in the country. The topic of jobs was also less salient than electricity costs in the economic risk category; few comments said Cape Wind would result in a loss of jobs (3.1%), a loss of tourism jobs (0.3%), or a loss of fishing industry jobs (0.3%).

Nearly one-fifth of the opposition comments contained an environmental risk frame (19.7%). However, only one-tenth (10.0%) of the comments said that Cape Wind would damage the environment. Very few comments said that Cape Wind would destroy the sea floor (0.7%) or that dredging would have a negative impact on wildlife. More environmental risk frames pointed out that Cape Wind poses the risk of an oil spill (4.2%) and could endanger wildlife (11.4%). Only one comment (0.3%) said Cape Wind is a risk to whales, while more comments (6.6%) said that Cape Wind is a risk to birds. Only two comments (0.7%) said that Cape Wind may not comply with the Migratory Bird Treaty Act.

The health and safety risk frames were found in more than one-tenth (14.2%) of the sample. Most of comments in this category said that Cape Wind would be a navigation hazard (13.8%), and they often specified the risk to ships and ferries (5.2%) or aircraft (9.3%).

The political risk category consisted of more than one-third (36.0%) of the sample. Many of the political risk comments (27.0%) concerned the public subsidies for Cape Wind. Fewer political comments (12.5%) indicated that Cape Wind privatizes Nantucket Sound or a private developer using Nantucket Sound at the public's expense (6.6%). Only one comment mentioned corporate welfare (0.3%) or a lack of transparency (0.3%).

One-quarter of the comments (25.6%) contained frames in the aesthetic risk category. Many of these said that Cape Wind threatened the beauty and scenery of Cape Cod (18.7%). A few comments (2.8%) said Cape Wind would be larger than Manhattan, although not one comment said the wind turbines would be taller than the Statue of Liberty. Fewer than one-tenth (8.0%) of the comments claimed Cape Wind would negatively affect Native American tribes or the project would interfere with Native American's cultural and religious ceremonies (4.5%). Even fewer comments (2.4%) said that Cape Wind would negatively affect historic Massachusetts locations.

Advocacy Frames

The Clean Power Now advocacy frames had a final sample size of 204 comments (see Table 8). Almost one-fifth (18.6%) of the frames were within the technical benefit category. Most of these frames (15.2%) said Cape Wind establishes a clean energy future, while a few comments (4.4%) said Cape Wind establishes Massachusetts as a national leader in wind energy. Not a single frame mentioned that Cape Wind would reduce our carbon footprint.

More than one-tenth (13.7%) of the advocacy comments used an economic benefit. A few comments mentioned the long-term cost savings of Cape Wind (7.4%), although only several comments said Cape Wind would ensure price stability (1.5%) or that wind energy used "free" fuel (1.0%). Likewise, about the same number of comments claimed Cape Wind would create jobs (6.4%), and few comments referred specifically to wind energy jobs (1.5%).

The most common advocacy frames concerned environmental benefits (62.7%). More than half of the comments said wind energy produces clean or sustainable energy (50.5%) and almost one-fifth (19.1%) said Cape Wind avoids the risk of oil spills. Fewer comments said wind energy reduces carbon emissions (6.9%) or addresses global climate change (3.4%).

Fewer than one-tenth (9.3%) of the comments were in the health and safety benefit category. Most of these comments (7.4%) said Cape Wind would not be a navigation hazard to airplanes or ships. Fewer comments (2.9%) said Cape Wind could decrease health problems, mainly related to respiratory problems, or that it would lead to a healthier environment (2.5%).

Political benefit frames were the second largest category (23.5%) within advocacy comments. Every comment in the political benefit category related to energy independence (23.5%). About half of these specifically mentioned reducing America's dependence on foreign oil (13.2%), although only several comments said Cape Wind would avoid the price volatility of foreign fossil fuels (2.5%). No comments said Cape Wind had transparent public participation during the political process.

Comparison of frames in entire sample

In the entire sample of 493 comments, the debate over Cape Wind was largely framed by two main categories (see Table 9). Even though opposition comments outnumbered supporter comments, the environmental benefit (26.0%) and economic risk (27.8%) categories were

practically equal in the whole sample. The environmental benefit category was dominated by the production of clean energy (20.9%), while most the economic risk frames reflected concerns over increased electrical costs (26.0%). People used economic benefit (5.7%) and environmental risk (11.6%) categories substantially less often than their counterparts. Although political frames were the second most used category in both groups, political risk frames (21.1%) had twice the presence compared to political benefit frames (9.7%). Health and safety frames were used the least by both supporters (3.9%) and opponents (8.3%).

Statistical tests – *RQ3a*: Are any frames found within news comments recommended significantly more or less by online readers? *RQ3b*: Does the chronology of online comments differ significantly by frame?

Comment recommendations and chronological order

As noted earlier, *The Boston Globe's* online readers do not have to be an active commenter or registered to recommend a comment. Thus, any online reader can recommend a comment. Instead of comparing the means of the two samples, the non-parametric Mann-Whitney U test compares the medians of recommendations. The Mann-Whitney U test was used because the number of recommendations on articles did not resemble a normal distribution. The option to not recommend a comment allows zero recommendations to form the lower boundary of the distribution for comments. As such, the distribution for the number of recommendations was skewed to the left. The skewed left distribution could not be normalized by taking the natural logarithm of the number of recommendations, especially since the natural log of zero is undefined. Due to this, the Mann-Whitney U test was used for all statistical procedures that evaluated the number of recommendations given to comments.

A Mann-Whitney U test was conducted to evaluate whether the number of recommendations differed between advocacy comments and opposition comments (see Table 10). The results of the test were significant, $z = -3.099$, $p < .01$. The Alliance to Protect Nantucket Sound comments had an average rank of 230.43, while Clean Power Now had an average rank of 270.48. Therefore, the comments of advocates of Cape Wind were recommended significantly more often than were the comments of opponents.

Statistical tests were also conducted to evaluate the order of comments in the news articles. On *The Boston Globe* website, comments are chronologically ordered from oldest to newest. A comment's position after the article was recorded as its "comment rank." The first comment posted to a news article has a rank of one, while a comment with a rank of 100 was the one-hundredth comment posted. A Mann-Whitney U test was conducted to evaluate whether comments with advocacy or opposition frames differed in their chronological order (see Table 10). The results of the test were significant, $z = -2.002$, $p < .05$. The opposition comments had a mean rank of 236.21 and advocacy comments had a mean rank of 262.28. This means the opposition comments appeared significantly earlier in the ranking than advocacy comments; in other words, opponents responded to online news articles before supporters.

The number of recommendations attributed to news comments was then compared within each respective sample, advocacy and opposition comments. The sample was separated based on Clean Power Now frames and the Alliance to Protect Nantucket Sound frames. The goal was to determine whether supporters or opponents of the project preferred one type of frame over another. Mann-Whitney U tests were again used to test whether the medians differed for the number of recommendations and comment rank given to certain frames among *The Boston Globe's* online readership.

There were several significant results regarding recommendations and comment rank for opposition comments based on the Alliance to Protect Nantucket Sound's frames. The comment rank for economic risk was significantly lower than other opposition frames, $z = -3.549$, $p < .001$ (see Table 11). The average rank of comments with the economic risk frame was 126.62, while the other opposition comments had an average rank of 161.56. Within the economic risk frame, the comment rank for "Cape Wind increases electrical costs" was significantly lower than other opposition frames, $z = -3.570$, $p < .001$ (See Table 12). The average rank of comments with the frame "Cape Wind increases electrical costs" was 125.32, while other opposition comments had an average rank of 160.65. Therefore, economic risk frames about increased electrical costs appeared significantly earlier in the ranking of opposition comments.

Additionally, one political risk master frame appeared significantly later than other opposition frames. The comment rank for "Cape Wind privatizes Nantucket Sound" was significantly higher than other opposition frames, $z = -2.153$, $p < .05$ (See Table 13). The average rank of comments with the "Cape Wind privatizes Nantucket Sound" was 173.06, while other opposition comments had an average rank of 141.01. The same result was true for the health and safety risk category. The comment rank for the health and safety risk category was significantly higher than other opposition frames, $z = -2.097$, $p < .05$ (See Table 14). The average rank of health and safety risk comments was 170.35, while other opposition comments had an average rank of 140.81. Therefore, comments in the health and safety risk category and comments concerning the privatization of Nantucket Sound appeared significantly later in the ranking of opposition comments.

Significant results were also found in the aesthetic risk category. Comments that addressed Cape Wind's aesthetic risks had significantly more recommendations than other

opposition comments, $z = -3.083$, $p < .01$ (see Table 15). Aesthetic risk comments had a mean rank of 170.57, whereas other opposition comments had a mean rank of 136.20. Within this category, the frame "Cape Wind threatens the beauty and scenery of Cape Cod" also had significantly more recommendations than other opposition comments, $z = -3.120$, $p < .01$ (see Table 16). Comments within the aesthetic risk frame had a mean rank of 176.68, while other opposition comments had a mean rank of 137.72. Therefore, aesthetic risk frames about the scenery and beauty of Cape Cod were recommended significantly more often than other opposition comments.

In contrast to the opposition frames, not a single frame differed significantly among advocacy supporters in either recommendations or comment rank.

Discussion

The results use both descriptive statistics and statistical tests to measure public opinion about wind energy in relation to activist group messaging during a six-month period in 2010. Although these results are specific to this specific case, they illuminate activist group messaging and public opinion about renewable energy projects.

Despite the differences among active audiences, both activist groups use the "moral high ground" in their communications (Heath & Palenchar, 2009). The Alliance to Protect Nantucket Sound identifies itself as an environmental group on its website and touts moral reasons to oppose the Cape Wind Energy Project. For example, the Alliance claims Cape Wind would violate the rights of Native Americans, ruin the livelihoods of Cape Cod residents, and destroy a "national treasure." However, these morally grounded arguments nearly disappear among arguments used by its supporters in *The Boston Globe* comments. Active publics dominantly use economic reasons to argue against Cape Wind. The Alliance's often-used argument that electricity from Cape Wind costs double was a particularly salient point; half of the people who said Cape Wind would increase electrical costs also said that electricity produced by Cape Wind would cost twice as much. Even though the activist group uses value framing to achieve a "moral high ground," the dominant frame used as an argument among active publics related to material framing. Furthermore, the economic reasons against Cape Wind regarding electrical costs were the go-to arguments in news comments. The economic risks based on cost are a salient and immediate argument since all Massachusetts residents pay for electricity.

Like the opposition group, Clean Power Now stresses a "moral high ground," albeit in the form of building a renewable, clean energy source. Unlike the Alliance to Protect Nantucket Sound, Clean Power Now used broader master frames in its news releases. For example, while the Alliance to Protect Nantucket Sound would make specific claims such as "Cape Wind would be larger than Manhattan," Clean Power Now avoided analogies and narrow claims. However, it is important to recognize that during this study's time frame, Clean Power Now had the support of both the Massachusetts governor and the federal government. Cape Wind had politicians advocating for its approval and encouraging the adoption of wind energy in Massachusetts. The support of politicians may have changed Clean Power Now's messaging and communication strategies.

Among the supporters of Cape Wind, the most salient frames concerned energy independence, decreasing the use of foreign oil, and avoiding oil spills. The reasons supporting energy independence and decreased usage of fossil fuels should resonate with active publics, since activist groups promote wind energy as a technology to replace traditional energy sources. In this manner, activist groups shape new possibilities and opportunities for businesses (Sine & Lee, 2009). Additionally, since gasoline is the dominant use of oil in the United States, oil is a highly visible energy form, unlike fossil fuels (e.g., natural gas and coal) that are burned for electricity. The BP oil spill in the Gulf of Mexico also occurred during the time frame of comments analyzed. The oil spill's timeliness may have influenced people to argue for the adoption of clean energy over traditional energy sources.

Looking at the results as a whole, the content analysis shows the disparities between how activist groups portray the Cape Wind Energy Project compared to how active audiences think of the project. Using "diagnostic framing" (Snow & Benford, 2000), Clean Power Now and the

Alliance to Protect Nantucket Sound attribute a variety of characteristics to Cape Wind in their messaging. However, the public perceptions regarding Cape Wind are primarily about economic risks versus environmental benefits. Even though opposition comments outnumbered advocacy comments, the quantity of economic risk and environmental benefit frames was nearly identical. The basis for these two dominant arguments reflects the nature of the opposing viewpoints. Opponents citing economic risks used a material appeal to persuade people that Cape Wind costs too much, while the environmental benefits used by supporters appeal toward a person's ethical viewpoint.

In addition to the descriptive nature of the methodology, this project also measured the public opinions of audiences who may not participate in writing news comments. This information was measured by recording the number of recommendations given to a particular comment. By recommending a certain type of comment over another, latent publics are choosing which frames resonate most with them.

Previous polling measurements showed the majority of Massachusetts residents favor Cape Wind's construction (Wirzbicki, 2010). In line with this, the advocacy frames in the comments were recommended more often than opposition frames. While more opponents wrote arguments against Cape Wind, the overall *Boston Globe* readership significantly rated supporter comments higher. As well, opponents wrote comments more quickly in response to the latest Cape Wind news article compared to supporters. Anger probably incited people to voice their discontent for the Cape Wind Energy Project. A news article about Cape Wind was more likely to persuade opponents to comment, and Cape Wind advocates were spurred to voice their support after reading comments they disagreed with. Furthermore, Cape Wind opponents may comment on a news article faster than supporters in an effort to halt the project's political

trajectory. During the chosen time frame, the Cape Wind Energy Project had support from the Massachusetts government and the federal government. By voicing their opinion first, Cape Wind opponents were sending a message to policymakers, telling them to remove their support from Cape Wind.

As discussed in the results, the aesthetic risk frames were the highest recommended frames among opponent comments, even though aesthetic risk frames trailed both economic and political risks in the quantity of comments. Latent publics may be able to identify best with aesthetic reasons for not building Cape Wind. After all, Cape Wind would become a permanent structure in the middle of highly traveled and visited ocean area. The Alliance to Protect Nantucket Sound's consistent labeling of Nantucket Sound as a "national treasure" was a salient image, since this frame was repeated often and highly rated during the online discussions. Although NIMBY-type responses are not necessarily true in communities familiar with a certain type of project (Devine-Wright, 2005; Wolsink, 2000), they can occur in places where people are unfamiliar with the project (Thayer & Freeman, 1987; Cockle, 2000; Cox, 2008). Massachusetts citizens would be unaccustomed to large-scale wind projects, and all United States citizens would be unaccustomed to offshore wind turbines. The nature of Cape Wind being the first offshore wind farm in the nation lends itself to an ideal NIMBY-type situation. While it is impossible to select any one reason why aesthetic arguments against Cape Wind resonate so poignantly among audiences, Cape Wind opponents viewed aesthetic risks regarding Cape Wind as a major deterrent to its development.

Furthermore, aesthetic risks make a strong, tangible argument for opponents despite not being the most common argument against Cape Wind. In the same manner that supporters symbolize wind turbines with clean energy (Warren, Lumsden, O'Dowd, & Birnie, 2005),

opponents may symbolize wind turbines with the negative effects of clean energy. In this case, wind turbines may collectively represent increased electrical costs, excessive subsidies, damaged views, environmental destruction, and safety risks. In essence, aesthetic risks combine all frames into one argument, creating a more concrete message. Unfortunately for this study, Clean Power Now did not use aesthetic benefits in its news releases. If Clean Power Now had used aesthetic benefits in its messaging, the symbolic nature of wind turbines could have been directly compared between supporters and opponents.

Aside from this project's theoretical contributions, the results show how public relations practitioners can create salient messages for their audiences. In particular, activist groups rely on their members to carry their opinions and activism into the public sphere. The results reveal the most salient messages among active publics, which may help activist groups create "motivational frames" for future campaigns (Snow & Benford, 2000).

Public relations practitioners working on clean energy campaigns may be able to enhance their messages by connecting clean energy to a decrease in oil consumption. Clean Power Now's main messages that resonated with online publics related to oil; these two salient points concerned avoiding oil spills and reducing the consumption of foreign oil. The emphasis on oil-related messages makes sense, because the American public has an important stake in these subjects. The United States imports much of its oil, and many people directly pay for oil costs in the form of gasoline. This salient point resembles how Cape Wind opponents express discontent for paying higher electrical costs, because gasoline prices can increase quickly due to volatile events in foreign nations. In both cases, people do not want to pay high energy prices. On the other hand, arguments for avoiding oil spills appeal toward environmentalism. People can easily identity with oil-related problems, such as environmental destruction and oil dependence on

foreign nations. After all, images of dead wildlife and oil-covered beaches from major oil spills are striking reminders of the danger of oil drilling. As for Cape Wind, this point is particularly interesting, because, although oil-related messages were salient among publics, wind energy does not typically replace oil consumption. Instead, wind energy primarily replaces coal and natural gas, which are the usual fossil fuels burned for electricity. Cape Wind most likely represents a forward-looking path toward energy independence and a clean energy future. However, the clean energy movement can create its salient messages framed around the adverse effects of oil consumption.

On the other hand, activist groups opposing renewable energy projects should emphasize cost and aesthetic arguments in their messaging. By far and away, economic reasons concerning cost were the most frequently used frames in the content analysis. Since energy costs affect everyone, framing an argument around increased energy costs creates a salient message. Additionally, during the spring of 2010 the U.S. economy was still experiencing a severe recession after the sub-prime mortgage crisis and the subsequent 2009 financial crisis. According to data from the Federal Reserve, the U.S. economy had only recently begun to grow during the end of 2009 and the beginning of 2010. Due to the recession, people were likely more sensitive to price increases in all goods and services.

Likewise, arguments based on aesthetic risks are salient messages, despite these arguments representing a NIMBY response. As previously discussed, aesthetic arguments may symbolize all negative effects of an energy development. In this regard, messages based on aesthetics can be crafted into a condensed and targeted frame. The Alliance to Protect Nantucket Sound successfully created an aesthetic frame against Cape Wind by labeling Nantucket Sound a "national treasure." This frame gave the Alliance a morally based argument against Cape Wind.

Opposing Cape Wind on the basis of refusing to harm a "national treasure" transcends resisting the project solely on economic grounds.

Activist groups may also consider using political reasons to argue against energy developments, because many online comments cited political reasons for opposing Cape Wind. However, political arguments against Cape Wind may have been fueled by circumstances unique to this project. The Cape Wind developers quadrupled their estimated costs over the past decade (Daley, 2010a), and Cape Wind came under scrutiny for seeking two types of federal tax credits when it qualified for only one tax credit (Cassidy, 2010). These controversies may have convinced people to complain about public subsides specific to Cape Wind.

Limitations

This thesis studied only one renewable energy project during a six-month time span. Results could change depending on the type of renewable energy project, the location, political factors, economic factors, and other variables. Given all the possible variables, the results found in this study may be unique to *The Boston Globe*, Cape Wind, and these online audiences. Additionally, this thesis focuses on a specific time frame. Cape Wind had been undergoing the approval process by nine years by the beginning of this study, but public opinion data was examined for only six months of the project. While the six-month time frame was chosen to capture the highest salience of Cape Wind in the media agenda, it was limited by the ability to access and download articles and comments online. When the articles and comments were downloaded in November 2010, *The Boston Globe* had already archived news articles and their corresponding comments older than one year.

The content analysis also had no manner to account for *Boston Globe* users who may have written on the behalf of Clean Power Now or the Alliance to Protect Nantucket Sound.

However, if they exist, these comments would still represent a part of the public dialogue in the Cape Wind debate.

Beyond the singular nature of this project, public opinion can be influenced by external events unrelated to Cape Wind. For example, the BP oil spill in the Gulf of Mexico happened on April 20, 2010. The ensuing media coverage may have influenced Cape Wind advocates to voice their support when they may not have otherwise. Even though Cape Wind is a Massachusetts project that will eventually provide Massachusetts residents with electricity, public opinion is subject to national and international occurrences.

This project also examined people's actively voiced opinions in the context of activist group messaging. However, the Alliance to Protect Nantucket Sound and Clean Power Now cannot possibly capture every reason for and against Cape Wind. One notable frame found repeatedly in comments concerned aesthetic benefits of wind turbines, but Clean Power Now does not emphasize these benefits in its messaging. Previous research has shown that people who relate to the symbolic features of wind turbines actually enjoy seeing them (Thayer & Freeman, 1987). Therefore, aesthetic arguments for Cape Wind should resonate among active publics online.

Lastly, the instruments for the content analysis differed slightly in nature between Clean Power Now and the Alliance to Protect Nantucket Sound. Clean Power Now's framing of Cape Wind was broader than the Alliance to Protect Nantucket Sound's messaging. For example, the frames promoting energy independence were not as specific as "Cape Wind will double the cost of electricity." This difference in frame specificity makes a direct comparison of similar categories (e.g., economic risk compared to economic benefit) between the two activist groups less clear.

Future Research

The growth of renewable portfolio standards in the United States ensures that more renewable energy projects will be built across the nation. Cape Wind is only one example of a renewable energy project currently being constructed in the United States. The analysis used in this research could be expanded to any state or type of energy project. States tailor renewable energy projects to their own resources, policies, and people. A similar analysis on, for example, a Texas wind farm would examine a different setting and demographic.

Furthermore, the methodology used in this study could measure public opinion and expand upon framing theory in a number of contexts. Although previous research has applied organizational framing to news articles and media content, this research applied framing theory to reader-generated content. It provides a methodological model for reader-generated content that can be adapted to any online media that has comments. Future projects could draw on frames from corporate, governmental, or non-profit entities to examine how their messages resonate among active publics. The Cape Wind Energy Project and the two activist groups were chosen for this research only because they provided an ideal manner to investigate a NIMBY-type situation. Clean Power Now and the Alliance to Protect Nantucket Sound were also chosen to expand public relations scholarship by including more perspectives on activist groups. Public opinion content analyses of news comments may also give researchers access to studying broader online audiences than, for example, social networking sites.

Another direction for this methodology would be to compare differences among local, state, and national newspapers on the same news coverage. Comparisons could even be made between two newspapers at the same regional level. I used *The Boston Globe* for analysis in this study, but, had I begun in January 2010, I could have collected data similarly for the *Boston*

Herald. However, I did not have the ability to retrieve old comments on the *Boston Herald* website, because the newspaper archives its articles and comments after two weeks. Furthermore, the online discourse may change depending on the comment policy of the newspaper. *The Boston Globe*'s strict comment policy, which allows the newspaper to ban users if they use vulgarity or defamatory attacks, may discourage people from writing comments or participating in online discourse.

Conclusion

In summary, this research project developed a content analysis method to understand public opinion about one renewable energy project. As it currently stands, the Cape Wind Energy Project in Massachusetts will likely be the first constructed offshore wind farm in the United States. Over the course of the past decade, activist groups used many types of appeals in their news releases and communication materials to influence the media and public. Each activist group strove to garner public support by portraying the Cape Wind Energy Project in a particular light. This research shows that certain appeals most effectively resonated with active publics. Opponents primarily cited economic and political reasons against Cape Wind, although aesthetic arguments may best symbolize their concerns. Cape Wind supporters, however, largely identified with environmental reasons to argue for local wind energy. Opponents were more vocal than supporters, but, based on comment recommendations, more Cape Wind supporters read the online comments. Finally, this research, methodology, and results could be used by public relations practitioners to develop energy messaging or expanded upon into other energy, social, political, and environmental contexts.

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Appendix 1: Coding Mechanism – Clean Power Now

Coder's Initials: _____ Article Number: _____

A) Title of Article: _____

2) Publication date: _____

3) Number of words in article: _____

4) Number of comments: _____

5) Comment Number: _____ 6) Commenter Name_____

7) Number of Recommendations _____

8) Technical Benefit **( )**

A) Cape Wind establishes Massachusetts as national model for wind energy ( )

a) Wind energy reduces our carbon footprint ( )

B) Cape Wind promotes a clean energy future ( )

C) Other (specify) ( )

9) Economic Benefit **( )**

A) Wind power ensures price stability/price predictability ( )

a) Long-term cost savings ( )

b) Wind energy uses "free" fuel ( )

B) Cape Wind creates jobs ( )

a) Wind energy jobs (construction, maintenance, and operation) ( )

C) Other (specify) ( )

10) Environmental Benefit **( )**

A) Wind energy produces clean (green) energy ( )

a) Avoid oil spills ( )

b) Decreases air pollution ( )

c) Reduces pollutants and emissions ( )

B) Cape Wind addresses global climate change (global warming) ( )

C) Other (specify) ( )

11) Health & Safety Benefit **( )**

A) Wind energy promotes a healthier environment ( )

a) Fossil fuels degrade air quality/cause respiratory problems ( )

B) Cape Wind does not threaten navigation ( )

C) Other (specify) ( )

12) Political Benefit **( )**

A) Wind energy promotes energy independence ( )

a) Reduces dependence on foreign oil ( )

b) Avoids price volatility of foreign fossil fuels (oil) ( )

B) Cape Wind has transparent public participation ( )

C) Other (specify) ( )

13) Aesthetic Benefit **( )**

A) Other (specify) ( )

Appendix 2: Coding Mechanism – The Alliance to Protect Nantucket Sound

Coder's Initials: _____ Article Number: _____

1) Title of Article: _____

2) Publication date: _____

3) Number of words in article: _____

4) Number of comments: _____

5) Comment Number: _____ 6) Commenter Name_____

7) Number of Recommendations _____

8) Technical Risk **( )**

A) Other (specify) ( )

9) Economic Risk **( )**

A) Cape Wind increases electrical costs ( )

a) Cape Wind estimated to more than double wholesale electricity costs ( )

b) Cost of converting wind into energy is expensive ( )

c) Massachusetts ratepayers already pay some of the highest rates in the country ( )

B) Cape Wind results in a loss of jobs ( )

a) Loss of tourism jobs ( )

b) Loss of fishing industry jobs ( )

C) Other (specify) ( )

10) Environmental Risk **( )**

A) Cape Wind would damage the environment of Nantucket Sound ( )

a) Destruction of seabed (ocean floor) ( )

b) Dredging would have negative effect on wildlife and environment ( )

c) Cape Wind poses risk of major oil spill (from transformer station) ( )

B) Cape Wind would endanger wildlife ( )

a) Risk to whales ( )

b) Risk to migratory birds ( )

c) Cape Wind does not comply with the Migratory Bird Treaty Act ( )

C) Other (specify) ( )

11) Health & Safety Risk ( )

A) Cape Wind would cause navigation hazards ( )

a) Interferes with ships and ferries ( )

b) Interferes with airplanes ( )

B) Other (specify) ( )

12) Political Risk ( )

A) Cape Wind privatizes Nantucket Sound ( )

a) Gain for private developer at the expense of Massachusetts public land ( )

b) Corporate Welfare ( )

c) Lack of transparency ( )

B) Cape Wind uses excessive government subsidies ( )

a) Taxpayers will pay for Cape Wind for years to come ( )

C) Other (specify) ( )

13) Aesthetic Risk ( )

A) Cape Wind threatens the beauty and scenery of Cape Cod (a national treasure) ( )

a) Cape Wind would be larger than Manhattan ( )

b) Cape Wind turbines would be taller than Statue of Liberty ( )

B) Cape Wind negatively affects Native American tribes ( )

a) Interferes with cultural and religious ceremonies ( )

C) Cape Wind negatively affects historic Massachusetts sites ( )

D) Other (specify) ( )

Table 1: “Renewable Portfolio Standards”

State	Amount	Year
Arizona	15%	2025
California	33%	2030
Colorado	20%	2020
Connecticut	23%	2020
Delaware	20%	2019
Hawaii	20%	2020
Iowa	105MW	
Illinois	25%	2025
Massachusetts	15%	2020
Maryland	20%	2022
Maine	40%	2017
Michigan	10%	2015
Minnesota	25%	2025
Missouri	15%	2021
Montana	15%	2015
New Hampshire	23.8%	2025
New Jersey	22.5%	2021
New Mexico	20%	2020
Nevada	20%	2015
New York	24%	2013

North Carolina	12.5%	2021
Oregon	25%	2025
Pennsylvania	8%	2020
Rhode Island	16%	2019
Texas	5,880 MW	2015
Washington	15%	2020
Wisconsin	10%	2015

Table 2: “Cape Wind Timeline”

Year	Date	Event
2001	November	Cape Wind Associates, LLC applies for permit to construct offshore wind farm in Nantucket Sound.
2001	November	The Alliance to Protect Nantucket Sound forms in response to Cape Wind.
2003		Renewable energy goals in Massachusetts begin to increase by one-half percent every year until 2009.
2003	April	Clean Power Now forms.
2004	November	U.S. Army Corps of Engineers releases draft environmental impact statement about Cape Wind. The environmental impact statement provides mostly positive support for the project.
2005	May	The Massachusetts Energy Facilities Siting Board approves Cape Wind by allowing the developers to bury two cables that would go through state water.
2006		Deval Patrick begins campaigning for governor of Massachusetts. Patrick supports the Cape Wind Energy Project.
2007	January	Governor Patrick inaugurated. Clean Power Now reports 6,500 members nationwide.
2007	March	Cape Wind meets standards required by the Massachusetts Environmental Policy Act and is approved by Ian Bowles, the Massachusetts Secretary of Environmental Affairs.
2008	June	Massachusetts passes the Green Communities Act of 2008. The new energy legislation separates the state’s renewable energy goals into two categories and requires the state to more aggressively pursue renewable energy.

2009	January	Barack Obama inaugurated. The Mineral Management Service releases environmental impact statement about Cape Wind.
2009	May	The Massachusetts Energy Facilities Siting Board issues a “super permit to Cape Wind, approving the project at a local level.
2010	January	U.S. Interior Secretary Ken Salazar meets with the Native American tribes, the National Park Service, and local historic societies about Nantucket Sound’s cultural and historical significance.
2010	April	The U.S. Department of the Interior approves the lease of federal waters to the Cape Wind developers. Cape Wind agrees to buy wind turbines from Siemens Energy. The BP oil spill begins in the Gulf of Mexico.
2010	May	Federal Aviation Administration clears the construction of Cape Wind. National Grid and Cape Wind Associates agree to 15-year deal for electricity.
2010	September	A Supreme Judicial Courts gives Cape Wind permission to build. A *Boston Globe* poll shows about two-thirds of Massachusetts residents support the Cape Wind Energy Project.

Table 3: "*The Boston Globe* articles"

Date published	Article Title	Number of comments
1/5/2010	A decision in sight on Cape Wind dispute	119
1/6/2010	More than Cape Wind affected by historic label	28
1/7/2010	Salazar should quickly resolve tribal objections to Cape Wind	51
1/13/2010	A better site for Cape Wind	64
1/13/2010	Wind farm planners propose compromises	47
1/14/2010	Decision on Cape Wind project expected soon	13
1/20/2010	NStar chief not sold on Cape Wind	44
2/3/2010	Tribes get a hearing on wind farm opposition	39
2/4/2010	Cape Wind review called "rushed"	26
2/19/2010	Tribe member challenges sun rite in letter to Salazar	32
2/20/2010	Salazar will try to speed wind projects	5
3/23/2010	State preservation chief cites wind farm impact	49
4/1/2010	Cape Wind signs deal to buy offshore wind turbines	32
4/3/2010	Historic council urges Salazar to reject proposed wind farm	15
4/24/2010	Six governors urge approval of wind farm	38
4/27/2010	Foes vow to sue if wind farm OK'd	81
4/28/2010	Make clean energy a reality; approve Cape Wind now	58
4/28/2010	Cape Wind decision to be issued today	8

4/29/2010	Passage is political victory for Patrick	22
4/29/2010	Residents voice sorrow, resignation, hope	243
4/29/2010	Cape Wind OK'd in first for the nation	94
4/29/2010	Decision puts the state at the forefront of the wind industry, business leaders say	3
4/29/2010	Litigation is likely to results in delay only, specialists say	15
4/30/2010	Cahill ridicules Cape Wind project	63
5/7/2010	Cape Wind could boost prices	51
5/8/2010	Cape Wind has its 1st buyer	22
5/13/2010	Though wind power isn't free, its benefits justify extra cost	73
5/15/2010	National Grid makes second Cape Wind deal	7
5/18/2010	FAA determines wind farm is "no hazard"	23
5/20/2010	AG wants to review deal with Cape Wind	24
5/22/2010	NStar, Cape Wind to talk energy	31
5/25/2010	Cape Wind courts NStar for utility contract	4
6/5/2010	Utility defends Cape Wind contract	21
6/17/2010	Community debates $3 billion Cape Wind deal	14
6/17/2010	Wal-Mart challenges Cape Wind's high prices	131
6/19/2010	Opponents appeal FAA's approval of wind farm	6
6/22/2010	Cape Wind builders narrowed down	25
6/26/2010	Six groups file first suit to halt wind farm	44
	Total	1665

Table 4: “Intercoder reliability: Percent agreement and Scott’s pi indices”

	Percent Agreement	Scott's Pi
Technical Benefit	97.5	0.89
Technical Risk	N/A	N/A
Economic Benefit	98.8	0.95
Economic Risk	92.6	0.84
Environmental Benefit	91.4	0.82
Environmental Risk	98.8	0.95
Health and Safety Benefit	97.5	0.89
Health and Safety Risk	97.5	0.89
Political Benefit	98.8	0.95
Political Risk	87.7	0.75
Aesthetic Benefit	N/A	N/A
Aesthetic Risk	95.1	0.83

Table 5: Descriptive Statistics: "Comments on *The Boston Globe* articles"

Article	Frequency	Percent
6 groups file first suit to halt wind farm	10	2.0
A better site for Cape Wind	18	3.7
A decision in sight on Cape Wind dispute	34	6.9
AG wants to review deal with Cape Wind	7	1.4
Cahill ridicules Cape Wind Project	16	3.2
Cape Wind builders narrowed down	12	2.4
Cape Wind courts NStar for utility contract	4	0.8
Cape Wind decision to be issued today	3	0.6
Cape Wind has first buyer	10	2.0
Cape Wind OK'd in first for the nation	34	6.9
Cape Wind could boost prices	20	4.1
Cape Wind review called "rushed"	7	1.4
Cape Wind signs deal to buy offshore turbines	14	2.8
Community debates $3b Cape Wind deal	6	1.2
Decision on Cape Wind Project expected soon	2	0.4
Decision puts the state at the forefront of wind industry, business leaders say	1	0.2
FAA determines wind farm is no hazard	14	2.8
Foes vow to sue if wind farm OK'd	20	4.1
Historic council urges Salazar to reject proposed wind farm	3	0.6

Litigation is likely to result in delay only, specialists say	7	1.4
Make clean energy a reality, approve Cape Wind now	16	3.2
More than Cape Wind affected by historic label	7	1.4
National Grid makes a second Cape Wind deal	5	1.0
NStar chief not sold on Cape Wind	8	1.6
NStar, Cape Wind to talk energy	8	1.6
Opponents appeal FAA's approval of wind farm	3	0.6
Passage is political victory for Patrick	5	1.0
Residents voice sorrow, resignation, hope	65	13.2
Salazar should quickly resolve tribal objections to Cape Wind	17	3.4
Six governors urge approval of wind farm	13	2.6
State preservation chief cites wind farm impact	14	2.8
Though wind power isn't free, benefits justify extra cost	27	5.5
Tribe member challenges sun rite in letter to Salazar	10	2.0
Tribes get a hearing on wind farm opposition	10	2.0
Utility defends Cape Wind contract	8	1.6
Wal-Mart challenges Cape Wind's high prices	21	2.8
Wind farm planners propose compromises	14	2.8
Total	493	100.0

Table 6: Descriptive Statistics: “Number of online usernames”

Number of Comments	Number of usernames with corresponding quantity of comments
10+	4
9	0
8	0
7	1
6	5
5	5
4	5
3	5
2	38
1	234
Total usernames	297

Table 7: Descriptive Statistics: “The Alliance to Protect Nantucket Sound frames”

	Number	Average of total
Economic Risk	**137**	**47.4%**
Cape Wind increases electrical costs	128	44.3%
Cape Wind electricity would cost more than double other electrical costs	60	20.8%
Cost of converting wind energy into electricity is expensive	26	9.0%
Massachusetts ratepayers already pay some of the highest rates in the country	7	2.4%
Cape Wind would result in a loss of jobs	9	3.1%
Specifically, a loss of tourism jobs	1	0.3%
Specifically, a loss of fishing jobs	1	0.3%
Environmental Risk	**57**	**19.7%**
Cape Wind would damage the environmental of Nantucket Sound	29	10.0%
Cape Wind would destroy the sea floor	2	0.7%
Dredging for Cape Wind would harm the environment	0	0.0%
Cape Wind poses the risk of an oil spill	12	4.2%
Cape Wind would endanger wildlife	33	11.4%
Specifically, it poses a risk to whales	1	0.3%
Specifically, it poses a risk to birds	19	6.6%
Cape Wind does not comply with the Migratory Bird Treaty Act	2	0.7%
Health and Safety Risk	**41**	**14.2%**
Cape Wind would cause navigation hazards	40	13.8%
Cape Wind would interfere with ships and ferries	15	5.2%
Cape Wind would interfere with airplanes	27	9.3%
Political risk	**104**	**36.0%**
Cape Wind privatizes Nantucket Sound	36	12.5%
Nantucket Sound was given to a private developer at the public's expense	19	6.6%
Corporate welfare	1	0.3%
Cape Wind has a lack of transparency	3	1.0%
Cape Wind uses excessive government subsidies	78	27.0%
Taxpayers will pay for Cape Wind for years to come	2	0.7%
Aesthetic Risk	**74**	**25.6%**
Cape Wind threatens the beauty and scenery of Cape Cod (a national treasure)	54	18.7%
Cape Wind would be larger than Manhattan	8	2.8%
Cape Wind's turbines would be taller than the Statue of Liberty	0	0.0%
Cape Wind would negatively affect Native Americans	23	8.0%
Cape Wind would interfere with cultural and religious ceremonies	13	4.5%
Cape Wind negatively affects historic Massachusetts sites	7	2.4%

Table 8: Descriptive Statistics: “Clean Power Now frames”

	Number	Average of total
Technical Benefit	**38**	**18.6%**
Cape Wind promotes a clean energy future	31	15.2%
Cape Wind establishes Massachusetts as a national model for wind energy	9	4.4%
Wind energy reduces our carbon footprint	0	0.0%
Economic Benefit	**28**	**13.7%**
Long-term cost savings	15	7.4%
Wind energy ensures price stability	3	1.5%
Wind energy uses "free" fuel	2	1.0%
Cape Wind creates jobs	13	6.4%
Job creation specific to wind energy	3	1.5%
Environmental Benefit	**128**	**62.7%**
Wind energy produces clean energy (alternative, green, sustainable)	103	50.5%
Cape Wind avoids oil spills	39	19.1%
Cape Wind decreases air pollution or reduces carbon emissions	14	6.9%
Cape Wind addresses global climate change	7	3.4%
Health and Safety Benefit	**19**	**9.3%**
Wind energy promotes a healthy environment	5	2.5%
Fossil fuels cause health problems (respiratory problems)	6	2.9%
Cape Wind does not threaten navigation	15	7.4%
Political Benefit	**48**	**23.5%**
Cape Wind promotes energy independence	48	23.5%
Cape Wind reduces dependence on foreign oil	27	13.2%
Cape Wind avoids price volatility of fossil fuels	5	2.5%
Cape Win has transparent public participation	0	0.0%

Table 9: Descriptive Statistics: “Compiled frames from both activist groups”

Clean Power Now		
Technical Benefit	**38**	**7.7%**
Cape Wind promotes a clean energy future	31	6.3%
Cape Wind establishes Massachusetts as a national model for wind energy	9	1.8%
Wind energy reduces our carbon footprint	0	0.0%
Economic Benefit	**28**	**5.7%**
Long-term cost savings	15	3.0%
Wind energy ensures price stability	3	0.6%
Wind energy uses "free" fuel	2	0.4%
Cape Wind creates jobs	13	2.6%
Job creation specific to wind energy	3	0.6%
Environmental Benefit	**128**	**26.0%**
Wind energy produces clean energy (alternative, green, sustainable)	103	20.9%
Cape Wind avoids oil spills	39	7.9%
Cape Wind decreases air pollution or reduces carbon emissions	14	2.8%
Cape Wind addresses global climate change	7	1.4%
Health and Safety Benefit	**19**	**3.9%**
Wind energy promotes a healthy environment	5	1.0%
Fossil fuels cause health problems (respiratory problems)	6	1.2%
Cape Wind does not threaten navigation	15	3.0%
Political Benefit	**48**	**9.7%**
Cape Wind promotes energy independence	48	9.7%
Cape Wind reduces dependence on foreign oil	27	5.5%
Cape Wind avoids price volatility of fossil fuels	5	1.0%
Cape Win has transparent public participation	0	0.0%
The Alliance to Protect Nantucket Sound		
Economic Risk	**137**	**27.8%**
Cape Wind increases electrical costs	128	26.0%
Cape Wind electricity would cost more than double other electrical costs	60	12.2%
Cost of converting wind energy into electricity is expensive	26	5.3%
Massachusetts ratepayers already pay some of the highest rates in the country	7	1.4%
Cape Wind would result in a loss of jobs	9	1.8%
Specifically, a loss of tourism jobs	1	0.2%
Specifically, a loss of fishing jobs	1	0.2%
Environmental Risk	**57**	**11.6%**
Cape Wind would damage the environmental of Nantucket Sound	29	5.9%
Cape Wind would destroy the sea floor	2	0.4%

Dredging for Cape Wind would harm the environment	0	0.0%
Cape Wind poses the risk of an oil spill	12	2.4%
Cape Wind would endanger wildlife	33	6.7%
Specifically, it poses a risk to whales	1	0.2%
Specifically, it poses a risk to birds	19	3.9%
Cape Wind does not comply with the Migratory Bird Treaty Act	2	0.4%
Health and Safety Risk	**41**	**8.3%**
Cape Wind would cause navigation hazards	40	8.1%
Cape Wind would interfere with ships and ferries	15	3.0%
Cape Wind would interfere with airplanes	27	5.5%
Political risk	**104**	**21.1%**
Cape Wind privatizes Nantucket Sound	36	7.3%
Nantucket Sound was given to a private developer at the public's expense	19	3.9%
Corporate welfare	1	0.2%
Cape Wind has a lack of transparency	3	0.6%
Cape Wind uses excessive government subsidies	78	15.8%
Taxpayers will pay for Cape Wind for years to come	2	0.4%
Aesthetic Risk	**74**	**15.0%**
Cape Wind threatens the beauty and scenery of Cape Cod (a national treasure)	54	11.0%
Cape Wind would be larger than Manhattan	8	1.6%
Cape Wind's turbines would be taller than the Statue of Liberty	0	0.0%
Cape Wind would negatively affect Native Americans	23	4.7%
Cape Wind would interfere with cultural and religious ceremonies	13	2.6%
Cape Wind negatively affects historic Massachusetts sites	7	1.4%

Table 10: Mann-Whitney U Test: Recommendations and comment rank on Clean Power Now vs. The Alliance to Protect Nantucket Sound frames

Ranks

	SOSvCPN	N	Mean rank	Sum of Ranks
Number of Recommendations	SOS	289	230.43	66594.00
	CPN	204	270.48	55177.00
	Total	493		
Comment Rank	SOS	289	236.21	68265.00
	CPN	204	262.28	53506.00
	Total	493		

Test Statistics

	Number of Recommendations	Comment Rank
Mann-Whitney U	24689.000	26360.000
Wilcoxon W	66594.000	68265.000
Z	-3.099	-2.002
Asymp. Sig. (2-tailed)	.002	.045

Table 11: Mann-Whitney U Test: Economic risk recommendations and comment rank

Ranks

	Economic Risk	N	Mean rank	Sum of Ranks
Number of Recommendations	Present	137	148.99	20411.50
	Absent	152	141.40	21493.50
	Total	289		
Comment Rank	Present	137	126.62	17347.50
	Absent	152	161.56	24557.50
	Total	289		

Test Statistics

	Number of Recommendations	Comment Rank
Mann-Whitney U	9865.500	7894.500
Wilcoxon W	21493.500	17347.500
Z	-.778	-3.549
Asymp. Sig. (2-tailed)	.436	.000

Table 12: Mann-Whitney U Test: “Cape Wind increases electrical costs” recommendations and comment rank

Ranks

	Economic Risk	N	Mean rank	Sum of Ranks
Number of Recommendations	Present	128	150.20	19225.00
	Absent	161	140.87	22680.00
	Total	289		
Comment Rank	Present	128	125.32	16041.00
	Absent	161	160.65	25864.00
	Total	289		

Test Statistics

	Number of Recommendations	Comment Rank
Mann-Whitney U	9639.000	7785.000
Wilcoxon W	22680.000	16041.000
Z	-.952	-3.570
Asymp. Sig. (2-tailed)	.341	.000

Table 13: Mann-Whitney U Test: “Cape Wind privatizes Nantucket Sound” recommendations and comment rank

Ranks

	“Cape Wind privatizes Nantucket Sound”	N	Mean rank	Sum of Ranks
Number of Recommendations	Present	36	148.07	5330.50
	Absent	253	144.56	36574.50
	Total	289		
Comment Rank	Present	36	173.06	6230.00
	Absent	253	141.01	35675.00
	Total	289		

Test Statistics

	Number of Recommendations	Comment Rank
Mann-Whitney U	4443.500	3544.000
Wilcoxon W	36574.500	35675.000
Z	-.238	-2.153
Asymp. Sig. (2-tailed)	.812	.031

Table 14: Mann-Whitney U Test: Health and safety risk recommendations and comment rank

Ranks

	Health and Safety Risk	N	Mean rank	Sum of Ranks
Number of Recommendations	Present	41	124.60	5108.50
	Absent	248	148.37	36796.50
	Total	289		
Comment Rank	Present	41	170.35	6984.50
	Absent	248	140.81	34920.50
	Total	289		

Test Statistics

	Number of Recommendations	Comment Rank
Mann-Whitney U	4247.500	4044.500
Wilcoxon W	5108.500	34920.500
Z	-1.705	-2.097
Asymp. Sig. (2-tailed)	.088	.036

Table 15: Mann-Whitney U Test: Aesthetic risk recommendations and comment rank

Ranks

	Aesthetic risk	N	Mean rank	Sum of Ranks
Number of Recommendations	Present	74	170.57	12622.00
	Absent	215	136.20	29283.00
	Total	289		
Comment Rank	Present	74	151.01	11174.50
	Absent	215	142.93	30730.50
	Total	289		

Test Statistics

	Number of Recommendations	Comment Rank
Mann-Whitney U	6063.000	7510.500
Wilcoxon W	29283.000	30730.500
Z	-3.083	-.717
Asymp. Sig. (2-tailed)	.002	.473

Table 16: Mann-Whitney U Test: “Cape Wind threatens the beauty and scenery of Cape Cod” recommendations and comment rank

Ranks

	“Cape Wind threatens the beauty and scenery of Cape Cod”	N	Mean rank	Sum of Ranks
Number of Recommendations	Present	54	176.68	9540.50
	Absent	235	137.72	32354.50
	Total	289		
Comment Rank	Present	54	152.22	8220.00
	Absent	235	143.34	33685.00
	Total	289		

Test Statistics

	Number of Recommendations	Comment Rank
Mann-Whitney U	4634.500	5955.000
Wilcoxon W	32364.500	33685.000
Z	-3.120	-.704
Asymp. Sig. (2-tailed)	.002	.481