UNDERLYING MOTIVATIONS FOR DELAWARE PUBLIC PARTICIPATION IN SUPPORT OF OFFSHORE WIND: IMPLICATIONS FOR STATE ENERGY POLICY

by

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ABSTRACT

In Spring 2006, Standard Offer Service customers of Delmarva Power & Light faced an average 59% increase in electric rates. In response, the Delaware state legislature passed the Electric Utility Retail Customer Supply Act of 2006. In compliance with the Act, Delmarva Power & Light issued an all-source Request For Proposals for a new 200 MW power purchase agreement. Three bids were submitted to the Delaware Public Service Commission (PSC) for review: 600 MW offshore wind, 600 MW integrated gasification combined cycle coal, and 177 MW natural gas. The PSC reported unprecedented levels of public participation in related hearings and receipt of thousands of letters addressing the topic. Members of the public who participated in the process overwhelmingly favored offshore wind. Though one clause of the bill specifically required new environmentally responsible technologies, the primary emphasis explicit in the bill was stabilization of electricity rates. This analysis of public input in the Delaware Public Service Commission's decision indicates that price stability is not the primary priority of Delaware residents.

This thesis employs both qualitative and statistical methods to identify concerns expressed by supporters of offshore wind in order to determine the nature and origins of related advocacy. Analysis will demonstrate the importance of risk perception as a motivator for environmental advocacy, and in this case, public participation in policy decisions. In asking that decision makers reconsider the values underlying Delaware energy policy, members of the public also showed that the

definition of "the public welfare" in this context is changing to not just include, but to actually emphasize, non-price factors. Results of this study not only reveal the broader applicability of the Delaware experience for utility-scale renewable energy, but also provide new context for citizen participation in environmental and energy policy decisions.

Chapter 1

INTRODUCTION

Between 2006 through 2008, debate in Delaware regarding the prospect of an offshore wind farm elicited support and criticism, skepticism and hope, idealism and suspicion from differing stakeholders. Lawmakers, companies, administrators, non-governmental organizations (NGOs), and private citizens joined in vigorous debate as to whether or not the project should proceed. This thesis documents and analyzes this process, and suggests that it indicates shifts in the way environmental and energy policies are formulated. It was a case of startling citizen participation, the origins of which had considerable bearing on the outcome of the debate and its significance for developers, environmentalists, and policy makers. This thesis aims to identify the many influences and interrelationships among them. The result is intended to provide a coherent image of the environmental policy and advocacy landscape upon out of the Delaware decision to build offshore wind.

Origins of the Delaware Debate

To understand the origins of Delaware's debate, one must begin with the tendency of public utilities of all types toward natural monopoly and the essential nature of the services they provide. Competition among companies engaged in provision of services such as rail transportation and water and gas delivery in the late 19th and early 20th centuries resulted in redundancies in necessary infrastructure leading to cooperation and eventually mergers creating single companies serving

entire cities and regions (Casazza and Delea 2003:158). While acknowledging that competition in this type of industry would in fact be counterproductive, governments as early as the 1600s also recognized that essential public services could not be prohibitively priced (Hirsch 1999:16). These two factors led to decisions to regulate the behavior of private companies providing public services with the consent and input of those companies (Hirsch 1999:17). This agreement between private companies, state and federal governments, and customers is known as the utility consensus, in which both the consumers and providers of electricity trust the government to maintain mutually advantageous rates affordable for residents and profitable for utilities.

After five decades of the moderate and predictable rates of regulated monopolies brought, the deregulation movement in the 1980s and 1990s swept up electric utilities and brought markets to many electric systems (Casazza and Delea 2003:158). Through a series of actions taken over several decades, the Federal government gave states the option of deregulating electric utilities, disaggregating electric generation from delivery and allowing cost-competitive independent generators to sell electricity on an open market.[1] This had two effects that together helped bring about the situation in Delaware: It made the price of electricity more volatile, and it allowed independent renewable energy projects to compete with traditional power plants for contracts.

[1] "Qualifying Facilities" included in PURPA and defined in 18 CFR Part 292 subpart B § 292.204 (a), included renewable energy sources as Small Power Production Facilities less than 80 MW. A more detailed discussion of government actions comprising the change from regulation to deregulation follows in chapter 4.

Delaware Energy Policy Decisions Leading to Request For New Generation

The situation in Delaware described and analyzed here, proceeding from a 59% jump in retail electricity rates to an offshore wind developer bidding against an owner and builder of coal powered generation, and the state being impelled to consider utility-scale integration of renewable energy--are results of deregulation-also known as restructuring-of the electric industry. The Delaware state assembly passed the Delaware Electric Utility Restructuring Act of 1999 to initiate deregulation.

The parties involved in the original deregulation law in Delaware and later in the generation bidding process ranged from power plant developers to regulated utilities to NGOs. From a Public Service Commission (PSC) perspective, the true stakeholders, the ones in whose names the entire process was initiated, are the ratepayers. When in 2006 the state of Delaware considered options for new electricity generation, thousands of residential customers made their views as stakeholders known, participating in and changing the direction of a complex energy policy debate.

In an attempt to allow markets to adjust to deregulation without unduly affecting customers' electric bills, the state government mandated a rate freeze that ultimately lasted until 2006. As part of restructuring, Delmarva Power &Light is the selected provider for Standard Offer Service (SOS) for Delaware residents. SOS is provided for customers who either do not wish to or do not have the opportunity to choose another electric utility; they automatically receive standard electric service from Delmarva Power & Light. When the rate freeze period ended, Delaware SOS customers of Delmarva Power & Light faced an average 59% increase in electricity rates. In response, the Delaware state legislature passed the Electric Utility Retail Customer Supply Act of 2006 (called EURCSA or "HB6" in reference to the original bill number). This law required a Request For Proposals (RFP) for new generation to

serve Delmarva Standard Offer Service customers that—as required and defined by the Act—would ensure long-term price stability, be environmentally beneficial, and use new technology on in-state brown field sites (EURCSA). In compliance with HB6, Delmarva Power & Light issued a Request For Proposals for a new 200 MW power purchase agreement in August 2006 (Delmarva Power & Light 2006). In December 2006, three bids were submitted to the Delaware Public Service Commission for review: 600 MW offshore wind, 600 MW integrated gasification combined cycle coal, and 177 MW natural gas (PSC Staff 2007). Though one clause of the bill specifically required new environmentally responsible technologies, the primary emphasis explicit in the bill was stabilization of electricity rates (EURCSA). This analysis of public input in the Delaware PSC's decision indicates that price stability is not a priority of Delaware residents.

Offshore wind: a new option in the United States

The Delaware public supported not just the concept of offshore wind, but the reality of a major construction project, using technology unknown and unproven in North America, possibly within sight of one's home or favorite beach. There are currently no offshore wind farms in the United States, though proposals are being considered by several states on the east coast. A project planned by the Long island Power Authority (LIPA) was put on hold in fall of 2007 after receipt of a report predicting the project would cost more than twice the original estimate (Pace Global Energy Services 2007). In Massachusetts, Cape Wind Associates' proposed 130-turbine, 454 MW capacity wind farm off Cape Cod in 2001 (Army Corps of Engineers

2004).[2] Local opposition there has complicated the approval process considerably, the main opposition group contending that while its members support offshore wind in general, they do not want it in Nantucket Sound (Vinick 2007). Offshore wind development companies, parts manufacturers, government officials, and a few energy-policy following private citizens in the United States and abroad were watching the Delaware process with great interest, and interpreted the successful bid as opening the door to offshore wind development in the United States. However, as of Fall 2009, continuing opposition in Massachusetts is a reminder that each development opportunity will involve unique circumstances resulting from the state's regulatory structure, geography, the local population, and the developer's strategy. I believe, however, that it is possible to extrapolate a broader significance from the Delaware energy debate—as suggested by subsequent approvals in the immediate months afterwards in New Jersey and Rhode Island. Careful interpretation may reveal not only the broader applicability of the Delaware experience for utility-scale renewable energy, but also provide a new context for citizen participation in environmental and energy policy decisions.

Citizen participation in the Delaware HB6 process

The PSC reported unprecedented levels of public participation in related hearings and receipt of thousands of letters addressing the topic (Delaware PSC Public Record 2006-2008). Though there was no major organized coalition of Delaware

[2] Army Corps of Engineers Draft Environmental Impact Statement, Cape Wind Energy Project, 2004. P 2-1. The initial Environmental Notification Form for the Commonwealth of Massachusetts proposed a 170 turbine, 420 MW project, but the size of the proposed farm had changed by the time the Army Corps had released its DEIS.

groups, and many individuals' participation was spontaneous, multiple citizens' groups participated in the process. Established groups such as the Delaware chapters of Sierra Club, the Delaware Audubon Society, the League of Women Voters, local/ regional groups such as the Philadelphia-based Clean Air Council, Citizens for Better Sussex, Green Delaware all encouraged their memberships to participate and catalyzed action in the general public.[3] A relatively new Sussex County group, Citizens For Clean Power (CCP), adjusted its focus from opposing the Indian River coal burning power plant to advocating the proposed wind farm (Nagenast 2007: 1). Though the level of organization involved in these efforts has grown to include alert lists for phone and mail campaigns, form letters, and organized lobbying trips to the Delaware state house, by the end of the PSC's decision process, there was still no formal organized coalition or group specifically dedicated to this particular cause.

Limited experience with offshore wind in the United States makes interpretation of this enthusiasm lack context. The only previously studied example of public sentiment toward a proposed offshore wind project that has been studied to any significant extent is found on Cape Cod MA, where organized support seems to be primarily in response to organized opposition, the latter being dominant initially.[4]

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[3] Delaware PSC public record, as tabulated for this thesis.

[4] Firestone, Kempton and Krueger, "Public Acceptance of Offshore Wind Power Projects in the United States" Wind Energy 12(2): 183-202; Firestone, J. and W. Kempton, (2007) "Public Opinion About Large Offshore Wind Power: Underlying Factors" Energy Policy 35 (2007) 1584-1598; Kempton, W. J. Firestone, J. Lilley, T. Rouleau, and P. Whitaker, (2005) "The Offshore Wind Power Debate: Views From Cape Cod" Coastal Management Journal 33 (2): 119-149. Semi-structured interviews conducted as part of this thesis research by the author in November 2007 with leaders and members of Clean Power Now, the major advocacy organization supporting the Cape Wind project, also support this.

Until recently, no other offshore project had proceeded past preliminary planning stages leaving the Cape Wind proposal, the associated public fervor and the motivations of the primary opposition group there, the Alliance To Protect Nantucket Sound, as the sole example of US public opinion in a real world situation involving an offshore wind farm proposal. Its usefulness as a case for what might be expected at other sites is therefore likely limited. Without a "control" or a general trend for comparison, Delaware's acceptance of Bluewater Wind's development bid cannot on its surface be considered either an aberration or a mandate for further development on the east coast. This analysis should elucidate supporters' motivations, and reveal underlying causes of the seemingly hospitable environment in Delaware. Knowing those may make it possible to predict what sort of reception will await offshore wind developers in communities on the east coast.

The Delaware PSC and its collaborating agencies evaluated the bids and contract proposals largely on how well they fulfill the requirements of HB6 (price stability, new environmentally beneficial technology). The PSC solicited public input on the process. Public workshops, hearings, and official comment periods were well-publicized, and drew hundreds of commenters between August 2006 and April 2007.[5] The level of citizen participation and the fact that much of it was in support of the wind proposal caught the attention of public officials, industry representatives, the press, and casual observers. Members of the four state agencies that choose the bid and the state legislature have indicated that they took notice of public opinion in

[5] PSC Public Workshop held August 18, 2006; PSC Public Hearing in Dover De held March 6, 2007; PSC Public Hearing held in Wilmington DE March 8, 2007; PSC Public Hearing held in Georgetown DE March 13, 2007; PSC Public Hearing Dover DE held November 20, 2007

making their decisions. This apparent impact of the public action in Delaware, particularly in contrast the delaying affect of opposition in Massachusetts, indicates the practical importance of understanding these public movements in addition to theoretical considerations addressed in this study's literature review.

Research Questions

The expressed concerns of proponents may reveal if their support is a product of a generally favorable attitude toward renewable energies or of specific local conditions that have made the wind proposal attractive in this particular context. The advocacy by the Delaware public may also indicate not just a conceptual interest in renewable energy, but also a surprising rejection of the original utility consensus and later efforts to improve on it using free market principles. In order to understand the underlying motivations for this change in priorities and hence the broader significance to energy policy, I address the following research questions:

1. What concerns were expressed by supporters of the Bluewater Wind offshore wind farm proposal that motivated them to participate in the HB6-directed process? (What is the nature and origin of the support for the Bluewater Wind Proposal?)

2. What are the perceived problems different groups are attempting to address by participating in this process?

3. How do participants conceive of the governmental apparatus at work in this process? (What is the perceived relationship between citizens and state officials?)

4. How do participants perceive industry in general and companies involved in the process specifically?

5. How does risk perception influence the perceptions and actions of participants?

6. What is the significance of the Delaware energy debate to renewable energy policy decisions and renewable energy development more generally?

This thesis will demonstrate the importance of risk perception as a motivator for environmental advocacy, and in this case, public participation in policy decisions. In asking that decision makers reconsider the values underlying Delaware energy policy, members of the public also showed that definition of "the public welfare" in this context is changing to not just include, but to actually emphasize, non-price factors.

Chapter 2

LITERATURE REVIEW

Delaware State lawmakers wrote HB6 to mitigate the effects of post-deregulation electricity price increases that were generally considered a failure of the market (EURCSA 2006). This action, meant to simply solicit proposals for new generation to keep prices stable, resulted in a statewide debate on the place of price, environmentalism, and externalities in energy policy. During the process citizen comments indicated environmental priorities that, while surprising in the context of traditional energy policy norms, are addressed by a sizable body of literature concerning citizen participation in environmental policy and the policy process itself. Environmental worldviews, activism, opinions, perceptions, and actions are all studied in an effort to explain why people act the way they do in relation to environmental issues, and how they will act in response to proposed environmental policies. I apply these studies to energy policy planning in an effort to understand how the Delaware public perceived and reacted to the opportunities and threats presented by the state's decision on new power generation.

In their discussion of individual concerns as they relate to organizational values, Bansal (2003) differentiates values from concerns, integrating ideas from Rokeach (1973) that our values are part of our emotional bedrock, slow to change, constantly and subtly affecting our perceptions and our decisions. Concerns are considered an immediate manifestation of underlying values, surfacing in response to a situation that is in some way not in accordance with an individual's values. Though

the situational nature of concerns makes them easier to identify as motivators for action, it is a mistake to assume that they are the root cause of an activist's participation. There is likely not a perfect linear relationship between one identified value and one observed concern, but rather a combination of values may produce a tendency toward certain concerns and consequent actions.

Kempton, Boster, and Hartley assert that values refer to a person's "…guiding principles of what is moral, desirable, or just." (Kempton, Boster, and Hartley 1995: 12) People may take action on an environmental issue simply because they feel it is the right thing to do based on the type of values the person uses to contextualize the world around them. The authors identify three types of environmental values in their research: Religion, anthropocentric values, and biocentric values, saying,

> Religion, whether traditional Judeo-Christian religious teaching or a more abstract feeling of spirituality; anthropocentric (human-centered) values, which are predominantly utilitarian and are concerned with only those environmental changes that affect human welfare; and bio-centric (living-thing-centered) values, which grant nature itself intrinsic rights, particularly the rights of species to continue to exist (Kempton, Boster, and Hartley 1995: 87).

They elaborate on these three perspectives to include various arguments and rationales made based on them. They present values not as simply a platform upon which concerns are piled, though arguments such as the need to preserve the earth for future generations as an example of an anthropocentric value is similar to the relationship implied by Bansal. Additionally, Kempton, Boster, and Hartley indicate that values may be motivations in themselves that can combine with other motivations to produce action. This view does not seem to be mutually exclusive from Bansal's.

What Bansal consider "concerns" that are the actual motivators to action, Kempton, Boster, and Hartley consider complimentary motivators providing a particular reason that something is right or wrong. Kempton, Boster, and Hartley extend these findings to define "cultural models", frameworks for defining the relationship between humans and nature (Kempton, Boster, and Hartley, 1995: 2). Such a framework is unconsciously employed to process new information and form opinions on environmental issues. Olsen, Lodwick, and Dunlap describe it well,

> …each of us views the world trough a firmly entrenched set of mental lenses. These lenses are such a fundamental and familiar part of our perceptual and cognitive abilities that we are usually oblivious to them. We rarely even think about them, let alone question their validity or attempt to change them (Olsen, Lodwick, and Dunlap 1992).

Together these values, models, concerns, and beliefs constitute the basic determinants of personal attitudes toward environmental issues. They allow us to attach meaning to statements made about environmental issues and associate those meanings with underlying cultural models. Once identified, models may be used to interpret individual actions and attitudes.

Ignatow extends these components of personal attitudes toward environmental issues to more general theory addressing relationships between nature and society. He proposes an "ecology model" which emphasizes the interaction between humanity and nature, putting faith in science and technology as mechanisms for achieving a harmonious relationship, and a "spiritual model" in which nature is "sacred" and human science and technology (and in fact interaction) can only do harm to it (Ignatow 2006: 443).

Lima and Castro (2005) and Steg and Sievers (2000) describe related "worldviews" in their articles relating the Douglas-Wildavsky cultural hypothesis to environmental issues. The Douglas-Wildavsky hypothesis relates societal structure to cultural fears of certain types of risks and threats using a framework that identifies an individual's "grid" (the extent to which an individual's choices are determined by his or her position in a society) and "group" (the extent to which the society's members relate to one another). In short, patterns of fears and risk perceptions at a societal level are determined by each society's relationship structures (Douglas and Wildavsky 1982). While this framework yields four worldviews that they called hierarchist, fatalist, egalitarian, and individualist, literature often isolates individualism and egalitarianism as the most relevant groups opposing one another on environmental issues (Ellis and Thompson 1997). Egalitarians are categorized as "alarmed, dichotomized, sectarian, expecting imminent ecological disaster in a nature whose balance has been disrupted," and who generally favor behavioral society-wide behavioral changes as solutions to the perceived problem. These individuals supposedly believe that nature is delicately balanced and easily disrupted (as similarly reflected in Ignatow's "spiritual model") (Steg and Sievers, 2000: 255). Individualists, however, are described as not nearly so alarmed by environmental hazards. According to this model, these individuals see nature as a stable and resilient system, and generally believe institutional mechanisms already in place and potential technological solutions will be able to handle them (Lima and Castro 2005: 24, 30). In their 1995 study, Kempton, Boster, and Hartley demonstrated that there is considerably more unity of environmental values and beliefs resulting in a sort of mainstream American environmentalism, while the anti-environmentalism one might

expect to find under the Douglas-Wildavsky hypothesis is in fact only represented on the societal fringes (Kempton, Boster, and Hartley 1995: 211).

O'Connor, Bord, and Fisher (1999) examine this concept of risk perception combined with "knowledge" (in this context "knowledge" means understanding of global warming as a threat) as a determinant of environmental behavior and intentions in their 1999 study, ultimately determining that risk perception, while not a complete substitute for general environmental beliefs, is a useful predictor of environmental behavioral intentions. O'Connor, Bord, Yarnal, and Wiefek (2002) further explore the connection between knowledge and risk perception as explanations for support of greenhouse gas emission reduction, ultimately finding that such cognitive explanations are more powerful indicators than economic or political ones. People who see a risk of personal harm/sacrifice as a result of climate change are more likely to support mitigation activities. They do point out that while conceptually most people want to reduce greenhouse gas emissions, modest personal sacrifices such as seeking out and paying for "green electricity", are more acceptable than those that may affect the economy in general, in particular joblessness rates. They also find that income alone is not as strong an economic indicator of support for mitigation activities as the previously mentioned variables (contradicting the commonly-held belief that financial security is an enabling variable of environmentalism in general and support of related policies specifically).

O'Connor, Bord, and Fisher also assert that though environmentalism has become a broadly accepted concept, demographic characteristics such as age, education, and gender do have impacts on multivariate examinations of behaviors related to climate change when there is some risk posed to respondents (1999: 469).

Olsen, Lodwick, and Dunlap find that age is inversely related to ecological beliefs and values and that education is directly related to ecological beliefs and values (1992: 68). Ignatow finds that age is inversely related to his ecology model, directly related to his spiritual model. Education is directly related to the ecology model, and inversely related to his spiritual model (2006: 455).

These studies establish the difference between actual behavioral changes and intentions. One problem with studies executed in a theoretical space is that it is impossible to completely separate the two. The Delaware case, however, is an actual example of citizens indicating their willingness to pay (more), not just for green electricity, but for offshore wind power specifically.

Steg and Sievers consider risk perception to be not only an integral part of the formulation of environmental policy, but also a determinant of the acceptability of those policies to the public (2000: 251). Another more specific concept relevant to this study is a more specific level of concern/risk assessment affected not just by a view of the basic nature of the environment, but also by the scope (local/global) of risk being considered. The concept of "environmental hyperopia" first coined by Uzzell in 2000 addresses the idea that people are often more concerned about global-scale environmental threats with possibly catastrophic consequences (such as global warming) than they are about familiar local environmental threats (such as a local coal-burning power plant) (2003). Lima and Castro also examine this idea in the context of the Douglas-Wildavsky hypothesis separately relating environmental concern and risk perception at the local and global levels, ultimately finding that while environmental hyperopia does seem to be real, its effect is moderated by individuals' general perceptions of nature. "Egalitarians", for instance, seemed more susceptible

to environmental hyperopia than "individualists". This supports the general outline of the character of these groups, as individualists would be more confident that some solution for global problems will present itself, but will be more likely to become distressed by local threats to their personal welfare (Lima and Castro 2005: 33).

Part of the concern felt by individuals may be due to the concept of "place" and its contribution to individual identity. "Place" is a well-known determinant of both individual environmental concerns and policy decisions. Noting, for instance, the apparent enthusiasm in Delaware regarding the possibility of an offshore wind farm, it is tempting to write off the battle over Nantucket Sound as manufactured opposition (and the growing grassroots support group there as the true voice of the people in that area). However, Kempton et al found a strong component of a sense of stewardship based in "place" identification motivating many opponents of the proposed Cape Wind offshore wind project in Nantucket Sound. In this particular case, Cape and Islands residents feel that an offshore wind farm is a violation of a sacred area that is part of their identity (Kempton et al 2005). While it would seem to follow that the ocean itself would generally fall into this emotional category, it has been suggested that there is a less proprietary feeling toward the open ocean than is expressed toward semi-enclosed areas (such as a bay or sound) (Firestone, Kempton, and Krueger 2008: 19). Cheng, Kruger, and Daniels emphasize that the meaning of an activity may change with the "place" context (2003). They also emphasize the role of this concept (whether acknowledged or not by policy-makers) in inspiring collective action, saying that,

> Outside the power plays over traditional economic and environmental policy positions conducted by interest groups in legislatures, formal agency planning processes, or courtrooms, natural resource politics involves citizens whose expressions of value for natural resources are

> rooted in connections with places, connections that define in part who they are (Cheng, Kruger, and Daniels 2003: 93).

In a 2000 Washington Post article, Todd Gitlin discusses the relationship between activists who work from outside the political establishment, and professionals who work from within it. The author emphasizes the roles both "outsiders" (members of the public who demonstrate in support of or opposition to certain issues with perhaps relatively limited understanding of the issue itself) and "insiders" (academics and lawyers who are familiar with the workings of bureaucracy and may have a better grasp of the actual issue) in the process of social change. He feels that the former raises awareness, while the latter actually participates in policy changes, writing,

> Outsiders may resent the fact, but one of their prime functions is to improve the clout of insiders…to energize actual and potential reformers on the inside…to precipitate public debates that have been suppressed by establishments or pursued only by experts in closed rooms where inertia and groupthink overwhelm dissent (Gitlin 2000).

In Delaware, the presence of retired lawyers, former government officials (former "insiders") and participation by academics and practicing lawyers and lobbyists who straddle the line between "insider" and "outsider" may have helped citizens groups to focus their efforts and find the correct channels for effective communication with the insiders who matter most in this debate. These individuals help to elevate the activists beyond Gitlin's model of dilettantes whose most significant achievements are largely unintended.

According to King et al in their 1996 article, "Going Political: A framework For Environmental Interest Group Evolution", these groups could conceivably accomplish their original task (in the case of Citizens for Clean Power, that is cleaning up and eventually closing the Indian River power plant) and, faced

with the possibility of going back to their normal lives or continuing their journey toward career activism, choose to re-evaluate their goals and possibly expand both their charter and their membership. One of King et al's examples, the Gulf Coast Conservation Association (GCCA) initially formed in response to the threat of collapse of the local red drum fishery and expanded to regional and political activity once that threat was obviated (1996: 85). Aronson outlines an eight-step journey from disillusionment to empowerment during which individuals come to identify themselves as "activists". Edwards describes individuals who had similar experiences in the beginnings of the environmental justice movement (Edwards 1995). Both authors describe motivations that move ordinary citizens to engage in activism in the anti-toxics and environmental justice movements. These movements are initially inspired by much more personal and localized motives such as the safety and wellbeing of individuals, their families and their communities.

Aronson describes stages of "transformation" citizens go through on their way to becoming career activists, and the first is "breaking in", when his subjects "perceived a health threat that provoked them to cross the threshold to action" (1993: 70).

While this sort of realization is a sufficient impetus for many citizens to take action, it must be accompanied by a feeling that action is necessary. In a case of positively –motivated activism, people may not feel certain that the "correct" path will be chosen (for example, Delawareans may have felt that the four deciding agencies were unaware of public support for measures that would in some way contribute to fighting climate change and not take proposals such as an offshore wind farm into serious account). In cases of negatively-motivated activism, citizens often feel that

the government has broken its contract with its constituents to act in their best interest. Edwards quotes Lois Gibbs (known for leading the Love Canal Home Owners Association),

> Generally, people at first have blind faith in government. So when they go to the EPA or the state agency and show them there is a problem, they think the government will side with them. It takes about a year for them to realize the government is not going to help them (1995: 45).

Aronson describes this feeling as "betrayal", (though it may be better termed "empowerment") the moment when individuals truly understand that they must not depend on their local, state, or federal government to fix the perceived problem, and may in fact have to push the government to take any action at all.

> The emerging activists redefined both the government and themselves. As they sought help from the government they came to the conclusion that government decisions are not based on who is right and what is fair. They came to see that to get the government to take the action they wanted they had to exert a great deal of pressure. Moreover, they discovered that they could not "let up," they had to watch the government incessantly. It is this activity that leads to an identity transformation (1993: 77).

This study will attempt to relate environmental worldviews to the more immediate variables that encourage private citizens to take on advocacy activities as well as to the particular motivations expressed by commenters. It will also examine how these same forces affect the actions of those who participate by speaking or writing only once. The residents of Delaware will provide a case study for testing the theories reviewed here and for reassessing some of the statistical analyses of surveys simulating this type of situation.

Review of prior studies of offshore wind support and opposition in Delaware

Before analyzing the comment on this docket, I review surveys that have been done of Cape Cod and Delaware residents, for background and comparison. The former was done before comments were analyzed, and the latter was after most of it. Inclusion of both will provide an empirical background of the overall state residents, which is one background for interpretation of the subset that choose to comment on this docket.

The Cape Cod survey was designed using results of semi-structured interviews conducted previously in the same area, as was aimed partially at understanding the reasons underlying public opinion toward the Cape Wind proposal in Nantucket Sound. The Delaware survey was conducted two years later, before Bluewater Wind made its proposal for a wind farm off the Delaware coast.

The September 2006 University of Delaware survey found overwhelming support for offshore wind in Delaware (77.8%), particularly when contrasted with the level of support (24.6%) encountered by the 2004 Cape Cod Survey (Firestone, Kempton, and Krueger 2009: 9). In the earlier Cape Cod study, Firestone and Kempton found that the project's possible effects on the environment (including effects on marine life), electricity rates, and aesthetics were most often in respondents' top three reasons for their choice (2007: 1589). When considering only supporters, the reasons are environmental impacts, electricity rates, and foreign oil independence. In the Delaware study, a majority or plurality thought that an offshore wind farm would have positive effects on electricity rates, job creation, and air quality (Firestone, Kempton, and Krueger 2009: 11).

The fact that the data set analyzed here is connected to an actual offshore wind proposal allows me to address hypotheses and results from the earlier surveys.

Subjects that can be addressed include a sense of place attachment seen by Firestone et al in Cape Cod resulting in a sense of stewardship toward Nantucket Sound; the question of climate change, an underlying factor for support for an offshore wind farm; the question of whether opposition to further development of coal-fired generation is due more to health concerns, desire for rate stability, or general social disapproval of fossil generation.

Chapter 3

RESEARCH METHODS AND MATERIALS

There was debate throughout the HB6 process regarding how many people were participating, who they were, and what they said. These facts were contested, despite the availability of that information on the PSC website. Opponents maintained that support for offshore wind power in Delaware consisted of only a few dozen very vocal individuals, despite the thousands of comments submitted. It is true that some individuals submitted multiple comments, and others were represented both by group letters and by their own submissions. However, opponents were claiming that the supportive movement essentially did not exist, implying that wind power would be an answer to the wishes of a few, possibly to the detriment of the many Standard Offer Service customers who would be affected by the decision. This opponent claim questioned the validity of the most striking aspect of the wind advocacy in Delaware: the large number of supporters. This dispute influenced the tactics used by supporters and opponents of offshore wind, and remained a contested fact, despite public acknowledgement by state officials that public involvement was a significant factor in the HB6 process. The database I have developed can provide firm quantitative descriptions of who participated, how many of them, and what they said. But my database can also support analysis regarding larger questions, such as whether or not the public support for offshore wind in Delaware may be seen in other areas, or if this was an isolated phenomenon caused by local circumstances.

Methods:

This analysis employs both qualitative and quantitative methods. Building on previously conducted semi-structured interviews, and background research obtained from news articles, attendance at public hearings, activist meetings, and demonstrations, I used public comments submitted to the Delaware PSC to address my research questions about the citizen advocacy related to HB6. I began with qualitative study of comments to identify themes and concerns consistently included. The concepts identified were then used to construct a database of all comments submitted to the PSC by members of the public for quantitative assessment.

Materials used:

The primary data source is public comments submitted to the Delaware Public Service Commission between August 2006 and June 2008.

I decided to concentrate on public comment because I felt it would be the most accurate representation of individuals' feelings regarding the issues being debated. Reading a sample of letters submitted revealed personal stories and strong opinions related to Delaware's energy policy. As previously mentioned, members of the Delaware public participated in the HB6 process in a variety of ways including letter-writing campaigns, testimony at public hearings, organized lobbying trips to the state house, demonstrations, and taking out ads in local newspapers. These activities provided context for the public comment data set, but seemed less likely to reveal attendees' personal motivations for participation.

In order to construct a useful database for examining trends, I needed a data set that spanned the entire process and minimized duplication of submissions. Individuals sometimes sent copies of their comments to all state agencies and the

General Assembly, so I decided to use only the PSC's files. The PSC was publicly involved in the HB6 process from the beginning, and its role as administrator made it a focal point for public comment throughout the proceeding. The Commission made all comments easily accessible in chronological order on the internet, along with all related documents submitted to the PSC by parties to the proceeding. This seemed to be the most complete data set available.

Further contextual data and background information was drawn from reports in Delaware newspapers, including the News Journal, the Coastal Point, and the Cape Gazette. The News Journal in particular dedicated significant space to the issue on a regular basis, and the same two reporters, Aaron Nathans and Jeff Montgomery have followed the story since it began in 2006.

I also use information gathered in semi-structured interviews taken for a class project in Fall 2007.[6] The participants are confidential and there is little personal information other than the most basic demographics. The interviews focused mainly on the participants' views on the decision process and the relevance of individual participation in that process.

Comments were submitted in various forms, but all have been logged on the PSC's website:

1. Spoken 3-5 minute testimonies at PSC public workshops and hearings[7]

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[6] MAST 692: Environmental Values, Movements, and Policy, taught by Willett Kempton.

[7] Transcripts recorded by court reporter provided by Corbett & Wilcox of Wilmington, Delaware and posted on the Delaware PSC website.

2. E-mails written and submitted electronically to the PSC throughout the process[8]

3. Handwritten and typed letters mailed to the PSC throughout the process, both to the PSC as an entity and specifically addressed to its various members and staff[9]

4. Phone calls made to the PSC[10]

For the majority of this study, the unit of analysis is "comments submitted", rather than "individuals who submitted comments". The primary object is to examine the content of the comments addressing the possibility of offshore wind power in Delaware; to understand the issues motivating those who supported wind power rather than how many supported it. This does result in some individuals being counted more than once. However, if for example one individual made five submissions over a period of ten months, and using the individual as the unit of analysis, I compressed them all into one weighted comment, the evolution of that person's position and arguments over time as a part of the changing public dialogue would be lost. I therefore use "comments submitted for the bulk of my analysis.

As noted earlier, the number of Delaware residents supporting wind was frequently questioned. Therefore, I made "individuals" the unit of analysis when counting how many people supported each energy choice, in order to answer that question as well.

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[8] Emails posted on the Delaware PSC website

[9] Handwritten and typed letters sent by mail were scanned and posted on PSC's website.

[10] Two comments submitted by phone were summarized by PSC staff.

Most variables included in the database were coded to include positive and negative responses, though the actual coding varied. For instance, in the case of variable such as energy choice, the codes were limited to:

1=Positive comment

2=Negative comment

0=Not mentioned

The content of a comment beyond energy choice was then delineated using "issue" variables, such as "climate change", "health concerns", and "environmental health". For this type of variable, codes defined whether or not the commenter thought the issue was important or not. For example, coding for the "environmental health" was:

1=A generally healthy environment is the primary goal of this debate

2=A generally healthy environment is not a goal of this debate

3=A generally healthy environment is a goal but not a priority in this debate

0=Environmental health not mentioned

Timeframe

In order to assess the origins and explain the existence of the apparently widespread public support for offshore wind in Delaware, I tabulated public comments submitted to the Delaware PSC between August 2006 and May 2008. The comments comprising my data set were submitted to the PSC both during designated comment periods and as negotiations and bid submission took place. As I entered each comment

into a database, I included the individual date it was submitted. This enabled creation of a time line, and subsequent grouping of comments, first into four distinct periods, then into months and in some cases separating them completely into groups submitted on particular days. My initial arrangement of the time sequences of the process followed benchmarks of the PSC itself, dividing into four distinct periods[11]:

1. August 1-December 1 2006: RFP development comment period
2. December 2 2006-May 22 2007: Bid assessment period
3. May 23 2007-December 18 2007: Contract negotiations between Bluewater Wind and Delmarva Power & Light
4. December 18, 2007 19-July 31, 2008: Legislative debate period[12]

These four periods were used to frame both the quantitative and qualitative portions of my analysis. The reading of each letter, attempting to understand the author's perceptions and goals, analyzing the comments, and identifying the officially stated activities and goals of each period lent further context to the subject matter of public comment. Once I began showing frequencies of comment during specific periods however, the long time periods obscured the details I was most interested in examining. At the other end of the spectrum, looking at each of

[11] Delaware Public Service Commission official website: http://depsc.delaware.gov/irp.shtml

[12] When the proposed contract was submitted for review, the state legislature halted the process pending further informational hearings. The Public has continued to comment on this and subsequent development.

the 161 days on which comments were submitted made it difficult to discern anything other than the most obvious spikes in participation. For instance, looking at the entire "Bid assessment period" from December 2 2006 to May 22 2007 does not show that 130 spoken comments were submitted not over the course of the period, but rather in three days at public hearings. Nor does it show the build up in participation that occurred before and during these hearings and fell off afterward. In order to understand public participation during this period in particular, it was necessary to change the timeframes being examined depending on what aspect of the process I was studying. I found that when looking at frequencies of comments addressing particular topics, patterns were most readily identifiable when comments were grouped by month of submission. The exception to this is form letters. The specific days they were submitted turned out to be significant in understanding how and why they were submitted. Therefore, the timeframe I use to frame my analysis will shift as I address different topics and in some cases different aspects of the same topic. The timeframe being used in each case is identified to prevent confusion.

Combining quantitative and qualitative analysis of public comments

My primary research question, stated in chapter 1, is, What concerns were expressed by supporters of the Bluewater Wind offshore wind farm proposal that led them to participate in the HB6 process? (What is the nature and origin of the support for the Bluewater Wind Proposal?)

This question may be addressed descriptively on both a theoretical and a more concrete level. The general public, members of the public leading support efforts, members of the state legislature (those that support and those that oppose the

project), Delmarva Power & Light, the Delaware PSC, NRG, Bluewater Wind, local newspapers, NGOs, unions, and others, form a complex system of relationships.

A qualitative approach clarified the relationships between the players and the various motivations compelling individuals from multiple backgrounds to pursue the same goal-the approval of the proposal-with such vigor. It also allowed me to fully consider the data set and increase confidence that I identified as many concepts as possible for use in a statistical analysis to compliment the initial qualitative analysis by and help to clarify which motivations are prevalent. In order to assess the significance of the Delaware case, I needed to be able to comment on not only the mix of variables at work, but also the proportions of each ingredient, so to speak. Therefore I examined the data set using both qualitative techniques and statistical analysis.

In the qualitative portion of the study, I began by extracting concepts from an initial set of 15 comments from each phase of the debate. The content of comments varied sufficiently that I did not feel I had reached a saturation point (all comments extracted) in any section having read only 15, and ultimately read between two dozen and thirty comments for each section. As briefly stated above, I use the concepts and categories identified in this phase to identify relevant motivations and circumstances at work in this process. I also use them for comparison with existing research. There exists a wealth of previous research to contextualize the comments being analyzed. While the comments in themselves provide an understanding of the motivations prompting commenters to participate,, it is informative to address concepts such risk perception, “place”, general environmental beliefs and perceptions, evolution from “ordinary” citizen to activist and the environmental justice and anti-toxics movements.

All of these provide insight into the perception frameworks and cultural models people may use to assess environmental issues and to determine their positions on environmental policies.[13]

In order to capture both the richness of the data set and the repetition of many letters submitted, I felt that it was appropriate to examine and code all comments submitted to the PSC during the previously identified time period. I was able to do this in a reasonable period of time because a sizable portion of the data set actually consisted of form letters. Once I identified all form letters submitted and established codes for each, entering them was a quick procedure. In coding each comment I was able to identify and to some extent explain the presence of dozens of duplicates that affected to some extent PSC staff perceptions of public participation in the HB6 process. These duplicates were not separately analyzed other than to note the number of comments of matching type.

I dispensed with sampling the population of the data set and read all of them, leading me to feel that I have a comprehensive and accurate sense of opinions and concerns of those who commented on the HB6 process. Nevertheless, those who comment are not claimed to be representative of the Delaware population. Coding each comment was necessary in order to simply figure out what happened, a surprisingly complex assignment, and an issue that remains a subject of debate. This involved sorting out how many people commented, how many people commented more than once, how many letters were valid, which were fakes, how the number of unsolicited unique letters compared to the number of form letters and petitions. In

[13] See References Cited for examples.

short, I needed to determine what the nature and extent of public participation actually was.

While conducting the qualitative portion of this study, I examined comments for indications of the commenter's support or condemnation of the BWW proposal, motivations for submission of the comment, and background information about the commenter in order to establish variables for use in the quantitative portion.[14] Those variables were first coded to form the database framework into which individuals' comments were later entered. While this method was sufficient for identifying variables, it resulted in only a limited understanding of superficial motivations for individual letters. Use of qualitative methods resulted in a richer comprehension of the purpose, tone, and structure of comments.

Many comments had a basic structure that followed figure 3.1, below. While not every comment contained all of the elements included here, most contained at least part of this structure. Some commenters, for example, did not specify an energy choice, but rather stated their concern with the status quo and made arguments for why at least something should change, why the state should take action of some kind. The terminology shown in Figure 3.1 and used throughout my analysis to express how their framework applies to this case. The relationship of my terminology to the Corbin-Strauss framework is described in the following paragraph.

An "issue" here is the context that determines the advocate's energy choice; context consists generally of the situation in which they live that is affected by the state's new RFP. The risks they feel are being or should be addressed by the state's new RFP determine their actions and emotions-in this case their arguments and

[14] See Appendix B for codebook used in statistical analysis.

motivations for participating (Corbin and Strauss 2008: 87-97). An example of an issue identified in this study is "climate change". This is differentiated from an "argument" which would delineate the merits of their choice, particularly as it addresses their expressed issue. An argument related to an issue such as climate change, to continue the example, might be that an IGCC coal plant with carbon capture capability would greatly decrease emissions and help to preserve the earth. Within many arguments were "motivations" and "risk perceptions", meaning the reasons the individual was arguing for their energy choice, and the perceived risks presented by the "issue" or "problem" they were attempting to address. Examples of motivations for supporting an IGCC coal plant might be preserving union jobs, the local economy, or preventing the Delmarva Peninsula from disappearing beneath the waves, and leaving a healthy earth for the commenter's children. "Energy choice" here refers to the outcome the commenter advocates (Corbin and Strauss 2008: 101), be it an offshore wind farm, an IGCC coal plant, no new generation, or another option that was not being formally considered by the PSC, which the advocate perceives as the solution to the problem.

The data set that came from the qualitative examination of comments was reexamined for accuracy, clarity, appropriateness, and any information gaps before being entered into the statistical analysis. Any apparent problems were fixed by going back to the original transcripts and letters to check the validity of the data set before analyzing the data.

Comments included in this study may be consistent with motivations associated with anti-toxics and environmental justice movements, and therefore may

indicate specific local circumstances encouraging support for the wind farm. Variables established during previous tabulation of comments include:

1. Health concerns (both general and specific, current and future, for themselves, their children, and their grandchildren)
2. Local air and water pollution
3. Local effects of the Indian River power plant
4. Personal experiences or effects of the issues at hand
5. Possibly issues with local/state governance.

Comments included in this study may also be predominantly concerned with larger issues associated with collective harm and responsibility, such as:

1. Climate change (and associated issues such as carbon taxes)
2. Quality of the earth for future generations
3. General health of the wider environment
4. Sustainable energy
5. Oil/energy independence
6. The role of the Indian River power plant in those issues.[15]

The qualitative analysis and statistical analysis are further supplemented with semi-structured interviews taken for a class project during fall 2007 semester.[16] Participants were selected by dividing those who commented at the March 2007 PSC

[15] Note that mention of this power plant does not mean that the commenter is concerned only with local issues.

[16] MAST 692: Environmental Values, Movements, and Policy)

public hearings into two groups: known members of citizens' organizations and private individuals. Each individual was given a unique number and then selected using a random number generator to eliminate bias on my part. Interviews focused on individuals' motivations for commenting in hearings and letters as well as their own views of their role in this particular policy process. These interviews are valuable for several reasons. They supplement the testimony of specific individuals, allowing more than a three-minute comment period for explanations of their beliefs and opinions. The interviews took place six months after the bidding process ended, and I was able to get an "update" on the participants' activities and feelings about the issue and the process. They also provided a way to check the accuracy of my interpretations of their testimony when compared to the general picture that emerged from coding.

The actual quantitative analysis consists mainly of counting. Simple frequencies and crosstabs were the main tools used to evaluate the data set. While more complex statistical analysis is possible with the data set I have assembled, these functions are appropriate for my purposes in this study because I am using them mainly to confirm, supplement, specify, and in some cases refute my initial impressions. There were several complete surprises.. One example was an initial perception of mine that many individuals were simply including all of the most common arguments for offshore wind power in a sort of "laundry list" in their comments. This turned out to actually be a rare type of comment, with most participants seemed to actually give their opinions, focusing on one or two arguments.

In order to move beyond simply answering the most basic question, "what happened here?" and to answer my more in-depth research questions addressing

motivations, identity, and perceptions, I returned to my qualitative data for context. By reexamining the qualitative portion of my study with the knowledge gained through the quantitative study I was able to apply my understanding of individual perceptions that can only be gained through interviews and actually reading comments to my now more complete understanding of the overarching concerns and motivations compelling citizens to act.

Rather than merely fleshing out my data set, the qualitative aspect is important for this part of my analysis because it captures essential elements that are difficult to quantify. This refers to general tone and language used, but also concepts of sufficient complexity as to make coding difficult. For instance, one thing that was sometimes stated explicitly and sometimes implied, was that decision makers were immune to the possible human costs and benefits of their decision, and therefore individuals sought to frame their arguments in monetary terms. Often, therefore, occasionally when an advocate described healthcare costs, they were doing so not in the context of their own financial worries, but rather as a jab at the priorities and responsibilities of decision makers. Simply coding "health care costs" without understanding this nuance would make for an easy misinterpretation.

To provide context for the results of this deeper analysis, the following chapter is descriptive rather than analytical, and devoted to the more basic questions such as how many people commented, who they were, and what they said. It will not address every variable included in the code book, instead aiming to give the reader a general idea of "what happened", relating public participation to the more well-known events of the HB6 process included in the "phases" mentioned earlier.

Chapter 4

THE PEOPLE, INSTITUTIONS, AND RULES THAT CONSTITUTED THIS PROCESS

This chapter describes the debate that surrounded the selection process and makes clear that it included multiple parties with disparate goals. It resulted in a statewide conversation about the nature of the electrical industry, integration of renewables into our state and national generation mix, externalities of energy supply, and the role of state government as an intermediary between an industry and its customers. It also catalyzed a level of citizen participation never before seen in Delaware energy policy.

To the extent that citizen activism is a reaction to the perception that the responsible officials are not adequately representing public interests, we might ask why activism occurred here, as the entire process was ostensibly meant to serve utility customers. The process was generally open to the public, and included multiple entities charged with serving the Delaware public such as the PSC, the Public Advocate, DNREC, and the state legislature itself. These agencies were joined by a host of NGOs representing various aspects of the citizenry's interest. Why then, were so many members of the public moved to participate? As background to the explanation, the next section gives the major participating organizations, both official and unofficial, and describes how each was involved.

Participants

The Delaware State Legislature (The General Assembly)

The Delaware state legislature was involved in several ways. It initiated the process of soliciting a new source of instate power generation and set the parameters for evaluation (via HB 6). It also effectively had a veto on whether or not the resulting power purchase agreement would be approved. This was because the legislature directed the Delaware Controller General to withhold his vote on the contract proposed by Bluewater Wind and Delmarva Power & Light, and thus to not reach a conclusion in the administrative hearing. The Controller General was one of the four state agencies charged by HB6 with assessing the proposed PPA. The Controller General is a Legislative Division serving the Delaware General Assembly leadership. Both phases of the state legislature's participation were complicated by the influence of interested parties (legislators, generators and buyers of power), as well as more conceptual disagreements regarding the direction of the state's energy policies. The solicitation for new centralized generation, renewable or not, was seen by some as in conflict with an innovative state level initiative called the Sustainable Energy Utility (SEU), which was being developed at the same time, to provide statewide financing and other program support for energy efficiency and installation of small-scale distributed renewable energy systems. Centralized versus distributed approaches represent major camps in energy policy (e.g. Lovins 1977), and while they need not be mutually exclusive, some participants treated them as competing during this particular debate.

Delaware Public Service Commission (PSC)

In Delaware, the state-level regulatory agency for public utilities is the Delaware Public Service Commission (PSC). Established in 1949, it is composed of five Commissioners appointed by the governor and confirmed by the state senate. The Commissioners' terms are staggered and independent of the gubernatorial cycle. In addition to investor-owned electric utilities, the responsibilities of the PSC also encompass investor-owned providers of telecommunications, natural gas, water, and cable television, and waste water systems. They do not regulate municipal utilities or the state's one electric co-op (Delaware Code Title 26). In accordance with principles of accountability and transparency, all PSC meetings are open to the public, must be announced seven days in advance, and all resulting transcripts and documents become part of the public record, available for anyone to examine (Rules of Practice and Procedure for Delaware PSC 1999). These legal requirements resulted in an extensive public record available for this thesis research.

The Delaware PSC describes its mission in its informational pamphlets: "The Commission works to ensure that consumers have a safe, reliable, reasonably priced supply of utilities, including electric, natural gas, water, telecommunications, wastewater and cable television services… The Commission makes rules to ensure fair competition and fair rates and helps to resolve complaints between providers or between consumers and providers. The Commission also serves the utilities' providers by establishing rates that consider their cost of providing services, environmental requirements, and other influences" (Delaware PSC Informational pamphlet).

The evaluating state agencies

Per the initiating legislation, HB6, review, modification, and approval of the initial Request For Proposals submitted by DP&L was the responsibility of the Delaware Public Service Commission and the Delaware Department of Natural Resources and Environmental Control's (DNREC) Energy Office, which runs the state's energy programs (although, as it is under control of the Department, the responsibility ultimately fell to the Secretary of DNREC). The actual bid evaluation and choice as well as approval of the resulting Power Purchase Agreement, was the responsibility of the PSC, the Energy Office (again the real party in interest was the Secretary of DNREC), the Office of the Controller General (described earlier), and the Office of Management and Budget, established as part of the state's Executive Branch in 2005 by Governor Minner to manage the state's assets. As stated above, the state legislature, via the Legislative Council[17], became a defacto member of this committee through its direction of the Office of the Controller General, though most members of the public were unaware of this until the evaluation was underway. Though the PSC's policy of conducting public hearings and making all documents related to its dockets publicly available facilitated public participation, limited availability of information was criticized by commenters.

[17] The Legislative Council consists of the ten members of the General Assembly: The President Pro Tem of the Senate, Speaker of the House, Majority and Minority Leaders of both the Senate and House, and one member appointed by the President Pro Tem, Speaker of the House, and Minority leaders of both houses. The Legislative Council appoints the Controller General.

Delaware Division of the Public Advocate (DPA)

The DPA was established in reaction to previous energy price shocks in the 1970s to represent the interests of residential and small business customers. It now represents consumers to the PSC when any utility brings a request for a rate increase or other change in service. The DPA's mission is, "…to advocate the lowest reasonable rates for consumers, consistent with the maintenance of adequate utility service and consistent with an equitable distribution of rates among all classes of consumers" (Delaware Code Title 29). By comparing the legislatively-directed mission of the DPA with these hearings, the changed nature of a "public advocate" in this context is most starkly illustrated. Presumably this office would suffice to fill the role of "public advocate" in this proceeding if members of the public participating still saw their welfare in this context as restricted to controlling the price of energy in opposition to the utility monopoly on service-- the traditional mission of the DPA. In the present hearings, we still see a public concerned about the price of electricity, but many of those who participated in this process were also concerned about the environmental and health impacts of its production. Those impacts, especially the health impact on Delaware residents, can be monetized as costs to consumers—a concept, and methods, not known when the original code creating the DPA was written. Yet the cited Delaware code does not allow for the DPA to advocate for "lowest costs" to consumers, only to "advocate the lowest reasonable rates…" These observations suggest an opportunity to update Delaware code to better reflect modern economic methods, the public's perception of their interest, and the full components of cost to the public.

Delmarva Power & Light (DP&L)

Delmarva Power & Light is a subsidiary of Pepco Holdings Inc. It is an electrical distribution company and is the Standard Offer Service (SOS) provider for the Delaware, serving 498,000 customers on the Delmarva Peninsula. It was DP&L's rate increase that initially caused the state legislature to take action to stabilize rates, and was specified in the legislation, as the provider who would issue the mandated Request For Proposals for new generation. Throughout the process, DP&L contested the basic premise of HB6. The company maintained that new generation was not needed at all, and that it would neither improve DP&L's ability to serve its customers nor contribute to stabilization of rates. DP&L also claimed that if the Bluewater project was built, it would exacerbate the problems HB6 was meant to address; the relatively low capacity factor of wind would require even more new generation to back it up and the high capital cost of the offshore wind farm would mean even higher, albeit stable, electricity rates for Delmarva customers. These claims were rejected by the four agencies, who ultimately chose the Bluewater bid to negotiate with Delmarva for a power purchase agreement. DP&L also maintained that the required long-term PPA was potentially economically disadvantageous for the company and its customers should the price of fossil fuels drop within the contract period.

Bluewater Wind LLC

Bluewater Wind is a development company specializing in offshore wind projects, with nine employees and 181 MW of capacity installed under the name Arcadia Wind. It had previously bid on a Long Island Power Authority RFP for an offshore wind farm off Long Island. Its principals had, with partners and under the

name Arcadia Wind, bid a single land-based wind farm, Judith Gap, Montana. In the Montana project, they competed in an RFP against coal and natural gas, to provide electricity, and won as the low price bidder. That project was built and is now delivering electricity. In the Delaware RFP, Bluewater bid a 600 MW offshore wind farm to be placed off the Delaware coast. Though the possibility of offshore wind for Delaware was unknown to the public and the agencies before Bluewater indicated its intent to bid, the company engaged in extensive public outreach activities. After the events chronicled in this thesis, in November 2009, Bluewater Wind was acquired by NRG Energy, Inc. and became NRG's offshore wind unit.

NRG Energy Inc.

NRG is a Fortune 500 wholesale power generation company, holding over 24,000 MW of capacity and 3,500 employees. While much of its generation portfolio is concentrated in Texas and the Northeast, it owns natural gas, coal, and fuel oil powered generation facilities across the country. It bid a 600 MW integrated gasification combined cycle (IGCC) coal power plant. It is also the proprietor of the Indian River power plant in Sussex County, Delaware, and was working from a mixed public relations position as a major employer in the area and the object of public ire for perceived pollution-related health problems there.

Conectiv Energy

Conectiv is a wholesale generation company, a subsidiary of Pepco Holdings Inc. and a former business unit of Delmarva Power & Light, with 430 employees and 6000 MW of generation capacity. The company's generation portfolio

is spread throughout the Mid-Atlantic states and includes natural gas, coal, and fuel oil generation facilities. Conectiv bid a 177 MW natural gas power plant.

NGOs and businesses

Many organizations took active part in the process, both by submitting official comments stating the position of the group as a whole and by encouraging their members to participate individually. They represent various subgroups with differing public, environmental or business concerns. These groups included environmentalists, trade unions, churches, political organizations, businesses, and industry organizations. In general, they represented a wide variety of aspects of the public's or firms' concerns regarding the outcome of the decision process. For example, some voiced concerns about the potential affects of the decision on the climate change mitigation, public health, local and state economies, job opportunities, the health of the environment as a whole, ratepayers' costs, and the relationship between business and government. Though some groups played a larger role than others, the full list is below. The list is grouped by bid preference as stated during the HB6 bid process (excluding the bidders themselves).

Organizations in favor of the Bluewater Wind proposal

AARP (DE state chapter)

ACORN (DE state chapter)

Audubon Society (DE state chapter)

Citizens For Clean Power (Local Sussex Co.)

Citizens For a Better Sussex (Local Sussex Co.)

Clean Air Council (regional out of Philadelphia)

Clean Power Now (Massachusetts/regional)

Coalition for Climate Change Study and Action (Local Newcastle Co.)

Common Cause (DE state chapter)

Churches (various)

Delaware Citizens For Clean Air (State-wide)

Delaware Municipal Electric Corporation (State-wide)

Delaware Nature Society (State-wide)

Green Delaware (State-wide)

Independent Party of Delaware (State-wide)

League of Women Voters (DE state chapter)

Mid-Atlantic Law Center (Regional)

Natural Resources Defense Council (National)

Sierra Club (DE state chapter)

Society of Natural History of Delaware (State-wide)

UD Students For the Environment (Local Newcastle Co.)

Organizations in favor of the NRG proposal

Americans For Balanced Energy Choices (National front group for coal industry)

Labor Unions (Including: Local chapters of Plumbers & Pipefitters, Road Sprinkler Fitters, Building & Trades, Heat & Frost Insulators/Asbestos Workers, IBEW, AFL-CIO) Advocated first for the NRG proposal; after the four agencies picked the Bluewater Wind bid, many but not all of them advocated for the Bluewater Wind proposal

Norfolk Southern Railroad (Regional)

Organizations in favor of the Conectiv proposal

(none)

Organizations that did not take a position

Delaware Energy Users Group (State-wide)

Medical Society of Delaware (State-wide)

Legislative and Regulatory Background

The debate that occurred in Delaware has precedents in national changes in policy and public opinion. It was made possible by a national shift in energy policy and electric industry regulation that began decades ago, with restructuring legislation and the rise of renewable energies as commercially viable utility scale resources.

Acting on the 1978 Public Utility Regulatory Policy Act, which allowed non-utility owned generators to participate in wholesale power markets, some states began to allow competitive bidding for power at avoided cost rather than the cost of production. These types of experiments with competition and market-based pricing were encouraged in the Energy Policy Act of 1992, which promoted competition by allowing wholesale generation by entities not owned by utilities and allowing the Federal Energy Regulatory Commission (FERC) to open the national transmission system to wholesale suppliers. In 1996 FERC issued Order 888 "…to remove impediments to competition in the bulk power marketplace and to bring more efficient, lower cost power to the nation's electricity customers", by giving states permission to restructure their regulatory systems, disaggregating vertically-integrated utilities if they chose to do so.

Delaware joined dozens of states in reconsidering how electric utilities were regulated, and in April 1999, the Delaware state legislature passed the Delaware Electric Utility Restructuring Act. Advocates of this change argued that it would take advantage of the efficiencies of competition to facilitate prices lower than those achieved by regulated, vertically integrated electric utilities. To accomplish this states allowed the utilities to sell their generation assets and take bids from independent generators. This new market would theoretically result in price decreases. Even at this stage, members of the Delaware PSC staff were skeptical that competition among generators would materialize (Delaware NewsJournal 2009). At the least expecting a period of adjustment during which prices would fluctuate as competition grew, the Act included a rate freeze for residential customers of Conectiv (now Delmarva Power and Light) in Delaware that would last until October 1, 2003. That year, however, Conectiv merged with Pepco Holdings, Inc, and as part of the regulatory approval process of the merger, Delmarva agreed to extend the rate freeze until May 1, 2006.

As in various other states, the experiment in deregulation did not lead to increased competition, and resulted a rise in electricity costs rather than reduction. In February of 2006, reacting to indications that there would likely be a rate increase of "greater than 50 percent for residential customers", the governor of Delaware issued Executive Order 82, noting that "…the regional wholesale electric supply market prices are at historic highs, experiencing substantial volatility and appear to be adversely affected by natural gas price fluctuations, lack of sufficient regional fuel diversity, significant weather events, and world political situations…" and asking the Delaware PSC to evaluate the state's options.[18] Specifically, it was to "…examine

[18] Note that the order explained the rate increase without citing any of the effects of deregulation that contributed to it, such as the lack of new competition in the market.

the feasibility of a) deferring, for a fixed or phased-in period, ending electricity rate increases; b) requiring Delmarva to build generation, or enter into long term supply contract, to meet up to 100 percent of supply options under traditional rate base, rate of return regulation; c) requiring Delmarva to implement demand side management, conservation and efficiency programs" (2006). The Order also required that the PSC assess the need for legislation to accomplish the chosen option. Delmarva was the focus of this portion of the Order and ensuing legislation because it is regulated by the PSC. The Order also required actions from the Department of Natural Resources and Environmental Control (DNREC), the Delaware Economic Development Office (DEDO), and the Office of Management and Budget (OMB) to mitigate potential problems arising from the transition to market pricing, and to explore new innovative generation and efficiency programs.

In March 2006, Delmarva Power and Light (DP&L) notified the company's residential customers that increases in commodity prices between 1999 and 2006 would result in a substantial rate increase when the rate cap was removed. Similar circumstances in other states that engaged in restructuring activities in the last decade have been addressed in various ways. Some states have chosen to reregulate, others have decided to give the market more time, some have extended rate freezes. In April 2006 the Delaware state legislature passed HB6, the Electric Utility Retail Customer Supply Act requiring new generation to stabilize prices and issued a joint resolution to investigate reregulation activities.

The Act mandated that this would include issuance of a Request For Proposals (RFP) for new generation, requiring that Delmarva consider "…i) resources that utilize new or innovative baseload technology (such as coal gasification); ii)

resources that provide short- or long-term environmental benefits to the citizens of this state (such as renewable resources like wind and solar power); iii) facilities that have existing fuel and transmission infrastructure; iv) facilities that utilize existing brownfield or industrial sites; v) resources that promote fuel diversity; f) resources or facilities that support or improve reliability; or vi) resources that encourage price stability." This RFP was to be open to any mode of generation that could meet these criteria, which would be translated into a rating system for evaluation of bids (EURCSA §6).[19]

THE HEARINGS

On May 1, 2006, the rate freeze for residential customers was lifted, beginning a phased-in 59% rate increase. Coincidentally, as the effects of the rate increase began to be felt across Delaware, Delmarva prepared its draft RFP. Though the proposed RFP was not due to be submitted until August 1, developers were aware of the opportunity from the time HB6 was passed. The original criteria in HB6 were not biased in favor of one particular mode of generation, though it did specifically cite coal gasification, wind and solar as examples of innovative and environmentally beneficial technologies. While this technically left open the opportunity for participation by renewable energy companies, Delaware's on-shore resources for centralized renewable energy are not notable. At this point, even wind developers were unaware of the possibility of offshore wind development in this area of the mid-

[19] The Act also required Delmarva to engage in Integrated Resource Planning, allowed Delmarva to enter into short and long-term contracts, own and operate generation and transmission facilities, invest in demand-side resources, and included a catch-all that allowed it to take any action approved b the PSC to diversify the retail load.

Atlantic, and it seemed that the contract would go to a traditional generator. Indeed, then-Governor Ruth Ann Minner issued a press release in June 2006, six months before bids were due, supporting NRG's IGCC coal proposal.[20] Coincidentally, however, an evaluation of Delaware's offshore wind resource was carried out earlier in 2006 (published in 2008) by the University of Delaware (Dhanju, Whitaker, and Kempton 2008: 55-64). That study revealed a sizable energy resource: the ocean area surveyed showed an average power production of 6203 MW just offshore of Delaware, a state whose average electric use at the time was 1300 MW (63).

The UD wind resource study, in addition to initial survey results showing favorable attitudes toward offshore wind among Delawareans gave University of Delaware professors Jeremy Firestone and Willett Kempton a unique perspective on the coming RFP. Recognizing that the RFP defined by HB6 could include offshore wind as well as other generation technologies, they contacted offshore wind developers to alert them to the opportunity developing in Delaware (Svenvold 2008). This began two years of involvement by Firestone and Kempton during which they contributed substantive comments that in several cases altered specific aspects, and likely the outcome, of the proceeding.

On August 1, 2006, DP&L submitted its proposed RFP to the PSC and three agencies in accordance with HB6. In addition to public input, the PSC hired an Independent Consultant to evaluate the proposed RFP and make recommendations for

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[20] Original press release was unavailable, all links to it and most news stories were dead by 2009. The remaining reference to it containing quotes and details was found in an article on Salon.com, "Gone With The Wind", Catherine Ellison, March 28, 2007. All other facts included in the Ellison article are known by the author to be true; the press release is credible. Article last accessed by the author October 6, 2009.

revision. On August 8, the PSC officially opened Docket No. 06-241 to address the IRP and RFP. The public comment period lasted for one month. Comments solicited at this time were meant by the PSC to be related only to aspects of the proposed RFP. Such comments resulted in changes in the rating system, shifting some emphasis from "price" to "price stability", which was more in line with HB6, and including environmental impacts in the assessment.

CONTENT OF THE PUBLIC COMMENTS

The unique comments that are the focus of this study came in a trickle initially, at a rate of about one each day during the first phase of the process-the RFP comment period-which lasted from August to December 2006. The only "spike" in participation during this period was a group of 13 comments. It came on August 18, and represented testimonies at the first public workshop held by the PSC.

On August 18, 2006, the Delaware PSC held a public workshop to explain and discuss Delmarva's proposed RFP, take questions, and solicit comments. Members of companies intending to submit bids attended this hearing, as did representatives of the agencies who would evaluate bids and choose which bidder would be allowed to negotiate a PPA with Delmarva. These were the PSC, the Delaware Energy Office, the Delaware Office of Management and Budget, and the Office of the Controller General. While Bob Howatt of the PSC staff was careful to point out that this workshop was not a public hearing, not about the legislation that produced it, and not about the generation options available, many comments focused on, for example health impacts of coal generation. Though such comments were framed around opinions that health impacts should be considered in the evaluation process, they read more like direct criticism of the coal-fired power plants and the

state government that allowed them to exist. For example, A naturopathic doctor from Sussex County expressed these sentiments in a strongly-worded but not unusual letter to the PSC in October 2006: "The only cheap thing about coal is the way it kills people-so it is cheap and unethical in this day and age. The shame of continuing to do business and ignoring the health costs in your cost analysis is also cheapening the importance of the people your are obligated to protect." "You need to step up to the plate and protect the health of your citizens!!!!!!"(Letter to PSC from Kim Furtado dated October 6, 2006). Her use of words like "shame", "unethical", "cheapening" are not simply comments on RFP criteria, but seem to cast moral judgment on the state legislature and the PSC for actions and lack thereof.

Members of the public did have questions for the Delmarva representative regarding the RFP at the August 18 workshop. However, after the Delmarva representative completed his briefing, a representative of NRG made his company's preliminary comments on several aspects of the RFP including contract size and regulatory aspects. The NRG representative was then deluged with questions about greenhouse gas emissions, carbon capture and sequestration. The period of time devoted to the questioning of the NRG representative was remarkable, as his company was technically just one prospective bidder. The content of the questions was also much more focused on health impacts of coal power generation, despite the fact that neither HB6 nor the RFP gave health as a criterion. Most of the comments submitted at the pre-bid stage were either during or after this hearing. Many of the comments at this stage were also submitted by members of NGOs who had been following the process due to a pre-existing interest in electricity generation in Delaware.

Between August 1 and November 1, the proposed RFP was read and red-lined by DP&L's consultant, PSC and Delaware Energy Office staff, NGOs, and members of the public. Staff response to the proposed RFP was also subject to public scrutiny, and on October 17 the PSC held a public hearing dedicated to discussion and approval of RFP changes resulting from these interactions. The most noticeable changes were to the rating system that would be used to evaluate bids. Originally, bids scored up to 100 points: 60 devoted to price-related factors, 40 to non-price factors. This price/nonprice division remained the same. Changes in the rating system based on reexamination of HB6 consisted of reallocations taken from specific language in it, "set forth proposed selection criteria based on the cost-effectiveness of the project in producing energy price stability, reductions in environmental impact, benefits of adopting new and emerging technology, siting feasibility and terms and conditions concerning the sale of energy output from such facilities."

Table 4.1 Non-price factors considered during bid evaluation

Non-price Factors	Proposed RFP	Revised RFP
Environmental "Compatibility" or "impact"	7	14
Fuel Diversity	7	3
Technology Innovation	0	3
Operation Date and Certainty	4	3
Reliability of Technology	5	2
Site Development	5	5
Bidder Experience, Safety & Staffing	5	5
Project Financeability	5	5
Contract Terms	2	0
Total	40	40

As seen in Table 4.1, "Environmental Compatibility" was used in the Proposed RFP, and allotted 7 points. In the Revised RFP, the term became "Environmental Impact" and was given more weight at 14 points. The 7-point change is small but significant and is indicative of the PSC's responsiveness to citizen comment and willingness to reexamine the language of the Act. The change in terminology is also noteworthy. Whereas "compatibility" is a vague term, one that could allow projects that would actually be harmful to simply be deemed less compatible than others, "impacts" on the environment can be clearly positive or negative, and can give a more quantifiable assessment of a project's. "Reliability of technology", given 5 points in the first draft, is split in the revised draft, with only 2 points left to "reliability" and 3 going to a new category, "technology innovation", which is again taken from the Act. The weight of "fuel diversity" is also decreased in the revised draft, and Contract terms are moved from "non-price factors" to "price factors" (Table 4.2).

Table 4.2. Price factors considered during bid evaluation

Price Factors	Proposed RFP	Revised RFP
Low Price	40	33
Price Stability	20	20
Exposure based on contract size/other factors	0	6
Favorable contract terms	0	1

In Table 4.2, the most noticeable difference is in the weight taken away from "low price" in the revised version, and given to a new category, "Exposure based on contract size/other factors". Removing weight from "low price" brought the

selection criteria more in line with the wording of the Act, and shifted the standard by which bidders would be measured. It was a blow to the natural gas and coal bids, whose commodity price instability was partially responsible for the passage of HB6. It was also a boon for the offshore wind bid, which despite an expected higher price, lower capacity factor and other undesirable qualities was expected to be very price stable. Though the issue would later be picked up both by citizens who supported the wind proposal and those who supported the coal proposal, Firestone and Kempton submitted the only comment that came from individuals that argued the differences between "price" and "price stability" during the initial evaluation of Delmarva's proposed RFP.

A second contentious issue was how the evaluation would take place. DP&L sought to evaluate the bids itself, and submit the results to the PSC for a final approval. The PSC disagreed, requiring that DP&L make its rational for evaluation clear. DP&L also felt that bids should be evaluated solely on point totals. The PSC rejected this proposal as well, seeking to retain discretion, rather than anointing the bid that garnered the highest point total.

The public generally took an unfavorable view of DP&L's effort to evaluate its bidders. Though their reasons varied, all respondents in my semi-structured interviews questioned the legitimacy of the process in some way. Interestingly, five of the six subjects still felt that the PSC did an admirable job of administering HB6 (the sixth did not comment on it). They felt that the PSC made the process even-handed and open to the public, that everyone was heard who wished to be, and that the PSC actually listened. PI1 specifically said that he felt "…the PSC made sure the public had the influence it should have." One respondent, however,

stated that he "looked at the PSC as the court, jury, and judges" and that he "trusted them until they were proven otherwise" (NGO1). He said that he became aware that Delmarva Power & Light (Delmarva) was in fact filing evaluations of the bids, and he felt that the PSC would be making its decisions based on information "slanted in Delmarva's favor". He did not feel that the PSC was involved in any wrongdoing, but that the utility would use them to achieve its goals.

This attitude was indicative of a basic mistrust many members of the public seemed to feel toward industry in general, and DP&L in particular, summed up by William Zak at a PSC public hearing on March 6, 2007:

> DP&L and the public interest are not always and necessarily identical. The Public Service Commission should live up to its name and charge and not allow its(elf) to be bamboozled or bullied by entrenched industry interest and back room maneuvering. Please do what is right for the public interest, our children and our children's children and the future of the globe.

There were both unaffiliated individuals and NGO members who said that various companies in the electric industry were not only uninterested in what was best for their customers, but who were negligently doing those customers harm.

Another interview subject (NGO1) accused the coal industry of blatant disregard for the public welfare:

> These corporate sociopaths are ignoring it (health problems associated with coal plants) and avoiding responsibility. Profit is so sacred that people will sacrifice kids' health for it…These coal plants are absolute cash cows, so why not make them as painless and clean as possible?

These scathing statements gave an impression that activists were negatively motivated; they were advocating not so much for an offshore wind farm as against a

new addition to a coal plant they were already against. Upon investigation however, it became plain that the people's concerns were negative, but their choices were not. Participants mentioned perceived problems blamed on coal-fired electricity generation such as climate change and various health problems, but went on to explain why they felt having a wind farm could mitigate or solve those problems.

One woman had a history of unexplained medical problems that she blames on mercury toxicity. She also relates her own health problems to high incidence of asthma among her children's friends as well as allergies and ear infections plaguing other acquaintances. She states that, "…it has become increasingly obvious to many how horribly the power plant has affected our health." This seems to be a feeling rather than actual knowledge, without specific understanding of exactly how and why it is harmful that has grown as more anecdotal evidence is gathered. She actually learned about the Indian River coal plant via an indirect route of research on the effects of mercury. She states that this power plant is "…one of the dirtiest in the country!" She immediately follows that sentence with, "What is worse is that our legislators have known this for decades and done nothing about it.", and saying that any clean-up that happens is due to federal regulations, not state regulations (and also states that NRG will not do these things unless forced). This indictment seems to say that she feels that it is the responsibility of Delaware state legislators not just to make and enforce laws, but also to proactively improve laws and living conditions, and that they are not doing so. She sums it up later in her letter, saying, "Government is supposed to serve and protect its people, not its industry" (Letter to PSC with name blacked out, dated August 18, 2006).

On November 1, 2006 DP&L issued the approved RFP and the agreed upon process began. On November 22, four companies submitted notices of intent to bid, though only three submitted bids one month later. On the December 22 deadline for bid submission, the PSC received three bids: NRG proposed a Integrated Gasification Combined Cycle (IGCC) coal fired plant, Conectiv proposed a natural gas fired plant, and Bluewater Wind proposed an offshore wind farm.

The bids were not initially released for public scrutiny. Without access to the bid documents, public participation would have essentially come to an end at this point. In January 2007, Jeremy Firestone filed a motion requesting that the Commission Commence Proceedings to Determine Validity of Assertions of Confidentiality (Firestone, January 29, 2007). Separately, the News Journal made a Freedom of Information Act request. While the Commission did not specifically act on Firestone's motion, it did decide to investigate the validity of the confidentiality claims, and ordered that bidders resubmit proposals that conveyed as much information as possible and included justifications for any redactions (Dillard and McGeddes March 13, 2007). Upon resubmission, the bidders claimed that redacted items were trade secrets, and that disclosure to the public would put the companies at a disadvantage in other competitive bidding situations. They extensively redacted the bid documents for release to the public. Information withheld included pricing and environmental impacts of proposed generation facilities, both important factors in the selection of a bid. Without this information the ability of the public to understand and effectively participate in the process remained limited.

The bidding companies initially argued that the general public lacked justification to see the redacted portions of the documents relating to price. At its

February 6, 2007 meeting, the PSC directed the bidders to resubmit their proposals with as little information redacted as possible. In response, Conectiv and Bluewater both released emissions information, while NRG initially did not. In its second memo on the matter, PSC staff stated that, "…having listened to the public concern regarding current and future potential emissions from the Indian River facilities…the public interest in obtaining specific emission data outweighs NRG's attempt to protect it." This battle to open the bid evaluation process changed the nature of public involvement in this proceeding. Rather than commenting only on the RFP and evaluation criteria and then stepping back to allow the state to choose a bidder behind closed doors, the public was now able to continue participating in the decision.

In February 2007 the evaluations of the bids were released for public comment and scrutiny. Importantly, the bid evaluations included crucial summary information on levelized prices over the period of proposed contracts (e.g., Bluewater proposed a 25-year contract), allowing the public to see, for example, that Bluewater's effective bid price was less than NRGs. Public participation spiked first in January as the debate intensified in anticipation of the evaluation, then climbed further in February and peaked in March when the PSC held its public hearings on the subject. The number of comments in March 2007 was unequaled up to that point and surpassed only later that year when form letter campaigns were waged by advocates.

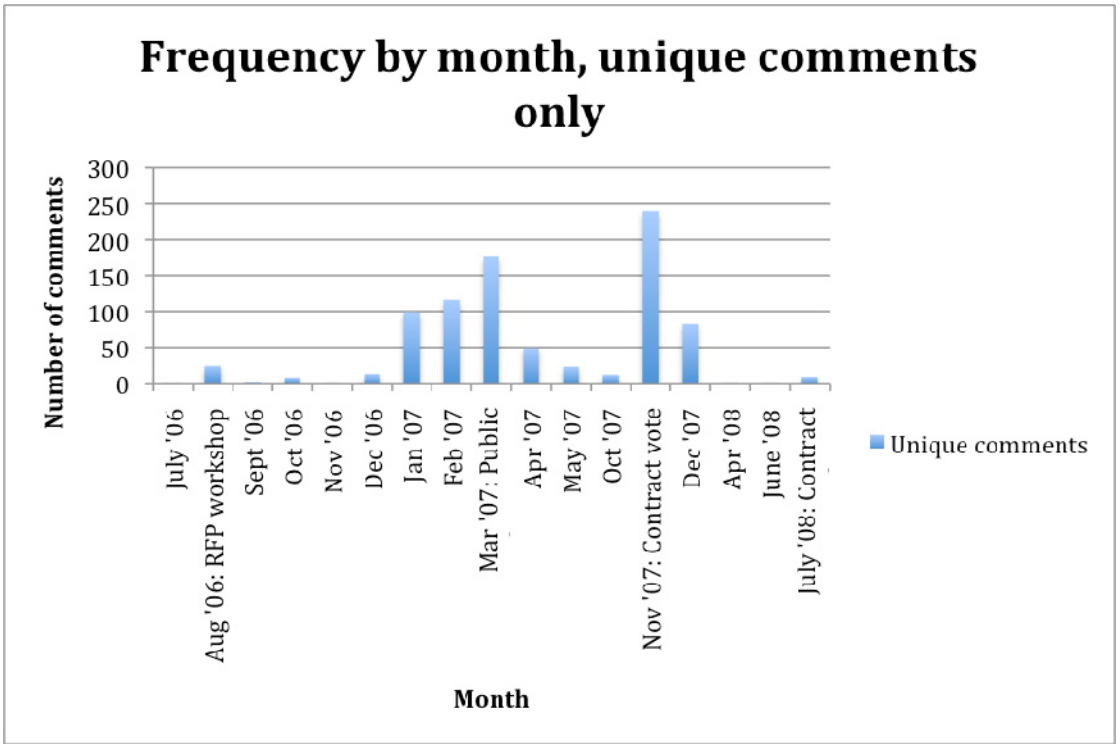


Figure 4.1 All unique comments submitted to PSC, grouped by month

On March 6, 7, and 12, and again on April 10, 11, and 12, the PSC held public hearings in the evenings in Dover, Wilmington, and Georgetown, respectively. At these hearings, PSC staff first gave a presentation demonstrating their evaluation methods, rationale, and conclusions. At this point, the factors that the PSC staff highlighted as important for consideration were: "SOS load requirements; supply planning methodology; reliance on energy markets; project evaluations; public policy; financial risks; system reliability" (PSC staff March 6, 2007). This again reflects the traditional priorities the PSC was working with in contrast to the issues being voiced by citizens.

The final RFP, bid evaluation, and PPA

On May 2, 2007, after considering bid evaluations, expert reports, layman testimony, and the original task laid out in HB6, PSC staff issued "PSC Staff Review and Recommendation on Generation Bid Proposals" (staff report) recommending that the state agencies direct Delmarva to negotiate with Bluewater as the primary provider, while exploring the possibility of a gas fired back-up facility in Sussex County with Conectiv.

Six days later on May 8, the PSC held its hearing on the staff report. This hearing was more focused on the bidders. Each bidder got a chance to comment on the findings of the staff report. At the close of the hearing the PSC voted to adopt the Staff recommendations with some modifications. After a second hearing on May 22, the other three state agencies agreed with the PSC's decision to require Delmarva to negotiate with BWW. The four state agencies unanimously adopted Order 7199 to that effect. Though the negotiation period was meant to be 60 days or less, negotiations dragged through the summer and into the fall.

On September 18, 2007 the Delaware PSC issued "ORDER NO 7287" requiring DP&L to submit a draft PPA by November 30, 2007. As negotiations continued and the term sheets were prepared, advocates began to worry that the negotiations would be unsuccessful or would be terminated, either of which would kill the offshore wind project in Delaware. This resulted in another spike of public participation in the form of a deluge of over 2000 letters sent during that November to the PSC alone. While many of these were gathered in canvassing efforts, there are also more letters that show no obvious indication of being solicited or copied than at any other time during this process. The majority of the letters asked that the PSC allow the negotiations to continue, and to take steps to ensure that a PPA resulted.

Though the negotiations did continue and term sheets were submitted, Delmarva took issue with many aspects of the proposed contract.

At the December 18 PSC meeting during which the agencies were to vote whether or not to approve the proposed contract, the four agencies tabled the vote, as Controller General Larson was being instructed by the state legislature to vote "no" at that time. The four agencies had previously agreed that they would make any decision unanimously, so Larson's prospective "no" vote would have killed the proposal. Therefore the agencies put off a decision indefinitely, until and unless the state legislature resolved their concerns. The question remained locked in the state legislature for more than six months.

In the meantime, DP&L issued an RFP for onshore wind generated in neighboring states, which, while not in line with the requirements of HB6 for instate generation, the company maintained was a more economically feasible way to obtain renewable energy for Delaware. Advocates for the offshore wind proposal generally rejected this idea.

House Concurrent Resolution 38, a bill to recommend that the Controller General vote to approve the PPA, was introduced on January 1, 2008 and approved 25-11 in March. This set the House on record as strongly supporting the PPA as presented by the PSC, and more clearly identifying the Senate as the barrier. During the same period, in the Senate, the Energy and Transit committee held a series of fact-finding hearings, and issued both a majority and a minority report with opposite conclusions (2008).

The argument within the state legislature focused not on the actual bid choice, but rather on the direction the state's energy policy would take. An offshore

wind project of this size represented a major departure from previous efforts at encouraging energy efficiency and conservation and distributed generation. This ongoing state-level efficiency initiative was seldom mentioned by in comments by apparently unaffiliated private citizens. The possible interplay and conflicts with the proposed wind farm, however, distracted the state legislature from other pressing issues.

By the time a deal emerged from closed doors in the state legislature, the project had been downsized again, from 300 MW to 200 MW. Since an offshore wind farm of that size would not be as cost-effective, the project was permitted to count each Renewable Energy Credit (REC) for which it was eligible as 3.5 RECS, which provided more revenue per kWh to the project while not increasing payments for power. RECs are tradable certificates representing the environmental attributes of 1 MWh of renewable electricity, which may be purchased by companies to meet their state Renewable Portfolio Standard obligations. Since this creative accounting required change to the state's Renewable Portfolio Standard law, it had to be authorized in a Senate Bill.

On June 23 a revised PPA was filed with the PSC. This PPA was approved two days later on June 25: Senate Bill 328 creating a 350% REC multiplier for offshore wind was passed unanimously in the Senate at 5:30 pm, walked over to the House of Representatives, approved unanimously there less than an hour later, and signed into law by the Governor the same night. All 62 members of the state legislature were listed as sponsors.

Finally, on July 31, the 25-year contract between Delmarva Power & Light and Bluewater Wind was approved by the four state agencies, and almost two years after it was opened, PSC Docket Number 06-241 was closed.

Chapter 5

ANALYSIS OF COMMENT NUMBERS, ENERGY CHOICE AND ACTIVISM

During the two-year HB-6 process, public participation was not just submission of opinions on the choice being made by the Public Service Commission. People also aired concerns about their health, their immediate environs and the larger world, commented on perceived roles of government and industry, and spoke of the place the state of Delaware should have in the affairs of its residents, the country and the world. Many comments by members of the public reject conventional utility policy priorities whether those of the traditional "utility consensus" or a deregulated market. The environmental and health-related priorities they espouse must be monetized through economic methods not previously employed when determining cost of electricity.

Among the comments I found passionately written letters, jotted one-line notes, rambling streams of consciousness, elegant treatises, legal and economic analyses, and unscripted verbal testimonies. A thorough investigation of the record they comprise yields a wealth of information about the wants and needs of many Delawareans, which the PSC recognized. In public hearings of the Delaware Public Service Commission, as well as in private comments, at least two Commissioners reported that they read every comment submitted.

In this chapter, I first present typical examples of comments examined here. I then present results of quantitative study of the data set. I begin the summary with general numbers that provide contextual information such as; how many people

commented; who were they; and which power choice they preferred. I then examine some of the actions and strategies taken by activists who supported and opposed the energy choices, and the effect those actions had on the proceedings. The subsequent chapter will give a more detailed qualitative analysis of the concepts and arguments in the comments.

Types of Comments

Though I only divided comments in the following manner for certain tests, the following examples are informative of the range of information and specificity included in comments submitted.

The letter in Figure 5.1 below is typical of the simplest type that mainly registers support for an energy choice without justifying or arguing for it.

> Dear Ms. Nickerson,
>
> This is to express my support for using wind power off the Delaware coast for our new energy source instead of having another coal plant.
>
> Thank you,
>
> Signature

Figure 5.1 Letter submitted to PSC with simple registering of preferred choice

In the following letter, the authors make arguments for an offshore wind farm based on perceived problems they feel it will solve. In the letter shown in Figure

5.2 below, the author does so by saying that she supports the wind proposal before identifying the pollution problem she sees as created by NRG specifically at the Indian River power plant. She goes on to argue for power plant cleanup and regulation unrelated to the current proposal. Her argument centers on "pollution", and is followed by one sentence urging that CO2 emissions be considered during which she does not actually mention climate change specifically. In this letter, "pollution" and its affects on the environment seem to be her priority. The letter does not specifically address the HB6 process ostensibly being commented upon, nor related current events. Rather, it conveys the author's perspective, opinions, and supporting arguments.

> Karen –
>
> I strongly support the wind power proposal. It is a great idea and I hope that the wind power proposal receives the long term contract. The best proposal is the location off of Rehoboth but the proposal for the wind turbines off of Bethany is a fantastic proposal.
>
> The NRG proposal is really bad for Delaware. NRG is a major polluter for our air. NRG should be forced to clean up their current plants or they should be shut down. I am not in favor of rewarding them for their abysmal environmental record. They should not be allowed to create new plants that put pollutants into our air. Increased CO2 emissions should also be a major consideration.
>
> Please do what is best for the people of Delaware and choose Bluewater's proposal of a wind farm off Rehoboth Beach.
>
> Thanks!
>
> Signature

Figure 5.2 Letter submitted to PSC identifying problem as "pollution", placing blame on NRG, and identifying solution as offshore wind

The next letter, shown in Figure 5.3, was sent to both Governor Minner and the PSC by what appears to be a highly informed person who was commenting on specific aspects of bid evaluation. This person actually included footnotes and builds a case rather than simply stating an opinion. This type of comment was less common (more rare were detailed comments addressing specific points made in the bids and related official documents).

Dear Governor Minner:

I am writing to express my concern over the process being used to select the proposed new power plant for Delaware, in that it may lead to a result not in the best interest of the citizens of Delaware. I have read HB-6, the RFP for the plant, and the initial proposals, and have attended several hearings and other public meetings on the subject. I am concerned about two basic issues. The first is that insufficient consideration is being given to the long term and environmental impact of the proposals. The second is that the future significant costs related to the emission or capture of carbon dioxide from any fossil fuel based plant will not be considered.

The RFP assigns only 14 points out of 100 for environmental impact. This issue has been brought up repeatedly at public hearings, to no effect. Clearly environmental and health impacts are not of much concern to the PSC and Delmarva Power. In fact, Delmarva Power stated publicly at one of the PSC hearings that their goal was to deliver the lowest (initial) cost possible. This attitude is particularly shocking given the well documented health and air quality problems that Delaware faces.

The second issue of excluding the future cost of carbon dioxide emissions is equally disturbing. It is clear that there are going to be significant future costs associated with either emitting carbon dioxide, either a carbon tax or a cap and trade system will significantly increase costs, yet any future carbon taxes have been excluded from the RFP, with the understanding that these will be passed on to the rate payer next year. Likewise the costs of capturing carbon dioxide form fossil fuel plants will be significant. The U.S. Dept. of Energy has estimated that the cost of sequestering carbon dioxide form an average IGCC plant will add 30% to the cost of electricity (1). The Intergovernmental Panel on Climate Change (United Nations) has determined that for an IGCC plant the cost of sequestering could vary from 21% to 78% additional (2). The higher numbers are likely for Delaware since it is not at all clear that sequestering locally is even technically feasible. Also since an IGCC plant is not capable of capturing all the carbon dioxide, it would likely also be subject to a carbon tax or cap and trade system. The situation is essentially the same for the gas plant. To my knowledge, none of the bids take these future costs into account. Have we learned nothing from the recent 50% increase in electric rates fiasco?

I urge you to take whatever steps are necessary to assure that any future power plant for Delaware protects the environment and the health of the citizens of Delaware, and that all future costs associated with carbon dioxide are included in the estimated cost of electricity from the fossil fuel based plants.

Thank you for your consideration.

Signature

Figure 5.3 Letter submitted to PSC with critique of rules based on detailed reading of the docket and citing references to support points

How Many People Commented?

My database of comments also includes each commenter's name, some demographic information, and what type of comment it was. "Type of comment" included:

Mode of submission (spoken, email, paper);

Level of detail; Unique vs. Form letter.

"Demographics" variables included:

County;

Gender;

Employment;

Ownership of beach property

This name and/or demographic data refutes claims made at the time that the large number of written comments was due to high numbers of duplicates, form letters, and that many spoken comments were from a few wind supporters who attended every hearing. From my database, the following facts can be discerned. 3327 total comments were submitted to the PSC by 2826 members of the public. The number of commenters is less than the number of comments because 91 people out of the 2826 commenters submitted more than one comment. Regarding the degree to which comments were self-initiated, 2,470 of the total 3327 comments were form letters, duplicates, or solicited letters that were clearly a part of a canvassing effort.

The remaining 857 unique, individually-composed comments were submitted by 572 different people.[21]

Table 5.1 Number of people submitting comments

	Unique comments supporting wind	Unique comments supporting coal	Unique comments opposing coal	Unique comments opposing coal	All comments
Number of people submitting comments	429	54	77	265	2826
Number of comments	643	62	84	410	3327

[21] This includes 12 letters with the name removed, presumably by PSC staff, all posted at the very beginning of the docket. It also includes 8 unsigned letters, and 48 letters on which the signature was illegible. These letters are classified as, "redacted", and "unreadable" respectively. I classified these letters as unique, form, duplicate, etc. based on their content, treating the author as an individual commenter.

Table 5.2 Number of comments submitted by participants

	Unique comments supporting wind	Unique comments supporting coal	Unique comments opposing wind	Unique comments opposing coal
1 comment	322	48	71	212
2 comments	63	5	5	30
3 comments	19	1	1	6
4 comments	13	0	0	11
5 comments	2	0	0	2
6 comments	5	0	0	2
7 comments	1	0	0	0
8 comments	0	0	0	0
9 comments	1	0	0	0
10 comments	1	0	0	0
11 comments	0	0	0	0
12 comments	0	0	0	1
13 comments	0	0	0	0
14 comments	0	0	0	0
15 comments	0	0	0	0
16 comments	2	0	0	1

The variable for which a comment was designated "unique" also included "form letters", "solicited letters", form letter with a personal note added", and "unique letter that includes elements of a known form letter". Letters classified as unique showed no indication of being part of a campaign or duplicate phrases taken from identified form letters. Some unique letters contain wording in common with others, but not exact phrases. Solicited letters were one to two sentences, handwritten, consisted of only small variations on the same themes, and often included addresses

that indicated a door-to-door effort in multiple neighborhoods in New Castle County (see Figure 5.1, below).[22]

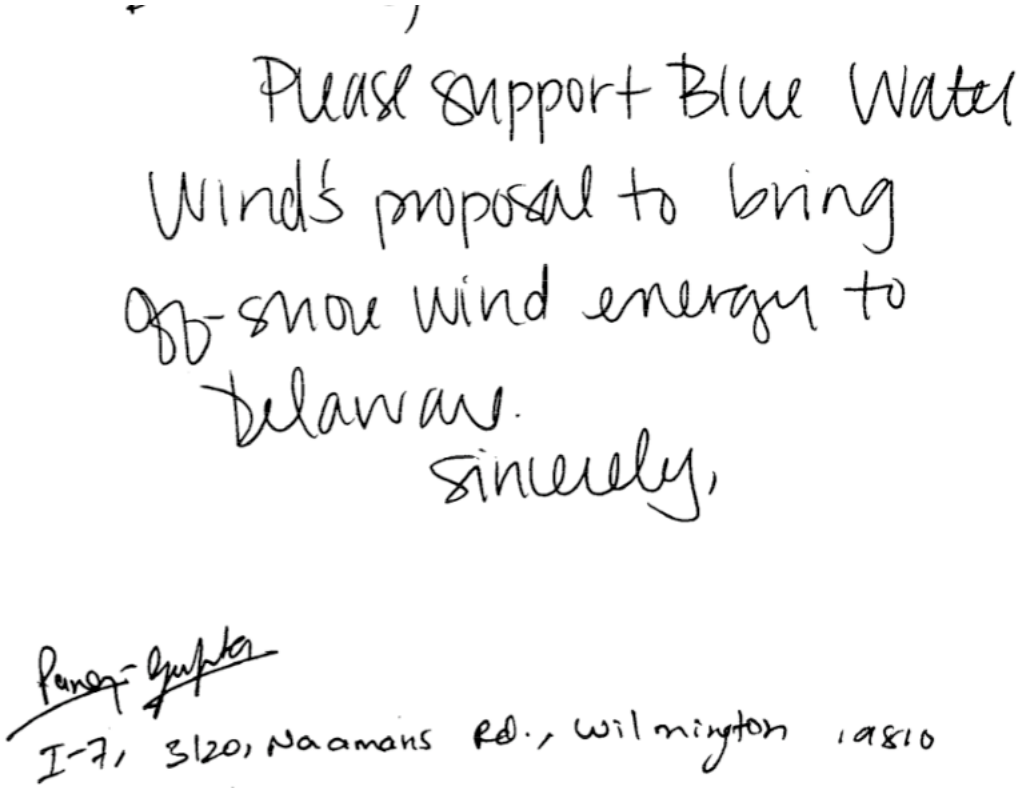


Figure 5.1 Example of letters collected and submitted by Philadelphia Clean Air Council in November 2007

[22] Jim Black of the Philadelphia-based Clean Air Council informed me via email of the group's canvassing methods that resulted in submission of 2000 such letters to the PSC in November 2007.

A simple measure of multiple comments is the ratio of comments to commentators. For total comments this is 3327/2826, or 1.18. For the unique letters, it is 851/572 or 1.49. That is, authors of the unique letters were more likely to write more than one. Nevertheless, in both categories, but particularly form letters, the majority of commentators made only one single submission over the course of the hearings.

Is a unique set of 2826 people commenting typical of Delaware utility hearings? It is illustrative to compare to what was previously the best-attended set of PSC hearings, the 2006 rate case addressing an anticipated 59% increase in electric bills. Such a rate increase might be expected to produce a large (and angry) turnout, since a 59% increase on a typical annual electric bill of $1400, for instance, would directly increase that bill by $826/year. And yet, only about 30 people attended the 2006 rate increase hearings (PSC staff, Personal Communication 2007). Prior to Docket No 06-241, 30 members of the public was considered a record turnout--PSC staff report that in more typical hearings or rate cases, from 0 to 3 members of the public would attend or comment.

In the case of Docket No. 06-241 on choice of new generation, hundreds of people attended public hearings. Unfortunately exact attendance numbers are unavailable, as many of those who attended did not record their presence on sign-in sheets. However, my review of the available sign-in sheets indicate that though there were some individuals who attended multiple meetings, this was not the same group of people moving around the state from one hearing to the next.

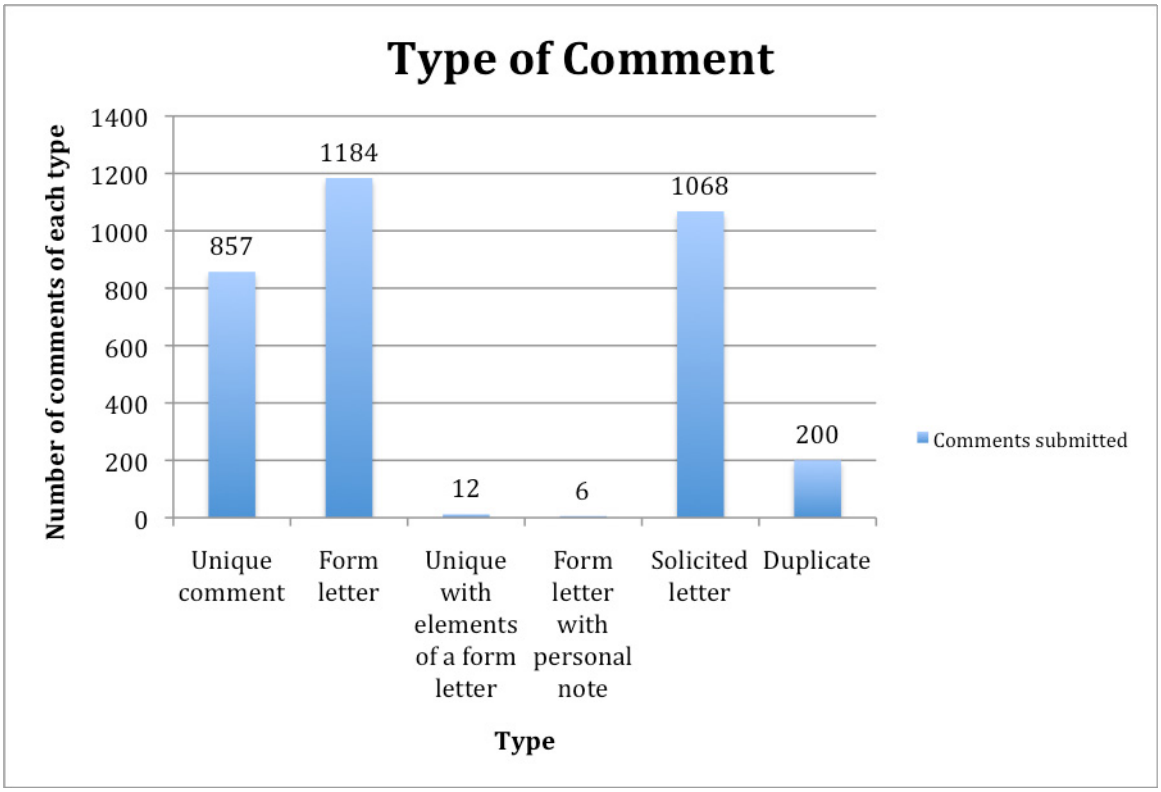


Figure 5.2 Number of each identified type of comment submitted

Demographics

Due to the voluntary nature of participation in the HB6 process, demographic information on those who commented is limited to whatever the individual considered relevant to their own testimonies. Some gave extensive personal information or qualifications before beginning their testimonies, while others gave no background other than their name and address. Gender and home-county were the most consistently obtainable variables, as most participants included their names and addresses in their comments.

Gender

When assigning gender to commenters, I assumed that names associated with one gender were correct. It was helpful that many commenters used their full names when identifying themselves, making it more likely that I find a letter from "Christopher" or "Christine" rather than the more ambiguous "Chris". In comments where gender was indicated, split was nearly even when all comments were included, with females and males contributing 44.2% and 42.8% of comments respectively. 9% of comments were made by individuals of unspecified gender, either because they chose to remain anonymous, their signature was illegible, or gender could not be determined from the person's first name or other indicators in the text. This nearly 50-50 gender split is similar when only emails are considered, but is different when actual paper letters are examined. Women contributed 3% more of all paper comments than men, but submitted 15.8% more form letters. Men submitted 21.7% more unique comments than women. This difference is partly because men were far more likely to speak at hearings. While males sent only 14% more unique paper

letters (the previous 21.7% figure included emails) than did females, more than twice as many men as women spoke their testimonies at hearings.

Couples were more likely to write a joint letter if it was a unique letter, whereas if they were sending form letters, they each signed their name to one. This may be indicative of an attitude that the value of form letters is in their numbers rather than their content. 3.6% of comments came from couples that wrote a single letter and identified themselves together (ex: John and Jane Smith). I did not consider it valid to count these letters twice, but still needed to express that these were not submitted by only one sex/person, so I included a third gender category beyond "male" and "female", called "husband & wife". These comments from pairs are therefore counted as one "person". One or both halves of many couples also submitted separate letters themselves at some point, and they were counted as a different person for that submission. Only 3.6% of all comments fell into this third category.

County

Though the PSC decision would affect electricity rates for Delmarva Power customers throughout the state of Delaware, citizen activity largely originated in Sussex County despite its smaller population relative to New Castle County (see Table 5.1 below). When form letters are included, New Castle County leads—due only to the November of 2007 canvassing blitz that yielded 2000 letters, 1500 of which came from New Castle, compared to only about 500 from Sussex.

Table 5.3 Percentage of comments originating in each county in Delaware

County	County Population (US Census 2008)	County Population as Percentage of State Population	% of All Unique Comments from County (n=857)
New Castle	529,641	61%	20%
Sussex	188,036	21%	45%
Kent	155,415	18%	3%
County unnamed, no address	----------	----------	32%

Why were almost half the participants residents of Sussex County? I infer three primary reasons. The first is that both the proposed wind farm and the proposed coal-fired generating units would be placed there. While the decision would affect ratepayers all over the state, it was the residents of Sussex that would primarily be living with the externalities, be they aesthetic, environmental, or economic. The second reason is that the residents of Sussex had a previous history with the Indian River power plant, an ancillary subject of debate throughout the HB6 process. Both of these possibilities are rooted in concepts of risk perception discussed in Chapter 2. While health concerns, climate change, and environmental health were the three most-commonly cited risk issues[23], the "environmental hyperopia" effect discussed by Uzzell in which large scale catastrophic consequences eclipse more "common" local threats does not seem to be present in Sussex County. The plant was not just conceptually unsavory as a source of "dirty" emissions, but an actual physical threat. Letters to the PSC to that effect cited personal experiences and local anecdotes of illness perceived to be caused by the emissions, as well as studies relating such emissions to learning disabilities in children. Though climate change was more

[23] See Table 6.1

commonly cited in letters from New Castle County in the northern part of the state, the personal health of New Castle County residents seems not to have been perceived to be at risk.

The third reason is mobilization. Two of the NGOs involved in the process, Citizens for Clean Power (CCP) and Citizens for a Better Sussex (CBS), were based in Sussex County; CCP was formed specifically to address its members concerns about the Indian River plant, and CBS focused on the plant as part of the group's campaign for environmentally responsible development. The organizations had meetings and sponsored talks to educate the public about the effects of power plant pollution as well as the possibilities of wind power. They maintained extensive contact lists, to which they sent updates on their progress, announcements of public hearings and requests that members send letters and make phone calls to their state representatives at pivotal points in the HB6 process. Their members and contact lists were primarily Sussex residents. Although other groups attempting to mobilize about pollution were located in New Castle County, for example, Coalition for Climate Change Study and Action, they were not as effective in drawing in large groups of the public to meetings, nor mobilizing them to attend and comment to the PSC. Regarding the distribution of form letters, the canvassing was done primarily by the Clean Air Council, to lesser extent ACORN, groups based in the North (CAC is actually in the Philadelphia area)—This focus on canvassing rather than organizing explains the predominance of form letters from New Castle County.

ENERGY CHOICE

One basic, although less analytically revealing, parameter is the number of comments in favor of or against each of the three generation proposals. Table 5.2

tabulates the number of mentions, positive or negative, about each of the three sources of electricity. The same letter could, for example, positively mention coal, negatively mention wind, and not mention natural gas at all. I count each fuel, without distinguishing between, for example, existing coal versus the proposed new coal facility. Here I count only unique comments because, as discussed in my methods chapter, I am interested in the motivations and concerns of those who participated, and the unique comments on energy choice are the first basic piece of information needed to determine those.

Table 5.4 Count of positive or negative mentions for each proposed generation type, including unique comments only.

	Positive Count/Percent	Negative Count/Percent	Total
Offshore Wind	643 (88%)	84 (12%)	727
Coal	62 (13%)	410 (87%)	472
Natural Gas	10[24] (5.4%)	175 (94.6%)	185
Nuclear	14 (63.6%)	8 (36.4%)	22
Solar	6 (100%)	0 (0%)	6
Geothermal	1 (100%)	0 (0%)	1
Wave	1 (100%)	0 (0%)	1
Tidal	2 (100%)	0 (0%)	2
Efficiency	28 (100%)	0 (0%)	28
Conservation	47 (98%)	1 (2%)	48

We can observe from this table that offshore wind and coal were together the main focus of public comment. For many of the common issues in this debate,

[24] The natural gas proposal had no supporters as a standalone bid. It was discussed more as a possible back-up facility for the Bluewater Wind project when that possibility was being considered by the PSC.

opinions expressed about wind and coal were sometimes related in that similar numbers of comments were either in favor of wind and against coal or vice versa, particularly in January, February and March of 2007.[25] Of 857 total unique comments, 92% mentioned wind or coal. All other resources together including natural gas were mentioned by only 25% of comments. When examining just offshore wind and coal, it is also apparent that the offshore wind was the more discussed of the two in the public record. 85% of all public comments mentioned wind, while only 55% mentioned coal.

Overall, of the 643 total unique comments that were positive toward wind, 267 did not mention coal at all. However, that leaves 374 (58%) of those positive wind comments that were also negative about coal. 374 is 91% of all negative comments about coal. So while all positive wind comments were not negative toward coal, most comments that were negative toward coal were also positive about wind. While this reveals a possible "negative" motivation for some portion of wind supporters, meaning that they were not voting, so to speak, "for wind", but rather "against coal", there were only two months when negative comments about coal outnumbered positive comments about wind. (See figures 5.3 and 5.4).

Beyond simply tallying the positive and negative comments, they are also linked to the commentator's concerns. A good example of this is climate change: There were 5 positive and 159 negative comments about coal relating coal to climate change. There were 193 positive and 5 negative comments about wind relating wind to climate change. Many of these associations are made within the same comment,

[25] In many cases this was because they were the same comments endorsing one and condemning the other.

which may in one line advocate for wind and a subsequent line reject the idea of a new coal plant, both based on concerns about climate change.

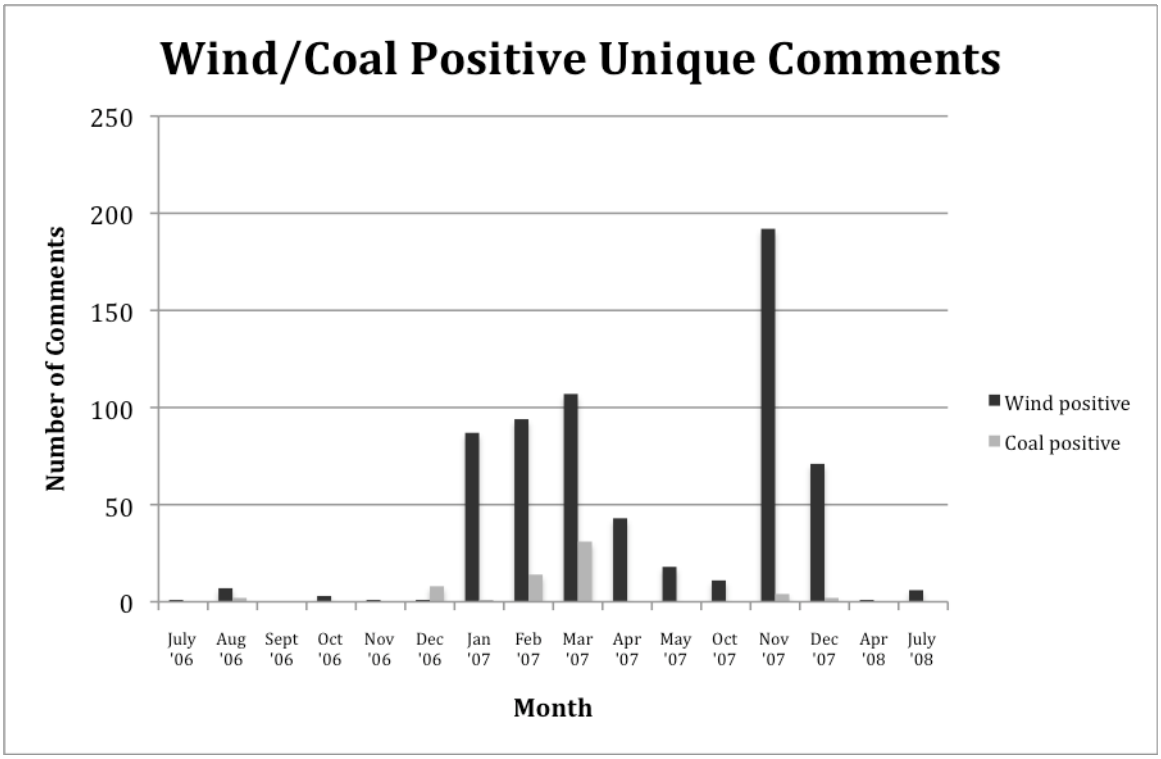


Figure 5.3 Total numbers of positive comments submitted regarding wind and coal

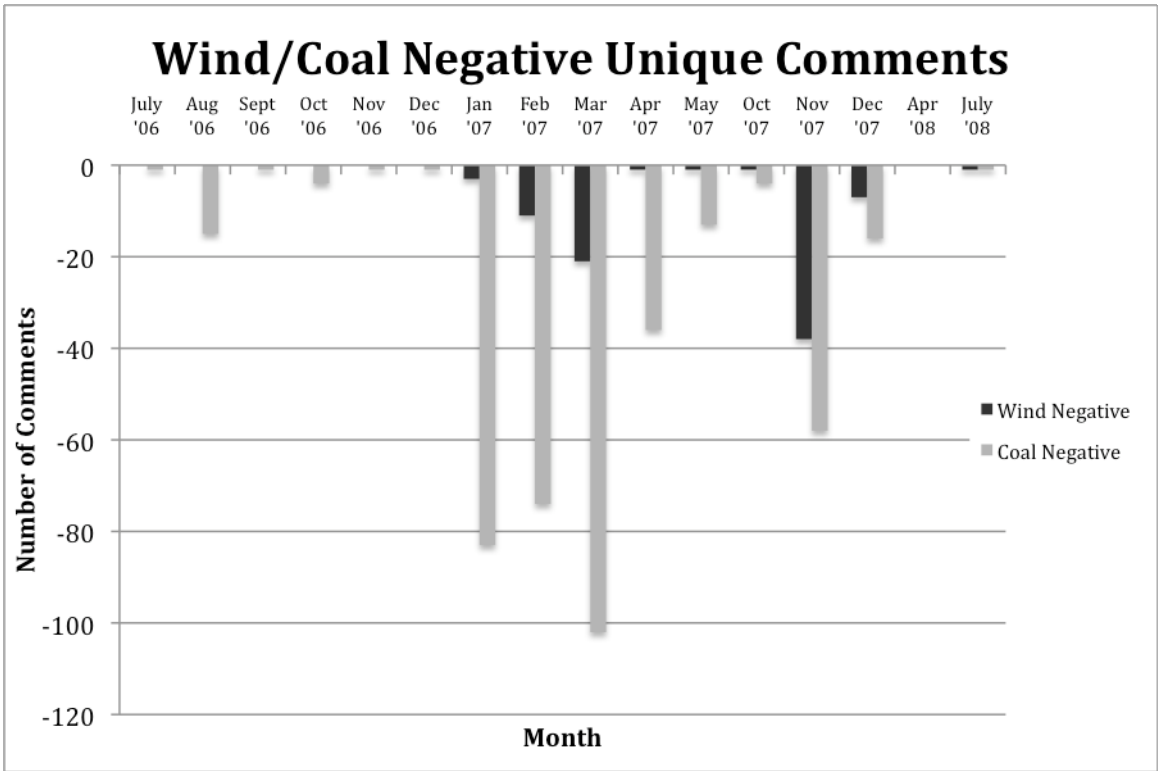


Figure 5.4 Total numbers of negative comments submitted regarding wind and coal

During one interview I asked an advocate who was a member of Citizens for Clean Power about this idea. She first responded that the debate should not be parsed into a "coal vs." wind" choice, but went on to say that, "The wind farm was a Godsend because it gave us a real alternative [to new coal-powered generation]". The wind proposal gave advocates a solution to work for, something to say "yes" to rather than simply being against the Indian river power plant. This theme was expressed at a regional meeting of Sierra Club representatives I attended as well: regional leaders were looking for ways to "stop just saying 'no' all the time" to development seen as environmentally threatening, and instead begin saying 'yes' to potentially beneficial, responsibly implemented development.

Despite the fact that there was also a proposal for a natural gas plant, and more broadly despite the fact that an all-source RFP allowed any generation to compete with the early possibility of a 600 MW coal plant, the low number of comments on resources other than wind and coal seems to indicate that most of these participants immediately viewed their "choice" as dichotomous: offshore wind or coal (Personal Communication). This perception seems to have led to the exclusion of other alternatives in the minds of advocates. The small number of comments on solar, geothermal, wave, and tidal may also be related to the lack of a bid by a commercial generator for these resources. Lack of market tested devices and/or cost competitiveness would at least explain the lack of bids utilizing these sources.

When DP&L proposed an on-shore wind RFP late in the process in January 2008, this idea was generally rejected by participants. My conclusion that it was rejected comes both from my earlier interviews and later informal discussions with participants, as very few related citizen comments appear in the available public

record. Though the wind power would have come from neighboring states, and thus not meet the requirements of HB6, Delmarva requested an entirely separate RFP, received bids, and proceeded to discuss contracts with bidders. Although this process was separate from the HB6 process, DP&L began to present the on-shore wind offers as being a better approach to meet the environmental goals of the wind advocates: It would bring clean renewable energy to Delaware at lower cost to its customers than onshore wind. Substantive negatives to buying onshore wind cited by analysts and in a State Senate minority report were that the onshore wind is night peaking, that it was just trading of power at distant generators, neither reducing pollution in Delaware nor really powering Delaware, and that the resource was too small for subsequent expansion that would make a real impact on climate (Delaware Senate minority report 2008: 3).

In semi-structured interviews in November 2007, I asked participants if they would have supported other clean generation such as onshore wind or solar if there had been no HB6. At that point the possibility was theoretical, but the participants said they would have supported it. However, when I spoke to one of the previously interviewed anti-coal activists again in 2008 after Delmarva's alternate onshore proposal was made, she claimed that it was a tactic to kill the Bluewater contract, after which the proposal would be dropped. This idea that Delmarva intended only to stall or halt progress toward a PPA, and the general mistrust of Delmarva that went along with it was echoed in conversations I had with other activists during this period.

Though only 26 comments in the public record mention the possibility of onshore wind, 15 are positive. Table 5.5 below shows subjects that participants

related to onshore wind in their comments. The "jobs" row, for example, refers to comments that were positive or negative about onshore wind, and included commentary on how buying onshore wind from another state would affect job opportunities in Delaware. The table clearly shows that comments on onshore wind are more focused on price (low price, price stability, and the price of offshore wind) than on the subjects addressed most commonly overall (environment, climate change, health concerns, shown in Table 6.1).

Table 5.5 Subjects most commonly related to energy choice

	Positive About Onshore Wind	Negative About Onshore Wind	Total
Environment	1	3	4
Climate Change	2	4	6
Health Concerns	0	2	2
Jobs	0	4	4
Low Price of Electricity	6 (considered low price a goal)	7 (did not consider low price a goal)	13
Price Stability	4	7	11
Price of Offshore Wind	7 (considered price too high)	3	10
Delmarva Power & Light	2	6	8

Another type of proposal, which might be called "energy management choices" as a supplement or as an alternative to generation of any sort. This included, aggressive conservation (47 comments) and efficiency (28 comments) programs. These two concepts are related to the previously mentioned concrete policy initiative, the Sustainable Energy Utility (SEU). This was a clearly articulated policy solution to multiple problems related to current and future modes of power generation set in

motion well before the rate increase, yet few advocated for it. Why were more advocates not pushing for accelerated introduction of the SEU program? The SEU may have been a more high-profile option were it further into the implementation stage. However, this initiative did not seem to be in the public consciousness yet. Only 14 comments were submitted that mentioned it at all, and three of those came from Senator Harris McDowell (D, Wilmington North), Chair of both the State Senate Energy and Transit Committee, and the Sustainable Energy Utility task force. The SEU may have seemed a more viable option were it already up and running. The near total lack of comment on the SEU precludes speculation on public opinion regarding it based on this data set. Participants may simply been working within the parameters originally set by the state mandating that the outcome would be a contract for some type of new generation.

Sources of major form letters and their expressed preferences

The form letters submitted to the PSC during the HB6 process were concise versions of common arguments and opinions authored by an individual or organization and distributed so others can sign and submit them. In a complex and multi-faceted debate, form letters were a way for members of the public who were not actively engaged in the HB6 process to express their support or opposition to the choices facing the PSC with a minimal time investment.

While form letters began appearing at the beginning of 2007, they were not submitted in large numbers during the pivotal "bid evaluation" phase between December 2006 and May 2007. Rather, use of canvassing and form letters peaked in the fall of 2007 as the vote on the proposed contract between DP&L and Bluewater Wind approached.

Only five of the identified forms (those I have numbered 1,2,3,4, and 8) were submitted more than 20 times each. One other letter was submitted 22 times, but was later shown that while they contains the names of real people, those individuals claimed not to have signed the letters that were submitted (Firestone, November 19, 2007). However, the letters with falsified signatures were processed and loaded onto the PSC website before being revealed as invalid. They were later acknowledged as being invalid and given "appropriate" weight by the PSC, but they were not removed from the PSC website or marked in any way by PSC staff. Because of the foregoing, I have treated them equally as part of the data base of form letters.

I identified 22 form letters.[26] Ten of the forms were pro-wind, five were pro-coal, four were anti-wind, and three were anti-coal. The focus of the form letters related to the energy choice is similar in general to the unique comments submitted. Only two of the form letters (referred to here as forms #1 and #4), contributed to the November spike. These two letters alone account for 1,130 of the 1369 total form letters submitted throughout the process.[27]

[26] These were letters that at first seemed the same as others I had seen while searching for form letters, however, on further examination only shared some wording.

[27] See Appendix A for full text of form letters.

Table 5.6 Tabulation of form letters

	Number of Forms	Total Number of submitted (signatures)	Number of Duplicates Included in Count	Percent of all Comments
Pro-coal Only	5	56	2	4.2%
Anti-coal Only	2	22	1	1.6%
Pro-wind Only	10	1069	159	89.7%
Anti-wind Only	2	23	0	1.7%
Pro-coal AND Anti-wind[28]	1	7	0	0.5%
Pro-wind AND Anti-coal[29]	2	34	3	2.7%
Pro-gas	0	0	0	0%
Anti-gas	0	0	0	0%

Form #1, submitted 631 times during the contract phase, was a reaction to events that, in the view of the author(s), were threatening the wind proposal. This form letter is shown in full in Figure 5.5.

[28] This row tabulates comments that were both for coal and against wind in the same form letter.

[29] This row tabulates comments that were both for wind and against coal in the same form letter.

INDIVIDUAL RATEPAYER COMMENT TO THE PUBLIC SERVICE COMMISSION OF THE STATE OF DELAWARE:

PSC Docket No. 06-241
Review and Approval of the Request for Proposals for the Construction of New Generation Resources under 26 DEL. C. § 1007(d)

Dear Members of the Public Service Commission:

I am a resident and utility ratepayer in Delaware. I understand that the Public Service Commission is re-examining the proposal of Bluewater Wind to build an offshore wind facility in Delaware. This re-examination is not surprising. Efforts to create a clean and renewable energy future would inevitably bring out powerful and well-financed opposition from traditional, dirty energy interests. In this context, I wish to express my strong support for Bluewater Wind's proposal to build an offshore wind facility.

Bluewater Wind's proposal protects the environment. Burning fossil fuels contributes to Delaware's chronic air pollution problems; it exacerbates global warming, a trend that threatens Delaware's historic coastline. The offshore wind proposal will produce NO air, water, or land pollution, and will contribute no greenhouse gas emissions.

Bluewater Wind's proposal is good for the economy. Continuing to depend solely on fossil fuels ensures an ever-escalating cost of energy. Fossil fuel costs increase each year and are predicted to do so indefinitely. We cannot continue to remain dependent on energy that has such cost volatility and that has to be imported into the state.

Delaware is known as the First State because of its historic patriotism. Supporting energy from non-fossil fuels benefits the nation's energy independence, increases Delaware's energy security, promotes economic development and protects the environment.

As a resident of Delaware, I am proud that my state will be the first in the nation to build offshore wind. I urge you to move forward with the approval process for the Bluewater Wind facility.

Sincerely, Charles T Vineyard

CHARLES T VINEYARD

Figure 5.5 Form Letter #1

It was meant to address the fact that the PSC was reexamining the Bluewater proposal, stating, "This reexamination is not surprising. Efforts to create a

clean and renewable energy future would inevitably bring out powerful and well-financed opposition from traditional, dirty energy interests." This implied pressure and influence coming from industry, who seem to be "the bad guys" in this letter, is echoed in unique comments and interviews.

The remainder of the letter was a statement of reasons to support offshore wind. It included environmental benefits and addressed both traditional air pollution and climate change considerations, touched on the state economy, energy independence and the cost of energy as well as cost volatility, all as they relate specifically to the state of Delaware. It also states in the first sentence and later reiterates that the sender is a resident of Delaware and utility ratepayer. There is a notable lack of reference to health concerns, a topic that was a running theme throughout the process.

Form #4, submitted 499 times, is addressed to the heads of the four state agencies designated to approve a proposed contract, whereas #1 is addressed generally to the PSC.

November 2, 2007

The Honorable Jennifer Davis
Director, OMB
Haslet Building
Dover, DE 19901

Russ Larson
Controller General
Legislative Hall
Dover, DE 19901

The Honorable John Hughes
Secretary, DNREC
89 Kings Highway
Dover, DE 19901

Arnetta McRae
Chair, Delaware PSC
861 Silver Lake Blvd
Dover, DE 19904

Dear Director Davis, Secretary Hughes, Controller General Larson and Chairwoman McRae:

I support the off-shore Blue Water Wind Farm and I thank you for your previous endorsement.
I strongly urge you to direct the PSC to sit down as soon as possible to negotiate a satisfactory compromise which will lead to the development of the Blue Water Wind Farm.
I would appreciate a response. Thank you.

Signature Mary Janette

Print Name Mary Janette

Address 8769 Greentop Road

Figure 5.6 Form Letter #4

The content, while timely, is very simple, stating only support for the Bluewater Wind proposal and requesting the PSC "…to negotiate a satisfactory

compromise which will lead to the development of the Blue Water Wind Farm." It then requests a response, which I assume is meant to highlight the sheer volume of these letters that were planned to arrive.

While pro-wind form letters both espoused the virtues of offshore wind and drawbacks of IGCC technology, pro-coal letters (#s 16, 20, 21, 18, and 7) generally concentrated more on the advantages of coal rather than the disadvantages of wind. With one exception, they stick to procaliming the reliability, price stability, and environmentally friendliness of IGCC coal. The exception (form letter #7) claims that offshore wind power would be neither reliable, nor price stable, nor environmentally friendly. The one solely anti-wind letter (form letter #15) that said nothing about coal focused on pricing, financing, and contract considerations rather than perceived problem with wind technology itself.

NGOs and Form Letters

I also counted form letters in which the signers identified themselves as members of NGOs. Only 17 NGO members identified themselves, and 15 of of those identified themselves as union members. In these letters the union identification is included in the first line of the text. While it is likely that NGOs drafted and distributed form letters and petitions, unions were the only group that made obvious use of forms themselves, actually including their union chapter along with their opinions. This may indicate a basic difference in strategy based on the nature of the two types of NGOs and their relationship with government. Groups such as Citizens for Clean Power (CCP) and Citizens for a Better Sussex (CBS) are local level, grass roots organizations. While one goal of form letter use among such groups may be to rally support for the group's desired outcome among nonmembers, or to spread

awareness about the debate allowing people to make their own decisions, another goal may be to get a show of support from individuals not clearly associated with the activist group. As small groups, this is an effective use of limited resources: using their knowledge, and possibly their development into lay experts, to organize, educate, and notify the general public of developments and implications of the process.

It may also indicate an understanding that their own comments alone may be insufficient to sway decision makers. Particularly in this case, when the outcome would affect such a large segment of Delaware residents, they probably judged that decision makers needed to hear from the general population. This was particularly important when some opponents of the offshore wind proposal began claiming that support for it consisted largely of a few dozen people. It would have been important that support come from anyone but those people. Thus, the power of a letter from an apparently unaffiliated individual would be partially due to that person's status as a member of the general public.

The unions in contrast invoked the acknowledged power of their organization in both their form letters and their unique comments. Their focus was to make clear what "we" support, meaning the members commenting, their families, the many other members they represented, as well as their representatives and lobbyists in the state capital. The unions were strongly in favor of the NRG proposal during the bid phase; the NRG coal plant employed more workers and their unions were much better organized than Conectiv's workers. The unions' support the Bluewater Wind proposal after the wind developer was selected to negotiate the PPA. The size of the unions as a portion of the state constituency and more important, their legislative

representation and ability to speak with one voice made identification as a member arguably as important for inclusion as the content of their letters.[30]

Another group identified in form letters, though not members of an NGO, were Delmarva Power & Light customers. DP&L serves 498,000 retail electricity customers-about 57% of the state's residents, who are in a sense Delmarva's "constituency". Though DP&L customers were not a cohesive voting bloc like the unions, HB6 was passed specifically to address rate increases that affected these customers, making this a defensible identification for the HB6 hearings. Form letter #15, took advantage of this by stating that it was unfair for DP&L customers to finance the country's first offshore wind farm, taking the position that not only would choosing the wind proposal not help cash-strapped DP&L customers, it would unnecessarily burden them further. This letter was essentially a summary of the wind opposition argument, claiming that higher capital costs related to choosing an experimental wind technology, would be heaped on DP&L customers, while the potential benefits would accrue to others in Delaware. By contrast, form letters advocating the wind proposal that identified the sender as a DP&L customer either implied or plainly stated that those DP&L customers that signed it were willing to pay more for the various prospective long-term benefits of wind power. Both these sentiments were included in unique comments as well.

The previously mentioned form letter number #1, has a header saying it is an "individual ratepayer comment". The first line reiterates that the author is "a resident and utility ratepayer in Delaware", though it does not specify that the person

[30] The eventual support of local unions ultimately contributed to acceptance by the state legislature of the proposed contract submitted by Bluewater Wind and Delmarva Power & Light.

is a "Delmarva ratepayer". The identification still focuses the letter on the significance of the stated choice for residents' electric bills, and puts ensuing statements and opinions in that context for those who received and read it.

NGO Participation

NGOs worked to educate and alert the general public of developments throughout the HB6 process. NGO members also wrote letters to the PSC themselves, spoke at hearings and gave interviews. One group, the Clean Air Council, canvassed New Castle County and collected more than 2000 letters in favor of the offshore wind proposal, which they then hand-delivered to the PSC. NGOs did not, however, constitute the entire citizens' movement related to Delaware's choice for new electric generation. Only 229 unique comments (26.7%) came from individuals identifying themselves as part of any organization. Members of Sussex County-based group Citizens For Clean Power (CCP), often cited by those familiar with the HB6 process as leaders of the wind advocates (Nagenast 2007), submitted only 2% of the total number of comments, and 7.8% of unique comments.

Two other types of communication are shown in the following figures. One is email distribution sent to a list that extends beyond the official group membership. I signed myself up for one of these lists in order to observe methods and subjects of such mass communications. In Figure 5.7 below, an email flyer (a PDF attached to an email distribution, formatted so that it could have also been printed and handed out) that went to a distribution list by Citizens for a Better Sussex notifies the recipient when and where hearings are being held. On the left side of the sheet, it includes information about wind power that could be either reasons for the recipient to attend the hearing and support wind, or could be talking points should they participate

at the hearing. Other emails are simply letters that notify the list of relevant occurrences and go on to request that recipients write or call their state representative to express their support for offshore wind.

Figure 5.7, an advertisement, is an example of a second form of communication used by parties including NRG, DP&L, Bluewater Wind, unions, and citizens' advocacy groups. The examples in Figures 5.8 and 5.9 were published during the bid process in a Sussex-focused newspaper called the Cape Gazette, a 24,000 paper/week publication, and thus reached more residents than email lists or canvassing campaigns were likely to. This advertisement followed, and its points respond to, a prior advertisement in the same paper by NRG, supporting their coal bid. The text is very critical of claims made in the NRG ad, and by their supporters, then makes positive points about wind. It cites six NGOs and "hundreds of concerned citizens" as "endorsing" it, and gives a URL for one group for further information (indicative of the transitory nature of these groups, the URL given is no longer active). The presence of such ads demonstrates the belief of participants (both NRG and the NGOs supporting this ad) that public opinion could affect the outcome—this is at variance with the specifics of the law, HB6, which laid out a process of administrative decision making based on an administrative record, with the potential for public input but a decision based on set factual criteria.

From: "Joan Deaver" <joandeaver@comcast.net>
Subject: **PSCHearings.pub**
Date: 8 March 2007 11:29:12 GMT-05:00
To: <joandeaver@comcast.net>
5 Attachments, 35.6 KB Save Slideshow

Last Chance to Speak in favor of WIND POWER for DE.

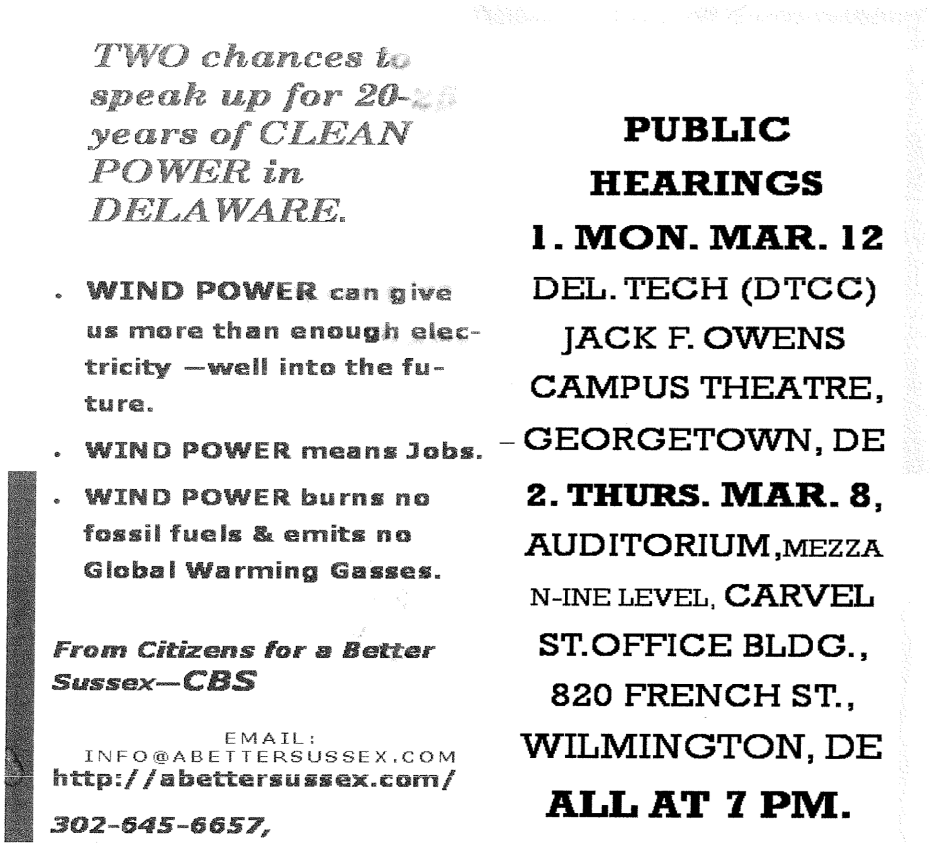
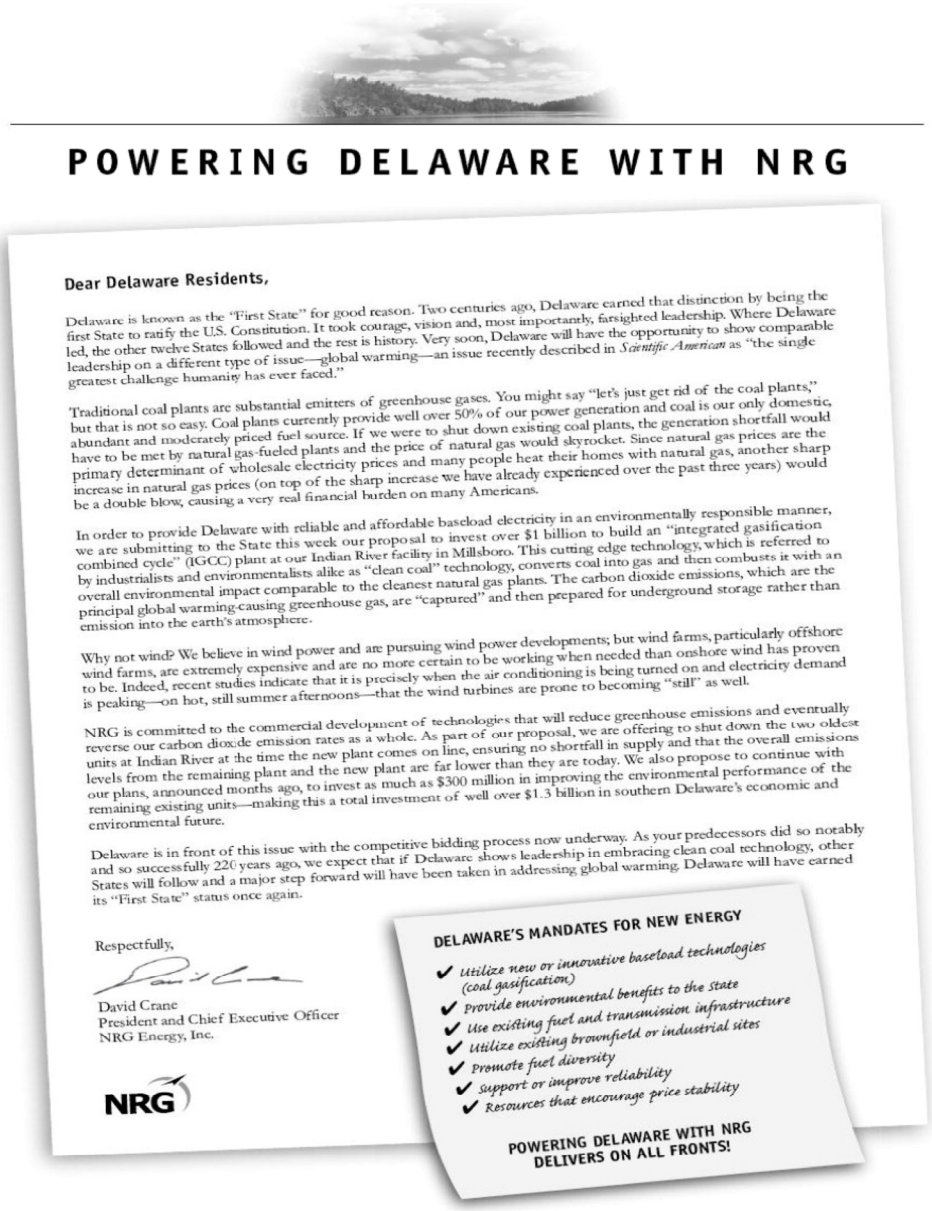


Figure 5.7 Citizens for a Better Sussex flyer informing recipient of public hearings. The blurred area at top left should read, "Two chances to speak up for 20-25 years of CLEAN POWER IN DELAWARE".



POWERING DELAWARE WITH NRG

Dear Delaware Residents,

Delaware is known as the "First State" for good reason. Two centuries ago, Delaware earned that distinction by being the first State to ratify the U.S. Constitution. It took courage, vision and, most importantly, farsighted leadership. Where Delaware led, the other twelve States followed and the rest is history. Very soon, Delaware will have the opportunity to show comparable leadership on a different type of issue—global warming—an issue recently described in *Scientific American* as "the single greatest challenge humanity has ever faced."

Traditional coal plants are substantial emitters of greenhouse gases. You might say "let's just get rid of the coal plants," but that is not so easy. Coal plants currently provide well over 50% of our power generation and coal is our only domestic, abundant and moderately priced fuel source. If we were to shut down existing coal plants, the generation shortfall would have to be met by natural gas-fueled plants and the price of natural gas would skyrocket. Since natural gas prices are the primary determinant of wholesale electricity prices and many people heat their homes with natural gas, another sharp increase in natural gas prices (on top of the sharp increase we have already experienced over the past three years) would be a double blow, causing a very real financial burden on many Americans.

In order to provide Delaware with reliable and affordable baseload electricity in an environmentally responsible manner, we are submitting to the State this week our proposal to invest over $1 billion to build an "integrated gasification combined cycle" (IGCC) plant at our Indian River facility in Millsboro. This cutting edge technology, which is referred to by industrialists and environmentalists alike as "clean coal" technology, converts coal into gas and then combusts it with an overall environmental impact comparable to the cleanest natural gas plants. The carbon dioxide emissions, which are the principal global warming-causing greenhouse gas, are "captured" and then prepared for underground storage rather than emission into the earth's atmosphere.

Why not wind? We believe in wind power and are pursuing wind power developments; but wind farms, particularly offshore wind farms, are extremely expensive and are no more certain to be working when needed than onshore wind has proven to be. Indeed, recent studies indicate that it is precisely when the air conditioning is being turned on and electricity demand is peaking—on hot, still summer afternoons—that the wind turbines are prone to becoming "still" as well.

NRG is committed to the commercial development of technologies that will reduce greenhouse emissions and eventually reverse our carbon dioxide emission rates as a whole. As part of our proposal, we are offering to shut down the two oldest units at Indian River at the time the new plant comes on line, ensuring no shortfall in supply and that the overall emissions levels from the remaining plant and the new plant are far lower than they are today. We also propose to continue with our plans, announced months ago, to invest as much as $300 million in improving the environmental performance of the remaining existing units—making this a total investment of well over $1.3 billion in southern Delaware's economic and environmental future.

Delaware is in front of this issue with the competitive bidding process now underway. As your predecessors did so notably and so successfully 220 years ago, we expect that if Delaware shows leadership in embracing clean coal technology, other States will follow and a major step forward will have been taken in addressing global warming. Delaware will have earned its "First State" status once again.

Respectfully,

David Crane
President and Chief Executive Officer
NRG Energy, Inc.

NRG

DELAWARE'S MANDATES FOR NEW ENERGY

- ✔ Utilize new or innovative baseload technologies (coal gasification)
- ✔ Provide environmental benefits to the State
- ✔ Use existing fuel and transmission infrastructure
- ✔ Utilize existing brownfield or industrial sites
- ✔ Promote fuel diversity
- ✔ Support or improve reliability
- ✔ Resources that encourage price stability

POWERING DELAWARE WITH NRG DELIVERS ON ALL FRONTS!

Figure 5.8 NRG ad run in Cape Gazette December 19, 2006. Ad includes the "coal gasification" example of innovative technologies in HB6, but omits the "wind and solar" examples of environmental technologies.

Citizens of Delaware

We need to act now to meet our needs and save the earth

NRG's ads are misleading and have neglected important information.
Please take the time to read the following:

NRG fails to point out that:

- They will continue and in fact increase the extraction and transportation of coal, causing continuous, serious damage to the environment.
- They will continue to emit SOX, NOX, mercury, and other pollutants into our air. They will continue to be "dirty".
- They will increase the release of CO2 into the air, causing global warming and acidification of the ocean.
- They will continue to release fine particulate matter which, according to Dr. James Rivera, Director, DE Dept of Health, "shortens the lives of 95 Delaware residents each year."
- They will continue to run the current polluting coal stacks which, if a new one is added, will make Indian River one of the two biggest polluters in the state.
- They will not have developed a system for capturing, transporting and storing all the CO2, a future carbon tax for consumers and a future catastrophe for the earth.

Wind is supported because:

- Wind is safe, clean, renewable and quiet.
- Wind is free for use: no polluting, extraction or export needed.
- Wind turbines cause only minimal injury to birds according to a Denmark wind study in November 2006; and no injury to humans.
- Wind is not harmful to the environment.
- Wind is nearly constant 6-8 miles out: over supply can be fed into the grid to offset peak period lulls.
- Wind development will create a wide variety of new jobs in Delaware.
- Wind is the only choice that is healthy for our future generations.

Endorsed by: Citizens for Clean Power, Citizens for a Better Sussex, Delaware Audubon Society, Unitarian Universalists of Southern Delaware, Coalition for Climate Change Study and Action, Coastal-Georgetown American Association of University Women and hundreds of concerned citizens.

For info: www.abettersussex.com/ENERGY.html

Figure 5.9 Citizens for a Better Sussex advertisement in the Cape Gazette responding to a previous NRG advertisement shown in Figure 5.8.

Lay expertise and limitations of public participation

Electricity policy, the economics of which have been changing with deregulation and the prospects of carbon-limiting legislation and large-scale integration of renewables, can be daunting in its complexity. The intricacies of evaluating competing proposals are sufficiently complex as to lead to mistakes in professional assessments. While a "lay expert" may have an understanding far beyond that of the average citizen, the analytical skills necessary to evaluate documents (as the "public comment" period invites residents to do) are beyond those possessed by the average citizen. This leads to what I consider a gap in the capabilities (and effectiveness) of citizen advocates. Regardless of the level of "lay expertise" attained by advocates, without some formal training in law, policy analysis, and perhaps in this case electrical engineering, critical examination of proposals and reports related to this process would be difficult.

Several activists involved in this process may be termed "lay experts", people who are not formally trained in fields relevant to their cause, but who have done sufficient research as to have a better grasp of the issues than almost anyone else who is not (Aronson 1993: 72). Some are already career activists familiar with the twists and turns of bureaucracy, and fluent in the jargon of industry. Others have only recently gained expertise in the areas of traditional energy policy and industry, renewable energy policy, and the chemistry and biology necessary to argue intelligently for their cause.

Aronson says that this expertise enables enhanced participation and increases the urgency of that participation.

> The knowledge they acquired had a number of effects. It increased their fears and concerns; it deepened their anger as they learned about

> permit violations and so forth that government agencies ignored; and it empowered them-raising their confidence (Aronson 1993: 72).

While Aronson states that it is common for citizen advocates to seek assistance from professionals in relevant fields, explaining that advocates,

> …often got some assistance from sympathetic lawyers, doctors, or natural scientists who helped them understand the technical language…SG described how her group was empowered by a local attorney: "He teaches us how to go into court for ourselves. He has taught us, and I think the reason our group has been successful is because our lawyer does not do it for us (Aronson 1993: 72).

Advocates in Delaware also received outside help and participated themselves, but I am skeptical that those without professional training would have achieved the depth of analysis necessary to truly critique some essential documents. In this particular case, the continuing involvement of Firestone and Kempton of the University of Delaware turned out to be pivotal in the inclusion of offshore wind in the process, in opening the process by pushing for increased public access to bid-related documents so citizens could more fully participate, and in increasing the effectiveness of that participation by helping advocates understand the technical documents released by parties to the proceeding. As discussed earlier, it was this pair that first contacted Bluewater Wind to notify the company that the Delmarva RFP was being drafted. In addition to their professional knowledge of the environmental law, electrical systems, energy policy, and citizen advocacy, their previous experience assessing the Mid-Atlantic Bight offshore wind resource, conducting formal surveys of public opinion related to offshore wind gave them some knowledge of the industry, its members, and the barriers standing in the way of development.

When examining unique letters sent to the PSC, there initially appeared to be very few that commented on issues and events being addressed by the hearing or public meeting during that specific time period. It seemed that most were general comments and opinions related to the commenter's preferred bid. This observation made me question how informed the general public actually were about the choices before them, and how those choices related to the goals of the HB6 process. Perhaps, when presented with a choice between a new coal burning power plant and a wind farm, people simply liked the idea of a wind farm more.

In order to answer this question, I ran a test, results summarized below in Table 5.7, with comments divided into three groups: Those who made a general comment stating their power production choice ("Type I"), those who stated their choice and some reason for it ("Type II"), and those who made an argument related to current issues at the time, be they a hearing, or the designated topic of a particular comment period ("Type III"), and those who did not state a choice or opinion and did not directly address the process ("Other").

Table 5.7 Number of comments to PSC during each period of the HB6 process, by type

	Phase 1	Phase 2	Phase 3	Phase 4
Type I: Generation Choice	10	13	115	0
Type II: Choice & Reasons	9	238	135	2
Type III: Argument Based on Timely Issues	19	87	81	9
Type IV: Unrelated	1	20	1	0
Total	39	475	332	11

Type II, a comment on the individual's power choice and some more argument or reason for it, was by far the most commonly submitted. There were 1.5 times as many Type II comments submitted as the more general Type I comments indicating only choice. There were nearly twice as many as Type II comments as there were Type III comments, those addressing specific and timely issues.

There were more of the most specific comments than the other two more general types submitted during the first phase, the RFP evaluation (it should be noted that the PSC received only 39 unique comments during this phase, compared to 475 and 332 in the two subsequent phases). This lower level of participation and more focused content of comments may be due to three circumstances. First, the first phase was more technical than the others, lending itself to specific comments. Second, this was before bids had been submitted, before the choice before the PSC was entirely clear. The process was still in its initial stages, and while the decisions being made

would likely affect the outcome, there was less happening at the time to interest and involve the general public. Third, the process had not been widely publicized yet, and wind was not widely known by the public as an option. While the first public workshop on the subject held in August 2006 was well-attended, hinting at the potential scale of public interest, several of those who commented at that point were advocates and acknowledged experts who had previously been watching the rate hike, the passage of HB6, and the release of the draft RFP.

Ultimately, it seems that both people who supported the idea of an offshore wind farm and those who opposed it were relatively well-informed, particularly considering the fact that there is currently no installed offshore wind capacity in the United States. Most members of the public made neither irrational nor outlandish claims about the possible effects of having a wind farm off the coast of Delaware. Some were based on incorrect assumptions but not unreasonable; one man was concerned that the turbines would be placed in shipping lanes. The following chapter outlines the concerns most commonly expressed by those who commented.

Chapter 6

ANALYSIS OF CONTENT OF COMMENTS: ISSUES, ARGUMENTS, AND PERCEPTIONS

When considering the reactions of citizen participants to Delmarva Power & Light's legislatively-mandated Request For Proposals, one should remember the origin and the stated objective of the HB6 process. As stated earlier, the RFP required that bidders submit proposals for new in-state power generation that would ensure long-term price stability, be environmentally beneficial, use new technologies, and locate at brown field sites (EURCSA 2006). The level of public concern regarding price is one indicator of the fundamental differences in the problems to be solved as perceived by the utility, the state government, and the customers and constituency those entities served.

ISSUES

Price versus price stability

Much of the initial focus by state officials (and criteria for evaluation) was on the price of electricity, whereas it was price stability that was specifically was required by HB6 (EURCSA 2006). However, in the RFP phase of the hearings, the issue of "price" was added and given more weight than price stability, in one early hearing, Chairwoman McRae noted that price stability is not helpful to consumers if the price is very high but stable. Whether price or price stability or both, concerns with the price of electricity were reasonable given the 59% rate increase that

Delmarva customers had experienced less than a year before. It seems though, that the perceived problems being addressed by members of the public as they joined the debate were various and different from those assumed by the state legislature when it drafted HB6.

Of the 857 unique comments, 80% did not mention low price at all, 72% did not mention price stability, and 84% did not mention the price of wind. Why would the majority of comments make no mention of the price considerations motivating the process and weighted most heavily by the RFP criteria? Electric prices affect all consumers, every month. A rate increase such as the one that accompanied deregulation in Delaware would have an immediate and noticeable effect on the finances of families throughout DP&L's distribution territory. At issue throughout this process, from pre-bid discussions regarding the effects of contract size on prices to the contract negotiations a year later, parties to the proceedings constantly addressed how all aspects of the process would ultimately affect the price of electricity produced by the winning bidder. And yet, many members of the public who clearly followed these developments focused their comments on other aspects and potential consequences of the debate such as environmental and health concerns, jobs, climate change, and business ethics.

As the definition of "price" became contentious, more participants commented on different aspects of it. I therefore included the three "price" variables introduced earlier: "low price" (the traditional focus of utility regulation), "price stability" (explicit requirement of HB6), and "wind price" (used as an argument against wind, also critical in the contract phase). Although the price of power

(calculated cents/kWh) for the IGCC coal bid was actually higher than the wind price, it was not addressed often in the comments and thus I have not separated it out.

Low Price

Of the 168 people who did mention low price, over 100 mentioned it only to say that they did not consider it a goal in the debate. This was nearly twice as many as those who considered it a priority. These 100 comments consisted of two different expressions of a similar thought, which can be summarized as "Low price is not a concern here". One expression was to say that low price was not important to the commenter. The other form of this expression was to say that the commenter was willing to pay a higher price for the type of energy they favored.

This debate and several heavily analytical public comments made during it may have brought the two different interpretations of "price" into the consciousness of both the public and the parties to the proceeding. As the comment periods progressed, the "low price" concept was adopted first by coal advocates, then even more so by opponents of the wind contract, while "price stability" was mainly championed by wind supporters.

The distinction between the two may not have been as clear to the general public as it was to those who participated in the early RFP debate. How many people made either one a priority, how many people mentioned either one exclusively? Though, as stated above, 168 people mentioned low price and 239 people mentioned price stability, people mentioning price stability often linked it to other concerns rather than discussing it in isolation. This is evident in tests excluding comments that also mention the most common concerns, pollution, health effects, climate change,

and the environment; unique comments prioritizing low price drop to 35 (4%) and price stability drop to 62 (7%).

Price Stability

Those who mentioned price stability were more "positively" motivated in that they were advocating their energy choice because they felt it promised price stability. This was in contrast to many comments related to low price, which could more accurately be termed "fears" that the wrong choice would lead to high prices rather than "goals". The specific mention of price stability in HB6 and the previous volatility in fossil fuel markets made this a fairly solid argument for wind advocates. Unlike low price, almost no one went so far as to say that price stability as not a goal in this process. The four people who did say that felt that while wind prices would be stable, they would also be prohibitively high, making the stability aspect irrelevant. In contrast, 224 of the total 239 people who mentioned price stability felt it was a priority. 186 of those 224 were positive comments about wind power, 113 were negative about coal. There were only 14 negative comments about wind and 15 positive comments about coal that emphasized price stability. 110 comments were both positive about wind and negative about coal as well as concerned about price stability.

Wind Price

The results of the "wind price" variable seem less indicative of basic concerns about their future electric bills than of perceptions about the price of wind power. The actual price of wind power was of interest more to wind advocates than to wind opponents, who focused more on the capacity of an offshore wind farm to

provide power than on how much it might cost to do so. Only 132 people mentioned the price of wind specifically, 70% predicted that the price would be lower than or similar to other options, while 30% predicted that the price would be high and saw that as a problem. There was one notable spike in the opinion that wind would be too expensive for ratepayers to bear. This occurred in November of 2007 as contract negotiations were coming to a close. At some point during this period a PSC staff report was released estimating that choosing wind power could result in a $55 per month increase in customers' electric bills. 25 of the 40 total comments viewing a potentially high price of wind power as a problem came during that month, and most specifically mentioned the $55 figure.

After establishing that price concerns were not the major motivating factors in public participation, I began to consider not just what people were concerned about, but why they were concerned about those things.

Timeframes

One thing that seemed important in discerning what was motivating people to participate was to understand how they were framing the situation in their minds. What was the context in which those commenting were viewing the idea of an offshore wind farm? Were they perceiving risks, or identifying a new opportunity for the state? To understand possible risk perceptions previously explored developed in risk literature, I asked how immediate the timeframe people were framing their comments in was (see Figure 6.1 below), what geographic scope they felt was being affected by the decision (local, state, national, global), how interrelated the most dominant concerns were, and how these considerations related to Indian River power

plant, a local issue in Sussex County that I suspected might be a source of advocacy activity.

Half of the comments with a discernable timeframe focused on either the "immediate" (months-10 years) or "lifetime of a power plant" (25-50 years), split nearly evenly at just under and just over 25%, respectively. Nearly 25% were also so general or brief that they encompassed no timeframe ("None"). Those whose concerns fell within the approximate timeframe of a long-term Power Purchase Agreement (PPA)(10-25 years in this case) comprised only 7% of the unique comments (see Figure 6.1). Comments on wind and coal both followed this profile with the longer timeframes (human lifetime/multi-generation) following far behind the lifetime of a power plant and the shortest timeframe, while PPA-length timeframe lagged last for both energy sources.

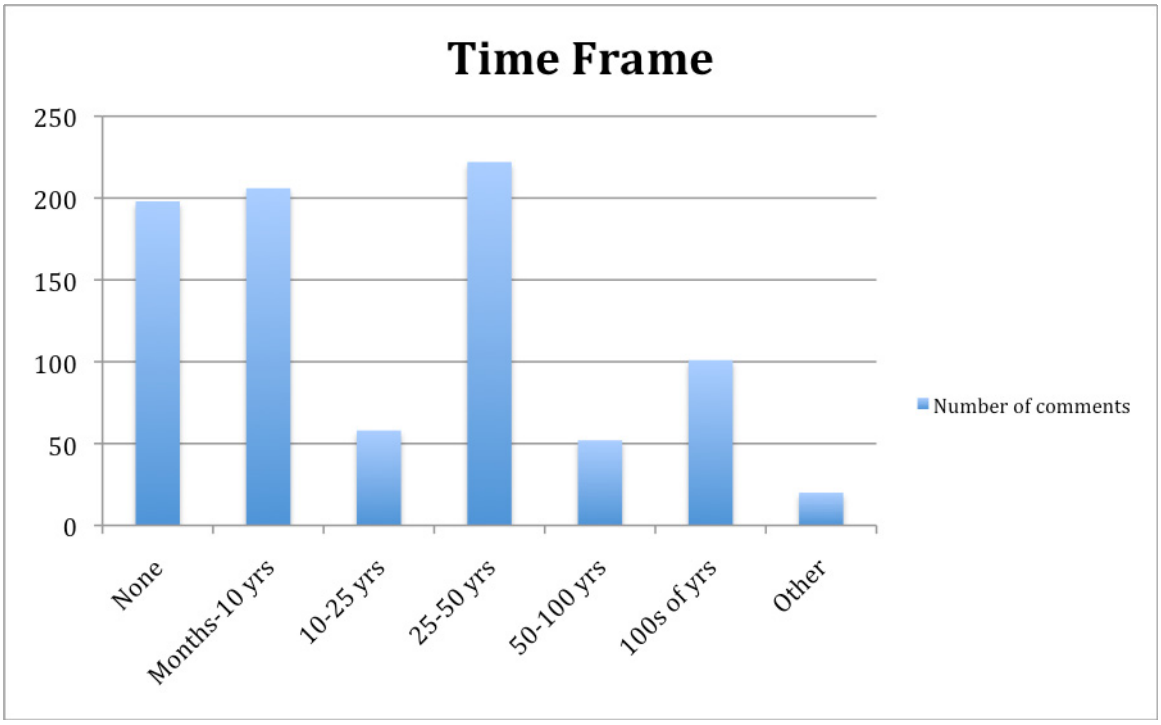


Figure 6.1: Timeframe addressed by unique comments.

One thing to note here is that people were not talking much about the PPA per se or even the timeframe that could serve as a proxy for it in their comments. The PPA is one mechanism to mitigate price volatility, a primary motivation for introduction of HB6. It would make sense that people interested in price-related concerns might focus their comments on the topic and the timeframe during which prices would be set and lived with, which would be that of the PPA. In making their comment, they might seek to show that the PPA would be best designed using their energy source of choice. This however, does not seem to be the case. Though many people did mention price concerns, it was not in reference to the ongoing RFP process leading to the PPA contract proposal.

When I first began examining how people's concerns affected the timeframe to which they referred, the immediacy of the threat if they perceived one, I thought that health concerns might be either very immediate or multi-generational (people might be concerned for the long-term health of their children), while climate change might generally focus on the long-term, multi-generational as well, given that many predictions state that major effects may be felt in hundreds of years. I was wrong: Unique comments on climate change, health concerns, and the general health of the environment most commonly addressed the lifetime of a power plant, followed again by the immediate timeframe of less than ten years. One explanation for the short time frames being associated with climate change here may be that those speaking about it were considering the timeframe of the action to be taken rather than the threat being addressed.

Perceived risks

Risk was important in that it framed many of the other issues. If there was one perceived risk that was the focus of the debate, did it change as the process went on and more of the public got informed and involved? (For example, did it shift from a public focus on health concerns or the environment to climate change?) Was there one overriding concern that catalyzed participation, or were participants listing the most common concerns without indicating one as their primary focus? If so, was it a concrete, local, immediate concern? Or a more long-term, conceptual concern?

In order to clarify how members of the public who commented were conceptualizing risks, I tested how often those concerns were mentioned in relation to one another and how often they were mentioned by themselves. After isolating the three most common concerns, climate change, health, and the environment, first from

all other variables and then from one another and cross-tabulating them with pollution to discern how they were being prioritized among themselves, I found several things.

When simply looking at the percentage of unique comments each of the three concerns constituted during the twelve months for which I have data[31], heath effects is the highest nine of those months, climate change is highest two of the months, and environmental effects is highest one of the months.[32] During this particular analysis, I noticed the prevalence of another variable, "pollution".

I noticed at this time that the more general variable "Pollution" was also very commonly cited. The "pollution" code, denoting if people were citing a need for less pollution in general was one of the more general terms in the codebook, which can encompass both specific complaints about pollution levels and general perceptions of pollution from any number of sources having any number of effects. While "pollution" might be included along with more specific problems, arguments, and allegations, it may also serve as a blanket term. All three of the other most commonly mentioned concerns (Health, Climate Change, Environment) are related to, and arguably caused by pollution. Was it a blanket term that would be highly cited early on, then replaced by one or more of the three previously mentioned concerns, or would it remain as the root problem to be solved in the minds of many commenters, or would more people begin commenting, particularly as they became aware of specific issues that they considered problematic or threatening? This idea of with a risk

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[31] The process lasted more than twelve months, however there were some months during which only one or no unique comments were submitted.

[32] I used percentages in this test to account for large charges in total number of comments submitted during each month. In the tests described after this, I use actual counts, as I am talking about overall numbers rather than monthly.

perception combining with "knowledge" (an actual understanding of that threat) to influence behavior is described by O'Connor, Bord, and Fisher in reference to climate change. I decided to include it in my assessment of the major concerns I had identified to determine if it was, as I said before, a blanket term that was replaced by the other three as people learned more during the process, or a concern in itself.

Table 6.1 Major risk issues mentioned in unique comments (n=857)

	Comments mentioning each issue	Comments mentioning this issue and not others in this table	Comments mentioning this issue and pollution	Comments mentioning this issue and pollution, but not others in this table
Pollution	253	59	____	_____
Environment	234	41	83	16
Health	295	47	140	51
Climate change	254	62	76	20

From Table 6.1, we can see that these issues, while prevalent, are much more so when mentioned in combination with one another. They are not, however, strongly linked to pollution, and pollution does not seem to serve as a proxy for the others. When an individual expressed a concern over pollution, s/he tended to also express one of the other three variables as well.

Comments that listed all three concerns without prioritizing one or mentioning the more general pollution variable were rare: only 41 such comments

were submitted. People were far more likely to mention more than one of these concerns, and to prioritize at least one of them above the others. Health effects, climate change, and environmental effects may be viewed in two ways with respect to pollution. The first is as symptoms or results of a root problem-"pollution"-and arguments for wind power. The second is as the problem itself, rather than a symptom, at which point the arguments made may be the potential results of those problems such as health care costs and carbon taxes.

Most variables were coded to include positive and negative responses, though the actual coding may not have been ordered that way. Thus, for the correlation analysis, variables were recoded to provide a monotonic scale. For instance, in the case of variable such as energy choice, the codes were limited to:

1=Positive comment

2=Negative comment

0=Not mentioned

For this correlation analysis, these needed to be increasing scales, for example, energy choices were recoded to

-1 = negative

0 = not mentioned

1 = positive

In a Pearson R test of commonly mentioned variables, shown in Table 6.2, "Health Concerns" was generally more strongly correlated with each of the other issue variables than those were with one another. There is a strong negative correlation between support for offshore wind and support for coal. This is because many of

those who commented in favor of offshore wind also included some commentary against the coal-powered generation.

The correlation patterns also reinforce the conclusion from interviews and qualitative analysis of comments--that many commenters were actually more opposed to coal than they were supportive of offshore wind. The two strongest correlations shown in Table 6.2 is the negative correlation of health issues with support for coal (-.42), and negative toward the Indian River power plant (.39), while the correlation between health concerns and support for wind is not as strong (.26). Interestingly, the climate change variable showed almost no association with the Indian River power plant (-.02), those who named the facility in their comment were no more nor less likely to be concerned with climate change. However, commenters clearly did see a connection with coal, since there was a strong negative correlation between those favoring the coal energy choice and the climate change issue (-.42) second in strength only to health (-.48), and both highly significant well beyond the $p<.001$ level. Although there is a positive association of health and climate change (.22), it is weaker than either is associated with opposition to coal, supporting that there were two groups of people, only partially overlapping, who opposed coal for these two separate reasons. Based on my qualitative analysis and coding experience, the positive correlation between health and climate issues was most often a result of the fact that they were both mentioned in one comment document, but were listed in separate paragraphs. (The argument that climate change would cause health problems was relatively rare, that is not the reason for the positive association.) For a more complete table of correlations among other commonly-mentioned variables, see Appendix C.

Table 6.2 Pearson R two-tailed correlation of most-commonly mentioned variables. *=Significant at .01 **=Significant at .001

	Coal	Offshore Wind	Health Concerns	Climate Change	Environment	Pollution	Indian River Plant	Jobs
Coal	1	-.49**	-.42**	-.29**	-.20**	-.23**	.39**	.18**
Offshore Wind	-.49**	1	.26**	.19**	.15**	.16**	-.18**	-.10*
Health Concerns	-.42**	.26**	1	.22**	.30**	.33**	-.35**	.05
Climate Change	-.29**	.19**	.22**	1	.24**	.10*	-.02	.13**
Environment	-.20**	.15**	.30**	.24**	1	.14**	-.07	.10*
Pollution	-.23**	.16**	.33**	.10*	.14**	1	-.20**	.06
Indian River Plant	.39**	-.18**	-.35**	-.02	-.07	-.20**	1	.21**
Jobs	.18**	-.10*	.05	.13**	.10*	.06	.21**	1

The Indian River Power Plant

Despite the fact that all of the concerns being discussed here were often placed in the timeframe of the lifetime of a power plant as described above, the existing Indian River power plant specifically was not the subject of much discussion in unique comments. The power plant, while not the obvious catalyst I had thought it would be, was associated with the very concrete issues of employment and health concerns in the surrounding areas. This was surprising because of its previous notoriety with citizens' groups in Sussex County, where much of the public comment originated. Members of the public submitted 132 negative comments and 31 positive comments about the Indian River plant (together these numbers comprise 19% of unique comments).

These numbers are consistent with the fact that the most interest in health problems associated with coal-powered generation seems to have been in Sussex County, while other concerns were more prevalent in other parts of the state. Half as

many people in Sussex County commented on climate change as did on health concerns. In New Castle County the percentages were reversed, with only 70% as many comments citing health concerns as climate change.

Geographic scope

This group of variables was meant to identify how commenters viewed the potential effects of subject they addressed. For instance, did individuals feel they were addressing local issues, or ones that affected the whole state of Delaware? The four I identified in this group were "local", "state", "country" (U.S.), and "global". For all unique comments, "state" was the most common, followed by "local", then "country", and lastly "global". Two of the primary concerns I have been discussing broke this pattern. Health effects were a local issue first, then a state one. Climate change, while still seen as a state, then local issue, was seen next as a more global issue than a national one. The idea of health impacts of the HB6 outcome being a local one seems logical. That climate change was seen as a state and local issue before a global one was surprising. When reading back through comments, I saw two explanations. People were concerned about the effects of possible sea level rise on the state's coastal areas, and how that would affect local and state economies. They also felt that the choice of new power generation was a decision that, while a part of the worldwide threat of climate change, was being discussed and made on the local and state levels.

The results of this test confirmed again that health concerns and pollution seem to be seen as local and state issues related to the Indian River power plant, while climate change and the environment are not associated with the plant and are broader issues, both conceptually and in the geographical scope associated with them.

Uzzell's concept of "environmental hyperopia" in which people are more concerned by potential world-wide catastrophes than by more prosaic local environmental issues does not seem to apply here. Climate change is certainly an issue, but it does not override local concerns, and is even seen to some extent as a local concern itself given the low-lying peninsula on which Delaware is situated.

Arguments

Above I have discussed individual issues; it is also informative to examine issues and related motivations and risk perceptions are expressed in arguments for and against the energy choices. Though in general these can be separated into arguments for and against offshore wind and arguments for and against coal, some such as maturity of technology and environmental benefits were applied to both.

Maturity of technology

The RFP criteria requiring new and innovative technologies resulted in bids dependent on relatively new and innovative technologies, which then became a point of contention between those who advocated each one. Rather than "new and innovative", both offshore wind and IGCC were seen by their opponents as "experimental and not ready for commercial application".

Those who opposed the offshore wind bid claimed that it was still experimental, that offshore wind farms in Europe were not providing a sufficiently impressive precedent for Delaware to follow suit. The self-perpetuating condition of there being no offshore wind farms in US waters is demonstrated here in the perception that if there are none so far, there must be a prohibitive reason, and

Delaware should not take the risk of being the first to try it. In the view of one opponent, officials should

> …consider the appropriate balance between realistic and achievable improvements to our environment through the NRG and Indian River IGCC project and the unreality of the huge 200-turbine industrial offshore wind complex advanced by Bluewater Wind (David Walsh, Spoken Testimony March 13, 2007).

By a similar token, those who opposed the IGCC coal bid claimed that IGCC technology, particularly with the promised carbon sequestration, was not ready for commercial implementation, and that those living near it would be "guinea pigs for unproven and untested underground carbon sequestration" (Form Letter # 9). Those who supported the bid believed it was ready just as fervently as those who supported offshore wind believed that was ready. One man spoke at a PSC public hearing in support of IGCC, taking good press and political interest as proof that the technology is mature, stating,

> The technology has been around for decades. It is in commercial use and is viable. Clear proof of that is Senator Hillary Clinton's endorsement of IGC[C] technology…Why would a national political figure who is under credible scrutiny for everything she does endorse an unproven or risky technology? It is my opinion that she would not (Walsh March 13, 2007).

Despite NRG's expressed concern about climate change and the suggestion that their IGCC technology would address or solve it, NRG never actually claimed that they were ready to capture and sequester carbon, which was a common criticism made by its opponents.

Environmental Benefits

Much of the focus of statements made regarding environmental effects in fact focused on the potential for harm to be done if the "wrong" choice was made. Both sides espoused the environmental benefits of their chosen energy choice, but often in the context of the problems presented by the other. Wind advocates claimed that "clean coal" does not exist; that despite measures taken to mitigate emissions, a coal plant burning coal, releasing toxins, generating ash, polluting the air and water around it, while wind is a "clean" source of electricity that generates none of these. Those opposed to an offshore wind farm cited another argument-the intermittency of wind-as potentially environmentally harmful if new generation was required to back it up, possibly increasing emissions. They also pointed out that the ocean was not a brownfield site, another requirement of HB6.

Reliability

This was the most common argument made against the idea of an offshore wind farm: That the offshore wind resource itself is inappropriate to meet the state's needs; if the state of Delaware depended on this resource for baseload power, it would either require a new fossil-fueled power plant to provide backup when the wind died, or there would be shortages and blackouts, saying that it would only make Delaware's needs for reliable energy that much greater. This concept of the comparative reliability of an IGCC plant was used in pro-coal form letters, rather than the negative concept of wind's intermittency. Such letters were able to tacitly criticize wind power without ever actually mentioning it, but rather by pointing out the corresponding advantage of IGCC.

Aesthetics

Aesthetics, in this case meaning the effect that an offshore wind farm would have on the view from shore, or even from a boat, seem at this point to be a popular misconception of a drawback that has been discounted by several surveys done by researchers at the University of Delaware (Firestone, Kempton, and Krueger 2009). In the HB6 process when comments on any particular topic were voluntary, a lack of mention of aesthetics may be as significant as what was actually said about it. Only 41 out of 857 unique comments mentioned aesthetics at all. Only 12 of those 857 comments were critical of how an offshore wind farm would look. 9 actually stated that it would be an attractive sight, and 20 stated that the way it would look was unimportant in the face of other concerns being addressed, without expressing their own positive or negative esthetic judgment. This is not to say that no one in the state felt that an offshore wind farm would be unattractive: when attending a pro-wind rally on the Rehoboth Beach boardwalk, I spoke to several passersby who said they did not want to see wind turbines in the ocean. However, they did not feel strongly enough about it to write a letter or attend a meeting; they simply declined to sign pro-wind petitions being passed around by wind advocates.

Wildlife Impacts

Wildlife impacts, be they bird kills, or disruption of fish and marine mammals' normal behavior, are a consideration in any development proceeds. Poorly-sited land-based wind farms have demonstrated the potential impacts of not taking flyways and essential habitat into account when assessing possible locations. Again, however, those opposed to an offshore wind farm were not focused on this traditional point of contention. Only 13 commenters stated that they thought

significant wildlife would be harmed and that this was an unacceptable possibility. An equal 13 claimed that significant numbers of wildlife would not be harmed, while 11 stated that if wildlife might be harmed, it was an acceptable risk to take for the potential benefits of an offshore wind farm. The third is a rather sophisticated tradeoff judgment that might not have been expected from public comment.

Financing

The possible cost of an offshore wind farm as it relates to the way capital cost would be spread across customers, was an issue that resulted not from the nature an offshore wind farm, but rather from the rate structure of DP&L in Delaware. When combined with the staff report stating that costs of electricity could increase by $55/month, it did garner interest and some opposition to offshore wind. Interestingly, once the $55 figure was shown to be unrealistic, there were actually more comments saying that individuals were willing to pay more for wind power.

Jobs

Union members in particular were concerned about the effect an offshore wind farm would have on employment in Sussex County. The initial union view was that a new IGCC generator at the Indian River plant would provide five years of construction work that would be "lost" to the proposed Bluewater Wind site. Also, if the two dirtiest generators at the Indian River plant were decommissioned and not replaced by new ones, jobs at the plant itself would be lost. This initial concern put the power of the unions squarely on the side of those advocating an IGCC coal plant.

Health effects, environment health, climate change, pollution

Though these were used as arguments, these are more accurately classified as "concerns", as previously discussed. They did also become arguments when presented as problems with coal powered generation that would not exist if the offshore wind bid prevailed.

Carbon Tax

This was another aspect of criticism of industry, in which advocates of wind predicted that there will be a carbon tax in place during the life of the power plant chosen. NRG and Conectiv, the companies who submitted bids for IGCC and natural gas plants, asked to be allowed to add all future carbon taxes to the wholesale rates. This led to the arguments in 85 unique comments that the RFP process was not taking a future carbon tax into account in evaluations, and that it was wrong to pass costs on to customers. Though the idea of a carbon tax was discussed by advocates in response to the requests by Conectiv and NRG, the Regional Greenhouse Gas Initiative (RGGI) was not. Like the possible carbon tax, wind advocates occasionally invoked RGGI as a factor that would make choosing a coal plant unattractive. However, this was not a major contextual item or argument made by advocates.

Perceptions

Self perceptions of other participants

Individuals' personal contexts produced very different reactions to the same information, perceptions of the problem to be solved and of the goal to be achieved (Corbin and Strauss 2008: 87-97). Self-description and identification with a particular group or cause, as well as perceptions of others, were often included in

comments. Often, before beginning their comment, people explained why they should be listened to, and sometimes also why the comments of others might not be as valid. These statements, and willingness to vocalize sometimes-harsh perceptions of other participants, indicate that the participation of many members of the public was not primarily motivated by concerns about possible changes in electricity prices.

Victim

Among those who were opposed to any new coal-powered generation, there was an expressed feeling of having harmful emissions inflicted upon them. Even those who displayed empowered activism expressed feelings of helplessness and anger, a feeling that they were being sacrificed for the profit of industry while the state government looked the other way. The problem they seem to be attempting to solve is the harm they believe is being caused by emissions from existing coal-fired generators. The goal they pursue is not just approval of an offshore wind farm, but also decommissioning of existing coal-fired generators in Sussex County. Their perception of the proposed offshore wind farm in this context is that it will result in decreased emissions of pollutants that harm them and/or members of their communities. They advocate for the offshore wind farm and against both the existing coal plant in Sussex County and against the possibility of any additional capacity at that coal plant.

Worker

Among some participants, there seemed to be a perception that their particular livelihood made their opinions more legitimate. There seems also to be a perception here that the participation of those who advocate the offshore wind farm is

some sort of unrealistic hobby, whose effects they will not experience, as expressed by one participant,

> As folks who have worked day in and day out to feed our families and pay our electric and medical bills, working families do not have the luxury of advocating a pipe dream and thereby missing out on what can be achieved—a $1.5 billion environmentally sound gasification carbon capture sequestration project at Indian River… Certain constituencies would like to see the Indian River facility close completely. In doing that, the academics and activists put working people out of work, hurt working families in Sussex County (Walsh March 13, 2007).

The problem being addressed here is the possibility of livelihoods being lost if potential jobs building a coal plant that did not materialize. Initially, in both form letters and unique letters as well as in spoken testimony, union members in particular perceived the offshore wind farm proposal as an attractive but impractical idea that would not create jobs for current residents of Sussex County. Those who felt his way advocated for the IGCC cola plant and against the wind farm initially.

Layman

Many commenters who spoke at hearings would highlight the fact that they had not been previously involved in public decisions, that they were not part of a group, that they did not fully understand the PSC's process or the evaluations and reports that were being used to make the decision. This is not to say that these people were unintelligent or complacent, but status as an average member of the public, not savvy as to how things get done in Dover, seems to actually have been perceived as a reason to be listened to as well. This may be a perception that the "average" person, the constituent, the ratepayer, the most basic stakeholder noted at the beginning of this study, is the one who should be heard rather than anyone who has a financial, political

or stake in the outcome of the PSC's decision. This sentiment was expressed by some advocates of both offshore wind and coal. It did not seem to be linked to a particular energy choice or perceived problem.

Activist

Though their reasons varied, many commenters and all of the individuals I interviewed questioned the legitimacy of the process in some way. 214 (25%) of 857 unique comments called for better governance by state officials and agencies.

Despite this, five of the six interviewees felt that the PSC did an admirable job of administering HB6 (the sixth did not comment on it). They felt that the PSC made the process even-handed and open to the public, that everyone was heard who wished to be, and that the PSC actually listened, and the public had the influence it should have. And yet, one respondent said that because DP&L was filing evaluations of the bids, he felt that the PSC would be making its decisions based on information "slanted in Delmarva's favor". He did not feel that the PSC members were involved in any wrongdoing, but that the utility would use them to achieve its goals.

The other interview subjects expressed similar sentiments. Their ire was generally reserved for the state legislature and "industry", which seemed to include electricity generation, distribution, and coal mining. The legislature and the relevant industrial interests were seen as being linked, resulting in corruption of the former and profit with little restriction on the latter. Of the six individuals I interviewed, three said explicitly that the state legislature would "kill" the wind farm proposal if given the chance. Four felt that lobbyists would be a major causal factor if the wind project were terminated. The subjects acknowledged that while the impact of public advocacy had been significant and the PSC had taken it into account, they felt that the

power of industry would override it. One man summed up this feeling in the following way,

> Guys like me, if we were measured,we wouldn't amount to a drop of rain. There's too much money changing hands from lobbyists to the assembly. They know what these companies are doing. But they get wined and dined to death, and if it (the wind farm proposal) gets kicked back to the assembly, it will die (PI 1).

The perceived relationship between industry and government may be summarized in two primary ways. The first is that people feel that industry of any kind has no moral or ethical constraints, an image which has been popularized in entertainment mediums from children's shows to feature films to memoirs. Though industrial installations such as the Indian River power plant provide jobs and incidentally electricity to the local population, they are still seen by many as malevolent entities. The second is that people feel industry with its apparent corresponding disregard for human decency "infects" government, tainting processes and affecting outcomes through lobbying and financial contributions and linkages. Distrust of industry leads to distrust by association of government agencies and representatives who work with and regulate those businesses (as though the perceived moral bankruptcy of industry and big business rubs off on government officials, impeding their ability to protect and serve the public).

This idea was emphasized as all of my interview participants expressed the sense that they had to participate or the process would be corrupted by industry. The consensus was that they had to watch the state government as it officiated the process, and viewed themselves as an integral part the process whose role was to keep the playing field level when industry and its associated lobbyists tried to tip it in their

favor. This perception of government failing to fulfill its obligations to its citizens and the resulting "watchdog" mentality is similar to the feelings as described by Aronson that motivated career activists to begin their work.

Common Elements

None of the self-perceptions identified above are mutually exclusive. Many participants identified themselves as layman, even when they were addressing a subject in which they had expertise. All seemed to be attempting to make themselves heard by officials they feared might be disinclined to listen, and many took care to explain how their lives would be impacted by the decision being made. The unifying self-perception seems to have been "outsider" relative to energy policy formulation at the state level. This feeling, whether expressed consciously or unconsciously, might increase the impact of public participation by emphasizing the unusual level of participation. Members of the Public Service Commission and the other state agencies involved heard from an overwhelming number of individuals who were apparently unaccustomed to such participation, but who spoke or wrote because the potential impact on their lives was too large for them to stay silent.

Comparison With Earlier Studies

As stated earlier, there have been formal surveys in the past of public opinion about offshore wind in Massachusetts and Delaware. Two surveys carried out by Firestone et al. ask respondents to consider multiple aspects of offshore wind, in order to identify factors influencing public opinion related to it (Firestone, Kempton, and Krueger 183-202). Because of the nature of the comments comprising my data set, I had to assume that while there were probably unrecognized personal motivations

for support or opposition to offshore wind, the items mentioned by commenters were either priorities or indicative of priorities for those people. Also, the previous surveys were random samples, whereas the one used here was composed entirely of people who chose to comment. However, this study does not ask about general public opinion so much as the opinion and perceptions of participants. Despite the different types of data set and methods of analysis, there still exist interesting contrasts.

Wind Energy in General vs. The Bluewater Wind Offshore Proposal

While there is a documented gap between public acceptance of wind energy in general and support of particular projects (Firestone, Kempton, and Krueger 189) public support in the case of the offshore wind proposal in Delaware was specifically focused on this project. As stated earlier, the idea of DP&L buying wind power from onshore wind farms in adjacent states was generally rejected by advocates. Though those participants I interviewed in the fall of 2007 espoused interest in any kind of "clean" energy, this opinion was not evident in comments made during the HB6 process.

Impact on ocean

In the 2005 survey on Cape Cod, the possible negative impacts of wind as seen by residents were examined. More than half of those opposed to the Cape Wind project listed "aesthetics", "community harmony", "the local fishing industry", and "recreational boating, fishing, and yachting" as their top believed impacts of an offshore wind farm (Kempton et al 136). In Delaware, the HB6 commenters seemed not to perceive the same impacts. Of the 114 unique comments that opposed the Bluewater Wind project, 12% cited aesthetics, 7% cited fishing impacts (there was no

distinction made between recreational and commercial fishing), and 10% cited wildlife impacts in general. Other ocean impacts perceived in Delaware were a general negative effect on coastal ecosystems and the possibility that the wind farm would be a navigational hazard.

Risk

In the Cape Cod survey, dominant perceived risks among those opposed to the Cape Wind project were marine life impacts, aesthetics, and impacts on fishing/boating (Firestone and Kempton 2007: 1589). In the statewide analysis of the 2006 Delaware survey, the highest ranked factors affecting opposition were aesthetics, marine life impacts, and affects on electricity rates (Firestone, Kempton, and Krueger 2009: 185). HB6 comments demonstrated very different patterns of risk perception. As described above, risks cited by wind opponents were economic effects not of the proposed wind farm itself, but of the possible loss of jobs and business generated by construction and operation of a new coal-powered generator. Delaware wind opponents were often more concerned about the way the project would be financed than about the actual price of electricity that it would produce.

In Massachusetts, supporters of Cape Wind expressed concerns about wildlife impacts, electricity rates, desire to decrease dependence on foreign oil, and general support of alternative energies (Firestone and Kempton 2007: 1589). In the 2006 Delaware survey, supporters cited marine life/environmental impacts, air quality, fishing impacts, and jobs (Firestone, Kempton, and Krueger 2009: 195). Risks cited by the comments on the HB6 process differed in several ways. HB6 commenters who supported the offshore wind proposal focused on risks of not having a wind farm, rather than the risks of operation of the wind farm. Supporters who mentioned

possible price increases with offshore wind deemed them acceptable in exchange for mitigation of risks related to coal-powered generation, including health concerns, climate change, and environmental impacts.[33] Firestone et al show that respondents to the 2006 Delaware survey cite health impacts more often than Cape Cod residents by a margin of nearly 2-1. As discussed earlier, this focus on health impacts remained strong in Delaware as the HB6 debate proceeded.

Place Attachment

The "place attachment" encountered by Kempton et al on Cape Cod does not seem to have been expressed in the same way by HB6 commenters. This is consistent with the Firestone, Kempton, and Krueger finding that support for an offshore wind farm was higher in areas of open ocean than in the semi-enclosed bay (189). It is possible that commenters may not have the same perception of the "ocean as a special place" where man-made structures do not belong (Kempton et al 136). Another possibility is that the risk perceptions underlying commenters' energy choices are also related to their sense of place attachment. The pervasive concern about the effect of poor air quality on the health of Sussex County residents may impel some to support the offshore wind proposal on grounds that it is a way of addressing a threat to the safety of their homes and communities. The potential of an offshore wind farm to remove or mitigate the polluting emissions from the area's coal fired power plant, in fact preserving or even saving the place rather than despoiling it.

[33] An exception here is concerns about job losses.

Climate Change

As discussed earlier, climate change was in the top three issues. It was consistently cited by both supporters and opponents of the offshore wind proposal, which is a departure from earlier studies. It was in the top three concerns of only 12% of supporters statewide in the 2006 Delaware survey, and only 4% of respondents in the Cape Cod survey (Firestone, Kempton, and Krueger 12; Firestone and Kempton 6). This change may be due to increased public awareness and debate about climate change.[34] It may also be because of participation of specific Delaware groups such as Climate Change Study and Action, and the overlapping Citizens Alarmed about Climate Change. Interestingly, the concerns about climate change were not focused on possible inundation of the Delmarva Peninsula, but rather on more general concerns for the future of the world and quality of life for ensuing generations.

Oil

Both the previous surveys addressed US dependence on foreign oil. More Cape Cod wind supporters (37%) cited dependence on foreign oil than did statewide Delaware supporters in 2006 (10%). I wondered before beginning my analysis how many commenters who were concerned about various aspects of America's oil use actually understood how wind power related to those issues. This was well before oil hit $140 per barrel in 2008, but it was already a topic of national conversation in 2006 and 2007, our "addiction" having been pointed out to us by then-President Bush in his 2006 State of the Union Address. My results did not reveal exactly how the public

[34] The IPCC 4th report was released, Al Gore's film "An Inconvenient Truth" brought climate change into popular discussion, and the IPCC and Gore received a Nobel Prize for their work bringing climate change into the public consciousness.

understood this relationship, as this debate was not about oil; oil was mentioned in comments as part of the general condition in which our country finds itself rather than as a specific reason to choose wind or coal.

Of the 78 unique comments that mentioned oil, 69 (88%) were positive about wind and 5 (6%) were negative. Of those positive wind comments, 37% referred to oil-powered electricity generation, and 45% referred to price per barrel, while only one actually made mention of the price of gasoline. The 37% that referenced oil power generation may indicate an understanding within that group that the oil and wind power are currently linked primarily by oil fired generation. It may also simply be a reference to corresponding increased pressure on household expenses, necessitating power that does not follow the recently volatile price of commodities such as natural gas. The 45% who spoke of the price per barrel generally mentioned it without elaborating on its significance to the HB6 debate or indicating why they were mentioning it in relation to wind power. Only one supporter of the coal bid mentioned price per barrel in his arguments—even though coal could arguably be an alternative to oil for power as much as could wind. Of the 78 comments mentioning oil, two (2.5%) were explicitly positive and 53 (68%) were explicitly negative about coal.

Energy Independence

Participants sometimes related their comments to the broader concepts such as "energy independence" and "US dependence on foreign oil" for which I had separate variables. These two variables are correlated at .458, the highest of any tests I did. While they certainly not perfectly correlated, the relationship does seem to show that people participating here were not thinking of the range of resources and

issues evoked by the term "energy independence", but rather the issue of foreign oil so often raised by politicians and the press.

I thought, as I began my analysis, that when the context was immediate and monetary rather than long-term and environmental that the relationship between coal and oil would be similar to that of wind and oil in terms of displacement, and that variables such as price per barrel would be an equally strong element in arguments for coal as for wind. I was surprised to find that only one group (wind supporters) latched onto such an argument that could be used by both sides, while the other (coal supporters) did not. Perhaps, even though the expressed priorities were monetary and immediate, environmental concerns tacitly trumped those, or perhaps pushed wind over the top as the solution to those particular concerns; while coal replacing oil in any capacity might be financially advantageous, it would still be replacing one fossil fuel with another. It is also possible that once one the wind group made the argument, it was abandoned by coal supporters who would have to reframe it to fit their own arguments.

Analysis

The 857 unique comments were generally rational, thoughtful, and centered around the same few issues and arguments. This consistency arising from comment by so many individuals with differing perspectives is striking. The self-perceptions in particular indicate that the experiences that led individuals to participate varied, despite the fact that as Delaware residents they would share some common experiences with volatile electricity rates, and "dirty" power plants in some areas. The most common expressed perception seemed to be that commenters were out of their elements, participating in a process they would normally leave to policy

makers. And yet, this conglomeration of "outsiders" was able to change a request for new generation into a policy debate that reassessed what constitutes the public welfare in Delaware.

Chapter 7

CONCLUSION

When given a choice between natural gas, Integrated Gasification Combined Cycle coal, or an offshore wind farm, members of the Delaware public who commented to the Public Service Commission regarding HB6 overwhelmingly supported offshore wind power. Unprecedented numbers of people submitted comments to the PSC stating their preference, and often their reasons for that preference. I have examined these comments using both qualitative and quantitative methods to identify perceptions and issues that motivated Delawareans to actively participate and to advocate offshore wind power, a technology not yet in use in US waters.

In this case, perceived risks have translated into environmental action. In reaction to risk of personal health impacts in Sussex County and large-scale effects of climate change in New Castle County, members of the public overwhelmingly favored the offshore wind option. Risk perception literature distinguishes between mere intentions and actual behavioral changes brought on by perceived risks. In Delaware, thousands of citizens stated that they were not simply in favor of offshore wind power as a concept. They urged the PSC to secure an actual contract for wind-generated electricity, specifying that they would accept increased electricity costs to get it, despite the previous 59% rate increase. In coastal Delaware, where beach tourism is a mainstay of the local economy, possible impacts of beach tourism went largely unmentioned by commenters. Though a University of Delaware survey confirm that

tourists would continue to visit the beach if an offshore wind farm were in place there, many of the HB6 comments were submitted before that survey was done.

Most citizen activity during the HB6 process came from residents of Sussex County. Though the PSC's decision would affect electricity rates for customers of Delmarva Power & Light statewide, it was Sussex County residents who faced the possibility of living with the externalities of either an offshore wind farm or new IGCC coal generators. This coupled with the presence of the antiquated Indian River coal-fired power plant and area citizens groups with previous experience advocating for the plant's clean up likely contributed to high level of activity in Sussex County. These people had already proceeded through some phases of what Aronson called the "transformation" from private citizen to activist, having already come to the conclusion that they must actively participate in the HB6 process to ensure that their interests were sufficiently considered. Previous work by these groups focused on cleaning up the Indian River power plant formed a foundation for advocacy that increased in intensity as the HB6 process continued.

The combination of support for offshore wind and opposition to coal likely resulted in increased participation compared to if the public had been offered only an offshore wind farm with no alternative. 88% of comments[35] supported an offshore wind farm while only 13% supported new IGCC coal generation, and no comments supported natural gas as a standalone option. Unlike on Cape Cod, where the Cape Wind proposal stands alone as a possible development, the Bluewater Wind proposal was an environmentally friendly alternative to an expansion to a coal-fired power plant that they already opposed.

[35] Unique comments only. (n=857)

The perception that the effects of Delaware's energy decision would be immediate and lasting, and directly impact Delawareans was a motivating factor. The possibility of an offshore wind farm was perceived as an opportunity to address risks perceived in the status quo, primarily climate change and health and environmental concerns related to poor air quality believed to be linked to fossil fueled power generation.

The self-identifications, risk perceptions, and the issues emphasized by members of the public seem to indicate that advocacy was largely driven by what Kempton, Boster, and Hartley referred to as anthropocentric values.

The advocacy for offshore wind in Delaware does not seem to be entirely a result of general support for renewable energy in general or wind power in general. While comments supported a changeover to renewable energy in the United States, in Delaware they supported the Bluewater Wind proposal specifically; a proposal for an onshore wind farm late in the process garnered relatively little documented public support. Despite the number of comments that mentioned climate change and national issues such as energy independence, they concentrated on how these and other issues such as health concerns and environmental health would impact Delawareans. Though the choice being made may have had regional or national implications, those commenting saw it as a local and state issue. They commented on how the larger national issues would affect Delaware and how they would be addressed in Delaware. While there were comments stating that Delaware should lead America in renewable energy, those same comments concerned with the effects of it on Delaware, not the country.

Comments emphasized two separate timeframes that indicated different aspects of the public's interest in HB6. The first was the shortest time frame of months to 10 years, which generally referred to the time period in which action should be taken to address the issues they raised. The second was the longer 25-50 year timeframe that represented the probable life of a power plant during which the public would live with the ramifications of the decision.

The participants I interviewed shared a perception that the electric industry did not represent the public interest and if possible would influence the state government to benefit the industry rather than the public. This was echoed by the public throughout the process. In self-identification, individuals consistently placed themselves outside the process though that same identity was also used to show why the person's opinions should be taken into account by the PSC.

This analysis confirms several aspects of surveys carried out by the University of Delaware before there was an actual proposal for an offshore wind farm. While some reasons for support such as air quality and climate change found by the earlier studies were also emphasized by commenters, they were expressed not as expected impacts, but rather as the arguments commenters made in favor of or in opposition to the proposed offshore wind farm. It is possible to comment on the 2006 survey of Delaware residents. One hypothesis in that study was that attitudes toward climate change had changed in the intervening period between the Cape Cod and Delaware surveys. However, few respondents in the 2006 study actually cited ramifications for global warming as an expected impact. In contrast, global warming was the third most cited issue by HB6 commenters who favored wind.

The regulation-era values of the utility consensus, seen in the initial interpretation of the HB6 legislation, seem to have been inconsistent with the public interest, as expressed by public comments in this case. The issues most often cited by comments supportive of offshore wind were unrelated to price, but rather addressed risk perceptions related to health concerns, the environment, and climate change. The framing of the HB6 process as a dichotomous choice between an offshore wind farm and new generators at an existing coal-fired power plant made it a debate whose outcome could either mitigate or exacerbate these perceived risks. Support in many cases originated not from a vague positive feeling toward renewable energy, but rather from rational self-interest. These issues suggest that formulation of future energy policy in Delaware should take into account non-price factors in the future.

While the local and personal focus of the comments that advocated such change indicate that public advocacy such as this may not be seen elsewhere unless similar conditions exist, the Delaware experience will have impacts outside the state. The significance to renewable energy policy is that this was not in fact a renewable energy policy decision, but rather an energy policy decision that resulted in a state decision to commit to large-scale renewable energy development. In an all-source Request For Proposals, the public considered wind to be in its best interest, and helped push decision makers to seriously consider offshore wind as an energy option. State governments should consider the possibility that the public may no longer consider price to be the most important factor in energy policy decisions.

APPENDIX A: CORRELATION MATRIX

Table A Pearson two-tailed correlation matrix of all variables mentioned more than 80 times in unique comments. *=Significant at .01; **=Significant at *001.

	Coal	Wind	Hlth	CC	Env	Poll	Sust	Wind Tech	Air Poll	State Econ	DP&L	NRG	Stable Price	Low Price	Wind Price	Health Cost
Coal	1	-.50**	-.42**	-.30**	-.20**	-.23**	-.12**	-.22**	-.35**	.14**	.04	.44**	-.04	-.19**	-.23**	-.26**
Wind	-.50**	1	.26**	.19**	.15**	.16**	.11*	.35**	.13**	.06	-.11**	-.21**	.12**	-.31**	.44**	.15**
Health	-.42**	.26**	1	.22**	.30**	.33**	.10*	.14**	.56**	.06	-.02	-.21**	.07	.13**	.19**	.47**
CC	-.30**	.19**	.22**	1	.24**	.10*	.20**	.14**	.17**	.12**	.00	-.04	-.20**	.09*	.17**	.16**
Env	-.20**	.15**	.30**	.24**	1	.14**	.11**	.14**	.23**	.12**	.00	-.06	.13**	-.07	.13**	.11**
Poll	-.23**	.16**	.33**	.10*	.14**	1	.09*	.11*	.47**	.07	-.01	-.05	.06	-.05	.12**	.16**
Sust	-.12**	.11*	.10*	.20**	.11**	.09*	1	.11*	.15**	.01	-.01	-.02	.14**	.02	.08	.00
Wind Tech	-.22**	.35**	.14**	.14**	.14**	.11*	.11*	1	.10*	.06	-.05	-.08	.07	-.03	.23**	.06
Air Poll	-.35**	.13**	.56**	.17**	.23**	.47**	.15**	.10*	1	.06	.01	-.16**	.00	-.05	.10*	.31
State Econ	.14**	-.06	.06	.12**	.12**	.07	.01	.06	.06	1	.01	.22**	.07	-.02	.08	.03
DP&L	.04	-.11**	-.02	.00	.00	-.01	-.01	-.05	.01	.01	1	.04	-.12**	.03	-.08	-.04
NRG	.44**	-.21**	-.21**	-.04	-.06	-.05	-.02	-.08	-.16**	.22**	.04	1	.05	.02	-.10*	-.13**
Stable Price	-.04	.12**	.07	-.20**	.13**	.06	.14**	.07	.00	.07	-.12**	.05	1	.05	.25**	.10*
Low Price	-.19**	-.31**	.13**	.09*	-.07	-.05	.02	-.03	-.05	-.02	.03	.02	.05	1	-.24**	-.07
Wind Price	-.23**	.44**	.19**	.17**	.13**	.12**	.08	.23**	.10*	.08	-.08	-.10*	.25**	-.24**	1	.17**
Health	-.26**	.15**	.47**	.16**	.11**	.16**	.00	.06	.31**	.03	-.04	-.13**	.10*	-.07	.17**	1

Cost																

APPENDIX B: FORM LETTERS

INDIVIDUAL RATEPAYER COMMENT TO THE PUBLIC SERVICE COMMISSION OF THE STATE OF DELAWARE:

PSC Docket No. 06-241
Review and Approval of the Request for Proposals for the Construction of New Generation Resources under 26 DEL. C. § 1007(d)

Dear Members of the Public Service Commission:

I am a resident and utility ratepayer in Delaware. I understand that the Public Service Commission is re-examining the proposal of Bluewater Wind to build an offshore wind facility in Delaware. This re-examination is not surprising. Efforts to create a clean and renewable energy future would inevitably bring out powerful and well-financed opposition from traditional, dirty energy interests. In this context, I wish to express my strong support for Bluewater Wind's proposal to build an offshore wind facility.

Bluewater Wind's proposal protects the environment. Burning fossil fuels contributes to Delaware's chronic air pollution problems; it exacerbates global warming, a trend that threatens Delaware's historic coastline. The offshore wind proposal will produce NO air, water, or land pollution, and will contribute no greenhouse gas emissions.

Bluewater Wind's proposal is good for the economy. Continuing to depend solely on fossil fuels ensures an ever-escalating cost of energy. Fossil fuel costs increase each year and are predicted to do so indefinitely. We cannot continue to remain dependent on energy that has such cost volatility and that has to be imported into the state.

Delaware is known as the First State because of its historic patriotism. Supporting energy from non-fossil fuels benefits the nation's energy independence, increases Delaware's energy security, promotes economic development and protects the environment.

As a resident of Delaware, I am proud that my state will be the first in the nation to build offshore wind. I urge you to move forward with the approval process for the Bluewater Wind facility.

Sincerely, Charles T Vineyard

CHARLES T VINEYARD

Form Letter #1

Date 11/04/07

Delaware Public Service Commission
Arnetta McRae, Chair
861 Silver Lake Boulevard
Cannon Building, Suite 100
Dover, DE 19904
Fax: (302) 739-4849
Email: arnetta.mcrae@state.de.us

Controller General's Office
Russell T. Larson, Controller General
P.O. Box 1401
Legislative Hall
Dover, DE 19903
Fax: (302) 739-3794
Email: russell.larson@state.de.us

Office of Management and Budget
Jennifer W. Davis, Director
Haslet Armory, Third Floor
122 William Penn Street
Dover, DE 19901
Fax: (302) 739-5861
Email: jennifer.davis@state.de.us

Department of Natural Resources
John Hughes, Secretary
89 Kings Highway
Dover, DE 19901
Fax: (302) 739-6242
Email: john.hughes@state.de.us

WE NEED WIND POWER IN DELAWARE. LET'S BE THE FIRST STATE TO PREVENT GLOBAL WARMING BY PRODUCING OFFSHORE WIND ENERGY.

Delaware can become the first state to build offshore wind power.

Opponents of wind energy want to stop the Bluewater Wind project.

We want our State Government to complete the agreement and make wind power a reality now in Delaware.

Here's why we need wind power in Delaware:

The Bluewater offshore wind power project will produce 13 percent of Delaware's electricity. This energy is clean, safe, independent, non-polluting, non-greenhouse gas emitting, economically stable, cost-efficient, and very dependable over the long-term. Generating offshore wind energy will help prevent the tragedy of global warming and keep our coastal areas from being flooded and destroyed. We won't need to go to war or pay $90 per barrel for wind power. It will save Delaware citizens $750 million on health care costs currently caused by air pollution from burning fossils fuels.

Form Letter #2

To the Honorable Members of the DE Public Service Commission, 861 Silver Lake Boulevard, Cannon Building, Suite 100, Dover, DE 19904

Arnetta McRae, *Commission Chair,* Joann Conaway, Jaymes Lester, J. Dallas Winslow, Jeffrey Clark Commissioners
Bruce Burcat, *Executive Director,* Connie McDowell, *Chief of Technical Services,* Karen Nickerson, *Commission Secretary*

Dear Public Service Commissioners:

RECEIVED
07 JAN 19 AM 11:58
DE P.S.C.

We are concerned about our health, the environment, & choices for our state's new source of electricity — coal gasification plant & an offshore wind farm.

HERE ARE SOME REASONS NOT TO SUPPORT ANOTHER LONG TERM INVESTMENT IN A COAL GENERATED POWER PLANT.

AIR QUALITY Currently air quality is terrible in Delaware. The American Lung Association gave all 3 counties a grade of "F" for air quality in 2004-05. The impacts of solid waste are also a concern. The current fly ash pit is unlined & in danger of leaching into groundwater & the Indian River. Gasification technology creates substantially more solid waste than the current coal burning plant. The cumulative effects of emissions, solid wastes, & CO2 are unacceptable.

HEALTH A Harvard Health study in 2000 found that residents within a 30 mile radius of an old coal plant such as the Indian River Power Plant have **5 times greater risk of disease & premature mortality.** Although DNREC has developed new regulations for the clean-up of the old plant, NRG officials are challenging them. Moreover, the improvements required of the **old plant** still allow far more pollution than clean air act standards. New regulations do not address fine particulate matter (PM2.5) which causes **13,000 lost work days, 87 hospitalizations, & 2256 asthma attacks yearly in DE.**

MERCURY emissions from the stacks are a primary cause of permanent neurological damage in children; infants living near the stacks have a 26% increase in Infant Death Syndrome & a 40%increased risk of respiratory death
Autism rates are much higher today than 20 years ago. A retired EPA scientist noted an increase in the number of special Ed classes downwind from IRPP. Calculate the taxpayer costs of educating one autistic child at $80,000 versus roughly $9000 annually for an unimpaired student

HERE ARE SOME REASONS TO SUPPORT THE WIND FARM.

Price Stability. Consumers avoid price spikes along with fuel & global warming surcharges because wind costs are locked in for 20 years. The development of alternative energy sources, including renewable sources such as wind, will be an important vehicle for ratepayers to minimize their reliance on current power suppliers.
Cost Competitiveness. Unlike fossil fuels, wind is free & inexhaustible. Over the 20 year life of an offshore project, the sustainable electricity is estimated to be cheaper than fossil fuels.
Clean Energy. Every kilowatt-hour is free of toxic emissions, carcinogens, particulates, & CO2.
Economic Development. Well-paying jobs to build & install the turbines.
Modular Power. With all our electronic gadgets & use of air-conditioning, electricity from wind can be added as needed.
We urge you to place human health costs high on your list when making this decision. We owe the asthma & cancer patients & the 95 Delawareans who give their lives every year to air pollution nothing less. It is immoral & wasteful to support an industry that can destroy our grandchildren's futures.

Sincerely,
Printed name(s): HOWARD A. PETERS JR. / LISA S. Peters
Address: 29 WHITE PINE DRIVE MILLSBORO DE 19966
Phone: 302-945-2772
Signature Howard A Peters Jr Date 01/11/07

Form Letter #3

November 2, 2007

The Honorable Jennifer Davis
Director, OMB
Haslet Building
Dover, DE 19901

Russ Larson
Controller General
Legislative Hall
Dover, DE 19901

The Honorable John Hughes
Secretary, DNREC
89 Kings Highway
Dover, DE 19901

Arnetta McRae
Chair, Delaware PSC
861 Silver Lake Blvd
Dover, DE 19904

Dear Director Davis, Secretary Hughes, Controller General Larson and Chairwoman McRae:

I support the off-shore Blue Water Wind Farm and I thank you for your previous endorsement.
I strongly urge you to direct the PSC to sit down as soon as possible to negotiate a satisfactory compromise which will lead to the development of the Blue Water Wind Farm.
I would appreciate a response. Thank you.

Signature Mary Janette

Print Name Mary Janette

Address 8769 Greentop Road

Form Letter #4

RECEIVED
07 JAN 19 PM 12:05
DELAWARE P.S.C.

January 10, 2007
5301 New Linden Hill Road
Wilmington, DE 19808

Karen J. Nickerson, Secretary
DE. Public Service Commission
861 Silver Lane Blvd.
Cannon Bldg., Suite 100
Dover, DE 19904

Dear Ms. Nickerson,

I respectfully request that you give a copy of my letter to every PSC commissioner.

It has come to my attention that the Delmarva Power RFP has elicited three pre-bids from electrical power suppliers: one using coal as a fuel (employing IGCC), one using natural gas, and one using offshore wind power. Power sources using fossil fuels emit CO2 into the atmosphere. This exacerbates the greenhouse effect. Then the health and welfare of Delawareans will be in precarious position indeed. Furthermore, wildlife habitat will be destroyed. The greenhouse effect of fossil fuels will increase temperatures, which in turn will increase sea levels. More catastrophic and dangerous weather events will also occur due to the greenhouse effect. The EPA reports (Climate Change and Delaware, EPA-230-F-97-008h) that sea level at Lewes rose by a foot during the last century, and is likely to rise by 2 feet during this century and 4 feet (with a possibility of 10) during the next. A 2-foot rise would wipe out more than 50% of Delaware's wetlands. Not much time remains. Climate scientists claim that we have only a decade or so to begin serious reductions in CO2 emissions. If do not reduce CO2, Greenland's ice sheet could melt and raise sea levels by more than 20 feet. Delaware should join California and eleven other states that have committed to reducing greenhouse gases from all sources by 80% below their 1990 values – in order to avoid severe disruption of the climate system.

Please do not build another power plant based on fossil fuels – unless most of the CO2 formed is captured and stored for several hundred years.

Sincerely yours,

Jerry Maier

Form Letter #5

Delaware Public Service Commission
861 Silver Lake Boulevard
Cannon Building, Suite 100
Dover, DE 19904

RECEIVED
07 JAN 23 AM 10:54
DELAWARE P.S.C.

Arnetta McRae, *Commission Chair*
Joann Conaway, *Commissioner*
Jaymes Lester, *Commissioner*
J. Dallas Winslow, *Commissioner*
Jeffrey Clark, *Commissioner*

Bruce Burcat, *Executive Director*
Connie McDowell, *Chief of Technical Services*
Karen Nickerson, *Commission Secretary*

Dear Public Service Commissioners:

This letter is motivated by my concerns about my health and the environment, and choices for my state's new source of electricity. Currently, two of the known proposals for Delaware's new power contract include a coal gasification plant and an off shore wind farm.

As a physician/healthcare provider/ citizen, it is my request that you proceed very carefully. Focus your participation in the process primarily on the **COSTS of citizens' health**. Cost of power generation must include the costs to health and health care systems. Costs to the environment, and future costs of fuel/coal/carbon tax must also be large factor.

A significant burden of pollution is known to be suffered by local residents from the existing old plant. Recent regulations have made advances in protecting the citizens with some reductions in the emissions from the current coal fired plant. However, there are still serious concerns of placing a second coal based unit in this region. Reduced emissions from the coal gasification process is clearly a benefit over the current dirty plant, but these new emissions would not replace, but add to current emissions. However, the science of this gasification technology is new, and the solid waste and CO2 management issues are real, and pose potential serious harm to an already burdened population.

Therefore, I suggest there should be no support of <u>additional</u> coal based power generation. Please provide the community clean and sustainable power sources, which do not pose the serious and known risks to our health which coal does. Human health costs of wind, sustainable power are non-existent. Full discussion of the other long term cost benefits of sustainable wind energy is beyond the scope of this discussion.

In reality, this isn't a question of coal versus no electricity. Electricity is essential for us to provide medical care. The question is whether we should get additional new power from coal, or get the same amount of new power from clean sources. To buy "dirty" power is a little bit cheaper in immediate economic terms. But, without considering the costs in human health and medical care, it is not being truly "cost effective", which you are required by law to do. As physicians, health care providers, citizens, we are well aware of the health costs of expansion of coal power; **we don't find convincing the cold argument that "new coal technology" coal will sicken and kill fewer people per megawatt.**

As a physician/health care provider/ citizen, I urge you to prominently and honestly place the human health costs of coal generated power into your decision making process. You owe the asthma and cancer patients, and the 95 Delawareans who give their lives every year to air pollution nothing less.

Show your foresight and ability to be visionary. Award our state funds to renewable, clean, disease-free power offered by an off shore wind farm.

Sincerely,
Printed name: FAITH + DON LORA
Address and Phone:
58 GLADE CIRCLE E REHOBOTH DE 19971

Faith Ford Don C. Lora

Form Letter #6

The Honorable Ruth Ann Minner
Office of the Governor
Carvel State Office Building
820 N. French Street
Wilmington, DE 19801

Dear Governor Minner:

I have been following the state-administered RFP process for new electric generation, currently being administered by the Public Service Commission for some time now, and am amazed at the recent groundswell in the media and general public favoring Bluewater's wind project. While Bluewater's project provides – in theory -- a tantalizing concept that a truly renewable energy source can power our homes and businesses, I thought House Bill 6 and the goal of the RFP were to stabilize the pricing of electricity for Delaware customers in both the short and long terms while also recognizing the need for new, innovative and reliable electric generation technologies that provide long-term environmental benefits? Wind farms will not stabilize electricity pricing in Delaware due to – among other reasons -- that they are dependent on whether the wind is blowing and as a result typically produce much less energy than their stated capacity. You may not be aware, but there is not an existing offshore wind farm in the United States, and the reason why is because wind is an intermittent, generally cost prohibitive and an overall risky and unreliable source of electricity.

Furthermore, there has been quite a distortion in the public regarding the other bids in the RFP process, in particular the NRG Energy bid. While the Indian River plant is a well known large emitter in this state, the innovative clean coal project NRG has proposed will not only dramatically reduce emissions across the board, but will provide an increased and reliable source of electricity, while utilizing existing technologies to provide a sustainable solution for greenhouse gases, with the plan to capture and sequester carbon. Wasn't that the goal of House Bill 6 and this RFP process?

Please do not gamble away Delaware's future for an environmentally friendly yet grossly overstated and unreliable project. If a long-term supply of reliable electricity which also provides long term environmental benefits is truly the goal, then the NRG project is the answer.

Sincerely, Neil Warren

cc: The Honorable Arnetta McRae
The Honorable Jennifer Davis
Russell T. Larson
Philip J. Cherry

Form Letter #7

November 3, 2007

Here we go again – we just had a 59% increase in electricity costs. Gas prices are heading to $4.00 per gallon. Now they want to raise our electric bills $55 a month.

Find affordable energy options. I oppose the wind scam.

Dorothy Echols
1905 West St.
Wilmington, DE
19802

Form Letter #8

3/20/07

To Whom It May Concern:

In response to a request for new electric power in Delaware, I strongly feel that the best option for our state is wind power. Delaware does not have to accept a new chemical plant in the form of NRG's Integrated Gasification Combined Cycle bid. We do not have to be the guinea pigs for untested and unproven CO_2 underground sequestration. Unlike many other states, we have the ability to diversify our resources with clean, price-stable offshore wind. This could be an incredible opportunity to create a cleaner environmental future for ourselves, our children, and our communities. There are enormous opportunities in wind power, and I want the state of Delaware to capture them. Thus, I strongly support the Bluewater Wind bid and hope that you will take into consideration my opinion on this important issue.

Sincerely,

Rachael Hurley

RECEIVED
07 MAR 23 AM 11:06
DELAWARE P.S.C.

Form Letter #9

RECEIVED
07 FEB -9 PM 12:11
DELAWARE P.S.C.

February 7, 2007

The Honorable Arnetta McRae, Chairwoman
Public Service Commission
861 Silver Lake Blvd, Suite 100
Dover, DE 19904

Dear Chairwoman McRae:

Generating electricity with fossil fuels is the major contributor to CO2 gas emissions in the US, and it is very likely this type of generation will be subject to carbon taxes or caps in the near future. This is old technology that, in the long run, will become much more costly to the rate payers in Delaware and across the nation.

We have an opportunity to use wind power, which would allow Delawareans to enjoy the benefits of stable supply and non-polluting electric generation. We can be the first to reap the benefits of this waste-free approach to our energy needs. Also, taking a leadership role as our nation shifts its energy technology not only helps to meet our energy demands, but it also encourages new industry and job growth here.

Delaware has a global reputation for having smart courts and being a good place to do business. Now we have an opportunity to achieve a global reputation for being smart about our energy needs. You are living in an historic moment. You can take a leadership role, or you can fall back on old, failing technology to provide for Delaware's future. Your decision will impact rate payers and businesses for decades to come. Wind power is part of the solution to our energy crisis. Please keep this in mind as you make your decision about the new electric generation facility.

Let's not be the state that builds the last obsolete coal or gas-fired generating plant. Let's lead our country to a better future and give Delaware an advantage with cleaner air, cleaner water, better health, and more stable electric rates. You can be a leader on this Chairwoman McRae.

Sincerely,

Bernard August

Form Letter #10

From: john prior [mailto:john-prior@sbcglobal.net]
Sent: Thursday, April 12, 2007 2:55 PM
To: Nickerson Karen J (DOS)
Subject: Approve BWW's Bid

karen.nickerson@state.de.us - Don't give up the process! Approve BWW's bid, then let Delmarva Power and BWW sit down and negotiate their concerns/differences with a PSC staffer in the room - to make sure everyone acts in good faith.

John M. Prior
1065 Westwood Drive
Birmingham, Michigan 48009-1177
Office - 248-645-0059
Fax - 248-645-1340
Cell - 248-797-2955

Form Letter #11

Nickerson Karen J (DOS)

From: Tomingold@aol.com
Sent: Thursday, November 08, 2007 12:06 PM
To: Nickerson Karen J (DOS)
Subject: No Subject

Delaware Public Service Commission
861 Silver Lake Blvd
Dover DE 19904

I am writing in support of the offshore wind farm and request your approval and authorization of same. I am asking for your favorable vote on this project so wind power can become part of our supply solution in Delaware.

Thomas Ingold
10 Canal Street
Rehoboth Beach

****
See what's new at http://www.aol.com

Form Letter #12

November 5, 2007

Arnetta McRae
Chair, Delaware PSC
861 Silver Lake Blvd.
Dover, DE 19904

Dear Chairwoman McRae:

I support the off-shore Bluewater Wind Farm and I thank you for your previous endorsement.

I strongly urge you to direct the PSC staff to sit down as soon as possible to negotiate a satisfactory compromise which will lead to the development of the Bluewater Wind Farm.

I would appreciate a response. Thank you.

Patricia Kirby Gibler

Form Letter #13

Dear Secretary Nickerson:

Could you do me the favor of providing a copy of this letter to each of the Public Service Commissioners?

I respectfully request that you *support wind power* as our new energy source in the State of Delaware.

It seems compelling to me that wind power will provide the price stability, environmental benefits, and positive impact on the State's economy that are of such importance. Additionally, the negative consequences of a coal plant on the health of our citizens is of significant concern.

It's January 6 and it was supposed to go up to 70 degrees today. I am very frightened by the impact of global warming.

With appreciation for all you do for the citizens of our State,

Sincerely,

Carolyn Quinn
416 East Market Street
Lewes, DE 19958
644 3996
mailto:cquinn@quinnassoc.com

Form Letter #14

Nickerson Karen J (DOS)

From: Frederick C. Montney III [fred@montney.com]
Sent: Wednesday, November 07, 2007 3:10 PM
To: Nickerson Karen J (DOS)
Subject: Renewable energy

Dear Karen,

As a Delmarva Power customer and employee, I believe in and actively support energy conservation activities and the use of renewable energy. I don't think it's fair to ask a small portion of Delawareans to finance the country's first off-shore wind farm of this size. I'd like someone to explore a detailed, quantitative study; possibly encourage the Federal government to subsidize a portion of this experimental technology (for the benefit of the entire country, if it proves successful); and most importantly, use a competitive bid process. In addition, I believe a 25 year contract locks us into a long term commitment that provides no options for possible changes in technology that could be beneficial later.

Sincerely,

Frederick C. Montney III
406 Ilse Drive, Newark DE 19713-3910
302-451-5244

Form Letter #15

February 14, 2007

RECEIVED
07 FEB 20 PM 1:52
DELAWARE P.S.C.

The Honorable Ruth Ann Minner
Office of the Governor
Carvel State Office Building
820 N. French Street
Wilmington, DE 19801

Dear Governor Minner:

I am writing you to voice my strong support for NRG Energy's project to develop a clean coal power plant at the existing Indian River location in Sussex County. As a Delawarean concerned with the future of this state, I believe NRG's project is an innovative, cutting edge, efficient and reliable clean energy generation source.

In this 21st Century, growth is one of the largest problems facing our great state and the Delmarva region generally, and a major component of addressing the pitfalls of growth is finding a long-term and dependable source of electric generation that will stabilize electricity prices in the short and long term. As I understand it, as a result of this project, power generation at the Indian River Power plant will almost double once NRG's project is operational by 2013.

Yet, while the output of electricity at Indian River will increase substantially, the output of certain pollutants and other emissions will be dramatically reduced. NRG's project involves a beneficial "package deal" for Delaware with respect to the Indian River Plant, including the shut-down of two of the existing units and a substantial clean-up of the remaining units. Further, the installation of the proposed clean coal facility will dramatically reduce the overall emissions from the Indian River plant of sulfur dioxide, nitrogen oxide, mercury and carbon dioxide – a substantial cause of global warming. NRG is offering Delaware advanced technology to produce power that will meet our existing needs as well as supporting growth in our State well into the future. And all this, with a plan too for permanently dealing with carbon capture and sequestration issues.

Because the NRG project is best suited to provide reliable and efficient electricity production for generations of future Delawareans while also substantially decreasing the overall environmental effects of the increased electric generation, I strongly urge you to support NRG's proposed project

Sincerely,

DELMAR, DE.

cc: The Honorable Arnetta McRae
The Honorable Jennifer Davis
Russell T. Larson
Philip J. Cherry

Form Letter #16

Arnetta McRae, Chair
Delaware Public Service Commission
861 Silver Lake Blvd
Dover DE 19904

Dear Chair McRae:

Delaware needs and deserves wind power – it is the only logical solution when you consider public health and global warming issues. "Cost" needs to be measured in terms of more important things than dollar amounts.

I have reviewed Bluewater Wind's November 6, 2007, Reply to the PSC staff report. I fully support the Bluewater Wind offshore project. Please direct the PSC staff & Independent Consultant to promptly conclude negotiations and adopt Bluewater Wind's proposals. Bring price-stable, cost-effective, long-term, non-polluting in-state offshore wind to Delaware.

Sincerely,

J. Madeline Lewis

J. Madeline Lewis

Please file this letter in the Delmarva Power RFP public record.

Form Letter #17

February 14, 2007

RECEIVED
07 FEB 20 PM 1:53
DELAWARE P.S.C.

The Honorable Ruth Ann Minner
Office of the Governor
Carvel State Office Building
820 N. French Street
Wilmington, DE 19801

Dear Governor Minner:

Some time next month, as part of the state-administered RFP process currently before the Delaware Public Service Commission, the State will select a long-term electric supplier that will result in much needed rate stability. I urge you to select NRG's proposal because it is the only proposal that appropriately balances on one hand the need for reliable new electric generation so important to rate stability with the need to protect the environment for future generations.

Of all the proposals before the State, only NRG's will have an immediate and lasting effect on future electric generation in Delaware. Installation of the new clean coal facility will result in the Indian River plant doubling its current electricity output, which is enough clean energy for hundreds of thousands of homes in Delaware, as well as energy for the continued growth of our businesses.

More importantly, NRG's clean coal facility utilizes exciting and innovative new technologies that will reduce current emissions at the overall Indian River site by 60% for nitrogen oxides and 80% reduction in mercury and sulfur dioxide emissions. The clean coal baseload technology that NRG is proposing on a stand-alone basis actually removes over 90% of these substances – and over 95% of mercury. Even more impressive is that initially 65% of carbon will be captured and sequestered right in Delaware under the existing plant, with the potential for over 90% of carbon removal possible in the future as the technology for power generation continues to rapidly evolve.

The decision as to what long-term electric supplier the State selects will impact the citizens of Delaware for years to come. Please balance the interests of the citizens across all the dimensions of this issue as reflected in the seven criteria in the legislation and do not support only a proposal that is environmentally friendly or a proposal that only provides reliable new generation. Select the only proposal that appropriately balances those interests. Select NRG's proposal.

Sincerely,

Bruce D. Daisey

cc: The Honorable Arnetta McRae
The Honorable Jennifer Davis
Russell T. Larson
Philip J. Cherry

Form Letter #18

Dear Ms Nickerson:

The more I read of and hear from the various constituencies that object to the establishment of a Wind Generation plan off the Delaware coast the more I am of the opinion that the Coal, Gas and Oil interests are in cahoots with Delmarva Power.

Yes! It will be costly to build the wind generation units off our coast. But, the cost cannot be measured by the amount of money to get an advanced wind generation system built now; without taking into consideration the following savings into the future:

1. Wind power is clean and safe to the environment and our citizens health. No generation of air pollution as by fossil fuel.

2. Wind power produces no mercury emissions and other air pollutants as does fossil powered generating units.

3. Wind power, once built, has only maintenance costs to add to the amortization of all construction and transmission costs.

4. Delmarva's costs will continually increase over the years as the cost of their fuel increases. Note the cost of crude oil today (over 95 dollars a barrel and rising as is the cost of coal). All fossil fuel costs will rise in the future since the world demand is depleting sources of discovery of new oil and gas and will continuously pour carbon and other pollutants into our atmosphere.

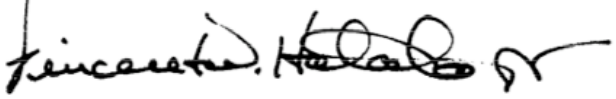
Form Letter #19, continued next page

5. I feel that Delmarva Power's arguments are specious and should not be considered in your evaluation of wind powered electric generation. Where are their guarantees that their fuel costs to operate their proposal will not increase to pay for their new plant and the fuel to run it?

If Delmarva Power (or its parent company, PEPCO) refuse to be a party to your origional order to negotiate with Bluewater Wind then so be it; remove them from the equasion and find some one else.

Vincent W. Hatala, Jr.
15 Cardiff Road
Rehoboth Beach, DE 19971
VHJR@AOL.COM

Sincerely,



Vincent W. Hatala, Jr.

Form Letter # 19, continued from previous page

DELAWARE P.S.C.

December 11, 2006

Arnetta McRae
Chair, Delaware Public Service Commission
861 Silver Lake Boulevard
Cannon Building, Suite 100
Dover, Delaware 19904

Dear Chair McRae:

I am a member of Road Sprinkler Fitters Local Union 669, U.A., AFL-CIO. I would like to take this opportunity to express our interest and support of the NRG "clean coal" project that has been proposed at the Indian River generating station in Sussex County.

The significance of the benefits of this project at Indian River has been of great interest to us over the past few months. We believe the approval of NRG's proposal before the Public Service Commission will greatly promote economic development and increase employment in the Millsboro area and neighboring communities, and will benefit the men and women I represent.

The prospect of a more than $1 billion investment in an environmentally responsive coal burning facility, as well as increased employment opportunities for our community, is very exciting. We urge your support for this project as the PSC and others evaluate the various proposals. Ultimately, the NRG project provides the most opportunities and benefits for the citizens of Delaware.

Sincerely, George F. Carter SR
George F. Carter

cc: Commissioner Jeffrey Clark
Commissioner Joann Conaway
Commissioner Jaymes B. Lester
Commissioner Dallas Winslow
The Honorable Jennifer Davis
Russell T. Larson
Philip J. Cherry
Lee Ann Walling

Form Letter #20

RECEIVED

07 FEBRUARY 28, 2005

DELAWARE P.S.C.

The Honorable Ruth Ann Minner
Office of the Governor
Carvel State Office Building
820 N. French Street
Wilmington, DE 19801

Dear Governor Minner:

I am writing to you as a Delawarean and proud member of Plumbers and Pipefitters, Local 782. I would like to take this opportunity to express my support of the NRG clean coal project that has been proposed at the Indian River generating station in Sussex County.

The NRG project will provide over $1.5 billion in capital investment in the Indian River area and Delaware, which translates into more than 1,000 construction jobs over the five year construction period and 100 permanent positions once the facility is up and running. Furthermore, this project is a commitment to Delaware's future as it will provide an additional 600 megawatts of clean energy to the citizens of Delaware and the Delmarva region for years to come – 400 megawatts of which is available to Delmarva Power & Light under the current RFP process.

I respectfully ask that you support the NRG Energy proposal for a clean coal facility at the Indian River plant – it is the only proposal that underpins real job growth, material capital investment and a reliable supply of clean energy (based on the use of plentiful domestic fuel) for the benefit of us all, well into the future.

Sincerely,

cc: The Honorable Arnetta McRae
The Honorable Jennifer Davis
Russell T. Larson
Philip J. Cherry

Form Letter #21

November 3, 2007

Dennis R. Wraase
Chairman of the Board
President and Chief Executive Officer
Pepco Holdings, Inc.
Corporate Headquarters
701 Ninth Street, N.W.
Washington, D.C. 20068

Gary Stockbridge
President
Delmarva Power
Corporate Offices
401 Eagle Run Road
Newark, DE 19714-9239

Arnetta McRae
Chair
Delaware Public Service Commission
861 Silver Lake Boulevard
Cannon Building, Suite 100
Dover, DE 19904

Governor Ruth Ann Minner
State of Delaware
Dover Office
Tatnall Building
William Penn Street, 2nd Fl.
Dover, DE 19901

I am a Delmarva Power customer. I fully support Bluewater Wind's offshore project. I demand that Delmarva Power drop its opposition. If the project is not approved, I will support re-regulating power generation and putting an end to Delmarva Power's tight-fisted control over Delaware's energy future.

Signed: Karen Lee

Name: Karen Lee
Address: 107 Chesapeake Dr.
Rehoboth Beach, DE 19971

Form Letter #23

Feb 12, 2007

RECEIVED
07 FEB 14 AM 11:28
DELAWARE P.S.C.

Dear Sec. Karen Nickerson

I strongly urge you to support the Blue Water Wind proposal for Delaware's future energy needs. For a multitude of reasons, I am opposed to continued coal burning sources of electricity. Just to name a few:

1. Coal negatively impacts the Indian River Bay, making it one of the top 10 most polluted inland bays in the United States.
2. Current air quality is terrible in Delaware. The American Lung Assoc. gave all three counties a grade "F" for air quality in 2004-2005.
3. Coal mining destroys the mountains, the environment and the lives of those who live where the mountains are literally blown off.

The proposed wind mills will not have a negative impact on the environment, fishing, boating or the migratory bird population. Studies have confirmed this. It will be a clean and renewable source of energy as opposed to coal burning. The coal burning contributes to global warming, health issues and irreversible damage to the environment. Please, please support the wind mills that can provide clean energy for Delaware and eventually much of the east coast. The Blue Water Wind proposal will provide new jobs and new income to Delaware as we will be able to sell clean energy to other states. Delaware has the opportunity to be a leader and innovator for the nation in exploring and providing clean energy.

Sincerely,

Dorothy Linthi

611 New Castle Ct
Rehoboth, De. 19971

Form Letter #24

APPENDIX C: CODE BOOK

Variable Name	Value Labels
id#	Sequential 3-digit number to uniquely identify each comment
name	Last name, first name as given by commenter
gender	1=Male 2=Female
org	Name of organization, if given by commenter 1=Citizens For Clean Power 2=Citizens For a Better Sussex 3=Green Delaware 4=Delaware Audubon 5=Delaware Nature Society 6=League of Women Voters DE Chapter 7=Sierra Club DE Chapter 8=Clean Air Council 9=Clean Power Now 10=None 11=University of Delaware 12=Coalition for Climate Change Study & Action 13=DP&L 14=BWW 15=NRG 16=Conectiv 17=Public Advocate 18=Mid-Atlantic Law Center 19=Union 20=PJM 21=SCS 22=SEU 23=Medical Society of Delaware 24=DE Municipal Electrical Corporation 25=UD Students for the Environment 26=Americans for Balanced Energy Choices 27=Norfolk Southern Railroad 28=Common Cause 29=Delaware state legislature

	30=Church 31=NRDC 32=Society of Natural History of Delaware 33=DE AARP 34=ACORN 35=Independent Party of Delaware
job	1=Academic 2=Lawyer 3=Doctor 4=Professional 5=Trade 6=Homemaker 7=Retired 8=Student 9=Other 10=Not given
date	mm/dd/yy (ex: 04/08/78)
phase	1=1 Aug-1 Dec 2006: RFP development 2=2 Dec 2006-22 May 2007: Bid assessment 3=23 May-18 Dec 2007: Contract negotiations 4=18 December 2007-31 July 2008: Legislative debate
writspok	Manner in which the comment was submitted 1=Paper 2=Email 3=Spoken at hearing 4=Phone comment
form	Indicates if letters are unique documents or form letters 1=Unique comment 2=Form letter 3=Petition 4=Unique letter with elements of form letter 5=Form letter with personal note added 6=CAC Nov 13 handwritten letters 7=Duplicate

commentr	Type of commenter 1=Private individual 2=NRG employee 3=Delmarva employee 4=Conectiv employee 5=Bluewater employee 6=SCS employee 7=Gov't employee 8=Union rep. 9=NGO rep. 10=Elected official 11=Other 12=Not given
position	Job at stakeholder company 1=Blue collar 2=Lawyer 3=Vice-president 4=President/CEO 5=Scientist 6=Other 7=Not given
utility	Utility serving commenter 1=Delmarva Power & Light 2=Delaware Electric Coop 3=Municipal 4=Washington Gas 5=Other 6=Not given
religion	1=Mentioned in argument 2=Mentioned and used in self-identification 3=Religion should not be part of this debate 0=Religion not mentioned
whereliv	Where the commenter lives OR owns property 1=Sussex County 2=Kent County 3=Newcastle County 0=Not mentioned
beachcom	Lives/owns property in beach community 1=Yes

	2=No 0=Not mentioned
coal	Comments on coal powered generation 1=Positive 2=Negative 0=Coal not mentioned
natgas	Comments on natural gas powered generation 1=Positive 2=Negative 0=Natural gas not mentioned
offwind	Comments on offshore wind powered generation 1=Positive 2=Negative 0=Offshore wind not mentioned
landwind	Comments on onshore wind powered generation 1=Positive 2=Negative 0=Onshore wind not mentioned
nuclear	Comments on nuclear power generation 1=Positive 2=Negative 0=Nuclear not mentioned
bid	Whether any bid for new generation is needed 1=Yes 2=No 0=Not mentioned
topic	Extent to which comment pertains to issues being discussed 1=General comment on energy choices 2=States reasons for choice 3=Argument on topic of hearing/comment period 4=Other
process	Whether the RFP process was well-designed/fair 1=Positive 2=Negative 0=RFP process not mentioned

contrcts	Commenter mentions the size of the contract called for in the RFP 1=Contract (# of MW) is too big 2=Contract (# of MW) is too small 0=Contract size not mentioned
question	Commenter either asked a question or made a statement 1=Question 2=Statement
problem	Problem commenter feels is being addressed 1=High electricity prices 2=Volatile electricity prices 3=Climate change 4=Local health problems 5=General pollution 6=Statewide need for more electricity 7=There is no problem here 8=Other
timeframe	1=Immediate (months-10 years) 2=Long-term PPA (10-25 years) 3=Lifetime of power plant (25-50 years) 4=Human lifetime (50-100 years) 5=Multi-Generational (hundreds of years) 6=Geologic (Thousands/millions of years) 7=Other
windpric	Prediction on price of electricity generated by offshore wind 1=Predicts price will be lower/similar to other options 2=Predicts price will be higher 0=Price of offshore wind not mentioned
lowprice	Commenter mentions low electricity price 1=Low electricity price is the primary goal of this debate 2=Low price is not a goal in this debate 3=Low price is a goal but not a priority in this debate 0=Low price not mentioned
stablepr	Commenter mentions electricity price stability 1=Price stability is the primary goal of

	this debate 2=Price stability is not a goal in this debate 3=Price stability is a goal but not a priority in this debate 0=Price stability not mentioned
enrgyind	Commenter mentions “energy independence” 1=Energy independence is the primary goal of this debate 2=Energy independence is not a goal in this debate 3=Energy independence is a goal but not a priority in this debate 0=Energy independence not mentioned
bttrhlth	Commenter mentions improved health of local residents as a goal 1=Improved health is the primary goal in this debate 2=Improved health is not a goal in this debate 3=Improved health is goal but not a priority in this debate 0=Improved health not mentioned
envhlth	Commenter mentions “Environmental health” 1=A generally healthy “environment” is the primary goal in this debate 2=A generally healthy “environment” is not a goal in this debate 3=A generally healthy environment is a goal but not a priority in this debate 0=Environmental health not mentioned
stopcc	Commenter mentions climate change mitigation 1=Climate change mitigation is the primary goal in this debate 2=Climate change mitigation is not a goal in this debate 3=Climate change mitigation is a goal but not a priority in this debate 0=Climate change mitigation not

	mentioned
rggi	Comment addresses Regional Greenhouse Gas Initiative 1=Economic reference 2=Environmental reference 3=Other 4=RGGI not mentioned
lesspoll	Commenter mentions reducing general pollution 1=Reducing general pollution is a primary goal in this debate 2=Reducing general pollution is not a goal in this debate 3=Reducing general pollution is a goal but not a priority in this debate 0=Reducing general pollution not mentioned
sustain	Commenter mentions sustainability 1=Sustainability is a primary goal in this debate 2=Sustainability is not a goal in this debate 3=Sustainability is a goal but not a priority in this debate 0=Sustainability not mentioned
bideval	Commenter mentions bid evaluation fairness 1=Commenter feels that bids were being evaluated fairly 2=Commenter feels that bids were not being evaluated fairly 3=Commenter feels that bid evaluation criteria specifically were unfair 0=Fairness of bid evaluation not mentioned
bttrgov	The commenter calls for better governance by state officials and agencies 1=Yes 2=No 0=Governance not mentioned
senhrng	Commenter mentions Nov/Dec 07 Senate

	hearings 1=Commenter feels hearings are necessary 2=Commenter feels hearings are unnecessary 3=Commenter feels hearings are unnecessary and fraudulent 0=Senate hearings not mentioned
negotns	Commenter mentions BWW/DPL contract negotiations 1=Commenter feels negotiations should continue 2=Commenter feels negotiations should stop 0=Not mentioned
enrgcons	Commenter mentions energy conservation 1=Energy conservation should be pursued 2=Energy conservation should be pursued INSTEAD of new generation 3=Energy conservation should be pursued along with new generation 4=Conservation is not relevant to this RFP or to new power needs 0=Energy conservation not mentioned
enrgeffc	Commenter mentions energy efficiency 1=Energy efficiency should be pursued 2=Energy efficiency should be pursued INSTEAD of new generation 3=Energy efficiency should be pursued along with new generation 4=Efficiency is not relevant to this RFP or to new power needs 0=Energy efficiency not mentioned
seu	Comment on Sustainable Energy Utility 1=SEU better/more appropriate than new generation 2=New generation better/more appropriate than SEU 3=SEU should be used in conjunction with new generation 0=SEU not mentioned
local scope	1=Yes

	2=No
state scope	1=Yes 2=No
national scope	1=Yes 2=No
global scope	1=Yes 2=No
PERSAFF	The commenter has been personally affected by the presence of the Indian River coal burning power plant ("IR plant") 1=Commenter has been affected themselves 2=Commenter's immediate family has been affected in some way 3=Commenter knows someone who has been personally affected in some way 4=Commenter has not been affected and doesn't know anyone who has 0=Affects of power plant on people not mentioned
hlth$hid	Hidden health care costs of fossil fuel use 1=Hidden health care costs are a concern in this debate 2=Hidden health care costs are not a concern in this debate 0=Hidden health care costs are not mentioned
hlth$up	Rising health care costs are a stated concern of the commenter 1=Rising health care costs are a concern in this debate 2=Rising health care costs are not a concern in this debate 0=Rising health care costs are not mentioned
asthma	Comment on asthma as a perceived effect of IR plant 1=Asthma is an effect of the IR plant and a concern in this debate 2=Asthma is not an effect of the IR plant and not a concern in this debate

	0=Asthma is not mentioned
mercury	Comment on mercury as a perceived effect of the IR plant 1=Mercury is a concern in this debate 2=Mercury is not a concern in this debate 0=Mercury is not mentioned
cancer	Comment on importance of cancer in this debate 1=Cancer rates should be considered in this debate 2=Cancer rates are unimportant in this debate 0=Cancer not mentioned
autism	Comment on childhood autism as a perceived effect of IR plant 1=Autism is a concern in this debate 2=Autism is not a concern in this debate 0=Autism is not mentioned
kidhlth	Comment specifically cites children's health issues (commenter's own children OR other children) 1=Kids' health is threatened by the IR plant and is a concern in this debate 2=Kids' health is not specifically threatened by the IR plant and is not a concern in this debate 0=Kids' health issues not mentioned
futurgen	Comment on preservation of earth for future generations 1=Preservation of earth for future generations is a primary goal 2=Preservation of earth for future generations is not a goal 3=Preservation of earth for future generations is a goal but not a priority 0=Preservation of earth for future generations is not mentioned
frgnhlt	Health of future generations is a stated concern of the commenter 1=Health of future generations will be affected by the outcome of this debate and is relevant

	2=Health of future generations will not be affected by the outcome of this debate/is irrelevant 0=Health of future generations not mentioned
irplant	Comment on Indian River coal burning power plant 1=Positive comment 2=Negative comment 0=Indian River power plant not mentioned
airpoll	Commenter mentions air pollution 1=Air pollution is a priority in this debate 2=Air pollution is irrelevant in this debate 3=Air pollution is relevant, but not a priority 0=Air pollution not mentioned
watrpoll	Commenter mentions water pollution 1=Water pollution is mentioned as a concern in this debate 2=Water pollution is not considered a concern in this debate 0=Water pollution is not mentioned
igcccln	Commenter mentions IGCC 1=IGCC is clean 2=IGCC is not clean 3=IGCC is cleaner than regular coal, but not clean enough 0=IGCC as clean tech is not mentioned
igccprac	Comment on maturity/practicality of IGCC technology Commenter mentions IGCC's practicality 1=IGCC is practical and will be an effective solution to commenter's concerns 2=IGCC is not practical and will not be an effective solution to commenter's concerns 0=IGCC's practicality is not mentioned
co2capt	Comment on viability of carbon capture technology 1=Carbon capture is a viable technology

	2=Carbon capture is not a viable technology 0=Viability of carbon capture not mentioned
carbontx	Comment on carbon tax 1=Unfair for companies to pass it on to customers 2=Fair for companies to pass on to customers 3=Will make renewable energy essential 0=Carbon tax not mentioned
jobs	Comment on jobs in DE 1=Commenter's bid preference will provide new jobs 2=Bid choice other than commenter's will take jobs away 3=Jobs not important/not affected by bid choice 0=Jobs not mentioned
ecnlocal	Commenter's local economy mentioned 1=Local economy will benefit 2=Local economy will suffer 0=Local economy not mentioned
ecnstate	Commenter mentions DE state economy 1=State economy will benefit 2=State economy will suffer 0=State economy not mentioned
forgnoil	Commenter mentions US dependence on foreign oil 1=Foreign oil is relevant to this debate 2=This debate is unrelated to US dependence on foreign oil 0=US dependence on foreign oil not mentioned
psc	Commenter mentions Delaware PSC's participation in this debate/process 1=Positive comment 2=Negative comment 0=PSC not mentioned
delmarva	Comment on DP&L's participation in this debate/process 1=Positive comment

	2=Negative comment 0=DP&L not mentioned
icreprt	Comment on Independent Consultant's ***October 2006*** report to the PSC 1=Report is accurate and impartial 2=Report is incorrect 3=Report is incomplete 4=IC is linked to Delmarva and not impartial 0=Report not mentioned
dereg	Comment on deregulation of the electric industry in Delaware 1=Deregulation is good 2=Deregulation is a mistake 3=Electric industry should be reregulated 0=Deregulation not mentioned
windint	Comment on offshore wind as an intermittent energy source 1=Offshore wind is too intermittent to supply electricity for this RFP 2=Offshore wind output profile cannot provide baseload power 3=Intermittency will not be a problem and wind is appropriate for this RFP 0=Intermittency not mentioned
windkill	Comment on offshore wind farms as wildlife (avian or other) hazard 1=Wind farm will directly kill wildlife in significant numbers 2=Wind farm will kill indirectly through climate change 3=Wind farm will not kill wildlife in significant numbers 4=Wind farm will not kill any wildlife 5=Wind farm will kill wildlife, but it is an acceptable risk 0=Offshore wind farm as wildlife hazard not mentioned
coalkill	Comment on coal burning power plants as wildlife (avian or other) hazard 1=Coal plant will directly kill wildlife in significant numbers

	2=Coal plant will kill indirectly through climate change 3=Coal plant will not kill wildlife in significant numbers 4=Coal plant will not kill any wildlife 5=Coal plant will kill wildlife, but it is an acceptable risk 0=Coal plant as wildlife hazard not mentioned
gaskill	Comment on natural gas burning power plant as wildlife (avian or other) hazard 1=Gas plant will directly kill wildlife in significant numbers 2=Gas plant will kill indirectly through climate change 3=Gas plant will not kill wildlife in significant numbers 4=Gas plant will not kill any wildlife 5=Gas plant will kill wildlife, but it is an acceptable risk 0=Gas plant as wildlife hazard not mentioned
scistudy	Inclusion by commenter of a scientific study in support of concerns 1=Cites specific study to support concern 2=Gives citation but not scientific source (blog, hearsay, etc) 3=Does not cite scientific study to support concerns
navhaz	Comment on offshore wind farm as a navigation hazard 1=Offshore wind farm will be a navigational hazard 2=Offshore wind farm will not be a navigational hazard 0=Offshore wind farm as navigational hazard not mentioned
windeco	Comment on offshore wind farm's projected effect on coastal ecosystems 1=Commenter feels wind farm will have positive effects on coastal ecosystem 2=Commenter feels wind will have

	negative effects on coastal ecosystem 0=Not mentioned
windinfr	Comment on infrastructure needs of proposed offshore wind farm 1=Existing infrastructure is sufficient for offshore wind farm 2=Existing infrastructure is insufficient 0=Infrastructure needs of offshore wind farm not mentioned
windreal	Comment on offshore wind's maturity/readiness for use 1=Offshore wind technology is mature 2=Offshore wind technology is not mature 0=Maturity of offshore wind technology not mentioned
windfish	Comment on possible effects of an offshore wind farm on angler, either access or fish populations 1=Offshore wind farm will have a positive effect 2=Offshore wind farm will have a negative effect 0=Possible effects on fishing not mentioned

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