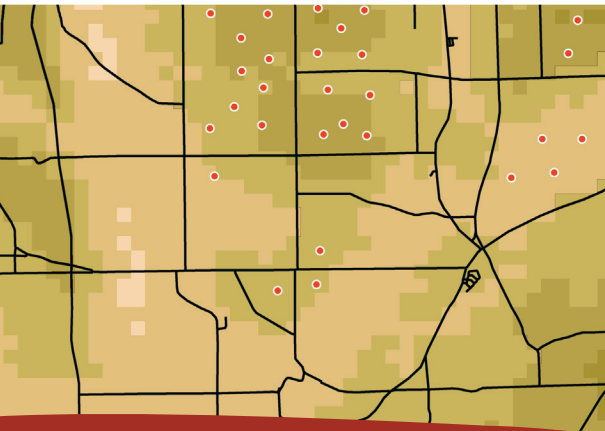
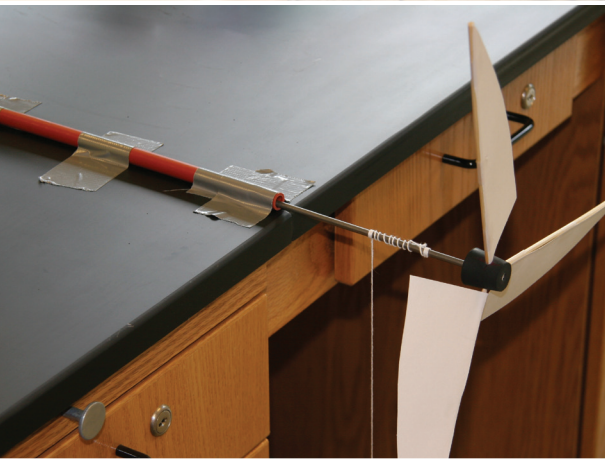


WindWise Education

Transforming the Energy of Wind into Powerful Minds



A Curriculum for Grades 6–12

Notice

Except for educational use by an individual teacher in a classroom setting this work may not be reproduced or distributed by mechanical or by electronic means without written permission from KidWind or Normandeau. For permission to copy portions or all of this material for other purposes, such as for inclusion in other documents, please contact Michael Arquin at the KidWind Project at michael@kidwind.org



2nd
edition



www.WindWiseEducation.org



WindWise Education was developed with funding from the New York State Energy Research & Development Authority



Updates to Lessons 3 & 5 and the addition of Lesson 16 were funded by the Department of Energy: subcontract No.AFT-I-40657-01

HOW DO PEOPLE FEEL ABOUT WIND ENERGY?

LESSON

15

KEY CONCEPT

Students explore what effects media can have on people's perception of wind energy.

TIME REQUIRED

1–2 class periods

GRADES

6–8
9–12

SUBJECTS

Language Arts
Social Studies

BACKGROUND

As with many topics, wind energy is portrayed both positively and negatively in the media. Understanding the sources and motives of different media is an important skill. By examining the words and images used in media, students will learn how to decipher media messages and the methods of **persuasion**.

OBJECTIVES

At the end of the lesson, students will:

- understand the persuasion concepts of **ethos**, **pathos**, and **logos**
- know how to analyze the language and images used in wind energy media (literature, articles, print and video ads)
- be able to develop their own media product using one of the methods of persuasion (if using the extension section of this lesson)

METHOD

Students will analyze media materials related to wind energy to determine which tools are used to create an image and inform opinion. Students will use the concepts of **ethos**, **pathos**, and **logos** to categorize their analyses. Following their analyses, they will write a persuasive argument for or against wind energy.

MATERIALS

- Worksheets for each student*
 - Media packets for each small group (ads, print media, articles, etc. found in this activity and on the WindWise Education website)*
- *included with this activity

Optional

- Examples of magazine or newspaper advertisements

HOW DO PEOPLE FEEL ABOUT WIND ENERGY?

GETTING READY

Make copies of the worksheets, reading passage, and media packets. If computers are available, students can view the materials online (see Additional Resources).

ACTIVITY

Step 1: Beginning questions for students

Tell students to read the reading passage. Supply students with a couple of common product names and slogans such as

- “Just do it” (Nike)
- “The few, the proud, the Marines” (US Marines)
- “The happiest place on earth” (Disney)
- “Your Top 40,000” (Apple iPod)
- “Crest Cavity Protection Toothpaste was the first ever to be accepted by the American Dental Association” (Crest toothpaste)

Ask students the following questions about the slogans.

- What do you think when you hear this slogan?
- What do you feel when you hear this slogan?
- Does the make you want to buy the product?
- Which method of persuasion was used?

Step 2: Examine media packets

Distribute the media packets and worksheets to students. Explain to students that their task is to decipher what the writer’s key message is and how words, phrases, and photos are used to persuade the audience to think one way or another about wind energy. Ask the students to read the packets and complete all but the last question on the worksheet.

Step 3: Class discussion

Discuss students’ responses to the questions on the worksheet.

Step 4: Write a persuasive argument

Ask students to write a one paragraph persuasive argument for or against wind energy, using words, phrases, facts, and images from their media packets.

EXTENSION

Ask students to design their own media by creating persuasive flyers, video, signs, and advertisements either for or against wind energy.

VOCABULARY

bias – Favoring one perspective or side of an issue over another.

ethos – Refers to credibility. In marketing, this is often seen when an authority figure or perceived expert, such as a doctor, recommends a product.

logos – Refers to logic and is applied in marketing through the use of statistics or facts.

pathos – The process of eliciting emotion and appealing to the consumer's values.

persuasion – A type of communication whose purpose is to induce a belief or action.

ADDITIONAL RESOURCES

- WINDWISE EDUCATION—<http://kwind.me/b8v>—Additional examples of both pro-wind and anti-wind energy media.



READING PASSAGE

Marketing is not only big business; it shapes the way we think and act. Various sources estimate that the average American is exposed to between 300 and 3,000 advertising messages a day. Each message has a purpose—from getting the user to purchase a product to supporting a cause. It is the marketer’s job to convince the user to take the desired action with a short and simple message that may use words, sounds, images, or any combination thereof. Marketing can take the form of many types of media, such as print, online advertising, radio, television, direct mail, and outdoor marketing (billboards, signs).

Many marketing campaigns use techniques of persuasion to convince a consumer to purchase a product. The Greek philosopher Aristotle identified three methods of persuasion: Ethos, Pathos, and Logos. Whether the advertisement is in a magazine, on television, or on a social network site such as Facebook, one or more of these techniques are typically used.

- Ethos refers to credibility. In marketing, this is often seen when an authority figure or perceived expert, such as a doctor, recommends a product.
- Pathos is the process of eliciting emotion and appealing to the consumer’s values.
- Logos refers to logic and is applied in marketing through the use of statistics or facts.

In an effort to “sell” a product or idea, marketers sometimes provide misleading, incomplete, or biased information to the consumer in order to appeal to a consumer’s desires (pathos). For instance, the packaging for an item may have a photo showing items that are not included or it may make the item look bigger than it actually is. With photo-editing software, photos can easily be changed, creating images that are different from reality. This is particularly true in terms of modeling photos. You can see an example of this in Dove’s 2006 short video called “Evolution” (posted on YouTube and distributed widely through social networking sites), which shows how a billboard photo of a woman is created and altered in such a way that the final photo looks dramatically different from the real person.

Marketing messages often only provide partial information, leaving consumers to interpret or assume the meaning. For example, a radio station uses the logos technique of persuasion by proudly announcing that they have “27 percent fewer commercials.” The listener is supposed to assume that this means this station is better than other stations because they have fewer commercials and, therefore, more music. The station, however, does not provide all of the information. There are 27 percent fewer commercials than what? Fewer than they had five years ago? Fewer than they had last week? Fewer than another radio station? It’s also possible that the station is playing fewer commercials, but has longer commercials. The station may also not count radio show hosts talking about specific products as “commercials” even though they are marketing a product.

All marketing messages have a bias. In other words, they are trying to promote one thing over another or they want consumers to buy their product instead someone else’s. Marketing messages will never provide you a balanced choice. For instance, a car company is not going to show how great another company’s car is. Instead, it may show a famous person tell consumers how much better its car is. Smart consumers look beyond the initial marketing message to determine the pros and cons of every message and avoid being swayed by any single powerful marketing message.

Marketing plays a key role in wind energy development. As with many topics, wind energy is portrayed both positively and negatively. In communities where wind farms are controversial, marketing can sway a town’s decision to approve or deny the installation of a wind farm. Pro-wind messages may focus on

job creation, a clean and renewable energy source, or reduction of greenhouse gas emissions. Anti-wind messages, on the other hand, may target negative impacts to the ecosystem, visual aesthetics, or safety hazards for air and sea navigation. Understanding the source and motive of marketing messages helps citizens make informed decisions about wind energy.

CASE STUDY

Trieste Associates is a public relations firm in Saratoga Springs, New York, whose work focuses on promoting clean energy and water protection. Its goal is to balance development goals with protecting the environment. Trieste uses traditional public relations techniques such as publications and the internet to inform people about topics such as wind power. They also use a less traditional public relations technique called grassroots organizing, which involves educating the community about wind power technology.

Some wind energy projects can be controversial in a community because of concerns about aesthetics, noise, or financial impacts. Community opposition can delay or prevent installation of a wind farm. Trieste is hired to educate and engage the community in which controversial wind projects are being proposed. Through educational forums, fact sheets, and open houses, Trieste provides community residents with information about the proposed wind farms. Trieste also assists key community members in advocating for a wind project. When the community voices support for a wind project, the likelihood of success is much greater.

For example, Trieste Associates has helped citizens organize groups such as Voters for Wind in New York that educates the public about the benefits of renewable energy resources. Voters for Wind filed and won a law suit against the elected officials who voted to prohibit a wind farm in the town of Lyme, New York.

One technique that Trieste Associates has found to be particularly compelling is a “comparative graphic.” Often the terms used in the energy sector such as “megawatt” and “ton of CO₂” have little meaning to people unless they can relate it to a real life example. Trieste creates graphs or charts to simplify complicated information. These easy-to-understand visual tools help people make more informed decisions about future green energy projects.



How Do People Feel About Wind Energy?

Name _____ Date _____ Class _____

HOW DOES MEDIA IMPACT OUR PERCEPTION OF WIND ENERGY?

I. Read through your wind energy media packet. As you read, write down the words and images that you think are intended to influence your opinion of the subject and record how they make you feel or think.

WORD, PHRASE, OR IMAGE (DESCRIBE THE IMAGES)	POSITIVE (+) OR NEGATIVE (-)	HOW DOES IT MAKE YOU FEEL OR THINK?	WHO IS THE INTENDED AUDIENCE?	WHICH MODE OF PERSUASION DOES IT USE? HOW? (ETHOS, PATHOS, LOGOS)

WORD, PHRASE, OR POSITIVE (+) OR NEGATIVE (-) IMAGE (describe the images)		HOW DOES IT MAKE YOU FEEL OR THINK?	WHO IS THE INTENDED AUDIENCE?	WHICH MODE OF PERSUASION DOES IT USE? HOW? (Ethos, Pathos, Logos)



Name _____

Date _____

Class _____

2. Based on information in your media packet, list reasons why you feel a community may be for or against wind energy.

FOR WIND ENERGY	AGAINST WIND ENERGY

3. Write a persuasive paragraph about wind energy—for or against—using some of the words and phrases you have seen in your packet.

EXTENSION

Pick one of the images. How would you subtly change it to show the opposite point of view?

I. Read through your wind energy media packet. As you read, write down the words and images that you think are intended to influence your opinion of the subject and record how they make you feel or think.

Examples are provided in the table

WORD, PHRASE, OR IMAGE (describe the images)	POSITIVE (+) OR NEGATIVE (-)	HOW DOES IT MAKE YOU FEEL OR THINK?	WHO IS THE INTENDED AUDIENCE?	WHICH MODE OF PERSUASION DOES IT USE? HOW? (Ethos, Pathos, Logos)
Alliance to Protect Nantucket Sound—Top 10 Myths “Known for its beaches and natural beauty, Cape Cod and the islands of Nantucket and Martha’s Vineyard are among the top ten tourist destinations in the country. Industrialization of Nantucket Sound by Cape Wind would cause losses in tourism and employment, as well as declines in property values.”	negative	Answers will vary by student.	Property owners, business people, citizens who rely on jobs related to tourism	Using pathos, the text appeals to the reader’s emotional attachment to the beauty of the area. Using logos, the text shows how important tourism is to the area; it is among the top ten destinations in the country.
Alliance to Protect Nantucket Sound—Top 10 Myths “The Massachusetts Fisherman’s Partnership, which represents 18 commercial fishing organizations, says that navigation of mobile fishing gear among the 130 towers would be hazardous or impossible”	negative	Answers will vary by student.	Fishermen People who care about safety of fishermen	Using ethos, the text relies on the Massachusetts Fisherman’s Partnership as being a credible source of information. Using logos, the text provides the number of fishing organizations in the partnership as well as the number of towers.

<p>Alliance to Protect Nantucket Sound</p> <p>“Save Our Sound” (tag line of organization)</p>	<p>negative</p>	<p>Answers will vary by student.</p>	<p>People who live and work along the sound and see it as a natural amenity</p>	<p>Using pathos, the tag line gives a sense of urgency to protect something that will be lost. The acronym for the tag line is “SOS,” giving greater emphasis to urgency.</p>
<p>Alliance to Protect Nantucket Sound</p> <p>“Not for Sale” sign</p>	<p>negative</p>	<p>Answers will vary by student.</p>	<p>People who want to protect natural areas; people who are opposed to corporations using natural areas</p>	<p>The sign uses a pathos to convey the sense that the sound is being purchased and will not be available for everyone in the future.</p>
<p>“Clean Power Now”</p>	<p>negative</p>	<p>Answers will vary by student.</p>	<p>People who see themselves as supporting clean energy</p> <p>People who want to see solutions “now”</p>	<p>Using pathos, the name of the organization gives a sense of urgency to the need for clean power now, not later. The use of the term “clean” conjures positive images for the reader.</p>
<p>Clean Power Now’s Top 10 Myths</p> <p>“There is not a single example of a wind farm anywhere in the world hurting tourism, property values or local economy. According to the 2004 Army Corps (Draft EIS), impacts on Cape tourism and the local economy will be favorable and the wind farm development will not harm property values.”</p>	<p>positive</p>	<p>Answers will vary by student.</p>	<p>Property owners, business people, citizens who rely on jobs related to tourism</p>	<p>Using logos, the text indicates that there are no examples of a wind farm where tourism was impacted.</p> <p>Using ethos, the text draws upon the credibility of the Army Corps.</p>

<p>Clean Power Now's Top 10 Myths</p> <p>"The 2004 Army Corps DEIS predicted no negative impact on current commercial fishing activity occurring on Horseshoe Shoal. The Shoal is not used by large-scale commercial fisherman since larger vessels could potentially run aground in the shallow area."</p>	<p>positive</p>	<p>Answers will vary by student.</p>	<p>Fishermen</p> <p>People who care about the safety of fisherman.</p>	<p>Using ethos, the text draws upon the credibility of the Army Corps.</p> <p>Using logos, the text says the Shoal area is currently not used by larger vessels.</p>
<p>Clean Power Now's picture in the brochure that says "Working Families Support Cape Wind"</p>	<p>positive</p>	<p>Answers will vary by student.</p>	<p>Residents</p> <p>"working families" (non-wealthy residents)</p>	<p>Using pathos, the sign indicates that even the "average person" supports the project and that the project may help average people.</p>

2. Based on your packet, list why you feel a community may be for or against wind energy.

The answers for the following will vary from student to student and should be the basis for discussion.

Some examples:

For wind energy

- Clean air
- Renewable energy
- Energy independence
- Jobs
- Aesthetics of wind turbines seen as positive

Against wind energy

- Aesthetics of wind turbines seen as negative
- Worried about wildlife impacts
- Worried about impacts to fishing industry
- Opposed to developers using natural areas
- Concerned about oil spills from off-shore electrical service platform
- Desire to protect tribal land and historic properties

HOW DO PEOPLE FEEL ABOUT WIND ENERGY?

Stop Cape Wind: The Fight is Far From Over!

Cape Wind is a massive industrial development proposed for Nantucket Sound, the vital body of water located to the south of Cape Cod and to the north of the islands of Martha's Vineyard and Nantucket. A private developer wants to transform this national treasure into a 25 square-mile offshore wind energy plant the size of Manhattan – complete with 130 turbines, each taller than The Statue of Liberty, and a 10-story electrical service platform (pictured) – less than five miles from our beaches.



Cape Wind is not a done deal and the fight is far from over.

The Cape Cod Commission has denied Cape Wind a critical permit. The FAA has issued a presumed hazard determination because the project's spinning turbines would cause radar interference to air traffic. Mandatory consultations with the local Wampanoag Tribes and historic agencies are far from complete. Several state permits are being challenged in the courts. The Department of Interior's Inspector General is investigating potential violations in the federal review of Cape Wind. Cape Wind needs each and every one about twenty local, state, and federal permits that govern this project to go forward. One permit denial would preserve Nantucket Sound and protect our economy, our safety, our environment, and our heritage from this industrial project.

There are better and cheaper alternatives that wouldn't ruin Nantucket Sound.

Many other projects are being proposed in less conflicted locations up and down the East Coast. A deep water project is being proposed locally 23 miles southwest of Martha's Vineyard. Small municipal onshore projects are on the rise. We all support wind power, but in the right locations. Thanks to land based projects and advances in deeper water technology, we can say "YES to wind, and NO to Cape Wind."

Visit www.SaveOurSound.org to find out you can help stop Cape Wind.

Because once Nantucket Sound is gone, it's gone forever.

Nantucket Sound is absolutely the wrong place for an industrial wind plant.

Nantucket Sound is the engine of our economy, a habitat for several protected species, and a national treasure that deserves long-term preservation.

- **Cape Wind would threaten our economy and raise electric rates.**

Cape Wind would devastate commercial fishing and decrease tourism and property values. Moreover, Cape Wind's electricity is expensive. The federal government has said Cape Wind's power would cost more than double current wholesale rates. It would raise our electric bills and use up over 1.3 billion hard-earned taxpayer dollars. And after eight years, the developer still hasn't told us if our monthly electric bills would go up 25 dollars, 35 dollars or even more.

- **Cape Wind would put the safety of millions traveling by air and sea at risk.**

The FAA is calling Cape Wind a "presumed hazard." With 400,000 flights per year over Nantucket Sound, all three local airports oppose Cape Wind. The local ferry lines, which transport more than three million passengers annually, call Cape Wind "an accident waiting to happen."

- **Cape Wind would jeopardize the environment.**

Dredging, pile driving, and jet plowing to install 130 turbines and nearly 100 miles of cable would devastate the sea floor and fisheries. The project would endanger marine mammals and birds and pose the threat of an oil spill. In fact, there is a 90% chance that, in the event of a spill, the 40,000 gallons of oil held in the electrical service platform would reach our Cape and Islands beaches in fewer than five hours.

- **Cape Wind would desecrate sacred Tribal land and historic properties.**

Nantucket Sound holds profound religious and cultural significance for the Wampanoag Tribes of Aquinnah/Gay Head and Mashpee. The proposed project would destroy traditional cultural property, erode Tribal religious freedoms and sovereign rights, and adversely affect numerous historic properties on the Cape and Islands.

Help stop Cape Wind. Because once Nantucket Sound is gone, it's gone forever.

Ask your elected officials to find a better location for this industrial project that won't risk our safety, increase our electric bills, and ruin Nantucket Sound – the heart and soul of the Cape and Islands. Volunteer. Donate. Write letters to the editor. Post a "Nantucket Sound Not for Sale" sign on your lawn and an "SOS" bumper sticker on your car.

Visit www.SaveOurSound.org or call 508.775.9767 to find out more ways to help.



Top 10 Myths About the Cape Wind Project

	Myth	Response
1	<p>“Land Grab” – Cape Wind will occupy public lands for free.</p>	<p>The passage of the 2005 energy bill authorized the Minerals Management Service (MMS) of the Department of the Interior to take over the permitting process for offshore wind projects because of their expertise in permitting offshore oil and gas drilling. The energy bill gives MMS authority to require offshore wind developers to lease public lands for use with 27% of this revenue coming to Massachusetts.</p>
2	<p>“Paying a Developer to Make Money” – The Cape Wind project relies heavily on public subsidies.</p>	<p>Unlike fossil fuel-based power plants, Cape Wind will <u>not</u> be subsidized to build this project. The developer must fund the project with their own or borrowed money and pay taxes on any profit. However, because of the project’s environmental benefits, Cape Wind may be able to defray 1.8 cents from their annual tax bill for each kilowatt-hour of energy produced in the first 10 years of operation through the Production Tax Credit (PTC). The PTC is available to all renewable energy projects, however, it must be renewed by Congress every two years.</p>
3	<p>“Project Abandonment” – If the project fails, abandoned wind turbines will litter the Sound.</p>	<p>Before construction begins, the developer will be required by the federal government to post a bond to ensure that sufficient funds are available for removing the turbines & associated materials and equipment at the end of the project’s lifespan.</p>
4	<p>“Bird Deaths” –Cape Wind could pose a threat to migratory birds in Nantucket Sound.</p>	<p>After completing a 4-year study of Nantucket Sound, the Massachusetts Audubon Society has given conditional support for the Cape Wind project. The study concludes that the endangered Roseate Terns and Piping Plovers completely avoid Horseshoe Shoal, the proposed wind farm site. Radar studies conducted in Denmark indicate that wind farms have no adverse impact on bird populations, concluding that most bird species exhibit an avoidance reaction to wind turbines, thereby reducing the probability of a collision to less than 1 percent.</p>
5	<p>“Deep Water is the answer” – Deep water technology will be viable within 5 years and is a better solution to our energy needs.</p>	<p>While Deep water offshore technology is the hope for the future, it is unlikely to be feasible within the next decade. Deep water wind farms are not economically viable. Currently, only one small scale experimental version is in operation. Near shore experience in shallow waters is necessary for deep water technology to advance. All of the countries proposing experimental deep-water projects have already mastered near-shore wind farms. The near-shore Cape Wind project will lay the foundation for U.S. deepwater technology in the future.</p>

	Myth	Response
6	<p>“Economic Impacts” – The project poses calculable economic losses to business, taxes, and property values for Cape Cod. From an economic perspective, the costs of the project exceed the benefits.</p>	<p>There is not a single example of a wind farm anywhere in the world hurting tourism, property values or local economy.</p> <p>According to the 2004 Army Corps Draft EIS, impacts on Cape tourism and the local economy will be favorable and the wind farm development will not harm property values. This has been the case for offshore wind farms in Sweden and Denmark. Residents who were initially opposed to the Nysted wind farm in Denmark say their opinions changed once the wind turbines were built. Several years later, tourism, property values nor local economy have been impacted by the wind farm.</p>
7	<p>“Commercial Fishing Impacts” – Cape Wind would severely disrupt the commercial fishing on Horseshoe Shoal</p>	<p>The 2004 Army Corps DEIS predicted <u>no</u> negative impact on current commercial fishing activity occurring on Horseshoe Shoal. The Shoal is not used by large-scale commercial fisherman since the larger vessels could potentially run aground in the shallow area.</p> <p>The turbines will most likely <u>enhance</u> recreational fishing. As barnacles and other mollusks begin to attach to the turbine piles, more fish will be drawn to the area due to the increase in food supply.</p> <p>The wind turbines would be located in shallow waters <u>outside</u> of shipping and ferry channels.</p>
8	<p>“Boating Dangers” – The wind turbines would crowd navigation channels and create collision risks for ships, ferries, and fishing boats.</p>	<p>The 2004 Army Corps DEIS found the wind turbines would be “aids-to-navigation” and that the risk of a vessel colliding with a turbine is “low.” The turbines will be spaced 6-9 football fields apart allowing for easy navigation within the wind farm.</p> <p>Vessels needing assistance within the wind farm will be able to safely tie up to any of the turbines which are individually numbered for easy location identification.</p>
9	<p>“Oil Spill Hazard” – Nantucket Sound will be exposed to the environmental impact of a possible oil spill.</p>	<p>The oil required for the Electrical Service Platform (ESP), is low-toxicity mineral oil, much lighter - and less hazardous - than the exhaust of boats presently using the Sound. Furthermore, the oil is triple-contained for further safety unlike the millions of gallons of fuel that pass through Nantucket Sound each year. The platform itself will be built to the standards set forth by the American Petroleum Institute to withstand hurricane winds and waves.</p>
10	<p>“Radar Interference” – Wind turbines produce blind areas where vessels and aircraft cannot be detected by radar.</p>	<p>In 2007, after reviewing the Cape Wind proposal, the US Air Force, operator of the Pave Paws radar station at the Mass Military Reservation, announced that wind farms within a 30km radius would not adversely impact the radar system and that the Cape Wind project in particular would pose no threat to radar operations. The FAA has also given Cape Wind a “no hazard” determination for aviation.</p> <p>In addition, the British government determined wind farms can be sited within 500 meters of a shipping lane based on extensive radar studies. The Middlegrunden wind farm in Copenhagen harbor is within 500 meters of a major international shipping channel, with no collisions indicating that radar interference is not an issue.</p>



What is Cape Wind?

- 25-square mile industrial wind plant less than 5 miles off our beaches
- 130 wind turbines each taller than the Statue of Liberty
- 10-story electrical service platform with 40,000 gallons of oil
- Heavily subsidized, private venture seizing public land

How would Cape Wind harm Cape Cod & the Islands?

- Raise electric rates
- Imperil air and sea travel
- Endanger birds, marine mammals, sea turtles, finfish, and shellfish
- Devastate commercial fishing
- Decrease tourism, property values, and jobs
- Present oil spill threat
- Desecrate sacred Wampanoag Native American Tribal sites and traditions
- Threaten National Historic Landmarks and other historic sites

www.SaveOurSound.org
508.775.9767



Are there better alternatives?

Yes! Say YES to wind, but NO to Cape Wind!

- Blue H floating deep water wind proposal 23 miles off Martha’s Vineyard
- Deeper water proposals for Rhode Island, New Jersey, and Delaware
- Cheaper, less conflicted onshore sites like MA Military Reservation

Is Cape Wind a done deal?

No! The fight is far from over!

- FAA calls Cape Wind a “presumed hazard” because of aviation dangers
- Wampanoag Tribes oppose Cape Wind
- Ocean zoning process incomplete
- No federal permits have been issued
- State permits are being challenged in MA court
- Cape Wind needs many permits to build. Just one permit denial would stop Cape Wind and preserve Nantucket Sound forever!

How can I help?

Visit www.SaveOurSound.org or call 508.775.9767.

Volunteer. Donate. Write letters to the editor. Display a FREE *Nantucket Sound Not For Sale* yard sign or an SOS bumper sticker.

Act now! Because once Nantucket Sound is gone...it’s gone forever.



ALLIANCE TO PROTECT NANTUCKET SOUND FLIER

FISHING CONCERNS



Cape Wind Will Harm the Cape's Fishing Industry

In 2004, the Army Corps of Engineers released a DEIS (Draft Environmental Impact Statement) based on the work of consultants hired and supervised by Cape Wind. The DEIS asserted there would be minimal environmental impacts from the construction and operation of the proposed wind factory. But none of the environmental agencies reviewing the DEIS agreed with its conclusions. Three state and federal fisheries management agencies said the DEIS systematically underestimated fisheries resources, commercial and recreational fishing activities, and the potential impacts to the ecosystem and the Cape's economy.*

Nantucket Sound provides essential fish habitat for many important species of finfish and invertebrates, including bluefish, striped bass, scup, summer flounder, black sea bass, and squid. Their commercial and recreational harvest adds tens of millions of dollars to the local economy. Horseshoe Shoal, as the most prominent bottom feature in the Sound, plays an important role in its overall ecology, and is an Essential Fish Habitat for 16 species according to MA Division of Marine Fisheries. This shoal provides spawning grounds and nursery grounds, and functions as a predator's supermarket, playing a vital role in the marine food chain. Commercial fishermen, recreational anglers, and charter captains target the area because of its abundance.

The likely impacts to Horseshoe fall into several categories:

1. Permanent habitat alteration:

Cape Wind's construction activities over a 24-square mile area include driving 130 turbine bases into the sea floor, laying more than 100 miles of cable by jet plowing, and dredging large areas otherwise too shallow for work boats. The resulting impacts include mortality of benthic fauna (for example shellfish, crabs, snails and worms) and juvenile fish, destruction of eggs, and dispersal of juvenile and adult fish and invertebrates. Dispersal leads to fewer spawning and feeding opportunities. Overall, loss of fisheries production is a given. The extent and timing of recovery are unknown.

Following construction, the presence of large vertical structures on a shoal marked by strong tidal currents would cause continuous turbulence and turbidity and the formation of scores of gullies and sand bars. In some ways, this might be likened to plowing up a ski slope to make a mogul field. The numbers and kinds of users of the area would likely be drastically altered.

FISHING CONCERNS

2. Changes in fisheries abundance and distribution:

In the case of Horseshoe Shoal, large-scale changes to water flow and sediment transport, combined with the permanent loss and alteration of shoal habitat, would have profound effects on the abundance and distribution of fish, birds, and mammals, which depend on the shoal for feeding and reproduction. Furthermore, once the turbine bases became encrusted with communities of marine organisms, entirely different fish species might favor the area. These changes would ripple throughout the Sound in unpredictable ways, benefiting certain species and having adverse impacts on others. Given the migratory nature of many of the species involved, these changes could impact fisheries up and down the East Coast.

3. Disruption of traditional fishing practices:

The presence of 130 wind towers and a transformer station would limit or even preclude traditional fishing practices in the project area. Mobile gear fishermen could not safely maneuver between the towers while towing a net. Should a boat's fishing gear get "hung up" on a turbine or undersea cable, its ability to haul back and free itself might be severely hampered or even prevented by the towers or the influence of waves and currents as altered by the presence of the towers. Most recreational fishermen are not used to handling boats in the kind of strong eddies that would swirl around the turbines. By fishing in the area, they would risk collisions with the bases of the turbines and other boats. In the event of an accident, U.S. Coast Guard helicopters might not be able to fly within the project footprint to perform rescue activities, particularly during extreme weather conditions when they would be most needed.

4. Possible closure of the area to the public:

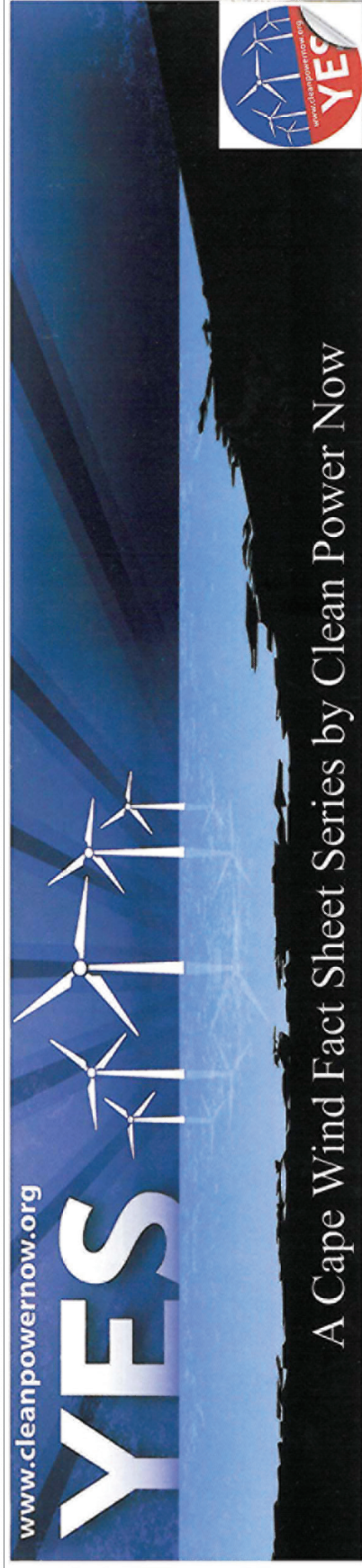
Finally, direct closure of the facility (24 square miles) to fishing and boating because of security reasons is a distinct possibility.

* Sources: DEIS reviews by MA Division of Marine Fisheries, Atlantic States Marine Fisheries Commission, and the New England Fisheries Management Council.



For further info: www.saveoursound.org

CLEAN POWER NOW POSTCARD



Clean Power Now started on Cape Cod in 2003 and has grown to over 12,000 members strong.

We are a non-profit grassroots organization informing citizens and empowering them to support viable renewable energy projects and policies, and to secure their local and regional benefits.

We believe that the timely development of such projects, in conjunction with energy efficiency and conservation, will bring about a clean, healthy environment, an improved economy and a more secure, sustainable America.

Our immediate focus is to increase citizen support of offshore wind power in Nantucket Sound.



Clean Power Now
PO Box 2717
569 Main St., Ste 9
Hyannis, MA 02601
508-775-7796

Clean Power Now has created a series of fact sheets about the Cape Wind project. Cape Wind will provide 75% of the Cape and Islands energy needs making the region a leader in the clean energy economy.

CLEAN POWER NOW POSTCARD

The Allure of Deepwater Wind
Deepwater wind is the future. Cape Wind is NOW.



Impact on Oil Imports
Cape Wind will offset almost 2 million barrels of oil each year.



Top 10 Myths
Get the facts on Cape Wind!



Climate Change
Cape Wind will be equivalent to taking 175,000 cars off the road *each year*.



Impacts on Birds
Global warming is the single largest threat to birds *not* wind turbines.



Private Use of Public Land
Cape Wind will pay a lease for the use of Horseshoe Shoals.



Government Oversight
19 government agencies are involved in permitting Cape Wind.



Health Benefits
“the air quality benefits of [Cape Wind] are significant and important to Massachusetts.”



A View in Perspective
Cape Wind will be the size of your thumbnail when viewed from shore.



**Wind Energy is Clean,
Powerful,
Sustainable,
Beautiful...**



Benefits of Wind Energy:

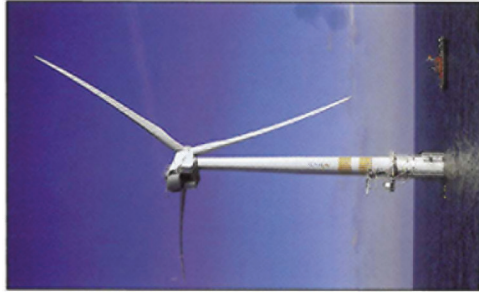
Cleaner Air

Better Health

Stable Costs

Green Collar Jobs

Energy Independence



“The Cape Wind project is the largest single source of supply-side reductions in global warming pollution currently proposed in the US.” Nathanael Greene, Senior Policy Analyst
Natural Resources Defense Council

CLEAN POWER NOW BROCHURE

I'll become a sustainable member at the following level:

\$25 Kilowatt Member

\$100 Megawatt Member

\$250 Gigawatt Member

My check made payable to Clean Power Now is enclosed.

Name: _____

Address: _____

City: _____

State/Zip: _____

Phone: _____

Email: _____

To put your donation on your CREDIT CARD visit:
www.cleanpowernow.org
and click on DONATE NOW

For more information and to sign up for our e-newsletter, check out www.cleanpowernow.org.
Your donation is tax-deductible.
Your support is appreciated.

Thank You!

CLEAN POWER NOW
PO Box 2717 · Hyannis, MA 02601
(P) 508.775.7796 · (F) 508.775.7782
www.cleanpowernow.org

CLEAN POWER NOW BROCHURE



CLEAN POWER NOW is a non-profit grassroots citizens' organization informing citizens and empowering them to support viable renewable energy projects and policies, and to secure their local and regional benefits.

We believe the timely development of such projects, in conjunction with energy efficiency and conservation, will bring about a clean, healthy environment, improved economy and a more secure, sustainable America.

As such, Clean Power Now supports Cape Wind, America's first offshore wind farm.



"Clean Power Now has been helping people understand that doing nothing isn't one of the options for our energy future – and they've been succeeding at that task."

Bill McKibben, renowned author and Environmentalist



**CITIZENS FOR
CLEAN RENEWABLE
ENERGY!**

It's not the view ...



... it's the vision.

CLEAN POWER NOW

PO Box 2717
569 Main St., Suite 9
Hyannis, MA 02601

(P) 508.775.7796
(F) 508.775.7782

"Given the persistent and irrational opposition to Cape Wind, Clean Power Now is providing a powerful voice on behalf of the most promising project that could jump-start a clean energy revolution throughout the United States."

Ross Gelbspan, author
The Heat Is On and *Boiling Point*

Clean Power Now's work is vital to the creation of the new clean energy economy, and thus to the future of humankind. Getting Cape Wind built should be one of the highest priorities of anyone who cares about energy independence, the next energy economy, and global warming. And nobody has been more steadfast, or more effective, in seeing the dream of Cape Wind come true."

Michael Shellenberger, co-author
Break Through and *Death of Environmentalism*

"Clean Power Now is vital, and we strongly support their efforts to educate people about the importance of the Cape Wind project."

Nathanael Greene, Senior Policy Analyst
Natural Resources Defense Council

ALLIANCE TO PROTECT NANTUCKET SOUND STICKER



ALLIANCE TO PROTECT NANTUCKET SOUND YARD SIGN



CLEAN POWER NOW STICKER



CLEAN POWER NOW BUMPER STICKER



Media materials provided by Clean Power Now and the Alliance to Protect Nantucket Sound.
For more information and media examples, please see the websites for each of these organizations:

- Clean Power Now—<http://kwind.me/e9v>
- Alliance to Protect Nantucket Sound—<http://kwind.me/p8b>

POLITICAL CARTOONS

