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# TOWN OF TRURO

P.O. Box 2030, Truro MA 02666

Tel: (508) 349-7004 Fax: (508) 349-5505

February 3, 2005

Karen Kirk Adams  
Cape Wind Energy Project  
EIS Project Manager  
Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2551

Re: Wind Farm

Dear Ms. Kirk-Adams:

As residents of Cape Cod, and partner caretakers of the special and delicate Cape Cod ecostructure, the Board of Selectmen of the Town of Truro, Massachusetts wish to make it known to the Army Corps of Engineers, the Cape Cod Commission, and MEPA that the Town of Truro supports, in concept, wind turbine energy, specifically with regard to the proposed wind farm in Nantucket Sound. This decision was not made lightly, but after due deliberation and discussion of the pros and cons of this specific project. Last year, the Truro Board of Selectmen appointed a liaison to the wind farm issue. This appointee has regularly briefed the Board on the various aspects of the debate.

It is incumbent upon current Cape Cod municipal leaders to provide a clean environment for the current and future residents of Cape Cod. We know that wind power is the fastest growing power source because of its clean operation. We also know that generating energy is the largest source of industrial air pollution in the United States today. Renewable energy is one of the primary tools to combat the negative impacts of our energy use. Wind power is one of the few renewable energy technologies that is feasible for widespread use today and in the near future.

We trust that the Army Corps of Engineers will judiciously evaluate the energy choices available to Cape Cod and render a sound decision on the development of wind power in the Cape Cod area, particularly Nantucket Sound. Please know that the Selectmen of the Town of Truro voted on February 2, 2005 to support the development of wind power.

Very truly yours,

Alfred Gaechter, Chair  
Truro Board of Selectmen

cc: Bill Worthington  
Energy Committee

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TOWN OF TRURO

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**Wind Amplifier Rotor Platform (WARP<sup>tm</sup>)  
Windpower Technology**

**A Proposed  
Alternative to Cape Wind Project**

for consideration by

**U. S. Army Corps of Engineers'  
EIS Assessment  
Section 3.0  
Alternative Analysis**

Submitted by:

**ENECO/ENECO Texas LLC  
West Simsbury, CT**

**Tel: 860 651-0061  
e-mail: eneco wind@aol.com**

**February 18, 2005**

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**Introduction:**

The proposed Cape Wind project at Horseshoe Shoals in Nantucket Sound is expected to be a highly visible wind farm installation. Plans consist of 130 unit 3.6 megawatt (MW) wind turbine generators (WTG) with 341 ft. (104 m) diameter 3 bladed rotors each reaching 417 ft. (127 m) into the sky while embedded by roughly 85 ft deep by 17 ft. diameter monopile foundations into the sea bed several miles offshore within view of Nantucket Island, Martha's Vinyard and Cape Cod. The wind farm would also require distribution over at least 24 square miles of watershed or sea surface area. Though windpower can provide significant environmental benefits, the presence of the proposed permanently embedded, highly visible and animated wind turbine installations in view of Nantucket Island, Martha's Vinyard and Cape Cod has generated significant opposition from the public.

**Objective:**

It is the intent of this proposal to provide an alternative wind farm opportunity with the Wind Amplifier Rotor Platform (WARP) windpower system which may both mitigate the public's viewshed and other environmental concerns as well as provide the wind farm developer and his affiliates with means to accomplish their objective with a more viable, cost effective and beneficial approach.

**Proposed Approach:**

The proposed Wind Amplifier Rotor Platform (WARP) windpower system is an advanced modular windpower technology which has been developed by ENECO in affiliation with Rensselaer Polytechnic Institute (RPI) and New York State Energy Research and Development Authority (NYSERDA) support. Initial WARP R&D and proof of system concept tests were successfully conducted by RPI under NYSERDA sponsorship.<sup>1</sup> Results were furthermore verified and improvements noted by organizations in Europe and in the U.S. such as the Technical University of Graz, Austria and CD-adapco using state-of-the-art commercial Computational Fluid Dynamics (CFD) analyses.

The web site: [www.warp-eneco.com](http://www.warp-eneco.com) may be consulted for further information, including FAQs, technical papers and media articles, slide show illustrations, a publication reference list and a performance & cost estimator code.

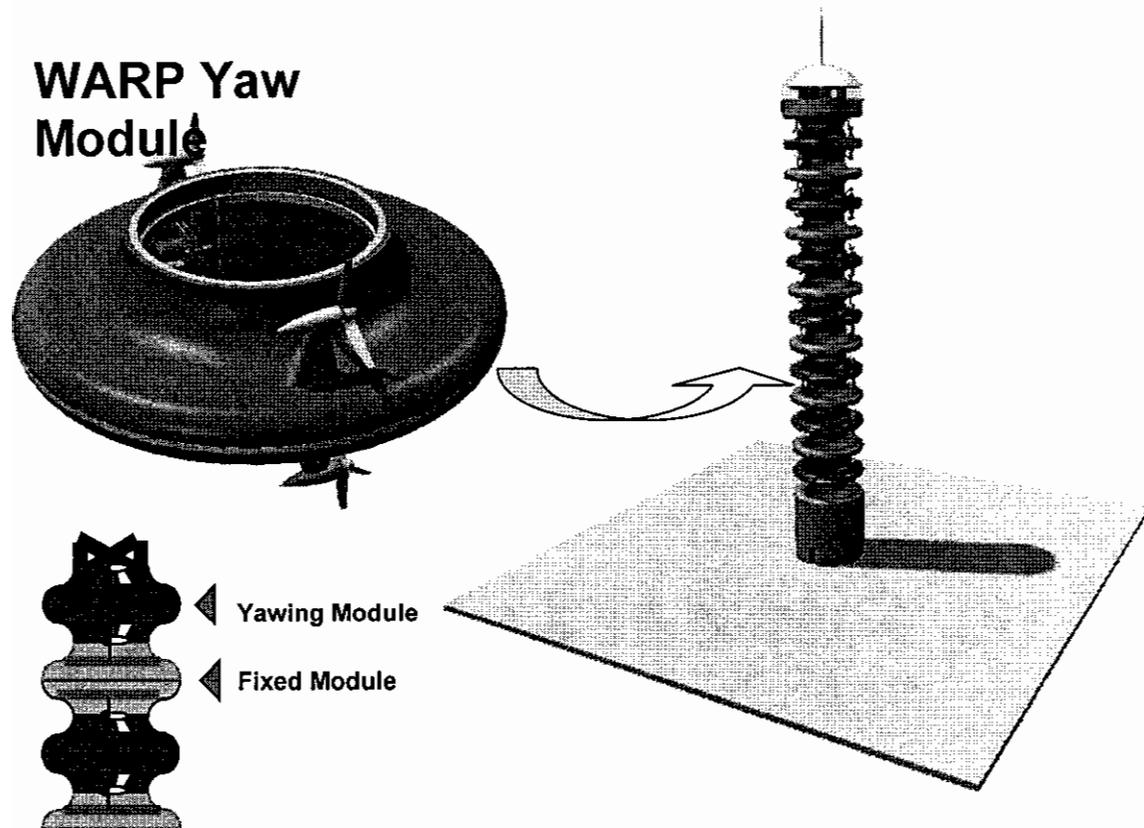
Basically, WARP system modules generate ideal amplified wind flow fields to their conventional horizontal axis wind turbines (HAWT). However, the latter may be significantly less complex than their large WTG counterpart. WARP systems are designed to use small diameter, well proven conventional horizontal axis wind turbine (HAWT) rotors on a scale of tens of feet (versus hundreds of

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<sup>1</sup> Verification Analysis of the Performance of the Toroidal Accelerator Rotor Platform Wind Energy Conversion System, Summary Report; Dr. Robert E. Duffy (Rensselaer Polytechnic Institute); Liebowitz, B. (New York State Energy Research & Development Authority), NYSERDA, Project No. 431-ET-RER-82, Sept. 1988. [Summary report of 3 volume analytical & wind tunnel tests at Rensselaer Polytechnic Institute]

feet of megawatt conventional wind turbine rotors) nested in unique stacked arrays of alternating static and yawable toroidal (saucer shaped) wind amplifier modules (see figure below).

## WARP Tower & Module

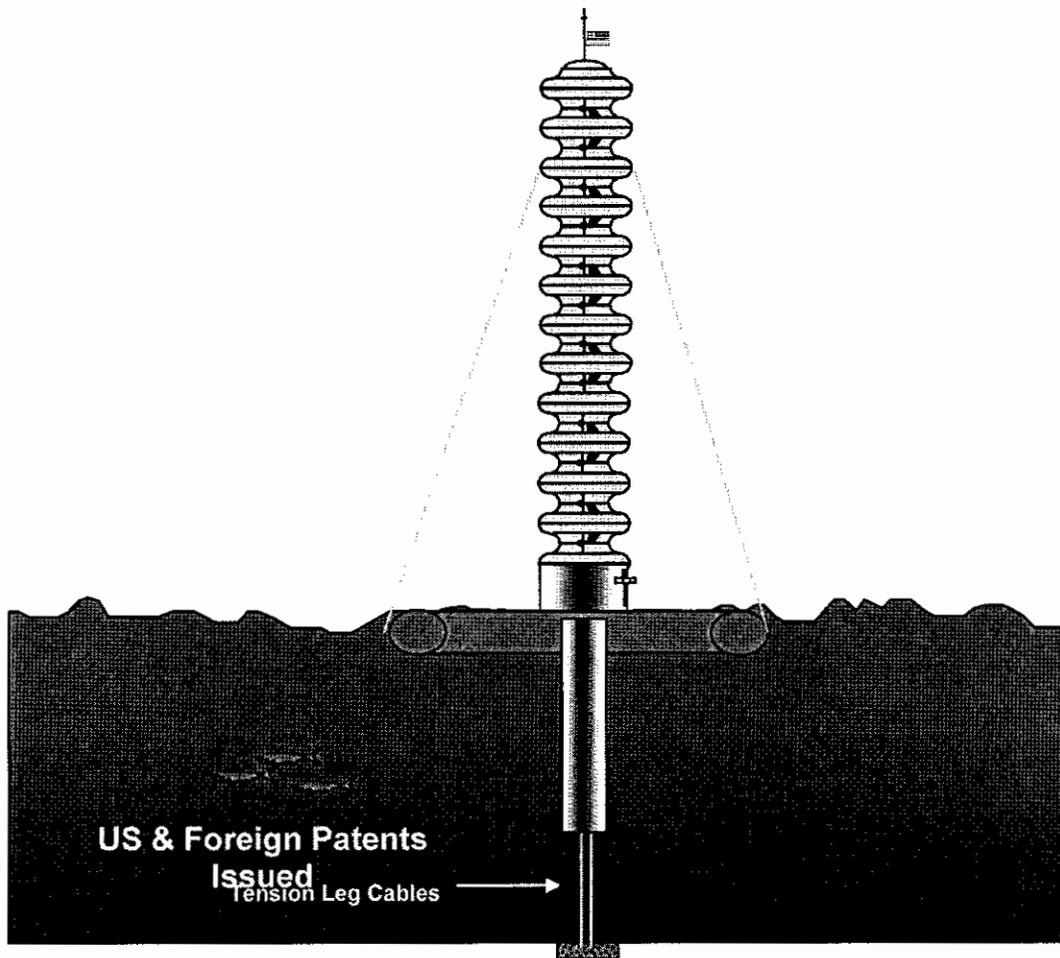


WARP units may also be deployed at sea in buoy-like fashion. Designated Sea-WARP, they may be "tension leg" secured to the sea floor in virtually any depth water. (Tension leg tethering is a well developed and relatively cost effective and simple method successfully used for offshore platforms and spar buoys in challenging deep sea conditions by the offshore oil and gas industry.)

Sea-WARP systems can be configured into multi-megawatt units that are able to be sited out of shore view and where wind resource tends also be better.

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# Sea-WARP™



Assuming equal power capacity of WARP units with large rotor wind turbine units, another major WARP benefit is that the spacing of WARP units can be significantly smaller when compared with large rotor WTG. The reason for this is that WARP interference wakes are much smaller. This translates into a smaller fraction of required land or watershed surface area for a WARP wind farm of equal power capacity and energy as that of a WTG wind farm.

It should be noted and emphasized that WARP units can be built much taller and larger in power capacity than today's conventional large bladed WTG because they do not suffer structurally from WTG height restriction. Consequently, wind farm land or watershed surface area can be even further improved.

ENECO is also prepared to provide IP rights at virtually no cost to Cape Wind Associates for building an initial offshore demonstration unit.

## **Proposed Additions to Select USACE EIS Sections:**

### **3.2.2.6.2 Current Technology Status**

#### **WARP Systems**

Although massive and expensive sea-based foundations are required for large single rotor wind turbine generators (WTG) in offshore sites, WARP systems may instead be positioned at sea in buoy-like fashion and "tension leg" tethered to the sea floor in virtually any depth water. (Tension leg tethering is a relatively simple, well developed and cost effective method successfully used for offshore platforms and spars buoys in challenging deep sea conditions by the offshore oil and gas industry.) WARPs may also be more easily built up and fully assembled in shipyards and then floated to site for anchoring.

Associated with deeper water sites, generally located further from shore, are also stronger, higher velocity winds. These winds may then further amplified by as much as 1.8 times ambient wind speed to rotors/turbines by WARP amplifier modules which effectively mimic nature's saddle ridge topography in a superior omnidirectional and tailored manner. Due to the cubic relationship between wind speed and power, this can yield substantially higher electricity production per unit rotor disc area.

The wind turbines on a WARP are effectively a simple, scaled-down version of the large bladed horizontal axis wind turbine (HAWT) rotors used commercially today but only about the size of well established aircraft propeller or small windmill rotors. However, they are designed to be much less complex and costly per unit disc area. For example, they would effectively eliminate the need for problematic, complex and costly gearboxes and drive trains. Also, WARP turbines may use high reliability commodity commercial generators. Consequently, WARP wind turbines would use well proven technology which is benefited by its simplicity, robustness, scale and rich history of related component operating experience.

A variety of simpler electrical and wind load control schemes may also be employed with WARP due to the presence of twin wind turbine assemblies attached to each level of modules allowing the turbines to be weathervaned (yawed) out of the wind as required by introducing drag/thrust differential

between said twin wind turbine assemblies. The latter turbine/module yaw action can be initiated electrically &/or mechanically &/or aerodynamically.

The core support tower structure of a WARP may consist of a low cost common lattice tower because it is never exposed to the wind directly nor does it affect wind flow to the wind turbines. The core support may alternatively employ a tube type or other type tower if desired. The tower sections may be virtually identical from level to level as are the associated aerodynamic wind amplifier modules which may be replicated using a multiplicity of identical FRP panels.

All of the above WARP features provide the opportunity for serial production with economy of scale and scope to gain the benefit of rapidly reduced unit cost which makes it competitive with all conventional energy technologies.

### **3.2.2.6.5 Environmental Impacts**

WARP units will meet renewable portfolio standards and will generate electricity with:

- No air emissions;
- No fuel to mine, transport and store;
- No use of cooling water; and
- No water pollution,

..but WARP systems may also:

- Be placed out of shore view in deep water sites;
- Substantially reduce the amount of terrestrial surface area and sprawl required (due to smaller interference distance between towers and larger unit capacity which are possible to dozens of MW );
- Dramatically reduce the animation/disco effect (due to nested and relatively unobtrusive small rotors);
- Be easily decommissioned and float-removed to shipyards for refurbishing /reuse or dismantling;

..and also minimize or avoid:

- Bird kill (due to presence of clusters of small structurally nested, high RPM WARP rotors which birds can sense and avoid as they do taxiing aircraft propellers; in contrast, large diameter wind turbine rotors are mistakenly perceived by birds as non-threatening due to their slow rotation);
- Hydraulic fluids which can leak (due to absence of hydraulic equipment pitch change mechanisms, yaw drives as well as no large gearboxes or drive trains);
- Far-field noise generation due to high frequency operating and multi-sourcing rotors;
- Massive permanent foundations/installations.

Further improvements exist with WARP systems regarding effective redundancy due to the number of independent modules, ease of transportation and erection, no EMI issues, and better safety and appearance.<sup>2</sup> Further, WARP towers lend themselves for multi-duty use, including as telecom and first responder towers since no large rotors exist to interfere with signal transmission.

***Supplemental Benefit:***

Since sea-based WARP systems may be deployed in sites with tides and currents, these units have the option to be designed to incorporate hydropower turbines in submarine WARP modules as part of the buoyancy system. Consequently, both wind and low-head hydropower may be generated. The latter would be a highly dependable, hence, virtually on-demand, power/energy supply complement due to its periodic regularity.

### **3.4 Wind Park Alternative Site Analysis**

#### **3.4.3.1 ...Description of Alternatives**

##### **WARP Scenario at Massachusetts Military Reservation**

Although the Massachusetts Military Reservation (MMR) is a low probability site for a wind park due to the numerous associated military restrictions, it is nevertheless provided as an alternative at this site. The MMR will, therefore, be offered for hypothetical comparison between a WARP wind park to the described and a wind park of conventional 1.5 MW large bladed wind turbine generators (WTG).

##### **WARP Scenario in Deep Water near Tuckernuck Island**

This alternative scenario assumes a wind park comprised of deep water tension leg anchored buoy-like WARP units (Sea-WARP units) and uses extrapolated wind site information from Tuckernuck Island to its open sea based site.

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<sup>2</sup> Resolution of Critical Environmental Issues With WARP™ Wind Power Systems; Burns, R. E., (National Regulatory Research Institute), Weisbrich, A. L. (ENECO), Dr. Rainey, D. L. (Hartford Graduate Center), American Power Conference, Chicago, IL, Vol. 58, 1996.

### **3.4.3.2 Engineering and Economics**

#### **3.4.3.3.1 Engineering**

#### **WARP Units Sited at Massachusetts Military Reservation**

A conceptual alternative WARP wind park at the MMR is described using the roughly same 6120 acres used for the 132 1.5 MW conventional large rotor wind turbines capable of producing approximately 200 MW.

#### **Turbine Siting and Array Development**

Two conceptual WARP arrays are presented for MMR. One is evaluated further for economic assessment. Both use approximately 1.5 MW capacity tower units tailored to the MMR site average wind speed of about  $(14 \text{ mph} + 16.3 \text{ mph})/2 = (\text{low} + \text{high})/2 = \sim 15.2 \text{ mph}$  at 230 ft (70 meters) above ground. A nominal 1/7 power law wind shear is assumed for the MMR site with a conservative 25% capacity factor for land based operation. (Data now shows that as of 2002 land based wind turbine capacity factors are about 30% based; - source: PowerDAT query )

#### **"1.5" MW WARP Generator**

Although much larger power capacity than 1.5 MW WARP units may be designed and constructed, for comparison with the conventional wind turbines (WTG) proposed at the MMR in the USACE EIS, similar capacity WARP units are chosen.

A variety of aspect ratio WARP tower configurations may be designed for any given power capacity. One site tailored 1.43 MW WARP tower configuration for use at the MMR may incorporate ~20 ft. (6 m) diameter horizontal axis wind turbine (HAWT) rotors. The WARP tower would then be 428 ft. (130 m) tall and comprised of 12 twin rotor/turbine levels on as many wind amplifier modules. The core width/diameter of this tower would be about 47 ft. (14.5 m), with maximum module lobe diameter of about 86.5 ft. (26.3 m).

Alternatively, a 1.5 MW WARP tower using instead about 10 ft. (3 m) diameter rotors may be configured. The core width/diameter of these WARP towers would be about 23.5 ft. (7.2 m) and a maximum module diameter of about 44 ft. (13.4 m). These towers would be about 684 ft. (208 m) tall and use 40 twin rotor levels.

Note that height for these two tower configurations need not be proportional to their width to achieve the same power capacity. The performance improvement of the taller systems is due to access to higher winds aloft, resulting in higher output per unit of height. This latter unit configuration will be used for further evaluation.

A roughly 5 diameter interference spacing is cited for use by the 1.5 WTG. The area roughly available for the WTG at the MMR is 6 mi. by 2 mi. plus 4 mi. by 1 mi.

However, a 5 diameter unit spacing is considered significantly detrimental to performance due to inter-unit interference. Consequently, a proposed spacing for WARP units at the MMR is 10 tower diameters. For the lower aspect ratio WARP tower this spacing would be 865 ft. (268 m) (= 10 times the maximum tower diameter in the case of a WARP since it forms the basis of maximum wake). With this more conservative spacing for the given MMR area the number of units would be ~630 yielding a potential total power capacity of over 900 MW (630 multiplied times 1.43 MW).

For the selected taller, higher aspect ratio, WARP configuration, the 10 diameter unit spacing would be 440 ft. (134 m). Consequently, the number of units in the given MMR area would be about 2304 for a potential total power capacity of over 3295 MW.

In other words, for a desired 500 MW wind farm, the area and number of units required with the cited ~1.5 MW WARP units may be considerably reduced (to less than 20% of the area of the WTG wind farm). Furthermore, the infrastructure cost of roads and electrical interconnection and eventual service access time and cost would also be proportionately reduced.

#### **Foundation Design:**

The exact foundation details depend on geotechnical data such as local soil properties. However, for the cited WARP tower units a spread footing would be used which may be comparable or smaller in size to that of a 1.5 MW WTG. Typically a WARP foundation is expected to be smaller particularly with its guying option that is unavailable to WTGs.

#### **Construction Issues:**

Specific to WARPs, the transportation to site, construction and erection of units may be greatly simplified due to the modularity and manageable size of WARP components. No heavy lifting equipment or cranes are required. The erection means may be limited to simple hoists and winches as is the case for erecting HDTV towers and with minimum crews. No extraordinarily heavy or large

cumbersome components would be involved which reduces risk and improves job site safety.

### **Sea-WARP Units Sited in Deep Water Near Tuckernuck Island**

A conceptual offshore design alternative is described using ~5 MW "Sea-WARP" units which are floated and tension leg anchored in deepwater in the vicinity of Tuckernuck Island. This would involve the installation of 106 4.7 MW WARP units to achieve a desired ~500 MW wind park capacity. Considerably less inner-array electric submarine cabling would then be needed relative to the deployment of the WTG alternative 3.6 MW units. This is due to fewer WARP units and much less area requirements. Furthermore, the WARP units are expected to be sited far enough from typical populated shore of the greater Nantucket region to be virtually out of view.

### **Turbine Siting and Array Development**

Since not constrained by shallow water sites, WARP arrays may be arranged in virtually any desired pattern. With a WARP unit spacing of ~10 tower diameters (or of about 865 ft.) an area requirement for the 106 WARP units would be only about 3 square miles. Assuming an ideal spacing of 20 tower diameters for virtually no interference effect, the 106 WARP tower units would still only require about ten (10) square miles of watershed area.

### **5 MW Sea-WARP Generator**

Although larger capacity WARP units would be possible, a ~5 MW WARP tower configuration is proposed for use at a deep water site in the vicinity of Tuckernuck Island. The basic design would consist of a counterweighted spar buoyancy tank with integral WARP support tower, all of which is tension leg anchored.<sup>3</sup> As a floating structure, it has the ability to be compliant in response to wind and other loads. This compliance property may be beneficial to the structural integrity of Sea-WARP systems.

The specific unit power capacity is tailored to accommodate the site's approximately 22 mph average wind speed with a 0.13 wind shear profile. A 10% higher average wind speed than the Tuckernuck Island data is assumed since the WARP deep water site would be unobstructed and further at sea. Each

<sup>3</sup> **NAVAL & Non-NAVAL WARP OFFSHORE WIND POWER SYSTEMS WITH INTEGRAL FUEL CELLS;** Alfred L. Weisbrich, P.E (Principal, ENECO Texas LLC); Mr. Günther J. Weisbrich (Vice President, ENECO TX); Mr. William Smith (Vice President, Business Development, Proton Energy Systems), AIAA and ASME 41st Aerospace Sciences Meeting and Exhibit, Reno, Nevada, 6-9 January 2003

Sea-WARP tower unit would incorporate a multiplicity of ~20 ft. (6 m) diameter horizontal axis wind turbines. The core width/diameter of this tower would be about 47 ft. (14.5 m), with maximum module lobe diameter of about 86.5 ft. (26.3 m). The Sea-WARP tower would reach 553 ft. (168 m) above the water surface and be comprised of 16 twin rotor levels on as many wind amplifier modules. A 30 ft. (10 m) standoff of the lowest module turbines from the surface of the water is assumed. An integral counterweighted submerged buoyancy spar tank would support the upper exposed WARP tower assembly. The whole assembly would be tension leg secured to the seabed.

Variations of a Sea-WARP design are possible with outrigger floatation members with tie lines for a strong and resilient assembly.<sup>4</sup> The scale of such a unit is well within that built and used by the offshore oil and gas industry on its offshore drilling and production platforms. However, absent are the drilling and production risks and constraints posed by such latter platforms.

#### **Foundation Design:**

Other than grout restraint borings for tension leg anchor lines, no foundations are required.

#### **Construction Issues:**

Specific to Sea-WARPs, the assembly and transportation to site of units may be greatly simplified due to the modularity and manageable size of WARP components. Furthermore, the whole assembly can be built up in shipyards with typically readily available ship building equipment and subsequently towed to site for anchoring.

#### **3.4.3.3.2 Economic Analysis**

##### **WARP Units at Massachusetts Military Reservation**

- **Capital Cost Estimate:** The installed cost for this alternative at MMR is estimated to be between \$640 and about \$1200 per installed kilowatt (kW), depending on unit number under serial production. The lower cost per kilowatt assumes a full production complement of 350 units. A full production complement of 350 units results in a total capacity of 500 megawatts. A factor contributing to lower capital cost is the ability to volume produce the relatively few unique and manageable size components of WARP, thus taking

<sup>4</sup> Offshore WARP™ Wind Power with Integral H<sub>2</sub>-Gas Turbines or Fuel Cells: Leaving the Fossil Age At Warp Speed for a First Step to a Hydrogen Economy; Joel N. Gordes (President, Environmental Energy Solutions), Alfred L. Welsbrich (President, ENECO), Dr. David L. Rainey (Chair, Environmental Management & Policy, Rensselaer Polytechnic Institute/Hartford), Prof. Peter W. Olson (Chair, International Management, Rensselaer Polytechnic Institute/Hartford); OWEMES 2000 ( Offshore Wind Energy in Mediterranean and other European Seas) Conference in Syracuse, Italy, April 13-15, 2000

advantage of mass production which has long been recognized as an effective means of reducing a product's unit cost.<sup>5 6</sup>

- **Installed Capacity:** 500 megawatts (MW) (350 1.43 MW units) out of a possible 800 MW for the useable MMR site area.
- **Wind Regime:** An average wind speed at the MMR site is taken to be ~15.2 mph at 230 ft (70 meters) above ground based on the range of winds available. Also a nominal 1/7 power law wind shear is assumed for the MMR site. Although this puts the site into a class 3 category, WARP units make it possible to make the project financially viable due to its projected cost and performance.
- **Net Power Production:** Gross energy production is estimated to be 3.1 million kWhrs per year per unit (3.1 GWhrs/yr) or 1085 GWhrs per year for the wind farm based on an estimated conservative 25% capacity factor. (Data now shows that as of 2002 land based wind turbine capacity factors are about 30% based; - source: *PowerDAT query*). Losses are expected to be less on a percentage basis than that of large bladed wind turbines due to much lower interference losses (due to more unit diameter spacing), less gearing losses, better wind tracking and capture, no yaw drive losses due to free (unpowered) yaw; higher availability (since operating loss of any module does not shut down an entire unit and can be brought back on line more quickly), less area sprawl distribution losses. Hence, net production is projected to be about 998 GWhrs.
- **Operation & Maintenance Costs:** These costs are again expected to be lower compared to those of large bladed units due to the relative simplicity of components which are relatively few in uniqueness. Operation and maintenance costs are estimated at about 1% of capital cost.

The foregoing factors result in reasonably attractive and competitive energy costs compared to the large diameter wind turbine alternative.

### WARP Units Sited in Deep Water Near Tuckernuck Island

- **Capital Cost Estimate:** The installed cost for this deep water alternative near Tuckernuck Island is estimated to be between about \$500 and \$700 per installed kilowatt (kW), depending on unit number under serial production.

<sup>5</sup> Mass Customization Of WARP™ Wind Power Plant Design & Construction; Dr. Rainey, D. L. (Hartford Graduate Center), Weisbrich, A. L. (ENECO), American Power Conference, Chicago, IL, Vol 59, 1997.

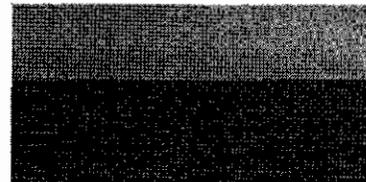
<sup>6</sup> WARP™: A Modular Wind Power System For Distributed Electric Utility Application; Dr. Ostrow, S. L. (Raytheon), Padalino, J. (Raytheon), Weisbrich, A. L. (ENECO), IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, Vol. 32, No. 4, July/Aug 1996.

The lower cost per kilowatt assumes a full production complement of over 100 units for a total capacity of 500 megawatts. Factors contributing to lower capital cost per kilowatt is the higher wind resource and the ability to volume produce relatively few unique and manageable size components of WARP, thus taking advantage of mass production which has long been recognized as an effective means of reducing a product's unit cost. As a sanity check, the cost may be compared to that of ship/marine structures on a cost per pound of system weight basis since it is primarily a static structure with a small percentage of the system made up of simple dynamic members.

- **Installed Capacity:** 500 megawatts (MW)
- **Wind Regime:** An average wind speed at the deep water site is assumed to be ~22 mph at 230 ft (70 meters) above water surface based on the range of winds available at nearby Tuckernuck Island. This assumes a 10% higher average wind speed than for the Tuckernuck Island data since the WARP deep water site would be unobstructed and further at sea. A wind shear factor of 0.13 is used as representative of fairly smooth sea surface terrain assumed for the sea based site. This puts the site into a class 6 category and makes the project financially viable.
- **Net Power Production:** Gross energy production is estimated to be 14.2 million kWhrs per year per unit (14.2 GWHrs/yr) or about 1500 GWHrs per year for the 106 unit wind farm based on an estimated 35% capacity factor for the sea based site. (Data show that offshore wind turbines have typically at least a 35% capacity factor and shown to be over 40% - source: *British Wind Energy Association (BWEA)*). Losses are expected to be less on a percentage basis than that of large bladed wind turbines in the offshore due to much lower interference losses (due to greater WARP unit diameter spacing), less gearing losses, better wind tracking and capture, no yaw drive losses due to free (unpowered) yaw; higher availability (since operating loss of any module does not shut down an entire unit and can be brought back on line more quickly), less area sprawl distribution losses at sea. Hence, net production is projected to be about 1350 GWHrs/yr.
- **Operation & Maintenance Costs:** These costs are expected to be lower compared to those of large bladed units due to the relative simplicity of components which are relatively few in uniqueness. Much lower wind farm area distribution and unit number also reduces operation monitoring and control, and servicing access, hence cost. Together, O&M costs are estimated at about 1% to 1.5 % of capital cost.
- **View from shore - with WTG Units:**



**- with WARP Units:**



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The foregoing assessment illustrates that Sea-WARP systems allow not only resolution of basic public siting objections but also very attractive and competitive energy costs.

**Contact:**

Alfred L. Weisbrich, PE  
Tel/Fax/VM: 1 860 651 0061  
E-Mail: eneco wind@aol.com

or

Günther J. Weisbrich  
Tel/VM: 214-691-0820  
Fax: 214-692-0530  
E-mail: enecotexas@aol.com

## Select WARP™ References & Media Publications

Key Technical Publications:

- NAVAL & Non-NAVAL WARP OFFSHORE WIND POWER SYSTEMS WITH INTEGRAL FUEL CELLS: Alfred L. Weisbrich, P.E (Principal, ENECO Texas LLC), Mr. Günther J. Weisbrich (Vice President, ENECO TX); Mr. William Smith (Vice President, Business Development, Proton Energy Systems), AIAA and ASME 41st Aerospace Sciences Meeting and Exhibit, Reno, Nevada, 6-9 January 2003
- Fuel Cell Augmented Offshore WARP™ Wind Power: A Proposed Step to a Hydrogen Economy: Mr. William Smith (Vice President, Business Development, Proton Energy Systems), Dr. David L. Rainey (Chair, Environmental Management & Policy, Rensselaer Polytechnic Institute/Hartford), Alfred L. Weisbrich, P.E (Principal, ENECO Texas LLC), Mr. Günther J. Weisbrich (Vice President, ENECO TX); PowerGen Europe 2001 Conference, Brussels, Belgium, May 30, 2001
- WARP™ : The Next Wind Energy Technology For Electrical Power Generation and Transmission; Weisbrich, A. L. (ENECO), Weisbrich, G. J. (ENECO), Canadian Electricity Forum, Edmonton, Alberta, October 30 - 31, 2000
- Offshore WARP™ Wind Power with Integral H2-Gas Turbines or Fuel Cells: Leaving the Fossil Age At Warp Speed for a First Step to a Hydrogen Economy; Joel N. Gordes (President, Environmental Energy Solutions), Alfred L. Weisbrich (President, ENECO), Dr. David L. Rainey (Chair, Environmental Management & Policy, Rensselaer Polytechnic Institute/Hartford), Prof. Peter W. Olson (Chair, International Management, Rensselaer Polytechnic Institute/Hartford); OWEMES 2000 ( Offshore Wind Energy in Mediterranean and other European Seas) Conference in Syracuse, Italy, April 13-15, 2000
- WARP(tm) Solar/Wind Power: Green, User-Friendly & Cost Effective for the New Millennium International Power Markets;

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Alfred L. Weisbrich (President, ENECO), Dr. David L. Rainey (Chair, Environmental Management & Policy, Rensselaer Polytechnic Institute/Hartford), Prof. Peter W. Olson (Chair, International Management, Rensselaer Polytechnic Institute/Hartford)

- Proceedings of the American Power Conference, Chicago, IL Vol. 61, 1999

- WARP™ : A Renewable Solar/Wind Power System for the New Millenium; R. E. Burns (National Regulatory Research Institute) A. F. Rhodes ( WAT, Inc.), Weisbrich, A. L. (ENECO), POWER-GEN Conference, Orlando, FL Dec. 9-11, 1998.
- WARP™ Technology For Low Cost & Environmentally Friendly Marine Based Wind Power Plants; Dr. Rainey, D. L. (Rensselaer Polytechnic Institute/Hartford Graduate Center), Weisbrich, A. L. (ENECO), British Wind Energy Association Conference (BWEA-20), Cardiff, Wales, UK , Sept. 2-4, 1998. [visit the web site of the Intenational Solar Energy Society] at: <<http://wire.ises.org>>
- Offshore Based WARP™ Wind Power Spar Buoys for Multi-Megawatt Wind Power Plants; A. F. Rhodes, WAT, Inc., Weisbrich, A. L. (ENECO), American Power Conference, Chicago, IL, Vol 60, April 14-16, 1998.
- WARP™ Wind Power Technology for Offshore Oil & Gas Operation and Navigational Aids, Weisbrich, A. L. (ENECO), A. F. Rhodes, (S. F. A.), Offshore Technology Conference, Houston, TX, May 7, 1997.
- Mass Customization Of WARP™ Wind Power Plant Design & Construction; Dr. Rainey, D. L. (Hartford Graduate Center), Weisbrich, A. L. (ENECO), American Power Conference, Chicago, IL, Vol 59, 1997.
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- WARP™: A Modular Wind Power System For Distributed Electric Utility Application; Dr. Ostrow, S. L. (Raytheon), Padalino, J. (Raytheon), Weisbrich, A. L. (ENECO), IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, Vol. 32, No. 4, July/Aug 1996.
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- WARP™-X: A Wind Power System For The 21<sup>st</sup> Century; Dr. Duffy, R.E.(RED Assoc.), Rigamonti, G. (Raytheon), Weisbrich, A. L. (ENECO), American Power Conference, Chicago, IL, April 26, 1994.
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\* To request copies of the full 3 volume set of reports, please contact:

Mr. Barry Liebowitz  
Project Manager for this R&D  
NYSERDA  
bnt@nyserda.org

Proposal by Raytheon to the US Department of Energy: NREL RFP No. RAA-4-13320, May 11, 1994; The WARP™ System in response to the Advanced Wind Turbine Program Next Generation Turbine Development Project; submitted August 10, 1994

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3381

**Adams, Karen K NAE**

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**From:** Tangle405@aol.com  
**Sent:** Friday, February 11, 2005 11:28 AM  
**To:** Energy, Wind NAE  
**Subject:** No Subject

Karen K. Adams  
re: file#NAE-2004-338-1

I am in favor of developing wind power in America. I fully understand the need to expand our output of native renewable energy.

However, I am very much opposed to installing power-generating turbines on a farm in Nantucket Sound. Nantucket Sound, in my opinion, is a National treasure that should be designated as a National Park to prevent further experimental projects like this one.

I am opposed to the "wind farm project" as presented for the following specific reasons:

1. Negative impact to commercial fishing
2. Serious navigational hazards for aircraft and water vessels.
3. A detriment to the environment with riskier maintenance issues of the wind farm. There needs to be a stringent environmental impact study.
4. Aesthetic reasons (flashing lights, fog horns, tall towers, etc.)
5. Hazard to commercial ferries commuting to Martha's Vineyard and Nantucket to Hyannis which provide food, medicine, building materials, laborers, etc., The livelihood of many workmen are involved with these daily commutes.
6. Failure of power-generating turbines as a result of hurricanes, winter storms, etc., and the resultant loss of power and the resulting damage to the environment.

Tangley L. DeLaney  
23 Park Place  
Hyannis Port, MA 02647  
508-771-7099  
Tangle405@aol.com

3382

**Adams, Karen K NAE**

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**From:** Robert diCurcio [bobdic@comcast.net]  
**Sent:** Friday, February 11, 2005 11:41 AM  
**To:** Energy, Wind NAE  
**Subject:** Unforeseen consequences.

[wind.energy@usace.army.mil](mailto:wind.energy@usace.army.mil)

Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road, Concord, MA 01742

Dear Karen Kirk-Adams,

I believe that there will surely be unforeseen negative consequences to installing hundreds of large wind generators of electricity in a body of water like Nantucket Sound. Once the foundations have been poured, it will be next to impossible, not to mention expensive, to set things right again. A private entity will not have the resources adequate to dismantle and remove hundreds of large towers. No matter how well engineered, these mechanical devices, exposed to the rigors of New England weather, will eventually fail.

I believe that Cape Wind should install one (1) such generator, somewhere on land, at their expense, and demonstrate the viability of the concept, the cost of maintenance, and the cost of dismantling, removal, and replacement -- before hundreds of their untried systems are permanently situated where they will conflict with the safety of navigation. To rush headlong into such a gigantic disruption of human and animal environment is neither well-advised nor prudent.

Thank you very much for your efforts to conserve and protect the many unique attributes of Nantucket Sound.

Very truly yours,

Robert A. diCurcio Nantucket, MA 02554 508-228-2385  
[www.VermeersRiddleRevealed.com](http://www.VermeersRiddleRevealed.com)

3383

**Adams, Karen K NAE**

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**From:** Peter Cawley [peter.cawley@us.army.mil]  
**Sent:** Friday, February 11, 2005 3:18 PM  
**To:** Energy, Wind NAE  
**Subject:** Support for Cape Wind Project

Just a quick note to voice my support for Cape Wind project. I support the project for the following reasons

1. Wind is a clean renewable resource
2. The environmental impact is negligible
3. A step in reducing dependence on fossil fuels

Sincerely,

Pete Cawley

3384

Adams, Karen K NAE

**From:** PRATHI3@HOTMAIL.COM  
**Sent:** Friday, February 11, 2005 1:01 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

radika konesh  
2190 ellesmere rd., apt 410  
scarborough, m1g3m5  
Canada

3385

Adams, Karen K NAE

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**From:** magical\_kiss@hotmail.com  
**Sent:** Friday, February 11, 2005 4:51 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

JoMarie Vargo  
psc 54 box 2321  
Apo Ae, Armed Forces Other 09601

3386

**Adams, Karen K NAE**

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**From:** miahurricane@aol.com  
**Sent:** Friday, February 11, 2005 5:37 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

julie adams  
9099 sw 157th street  
miami, Florida 33157

3307

**Adams, Karen K NAE**

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**From:** sk8rchic@adelphia.net  
**Sent:** Friday, February 11, 2005 8:14 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Kayla Wilson  
5867 Oak Knolls RD  
Simi Valley, California 93063

3380

**Adams, Karen K NAE**

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**From:** l\_winnett@yahoo.com  
**Sent:** Friday, February 11, 2005 10:43 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Lisa Winnett  
7350 McArdle  
#135  
Corpus Christi, Texas 78412

3389

**Adams, Karen K NAE**

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**From:** sadieruk@yahoo.com  
**Sent:** Friday, February 11, 2005 11:11 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Judith Rucker  
41 Mara Rd.  
Lake Hiawatha, New Jersey 07034

3390

**Adams, Karen K NAE**

---

**From:** mrmusial@rcn.com  
**Sent:** Friday, February 11, 2005 11:15 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Michael R Musial  
24 Sonnet Lane  
Patterson, New York 12563

3391

**Adams, Karen K NAE**

---

**From:** Bob Hall [ackrrh@hotmail.com]  
**Sent:** Saturday, February 12, 2005 12:52 PM  
**To:** Energy, Wind NAE  
**Subject:** I oppose the Cape Wind project

Sirs:

The Cape Wind project is wonderful except for its location. It should be located 25 miles east of the edge of Cape Cod.

There are too many unanaswered questions right now about this HUGE project.

Bob Hall, Nantucket Mass  
ackrrh@hotmail.com

3392

**Adams, Karen K NAE**

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**From:** George Pelz [george@pageo.com]  
**Sent:** Saturday, February 12, 2005 1:15 PM  
**To:** Energy, Wind NAE  
**Subject:** IN FAVOR OF Cape Wind project

Sirs I am a Nantucket homeowner and I support the cape wind initiative for generating clean energy. I think this will be a landmark opportunity to lead the nation into the next century and something we should be proud of.

George Pelz  
11 Ridge Lane  
Nantucket, MA

3393

**Adams, Karen K NAE**

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**From:** David Hill [dhill@cape.com]  
**Sent:** Saturday, February 12, 2005 2:44 PM  
**To:** Energy, Wind NAE  
**Subject:** Comments/NAE-2004-338-1

Dear COE:

On behalf of my children, and as a Cape Cod resident, I wish to offer my enthusiastic support to the wind energy project described in the Draft EIS. It is my passionately held belief that this utility-scale project is not only necessary, from a national renewable-energy-infrastructure perspective, but appropriate for the proposed site.

With its long-standing tradition of "ready-or-not" national leadership on tomorrow's issues, both Cape Cod and Massachusetts should receive this impressive, forward-looking project with a comfortable affinity and feel honored and fortunate to be selected as the host location (and without a local taxpayer's penny spent on economic incentives).

Indeed, both the Commonwealth's stature as a pillar of technical excellence and the Cape's tourism industry stand to gain the most from what will, without question, prove a windfall in both areas. I have seen large wind turbines up close and they are surely as visually impressive in their grace as they are the epitome of the nexus between man and nature.

The Draft EIS provides an exhaustive evaluation of the projects' reasonably foreseeable impacts and should be finalized without delay, and all necessary permits issued, to enable construction to commence on the fastest possible schedule.

D. Hill

Waquoit, MA

3394

**Adams, Karen K NAE**

---

**From:** patterson\_cynthia@yahoo.com  
**Sent:** Saturday, February 12, 2005 5:59 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Cynthia Patterson  
3122 Enfield Point  
Marietta, Georgia 30068

3395

**Adams, Karen K NAE**

---

**From:** e.boccagna@tin.it  
**Sent:** Saturday, February 12, 2005 12:22 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

emilia boccagna  
via acri 95  
catanzaro, 88100  
Italy

3396

**Adams, Karen K NAE**

---

**From:** clajeskie@earthlink.net  
**Sent:** Saturday, February 12, 2005 3:17 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Cassandra Lajeskie  
830 Georges Rd.  
Monmouth Jct., New Jersey 08852

3397

**Adams, Karen K NAE**

---

**From:** forksknives@hotmail.com  
**Sent:** Saturday, February 12, 2005 7:48 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Jeff Brumfield  
217 S. Ardenwood Dr.  
Baton Rouge, Louisiana 70806

3390

**Adams, Karen K NAE**

---

**From:** originalxena@hotmail.com  
**Sent:** Saturday, February 12, 2005 7:48 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Trish Brumfield  
217 S. Ardenwood Dr.  
Baton Rouge, Louisiana 70806

3399

**Adams, Karen K NAE**

---

**From:** LIFEVOYAGE@aol.com  
**Sent:** Sunday, February 13, 2005 9:49 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind energy project

*Greetings,*

*As a member of the Franklin Climate Action Network, I am very supportive of the Cape Wind energy project. The draft environmental impact statement, currently open for public comment, shows almost no adverse impacts and many positive benefits of this renewable energy project. In particular, the use of wind turbines will reduce our emission of global warming carbon pollution by nearly one million tons per year.*

*Please endorse this project (email [wind.energy@usace.army.mil](mailto:wind.energy@usace.army.mil) before February 24th), and publicly support its speedy implementation.*

*Thank you,*

*Joyce Adams  
110 Dean Ave  
Franklin, MA 02038-1759*

3200  
3400

**Adams, Karen K NAE**

---

**From:** Lnbrug@aol.com  
**Sent:** Sunday, February 13, 2005 1:11 PM  
**To:** Energy, Wind NAE  
**Subject:** re: Cape Winds

TO: Karen Kirk Adams

I am writing to support the stop of the Wind Project.  
Quite frankly, I'm surprised this is still a possibility.

Please know there are many negatives associated  
with this project including noise, risk of oil spill,  
light pollution from flashing lights, boating dangers,  
aviation dangers, and the loss of a national treasure.

Thank you for your time.

Linda Broughton  
P.O. 94  
Blandford, MA 01008

3401

**Adams, Karen K NAE**

---

**From:** NANTUCKLITE@aol.com  
**Sent:** Sunday, February 13, 2005 1:33 PM  
**To:** Energy, Wind NAE  
**Subject:** I oppose the Cape Wind project

I have lived on Nantucket only the last 5 years but I have been coming here since 1976. I have seen many wonderful sights across our country, i.e. Grand Canyon, Yosemite, Death Valley, and so many others and I cannot picture a wind farm at any of these locations and I certainly can imagine one in Nantucket Sound. I take that back, I can picture it and it is a nightmare. How can we let one developer ruin such a pristine location? The boat and plane traffic alone should make this a no brainer. Don't let one man's gain ruin what God gave to all  
Thanks you

3402

**Adams, Karen K NAE**

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**From:** Todd Chenore [hempogt@hotmail.com]  
**Sent:** Sunday, February 13, 2005 4:32 PM  
**To:** Energy, Wind NAE  
**Subject:** I support the Cape Wind DEIS

February 13, 2005

Karen Kirk-Adams  
U.S. Army Corps of Engineers, New England District  
Cape Wind Energy EIS Project  
696 Virginia Road, Concord, MA 01742

Cape Wind Energy EIS Project

I was very excited to hear about the Cape Cod Wind Energy project. The public benefits are indeed compelling. I want to see Massachusetts become a successful example of moving towards a clean energy future.

The project will have minimal impact on fishing, boating and tourism. The wind park will bring high-paying jobs to the area, and I urge the Army Corps of Engineers helps to bring Cape Wind into operation quickly and safely.

The visual impacts will be minimal, and with some wind projects, tourists actually travel to see the wind farms.

As an environmentalist, I support the project whole-heartedly. The turbines will have little impact on birds -- according to the American Wind Energy Association, windmills pose a greater threat to avian life than wind turbines. Wind power can replace fossil-fired generation, improving the air quality in the Northeast.

Sincerely,

Todd Chenore  
81 Grove Street  
Liverpool, L7 7AD  
United Kingdom  
hempogt@hotmail.com

3403

**Adams, Karen K NAE**

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**From:** helenaourel@mail.telepac.pt  
**Sent:** Sunday, February 13, 2005 3:31 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

helena ourel  
r poeta jose afonso 35  
fronteria, Georgia 7460  
Portugal

3404

Adams, Karen K NAE

---

**From:** rgjrotts@direcway.com  
**Sent:** Sunday, February 13, 2005 3:41 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

ron jackson  
19240 sharp rd.  
elwood, Illinois 60421

**Adams, Karen K NAE**

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350

3405

**From:** amberthomp1@aol.com  
**Sent:** Sunday, February 13, 2005 6:02 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Amber Thompson  
4380 Dupree Rd  
Olive Branch, Mississippi 38654

**Adams, Karen K NAE**

3406

**From:** nikkitouchton@hotmail.com  
**Sent:** Sunday, February 13, 2005 7:50 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Nicole Touchton  
2406 Deborah Drive  
Valdosta, Georgia 31602

3407

**Adams, Karen K NAE**

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**From:** dani.miles@us.army.mil  
**Sent:** Sunday, February 13, 2005 8:56 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Daniela Miles  
2 Gwynn Cir.  
Newport News, Virginia 23602

3460

**Adams, Karen K NAE**

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**From:** baddogs@powersupply.net  
**Sent:** Sunday, February 13, 2005 9:52 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

debbie Henderson  
2753 co. rd. 4-1  
SWANTON, Ohio 43558

**Adams, Karen K NAE**

3409

**From:** gdoman4603@aol.com  
**Sent:** Sunday, February 13, 2005 10:02 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

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This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Geoffrey Doman  
13900 Cohasset Street  
Van Nuys, California 91405-2501

3410

**Adams, Karen K NAE**

---

**From:** Stephanie Angelone [stephangelone@netscape.net]  
**Sent:** Monday, February 14, 2005 6:11 AM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind DEIS Comment

February 14, 2005

Karen Kirk Adams

Cape Wind Energy Project

EIS Project Manager

Corps of Engineers, New England District

696 Virginia Road

Concord, MA 01742-2751

e-mail: wind.energy@usace.army.mil

Dear Ms. Adams:

I am writing to support the draft Environmental Impact Statement that your office issued several months ago for the Cape Wind Project, and to suggest that you complete a final EIS expeditiously so that this important project can go forward.

The draft Environmental Impact Statement appears to indicate that there will be no impacts from Cape Wind on aquatic life, minimal impacts on commercial and recreational boating, and a relatively small number of bird kills per year.

Cape Wind would emit no air or water pollution, and by allowing for a substantial reduction in use of fossil-fuel power plants would cut annual air pollution by about 448 tons of particulates, 120 tons of carbon monoxide, 4,642 tons of sulfur dioxide, and 1,566 tons of nitrous oxides, along with several hundred pounds of toxics such as mercury. By one estimate, Cape Wind would have public health benefits of \$53 million a year due to reduced deaths and illness from respiratory ailments.

Cape Wind would also reduce carbon dioxide emissions -- the main cause of global warming -- by more than one million tons per year. By doing so it would make the single greatest contribution to preventing climate change of any project or policy measure in New England. Since climate change is the greatest environmental threat facing the planet, by itself this is sufficient reason to support Cape Wind.

Cape Wind would also have economic benefits by reducing our reliance on fossil fuels whose overseas sources are insecure and whose prices may jump by large amounts in future years. According to the state's Energy Facilities Siting Board, by putting downward pressure on electricity prices Cape Wind would save consumers in New England about \$25 million a year, with \$10 million of that being saved by Massachusetts customers.

For all these reasons, I urge the Army Corps to give its approval to the Cape Wind Project.

Yours truly,

3410

Stephanie Angelone  
1 Medway Branch  
Norfolk, MA 02056

3411

Adams, Karen K NAE

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**From:** Mosher, Michael (GE Energy) [michael.mosher@ps.ge.com]  
**Sent:** Monday, February 14, 2005 8:07 AM  
**To:** Energy, Wind NAE  
**Subject:** FW: Nantucket Sound

> -----Original Message-----

> From: Mosher, Michael (GE Energy)  
> Sent: Wednesday, February 09, 2005 10:51 AM  
> To: windenergy@usace.army.mil  
> Cc: Mosher, Michael (GE Energy)  
> Subject: Nantucket Sound

> Gentlemen,

> The proposed wind farm in Nantucket Sound would surely have effects  
> on the surrounding communities for many years to come. And in many years,  
> the benefits will surely outshine anything its detractors have claimed.  
> Not only a source of clean, renewable energy, but also a reef to help  
> rebuild our depleting fisheries, a moving sculpture to dazzle tourists and  
> locals alike, and, most importantly, while not generating any emissions of  
> its own, taking advantage of the winds that carry said emissions here from  
> parts west. Is it really asking too much for a handful of people to look  
> out their other ocean-view windows and sail their yachts a mile in the  
> other direction?

> Yes during construction there will be an environmental impact. But  
> upon completion a whole new eco system will develop around these  
> windmills. a great artificial reef that will attract fish, mollusks, and  
> scuba divers alike. I look forward to a day when construction can begin on  
> such a thing, and will be watching for its completion.

>

>

>

> Sincerely,

>

> Michael J. Mosher

3412

**Adams, Karen K NAE**

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**From:** Bob Bartell [jet69@joimail.com]  
**Sent:** Monday, February 14, 2005 9:58 AM  
**To:** Energy, Wind NAE  
**Subject:** Wind

I just now had read a blurb in BoatU.S. magazine about the opposition to the proposed Cape Cod wind farm.

In this age of foreign oil dependence, & the need to strive for efficient energy use & production, probably most folks agree, but, "not in my back yard".

It sure is a shame to hear that the wealthy Cape Cod group convinced Mitt Romney to travel to DC to oppose the farm.

Bob Bartell

3413

**Adams, Karen K NAE**

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**From:** Enecowind@aol.com  
**Sent:** Monday, February 14, 2005 9:01 AM  
**To:** Energy, Wind NAE; Energy, Wind NAE; Adams, Karen K NAE  
**Subject:** Cape Wind - US Army Corps of Engineers' Invited Commentary

To:

Ms. Karen Adams  
Energy Projects Manager  
US Army Corps of Engineers  
New England District  
Regulatory Division  
696 Virginia Road  
Concord, MA 01742-2751

Dear Ms. Adams:

Attached is a response to the US Army Corps of Engineers' invitation to provide commentary to its EIS on the proposed Cape Wind Project.

An acknowledgment of receipt of this message would be appreciated. Please contact us if you have any questions. I will be out of the country Feb 17 -25. In my absence feel free to contact Mr. Günther Weisbrich as noted below, if necessary.

Sincerely,

Al Weisbrich

Alfred L. Weisbrich, PE  
ENECO Texas LLC  
Tel & Voice Mail: 1 860 651 0061  
Fax: 1 860 651 0061  
E-MAIL: eneco wind@aol.com

&/or

Günther J. Weisbrich  
Dallas, TX USA  
Tel/VM: 214-691-0820  
Cell: 214 288 1377  
Fax: 214-692-0530  
E-mail: enecotexas@aol.com

WEB SITE: <http://www.warp-eneco.com/>  
++++  
ATTACHED:  
USACE EIS Commentary++WARP-Feb 14 2005.pdf

3414

**Adams, Karen K NAE**

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**From:** Gramma [ruemker@gis.net]  
**Sent:** Monday, February 14, 2005 8:01 AM  
**To:** Energy, Wind NAE  
**Subject:** in favor-offshore windfarm

the report is a positive alternative to our supporting the big oil producers. it's time to start supporting the NATURAL alternative. with global warming more prevalent, we need to address this situation. the WIND FARM is the solution we need. big deal-we may see these structures dotting the horizon. we would rather see a few windmills than depend on overseas oil production and the pollution it causes.

please ALLOW the wind farm to go forward and maybe start a new revolution toward cleaning our air nationwide.

Thanking you  
jackie medeiros and dorothy ruemker(daughter & mother) in West Yarmouth, MA

3415

**Adams, Karen K NAE**

---

**From:** William McGuire [nag@nantucket.net]  
**Sent:** Monday, February 14, 2005 11:51 AM  
**To:** Energy, Wind NAE  
**Subject:** I support the Cape Wind project

Dear Karen Kirk-Adams

I would like to add my voice to those who support the cape wind project. I have read thru the draft Environmental Impact Statement and it appears that the only impact would be on the view. Since your report makes no determination either way regarding if this is a good thing or a bad thing and only that it would simply be different than the way the view is now, it does not seem to me to be a negative statement.

I have seen wind farms on land and sea, both during the day and at night and I find them beautiful. Since beauty is subjective and in the eye of the beholder my statement is also neither good or bad. But I am a licensed architect in the Commonwealth of Massachusetts and a resident of Nantucket and have a certain amount of training in things considered beautiful. I have made my home and my living on Nantucket for 22 years and I am in favor of this wind farm.

Nantucket has a historical image as a world leader in the whaling industry. At the time I'm sure it was seen as a good thing. Fortunately now it is viewed as a bad thing. Today we are viewed as a world class vacation destination, this is viewed by some on the island as a good thing, by others a bad thing. Good because it allows us to make a living and raise our families here. Bad because we need to deal with increased population growth, traffic and large gas guzzling SUV's.

I think that it is time that Nantucket and the surrounding communities become world leaders in something that really counts. Something to help the planet breath easier, have mankind work toward a common goal for the good of all. My vision as an architect would be to have every home in the world producing its own power using the sun or wind or water, but until that time I feel that the Cape Wind Project is a step in the right direction. A direction that could take us forward to energy independence and cleaner air and water.

cordially,

William Martin McGuire  
21 Clarendon Street  
Post Office Box 1814  
Nantucket, MA 02554  
508-228-5631 ext. 1

2/14/2005

**Adams, Karen K NAE**

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3416

**From:** JRobe29131@aol.com  
**Sent:** Monday, February 14, 2005 12:51 PM  
**To:** Energy, Wind NAE  
**Subject:** Please approve the cape wind project

Massachusetts stands to benefit greatly from a new offshore wind farm. Getting electricity from a clean source means less air pollution than if it came from burning coal. Looking at the bigger picture any damage done to the Sound during construction is minor compared to the greater environmental benefit of a working wind farm. Please approve this project as soon as possible

Sincerely,  
Jason Roberts

**Adams, Karen K NAE**

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3417

**From:** Dewd1128@aol.com  
**Sent:** Monday, February 14, 2005 1:31 PM  
**To:** Energy, Wind NAE  
**Subject:** Windfarm

I am writing to express my full support for the proposed windfarm on Nantucket sound. I believe the benefits far outway any detriments.

Thank you for your time,

Dan Wehncke  
232 Pleasant St  
S. Yarmouth MA  
02664  
email: [dewd1128@aol.com](mailto:dewd1128@aol.com)

**Adams, Karen K NAE**

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3410

**From:** Misha [mishegas2000@yahoo.com]  
**Sent:** Monday, February 14, 2005 2:19 PM  
**To:** Energy, Wind NAE  
**Subject:** I Support the Approval of the Nantucket Sound Windfarm

I am a seventeen year resident of Martha's Vineyard. For the last year or so I've heard a lot of unsubstantiated allegations and there's been a lot of fear-mongering being spread around here in regard to this proposed project.

I served on the Martha's Vineyard Commission for 7 years, and I am dedicated to the preservation of the environment. That is precisely why I am in favor of this project.

*It's far better for the environment:* I am also a healthcare professional. I can see only benefits accrued in the displacement of fossil fuel emissions that this project offers. I hope to see more options, like wave energy harnessing, be available as well in the future. This and other cleaner energy producers will reduce respiratory diseases, as well as a host of other illnesses related to exposure to dirty air. The Cape and Islands sorely need this. We on the upper cape and islands experience an unusually high cancer rate. While it is difficult to precisely finger the blame for this, it is the better part of wisdom to do whatever we can to reduce toxic emissions.

*Cost of Living:* Being in one of the lowest per capita incomes communities (Duke's County) in the Commonwealth, yet at the same time having one of the highest utility rates, we can benefit from more sources of energy, which should lower some of these costs. As I understand it, there are few adverse impacts to the ecosystem in this project. Certainly, it is a benefit to lower our reliance on fossil fuels, which have well-documented adverse effects on our environment and on our health.

I urge you to support this project.

Sincerely,

Dr. Michele Lazerow

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Do you Yahoo!?  
Take Yahoo! Mail with you! Get it on your mobile phone.

**Adams, Karen K NAE**

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3419

**From:** Duguay, Larry [lduguay@Foxboro.com]  
**Sent:** Monday, February 14, 2005 2:31 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Cod Wind Farm Project

Help save the planet. Please OK use of wind generators for Cape Cod!

**Adams, Karen K NAE**

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3420

**From:** Leslie R. Will [lrw11@comcast.net]  
**Sent:** Monday, February 14, 2005 3:21 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Winds Opposition

Dear Karen Adams,

Enclosed is a letter I wish to submit in opposition to the Cape Winds project. I hope it will impact decisions being made pursuant to the DEIS process.

Please advise me if this is the proper channel to get my opinion registered and counted in the USACE decision on the matter of the Cape Winds development project.

Thank you for your assistance.

Sincerely,

Leslie Will

Leslie Will  
617-696-5678 (w)  
781-820-5724 (cell)

3420

**Leslie R. Will**  
103 Canton Avenue  
Milton, MA 02186  
617-696-8999

February 14, 2005

Dear Army Corps of Engineers,

I would like to add my voice to the opposition to the Cape Wind project.

I am a long-time environmentalist, I studied marine ecology as an undergraduate, I have a post-graduate degree in business and I have worked in the finance and utility industries. I think this background gives me expertise to address this issue.

I have come to believe that the natural environment is fundamental to the survival of humanity. This is not only so that we can breath healthy air and eat healthy food, but for our spiritual and emotional strength as well. I would like to see the development of renewable energy as part of a strategy for saving the natural environment from further destruction caused by our energy development needs. However, the Cape Winds project is not part of a comprehensive policy to resolve the energy crisis in this country; therefore it seems unconscionable to destroy an irreplaceable, one-of-a-kind, natural resource for no discernable gain.

We should not fool ourselves into thinking that we can solve the energy problem by creating wind farms on their own. All we will have done is destroyed more of our natural environment and we will continue to need more power infrastructure to meet growing needs. There would be no end in sight. Well I say, let's put the end in sight. Let's end further 'mining' of the natural environment and instead develop an energy policy that leads to a society that lives within its 'energy means'. The real problem is that we need to establish a sustainable way of living. Short of that, this wind farm will be only the first of many. We'll truly be tilting at windmills, like Don Quixote, but not fighting the real problem.

Instead of this wind farm, we need to increase efficiency in energy consumption, and to reflect the real and total cost of energy in the fee structure for utilities so as to encourage conservation and technological improvements and, we need to reflect the true cost of building new sources of energy in our policy analysis. If the value of Nantucket Sound natural environment were included in the cost-benefit analysis of the Cape Winds project and escrow accounts were required to cover insurance premiums for future costs (oil spills, lost tourism, reduced fisheries income), this project would not be economically viable. If the true cost of energy were reflected in utility fees to the consumer the market would adjust to implement conservation, efficiency improvements and technological enhancements to reduce energy consumption and demand. Until these important first steps are put into place as part of a comprehensive energy policy, and responsible implementation of regulations is pursued by our national executive branch, approval of stop-gap measures, like the Cape Winds project, are a reprehensible and irresponsible execution of the public trust.

I ask that you please put a stop to the dangerous environmental path laid out by our status quo energy development and approval process, by saying no to the Cape Winds projects, and any others like it, until an energy policy has been established, which puts sustainable consumption/production goals and true cost accountability as first steps.

3420

Let's tackle the fundamental issues rather than implementing projects, strategies and processes that leave us facing the same environmental-energy conflict tomorrow as we face today. It's like selling off the extra lot on your property to pay the utility bills for your home. The buyer builds a new house on it. There is no place to walk your dog now. The runoff from the increased pavement is reducing groundwater levels and causing the stream at the back of the lot to dry up during summer, so the fish don't spawn. Wildlife habitat is reduced and you no longer have a view. Better to insulate, wear more sweaters, use energy conserving light bulbs or whatever it takes to hang on to the extra lot. Because next year you won't have the extra lot to sell off to cover your excessive consumption. So you will have lost something irreplaceable and gained nothing. And maybe living in your house without the 'extra lot' of open space to enjoy and to sustain our natural world, just isn't worth it anyway.

Let's solve the real problem. Say no to Cape Winds until a responsible energy policy and permitting process are established reflecting worthy long-term goals.

Respectfully,

Leslie Will

**Adams, Karen K NAE**

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3421

**From:** Kate Duguay [plutodogk8@yahoo.com]  
**Sent:** Monday, February 14, 2005 3:49 PM  
**To:** Energy, Wind NAE  
**Subject:** Support of Cape Wind

I am in support of the Cape Wind project:

Kathleen Duguay  
13 Morse Street  
Norwood, MA 02062

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Do you Yahoo!?  
Yahoo! Search presents - Jib Jab's 'Second Term'

3422

**Adams, Karen K NAE**

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**From:** robert.j.davis@nmfn.com  
**Sent:** Monday, February 14, 2005 10:07 AM  
**To:** Energy, Wind NAE  
**Subject:** I oppose the Cape Wind project

I am writing to voice my opposition to the proposed Nantucket Sound Wind Farm. It threatens much of what I have enjoyed as a 35 year visitor/property owner on Cape Cod;wildlife,boating,fishing,unspoiled beauty and pristine waters. People who love the water should be opposed to this plan. Sincerely, Robert Davis

ADV

#### NORTHWESTERN MUTUAL FINANCIAL NETWORK

Robert J. Davis  
Financial Representative  
3000 Westchester Ave, Purchase, NY 10577  
Tele: 914 253 6678 Fax: 914 253 9263  
robert.j.davis@nmfn.com

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720 East Wisconsin Avenue  
Milwaukee, Wisconsin 53202-4797

3422

Adams, Karen K NAE

3423

**From:** Steven J. Scannell [itchybum\_@hotmail.com]  
**Sent:** Monday, February 14, 2005 1:56 PM  
**To:** Energy, Wind NAE  
**Subject:** Love Power Grid Consortium

I am in favor of not granting a permit to Cape Wind at this time. I think the Army Corps could help run a consortium. In this way the rights of public space for this industry could be of a benefit to the general public instead of just one company.

There should be no private deals for windmill farms. It should be channeled through a consortium, which as a vehicle that would provide infrastructure allowing a broader participation.

The consortium would own the grid system. In this way many could participate, instead of just one very large company. A consortium vehicle would welcome a big player and a small player, but the fact is that now small players in the wind industry can't play due to the size of the investment needed. Think of a consortium as a driving factor towards R&D that could be subsidized through the consortium vehicle.

The base systems need to go in deeper water. The reason for this is that every windmill should be an artificial reef area, or MPA (marine protected area). This is the second income we are missing from these installations without the consortium. Your research into just environmental issues has been a red herring for the interface between economy and the environment. Public leadership in the form of congressional research has been a wait and see deal. We need the structures in place before we proceed, so I suggest a further Economic/Environmental study to look into how we can facilitate a level playing field for the industry. The consortium is the only viable way to do this as far as I can see. So the base systems I think need to go in at least forty feet of water, to facilitate the second income of a reef. Horseshoe shoal ground is not suited for reefs, so it should be rejected, on that ground and also because we do not have an economic structure to foster growth in the industry. Wave generators would also be within the consortium umbrella.

Compressed air should be the medium of power exchange and not electricity. A consortium could lay both electric cable and high pressure compressed air lines, but why should we do both if one is better. I think air is better. The big advantage is cost. As well the power held kineticly in air can be let loose at any time, peak, or at home use. This is the future.

Look at what we did with the fishing industry. We gave it away to a few. That had intense social and economic implications. We are going down that path now with the Corps narrow mission being the focus, and it's not right. To me this is neither a Yes or a No question. It is a how question. I have seen little in the way of creative brainstorming, and have found no audience with the "Yes" people and the "No" people. Steven J. Scannell  
508-360-1926

3424

Adams, Karen K NAE

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**From:** Ann Richard [ann.richard@gmail.com]  
**Sent:** Monday, February 14, 2005 2:59 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind Power on Cape Cod

Dear Ms. Kirk-Adams,

I am writing to you to let you know that I SUPPORT the Cape Wind project. I know that there has been a lot of discussions on the subject, some of which I have heard on NPR's WCAI. I feel that the benefits of Wind power outweigh any cons for this extremely important proposal. An alternative source of energy like wind is exactly what we need to start with here in Massachusetts. I feel that the time is right and we shouldn't wait any longer to start this process.

Projects like these will provide clean, safe air for the future and help to curb our dependence on foreign oil and fossil fuels here at home.

Thank you for your consideration and I know that this is the best choice for Massachusetts.

Sincerely

Ann Richard  
46 Hedge Street  
Fairhaven, MA 02719

3425

Adams, Karen K NAE

---

**From:** Rpoor10@aol.com  
**Sent:** Monday, February 14, 2005 3:01 PM  
**To:** Energy, Wind NAE  
**Subject:** Nantucket Sound Wind Farm

Although not permanent residents of the Cape, we are summer residents who are concerned about the need for a lessening of the use of fossil fuels in our environment. The present and potential impact of the pollution caused by these fuels is well-documented. While the internal combustion engine is no doubt the worst pollutor, the uses of coal & oil for power generation are significant culprits, as well.

Wind farms can have many positive impacts on an area's economy with few (to none) negative effects on its ecology. While the towers might "spoil the view" to a limited degree, the Kw hours derived are virtually free of the airborne pollutants common to fossil fuel generating stations.

For the sake of the planet and its people, please approve this project.

Rob Poorten

3426

**Adams, Karen K NAE**

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**From:** Dorothy Vollans [d.vollans@comcast.net]  
**Sent:** Monday, February 14, 2005 4:15 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind Farm, Nantucket Sound

Here's to the success of the Wind Farm proposed for Nantucket Sound. In spite of some misgivings I had about the windmills' impact, the most important issue is to begin on the long road of alternative energy.

Dorothy Vollans  
47 new Street  
Siasconset MA 02564

Adams, Karen K NAE

3427

**From:** Tom Fagan [tfagan@conversent.net]  
**Sent:** Monday, February 14, 2005 4:20 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape wind will be beneficial

To Whom it may concern:

I am writing in support of the cape wind offshore wind turbine project.

As a chiropractor in Massachusetts, I am concerned with the health of the state. Wind power will help to decrease emissions from power plants powered by fossil fuels. The decreased emissions will improve air quality in the area and will benefit the health of the community.

Further benefits include decreasing dependence on foreign oil supplies.

As a recreational boater on the coast of Massachusetts, I feel that the proposed wind turbines are will be placed at intervals which will not be a hazard to boating. They could have a benefit to coastal sailors such as myself as aids to navigation.

For reasons of public health, stable economics, and as a recreational boater, I support the Cape Wind project.

Sincerely,  
Dr. Thomas A. Fagan  
tfagan@faganchiropractic.com  
160 Dorchester Street  
South Boston, MA 02127

3420

THE COMMONWEALTH OF MASSACHUSETTS  
**ENERGY FACILITIES SITING BOARD**  
ONE SOUTH STATION  
BOSTON, MA 02110  
(617) 305-3525



**MITT ROMNEY**  
GOVERNOR

**KERRY HEALEY**  
LIEUTENANT GOVERNOR

February 9, 2005

Karen Adams, Chief, Permits and Enforcement  
U.S. Army Corps of Engineers  
Regulatory Division  
696 Virginia Road  
Concord, MA 01742 RE: File # 200102913

Secretary Ellen Roy Herzfelder  
Executive Office of Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114 RE: EOEA # 12643

Phil Dascombe  
Cape Cod Commission  
3225 Main Street  
P.O. Box 226  
Barnstable, MA 02630 RE: File # JR20084

Re: Cape Wind Energy Project DEIS/DEIR/DRI

Dear Ms. Adams, Secretary Herzfelder, Mr. Dascombe:

The Massachusetts Energy Facilities Siting Board ("Siting Board") is charged under G.L. c. 164, § J with reviewing the transmission lines that would interconnect to the regional electric grid the offshore wind generating facility proposed by Cape Wind Associates, Inc. Siting Board staff has reviewed the DEIS/DEIR/DRI issued on November 8, 2004, for the combined transmission line and wind farm projects. We respectfully submit the following comments to inform you of the current status of the Siting Board's review of the project, and to bring to your attention one potential inconsistency that we have observed between the project as described in the DEIS/DEIR/DRI and as described in the Siting Board's Tentative Decision.

Siting Board review of the proposed transmission project is not yet completed. A Tentative Decision approving the project was issued on July 2, 2004. Shortly after the issuance of the DEIS/DEIR/DRI, one of the parties to the Siting Board proceeding requested that Siting Board hearings be reopened, to allow the DEIS/DEIR/DRI into evidence. The Siting Board has

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directed staff to review the DEIS/DEIR/DRI and to issue a ruling on this request. At some time after the evidentiary issue relative to the DEIS/DEIR/DRI has been resolved, the Siting Board will schedule a Board meeting to consider the Tentative Decision. The decision that is adopted by the Siting Board, including any amendments to the decision, will be issued as the Final Decision in the case.

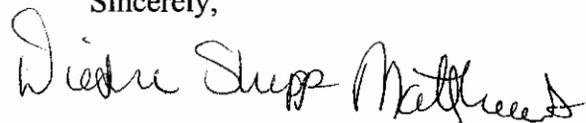
Because Siting Board review of the transmission project is ongoing, staff believes it would be inappropriate to comment comprehensively on the DEIS/DEIR/DRI at this time. However, staff has identified one area in which the record in the Siting Board proceeding appears to differ from the record in the DEIS/DEIR/DRI review process.

The discrepancy we have noted pertains to the methodology that would be used for transition of the submarine cables onto land at the New Hampshire Avenue landfall. The DEIS/DEIR/DRI states that “[t]he transition of the interconnecting 115 kV submarine transmission lines from water to land will be accomplished through the use of HDD methodology in order to minimize disturbance within the intertidal zone and near shore area.” The DEIS/DEIR/DRI then describes HDD operations at the landfall in some detail. DEIS/DEIR/DRI, Vol. 1, at 4-14. However, the Tentative Decision approves the transmission project using hand jetting and direct excavation, not HDD, to achieve landfall. Tentative Decision at 64, 123.

The Tentative Decision notes that, in its initial Siting Board filings, Cape Wind indicated that it did intend to use HDD for the landfall, in order to minimize impacts to coastal wetlands in the near-shore area. Id. at 122. However, the Company subsequently concluded that any reduction in impacts to coastal wetlands would be outweighed by significant traffic and noise impacts on New Hampshire Avenue residents during HDD operations. Id. The Tentative Decision agrees with the Company’s conclusion, and finds that the project’s environmental impacts, on balance, would be minimized by the use of jet plowing; it concludes that “the Siting Board cannot find, on this record, that construction and noise impacts would be minimized along the primary route if HDD were used to make landfall.” Id. at 123. The Tentative Decision thus specifically provides that, if the Company were to choose, either for technological reasons or because of the requirements of another agency, to pursue HDD at the New Hampshire Avenue landfall, additional proceedings before the Siting Board would be necessary. Id. at 123-124.

Thank you for the opportunity to comment. Should there be any questions concerning our comments, please do not hesitate to contact me.

Sincerely,



Diedre Shupp Matthews, Director



3429

**DIRECTORS**

Liz Argo  
Charles Cummings  
William Eddy  
Richard Elrick  
Charles Kleekamp  
Richard Lawrence  
James Liedell  
Spyro Mitrokostas  
Peter Schlesinger  
Christopher Stimpson  
Thomas Wineman

**South Coast**

Inge Perreault  
**CPN Boston**  
Marlon Banta  
Gabriel Shapiro

**Martha's Vineyard**

Robert Skydell  
Ted DeBettencourt  
**Nantucket**  
Carl K. Borchert

**Executive Director**

Matthew Palmer

February 10, 2005

Reference: Cape Wind Project File no. NAE-2004-338-1

To: Ms. Karen Kirk Adams  
Cape Wind Energy Project EIS Project Manager  
Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742-2751

cc: James Hunt, MEPA  
cc: Anne Canaday, MEPA

Re: Comments to the Cape Cod Commission regarding the ACoE DEIS

Dear Ms. Adams,

Attached is a copy of my written comments to the Cape Cod Commission at their public hearing on February 8, 2005 regarding their criticism of the utility scale range chosen by the Corps and for the Corp's alternative analysis in the DEIS.

It is self explanatory and points out in a substantiated argument why I feel the scale range and alternative analysis in the DEIS is appropriate and adequate and there is no need for a supplemental DEIS as recommend by the Cape Cod Commission.

Please consider my comments on this topic and in the referenced letter as a matter of your record.

Sincerely,

Charles W. Kleekamp, P.E., Ret.  
Information Director, Clean Power Now

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U.S. DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS  
DISTRICT OFFICE  
NEW BEDFORD, MA

Attachment: Letter to Mr. Phil Dascombe, Planner, Cape Cod Commission, February 8, 2005.

www.cleanpowernow.org  
E-mail: windfarm@cleanpowernow.org  
Phone: (508) 775-7796  
Fax: (508) 775-7782

Clean Power Now  
297 North Street  
Suite 322A  
Hyannis, MA 02601



3429

**DIRECTORS**

Liz Argo  
Charles Cummings  
William Eddy  
Richard Elrick  
Charles Kleekamp  
Richard Lawrence  
James Liedell  
Spyro Mitrokostas  
Peter Schlesinger  
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**Martha's Vineyard**

Robert Skydell  
Ted DeBettencourt

**Nantucket**

Carl K. Borchert

**Executive Director**

Matthew Palmer

February 8, 2005

To: Mr. Phil Dascombe, Planner  
Cape Cod Commission  
PO Box 225  
Barnstable, MA 02630

cc: Committee Members  
cc: Ms. Karen Adams, US Army Corps of Engineers

From: Charles Kleekamp, P.E. Ret.  
Information Director, Clean Power Now

Re: Commission Staff Report on the Cape Wind Energy Project

Dear Mr. Dascombe

My comments address your criticism of the utility scale range of 200 to 1,500 MW chosen by the ACoE for their Draft EIS and their alternatives analysis. I conclude that the range chosen is entirely appropriate and adequate for the Cape Wind offshore project for the following substantiated reasons and that your request for a supplemental EIS is not warranted.

1. To fulfill the requirements of the mandated Massachusetts Renewable Energy Portfolio Standard requirements by 2009 we will need 1,009 megawatts of renewable energy at a capacity factor of 29% as testified by DOER Commissioner O'Connor at the MTC stakeholder meeting of October 31, 2002.

2. To date the Commonwealth of Massachusetts currently has approved only 218 MW of RPS Qualified Renewable Generation Units, much of which is from out-of-state facilities like NY and Maine<sup>1</sup>. These states along with Connecticut have their own RPS programs that will place these available renewable energy certificates (RECs) in high demand in the competitive commodity market. We will all be bidding for the same RECs and the ultimate price passed through to consumers will remain unabated at over \$50 per certificate.

---

<sup>1</sup> DOER Website. <http://www.mass.gov/doer/rps/approved.htm>

www.cleanpowernow.org  
E-mail: [windfarm@cleanpowernow.org](mailto:windfarm@cleanpowernow.org)  
Phone: (508) 775-7796  
Fax: (508) 775-7782

Clean Power Now  
297 North Street  
Suite 322A  
Hyannis, MA 02601

3. Furthermore, it is unlikely that without more large scale projects Massachusetts will not be able to meet this mandate. In fact, the Energy Facility Siting Board has found that there is a need for additional renewable energy resources to meet the RPS requirements in 2006<sup>2</sup>. The convincing auction of 5,000 MA RECs last week at essentially the default price \$51 dollars each shows the scarcity of this renewable energy<sup>3</sup>.

4. Current and foreseeable land based wind farms in New England are indeed much smaller as necessitated by the need for adequate wind resources on in-line rows of limited mountain ridges or limited acreage of available near-shore locations. For example the Hoosac wind project with 20 turbines is sized at only 30 MW. And it would take over 1,400 distributed wind turbines like the one in Hull<sup>4</sup> to meet our RPS mandate. There are not 1,400 towns in the Commonwealth, much less several hundred that have wind resources with anywhere near adequate to install a viable turbine. One or two here and there are admirable and certainly welcome, but distributed generation will not nearly fulfill the MA RPS mandate.

5. Offshore wind is certainly a mature technology in Europe where operational wind parks have grown since 1991 from pilot projects of 5 MW to 20 MW and now to two full scale operational parks in Denmark that are 160 MW each. There are permits in place for 240 MW and 500 MW offshore facilities in Germany and Ireland. England has surpassed its round-one offshore wind parks of 30 turbines each with several operational parks in place. Now their round-two plans for 15 offshore wind project sites ranging from 300 MW to 1,200 MW are all spoken for by independent power generation companies. Thus, the range selected of 200 to 1,500 MW by the ACoE is appropriate and in scale with current world wide off-shore renewable energy projects.

6. The minimum size of a viable offshore windfarm is by in large dictated by the fixed investment costs such as obtaining permits (some \$15 million to date and counting) and of building the required components such as the electric service platform, the undersea/underground transmission landfall cable (the cable itself some \$70 million), and an operations and maintenance center. These fixed investment costs are essentially independent of whether one installs 30 or 130 turbines. The developer has the sole responsibility of choosing a minimum configuration that will provide an economy of scale and a return on investment that will be profitable and acceptable to lending organizations. It is inappropriate and presumptuous for the Cape Cod Commission to suggest a smaller wind farm that would simply not be economically viable and would thus kill the project.

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<sup>2</sup> EFSB Tentative Decision, September 16, 2004, p. 188.

<sup>3</sup> Evolution Market Auction of MTC owned RECS on February 3, 2005 were sold at an average price of \$51.12

<sup>4</sup> The Hull wind turbine has a nameplate capacity of 660 KW. It's capacity factor to date is 27%.

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7. The ACoE alternatives analysis of more than 15 land-based and offshore sites in New England does provide indications for likely sites to accommodate this size and including an alternative of a split site. While the ACoE is careful to not rank these sites, the range of 200 to 1,500 MW is the most realistic approach to fulfill the mandate of 1,009 MW of renewable power needed in 2009. In fact, additional off-shore facilities may well be required to meet this mandate. Of note, three of the most likely sites for detailed analysis by the ACoE are also in Nantucket Sound.

8. Commission suggestions like relocating some rows further offshore or tighter spacing between turbines are crucial design parameters best left to competent engineering organizations that fully understand the dynamics and tradeoffs of wind turbine siting.

9. A phased approach of offshore technology has already been accomplished in Europe starting in 1991 as noted above. Offshore wind farms are now a mature technology in which even larger turbines of 4 and 5 MW are evolving.

I feel that the approach of large scale offshore wind farms is not only appropriate and in the public interest, but is crucial as a dramatic first step to energy independence with reductions of detrimental fossil fuel emissions and accompanying positive environmental and health impacts. In fact this wind farm will eliminate over a million tons of carbon dioxide emissions from New England fossil fueled power plants. This is the single most dramatic greenhouse gas reduction project in the United States and is enough to qualify the Commonwealth's two largest power plants, Brayton Point and Canal, for the Kyoto protocol reductions of 7% provided their output were offset by this equivalent wind energy.

Therefore, I suggest your concerns are not sufficiently substantiated to request a supplemental EIS.

Sincerely,



Charles Kleekamp, P.E. Ret.  
Information Director  
Clean Power Now

Clean Power Now is an independent citizen's advocacy group supporting the timely, considerate development of offshore wind power on Nantucket Sound and other viable renewal energy projects. We do not accept monetary contributions from Cape Wind, Inc.



COMMONWEALTH OF MASSACHUSETTS  
**MASSACHUSETTS SENATE**  
 STATE HOUSE, BOSTON 02133-1053

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**SENATOR ROBERT A. O'LEARY**

CAPE AND ISLAND DISTRICT  
 STATE HOUSE, ROOM 416A  
 TEL. (617) 722-1570  
 FAX. (617) 722-1271  
 DISTRICT OFFICE: (508) 775-0162  
 E-Mail: ROleary@senate.state.ma.us

COMMITTEES:

- ENERGY (CHAIR)
- EDUCATION
- HOUSING
- TAXATION
- STEERING & POLICY
- BANKS AND BANKING

February 8, 2005

Cape Cod Commission  
 Attn: Phil Dascombe/Cape Wind  
 3225 Main St. PO BOX 226  
 Barnstable, MA 02630-0226

**RE: Cape Wind Energy Project, JR#20084**

To the Cape Cod Commission:

I am writing to comment on the Staff Report prepared by the Cape Cod Commission in regards to the Draft Environmental Impact Statement / Draft Environmental Impact Review (DEIS/DEIR) of the Cape Wind project. I would like to commend the Cape Cod Commission for their effort and excellent review. Further, I strongly support the Cape Cod Commission's finding that a supplemental DEIS/DEIR is needed to adequately and accurately identify the impacts of the proposed project.

I share many of the Cape Cod Commission's concerns regarding the objectivity, transparency, accuracy and adequacy of the DEIS/DEIR. While I recognize the effort and time put forth by the Army Corps of Engineers, this flawed process has resulted in a flawed and inaccurate environmental review document. I am dismayed by the lack of objectivity displayed in the DEIS/DEIR. Throughout the document the report appears to accept the proponent's statements as facts rather than correctly referencing items as the intent or opinion of the developer.

One of my major objections to the Army Corps of Engineers' DEIS/DEIR is its failure to include the difficult to measure impacts of this project. As a former regulator I understand the predisposition of a regulatory agency to study the impacts of a project using criteria that are easily quantifiable. However, I believe that the largest impact of this project, the development of the unique resource of the Nantucket Sound, is not easily quantified, and therefore missing from the report. Much of the Army Corps review focuses on localized and species-specific studies which consider only pieces of an ecological whole, resulting in a fragmented understanding of the dynamic ecosystem processes within Nantucket Sound. While bird-kills and eel grass damage are easily measured and calculated, the Army Corps of Engineers has failed to develop a

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mechanism that takes in to account what large-scale development of this pristine and unique area would mean for the ecosystem and character of the area as a whole.

I have serious concerns about the long term viability of the proposed project, which I believe that the Army Corps of Engineer's report has failed to address. The history of wind energy projects in the United States has included numerous technology problems, and several failed, bankrupt projects. Given the unprecedented size of both the scale of this project and the wind turbines, and the placement of this project in a delicate marine environment, the Army Corps of Engineers must ensure that Cape Wind has created a viable exit strategy. Further, given the industry's limited offshore experience we must take special cautions to ensure the viability of such a large scale development.

I agree with the Commission's findings that the current ad-hoc review of offshore renewable energy projects creates uncertainty and fails to serve the public or future proponents of renewable energy. Given the overwhelming lack of regulatory oversight, I believe that all production of offshore renewable energy development should be suspended until a comprehensive ocean resource management plan has been put into effect.

Finally, I would like to comment on a number of specific concerns raised by the Cape Cod Commission in their Staff Report:

#### **Renewable Portfolio Standard**

**Re: Comment PN3:** I would like to further the Commission's comments regarding the validity of stating the purpose of this project as meeting the Massachusetts Renewable Portfolio Standard. While Massachusetts, Cape Cod specifically, will largely bear the brunt of this project, the region is unlikely to purchase, much, if any of its power. To be financially viable the \$700 million project will most require long term contracts for the power. Wind power is intermittent, therefore Cape Wind will likely pair up with a producing partner. Because Massachusetts utilities are contracting in six month to one year intervals and the state's municipal systems have already found a partner, Cape Wind will most likely sell to someone else in New England, perhaps in Connecticut or Maine. It is important that the DEIS/DEIR recognizes this possibility as much of the developers hype centers on touting the local benefits of the project. The DEIS/DEIR should engage in a more substantial discussing of where this power will be sold.

#### **Review Methodology**

**RE: Comment G2 a:** In discussing the economic and market impacts of the Cape Wind Project, the proponents and regulators have yet to examine what the power generated by Cape Wind will sell for. Given the high cost of construction, operation and the experience of other off-shore facilities, the electricity from this project will likely cost twice as much as conventional alternatives. The energy's final prices will surely reflect this high cost of production; a reality the proponents, regulators and the DEIS/DEIR has failed to recognize. The economic analysis within the DEIS/DEIR has yet to answer a number of key questions. How much is this power going to sell for? How much profit is the developer likely to realize? The developer surely knows the answers to these questions,

as the number must be made available to secure financing. Given the public nature of this project, the use of public space and generous government subsidies, the public has the right to know what they will be expected to buy this power for and what financial gains the developer expects to collect.

#### **Alternative Analysis – Distributed Generation**

**RE: Comment A9:** I agree with the Commission's sentiments that the failure to examine small-scale or pilot projects leads the reader to believe that the only way to meet the Massachusetts RPS is through the construction of a single, 454MW capacity wind farm. I would like to draw the Army Corps of Engineers and the Cape Cod Commission's attention to Appendix 3-E, a review of the DEIS by six internationally recognized experts in wind energy. In Appendix 3-E a number of experts found fault in the Army Corps of Engineers failure to consider the siting of a number of smaller, land-based projects. For example, while a 454MW land-based project might be difficult to site in New England, multiple smaller projects may be feasible, and should be considered. In fact, as stated in Appendix 3-E, multiple land-based projects offer a number of advantages, including easier integration into the existing transmission system, geographic dispersion smoothing energy delivery to the grid, and dispersed environmental impacts. Before we build the first, largest, and most likely only off-shore wind farm in the country it seems reasonable to begin with smaller scale projects and then study their affects.

#### **Alternatives Analysis – Demand Reduction**

**Re: Comment A11:** Moreover, within its alternatives review, specifically the No Action Alternative, the Army Corps of Engineers has failed to examine the significant impact that conservation efforts must have in our energy management strategy. We have the technology to waste less energy, and it needs to be put into effect. For example, new energy efficiency legislation is currently before the Massachusetts legislature that would result in a dramatic decrease in energy use. Establishing energy efficiency standards for just 17 types of residential and commercial appliances would result in a summer peak capacity reduction of 178.55 MW by 2012, and 338.5 MW by 2020, as well as annual reductions by 2020 of 162,200MT of carbon, 286.5 Metric Tons of NOx and 334.9 Metric Tons of SO2.

#### **Alternatives Analysis – No-action Alternative**

**RE: Comment A12:** Additional to the Commission's comments, the no-action alternative analysis did not take into account evolving technologies and practices to meet Renewable Energy Portfolio Standards. New practices in waste to energy technology, hydro-electric practices and biomass generating facilities has prompted the legislature to re-examine its requirements for Renewable Energy Credits. Within the next legislative session I expect to see the inclusion of new practices in the Renewable Energy Portfolio standards, and refer the Army Corps of Engineers and the Cape Cod Commission to HD 762, HD 2643, and SD 1645 for examples of these legislative initiatives.

#### **Imported Fossil Fuels**

**RE: Comments A01 – A02:** The argument that Cape Wind will reduce our need for foreign oil and positively affect the issue of global warming is true, in principle, but in

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real terms is nearly meaningless. If we were to examine our best energy policy alternatives for reducing dependence on foreign oil and the affects of global warming from a cost benefit analysis, off-shore wind would be far down on the list. Furthermore, it is clear that Cape Wind will most likely offset, if anything, marginal generators, which typically are the cleanest burning natural gas plants. The Cape Wind plant will not result in the closure of any base load power plants in the region because its power is intermittent. Because of these realities, I strongly agree with the Commission that this issue must be examined to determine the quantitative relative impact that this project will have, if any, in reducing national dependence on foreign oil, as the proponents have made many comments thus far to that effect.

As a result of these many inconsistencies, gaps and inaccuracies I join the Cape Cod Commission in calling for a supplemental DEIS/DEIR to more accurately weigh the benefits and detriments of this large scale project. Thank you for the opportunity to share my concerns. I remain hopeful that the Army Corps of Engineers will take these matters into consideration in submitting a decision regarding the Cape Wind project.

Very Truly Yours,



**ROBERT A. O'LEARY**  
State Senator  
Cape Cod and the Islands

CC:

Jaren Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road, Concord, MA 01742

Secretary Ellen Roy Herzfelder  
Executive Office of Environmental Affairs  
Attn: MEPA Office, Anne Canaday, EOEI No. 12643100  
Cambridge Street, Suite 900  
Boston, MA 02114



3431

February 1, 2005

de

Congressman Thomas H. Allen  
Co-chair of the House Ocean Caucus  
1127 Longworth HOB  
Washington, DC 20515

**Re: Oceans Public Trust Initiative**

Dear Congressman Allen:

I am writing you on behalf of the Oceans Public Trust Initiative (OPTI), a project of the Earth Island Institute. OPTI's function is to ensure that state and federal governments undertake the action necessary to ensure that ocean and coastal areas are managed consistent with the public trust. This is an issue of particular concern in New England, where federal agencies are taking actions involving the marine environment that promote private interests and marine resource exploitation at the expense of the overall public interest. I am writing to you in your capacity as co-chair of the House Oceans Caucus, and as a strong advocate for ocean conservation initiatives in Maine.

OPTI wants to call two issues to your attention. Both of these issues involve extreme examples of the federal government sacrificing the public interest and failing to live up to its own legal requirements in the field of ocean governance and conservation.

The first problem involves the recent practice of the U.S. Army Corps of Engineers to use navigation permits under Section 10 of the Rivers and Harbors Act to authorize massive industrial facilities that entail literally giving away public trust ocean property under federal control to private parties. The principal example of this practice is in the Corps' review of proposals for private offshore wind energy projects under Section 10. As the U.S. Commission on Ocean Policy and Congressional Research Service have recognized (see Attachment 1), Section 10 is *not* a legally sufficient source of authority for this purpose. Despite this fact, the Corps not only is processing such requests, it refuses to answer the questions of whether a private developer can use and occupy ocean areas for private profit with no federal property rights and with no competitive bidding, rental, royalties, or other returns to the taxpayer. OPTI has attempted for nearly two years to get the federal government to address these concerns, and it has steadfastly refused to answer these basic questions. OPTI's correspondence on this issue, and the federal government's shameful responses are enclosed in Attachment 2.

Mr. Thomas Allen  
February 1, 2005  
Page 2

3431

The second problem involves the critically important concept of marine protected areas ("MPA's"). OPTI has made implementation of this program, especially as set forth in Executive Order 13158, a top priority. Unfortunately, once again, the federal government is avoiding the responsibilities.

One of the key aspects of Executive Order 13158 (issued by President Clinton and affirmed by President Bush) is the mandate for federal agencies to avoid "harm" to MPA's. Despite the clear directive, the federal government takes the position that this duty does not arise until a final list of MPA's is developed. At the same time, almost nothing is being done to prepare that list, even though most of the areas that qualify are obvious. Even those areas clearly established as sanctuaries under state law are being ignored. As a result, four years after the Order was issued, it remains a "dead letter." As with the Section 10 issue, OPTI has written to the responsible federal agencies seeking answers to basic questions about MPA implementation. Again, we have been given the runaround, with non-responsive letters drafted to avoid answering the key questions and owning up to federal duties. OPTI's correspondence on the MPA issue, and the government's non-response, is provided in Attachment 3.

I hope that you and the Oceans Caucus will provide serious oversight of these issues, and take Congressional action as needed. You also should be aware that attempts have been made in the past to enact weak and ineffective provisions for offshore wind development in the House energy bill. These provisions, sponsored by Representative Cubin from Wyoming, have been universally condemned by the environmental community. OPTI urges you, and other members of the Oceans Caucus, to oppose such legislation.

Thank you again for your strong leadership on ocean conservation issues. Please let me know if you need further information.

Very truly yours,



Cindy Lowry  
Director

cc: w/o attachments

Congressman William Delahunt  
Colonel Thomas Koning  
Senator Edward M. Kennedy  
Senator John F. Kerry  
Attorney General Thomas Reilly

3431

Mr. Thomas Allen  
February 1, 2005  
Page 3

cc: Governor Mitt Romney  
Earl H. Stockdale  
Joseph A. Uravitch  
Richard W. Spinrad  
Dr. Daniel Bromley

3432

**ANTONE C. VIVEIROS**

---

117 Main Street  
Middlebury, VT 05753  
(802) 249-4111  
www.antonc.com

February 10, 2005

Karen Adams  
Cape Wind Energy Project E.I.S.  
U.S. Army Corp of Engineers  
New England District  
Regulatory Division  
696 Virginia Road  
Concord, Mass 01742-2751

Re: Cape Wind

I am writing this letter in support on the Cape Wind Farm project in Horseshoe Shoals. I feel that there is an ergent need for alternitive energy sourcess. Wind energy is clean, effcient, and queit. The only other way to meet our energy needs is to imbarck on a massive undertaking off building oil reffineries and drilling of oil wells. We can forget natural gas, for we do not have an adaquit pipline distribution system throught out New England. Their for we will have to be dependent on LNG, and we know the safty problems that will cause, don't we. Now be honest. So please do what you know is the right thing, and approve this project.

Sincerely,



Antone C. Viveiros

RECEIVED

FEB 14 2005

REGULATORY DIVISION

Eugene F. Tierney  
30 Weyford Lane  
Eastham, Mass. 02642

3433

9 February 2005

Re: Cape Wind Energy EIS Project

Mrs. Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road  
Concord, Mass. 01742

Dear Mrs. Kirk-Adams:

Some of the articles I have read about this project have commented upon how these wind mills may look from the shore.

This past August I was on a tour of Scotland. On Route 9A between Dalprie and Wick the tour guide on our bus called our attention to a large house owned by the third wealthiest woman in Scotland. She pointed this out to us as this lady also had a fairly large wind mill used for generation of electric power. She used this power for her home and the excess she transferred to the utility company grid. Both her house and her wind mill were clearly visible from the

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FEB 14 2005

U.S. ARMY CORPS OF ENGINEERS

3433

2.  
highway. The windmill appeared fairly close to her house.  
One may wonder whether the Scots  
are more practical than we Americans!

Sincerely,

Eugene F. Tiesney

My permanent residence is:

219 North High Drive

Worthington, Ohio 43085

3434

12/07/04

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DEC 14 2005

U.S. ARMY CORPS OF ENGINEERS

ATTN. U.S. ARMY CORPS OF ENGINEERS,

My name is Cynthia McNeely. I live in Cotuit, MA. I have just read the Executive Summary and would like to voice my opinions. I am a student of the Renewable Energy course offered at Cape Cod Community College, as well as a native Cape Codder. The course is sponsored by Cape Wind, but covers all aspects of renewable energy. Being both a resident and a student, I have been torn with my decisions of support.

I am all for alternative energy and stumbled on the course after years of interest in solar energy. Wind energy is new to me, but certainly well supported in my course of study.

As a Cape Codder, my opinions are guarded. Initially, I was completely against the Cape Wind proposal. Our way of life is different on Cape. We, as a whole are overly conservative and reluctant to change.

This project threatens our way of life, as we know it, and brings out mistrust of losing what we cherish most, our environment, our slow pace of everyday life, our serenity, our beaches.

Growing up on the Cape, I understand the love of the ocean. It becomes a part of you. I don't own oceanfront property, but if I did, I would fight "tooth and nail" to preserve it, as many Cape Cod homeowners and boaters are doing., and so, I fully understand why so many people are fighting Cape Wind's proposal.

Aside from my own feelings, there are the fears of the Fishermen and all related industries, and their potential losses. A short-term loss, described as temporary during construction, could be financially devastating to many in the fishing community.

Is there a plan of monetary compensation for these people ? Has this been addressed ? Perhaps A fund can be developed.

Certainly, the promise of many new jobs and financial gains during construction and after is enticing. Also the tax revenues and other economic benefits are impressive.

3435

Lohmann  
9 Keel Lane  
Nantucket, MA  
8 February, 2005

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FEB 14 2005

Ms Karen Adams  
Project Manager, Regulatory Division  
696 Virginia Road  
Concord, MA 01742

Dear Ms Adams;

Our family owns property on Great Point, one of the historic sites said to be visually impacted by the proposed wind farm project. We would like to state that we have no aesthetic objection to the windmills.

We believe it is long past time to get serious about developing clean, renewable energy sources, to reduce our dependence on fossil fuels, reduce pollution, reduce global warming, and this is an opportunity to do so. The potential, long-term benefit of developing successful alternative energy outweighs the local and short-term risks.

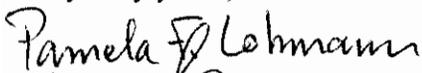
We do think it would be good if a Comprehensive Ocean Resource Plan were developed, with guidelines and criteria for granting leases, as well as guarantees for public economic benefit, public safety, and corporate responsibility. But pending such a comprehensive plan, it is up to the Army Corps of Engineers to put such guarantees in place to address some of the legitimate concerns that have been raised before granting approval for this project to proceed.

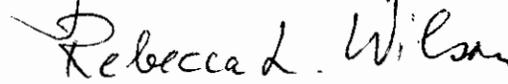
Some concerns that we have:

- 1) Scale. It is a very large project; would it not be prudent to start with a smaller project as a pilot?
- 2) Light pollution. We value the dark skies on Nantucket, the ability to see the stars and the Milky Way. We understand safety requires lighting on the turbine towers, but we would hope it can be minimized: dim red or amber, and not flashing strobe.
- 3) Noise pollution. Studies should be conducted prior to construction to assure that noise and vibration when the turbines are in operation does not damage marine mammals and fish.
- 4) Performance guarantees. We do not have a problem with granting a private firm rights to develop a wind farm in public waters, but there should be a performance bond to assure proper safety measures, proper maintenance, ability to respond to emergencies such as spills or storm damage, and adequate replacement or decommissioning as necessary. And there should be lease terms to guarantee public share in any long-term profits in addition to the clean electrical power benefits.

We hope you will look favorably on the proposal while instituting strong measures to protect the public interest and safety.

Very truly yours,

  
  
 Pamela F. Lohmann  
 Christoph K. Lohmann

  
  
 Rebecca L. Wilson  
 Jan M. Lohmann

**UNFORGIVEN**  
**SPORTFISHING CHARTERS**  
Captain Ben Baxter • USCG Master Captain's License

3436



167 Pleasant St.  
Hyannis, Massachusetts 02601  
www.sportfishinghyannis.com

Office: 508.778.9546  
Boat: 508.326.5947  
Pager: 508.578.3268  
E-mail: mako@gis.net

To: Karen Adams

02/09/05

From: Capt. Benjamin D. Baxter

Subject: Wind Farm

Dear Ms Adams

As a Charter Boat Captain and life long Cape Cod resident, I am strongly opposed to the construction of any type of windmill in Nantucket Sound. You must save this prime fishing ground. I have fished Horseshoe Shoal ever since I was a little boy. My father took me there and taught me how to fish, as a proud father of two young boys, I too hope to bring my sons there and show them the joy of fishing. I am a Charter Boat Captain and owner of a charter boat called the Unforgiven it is a 32-foot Blackfin sportfishing vessel. I have taken many families and friends fishing on Horseshoe Shoal and it is one of the best spots in Nantucket sound to catch bluefish. Please do not wreck this wonderful place by letting a few greedy private developers place these massive windmills in the middle of Nantucket sound. I could list a hundred reasons not to put these windmills on Horseshoe Shoal but the most important one is SAFETY. I did not mention the fact that I am a twenty-year veteran of the Barnstable Police Department, I hold the rank of Sergeant. I worked on the Marine Patrol for 15 years. I have seen many boating accidents and fatalities. So if one person is killed by these wind towers. Ask yourself one question is it worth it? Thank you for your time.

Respectfully yours,

Benjamin D. Baxter Sr.  
Captain

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FEB 14 2005  
COMMUNICATIONS

3437

Dear Ms. Kirk-Adams,

I'm 10 years old and I want wind power because  
When I grow up I want breathable air. Help support  
Cape Wind. Please!!

from,  
Annie Kithill of Jamestown R.I.

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FEB 14 2005

PLANNING DIVISION

3438

Karen Kirk Adams  
Cape Wind Energy Project EIS Project Manager  
Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742-2751

Dear Ms. Adams,

After much mulling over everyone's doubts, I want to register my willingness for the Wind Farm to go ahead. I think it's the best for this area and in fact, hopefully, projects like it will be appearing all over the United States.



Sincerely, Canary Burton  
Box 3057  
Wellfleet, Ma  
02667-3057

RECEIVED

FEB 14 2005

PROJECT DIVISION

Feb 24 73

3439

Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: P. A. WALKER

Address: P.O. Box 708  
Dennis, MA 02638

Phone Number (Please include area code): 508-385-3613

Email Address: \_\_\_\_\_

Please state your questions/comments in the space below:

That public property should "given" over to private for profit enterprise is flat out nonsense. Aside from the obvious drawback of the wind farm presence in the Sound and the danger it will present to navigation of boats and planes - I have yet to hear anything that would even indicate a plan or statement of accountability. Putting oil in the Sound is pure folly.

- Who will pay for the cleanups?
- Exactly who will spend hours cleaning birds?
- Who will take the responsibility for loss of wildlife?
- Who will clean the beaches?
- Who will compensate business owners who will lose revenue after the spill? or inevitable accident.

Is the Cape Wind farm willing to put one billion dollars in escrow for such a mishap? Are they willing to be accountable in ANY way?

I ask with all due respect that the Army Corps of Engineers "just say no" to this project.

Please fold this questionnaire in half, affix two stickers or pieces of tape, and mail it to the address listed on the other side.

3440

Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

RECEIVED  
NOV 14 2010  
NANTUCKET SOUND

Name: LISA STRACHAN

Address: 307 GREENWOOD AVENUE  
TISBURY, MA 02575

mailing: (PO Box 1111, W. TISBURY MA 02575)

Phone Number (Please include area code): 508-696-8770

Email Address: Strachanporcelain@yahoo.com

Please state your questions/comments in the space below:

I agree with my elected officials;  
Senator O'Leary, Congressman Delahunt,  
and Governor Romney: Cape Wind has  
no property right to use Horseshoe Shoal.  
This pristine environment is a national  
treasure and should not be used for this  
purpose. I believe this proposal by Cape  
Wind is a violation of the Massachusetts  
Ocean Sanctuary Act that was passed  
35 years ago. Our Island leaders;  
Selectmen, Steamship Authority captains,  
and Business owners such as Bob Douglas  
(of the Black Day) are all against this  
project. Why not listen to them?

This is the wrong project, the wrong  
place - Please listen to our officials,  
our Island leaders and do not  
permit Cape Wind to go forward with  
this project.

Thank you.

Please fold this questionnaire in half, affix two stickers or pieces of tape,  
and mail it to the address listed on the other side.

3441

**Adams, Karen K NAE**

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**From:** Dr. Heinz Werner [hwerner@localnet.com]  
**Sent:** Monday, February 14, 2005 5:15 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind Energy urgently needed

**Our first communication to you:**

**Our neighbors here on Cape Cod feel no harm being done but great value created by having wind generators on sea or land, also by setting examples to the nation for wind-generated energy to replace other energy sources however possible, including to replace nuclear plants considered VERY risky (risk of terror-attacks, nuclear fuel storage/ disposal). Examples of the acceptance (even attraction of) wind-generators in Europe, the rough North Sea and now plans where the Atlantic and Mediterranean Sea meet (tip of Spain/Portugal) show clearer understanding in less ego-centric/ egoistic capitalistic societies suggest more care for human needs and welfare than apparently here: the wind mills NOT being of any more any view-disturbance than telephone or electric power line transmission masts on land - - or tall buildings, cities and bridges.**

**Thank you for taking action and stop talking/discussing issues, so obvious.**

**Heinz Werner, PhD., 182 Lund Farm Way, Brewster, MA 02631; 508-896-2122.  
2/14/05**

3442

**Adams, Karen K NAE**

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**From:** jon gillis [jon.gillis@comcast.net]  
**Sent:** Monday, February 14, 2005 5:38 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind energy& Cape Cod

**Please find in favor of the clean energy Wind Farm in Nantucket Sound for the health and safety of my grandchildren and yours. This is not just a local issue. This effects every citizen in the United States! We have to clean the air, and replace the need for foriegn oil. Don't let the self serving politicians decide this very critical need. You can help turn the corner of on this very dangerous path of destroying the health of the universe. Thank You!**

3443

**Adams, Karen K NAE**

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**From:** Robert Dow [rsdow@comcast.net]  
**Sent:** Monday, February 14, 2005 6:17 PM  
**To:** Energy, Wind NAE  
**Cc:** Kerry, John; Delahunt, William; Kennedy, Edward; Clean Power Now  
**Subject:** Wind Power

Sirs:

Fight the air pollution on Cape Cod.

Reduce reliance on imported oil.

Reduce the burning of fossil fuels

Help increase use of renewable energy.

**SUPPORT THE WIND FARM!**

Sabine Dow  
Robert Dow COL AUS Ret  
Chatham MA

3444

**Adams, Karen K NAE**

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**From:** The Island House [theislandhouse@comcast.net]

**Sent:** Monday, February 14, 2005 6:23 PM

**To:** Energy, Wind NAE

To Whom it May Concern,

I am writing in support of the Cape Wind project, not only as a Cape Codder and an advocate for renewable energy sources, but as a mother of two small children. It is they who will inherit all of the pollution and global warming effects, not to mention the continued tensions with the Middle East due to our reliance on petroleum products. It baffles me that anyone can refute the positive effects of the proposed wind farm, and if anyone chooses to argue the negative effects on horseshoe shoals, all I can say to them is that if we do not create new sources of alternative energy, the sea levels will continue to rise and, not tomorrow, but maybe 100 years from now the Cape's landscape will be quite different, literally. So let us Cape Codders be the trailblazers and support the first major wind farm on the East Coast of this nation of ours and show the rest of the country what is possible and how bright the future can be with clean energy.

Sincerely,

Heather Todd Bailey

**Adams, Karen K NAE**

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3445

**From:** Jim Garb [jimgarb@comcast.net]  
**Sent:** Monday, February 14, 2005 8:39 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind Farm

To Whom it May Concern;

I am writing to express my support for the Cape Cod wind farm project, with the provision that the electricity generated remains on the Cape. As I understand it, this is a political issue. However if a deal cannot be worked out for the electricity to be purchased by an energy distributor who will direct it first to the Cape, then I see no reason to support the project. I do believe that an alternative energy source is in everyone's long term best interests, but there is no need for the Cape to bear the brunt of any adverse effects only to have the electricity sold throughout New England or beyond.

Sincerely,

James Garb, MD  
Yarmouthport, MA

3446

**Adams, Karen K NAE**

---

**From:** Squidzilla [squidzilla@comcast.net]  
**Sent:** Monday, February 14, 2005 9:23 PM  
**To:** Energy, Wind NAE  
**Subject:** Nantucket Sound Wind Farm

I am writing to express my support for a wind farm at Horseshoe Shoal in Nantucket Sound. I believe that this a step in the right direction. With the price of fossil fuels rising every year, the amount of emissions being spewed into the air, and the political instability in the Middle East, now is the time to take that step. I believe that the benefits of the wind farm will far outweigh any drawbacks. I am a life-long Cape Cod resident who has seen the way development can destroy a landscape. This is one of those occasions when development is the right path to take.

David Thomas  
24 Railroad Ave.  
Yarmouth Port, MA 02675

**Adams, Karen K NAE**

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3447

**From:** Conrad Geyser [conradg@cape.com]  
**Sent:** Monday, February 14, 2005 10:05 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind farm proposal

Dear ACE,  
Please register my strong support for the Cape wind project.  
thank you,  
Conrad Geyser  
64 Old Shore Rd.  
Cotuit, MA 02635  
508-428-8442

**Adams, Karen K NAE**

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**3440**

**From:** MRDARCHER@aol.com  
**Sent:** Monday, February 14, 2005 11:17 PM  
**To:** Energy, Wind NAE  
**Subject:** Comment Sheet - Offshore Wind Project File#NAE-2004-338-1

February 14, 2005

Karen K. Adams  
re: file#NAE-2004-338-1

I am in favor of developing wind power off shore. I fully understand the need to expand our output of native renewable energy in our country.

However, I am very much opposed to installing power-generating turbines on a farm in Nantucket Sound. Nantucket Sound, in my opinion, is a National treasure that should be designated as a National Park to prevent further experimental projects like this one.

I am opposed to the "wind farm project" as presented for the following specific reasons:

1. Negative impact to commercial fishing
2. Serious navigational hazards for aircraft and water vessels.
3. A detriment to the environment with riskier maintenance issues of the wind farm. There needs to be a stringent environmental impact study.
4. Aesthetic reasons (flashing lights, fog horns, tall towers, etc.)
5. Hazard to commercial ferries commuting to Martha's Vineyard and Nantucket to Hyannis which provide food, medicine, building materials, laborers, etc. The livelihood of many workmen are involved with these daily commutes and these islands are dependent on their timely products and services.
6. Failure of power-generating turbines as a result of hurricanes, winter storms, etc., and the resultant loss of power and possibly resulting in further damages to the environment.

Meyers R. DeLaney  
23 Park Place  
Hyannis Port, MA 02647  
508-771-7099  
MRDarcher@aol.com

**Adams, Karen K NAE**

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3449

**From:** Sailemeraude41@aol.com  
**Sent:** Tuesday, February 15, 2005 8:17 AM  
**To:** Energy, Wind NAE  
**Subject:** (no subject)

Dear Karen Adams:

The Cape Wind Draft Environmental Impact Statement is very flawed. PLEASE consider my request NOT to locate the 130 turbines on Nantucket Shoals. This location is obviously NOT the place for this wind farm. Do not approve the Cape Wind request to industrialize this beautiful area. There must be a better place for it. thanks

Martha C. Sawyer

3450

**Adams, Karen K NAE**

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**From:** The Crowleys [psrmcrowley@adelphia.net]  
**Sent:** Tuesday, February 15, 2005 9:10 AM  
**To:** Energy, Wind NAE  
**Subject:** Cape Cod Wind farm

I am a Cape Cod resident, and I am 100% in favor of the wind farm. My belief is that the opponents are selfishly opposed to this project due solely to the fact that their "view" of the ocean will be impacted. The truth of the matter is that something has to be done to try to slow down global warming caused by burning fossil fuels(just look at the smoke we see from the Mirant electric plant in Sandwich).

My hope is that this project is a huge success and it stimulates more "green" technology nationwide.

3451

Adams, Karen K NAE

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**From:** jharr [jharris9@houston.rr.com]  
**Sent:** Monday, February 14, 2005 5:31 PM  
**To:** Energy, Wind NAE  
**Subject:** Nantucket Sound Wind Farm support

Dear Sirs,

I have watched with interest as the debate has continued over the proposed Wind Farm in Nantucket Sound. I find it amazing that people would oppose a project who's only objections are that it would change the view. I have lived all my life on the Gulf Coast where the coastal view is often of oil drilling platforms. Not only are they larger and uglier than wind mills, they have the potential to pollute the water with leaks and human produced waste. I still find them attractive to my eye because they represent progress and prosperity. They are also a great improvement to the fish population, acting as artificial reefs that allow the buildup of large fish populations.

How anyone could object to delicate, almost artistic, whirling blades on the horizon, when they also represent progress and prosperity, is beyond me. I hope that the "not-in-my-backyard" opponents one day find themselves in the position of catching fish around the base of these towers. Perhaps then they will be embarrassed at their Luddite position of today.

Please approve this permit and set up a systematic procedure so that any coastal area can be easily and quickly permitted to build wind farms like this proposed project.

Thank You,

John W. Harris Jr.  
5773 Woodway Dr., PMB 133  
Houston, TX 77057  
713-468-8915

3452

**Adams, Karen K NAE**

---

**From:** Lisa Redmond [lredmond@smith.edu]  
**Sent:** Monday, February 14, 2005 11:42 PM  
**To:** Energy, Wind NAE  
**Subject:** I support the Cape Wind DEIS

February 14, 2005

Karen Kirk-Adams  
U.S. Army Corps of Engineers, New England District  
Cape Wind Energy EIS Project  
696 Virginia Road, Concord, MA 01742

Cape Wind Energy EIS Project

I was very excited to hear about the Cape Cod Wind Energy project. The public benefits are indeed compelling. I want to see Massachusetts become a successful example of moving towards a clean energy future.

The project will have minimal impact on fishing, boating and tourism. The wind park will bring high-paying jobs to the area, and I urge the Army Corps of Engineers helps to bring Cape Wind into operation quickly and safely.

The visual impacts will be minimal, and with some wind projects, tourists actually travel to see the wind farms.

As an environmentalist, I support the project whole-heartedly. The turbines will have little impact on birds -- according to the American Wind Energy Association, windmills pose a greater threat to avian life than wind turbines. Wind power can replace fossil-fired generation, improving the air quality in the Northeast.

Sincerely,

Lisa Redmond  
1 Chapin Way # 8370  
Northampton, MA 01063-6302  
USA  
lredmond@smith.edu

3453

Adams, Karen K NAE

---

**From:** John Powers [johnspowers@comcast.net]  
**Sent:** Tuesday, February 15, 2005 1:30 AM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind vs. Save Our Sound

February 15, 2005  
10 Massachusetts Ave  
Hyannisport, MA 02647

US Army of Engineers  
Cape Cod Commission

Dear Sirs,

The argument against 'Cape Wind' is stirring our need of a clean energy. Global Warming is here to stay. The issue, rapidly is a well known fact as temperatures fluctuate at a whim. Seasons are changing drastically with hurricanes, blizzards, flooding with heat or cold.

Mr. Gordon's vision is perfect. He isn't into this solely for money, otherwise he wouldn't of sold out his fossil fuel plants. The Cape Cod Commission shouldn't be questioning the USAE about the wind mills place, size or position upon Horseshoe Shoals Nantucket Sound. No fuel costs or pollution, and the wind speeds are superb!

Now the Barnstable Town hopes to dredge Horseshoe Shoal, to stop any developments. Do they realize how shifting sands miles from shore can affect elsewhere.

They'll be massive, even from five miles. But the urgency of a wind clean energy, outscores oil, coal or nuclear energy. I live four blocks from Nantucket Sound, I'll suffice.

John S. Powers

3454

**Adams, Karen K NAE**

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**From:** Christina Zarcadoolas [Christina\_Zarcadoolas@Brown.edu]  
**Sent:** Tuesday, February 15, 2005 9:00 AM  
**To:** Energy, Wind NAE  
**Subject:** wind energy

Wind energy has been adopted with great success in Scandinavia, Germany and throughout Europe. It is vital that the US move to acquire a significant portion of its energy from renewables. Wind is economically viable and is embraced by residents once installed. The new turbines are quiet, safe for birds and even become tourist attractions.

I urge the US Army Corp of Engineers to look beyond the voices and motives of a few home owners on the Cape and set the lead in approving the Cape Wind Project.

Thank you.

Christina Zarcadoolas, PhD.

Christina Zarcadoolas, PhD  
Center for the Study of Race and Ethnicity  
Director, Environment and Health Literacy Initiative (EHLI)  
Box 1886  
Brown University  
Providence, RI 02912  
(401) 863-7347  
fax 863-7589  
caz@brown.edu

<http://envstudies.brown.edu/env/people/faculty/czcdl/index.php>