



Blowing Smoke, Not Wind: BHI's Reply to Cape Wind

March 18, 2004

Introduction

In a recent report (*Free But Costly: An Economic Analysis of a Wind Farm in Nantucket Sound*), Douglas Giuffre, Jonathan Haughton and David G. Tuerck of the Beacon Hill Institute argue that Cape Wind's proposed 130-turbine wind farm in Nantucket Sound fails a basic test: its economic costs (\$947.2 million) exceed its economic benefits (\$735.5 million). If the wind farm were built, it would impose a net cost on society of \$211.8 million. The key numbers are reproduced here in Table A.

Table A: Costs and Benefits of the Nantucket Sound Wind Farm Project			
	Net Present Value (at 10%)		Cents/kWh
	Mean	90% confidence interval	
<i>(\$ millions)</i>			
Economic Analysis			
Economic Benefits	735.5	626 – 853	6.97
<i>Of which:</i>			
Fuel saved	523.3	455 – 599	4.96
Capital costs saved	97.9	75 – 120	0.92
Emissions reduced	107.4	55 – 176	1.02
Greater energy independence	6.8	2 – 13	0.06
Economic Costs	947.2	882 – 1,029	9.00
<i>Of which:</i>			
Project itself	882.4	819 – 963	8.39
Grid integration	25.6	23 – 28	0.24
Environmental effects (using royalty rates)	39.2	35 – 44	0.37
Economic Benefits – Economic Costs	(211.8)	(337) – (84)	(2.04)
Financial Analysis			
Rate of return on equity	12.2	6.6 – 18.1	
NPV for equity holders (at 10% interest)	41.7	(78.1) – 158.5	
<p><i>Note:</i> Totals may not add exactly, due to rounding errors. Bracketed figures are negative numbers. Based on 10,000 drawings from underlying distributions of the variables determining costs and benefits.</p>			

The report goes on to show that the project would be financially attractive for Cape Wind, yielding a 12.2% return on equity, equivalent to \$41.7 million over and above its costs. The

project is simultaneously economically undesirable and financially attractive because of the very large subsidies totaling \$241 million, most notably \$84 million in the form of Federal Renewable Electricity Production Credits and a further \$157 million (net) in Massachusetts “green credits”.

Wind power is clean, and it is appropriate to subsidize it to some degree. An important issue is: just how much subsidy is appropriate? The authors show that the appropriate subsidy would bridge the gap between the unsubsidized revenue from the project (4.73 cents/kWh) and the economic benefits (6.97 cents/kWh). This would justify a subsidy of \$167 million, but not a subsidy of \$241 million. Under current arrangements, the project would be oversubsidized to the tune of \$74 million.

This analysis does not fault Cape Wind for responding to the incentives that have been created in the market for wind power. But it does show the Cape Wind project to fail an important test of its value to the greater society it is intended to serve.

With this background in mind, we turn to the comments made by Cape Wind on March 16 in response to the *Free But Costly* report. Cape Wind’s comments are in Roman face, our responses in italics.

Cape Wind Points, BHI Counterpoints

Cape Wind

The Beacon Hill Institute (BHI) released a study today, funded by opponents of Cape Wind that claims to be a comprehensive societal cost / benefit analysis of Cape Wind which concludes the costs outweigh the benefits. While the report contains many flaws, the most important thing to understand is that if you remove Cape Wind’s own business investment into the project, the BHI study finds the public benefits of Cape Wind outweigh the costs by a 3 to 1 margin, providing an overwhelming public benefit that Cape Wind be built. The BHI results would be even more overwhelmingly positive that the project be built if they did not make very questionable judgments that understated benefits and overstated costs.

BHI

Cape Wind is wrong and, in being wrong, betrays a misunderstanding of cost-benefit analysis: The purpose of cost-benefit analysis is to determine whether a project that is provided or subsidized by government is worth the cost to taxpayers and, in this instance, to electric power rate payers. It makes no difference whether the “business investment” originates with Cape Wind or any other public or private entity. The fact that there would be no such investment in the absence of the very large subsidies to which Cape Wind would be entitled, means that Cape Wind must show that the total economic benefits of the project would exceed the total economic costs.

Economic costs consist of private costs (here, the costs of installing and operating the windmills) and certain “external costs” (negative effects on Cape amenities and on the Cape environment). Economic benefits consist of private benefits (fossil-fuel savings) and “external benefits” (reduced emissions, etc.) The fact that the economic costs of the project would exceed the economic benefits means that, even when you consider the reduced emissions and increased energy independence that the project would confer, it

simply costs society (including the taxpayers and rate payers who would provide the subsidies) more than it is worth. Perhaps someday, when wind power becomes cheaper or fossil fuel power more costly, this will no longer be true. But it is true now, and therefore the project should not, on the basis of a cost-benefit test, go forward.

Cape Wind

The BHI report does not classify new jobs or electric savings to consumers as benefits. The BHI report says that new jobs are really a “cost” and not a benefit because you have to pay people to be inconvenienced by having to work. BHI doesn’t consider electric price savings to consumers as a benefit either because they say that is really just a transfer of money from power companies to people.

BHI

The project would create some jobs in maintaining and operating the windmills and destroy some jobs in maintaining and operating the fossil fuel plants that would reduce operations as the wind farm came online. In performing cost-benefit analysis, we are required to ignore both effects. That is because of what cost-benefit analysis is supposed to do: determine the net effect on the overall economy, given that workers will be employed wherever they contribute most to the economy.

Suppose someone suggested that we should not impose environmental regulations on a fossil fuel plant because of the fact that doing so would cost some jobs. Would that be a legitimate argument? The answer is no: The regulations are imposed because there are too many workers in that plant creating too much pollution. The regulations are intended to move workers from that plant to some other line of work where their labors will result in less pollution.

*Ironically, our analysis shows that the wind farm would in fact cause jobs to be **lost** on the Cape. We made the point about jobs in our latest study so that the reader would not construe this finding as an element in the cost-benefit analysis that we performed separately from the jobs analysis. Cape Wind did not read the study carefully and therefore got our analysis wrong on both counts.*

We recognize that, to the extent that the Cape Wind project would lower wholesale electricity prices, there would be a benefit to consumers (commercial, residential and industrial); but there would also be an offsetting loss to other electricity producers. The net effect on society as a whole (which includes producers as well as consumers) is zero. Because, as we have pointed out, cost-benefit analysis is about society as a whole, we had to recognize any electric saving as a transfer, not a benefit.

Cape Wind

The BHI study does not count Cape Wind’s creation of 600 to 1,000 jobs during construction and assembly and 150 permanent jobs as benefits, because, in their words, “jobs are a cost not a benefit. Jobs are a cost because people have to be paid for the inconvenience, exertion and discipline that they demand.”

Suffice to say, with Massachusetts still having high unemployment and with a shortage of skilled, high paying jobs of the type Cape Wind would provide, there are many who would gladly be willing to be “inconvenienced” with a good job to provide for their family. We believe that objective analysis of Cape Wind will examine Cape Wind’s ability to create jobs.

BHI

The job creation numbers cited here include both the workers hired by Cape Wind and the indirectly-created jobs that result from local purchases by Cape Wind and its employees. When it operates, Cape Wind would hire about 50 permanent workers directly; these may be “skilled, high paying jobs.” It is not clear that the other hundred or so jobs that are created indirectly will also be “skilled, high paying” positions.

If Cape Wind pays market wages, then it is not creating any additional social benefit; its workers would be just about as happy to work for someone else. On the other hand, if Cape Wind pays above-market wages (and we don’t know if it plans to do so), then its workers will indeed benefit to the extent that they are earning more than they otherwise would. This amounts to sharing some of the company’s profit with its workers; the workers are better off as a result, but the company is a bit worse off. Again, there is no net benefit to society from such a transfer.

Anyway, we have already explained that job or wage effects are not a legitimate part of the cost-benefit analysis on which our second report is centered. The taxpayers and rate payers are not subsidizing wind power as a make-work, pump-priming project. Rather they are (presumably, at least) subsidizing wind power because they expect the benefits that they will receive will exceed the costs that they will incur. They will, as our analysis shows, be disappointed in this expectation if the Cape Wind project goes forward.

Cape Wind

BHI goes on to refer to their previous, flawed, study of Cape Wind that focused on tourism and property values to mistakenly argue that the Cape would experience job losses as a result of fewer tourists coming if the wind farm was built. Their conclusion is mistaken because they base it upon survey results of a very small percentage of tourists who responded that they would be less likely to spend time on the Cape if the project was built (the BHI report on that survey acknowledged that “tourists, on balance, favor the windmills”) - yet they made no credible effort to examine the number of new tourists who would be attracted to come to Cape Cod upon learning that America’s first offshore wind farm had been built in Nantucket Sound and was providing ¾ of the Cape and Islands’ electricity from clean renewable wind power. The BHI study claims it does estimate new tourists but they base it upon a clumsy extrapolation of unrelated survey data, not from any credible effort to study new tourist potential. Worldwide, there is not a single report of a wind farm harming local tourism while there is substantial documentation of wind farms increasing tourism.

BHI

The survey to which Cape Wind refers was conducted with meticulous regard for the standards of survey research. We contracted with an independent survey research firm to conduct a thousand in-person interviews of tourists and homeowners in those towns on Cape Cod and the Islands that would be most affected by the wind farm. Based on the responses of the tourists surveyed, we estimated that tourist spending on the Cape and Islands would fall, despite the fact that some people would stay longer (or visit) as a result of the windmills. If Cape Wind does not like our methodology, it is free to conduct its own survey and, as we did, publish the results irrespective of the findings.

That “clumsy extrapolation” to measure who might visit the Cape was based on sensible assumptions, and is the best estimate that we have seen to date. The existence of “substantial documentation” of wind farms increasing tourism is not compelling; we

*know that some people do go to see wind farms, but we found that some people are also put off by the visual effects. What is important is the **net** effect on tourist numbers, based on something more than anecdotes.*

Perhaps also, when tourists find out how little electricity the wind farm will produce, in comparison to the rest of New England or even just Massachusetts, some of the charm will disappear. It seems likely also that Canal Power Plant will continue to be an important supplier of fossil fuel energy after the wind farm comes online. Once tourists discover that piece of disconcerting news, they may find the Cape Wind project to be less progressive a step toward renewable energy than they expected.

Cape Wind

BHI does not consider electricity price savings to consumers to be a benefit. Rather, BHI views electricity price savings to consumers as *transfers* of money from power companies to consumers. Using BHI's logic, there is no compelling public benefit to stabilize and reduce electricity prices for consumers because that would result in less revenue going to the region's most expensive power providers. We are confident an objective analysis of Cape Wind will consider reduced energy prices as a public benefit.

BHI

We show that the effect of the Cape Wind project on electricity prices would be temporary, lasting about one year. During this period, it would mean (very) slightly cheaper electricity for consumers (mainly commercial users), and less revenue to electricity producers. When demand rises to absorb Cape Wind's production, this effect would end.

Cape Wind

BHI goes on to mistakenly assert that Cape Wind's electric price savings would only occur in its first year of operation. Regardless of which year of Cape Wind's operations you consider, Cape Wind would bid into the bottom of the "bid stack" displacing what would have been the highest bid accepted into the market - the highest bid sets the market clearing price that all generators get paid - by reducing this by some increment, Cape Wind reduces the price all electricity providers get paid - this will be true in each and every year of Cape Wind's operation.

BHI

It is true that Cape Wind's power will always displace the highest-cost producer; for that matter, anyone else producing electricity (e.g. nuclear power plants) may also be considered as displacing the highest bid accepted into the market.

The point is that after electricity demand rises to absorb Cape Wind's output – this would take about a year – the market price would return to its previous level, and once again induce other investors to enter the market. It is then they, and not Cape Wind, who could claim credit for any further downward pressure on prices. It is false advertising to promise a permanent saving to consumers.

Cape Wind

If you remove Cape Wind's own private sector investment into building the wind farm, the BHI "societal cost / benefit" analysis finds that the public benefits of the Cape Wind project are overwhelming and outweigh the costs by a 3 to 1 margin.

BHI

This computation is not legitimate. Using the numbers from Table A, it claims that the costs that are “external” to Cape Wind (\$25.6m for grid integration and \$39.2m for environmental effects) are a third of the external benefits (\$97.9 in saved capital costs, \$107.4m in reduced emissions, and \$6.8m in greater energy independence). By this logic, Cape Wind would be left with project costs of \$882.4m and project benefits of \$523.3m, which hardly looks like a viable private sector investment.

What gives? The main flaw is that Cape Wind is ignoring the large subsidies that the rest of society would be providing to it. Our report puts the total \$241 million. And this figure should be included in any “societal cost/benefit analysis.”

Indeed, we arguably understated the subsidy Cape Wind would receive. In our study, we limited the Cape Wind subsidy to just the public contributions to its net profits that would result from the fact that Cape Wind would provide renewable energy. When we also count the various tax breaks, particularly accelerated depreciation, to which Cape Wind would be entitled, however, we come to a subsidy of \$400.8 million.

This larger number is, by the way, useful for showing an alternative method of arriving at our finding that the net cost of the project (to society) would be \$211.8 million. Consider the following table (all numbers in \$m):

Benefits	
Return on equity	41.7
Capital costs saved	97.9
Emissions reduced	107.4
Greater energy independence	6.8
Total Benefits	253.8
Costs	
Grid integration	25.6
Environmental effects	39.2
Adjusted subsidy	400.8
Total Costs	465.6
Total Benefits – Total Costs	(211.8)

The principle of double-entry bookkeeping permits us to arrive at the same number as the one arrived at in our report by taking the private benefit to Cape Wind (the return on equity) and then adding the “external benefits” (such as emissions reduced) and then subtracting the “external costs” (including the adjusted subsidy). This approach may make our methodology more clear, even as it shows that Cape Wind erred by faulting the approach employed in our study.

Cape Wind

BHI chooses to regard freely chosen private sector investments to build an offshore wind farm as, by far, the largest societal cost. Perhaps this is because BHI is most experienced in evaluating public sector projects and initiatives that they fail to distinguish the difference in privately raised financing as not representing a risk to the public. Furthermore, Cape Wind has committed to funding a decommissioning of the project in the event of non-performance, removing even that risk from the public.

BHI

*Again, this is wrong. In performing a cost-benefit analysis, it is necessary to compute **all** the costs, including the private costs, and compare the total economic costs thus obtained to the total economic benefits. This is standard operating procedure, as Cape Wind or anyone could easily determine by consulting any of the numerous texts and examples that are available on the subject. Perhaps Cape Wind is used to evaluating private projects for which only the profit motive counts. When it comes to public projects or publicly-supported projects, the calculus changes.*

Cape Wind

BHI's cost category of "environmental effects" reveals shoddy, unprofessional methodology. A distant second to private sector investment as a BHI "societal cost" of Cape Wind is what they define as "environmental effects". How do they make this calculation? They base it entirely upon the survey results of one question posed last summer to several hundred homeowners and tourists on Cape Cod.

To fully appreciate the methodology BHI used in making this calculation, imagine that you were a tourist on vacation visiting Cape Cod during the summer of 2003. A friendly college student approaches you and asks if you would be willing to take a survey about a proposed offshore wind farm - as an inducement the student offers you your choice of a pair of movie theater tickets or a \$10 gift certificate at Dunkin' Donuts. Feeling in the mood for an iced coffee or 3 seeing a free movie, you agree. You are shown visual simulations of Cape Wind prepared by the Alliance to Protect Nantucket Sound and asked a series of questions.

Many minutes later, you are asked questions #30 and #31; it is the numeric results of the answers to question #31 which will become the entire BHI calculation of the "societal costs" of Cape Wind from "environmental effects".

Question #30 reads: "Federal Common Law holds that national parks and other public lands are "owned" by the government on behalf of the public. It has been argued that a private company, like Cape Wind, should be required to pay rent or royalties for its use of public lands. Do you agree?"

The majority of tourists, who answered "Yes" to question #30, were then asked #31, those tourists who answered, "no" were not asked question #31. Again, the responses to question #31 comprise BHI's calculation of Cape Wind's "societal costs" from "environmental effects", the second largest "societal cost" in their study.

Question #31 reads, "Currently, oil and gas facilities operating in federal waters pay royalties as a percentage of their revenue. What percentage do you feel would be appropriate for a wind energy facility operating in federal waters?" Remember, imagine that you are a tourist on summer vacation hoping to get some free iced coffee or a free movie, you've just been asked dozens of questions, and now, being given very little context, you are asked to make what is normally a complex calculation made by public policy professionals.

BHI

This reasoning is an example of a time-honored but off-putting rhetorical device: Denigrate any view except your own as lacking sophistication and expertise. Cape Wind's criticism suggests that only Cape Wind and its hired experts know enough to

decide on a project that would, in fact, affect the very tourists and homeowners that we interviewed.

*At any rate, most of the respondents to our survey listened to the questions carefully and gave thoughtful answers. Our survey followed best practice, and used generally accepted procedures for contingent valuation surveys. Details are provided in our report **Blowing in the Wind** (October 2003), available on-line at www.beaconhill.org. As is clear from the above, colorful description, the survey asked about more than just “royalties,” and is rich in detail and nuance. The visual simulations were prepared especially for our survey by a professional firm, Earth Tech. In these simulations, the windmills look far less obtrusive than they do in other such simulations that have been used from time to time.*

Cape Wind

Moreover, the very small amount of context you are provided in the question to help you make a decision is extremely misleading. In fact, royalties paid by gas and oil facilities are based upon the concept of minerals extraction. The idea is that minerals like oil or gas in the seabed belong to the public and that if a private company is given permission to deplete those finite, publicly owned and valuable minerals, that the companies should pay a hefty royalty for having the privilege of doing so. Compare this with a wind energy application to locate structures into the public’s seabed to harvest a clean, renewable and inexhaustible resource – the wind. While it is possible that Congress may determine that it is appropriate for offshore wind energy producers to pay some type of occupation fee or rent, it would NOT be modeled upon a minerals extraction royalty.

BHI

This is a distinction without a difference. The fact that minerals extracted from the sea are exhaustible is not the basis for charging royalties. Rather, it is the fact that minerals are a scarce resource for which there are competing uses that is the basis for charging royalties. If someone writes a book, he gets a “royalty” as a reward for the application of his time and energy to the writing of the book, rather than to some other purpose. Like someone who writes a book, the seabed on which Cape Wind would install its wind mills has alternative uses. One such use is wind power. Another is providing an unobstructed view of the Sound and easy passage for pleasure and commercial craft, as well as open air through which birds may pass without fear of being shredded by the blades of a wind mill. When tourists and homeowners suggest that Cape Wind should pay a royalty for the privilege of using the Sound for its own purposes, they are reflecting an understanding of this principle.

Indeed, it is this principle that underlies the common practice whereby wind farm operators pay royalties to operate land-base sites. Perhaps this time it is the respondents to our survey, and not Cape Wind, that are the more sophisticated when it comes to economics.

Anyway, it turns out that the environmental costs measured by our study are not important to our findings. Even if those costs were ignored, the project would fail a cost-benefit test. Another way of putting it is that Cape Codders who oppose the wind farm need not fear that they are doing so out of any NIMBY motive. The project fails a cost-benefit test even if there is no consideration of its effects on Cape Cod’s amenities and environment.

Cape Wind

Though not part of their direct calculation of costs/benefits, BHI does include the “costs using expected property value” in Table 1 as a reference. In their survey of Cape Cod homeowners in the summer of 2003, they asked if they thought their property values would go down if Cape Wind were built. Although 79% responded that they thought it would have no impact, BHI took the 21% who thought it would and asked them by how much it would harm real estate values to come up with their calculation of “real estate value losses” of Cape Wind.

BHI’s real estate value “damage” assessment is based upon the personal opinions of a minority of respondents on Cape Cod who have been exposed to a two-year campaign by project opponents trying to instill those very fears. While fears of real estate value losses from wind farms, are not uncommon, follow up studies done after construction have not borne out those fears. And there are no reports of offshore wind farms in Europe harming waterfront real estate prices which there, like here, tend to be the most highly valued properties.

BHI

We have the impression that Cape Wind has been conducting a rather vigorous campaign of its own in support of the wind farm. As for the methodology we employed, we do not think that studies of wind farms located at other sites are reliable guides to the likely effects of this project on property values. In particular, wind farms at other sites pay property taxes and royalties, whereas this one will not. Anyway, as Cape Wind admits, these findings are not used in our cost-benefit analysis.

Cape Wind

BHI’s analysis of benefits resulting from less reliance in imported oil is basically sound, but they do rely upon a report published in 1997. It seems likely that the events of 2001 and the war on terrorism have increased this value beyond calculations performed in 1997. It is also worth remembering that here in New England, much of the natural gas being used in power plants is also imported. The Liquid Natural Gas being shipped through Boston Harbor is coming from many of the same unstable parts of the world that supply our oil. Even coal cannot be thought of as a purely domestic product. In fact, most of the coal burned in Massachusetts’ power plants is imported from mines in Columbia.

BHI

In undertaking our analysis, we have adjusted the 1997 figures upwards to reflect inflation. Even if our estimate of the energy independence effects were doubled, the net economic loss of this project would only be reduced from \$211.8 million to \$205.0 million.

Cape Wind

BHI offers a critique of the federal renewable energy Production Tax Credit (PTC) and the Massachusetts Renewable Portfolio Standard (RPS) as providing “excessive” financial encouragement to a wind farm like Cape Wind. To evaluate that critique, it is instructive to review the purpose of these programs.

The federal government’s now expired Production Tax Credit is expected to be reinstated as it enjoys broad bipartisan support. It is an incentive the federal government provides to the private

sector to produce renewable energy in the U.S. because of the federal government's recognition of the public benefits renewable energy provides including improved environmental quality, greater energy independence, and in creating more jobs per megawatt hour than of other energy sources. Congress also approved the PTC in recognition that the federal government had long provided various and substantial subsidies to fossil fuel and nuclear energy production. The PTC for renewable energy has also been supported as a form of the "polluter pays" principle in recognition that fossil fuel power producers are not charged for the environmental and human health damages caused by their pollutant emissions, therefore this support is given to nonpolluting energy as a way to help address those economic societal externalities.

The federal PTC and the Massachusetts RPS are both designed to not provide up-front funding, but rather, to reward success by providing an incentive tied to the amount of renewable energy actually produced. The Massachusetts RPS recognized the local benefits associated with local and regional renewable energy projects such as jobs creation, air quality improvements, and energy diversity benefits.

In a letter written to permitting authorities of Cape Wind in December 2001, the Massachusetts House and Senate Energy and Government Regulations Committee Chairs, Daniel Bosley, John Binienda, Michael Morrissey, and Susan Fargo, wrote:

"...as the chief architects of the Restructuring Act, we included a provision creating a Renewable Portfolio Standard as the environmental cornerstone of the Act. We envisioned that the RPS program would serve as a market incentive that would encourage the development of affordable, efficient, reliable and clean energy resources in the Commonwealth. We believe it critical, as a matter of public policy, that renewable energy resources be developed within the Commonwealth so that Massachusetts residents could derive the maximum environmental benefits possible."

"Cape Wind is exactly the type of project we envisioned when we enacted the Restructuring Act. The 420 MW Wind Park proposed by Cape Wind Associates will provide affordable, efficient, reliable and clean energy. Equally important, it will provide jobs and environmental benefits for Massachusetts residents. It is a critical component in maintaining fuel diversity in the region, which is already exacerbated by an aging fleet of plants, government regulations and an overdependence on foreign fuel supply."

BHI's critique of Cape Wind benefiting from the RPS also neglects the fact that the RPS exists with or without Cape Wind. In fact, Massachusetts Commissioner of the Division of Energy Resources, David O'Connor, in written comments to the Massachusetts Technology Collaborative's Offshore Wind Stakeholders Process, stated that a project like Cape Wind would reduce the implementation costs of the RPS to Massachusetts' electricity consumers.

BHI

We agree that the PTC and RPS are legitimate vehicles of public policy, and that some subsidization of wind power is appropriate. And we understand the intentions behind these programs.

Unfortunately for Cape Wind, however, intentions are not enough. No project should be subsidized at just any cost. The relevant question is: how much subsidy is too much? And we answer this: the subsidy that Cape Wind would get is excessive, to the tune of \$74 million.

Cape Wind

Finally, BHI's analysis of the superiority, in their view, of the economics of land-based wind farms developed in Texas to wind power projects in Massachusetts is incomplete. BHI neglects the fact that Texas has its own, generous, RPS program that is widely credited with helping make the "wind boom" in Texas such a success over the past six years.

BHI

The Texas RPS program has been important; but we find evidence that the cost of wind power from Texas wind farms is far below that of Cape Wind's Nantucket Sound project. It is simply expensive to erect and service windmills at sea.

Cape Wind

When corrected for omitted results and faulty methodology, BHI's economic analysis finds overwhelming public benefit in proceeding with the Cape Wind project.

BHI

In fact, as our analysis shows, the Cape Wind project is a lemon. Cape Wind, for its part, has chosen to deflect attention from this fact by making accusations that only reveal its innocence of the discipline of economics. Nothing that Cape Wind claims and no amount of criticism that it hurls our way will change the reality here. The project will turn Nantucket Sound into an industrial park chiefly for the benefit of Cape Wind and not for that of the greater society.

Finally, we notice that Cape Wind says nothing about our finding that the project may be financially shaky, even with the huge subsidy that it would receive. Specifically, we find that there is a 12% chance that it will end up losing \$50 million, a result of the high cost of building and operating in the Sound, along with the vagaries of wind speed and other factors. Is this project a potential money-loser for the developers as well as for society as a whole? Inquiring minds want to know.

But this is not our concern. Our concern is that Cape Wind acquire an understanding of cost-benefit analysis before it attacks someone else's attempt to assess the project's value to the taxpayers and rate payers who would have to pay for it. Once they have cleared that hurdle, we'd be happy to debate the fine points of our estimate.

To reiterate, we find that the economic costs of the Cape Wind project would exceed the economic benefits by \$211.8 million. This waste of resources would be brought about because the subsidies to wind power are excessive.