
Committee Meeting

of

SENATE LEGISLATIVE OVERSIGHT COMMITTEE

*"Testimony from invited guests regarding the implementation of the
Offshore Wind Economic Development Act"*

LOCATION: Committee Room 10
State House Annex
Trenton, New Jersey

DATE: January 28, 2013
1:00 p.m.

MEMBERS OF COMMITTEE PRESENT:

Senator Robert M. Gordon, Chair
Senator Barbara Buono, Vice Chair
Senator M. Teresa Ruiz
Senator Thomas H. Kean Jr.
Senator Joseph M. Kyrillos Jr.



ALSO PRESENT:

Michael Molimock
*Office of Legislative Services
Committee Aide*

Adam Neary
*Senate Majority
Committee Aide*

Brian Alpert
*Senate Republican
Committee Aide*

*Meeting Recorded and Transcribed by
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TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| Senator Jim Whelan District 2 | 5 |
| Chris Hart, Ph.D. Founder and Chief Executive Officer OPTIMUM Offshore Wind Energy Systems, LLC. | 10 |
| Paul J. Gallagher Sr., Esq. Chief Operating Officer Fishermen's Energy | 23 |
| Richard Palmer Vice President Weeks Marine | 27 |
| Jeff Tittel Director New Jersey Chapter Sierra Club | 36 |
| APPENDIX: | |
| Testimony submitted by Chris Hart, Ph.D. | 1x |
| Testimony submitted by Paul J. Gallagher Sr., Esq. | 5x |
| Letter addressed to Senate Legislative Oversight Committee, plus attachments from Stefanie A. Brand Director New Jersey Division of Rate Counsel | 7x |
| rs:1-45 | |

SENATOR ROBERT M. GORDON (Chair): Good afternoon, everyone. Thank you for being here.

I know Senator Whelan has an obligation with the State Government Committee, so I am going to take the liberty of getting us started. And I'm hopeful that some of our members will be arriving shortly.

If there is anyone who would like to testify who has not advised us of that, we have some slips out there, I'm told, so you can submit those. And we're happy to hear your testimony.

I have a short -- I promise, a short opening statement and then we will move on to our witnesses.

Good afternoon. We are here today to discuss the implementation of New Jersey's Offshore Wind Economic Development Act. This legislation, which was sponsored by Senator Kean and Senate President Sweeney, was signed by the Governor on August 19, 2010. The sponsors recognized that promoting the development of wind energy will yield both environmental and economic dividends for the State. The opportunity to reduce our dependence on nuclear power and fossil fuels, while creating a whole new industry-based New Jersey, led both Houses to support the legislation by wide margins.

Unfortunately, in the 30 months that have passed since enactment, there are few signs of any progress in implementing the program. Our objective today is to understand what is standing in the way. If additional legislative measures are needed, we want to learn what we can do to move the process forward.

The benefits of offshore wind power are well-understood. It's clean, renewable, and, best of all, homegrown here in New Jersey.

Development of offshore wind will reduce our need for foreign oil and will reduce our greenhouse gas emissions. After initial investments in construction, offshore wind facilities can produce electricity with minimal fuel costs and can help stabilize New Jersey's electric rates.

In addition to the environmental benefits, the timely construction of offshore wind facilities could be a tremendous economic development opportunity for our state. While Europe and China have already started producing energy from offshore wind facilities, the United States has yet to generate any offshore wind power despite longstanding bipartisan support from many coastal states.

Moreover, currently there are no domestic manufacturing facilities for the large turbines required for offshore wind facilities. Getting these first turbine manufacturers up and running in New Jersey is critically important. Economic history teaches us that the birthplace of an industry often becomes the center of that industry. Automobile manufacturing established itself in Michigan, steel became the driver of western Pennsylvania, and New Jersey became the nation's medicine cabinet because the Johnson brothers established a factory in New Brunswick.

If we can be the first, New Jersey can become the home base for the American offshore wind industry. The manufacturing facilities and ancillary services that can be established here to support the turbines off New Jersey's shores are likely to be the same companies that will serve the installations likely to rise off the shores of neighboring states.

The state of Iowa made a conscience decision to invest in the creation of onshore wind farms. As a result, that state enjoys cleaner, homegrown energy; and created large numbers of manufacturing installation

supply, research, and development jobs. The subsequent infusion of dollars into Iowa's communities has been the economic engine for that state.

We all recognize that our future economic growth depends on creating opportunities for new industries. We cannot depend on maturing industries like pharmaceuticals and telecommunications for future job growth. Offshore wind has the potential to be one of the next big things for New Jersey.

Senators Sweeney and Kean saw that potential in the Offshore Wind Economic Development Act. Hoping to jumpstart the wind industry, the Act established Offshore Wind Renewable Energy Certificate programs, or ORECs, to provide incentives for offshore wind generation projects. It also made available financial assistance and tax credits from existing programs for onshore businesses that construct components, assembly, and water -- and also for water access facilities to support the development of these projects. And yet more than two-and-a-half years later, the Act has yet to be implemented.

As a State we must recognize that the implementation of the law is not just a regulatory issue. No public official wants ratepayers to bear the cost of poor implementation, but we cannot afford to miss out on this unique environmental and economic development opportunity. If the economic development potential was not reason enough to move quickly, two recent financial developments heighten the pressure for timely implementation.

First, the U.S. Department of Energy has awarded \$4 million for the engineering, site evaluation, and planning of seven projects that will support offshore wind technologies in the United States. One of the

offshore wind applications now before the New Jersey Board of Public Utilities received one of these grants. If that New Jersey project can be launched and can be fully deployed by 2017, it will be able to compete for up to \$47 million in additional Federal funds. However, to be eligible for the Federal money, construction must begin in 2013.

Second, at the beginning of this month Congress approved a vital extension of the Investment Tax Credit, allowing 30 percent of an entire wind project's eligible capital cost to be claimed as a tax credit. Again, to be eligible for the Federal subsidy, construction must begin in a matter of months.

These two Federal programs would significantly reduce the cost of developing wind power off our coast, thereby increasing economic benefits to our state. It would be unfortunate if we were to miss this opportunity. It is my hope that today we can learn what we can collectively do to accelerate the implementation of this program.

I also -- I should say I also hope that we'd have the benefit of the testimony from the Board of Public Utilities, the agency that is at the heart of the implementation process. We had extended an invitation to both the Commissioners and the Division of Rate Counsel. Unfortunately, they were not able to be here today. However, the Rate Counsel Director, Stefanie Brand, has submitted written testimony for which we're grateful. And we will be reaching out to the BPU to hear their thoughts on these issues.

We do have a number of individuals here today ready to testify, and we look forward to hearing them.

I should say that it's also important to recognize that our goal today really is to focus on the implementation process in general. We really don't want to get into judging the merits of any particular application. We understand that that's the task of the Board of Public Utilities. In a quasi-judicial process we don't want to get there. We want to learn more about this implementation process and how we can remove any impediments that may exist.

Because Senator Whelan, I know, has a Committee waiting for him, I'm going to invite him to speak first.

Senator Whelan.

I'm sorry. I'm still new at the Chairman business. I'm advised that I need to take a roll.

Would someone call the roll?

MR. MOLIMOCK (Committee Aide): Senator Kyrillos.

SENATOR KYRILLOS: I am here for the moment, Mr. Chair. I was going to whisper to you that I have to run down to the Judiciary Committee hearing. But I will keep tabs on this hearing.

SENATOR GORDON: Thank you.

SENATOR KYRILLOS: Thank you, Senator.

MR. MOLIMOCK: Senator Buono.

SENATOR BUONO: Present.

MR. MOLIMOCK: Senator Gordon.

SENATOR GORDON: Yes.

Thank you.

Senator Whelan.

SENATOR JIM WHELAN: Thank you, Mr. Chairman.

My testimony will be very brief because, quite honestly, you did a very thorough and complete job in terms of laying out the case of why we need to implement offshore wind as quickly as possible. We do lag behind the rest of the world. And the opportunity is there for us in New Jersey to be in the forefront, at least in this country, not only in terms of the locations of the windmills, but also in terms of the very key component you've identified, the manufacturing component.

Let's not make the mistake that we made with solar. We did a great job in New Jersey in terms of solar. Per capita we lead the country. It's great. But all the plates are manufactured in China. We used to have a glass industry in South Jersey. That's how Glassboro got its name. But we're still importing plates from China. So let's avoid that mistake.

In the interest of time, let me jump to just a couple of points. I think there is a frustration -- and I suspect you will hear from some of the potential companies today -- that the process has been one where it's ever changing. And it's not even like they're moving the goal post, it's like you show up for the football game and you find out you're playing soccer. And then you get ready for soccer, and now we're playing basketball. It has been an ever-changing regulatory system that has really led to frustration. I hope we're at the point where the BPU, quite honestly, is nailing that down. This is it, and let's go forward, and everybody knows what it is; and not an ever-changing set of regulations, potentially.

Secondly: Make sure the funding is secure from BPU and the Federal dollars that will flow. Some of that, frankly, is to preserve those funds from us -- the State Legislature, the Governor's Office, quite honestly -- so that we don't make a grab and balance the books for the rest of this

year's budget, and we make it work and defer the investment that we need into offshore.

And let me make just one last point. One of the controversies that has come up with offshore in other locations around the country-- You frequently hear communities or states say they don't want it. In Atlantic City, we are more than ready, willing, and able to accept this. In part, altruistically it's the right thing to do. But also, very honestly, our experience with the limited windmills that we have-- We have five windmills at the ACUA plant. Paul Gallagher is here; he could probably speak to that. I don't know if Paul is going to testify. The Atlantic County Utility Authority actually had so many requests that they had to set up tours for people who wanted to see it and school classes that wanted to take trips there. That's something that nobody anticipated, quite honestly. But now, all of a sudden, you have class trips going out there. It's grade school kids finding out about wind energy. And just regular tours driving down the road, pulling over, and wanting to know what is going on.

SENATOR GORDON: My understanding is that the Borgata charges more for a view of the turbines.

SENATOR WHELAN: I don't know if they actually charge more, but they actually do get requests for the marina district properties. Normally you would think people would want the ocean view, but people are saying, "We want the view of the windmills." So there is an attraction to them. And we, again, as a community -- and the proposals -- all the proposals I've seen -- I think I've seen most, if not all of them -- do have the line more or less centered off of Absecon Island, Atlantic City. So that issue is not an issue for us in New Jersey the way it was, say, up on Long Island

Sound or Nantucket where you had a lot of people jumping up and down saying, "We don't want those things. They're going to mar our view. They're going to do this. They're going to do that." We welcome them. We think they'll be an asset. We think-- Our experience has been that people like them.

And, again, for all the reasons that you have mentioned, I hope that we can get both the regulations set and not changed and changed again, and also the State financing piece under BPU set and not raided by our need to balance the books in some other area.

So, again, Mr. Chairman, thank you. And if there are any questions, I will be happy to try to answer them.

SENATOR GORDON: Thank you.

Anyone on the Committee with a question? (no response)

Is there anything that you can recommend that we can do legislatively to try to improve this process? Do we need to provide greater definition or guidance to the BPU?

SENATOR WHELAN: Well, I'd like to think the legislative pieces are in place. From the incentives for the companies in terms of the-- And I look at this -- again as you have described in your comments, Mr. Chair -- two pieces of this. One is the piece of the windmills out in the ocean that generate the power. The second is the manufacturing of the component parts -- the turbines and so on -- and then shipping them out there. I think between the bill that we passed that you alluded to and an EDA legislation, hopefully we are covered -- that there is an opportunity for a company to go to EDA and get some low-interest loans or grants to get

started. And it's not just the turbine piece. It's also the manufacturing piece in terms of windmill blades, and so on, and so forth.

Again, we're behind the rest of the world in this stuff. I don't want to see what happened with the solar stuff, where we import the panels from China, where we import the blades from Holland and then assemble them here. We had a once thriving boat industry in South Jersey. They work in fiberglass, they work in carbon fiber, the very materials that windmills are made out of at this point. Let's see if we can -- see if the EDA can support the transition of those companies. Some of them are padlocked, some of them are working with skeleton crews, quite honestly. Where at one time Egg Harbor Yacht probably employed 150 people, they might be down to 25 people right now. Those guys are literally either out of work or working at a job that they're, frankly, overqualified for. Because they're craftsmen and tradesmen, and they're bagging groceries at the supermarket -- not that there is anything wrong with that. But their skill level is such that they could be making windmill blades that are manufactured either in Iowa or in Europe.

SENATOR GORDON: One thing I have learned regarding the financing of these manufacturing facilities-- I was informed today that at least one of the grant programs that is supposed to provide the source of funding for these grants expires five years after enactment. I believe that was in 2007. So I think one of the programs has expired. And unless someone tells me otherwise, we're going to have to reauthorize that if we want to continue providing those kinds of grants.

SENATOR WHELAN: Sign me up, Mr. Chairman. I'd be happy to be part of that reauthorization.

SENATOR GORDON: If there are no other questions--
Senator Kean, any questions?

SENATOR KEAN: No.

SENATOR GORDON: We'll move on.

Thank you very much.

SENATOR WHELAN: Thank you, Mr. Chairman.

SENATOR BUONO: Mr. Chairman, I have to go to his
Committee where I have to vote. (laughter)

SENATOR GORDON: We are next going to hear from Dr.
Christopher Hart, an offshore wind consultant formerly with the U.S.
Department of Energy.

Dr. Hart.

C H R I S H A R T, Ph.D.: Thank you, Chairman Gordon and
Committee. As you mentioned, my name is Chris Hart. Thank you very
much for the opportunity to speak with you all today on the topic of
offshore wind.

By way of background, I do have a Ph.D. in naval architecture.
I have also picked up an MBA. Before that, I disarmed Improvised
Explosive Devices on the battlefields of the war on terror. And when I was
in Washington, D.C. most recently, I negotiated with lawmakers in both
Houses of Congress. I'm not going to make any comments on which of
those two were easier -- the IEDs or the negotiating with Congress
members. But, again, I appreciate the opportunity to speak with you today.

Perhaps most applicable to this conversation, until June of
2012, I served as the Founding Offshore Wind Manager at the U.S. States
Department of Energy. As such, I led the drafting and publication of the

National Offshore Wind Strategy; conceived and raised the funding for the Offshore Wind Innovation and Demonstration Initiative, which grew from that Strategy; and built the team that is now executing both the Initiative and the document itself.

In all, this effort grew from an idea to a program that now has a value of over \$500 million -- and in a lifetime of about seven years -- in the two years that I held that post. So it was a great role to be in.

Since leaving DOE in June of 2012, I have been consulting to and advising the global offshore wind industry, with a particular focus on bringing its benefits here to these United States.

And so it is from this background and set of experiences that I take great pleasure in congratulating the State of New Jersey on its vision and foresight in passing the Offshore Wind Economic Development Act in 2010. It is without a doubt that this vision and foresight was informed by the offshore wind industry in Europe, but I will spend a few moments now just giving my own personal interpretation of that European offshore wind industry through the experience that I had at the Department of Energy and since then.

It's impossible to ignore that offshore wind industry in Europe is big business. Yesterday I saw that 4,994 megawatts are currently installed and generating electricity in Europe. The United Kingdom, which is currently the global leader in installed capacity, has just around 3,000 megawatts. So to put that into perspective, that's three large nuclear or coal-fired power plants providing electricity for right around 2 million homes in the U.K. The U.K. is currently in its third round of development. That third round will be much larger than the first two. Projections saw

that that third round will result in 35,000 megawatts of installed capacity by the year 2020.

One development alone, the Dogger Bank project, will be the largest renewable development on earth. It's planned between 9,000 and 13,000 megawatts just for that one project. To put this further into perspective, the Dogger Bank project is \$50 billion, approximately, of capital expenditure. The entire Round 3 will be just over \$150 billion. So, again, this is big business.

Who are the players that are going to make this happen in Europe? They are the largest industrial companies in Europe. DONG Energy -- it's a Danish company -- capital with a market cap of around \$15 billion. Statoil, number 67 on the Global 500, is another large company. RWE, SSE -- Scottish and southern -- Statkraft, Iberdrola, Vattenfall, Siemens. These are all very, very large companies and, like I said, some of the largest industrial players in Europe. And they are investing very big in the offshore wind.

So what about jobs? Does this big business bring jobs? Yes, there are jobs. I'm not going to quote the job numbers from Europe, but I think perhaps it would be more compelling to give two short vignettes about my favorite wind ports that I visited in Europe. The first is in the U.K.; it's called Ramsgate. The second is in Denmark; it's called Esbjerg. Both of these ports service several U.K. Round 2 farms, including the London Array project, which recently finished its first phase. At 630 megawatts, it's the largest offshore wind farm in the world. You may have heard of Germany's port of Bremerhaven. I'm not going to talk much about

Bremerhaven, but that's another port that's made a tremendous effort at publicizing the benefits to the local economy.

But focusing on Ramsgate first, I arrived in Ramsgate on the early morning train from King's Cross in London. As the sun rose over the sea, it was impossible not to recognize the local population was very much challenged and depressed. But once I got into the port, that changed sharply and the port was bustling with activity in the port. In particular, the attendant in the train station was quick to sing the praises of the new industry which had arisen in her hometown.

The mansions on the bluff overlooking the port have been recently refurbished by the workers who are moving up in the world. Local restaurants were busy. Taxis were much nicer in Ramsgate than they were in the surrounding areas.

Another example: Similar things could be seen across the water in Esbjerg, in Denmark. Esbjerg is a tourist destination on the western coast of the Jutland Peninsula, in Denmark. Whereas Ramsgate was more of the commissioning and management side of the installations, Esbjerg was where the heavy industrial activities were centered. Nacelles, blades, and tower sections were installed in this port as far as the eye could see. And these are huge structures. If you haven't seen an offshore wind turbine, they're much larger than their onshore wind cousins. These are 3.6 megawatt turbines with 120 meter diameter blades. These are very, very large structures. The towers are as tall as a football field is long.

The MPI Discovery and Adventure -- two enormous jack-up vessels that are each capable of transporting nine turbines blade and tower assemblies, and installing them in one trip -- were coming in and out of the

port in Esbjerg, making stops and unloading and loading components and personnel.

Again, the town of Esbjerg was much the better for the wear. I specifically remember a pub we stopped in after the tour with my host. The proprietor of the pub was quick and proud to let me know that before the arrival of offshore wind industry he was looking to close down, and now he was having to hire more help.

So, yes, offshore wind is big business in Europe. But just because it's big industry in Europe it doesn't necessarily mean it's going to be a big industry here in the United States. Things will develop differently here. And that was the second thing that impressed me about the OWEDA legislation. The vision and foresight made up a foundation that allows New Jersey to realized these differences between America and Europe, and to be the initial installation and be the first phase of offshore wind in this country. Just because offshore wind is big business in Europe, it doesn't necessarily mean that it's going to be big business here, as I mentioned.

We see jobs and economic growth that these European ports have enjoyed. The offshore wind industry is going to have to develop differently here. We can't legislate the growth of the industry as has been done in Europe. You can't mandate the growth of the industry. Instead, in America, you have to do it a different way. You have to innovate the growth of the industry. I will talk a little bit about that now.

We won't see the rich subsidy regimes, and we shouldn't see the rich subsidy regimes, given that Europe has a 20-year head start on America. We have to innovate financially in order to create mechanisms

that are creative and designed for this marketplace. We must innovate technologically in order to drive down the capital costs.

In New Jersey, you knew that already. In 2010, when you passed OWEDA legislation, you allowed for this approach by doing two things. First: Creating a new mechanism for funding offshore wind development -- namely the OREC, as was discussed earlier. And then you gave the opportunity for supporting the idea of a demonstration-scale farm that will test and prove all of the ideas and theories about how offshore wind should be deployed in America, thereby removing doubts in the minds of investors and enabling the unfettered growth of the industry here in this country.

Detractors may ask, "Why should New Jersey ratepayers pay to reduce the risk so New York bankers can benefit from this investment?" The answer to this question is simple: Due to the happy confluence of a number of factors in New Jersey, not the least of which is the OWEDA legislation, but also the proximity to a strong electric load; the shallow, wide continental shelf off of the coast of New Jersey; the strong ports in the state; the manufacturing infrastructure that is still comparatively vibrant; and the presence of the maritime know-how in companies such as Cranford-based Weeks Marine-- We'll hear later from representatives from Weeks Marine and Clermont-based Northstar Marine, just to name a few. These factors position New Jersey squarely at the head of the race to win the jobs that will surely come from the creation of this 21st century industry.

If you are looking for examples of other states that were successful in capitalizing on just such an opportunity, we have the comments from the Chairman on the state of Michigan and the automobile

industry. And also, last January 17, the former governor of Iowa, Chet Culver, spoke at the New Jersey Alliance for Action event in Holmdel and lauded the benefits of the onshore industry in his state. The U.S. currently leads the world in installed capacity onshore wind. And his state of Iowa, as well as my home states of Montana and South Dakota, both benefited tremendously from these onshore investments and have seen considerable benefits.

So although New Jersey may now be in the lead in the race for economic development benefits similar to those seen in Michigan, and Iowa, and other states, other states in the Eastern seaboard, and indeed around the country, are hot in pursuit. The U.S. Department of Energy is supporting seven projects -- seven demonstration (indiscernible) projects around the country. There is one project in the Great Lakes, there is one in the Gulf of Mexico, there is one on the West Coast, and there are four on the East Coast here -- one in Virginia, the project we've already mentioned in New Jersey, and two in Maine.

The way was cleared for the third-power purchase agreement in the United States for offshore wind when the Maine Public Utilities Commission conditionally approved the Norwegian energy giant Statoil's 12 megawatt project on January 24. The Maryland legislature introduced an offshore wind bill in early 2013 as well. Just a point of note, the Maryland legislation looks very similar to the New Jersey legislation. So it's another feather in the cap of someone recognizing that New Jersey got some things right.

And lastly, as a last point, the Investment Tax Credit, which extends -- again, the Chairman mentioned this -- extends the benefits of the

Investment Tax Credit to projects that are built starting in 2013. All of these movements will soon be followed by additional movements by other states in the coastal regions of the country, and New Jersey's leadership position perhaps will be lost.

So the time to act is now. Capitalize on the position of leadership created by your legislative vision and foresight. Seize the opportunity to own an outsized portion of the jobs and economic development that will accompany this new industry. Reclaim your position as a seat of innovation and bold action. I'll say it again, the time to act is now.

I appreciate the opportunity to speak and I welcome any questions.

SENATOR GORDON: Thank you, Dr. Hart.

Just picking up on your last point, how much time do you think we have before our neighboring states take to the field and assume a leadership position and we lose the opportunity to be first?

DR. HART: Well, I think in order to answer that question you can look at the seven projects that the Department of Energy has funded as just a very pragmatic way to see what's happening. There will be down-select decisions as those seven projects will become three, and those three projects will be given an additional \$47 million. And that down-selection process happens in one year. Those three will be installed and generating electricity in 2017. So you can see by that time, for sure, all of the permitting processes need to go -- proceed that construction and generation effort. So you step back several years from that -- and I would say the decision is imminent, especially looking at that announcement from the

state of Maine. They're looking at a very similar calculus that you are as far as cost-benefits and economic development. And everybody is reaching for that first -- and those major investments.

Just one point along those lines: Three big pieces -- three big prizes in order to capture over 70 percent of the capital expenditure for a project: the turbines manufacturer, the installation and operation of maintenance, infrastructure, and the foundation manufacturing. And there has already been some interesting developments in the State of New Jersey to -- that would indicate the solidification of one of those prizes. And I think that's another -- although I didn't mention it in my benefits to the State -- that's another thing to consider when you look at the State of New Jersey.

SENATOR GORDON: You've had the opportunity to see what's going on in other states. How would you characterize the implementation process in New Jersey, if you're familiar with it? I mean, what's been the experience since the legislation has been passed? And what, if anything, can we do to facilitate the process?

DR. HART: I think this is a brand new industry, and it's an industry that could be very important and could be transformative to a state that's successful in bringing this industry to its shores. So a certain amount of prudence has to be observed when making decisions like that. So I understand that that level of prudence is being brought to bear on this process.

When I look at states like Maine and Virginia, Maryland, Delaware, you see similar levels of prudence and care taken in those states

as well. But at some point it is time to act. And I think that time is now here.

SENATOR GORDON: Senator Whelan had made reference to changes being promoted by the BPU, changing the rules of the game. Has that been your impression of the process?

DR. HART: I haven't been close enough to the process to comment on that, Senator. But again I think hats off to New Jersey for passing the law in 2010. And I think there is a tremendous opportunity here that should be capitalized upon.

SENATOR GORDON: Okay.

Any other members have questions?

Senator Kean.

SENATOR KEAN: Thank you for your testimony. As one of the prime sponsors of the bill, I appreciate your kind words on its behalf.

As you're looking at the strategic development of infrastructure -- whether it be building the turbines, doing the ports, creating economic opportunity-- Some of the examples you've brought up are obviously -- especially in the European context -- obviously different countries competing against each other for this type of opportunity.

If you're looking on the eastern seaboard, and you're looking at-- Obviously there is the Paulsboro perspective and other (indiscernible) I would argue would be up in the Perth Amboy, Woodbridge area -- would be another area where we should try to pursue this, which is inadvertently left out of the original bill.

But how close could some of the economic centers be in terms of getting the parts out to whatever the wind -- the construction areas

would be. For example, are we directly competing with Maine, or are we more likely to say that we're directly competing between Virginia and the Cape? Can you walk through that type of-- If we do the infrastructure here, how far out and how far wide would that strategic advantage be?

DR. HART: There have been analyses that were completed that say you could have one turbine supplier for the Northeast and Mid-Atlantic north. So your turbine supplier could supply projects all the way up to Maine. And there have been others that say that depending on demand, etc., that that could not be the case. So a lot depends on assumptions.

What could definitely be said though is that you only make these sorts of decisions once. You build a turbine manufacturing plant in New Jersey, you don't build another one very, very shortly thereafter in the near vicinity. And the same can be said for a foundation manufacturing facility as well.

Operations and maintenance is a little bit different. You'll see capabilities for operations and maintenance being more centrally located because they're much more -- the variability of operations and maintenance costs to distances is much higher. But I think you could-- Without getting into too many details about assumptions, I think you could say that the Mid-Atlantic could benefit from a large manufacturer and the Northeast could benefit from a large manufacturer. And that would be a pretty logical way to break things down.

SENATOR KEAN: Fair enough.

Thank you.

SENATOR GORDON: Senator Ruiz.

SENATOR RUIZ: Chairman, thank you. And my apologies for my lateness.

My question -- and I'm not sure if you'll be able to share any information -- but it seems that you have had experiences with other states. Do we have the workforce here in New Jersey that would be readily available to take on the jobs? Are we thinking ahead simultaneously to build curriculums with our vocational school settings and our county colleges to create leveraging of apprenticeship programs so that, when we do this, we have the actual workforce that is trained and ready for production?

I'm not certain who that would be directed to, but my focus is always parochial and it's education. So I just think that there are great opportunities.

SENATOR KEAN: Shocking, Madam Chair. (laughter)

SENATOR RUIZ: Sorry. It's part of economic development, my friends.

I just think there is great opportunity here, and I just don't -- you know, to be sure that that's part of the conversation so that when we're up and running, we're really up and running.

DR. HART: I think there is a tremendous--

SENATOR RUIZ: Or up and spinning. (laughter)

DR. HART: There is a tremendous amount of capability in the State of New Jersey. As I mentioned, that's one of the benefits. You have strong ports, you have strong marine infrastructure. Initial analysis shows that the scale of development that is envisioned by the OWEDA legislation would not present a substantial challenge on the local workforce. That being said, there is-- Substantial interest has been expressed already at the

January 17 meeting that I mentioned in Holmdel. It was attended by over 250 representatives of potential supply chain members. There was labor represented there as well. So interest is very high. I think some of the other testimonies will confirm that number. But, again, the initial indication is that the scale that you're envisioning is very well supported by existing capabilities.

SENATOR GORDON: Dr. Hart, have you been following the process undertaken by the BPU to put a financing mechanism in place to implement the OREC program -- the so-called *invoicing* option I believe was under discussion? Have you been following that at all? Are you able to comment on that?

DR. HART: I've loosely been following it. I think there are probably others who could comment more richly.

SENATOR GORDON: I'll reserve that question for others.

Any other questions? (no response)

Okay. Thank you very much, Dr. Hart.

DR. HART: Thanks.

SENATOR GORDON: Senator Kean.

SENATOR KEAN: If I may, through the Chair, do you have a copy of your testimony or we can get OLS to do a transcript of the testimony for the members?

DR. HART: No problem.

SENATOR KEAN: Thank you.

SENATOR GORDON: Thank you.

We are going to hear now from a panel of witnesses consisting of Paul Gallagher, Chief Operating Officer, Fishermen's Energy; Rick

Palmer, Vice President of Weeks Marine; and Steven Gabel, President of Gabel Associates.

I'm told that Mr. Gabel is not testifying.

Whoever would like to start--

PAUL J. GALLAGHER SR., ESQ.: I was hoping Mr. Gabel would answer that last question.

Good morning. My name is Paul Gallagher. I was recently named Chief Operating Officer of Fishermen's Energy, a company that I help found and served as General Counsel since 2007.

I want to make a few comments about Senator Whelan's comments. When Senator Whelan became Mayor of Atlantic City, I was his first-term city solicitor, so we go back a little bit. And I appreciate his support for our project.

Anecdotally, I'm not sure that the Borgata really charges a premium for their views of the wind farm, but I know that before the wind farm was opened, no one ever walked in and said, "Can I have a room that looks at the wastewater plant?" (laughter)

As of last month, and for 12 years before that, I was General Counsel of the Atlantic County Utilities Authority. I was the project manager for the JAW project, the wind farm in Atlantic City -- the land-based wind farm. And I can tell you that in the 25 years before that was commissioned in 2005, the wastewater plant had about 25 visitors. In the 7 years since 2005, it's had over 27,000 visitors -- students, elected officials, contractors, manufacturers from throughout the state, throughout the eastern seaboard, actually throughout the world. And it does have a very

unique aspect -- that people want to go and see them, because people like them.

Fishermen's Energy is a developer of offshore wind energy projects. And it was funded by New Jersey's commercial fishermen who already own and operate much of that \$1.3 billion industry here in New Jersey. And they wanted to respond to the public's need to develop the ocean for renewable wind energy.

Fishermen's goal is to turn Atlantic coastal waters into an unmatched source of clean energy, while maintaining a vibrant commercial fishing industry. Fishermen's has partnered with experienced professionals in the renewable energy and the offshore wind business community to propose, plan, and build responsible projects to serve the public's need for safe renewable energy. Fishermen's intends to harvest the wind and the sea, side by side, in an environmentally responsible and sustainable manner.

The first Fishermen's project is to build five turbines, totaling 25 megawatts, approximately 2.8 miles off the shore of Atlantic City in State water. The project will benefit New Jersey economically and environmentally, as well as facilitate the State's emergence as the national leader in offshore wind. Atlantic City has the opportunity to be the birthplace of offshore wind in the Americas.

The Project has received all of its permits and all of its approvals from the New Jersey Department of Environmental Protection, the U.S. Army Corps of Engineers, the City of Atlantic City, and other reviewing agencies. It was recently -- last month -- awarded an Advanced Technology Grant by the U.S. Department of Energy -- one of seven winners in a competition that over 50 people entered -- 50 projects entered.

The single remaining approval is pending at the New Jersey Board of Public Utilities where it requires designation as a qualified project under the Offshore Wind Economic Development Act, and thereby be approved to recover its costs through the sale of Offshore Wind Renewable Energy Certificates, or ORECs. This will allow the project to move to financial close and commence construction. More importantly, with action by the BPU no later than the second quarter of 2013, the project can commence construction in 2013 and qualify for the recently reenacted Federal Investment Tax Credit which will further reduce OREC costs.

Senator, if I could answer one of the questions you had for Mr. Hart -- Dr. Hart, right then and there-- There are three projects which qualify for the ITC: Fishermen's; Cape Wind; and a project in Rhode Island, Deepwater. And I think that the availability of the ITC for those three projects, if they commence in 2013, hastens what will happen in the offshore industry on the East Coast.

Fishermen's has worked to maximize the utilization of New Jersey-based companies and workers for construction and operations. Almost \$80 million will be spent directly in New Jersey during construction, and another \$2.5 million annually thereafter for operations and maintenance. Additional benefits include reduced emissions from fossil fuels, increased tourism dollars in Atlantic City, and the opportunity for New Jersey to enhance its historic role as a cradle of innovation -- to become the base for research, development, manufacturing, and assembly for this new 21st century industry.

Fishermen's has worked extensively to assemble a New Jersey-based consortium that would implement, operate, and maintain this project

including Weeks Marine, from Cranford, who you will hear from next; Northstar Marine, from Clermont; Gabel Associates, located in Highland Park; DCO Energy, in Hammonton; and Folsom, and others. We'll center our construction operations at the South Jersey Port in Camden, and in Paulsboro eventually.

Overall this will result in over 50 percent of the capital cost of this project landing in New Jersey. And you have to remember that there are no domestic, offshore wind turbines. So that whole large piece is never a domestic expense until we bring manufacturing here to New Jersey. Fishermen's has clearly stated a willingness to make this a build-New Jersey project, and will enter contractual obligations to demonstrate the job creation and positive impact that offshore wind will bring to New Jersey. In documenting this economic impact on New Jersey, Fishermen's used the same software and multipliers that were used recently by the BPU in substantiating the positive benefits in the solar market. We also think that the process of our application, and certainly the process if we build and construct this, are very important lessons learned for what we hope will be a much larger industry going forward.

New Jersey has quite an opportunity for economic development if this demonstration project is built and it is built first. If so, New Jersey will be the first to have an operational port and it will be best positioned to succeed in successive projects. New Jersey contractors will be experienced in building a demonstration project, so they will be best positioned to compete for successive projects. New Jersey labor, already well-experienced and capable of building anything-- If they build this demonstration project, they will be best positioned to man successive projects. And if New Jersey

demonstrates the efficacy of its OREC for financing on a small scale, when it executes its large scale projects it can do so more cost-effectively and that much faster, consolidating its hold on the economic benefits associated with offshore wind. And finally, if New Jersey attracts manufacturing because of its early dedication to offshore wind, that factory will land here in New Jersey and nowhere else.

I really think it's time to build the Atlantic City wind farm, and I thank you for your attention.

SENATOR GORDON: Thank you.

Mr. Palmer.

MR. GALLAGHER: By the way, I do have copies of my comments, so I will give them.

R I C H A R D P A L M E R: Chairman and Committee, I'd like to thank you for this opportunity to speak to the importance and the significance of the Offshore Wind Economic Development Act as it relates to future opportunity for Weeks Marine, Inc.

I am Rick Palmer, Vice President at Weeks Marine and the marine renewable energy lead in our construction division.

Weeks Marine is a fourth generation, family owned marine contracting and services company that traces its roots on the New Jersey waterfront back to 1919. We were incorporated in the State of New Jersey in 1934 and have enjoyed tremendous success over the past eight decades. We are now considered one of the largest marine contractors in North America, and we pursue work from the far reaches of the South Pacific to the shores of Central and South America, on the islands of the Caribbean, along the coast of the Gulf of Mexico, the banks and channels of the

Mississippi, the East Coast, the West Coast, and the Atlantic Maritimes in Canada.

But New Jersey is home. Our corporate headquarters is in Cranford, Exit 136 off the Parkway, or maybe if you want a better breakfast, 137. (laughter) We operate two marine yards in New Jersey, one in Greenville and another in Camden. We own White's Basin, a dredged material disposal site on the Delaware River at the base of the Commodore Barry Bridge; and we employ hundreds of New Jersey craft, supervisory, administrative, and management personnel here. We enjoy a close working relationship with local labor unions and count on their supply of skilled operators and craft workers to successfully compete on and complete projects here in the state.

We are proud of what we have accomplished in the past and we look to the future to make the best use of our resources, our people, our equipment, and our experience. We seek out and strive to create new opportunities to grow our company and our industry. Over the past two decades, we have watched offshore wind build a new marine industry in Europe, and we believe the same can happen in the U.S. We have supported the development of offshore wind in the U.S. for the past 10 years, working closely with developers and owners in Massachusetts, New York, Rhode Island, Delaware, Ohio, Virginia, North Carolina as they have inched closer to putting projects in the water. But here in New Jersey we have gone beyond providing budget estimates and construction studies, and have put our people and our equipment to work for the future of offshore wind. New Jersey is the only state for which we can make that boast, and we think that should make everyone proud.

In the last summer and early fall of 2010, we assisted Fishermen's Energy with the final geotechnical investigations needed for the design of their Atlantic City Offshore Wind Project. It was our first *for-pay* offshore wind work. Also in 2010, we were awarded a construction contract for the first phase of construction and dredging for the new Port of Paulsboro, a facility that is destined to be a hub of the offshore wind market in the Mid-Atlantic. And based on the momentum in the market in 2011, we began the design and construction of the first purpose-built, U.S. flagged, Jones Act-compliant jack-up crane barge for the U.S. offshore wind industry. The hull of that vessel, now named the R.D. MacDonald, was launched in June of 2012 and is currently in our Camden yard waiting outfitting with a 750-ton crane by New Jersey workers.

We applaud the foresight and initiative that New Jersey showed in 2010 by passing the Offshore Wind Economic Development Act. We are proud that our home state has taken the lead to create revenue certainty for the first wave of offshore wind projects off the mid-Atlantic coast. We see a future that will create hundreds, if not thousands, of new jobs for our industry and could very well turn the page to a revitalized maritime community in New Jersey for the years to come. We are excited. These projects are game-changers, they're job-creators, economic growth-builders. And New Jersey is positioned at the forefront.

But we urge you not to delay. Delay brings uncertainty and increases risk; delay stops the momentum. And we urge your assistance to ensure the final implementation of the law is put in place to bring the opportunities that were envisioned at its creation.

Thank you very much.

SENATOR GORDON: Thank you both very much for detailing the economic opportunity.

As I said earlier, we're focused on the implementation process and what might be holding things up. I mean, it's been 30 months since the legislation was enacted. Is there something that we can do to facilitate the process?

I wondered if either of you could give us your assessment of what's been happening at the BPU and where there have been impediments to the process. Why is it taking so long?

MR. GALLAGHER: Well, I'm hesitant to go into great detail since it is an adversarial hearing. I remember when I was building the wind farm in Atlantic City, somebody -- I think it was intended as a threat -- told me that first adopters pay a premium. And it was a great lesson because it is hard to do something the first time. It's hard for us; I'm sure it's hard for the BPU staff. And that has led to the delays. Because this hasn't been done before. This will be the first wind farm -- I used to say in the western hemisphere, but Ireland is in the western hemisphere and they have one offshore wind farm. But it will be the first in the Americas. So it's been a difficult process.

Senator Kean, if we could go back, you'd make some changes to the bill. And I guess the one I would say is on the carve out -- about the 25 megawatt project off Atlantic City. I really wished we called it a *demonstration* or *pilot* project. That's what it is. That's what the DEP referred to it as, that's the award we got from the DOE. But that doesn't-- I think it would have been helpful if it was clearly -- that message was

clearly sent that this was intended as a pilot demonstration project: the first toe in the water of what we hope will be a much larger industry.

SENATOR GORDON: Would amending the language of the bill now to clarify that affect the process going forward do you think?

MR. GALLAGHER: That's kind of my perception, but I don't know that I could predict that.

SENATOR GORDON: Senator Kean.

SENATOR KEAN: Through you, Mr. Chair.

SENATOR GORDON: Sure.

SENATOR KEAN: I think going along the lines of what you were just asking-- In terms of streamlining this and making sure it's an even better bill, what are some of the next steps that you would recommend in addition to some -- this language that you're talking about that we're just hearing about now? Are there other things that would either improve or now, three years later, jumpstart this piece of legislation?

MR. GALLAGHER: I really think it's a great piece of legislation.

SENATOR KEAN: Ditto. (laughter)

MR. GALLAGHER: I think it's the leading piece of legislation in the country. You and I shared a dais in Halifax about a year-and-a-half ago.

SENATOR KEAN: I remember.

MR. GALLAGHER: And President McCormick (phonetic spelling), from Maryland, wanted a copy. And that copy is now in the hopper in Annapolis, and they're debating it today.

This is a great piece of legislation, and it's a great opportunity for New Jersey to be first and to really establish an industry here.

SENATOR KEAN: And if I may.

I don't mean to take your time, Mr. Chair.

SENATOR GORDON: Please.

SENATOR KEAN: I think this may be outside your -- maybe you would have some perspective. I could direct this toward your colleague at the table.

One of the aspects that was amended or inadvertently out was not including something in the New York/New Jersey Port region, which would have impacted, obviously, the northern Middlesex County coastline for availability, much like Paulsboro and everything else would have. Would that be an internal conflict within the state from an economic development approach? Would they be symbiotic? How would you view an expansion of this bill to include not just one -- below 137, which I believe are great exits on the Parkway -- 137, 138 are great exits.

SENATOR RUIZ: But the ones above that are great (indiscernible)

SENATOR KEAN: They're in my district, I'm saying.

SENATOR RUIZ: You're in my brain a little bit here. Don't forget exits 142, etc. (laughter)

SENATOR KEAN: I agree. I'm just referencing his testimony.

SENATOR GORDON: Or 159 for that matter.

MR. PALMER: I'm sorry I mentioned it. I apologize.

SENATOR KEAN: From the northern Middlesex County coastline-- Would an expansion of -- from an implementation, as well as

from an economic development -- would that be an improvement or-- How would that impact the seeking of economic growth/competition? Is there any thought process on that?

MR. PALMER: I think that the inclusion of other localities in the State of New Jersey for port development would be a benefit. I don't believe on any given project that one port is going to be the one-size-fits-all facility. And what we've seen on other projects that we've looked at is that the work is actually going to be spread out among many ports, because the infrastructure has to exist. And the infrastructure that may be needed for the foundation units is actually quite different than the infrastructure that will be needed for the turbine assembly and final outfitting. And so we would welcome the opportunity to see additional ports created in the State of New Jersey.

SENATOR KEAN: Thank you.

Through the Chair, thank you.

SENATOR GORDON: Thank you.

I don't know whether either of you can comment on this-- My understanding is that one of the issues that have to be resolved -- or has been a focus of discussions so far -- relates to whether your project confers a net benefit on the State. And my understanding is that the BPU's consultant determined that, in fact, there is a net cost, no net benefit.

And I've also been told that there is some dispute over the analytical methodology -- that the environmental benefits, the economic benefits were, in effect, zeroed out in the analysis; which just, to me, seems counterintuitive. As someone who, in an earlier career, was involved in doing cost-benefit analysis, there certainly is an analytical approach to

estimating what the potential environmental benefits are and the economic benefits.

Can you comment on this at all? I understand that you're involved in a proceeding, so I don't want to get you into -- complicate your life.

MR. GALLAGHER: I don't think I really can comment, although I don't disagree with you.

SENATOR GORDON: Maybe I can just editorialize a little bit. It just seems to me that there is an environmental benefit to these projects. You're replacing fossil fuels, nuclear generating capacity with energy generated from a renewable source. The reductions in pollution can be translated into a health impact and other impacts which can be translated into monetary terms. That's how the analysis is done. It just strikes me that putting a zero down for environmental impacts and the economic impacts-- I just don't understand the logic of it. I am certainly hoping to have an opportunity to talk to the BPU to get their rational for that. And it occurs to me that maybe one of the things that we need to do legislatively is to provide better definition of what our impression of what a benefit is, so that there isn't quite so much discretion in the analysis. You don't have to respond to that.

MR. GALLAGHER: Well, I'm not sure that given the energy appetite of a state like New Jersey, that we would really be replacing anything. But I do hope that we have the foresight, when we build additional generation, that we build, when available, clean, green, renewable.

SENATOR GORDON: Are you familiar with the process that is being put in place for the -- I'm sure you are -- the OREC process, the so-called *invoicing* option?

MR. GALLAGHER: I'm -- not sufficient to discuss it.

SENATOR GORDON: Because I certainly don't understand it very well, and I was hoping someone could--

MR. GALLAGHER: I think it's evolving, and I wouldn't want to speak out of turn.

SENATOR GORDON: Okay.

Any other questions from members?

Senator Ruiz?

SENATOR RUIZ: No specific questions. But I am just encouraged to hear that it would be a statewide approach to the economic development. Obviously we are 142 and beyond -- particularly 146. If you want to just park in Newark Port all the time, we welcome that.

But I think there is a lot of work. I want to thank the Chairman, in the event that I step out, for engaging us in this conversation, because there are great opportunities for New Jersey to lead the way here from one corner of the state to another. So I just want to say thank you.

SENATOR GORDON: Thank you.

MR. GALLAGHER: Senator, if I could respond to your earlier question about education, I do think the construction of these facilities -- the State has trained people who are ready, willing, and able to build them and to build anything. But I do think in the operation and maintenance phase, for the next 20 years, there will be a need to train urban -- they call

them *turbine cowboys*, and I think the community colleges are the right place to do that training.

SENATOR RUIZ: Thank you.

SENATOR GORDON: Just one other question. There has been some discussion about new technologies that are being employed in the turbines for the pilot project -- that they are -- they don't have much of a track record. Are you able to comment on any of that?

MR. GALLAGHER: Yes. Historically, turbines have been gear-box driven, so there are a lot of moving parts that need to be maintained pretty regularly. Over the last four to five years, there has been an emerging new technology which is direct-drive turbines. There are thousands of them deployed throughout the world on land; there are a few that have been deployed in the water. Most of them are prototypes. But that is the cutting edge. That is the future of this industry. And it's interesting to note that of the seven DOE awards that were awarded last month, all seven were for direct-drive turbines. That's where the industry is going.

SENATOR GORDON: Any other questions from the members? (no response)

Seeing none, thank you very much.

MR. GALLAGHER: Thank you very much.

MR. PALMER: Thank you.

SENATOR GORDON: We will next hear from Jeff Tittel, Sierra Club.

J E F F T I T T E L: Thank you, Mr. Chairman and Committee members.

We're here today because we see offshore wind as New Jersey's most important energy future. And unfortunately I think the delays are

costing the State not only jobs, money, but also the economic benefit that we could have at a time when we're hurting because of the damage from Superstorm Sandy.

Offshore wind and wind in general in this country has provided more than 75,000 jobs in just the last couple of years. New Jersey is poised to be on the cutting edge of offshore wind in that growth. The problem is that it's been two-and-a-half years since the Offshore Wind Economic Development Act has been passed, and almost two years since the rules were supposed to have been done. And that delay, I think, is hurting New Jersey. This is a time when we could be rebuilding our coast, empowering all those homes that we want to see rebuilt and all the new development down along our coast with clean, renewable energy from offshore wind. Now is the time when we have so many of our marine industry people unemployed because of the impact from the storm -- whether it's recreational fishermen, or marine salvage, or the other people we could be employing right now in making wind a reality. And I think that this delay is not only unfortunate, but really hurts us. And I really had hoped the BPU would be here so we could get to the bottom of some of the answers.

In following this process over the last number of years, we've heard many different excuses from BPU. One: "Well, we're concerned that if we set up the accounts within State government, it will get raided." Well, then, if the Governor and this Legislature commits not to raiding it, it wouldn't get raided. Even if you set up a side system, that could also still, through budget language, get raided. So we have to be careful in not using the excuses. We need to get to the answers. And even if we follow the latest recommendation from Boston Pacific, we're still a long way away

from rules, because that's just dealing with setting up the financial entity that handles the credits, not the rules themselves. And until we get those rules in place -- and this is going to sound funny coming from the Sierra Club, because I know some people think the Sierra Club -- we're into hiking, and we don't really care about economics. But until we have those rules in place, all the businesses here will not be able to borrow money, because there is not an insurance on how the system is going to work. So that, whether it's a bank in New York, or a hedge fund, or some company here in New Jersey that invests in those projects-- And until we have these rules in place, or at least a draft of these rules out there, it's going to be hard to raise the kind of capital that we need. And we're talking about people in this country and other places who want to invest more than \$10 billion of private money in our state. And the failure to have those rules is holding up that type of investment.

And when you talk about the balance-- In the first phase of the Offshore Wind Development Act, we're talking about 1,100 megawatts. That's more than 1,000 tons of air pollution a day from the best technology gas-fired power plant that we would be saving. And when we talk about a state that has been hit with storm surge and sea level rise, lowering our carbon footprint is critical.

So we see the economic benefits; we see environmental benefits. You don't get mercury pollution, you don't get the safety problems you have, you don't need people with M16s guarding your facility. If a windmill off the coast melts down, maybe it could impact a seagull. We also know from studies that there are very good environmental benefits because they act as if -- the stanchions act like reefs, and they actually

attract plankton and other marine life, and it actually may be a good stop over for marine mammals and others on their way up the coast as they migrate.

We also know from studies in Europe and other places that if you put them far enough off the coast, you don't have to worry about impact to birds, and that birds themselves learn where the wind farms are. So there are a lot of positive benefits for the State at a time when we can use it.

When you think about Paulsboro, instead of having a port there and a manufacturing facility, we had a chemical spill from a tanker truck going through that same exact area. I mean, this is what we're missing. And I think that unfortunately we have an Administration that says they want to get rid of red tape. We actually need some tape here. We actually need a rule in place so that we can get the investments and we can get wind to happen.

And my concern is that while we're not investing in this wind-- And we estimate that the failure to invest in wind in this state could cost us 3,000 to 4,000 jobs -- that those jobs will end up going to Maryland, Delaware, Massachusetts, and other places, and we'll be left behind. But the failure to invest in offshore wind also means that we'll end up investing in other things like a billion-dollar coal-by-wire line, meaning dirty coal power from Pennsylvania into New Jersey through the Delaware Water Gap, or more fracking in Pennsylvania and those gas lines coming in here. And we have an Administration, at the same time, that is worried about the cost to the ratepayer from offshore wind -- or at least says that. The BPU passed regulations that are actually subsidizing natural gas plants to the

tune of almost \$2 billion over 15 years. We've also seen raids of the Clean Energy Fund. And at a time when we should have that money available for rebates -- to give enhanced rebates to people who are replacing furnaces and appliances destroyed by the storm -- we're giving out almost about the same amount of money, and it's capped, so people who really need it at a time when we may run out-- So budgets do have consequences.

But more importantly, I think we need to get those answers. Does it take the Legislature to set up an independent trust to oversee the offshore wind program, and develop regulations, and take it out of BPU? We may have to look at that because for the first time, at least, since this committee has been announced, we're seeing some movement at the BPU. They're finally having a stakeholder meeting. But we could still be a year, year-and-a-half away from having any kind of rules to look at.

We keep hearing month after month, "Next month, next month." Well, next month is here. And the concern that I have is that we are so poised right now for wind-- A week or so ago the Google Line, as it's called, was breaking ground. So we're going to have a wind transmission off the coast. If we don't have the wind mills, we're going to get coal from it, so we better get wind. The Federal tax credits have been re-upped, even with a Republican Congress. But they're only good for a year. So if we don't get our act together in the next six months, we're going to miss out on that.

The Feds have done new rules to make it easier to put wind off our coast, so other states are more in competition. And at the same time, we have the Department of Energy grants that are out there. And if we

don't act on them, we'll lose them to other states, even though New Jersey has been one of the recipients.

So we are running out of time, and we need to get offshore wind moving, and we need to either get rules in place very soon or the Legislature really needs to step in. I think our economy and our environment demand it.

Thank you.

SENATOR GORDON: Thank you, Mr. Tittel.

I know that you have been a close observer of the process.

And I should say that I have a long list of questions here that are most appropriate for the BPU, and I intend to raise them with the BPU and give them an opportunity to communicate them to the Legislature.

But based on your experience over the last couple of years, what issues do you see at the BPU that have been standing in the way? What are the questions that have held this up? And what, if anything, can we do to just move this process forward?

MR. TITTEL: Well, I think a lot of it, unfortunately, has to come out of the Governor's Office since the BPU works through them. And I think losing one president after another has slowed down the process, because each time you have to get a new person up to speed. But I think the direction has to come from either the Governor's Office or the Legislature. We've been going to meetings--

SENATOR GORDON: If I could just interject, the Governor's been pretty supportive of this whole initiative.

MR. TITTEL: Yes, but there is a difference between, I think, what you say publicly and your beliefs, and making sure that the agencies

work. We know our Governor. If he puts his mind to something, he can get stuff done pretty quickly. And unfortunately, I think even though he may publicly support wind, either the people below him or he himself are too busy with other issues not to push it. But I think that's part of it.

We've been to stakeholder meetings, and we've heard testimony from many different people in the process. And I think the BPU has had a lot of information, a lot of ways -- from the different people who testify here and others who are not here today -- on what needs to get done. And so the delay is a failure of the BPU. But I think we have a Governor who should go over there and maybe get it done. Otherwise, unfortunately, I think he won't stand -- otherwise his words were great, but if we don't get wind a reality, then they become hollow.

SENATOR GORDON: Are there specific changes -- technical changes that need to be made to the legislation, in your view, that would facilitate the process?

MR. TITTEL: The only thing that I can see is if the Legislature actually wrote the rules and sent them over. Because I think they have enough information. The only issue I see as a side issue may be to set up an independent -- I don't want to use the word *authority*, because I hate creating new entities -- but some kind of independent body to oversee the OREC program so that the money doesn't get raided. And they could promote the rules if the BPU doesn't.

SENATOR GORDON: Okay.

Senator Kean, any questions?

SENATOR KEAN: Through the Chair, as you're laying out next steps -- and you work with BPU and everybody else. I mean, the first

is to create -- I think following some of the things the Chair was saying earlier regarding the OREC model and financing that. Unless you get that right, everything else falls asunder. Is that a-- I mean, nobody is going to finance, nobody is going to locate, nobody is going to be able to avail themselves of all of this unless the OREC is done right. Is that an accurate assessment?

MR. TITTEL: I would say that's true, but the perfect is the enemy of the good. Sometimes you need to actually put something down on paper so people can see it and then make suggestions. So far we haven't gotten anything to say what needs to be fixed.

So, yes, we do need to make sure it's done right. But we also need something so we can-- Because they've gotten tons of information from folks on what should be in the rules. And we have other models. We have the Renewable Energy Credit Program in this State, we have the Solar Energy Credit Program. So there are some models they can build from. And there has been a lot of information given to them. So someone has to make that choice.

SENATOR KEAN: Through the Chair, if I may, your preferred option, Jeff, is what in terms of the financing mechanism? Have you submitted testimony or a model?

MR. TITTEL: We've submitted comments, yes.

SENATOR KEAN: I assume that's-- I mean, that's public anyway. So is there a-- Just for the edification of this Committee, what, to you, makes economic sense?

MR. TITTEL: Well, I think the model we suggested -- I mean, again, you need to -- that we had suggested -- was similar to the solar

program, with some differences because it's larger-scale financing, and different parts of it. But the concept would be, again, that the utilities would have to buy credits to meet their energy portfolio standards. And that would set up a trading program that you could do through a clearinghouse, or through the BPU, or whatever entity to do it. I mean, the models, I think, are there. The question is-- We really need to-- Like everything else, they need fine tuning. You need to understand what the inputs are going to be -- how much is it going to cost and what the benefits are.

SENATOR KEAN: Have you looked to either international or more broadly national models in this -- in the areas you've recommended?

MR. TITTEL: We have to kind of look more at our models. Because in Europe, for instance, they have (indiscernible) and tariffs, and so it's a different model. But we have another program that could have worked well: RGGI.

SENATOR KEAN: We can have a long conversation about that. (laughter)

MR. TITTEL: I meant for the trading program, not for the other.

SENATOR KEAN: Right, exactly.

Thank you for your comments, Jeff.

SENATOR GORDON: Thank you.

Senator Ruiz, any questions?

SENATOR RUIZ: No, thank you.

MR. TITTEL: I just want to mention that many of our community colleges we work with have very good renewable energy programs -- Monmouth, Middlesex--

SENATOR GORDON: Thank you, Mr. Tittel, for your testimony.

As I said, I have a number of questions that are best directed to the BPU, and I'm sure I will have some communication with them.

Is there anyone else here who would like to offer testimony or comments on this subject? (no response)

With that, I'm going to close this hearing. I want to thank you all for being here.

I do believe that this program, developed as a result of the legislation sponsored by Senator Kean and Senate President Sweeney, offers a tremendous economic development opportunity for the State that could easily slip from our grasp if we delay too long. We want to do this right. We don't want to impose a burden on the ratepayers. But there is an opportunity to create a whole new industry here if we do it right, and we should not lose that opportunity. And so I'm hopeful that this hearing has focused some attention on this subject. We're going to be getting in touch with the BPU and learning about where they are and what we might do as a Legislature to work with them in improving the process.

And with that comment, I will adjourn the hearing.

Thank you all very much for being here.

(MEETING CONCLUDED)

APPENDIX

Testimony embargoed until 1300, 28 January 2013

Good afternoon, Chairman Gordon;

Vice-Chair Buono;

distinguished members of the Committee.

My name is Chris Hart. Thank you very much for the opportunity to speak with you today. By way of background, I am a PhD Naval Architect with an MBA who has disarmed Improvised Explosive Devices by hand on the battlefields of the War on Terror and negotiated with lawmakers in both Houses of Congress in Washington, DC. (I'm not going to make any comments about which of these endeavors was more hair-raising.)

Until June of 2012, I served as the Founding Offshore Wind Manager at the United States Department of Energy. As such, I led the drafting and publication of the National Offshore Wind Strategy, conceived and raised the funding for the OffShore Wind Innovation and Demonstration (OSWInD) Initiative, which grew from that Strategy, and built the team that is now executing the Initiative and the rest of the Strategy. In all, this effort grew from an idea to a \$500 M program, with a time horizon of almost seven years, in the two years that I had the privilege of holding this post.

Since leaving DOE in June of 2012, I have been consulting to and advising the global offshore wind industry, with a particular focus on bringing its benefits to these United States.

It is from this background and set of experiences that I take great pleasure in congratulating the State of New Jersey on its vision and foresight in passing the Offshore Wind Economic Development Act in 2010.

It is without a doubt that this vision and foresight was informed by the Offshore Wind Industry in Europe, but I will spend a moment or two now to give my own personal interpretation of this industry for the record.

It is impossible to ignore the fact that offshore wind is big business in Europe, where 4994 MW of offshore wind is currently generating electricity. The United Kingdom, which is currently the global leader in installed capacity with around 3000 MW—that's approximately three large nuclear or coal-fired power plants or enough electricity to power 2 million homes—is currently starting its third round of development. This third round looks to install nearly 35 GW total by the end of 2020. One development alone, the monstrous Dogger Bank, looks to be the largest renewable development on earth, with a capacity of between 9 and 13 GW.

To put these numbers into further perspective, this is a total capital expenditure of approximately \$50 B for just the Dogger Bank project, and well over \$150 B for the entire Round 3 build out. This is indeed big business.

And who are the players that are going to be making this happen? The answer to this question also points to the realities of big business in Europe. DONG Energy, a Danish company with a market capitalization of around \$15 B. Statoil ASA, a Norwegian energy company that is #67 on the global 500, RWE, SSE, Statkraft, Iberdrola, Vattenfall, Siemens. These are some of the largest industrial companies in Europe, and they are all playing, and investing, big in the offshore wind arena in Europe.

Testimony embargoed until 1300, 28 January 2013

So what about jobs? Does this big business bring jobs? Yes, there are jobs. I could recite the jobs numbers to you, but perhaps more compelling would be two short vignettes about my favorite two offshore wind ports in Europe. You see, I'm a nautical guy. I like to see seafaring folk doing well, and that's exactly what you see in ports like Ramsgate in the UK and Esbjerg in Denmark. Both of these ports service several UK round two farms, including the London Array project, the recently-completed first phase of which, at 630 MW, is the largest offshore wind farm in the world. You may have heard of the poster child of offshore wind ports, Germany's Bremerhaven, but I will not be speaking to this port, although there is plenty to say.

I arrived into Ramsgate on the early morning train from King's Cross in London (no, not from Platform 9 $\frac{3}{4}$). As the sun rose over the sea, I couldn't help but notice the depressed nature of the area surrounding the port. This fact contrasted sharply with the bustling activity in the port itself. The attendant in the train station was quick to sing the praises of the new industry she had seen spring up in her hometown. The mansions on the bluff overlooking the port were starting to be renovated and updated by the local workers who were moving up in the world. Local restaurants were busy. Taxi cabs were newer and nicer in Ramsgate than their counterparts in the surrounding municipalities.

Similar things could be said for the town of Esbjerg in Denmark, but on an even larger scale. Esbjerg and the surrounding areas are a tourist destination on the western coast of the Jutland peninsula. Whereas Ramsgate was more of the commissioning and management side of the installations, Esbjerg was where the heavy industrial activities were going on. There were nacelles, blades, and tower sections as far as the eye could see, and these are not small structures. Towers are as tall as a football field is long, nacelles are about 20 feet tall and wide and 40 feet long, and the blades are 150 - 200 feet long. MPI Discovery and Adventure, two of the largest jack-up vessels in the world - enormous self-propelled ships capable of transporting and installing up to nine complete towers and turbines in one trip - were making regular stops in the port to load up with components to be installed in the farms between Denmark and the UK.

Again, the town of Esbjerg was much the better for the wear. I specifically remember a pub which my host from Siemens Wind introduced me to. The proprietor of the pub was quick and proud to let me know that he had been considering closing up shop prior to the arrival of offshore wind. "Now," he confided, "I've had to hire more help."

So, yes, offshore wind is big business in Europe, and by extension it could also be big business here in America. But a second thing that impressed me about the OWEDA legislation, and the vision and foresight that made up its foundation, was that New Jersey realized that America is not Europe. Just because offshore wind is big business in Europe, doesn't ensure that offshore wind will be big business in America. If we are to see the jobs and economic growth that these European ports have enjoyed, the offshore wind industry is going to have to develop differently here in America than it did in Europe.

We will not legislate the growth of the industry.

We will not mandate the growth of the industry.

Rather, we must do it the American way, by *innovating* the growth of the industry.

Testimony embargoed until 1300, 28 January 2013

We will not see the rich subsidy regimes that have enabled the growth of the European offshore wind industry. Therefore we must innovate financially in order to drive down the cost of capital. We must innovate technologically in order to drive down the capital costs for the projects.

In New Jersey, you knew this already, and, in 2010, you passed a law that allows for this approach, by:

1. Creating a new mechanism for funding offshore wind development in the OREC, and
2. Supporting the idea of a demonstration-scale farm that will test and prove all of the ideas and theories about how offshore wind should be deployed in this country, thereby removing doubts in the minds of investors and enabling the unfettered growth of the industry Nationally.

Detractors will ask, "Why should New Jersey ratepayers pay to reduce the risk so New York bankers can benefit from these investments?"

The answer to this question is simple: due to the happy confluence of a number of factors – the OWEDA legislation, proximity to a strong electric load, the shallow, wide continental shelf off of the coast of New Jersey, the strong ports in the state, the manufacturing infrastructure that is still comparatively vibrant, and the presence of the maritime know-how in companies such as Cranford-based Weeks Marine and Clermont-based Northstar Marine, just to name a few – put New Jersey squarely in the lead of the race to win the jobs that will surely come with the creation of this 21st Century industry.

If you are looking for examples of other states that were successful in capitalizing on just such an opportunity, simply look westward to Michigan. Henry Ford and his innovative approach to automobile design and manufacturing enabled the state of Michigan to grow to be the center of the car universe.

For a less hackneyed, and more timely example, we must look a little further westward, and pay attention to the words of former Governor of Iowa, Chet Culver, spoken at the New Jersey Alliance for Action event in Holmdel on January 17. Governor Culver spoke glowingly of the benefits to his state of capturing a large portion of the supply chain for the world's leading onshore wind industry. His words rang true to me, since my family in South Dakota and Montana, and my wife's family in North Dakota, have all seen the benefits of the growth of this homegrown industry.

Although New Jersey may now be in the lead in the race for economic development benefits similar to those seen in Michigan and Iowa, other states in the Eastern seaboard, and indeed around the country, are hot in pursuit. The US Department of Energy is supporting projects in the Great Lakes, the Gulf of Mexico and the West Coast, as well as in Virginia and two projects in Maine. The way was cleared for the third power purchase agreement in the country when the Maine Public Utilities Commission conditionally approved the Norwegian energy giant Statoil's 12 MW demonstration project on January 24, 2013. The Maryland Legislature introduced an offshore wind bill in early 2013 as well. Due to the recently extended Investment Tax Credit (ITC), these initial movements will soon be followed by action in other interested states...

The time to act is now, New Jersey. Capitalize on the position of leadership created by your legislative vision and foresight. Seize the opportunity to own an outsized portion of the jobs and economic development that will accompany this new industry. Reclaim your position as a seat of innovation and bold action. The time to act is now, New Jersey.

Testimony embargoed until 1300, 28 January 2013

The time to act is now.

Testimony Embargoed until 1 PM January 29, 2013

Fishermen's Energy is a developer of offshore wind energy projects, founded by New Jersey commercial fishermen (who already own and operate much of that \$1.3 Billion industry here in New Jersey) to respond to the public's need to develop the ocean for renewable wind energy.

Fishermen's goal is to turn Atlantic coastal waters into an unmatched source of clean energy, while maintaining a vibrant commercial fishing industry.

Fishermen's Energy has partnered with experienced professionals in the renewable energy and the offshore wind business community to propose, plan, and build responsible projects to serve the public's need for safe renewable energy. Fishermen's intends to harvest the wind and the sea, side by side, in an environmentally responsible and sustainable manner.



The first Fishermen's Energy proposal is to build five turbines (totaling 25 megawatts) approximately 2.8 miles off the shore of Atlantic City. The project will benefit New Jersey economically and environmentally, as well as facilitate the State's emergence as the national leader in offshore wind. Atlantic City will be the Birthplace of Offshore Wind in the Americas.

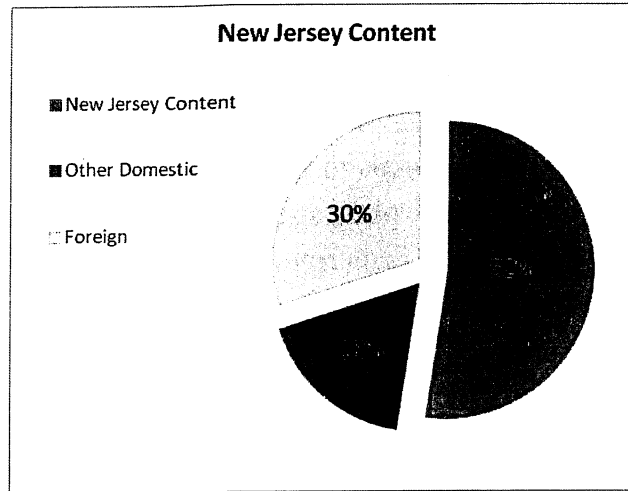
The Project has received all of its permits and approvals from the NJDEP, the US Army Corp of Engineers, the City of Atlantic City and other reviewing agencies. It has been awarded an Advanced Technology Grant by the US Department of Energy. The single remaining approval is pending at the New Jersey Board of Public Utilities (BPU) where it requires designation as a "qualified project" under the Offshore Wind Economic Development Act (OWEDA) and thereby be approved to recover its costs through the sale of Offshore Wind Renewable Energy Certificates (ORECs). This will allow the project to move to financial close and commence construction. More importantly, with action by the BPU no later than the 2Q 2013, the Project can commence construction in 2013 and qualify for the recently re-enacted Federal Investment Tax Credit which will further reduce OREC costs.

Fishermen' Energy has worked to maximize the utilization of New Jersey based companies and workers for construction and operations. Almost \$80 million will be spent directly in New Jersey during construction and another \$2.5 million annually thereafter for operations and maintenance. Additional benefits include reduced emissions

Testimony Embargoed until 1 PM January 29, 2013

from fossil fuels, increased tourism dollars spent in Atlantic City, and the opportunity for New Jersey to enhance its historic role as a cradle of innovation, to become the base for research, development, manufacturing and assembly for this new 21st century industry.

Fishermen's Energy has worked extensively to assemble a New Jersey based consortium that would implement, operate and maintain the project including Weeks Marine,



Northstar Marine, Gabel Associates, DCO Energy and others and will center construction operations at the South Jersey Port. Overall this results in over 50% of the capital cost landing in New Jersey. Fishermen's Energy has clearly stated a willingness to make this "build New Jersey" a contractual obligation to truly demonstrate the job creation and positive impact that offshore wind will bring to New Jersey. In documenting this economic impact on New Jersey,

Fishermen's Energy used the same software and multipliers that were used recently by the BPU in substantiating the positive benefits in the solar market.

The reason New Jersey has such an opportunity for economic development is precisely because it will be first:

- If New Jersey is the first to have an operational port, it will be best positioned for successive projects.
- If New Jersey contractors are experienced in building a demonstration project, they will be best positioned for successive projects.
- If New Jersey labor is experienced in building a demonstration project, it will be best positioned for successive projects.
- If New Jersey demonstrates the efficacy of its OREC for financing on a small scale, it will execute its large scale projects that much faster – consolidating its' hold on the economic benefits associated with offshore wind.
- And lastly, if New Jersey attracts manufacturing because of its early dedication to offshore wind, then that factory will land here and nowhere else.

Let's Build the Atlantic City Wind Farm!



State of New Jersey

DIVISION OF RATE COUNSEL
31 CLINTON STREET, 11TH FL
P. O. BOX 46005
NEWARK, NEW JERSEY 07101

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

STEFANIE A. BRAND
Director - Rate Counsel

January 25, 2013

Members of the Senate Legislative Oversight Committee
PO Box 099
Trenton, NJ 08625-0099

RE: Implementation of the Offshore Wind Development Act

Members of the Senate Legislative Oversight Committee:

I regret that I am unable to attend the Senate Legislative Oversight Committee's January 28, 2013, meeting regarding the implementation of Offshore Wind Development as I am slated for jury duty. I would ask that you please accept the attached comments on behalf of the Division of Rate Counsel ("Rate Counsel") regarding offshore wind. The comments are those that I made last year regarding "The State's Progress on the Energy Master Plan's Goals for Offshore Wind Energy." I hope these comments will be helpful as you consider what's best for the citizens of New Jersey.

As you are aware, Rate Counsel represents and protects the interests of all utility customers—residential customers, small business customers, small and large industrial customers, schools, libraries, and other institutions in our communities. Rate Counsel is a party in cases where New Jersey utilities seek changes in their rates or services. Rate Counsel also gives consumers a voice in setting energy, water, and telecommunications policy that will affect the rendering of utility services well into the future.

We very much appreciate the opportunity to share our perspective on behalf of the state's ratepayers. Please feel free to contact our office if you have any questions or would like further information on this important topic. Thank you for your attention to these important matters.

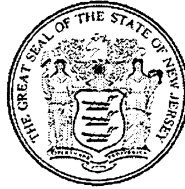
Sincerely,

A handwritten signature in black ink that reads "Stefanie A. Brand".

Stefanie A. Brand

Director, Division of Rate Counsel

c: Jennifer Mancuso, Chief of Staff, Senator Robert Gordon
Adam Neary, Democratic Aide, Senate Legislative Oversight Committee
Michael Molimock, Office of Administrative Services
Felicia Thomas-Friel, Managing Attorney, Gas/Clean Energy, Division of Rate Counsel
Robyn Roberts, Legislative Liaison, Division of Rate Counsel



Chris Christie
Governor

Kim Guadagno
Lt. Governor

STATE OF NEW JERSEY
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Kristi Izzo
Secretary of the Board
Tel. # (609) 292-1599

NOTICE¹

**In the Matter of Offshore Wind Renewable Energy Certificate (OREC) Funding Mechanism
Proposed New Rule N.J.A.C. 14:8-6.6
Docket Number EX11060353**

Stakeholder Meeting – February 21, 2013

The Staff of the Board of Public Utilities (BPU) invites all interested parties and members of the public to stakeholder meetings on the Offshore Renewable Energy Certificate (OREC) funding mechanism specified in the Offshore Wind Renewable Energy rules at N.J.A.C. 14:8-6.6.

BPU Staff has determined that the OREC funding mechanism should be developed through rulemaking with a formal stakeholder process. The proposal and adoption of the funding mechanism by the Board will provide the cost certainty that the industry has indicated is necessary to proceed with prospective projects.

Offshore Wind (OSW) Stakeholders had previously proposed the establishment of an OREC Clearinghouse to facilitate the flow of OREC payments from suppliers to developers. BPU Staff considered the viability of a clearinghouse model and solicited additional input from Boston Pacific Company, Inc., on alternate OREC funding mechanism models. BPU Staff's primary objective was to create a funding mechanism proposal that allows for proper regulatory oversight, adequately balances ratepayer interests, and satisfies the OSW Developers' ability to finance their offshore wind projects.

Along with this notice, BPU Staff is providing stakeholders and members of the public with a proposal prepared by Boston Pacific on the design of a funding mechanism for ORECs. The proposal does not include all details that would be necessary for a rulemaking, but rather provides a framework for discussion with stakeholders.

Questions should be directed to Jake Gertsman in the BPU Counsel's office at 609-292-1527 or via email at jake.gertsman@bpu.state.nj.us.


¹ Not a paid legal advertisement.

Stakeholder Meeting Schedule: OSW Rulemaking for OREC Funding Mechanism

Dates: February 21, 2013

Location: New Jersey Board of Public Utilities
44 South Clinton Avenue
Trenton, NJ 08625
Multipurpose Room

Time: 1pm – 4pm



Kristi Izzo
Secretary of the Board

Dated: January 18, 2013

OREC FUNDING MECHANISM PROPOSAL (INVOICING OPTION)

December 11, 2012

BACKGROUND

Boston Pacific Company, Inc. was selected to advise the New Jersey Board of Public Utilities (BPU) on the design of a funding mechanism for Offshore Renewable Energy Credits (ORECs). The BPU stated that the primary objective for the design was to mitigate the risk of possible state appropriation of funds. The BPU believed that doing so would improve the Developers' ability to finance their offshore wind projects.¹ To this end, Boston Pacific met with President Hanna and BPU Staff, as well as with Susan Fischer and Jean Reilly from the Office of the Attorney General, to discuss ways in which this objective could be achieved. It was determined that the design options that had been considered during the stakeholder process did not adequately mitigate the risk of state appropriation of funds. It was then concluded that the best protection would come from an OREC funding mechanism in which all money is handled directly between buyers and sellers of ORECs. Based on that feedback, this memo presents a proposed funding mechanism design that mitigates the risk of state appropriation of funds. We refer to this design as the "Invoicing Option."

The "Invoicing Option" requires one new entity and has two flows of payments. The entity is an OREC Administrator hired by the Electric Distribution Companies (EDCs)². The two payment flows are (a) OREC payments from all electricity Suppliers³ in New Jersey to Developers, and (b) PJM revenues paid to the Developers and passed through to ratepayers by the EDCs. This memo provides a high level overview of how the payment flows of the "Invoicing Option" would actually work. A graphical depiction of these flows is shown in Attachment A.

OREC PAYMENTS FROM SUPPLIERS TO DEVELOPERS

The first step in the flow of OREC payments is for PJM Environmental Information Services (PJM EIS) to issue ORECs into each Developer's PJM EIS Generation Attribute Tracking System (GATS)⁴ account. PJM EIS will issue one OREC for each MWh of electricity that is generated by the Developer's offshore wind facility.⁵

¹ Developers are those who will construct and then operate the offshore wind facilities in New Jersey.

² EDCs are the New Jersey utilities: Atlantic City Electric, JCP&L, Rockland Electric Company, and PSE&G.

³ Suppliers are all entities in New Jersey serving the function of Basic Generation Service (BGS) provider or third party retail electric supplier.

⁴ A "GATS" account is an account within the PJM EIS system. This system tracks the output of renewable energy generators in order to issue RECs into that generator's GATS account. One OREC is created for each megawatt hour (MWh) that an offshore wind farm generates.

⁵ Note that there is a lag of up to two months between the time that energy is generated and ORECs are produced by PJM EIS. For example, ORECs associated with July generation would only be available to be transferred to the OREC Administrator at the beginning of September.

At the end of each month, each Developer will provide to the OREC Administrator proof of all ORECs that were issued into their GATS account in that month. The OREC Administrator then arrives at a cost of ORECs for each Developer by multiplying that number of ORECs by the Developer's OREC price.⁶ For example, assume that Developer A had 50,000 ORECs created in its GATS account during October. If Developer A's OREC price was \$180/MWh, then the cost of its October ORECs would be \$9 million.

The next step is for the OREC Administrator to allocate each Developer's ORECs and OREC costs among the many Suppliers that serve load in New Jersey.⁷ The amount owed by each Supplier to each Developer is based on that Supplier's percentage share of New Jersey's total electricity supply for the month in which the ORECs were generated.⁸ The OREC Administrator will get that data from PJM.⁹ Continuing with the above example, if Supplier X supplied 2% of all MWh used in New Jersey's in October, then the OREC Administrator would calculate that Supplier X owes Developer A \$180,000 for the purchase of 1,000 October ORECs. Every month the OREC Administrator would make the same calculation about how much each Supplier owes each Developer. Each Developer will then invoice each Supplier for this amount. Payments are sent directly from Suppliers to the Developers. This method provides a high level of protection against the risk of possible state appropriation of funds.¹⁰

As a final step, Developers will transfer the designated number of ORECs to each Supplier using the GATS tracking system. Suppliers would then retire all such ORECs in their GATS accounts, to demonstrate compliance with the OREC portion of New Jersey's renewable portfolio standard.

PJM REVENUES FROM DEVELOPERS TO RATEPAYERS

Developers will sell their offshore wind project's energy, capacity and ancillary services in PJM markets and forward all revenues directly to the four New Jersey EDCs.¹¹ The EDCs

⁶ The OREC price will have been pre-approved by the Board.

⁷ As of September 25, 2012, there were 66 alternative electric suppliers in PSEG's service territory alone.

⁸ Having Suppliers pay based on a share of the total cost of ORECs produced in a given month marks a significant difference between the "Invoicing Option" and other options considered in the past in which Suppliers would pay for ORECs based on a pre-defined percentage of their actual monthly load. With the past options there was a risk that actual demand could end up being lower than expected, and this would result in insufficient funds being collected from Suppliers to meet the full payment obligation to Developers. To mitigate this risk, a reserve fund was proposed. However, the reserve fund creates a risk of state appropriation. The "Invoicing Option" removes the risk of collecting insufficient funds from suppliers, so there is no longer a need for a reserve fund.

⁹ PJM releases this data on a two month lag; therefore, the flow of payments from Suppliers to Developers will occur on a two month lag in order to incorporate PJM reconciliation data. This schedule also provides the time required for PJM EIS to create the ORECs.

¹⁰ Under this method, Developers face a significant administrative burden to directly invoice and collect payments from each of the dozens of New Jersey Suppliers. If the Developers wish to minimize this burden, they could, at their own initiative, hire an administrator to send invoices and collect payments from Suppliers. The administrator could combine the amount that each Supplier owed to all Developers into a single invoice and, once payment is received, allocate that payment amongst Developers.

¹¹ Note that a preferred method of getting PJM revenue to EDCs would be for PJM to send it directly, so that the Developers never touch it. For example, Developers could authorize PJM to deposit PJM Revenues directly into each EDC's PJM account. PJM would also be given instructions on how to split the revenues among the four EDCs.

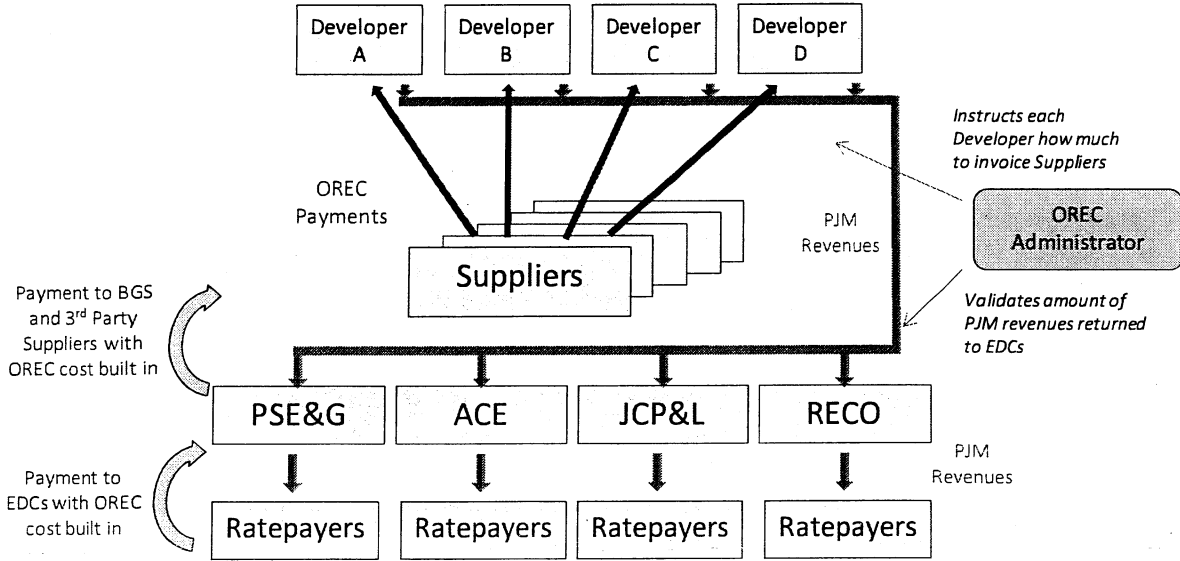
will then pass through all PJM revenues received to their respective ratepayers. The portion of each Developer's PJM revenues to go to each of the four EDCs will be determined by the OREC Administrator at the beginning of each energy year based on the EDCs' relative shares of total New Jersey electricity sales in the previous energy year. At the end of each year the EDCs will conduct an annual true-up to actual electricity sales. The OREC Administrator will validate that the correct payments are sent each month and will also validate the annual true-up.

NEXT STEPS

The "Invoicing Option" is significantly different than the other options that were previously discussed by stakeholders. Stakeholders should be given a chance to review and provide feedback on this option before further detailed design is provided. Thank you.

However, further explorations with PJM are needed before determining whether this type of arrangement would be allowed.

Attachment A - Graphical Depiction of the Invoicing Option



13x



CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

State of New Jersey
DIVISION OF RATE COUNSEL
31 CLINTON STREET, 11TH FL
P. O. BOX 46005
NEWARK, NEW JERSEY 07101

STEFANIE A. BRAND
Director – Rate Counsel

**Remarks of Stefanie A. Brand,
Director, Division of Rate Counsel,
Regarding the State's Progress on the Energy Master Plan's
Goals for Offshore Wind Energy, Presented at the Assembly
Telecommunications and Utilities Committee Stakeholder
Meeting on
March 5, 2012**

Good morning. My name is Stefanie Brand, I am the Director of the Division of Rate Counsel. I would like to thank Chairman Chivukula and members of the committee for the opportunity to testify today regarding the state's progress towards the Energy Master Plan's goal of adding offshore wind energy generation to the state's renewable energy portfolio.

The Division of Rate Counsel represents and protects the interest of all utility consumers—residential customers, small business customers, small and large industrial customers, schools, libraries and other institutions in our communities. Rate Counsel is a party in cases where New Jersey utilities seek changes in their rates and/or services. Rate Counsel also gives consumers a voice in setting energy, water and telecommunications policy that will affect the rendering of utility services well into the future.

When the Legislature passed the Offshore Wind Economic Development Act (OWEDA) a year and a half ago, those of us who supported it knew that we were on the cutting edge and that the process of making off-shore wind a reality was going to be long and challenging. We knew there would be difficult problems to solve, such as how to facilitate financing, how to value an OREC, how to connect these facilities to existing infrastructure and more. The beauty of the Act is that it encourages a resolution of these difficult issues while ensuring that New Jersey's ratepayers are protected. The Act's fundamental structure, that ties ratepayer subsidies to projects that demonstrate net benefits to the state and postpones payment of those subsidies only once the facility is generating electricity, ensures that we are supporting worthy projects and not merely throwing ratepayer money at projects that may not work. In fact, New Jersey's statute is now touted as the model for off-shore wind legislation, cited by advocates and regulators in Maryland and other states as a framework to be emulated.

And it is indeed working as intended. With respect to the projects to be built in federal waters, a series of stakeholder meetings were held, in which proposals from the industry relating to the application process and payment mechanisms were debated. These stakeholder meetings were attended by representatives from the wind industry, third party suppliers, electric distribution companies, Rate Counsel and Board Staff. The discussions were extensive and frank, and all of the varying interests were discussed and debated. It was, frankly, the type of process that we need in order to figure out the difficult issues

raised by trying to develop the first off-shore wind farms in the U.S. Those discussions I believe led to a framework Board Staff can use to develop regulations governing the off-shore wind program and I look forward to seeing the draft regulations and seeing that process move forward.

With respect to the proposed project in state waters off the coast of Atlantic City, you may be aware that Rate Counsel had significant concerns regarding that project as proposed. Rate Counsel was concerned about the high cost of the project and our expert concluded that the applicant had not demonstrated that the project would provide net benefits to New Jersey's ratepayers. Experts retained by Board Staff reached similar conclusions. This should not, however be viewed as failure. To the contrary, the statutory framework is working precisely as intended. As a result of the analysis performed by the experts retained by Rate Counsel and Board Staff, the applicant is going back to refine its submission and submit a revised application. I sincerely hope that it is able to produce an application that does demonstrate net benefits, and we will examine that application carefully to make sure that it does. To me, these protections that the Legislature incorporated in the statute are working to make sure that any application that may ultimately be approved is worthy of the ratepayer subsidies they are seeking.

I do believe that the larger projects in the federal waters may be able to avoid some of the pitfalls of these early applications. I hope to see economies of scale. I also believe that the fact that several developers will be competing for a finite amount of ratepayer subsidies will encourage those developers to offer the

best, and lowest, bids they can. Although there are a limited number of developers, and a market that is no where near as diverse as we'd like, any competition within the process should provide a downward pressure on price and upward pressure on the quality of the applications.

Of course, there are some things we can't control. It is my understanding that the drop in natural gas prices has created some difficulty for developers with respect to financing. I think this is a significant problem as we view natural gas as a "bridge fuel" to get us through this period between reliance on dirtier fossil fuels to an energy mix that relies more on renewable resources. We should not be lulled into a false belief that we do not need renewable resources simply because we have a significant supply of natural gas. We need to continue the path toward developing cost-effective renewable resources and be grateful that we have natural gas to serve as a bridge during this transitional period.

What we cannot do, however, is attempt to make up for the reluctance of lenders to finance projects by substituting ratepayer dollars. If the banks believe a project is too risky to fund, we should not ask ratepayers to assume that risk. The OWEDA appropriately committed ratepayer funds to secure a long-term and adequate stream of revenue to assist the developers in obtaining financing. If that is not enough for investors to assume the risk of financing a project, then ratepayers should not be asked to take on more.

Finally, to answer the question posed in the notice of today's hearing, I would say the State is making steady progress toward reaching the Energy Master Plan's goals of adding offshore wind energy generation to the State's

renewable portfolio. We all knew that this would take time and substantial effort, and I believe that all of the interested parties have approached this difficult task diligently. New Jersey's statute fairly balances the desire to encourage offshore wind with the need to protect ratepayers from risky investments. It ensures that we will benefit from the process overall and will ultimately have available a substantial number of working offshore turbines.

New Jersey's statute is becoming the model for other states and that is something to be very proud of. I applaud the Legislature for its foresight and thank you for the opportunity to testify today. I am available to answer any questions.