



Lawrence J. Hogan, Jr., *Governor*  
Boyd K. Rutherford, *Lt. Governor*  
Devon L. Dodson, *Acting Director*

**TO:** Devon Dodson, Acting Director  
**CC:** Ralph Scherini, Finance Director  
**FROM:** Andrew Gohn  
**DATE:** 1/23/2015  
**RE:** **Maryland Offshore Wind Advisory Committee Final Report**  
**ACTION:** Review

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Director Dodson,

Attached, please find the compiled Final Report of the Maryland Offshore Wind Advisory Committee. This report represents the findings and recommendations of the Advisory Committee to the Director, as required under Maryland Code - State Government § 9-20C-04.

Thanks,  
Andrew Gohn  
Senior Clean Energy Program Manager

**Final Report**  
*of the*  
**Maryland Offshore Wind Business  
Development Fund Advisory Committee**



Prepared for the  
Maryland Energy Administration  
December 2014

## **Maryland Offshore Wind Business Development Fund Advisory Committee Final Report: December 2014**

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### I. Overview

The Maryland Offshore Wind Business Development Fund (“the Fund”), as established by Maryland Statute State Government Article, § 9-20C-01 et. seq., (“the Statute”), is expected to provide a minimum of \$10 million in funding to support Maryland’s emerging businesses, including minority-owned emerging businesses, seeking to participate in the offshore wind industry. The two main funding sources include:

1. Transfers from the Strategic Energy Investment Fund (\$4 million), resulting from commitments made during the 2011 merger of Exelon and Constellation Energy; and
2. Required contributions by the ultimate offshore wind project developer (\$6 million), conditional on Maryland’s Public Service Commission awarding the developer the 20 year financial support mechanism from the Offshore Renewable Energy Credits (ORECs).

This Maryland Offshore Wind Business Development Advisory Committee - hereafter referred to as ‘Advisory Committee’ - was created by Statute to make recommendations to the Maryland Energy Administration (MEA) for the efficient use of the Funds in order to maximize opportunities for emerging businesses, including minority-owned businesses, in the State to participate in the offshore wind industry. MEA has considered, and shall continue to consider, these recommendations made by the Advisory Committee in determining how most effectively to use the money in the Fund.

In developing its recommendations, the Advisory Committee considered potential additional fund sources and methods to maximize fund leveraging opportunities. The Statute also requires the Advisory Committee to consider mentoring and protégé models, innovation clusters, existing incubator and business development programs, and the appropriate role of partnerships with Maryland’s universities, Historically Black Colleges and Universities, and community colleges. An interim report, consisting of the Advisory Committee’s recommendations, was submitted to MEA December 31, 2013; today’s report includes updated and new recommendations that have emerged over the 2014 calendar year.

The Advisory Committee consists of a statutorily prescribed composition of stakeholders for the purpose of providing a set of balanced recommendations. The Advisory Committee members - hereafter referred to as the Members - bring their individual insights, opinions, knowledge and ideas to help form these recommendations. The resulting initial and final recommendations are summarized below.

During FY14, the Advisory Committee had a particular interest in allocating some funding to create an offshore wind supply chain map by function and competencies and to link each identified function to existing Maryland emerging businesses, including minority-owned businesses. This interest resulted in the first of three recommendations by the Advisory Committee – the issuance of a Request For Proposals (RFP) to obtain a complete supply chain map by function of the offshore wind energy sector. Such a supply chain map would be helpful in understanding the most effective path to building a strong offshore wind industry sector in the state. Maryland academic institutions, universities, and community colleges, along with State and local government agencies and Maryland-based NGOs, would assist in identifying Maryland's emerging businesses, including minority-owned businesses, capable of performing the identified offshore wind supply chain functions. Further, Maryland based training and education institutions could develop specialized training for these businesses to raise the competencies required to develop Maryland's offshore wind supply chain.

The Advisory Committee's second initial recommendation was to find ways to reduce near-term cost barriers so that Maryland emerging businesses, including minority-owned businesses, may gain initial entry into the market by manufacturing components within Maryland and exporting them to Europe's existing offshore wind energy supply chain market. This recommendation stemmed from the members' interest in supporting manufacturing of supply chain components, which was heightened by a tour of Denmark and Germany's offshore wind sector by a group of Maryland's emerging and minority-owned businesses and Advisory Committee members. Following the tour, members learned that Maryland businesses could seek potential early entry into the offshore wind supply chain by manufacturing within Maryland and exporting to Europe's existing offshore wind market.

However, the process identified some barriers to market entry, including challenges that Maryland companies face in being able to recognize and understand specific business opportunities within Europe, and high non-recoverable cost barriers associated with the technically differentiated, higher value propositions offered by Maryland companies, which often cannot receive normal amortization while establishing an export supply.

Thus, the Advisory Committee recommended the development of support to offset high barrier administrative costs and non-recoverable capital expenditure (CAPEX) or facilities costs that Maryland's emerging businesses, including minority-owned businesses will face as they seek early entry into this already established market.

The Advisory Committee's third initial recommendation was to allocate resources to achieve wider outreach and awareness of the opportunities within Maryland's evolving offshore wind supply chain. Members praised the successes of previous outreach activities initiated by the Business Network for Maryland Offshore Wind that established a core membership for the Network and could be expanded and directed, moving forward, toward ensuring each and every Maryland emerging business, including each minority-owned emerging businesses, is made aware of the opportunities created by the evolving offshore wind energy industry.

In summary, the Advisory Committee's initial recommendations for FY 2014 were:

- a) Procure an offshore wind supply chain map by function with associated competencies and overlay it across as many Maryland emerging businesses, including minority-owned emerging businesses, as possible in all regions of the state. Maryland's academic institutions and stakeholders with a focus on supporting emerging businesses, including minority-owned emerging businesses, should participate in efforts to identify relevant businesses.
- b) Assist Maryland's emerging businesses, including minority-owned emerging businesses, within the manufacturing sector, to gain a strong foothold in the established offshore wind supply chain market(s) by pursuing immediate export opportunities. Specifically, policies should offset high barrier administrative costs and non-recoverable CAPEX or facilities costs that Maryland's emerging businesses, including minority-owned emerging businesses will face as they seek early entry into this already established market.
- c) Develop and implement a proactive statewide outreach program targeting emerging businesses, including minority-owned emerging businesses, to connect them with opportunities identified by the supply chain map. Further, an outreach program should provide a systematic assessment of available competency levels of the Maryland work force with which to form a strong basis in fostering partnerships with Maryland's providers of training and skills development.

From January - December 2014, the Advisory Committee held regular meetings, periodically discussing refinements to the initial three recommendations as well as formulating new recommendations for the remainder of the Fund. These discussions focused on the needs of Maryland's emerging businesses, including minority-owned businesses, with an anticipated funding schedule from today through to deployment of offshore wind turbines and beyond to Operations and Maintenance.

As a result of these meetings, the Advisory Committee developed a set of six conclusive recommendations, detailed in this report. Each recommendation is either a refinement of one of the three initial recommendations made at the end of 2013 or is a newly developed additional recommendation. These final recommendations include:

1. Procure Supply Chain Map by Function and Competencies as in a) above.
2. Devote resources to support an individual within State Government, empowered to target and strategically pursue opportunities to leverage and increase funding available beyond the anticipated minimum \$10 million specified for the Maryland Offshore Wind Business Development Fund, and to use remaining leveraged funds to finance a four stage 'support program' for emerging businesses, including minority-owned businesses.

3. Conduct outreach as two staggered phases. The first, to target potential primary contractors for a successful OREC application, and the second, to use the results of the supply chain map by function and competencies to target potential secondary and tertiary supply chain businesses. Second phase outreach efforts should provide emerging businesses, including minority-owned businesses, exposure to offshore wind business opportunities, along with integrated access to appropriate capital, and to workforce training opportunities, training centers and skills development -- the latter possibly supported through a mentoring program.
4. Formulate a four stage 'support program' that includes both technical and financial elements that are designed to meet: i) Immediate Needs; ii) Short-Term Needs; iii) Medium-Term Needs; and iv) Long-Term Needs, aligned with the consecutive phases of building and operating an offshore wind project.

Currently operating under the Immediate Needs phase, policy support has been directed to finding and establishing export opportunities for Maryland businesses within the offshore wind industry abroad. As a further element of the Immediate Needs phase, the Advisory Committee members recommend establishing support for Maryland's emerging businesses including minority owned businesses, seeking to improve their 'readiness' for the offshore wind industry. This could entail providing skills development opportunities with enhanced or new training centers, or other program elements to be identified.

Further, members recommend that each of the four stages of the 'support program' should also have pre-determined funding levels made available for different business categories, such as MBEs, SMEs and Maryland businesses already participating in the offshore wind industry. Further, where appropriate, elements of the 'support program' particularly in the 'short term' and subsequent stages, should include conditional support, in which recipients of leveraged Maryland Offshore Wind Business Development Fund are required to participate in mentoring relationships with individual MBEs.

5. Initiate a mechanism for the members to receive routine updates on the progress and development of their recommendations and to have an opportunity to interact and discuss with MEA about its actions carrying out the recommendations within this report. The Advisory Committee recommends that, initially, quarterly meetings with MEA along with emails distributing progress reports, should be considered. Members have an additional interest in discussing with the new Administration the allocation of financial resources, and to ensure that all recommendations are fully supported and that all business groups are provided appropriately funded elements within the 'support programs.'
6. Provide a full briefing to the new Administration: the members recommend that relevant representatives of the incoming Governor's office receive a full briefing of the Advisory Committee recommendations from the members and that the new

Administration create a coordinated offshore wind public initiative among the State Department of Business and Economic Development (DBED), Department of Labor, Licensing and Regulation (DLLR), Department of Natural Resources (DNR), and Department of Environment (MDE), as well as MEA, that will advance offshore wind for Maryland. It was recommended that the initial briefing meeting with the new incoming Administration be organized by the Network, within 3 months of the new Administration taking office.

Actions to date resulting from the Advisory Committee's recommendations include:

- The issuance of an Export Assistance Grant to help Maryland companies enter into the European supply chain in advance of Maryland's offshore wind deployment. This includes a series of Administrative grants up to \$25,000 each to offset barriers such as translation of technical parameters as well as \$500,000 for CAPEX and facilities upgrades;
- Design and publication of an RFP for an offshore wind supply chain map by function, detailing all the functions and competencies needed throughout the lifecycle and stages of an offshore wind facility. By comparing this document with Maryland's business inventory, planners and stakeholders can develop strategic options for supporting Maryland companies that have potential to participate in Maryland's new offshore wind industry. The results of this work will be available via an interactive web portal which will be available for all Maryland companies including emerging businesses and minority-owned businesses in Maryland; and
- Outreach to the historically underserved business community for potential primary contractors that maybe engaged by the developer at different stages in the development of Maryland's offshore wind project. Identifying potential underserved businesses in advance of future potential engagement some years in the future could help a developer prepare an OREC application to Maryland's Public Service Commission.

It should be noted that some of the Advisory Committee members have separately made application for funding such as EARN which has been used to fill gaps in the modern welding skills required for the offshore wind industry.

## II. Committee Members:

The composition of the Advisory Committee, as required by statute, is as follows:

Special Secretary of the Governor's Minority Affairs or her designee: **Zenita Wickham Hurley** - Chair

Director of Maryland Energy Administration: **Abigail Hopper**

Maryland State Senator (D): **Brian J. Feldman**

Maryland State Senator (R): **Steven S. Hershey Jr.**

Maryland State Delegate (D): **John A. Olszewski Jr.**

Maryland State Delegate (R): Vacant

Maryland Department of Economic Development Secretary of designee: **Carl Livesay**  
and subsequently **Chris Clark**

Representative of Public Institution of Higher Education with the State: **Don Engel**

Representative of Historically Black African American College: **Eugene DeLoatch**

Representative of Maryland's Community College: **Rich Cerkovnik**

Representative of Maryland's Independent Colleges and University Association:

**Benjamin Hobbs**

Representative of Small Business Development Center Network: **Renee Sprow**

Representative of Maryland's Offshore Wind Business Network: **Liz Burdock**

Representative of Business Incubator with experience in providing services to Minority  
Businesses: **Joe Gaskins**

Representative of the Maryland Minority Business Lending community: **Stanley Tucker**

Individual with offshore wind developer experience: **Armin Forester**

Representative of an original equipment manufacturer (OEM): **Sunny Gupta** (absent)

Individual who is a minority business advocate: **Lance Lucas**

Individual of offshore wind supply chain experience: **Theis Jørgensen**

Note I: The Maryland Energy Administration (MEA) provided administrative support to  
the Advisory Committee and its members. The following MEA staff attended meetings:

**Fred Hoover**, Director of Clean Energy Programs

**Andrew Gohn**, Senior Clean Energy Program Manager

**Ross Tyler**, Offshore Wind Development Fund Program Manager

**Emilee van Norden**, Program Manager

Note II: Regular attendees of the meetings by non-committee members included:

**Samuel Smoots** from the American Association of Blacks in Energy

**Terry Goolsby** from Visonergy, LLC.

III. Purpose:

The Maryland Offshore Wind Business Development Fund ("the Fund") will total a  
minimum of \$10 million, as specified in State Government Article § 9-20C-03. This  
figure consists of \$4 million from the Strategic Energy Investment Fund, contributed in  
satisfaction of commitments made during the 2011 merger of Exelon and Constellation  
Energy, and \$6 million to be contributed by the developer who is ultimately successful in  
securing Maryland's Public Service Commission's final order concerning the Offshore  
Renewable Energy Credits (ORECs), as set forth in § 7-704.1(g) of the Public Utilities  
Article.

The Fund is designed to provide business development, financial assistance and  
employee training opportunities for the benefit of emerging businesses, including  
minority-owned businesses within Maryland, and to help prepare these businesses to  
participate in the state's emerging offshore wind industry.



The Advisory Committee is required by statute to submit two reports, both containing formal recommendations on the most effective use of the Fund. Within the recommendations, the Advisory Committee is to consider opportunities to maximize any leverage funding and explore mentoring models, innovation clusters, and incubator and business development programs along with appropriate role of partnerships with Maryland's academic institutions.

#### IV. Meeting Summaries:

The Advisory Committee members assembled initially in September 2013 and in general, have attempted to meet monthly until December 2014. These deliberations led to the recommendations contained in this report. Minutes for each of the meetings were recorded by MEA staff but the meetings' main topics are summarized below:

1. September 9, 2013 - This initial meeting provided the Advisory Committee members the background of the Fund; the purpose of the Advisory Committee; the anticipated schedule; and the Advisory Committee's procedures. Committee Members then spent time discussing potential topics for Advisory Committee consideration.
2. October 29, 2013 – The Advisory Committee primarily discussed obtaining an 'offshore wind supply chain map by function', which had been raised in the previous meeting. The members agreed that the purpose would be to overlay information across as many Maryland emerging businesses, including minority-owned emerging businesses, as possible, in all regions of the state. The Advisory Committee agreed that details of an offshore wind supply chain map and any marketing strategy were crucial to assure the participation of Maryland's emerging businesses, including minority-owned emerging businesses.
3. December 3, 2013 – The Advisory Committee primarily discussed the needs of Maryland emerging businesses, including minority-owned emerging businesses, seeking early entry into the European offshore wind sector through exporting certain components. This would be a proactive way to immediately provide certain Maryland emerging businesses, including minority-owned emerging businesses, with valuable opportunities, and could also help expedite development of Maryland's offshore wind supply chain. Some members and other stakeholders, who had recently returned from a tour of Europe's offshore wind sector in Denmark and Germany, saw a pressing and immediate need to help Maryland's relevant emerging businesses, including minority-owned emerging businesses, take advantage of certain identified manufacturing and logistical opportunities.

The Advisory Committee showed its support for identifying immediate ways to help overcome some identified barriers. Such barriers included costs associated with identifying and understanding specific European commercial opportunities, and non-recoverable CAPEX or facilities costs. Members learned through

presented material and broader discussions that, within the European offshore wind energy sector, there are different models and standards for workforce development and training. Some members had the opportunity to witness business clusters based on the offshore wind industry, with parallel workforce development.

In previous meetings, members recognized the importance of outreach to Maryland businesses. An invited speaker from Haley & Aldrich, with expertise in the technical aspects of the offshore wind sector, emphasized the importance and provided details concerning outreach to Maryland businesses. The speaker explained the significance of engaging in outreach early to both the public and the business community, especially in reaching minority- and woman-owned businesses.

4. January 7, 2014 - This meeting included a general discussion about the December 2013 report, with three listed recommendations. Some of the re-clarifications included the state's definition of 'emerging businesses'. The discussions around the recommendation for the issuance of an RFP resulted in members requesting an opportunity to preview of the scope of work. This, in turn, raised the issue of potential conflicts with members that may wish input or viewing of the scope content as well as potential participation in the work. It was agreed the matter would be investigated with the Ethics Committee.

Members discussed the concept of '4 phases' for business support: 'immediate, short-term, medium-term and long-term'. In this context, members discussed the risks Maryland emerging businesses, including minority-owned emerging businesses, face in engaging with this new and evolving industry, and supported the objective that grant programs should be designed to help offset those risks. Members also discussed the need to leverage available funds, and included YCC and EARN grants as potential examples. The meeting concluded with the Advisory Committee members agreeing to provide any additional concerns, thoughts or proposed edits to MEA staff by January 11, 2014.

5. February 3, 2014 – MEA staff provided feedback to members regarding the interim discussions with the Ethics Commission. Those conversations resulted in a decision that any scopes of work for procurements of goods or services issued as a result of Committee deliberations or recommendations would not be shared with Advisory Committee members, as this would affect their eligibility to participate with a bid offer. This included procurement efforts such as an RFP planned for the Supply Chain Map by Function and Competencies.

The Advisory Committee continued discussions about leveraging opportunities and devoted significant time to discussing a number of alternative sources include Federal, State and local resources, such as potential funding provided by Maryland's banks. The members proposed that there should be an initiative to engage Maryland's congressional representatives to alert them of Maryland's

needs, and to engage in a dialogue to learn optimal ways in which Maryland could position itself to access federal resources.

Members agreed that pursuing the activity of leveraging of funds would take resources to develop and apply a strategic approach. The group also discussed that there would be a need within the 'outreach' recommendation for help for smaller companies, in particular minority- and women-owned businesses to: i) identify the opportunities to engage into the supply chain; ii) have access to finance so as to facilitate timely entry into the supply-chain; and iii) develop linkage with access to finance and training with suitable skills development.

The group discussed merits in linking future funding to a mentoring program as a step to integrate the opportunities with access to finance, training and skills development. The Committee members highlighted that, as offshore wind is at an early stage in its development as an industry, initial participation by emerging businesses, including minority-owned emerging businesses (MBEs and WBEs), could be expected to be initially modest but with significant potential to develop over time. The Advisory Committee members concluded that the expected \$10M fund (without leverage) would likely be insufficient to significantly accelerate the participation of these early market entrants.

6. March 17, 2014 - Postponed because of a winter storm.
7. April 18, 2014 - Members were introduced to Melinda Vann from Maryland Higher Education Commission who described the ongoing work of the Clean Energy Program Task Force (with development of terminal degree programs for Maryland's Historically Black College and Universities) and the Clean Energy Technical Task Force with focus on developing community college courses so that graduates could meet industry needs. Chair of the Technical Task Force, Greg Farley from Chesapeake Community College, expanded on some of the technologies the Task Force members discussed, which extended beyond offshore wind but remained relevant for clean energy industries. Mr. Farley concluded that the Task Force recommendations would request Maryland's legislators to provide funding for a grant in which the community colleges could competitively apply to develop appropriate courses as part of the work force development and training.

Liz Burdock provided an overview of the Business Network for Maryland Offshore Wind and described how it was facilitating knowledge sharing to the private sector and preparing businesses to build a strong offshore wind industry. Ms. Burdock described the Network's strong interest in working with Maryland community colleges identify the future needs of industry.

Renee Sprow from Small Business Development Center (SBDC) outlined SBDC's work seeking federal funding to assisting Maryland's businesses, particularly members of the small and under-served business community with

'awareness, assessment and assistance'. In this respect, SBDC is in a strong position to provide 'wrap-around' services to the companies identified in requiring 'assistance' before entering the offshore wind supply chain. The members agree that Maryland's businesses are going to require both financial and technical support.

8. August 20, 2014 - This meeting provided the members news and details of the previous day's U.S. Bureau of Ocean Energy Management auction with US Wind Inc., a subsidiary of Renexia, Italy, as the winning bidder for both the north and south regions of the Maryland offshore 'Wind Energy Area'.

The meeting also informed the members that the 'outreach' initiative would be divided into two parts: immediate for potential contractors (emerging businesses, including minority-owned emerging businesses) with an offshore wind energy developers - covered by an MOU with SBDC; and a broader initiative to cover secondary and tertiary suppliers of products and services. MEA staff informed members of plans to issue a competitive RFP for the latter part, after the results of the supply chain map by function were available. Outreach would then be structured to cover all phases of the supply chain, including construction and deployment. Other topics of discussion included:

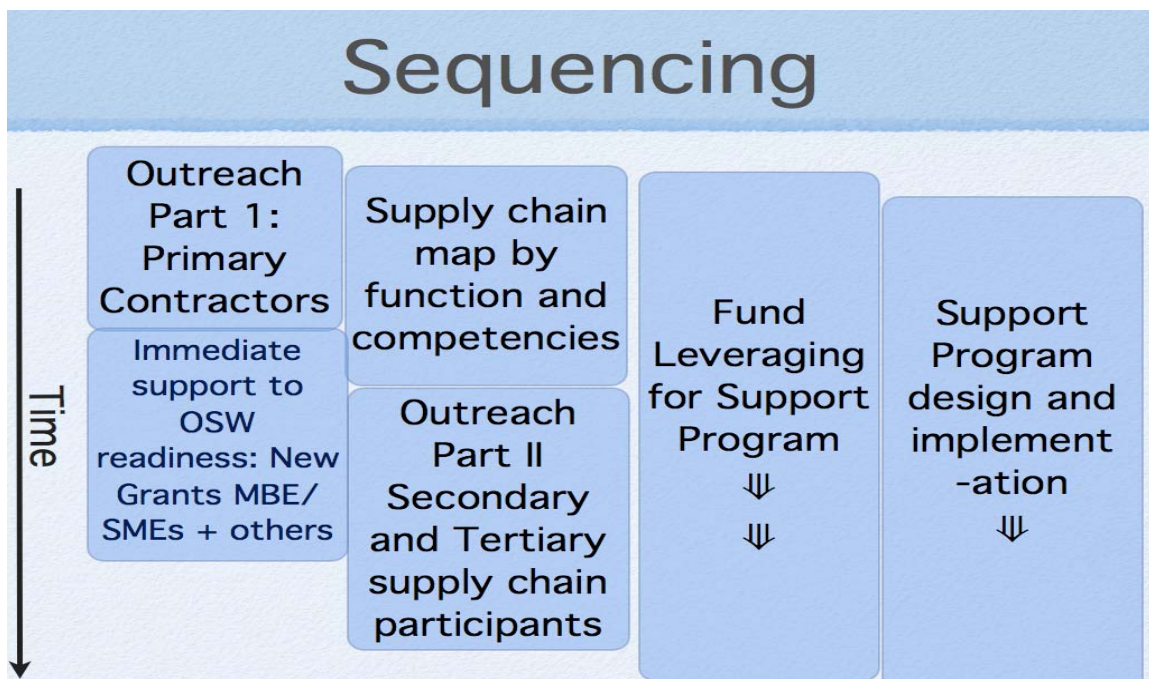
- a. the need for assistance to emerging businesses, including minority-owned emerging businesses, seeking to participate in the supply chain through a 'mentoring' program;
  - b. potential merit in examining the South Carolina approach to fostering cluster development by bringing businesses and academic institutions together;
  - c. the critical role of a supply chain map by function and competencies in understanding the training needs which DLLR could proactively work to address;
  - d. expectation that identified emerging businesses, including minority-owned emerging businesses, will require funding assistance for capital equipment and upgrades; and
  - e. agreement that the DBED programs have an important role to play in supporting both CAPEX, as well as workforce initiatives.
9. September 9, 2014 - Members received a copy of a proposal from American Association of Blacks in Energy (AABE) to invest in an outreach initiative. Members then received an outline of work proposed by a consortium of members including SBDC, Morgan State University and Mr. Tucker. As the proposals were delivered moments prior or during the meeting, discussion of their content was deferred until after the Chair had an opportunity to review.

Members then discussed the importance of incubators and suggested allocation of set amounts of funding to specific sectors of the business community. For example, small businesses or emerging businesses, including minority-owned

emerging businesses, lacking prior exposure to offshore wind energy technology; others with knowledge of the sector, but lacking the resources to enter it; and others that could benefit from funds if they were participating in a program similar to the U.S. Small Business Administration's 8(a) Business Development Mentor-Protégé Program. Some members voluntarily agreed to form a sub-committee to explore additional funding leverage opportunities and report back to the Advisory Committee.

10. October 22, 2014 – Chair informed members that remaining meetings would not be devoted to discussing additional proposals from Committee members or outside groups. Individuals involved in the recent delegation visit to Europe provided insights gathered on that trip. One of the important issues that delegation participants shared with members was the importance of standards. Speakers placed particular emphasis on standards in manufacturing as well as health and safety training. (An example is standards for design of apparel for use by technicians servicing an offshore turbine.)
11. November 17, 2014 - MEA presented a PowerPoint synopsis of the final report, compiling different elements and suggestions from prior meetings into broad recommendations. These broad recommendations included:
  - a. Outreach
  - b. Supply Chain Map by Function and Competencies;
  - c. Fund Leveraging; and
  - d. Four Stage Support Program: Immediate, Short-term; medium-term; and long-term;

Summary for sequencing as shown below:



Committee members indicated support for 'fund leveraging' activity to start immediately. Members also agreed that there should be a dedicated person responsible for fund leveraging activities, and that this individual should ideally either reside within an existing Maryland agency or be contracted for the effort by a State agency.

Committee members also expressed support for increased assistance to improve readiness of SMEs, MBEs and WBEs in the immediate term.

December 15, 2014 - The Advisory Committee used this final meeting to review the draft report and to underscore certain recommendations with proposed actions. In addition, members agreed that it was critical to continue engagement with the incoming Administration, including new department and agency appointments, regarding the recommendations.

## V. Recommendations

Based on these deliberations, the Advisory Committee provides six recommendations on the most effective use of the Business Development Fund to maximize opportunities for emerging businesses, including minority-owned emerging business, in the state:

1. *Procurement of an Offshore Wind Supply Chain Map by Function and Competency.*

A detailed offshore wind supply chain map would illustrate the components and services necessary for development of a major offshore wind energy project, and which Maryland businesses may have capacity to provide them. This would allow MEA to best prioritize and plan 'support program' initiatives targeting relevant sectors with businesses that are offshore wind 'ready' and those that are offshore wind 'potentially ready'. Such prioritization is important as different development phases require companies with varying expertise. Further, an offshore wind supply chain mapped within the Maryland context would help identify opportunities within the primary, secondary and tertiary levels of the supply chain.

The Advisory Committee emphasized that MEA should require a full analysis that identifies key skills and workforce training requirements, and includes input from knowledgeable Maryland institutions that understand the state's business community. This input will tailor the supply chain map to the existing opportunities and challenges in Maryland, as well as help identify opportunities for partnerships, mentoring and potential joint ventures. Further, the results of this work, in addition to being distributed in report form, will be available in a public user friendly web-based portal that will allow businesses to identify potential opportunities to participate in the offshore wind energy supply chain in Maryland.

## 2. *Outreach*

The Advisory Committee believes it is important to initiate focused outreach across the state, targeting emerging businesses, including minority-owned businesses, with the purpose of broadening awareness of possible opportunities within the evolving offshore wind industry. Initial outreach efforts can help identify Maryland based businesses, including minority-owned businesses, which may be suitable for contracting opportunities in early project development stages or in later construction and operation activities. Moreover, these types of contracting opportunities can assist a project developer in documenting local participation in a project proposal to the Public Service Commission.

Subsequent outreach efforts should follow the publication of the supply chain map by function. By matching capacities and competencies with those enumerated in the supply chain map, Maryland emerging businesses, including minority-owned businesses, can explore opportunities relevant to them. Outreach activities can support this matching through a more systematic assessment of future capital needs, possible mentoring opportunities and workforce competency levels at emerging businesses, including minority-owned businesses. These efforts should seek to facilitate coordination of potential partnerships between firms and community colleges and other providers of training and skills development.

## 3. *Leveraging*

The history of successful offshore wind sector development in Europe suggests that Maryland's emerging businesses, including minority-owned businesses, are likely to require support funding at levels significantly in excess of the \$10 million currently dedicated to the Maryland Offshore Wind Business Development Fund, and most likely in excess of the InvestMaryland fund presently administered by Maryland Ventures Fund Authority and DBED. The Advisory Committee has noted several federal, regional, local and national resources that represent potential co-funding opportunities. However, currently no individuals or institutions are dedicated to pursuing those leveraging opportunities.

Therefore, the Advisory Committee recommends that Maryland agencies make a targeted investment from the Business Development Fund, as appropriate, to support the dedication of staff, resources, and administrative capacity to securing cost-sharing and leveraging opportunities. Policymakers should include a particular focus on maximizing leveraged funding support opportunities for Maryland's emerging businesses including minority owned emerging businesses.

## 4. *Support for Maryland Businesses and Manufacturers*

The Advisory Committee recommends development of a comprehensive support program for Maryland's emerging businesses, including minority-owned

businesses, seeking to participate in Maryland's offshore wind energy supply chain. This support should include immediate, short-term, medium-term and long-term initiatives to ensure continuity of business development as the sector emerges and matures. The Advisory Committee recommends that this sequential planning incorporate the consecutive phases of development of a major offshore wind energy project:

- planning and site assessment;
- manufacturing;
- lay-down and assembly;
- construction and deployment; and
- operations and maintenance.

Immediate - An early priority for immediate support should be a strategy to provide early market entry grants to assist emerging businesses, including minority-owned businesses, overcome market barriers to competition and participation in existing European offshore wind markets. This will contribute significantly to those businesses' capacity to support and lead in the North American offshore wind sector as it develops.

Additionally, members emphasized that additional elements should be put in place to help Maryland's emerging businesses, including minority-owned businesses, improve their readiness for the offshore wind industry. Support for training and capacity-building opportunities for these businesses should prioritize development of skills and competencies with application to both the offshore wind energy supply chain as well as a broader range of present and near term workforce opportunities

Short-term – Members recommend support over the short term for Maryland's emerging businesses, including minority-owned businesses, to prepare for participation in the supply chain for an offshore wind energy project. Support should help reduce barriers to businesses involved in project planning and infrastructure development, optimize facilities to handle the large scale components associated with offshore wind, and implement training to ensure compliance with certain international standards. Experiences from Europe suggest that support may be needed to de-risk or provide financial assurances, especially when Maryland companies are seeking to participate as suppliers of critical secondary or tertiary components.

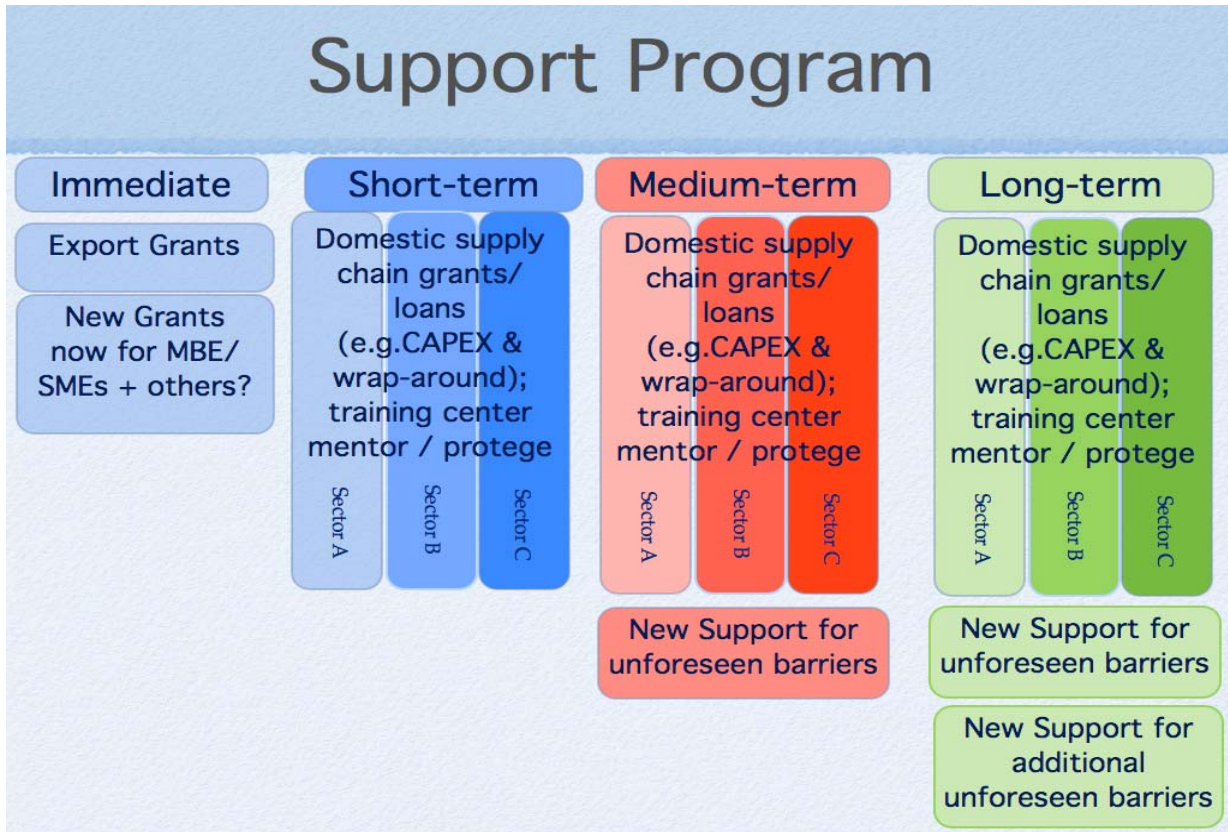
Medium-term – Members recommend that this stage of the support program be optimized to meet the needs of Maryland's emerging businesses, including minority-owned businesses, as they prepare to participate in the lay-down, construction and deployment phases of building an offshore wind energy project. This phase should provide resources toward the acquisition of specialized equipment and other CAPEX requirements, in addition to some of the possible support elements described in the short-term initiative.



Long-term – Members recommend a long-term support effort to meet the needs of Maryland’s emerging businesses, including minority-owned businesses, as they prepare to participate in the operations and maintenance of a constructed offshore wind energy project. Members did not have a detailed set of recommendations for this stage of support, however trends in Europe suggest this is a growth opportunity for specialist independent service providers. Therefore, effective support could be focused on assisting with technical and business knowledge transfer, joint ventures and or license agreements.

In each of the immediate, short-term, medium-term and long-term stages of the support program, members recommend ensuring appropriate allocation of resources to different business profile types (illustrated as Sector A, B and C below) and, developing a support program that includes targeted grants and loans for CAPEX as well as for business wrap-around services (such as accounting). Further, the support elements should, where appropriate, be linked to mentoring/protégé sub-programs. It is anticipated that the elements of a support program will not be appropriate equally for all phases of the wind farm build out and that different elements may need to be added in support of the medium-term and long-term stages.

A visual summary of the four stages support program is as shown below:



5. *Continued engagement and routine briefings between MEA and the Advisory Committee Members*

Members recommend that MEA establish a mechanism to continue to provide members with periodic updates on the progress and development of programs and initiatives responding to the recommendations contained in this report. Additionally, MEA should provide members with opportunities to engage with MEA Director and staff regarding the progress and development of programs and initiatives responding to the recommendations contained in this report.

6. *Outreach to incoming Administration*

Members emphasized the need for incoming Governor's staff and Administration officials to have access to the full range of information and materials regarding the history, purpose and potential of Maryland's nascent offshore wind energy sector. During the early stages of Governor Hogan's leadership, there may be new policymakers and stakeholders engaging with the subject of offshore wind energy who have not had the opportunity to review the full array of benefits that offshore wind energy offers Maryland in economic development, job creation, and industrial growth.

Therefore, members recommend that during the first three months of the Administration, the MEA Director and any appropriate members of the Administration meet with members of the Advisory Committee and allow them to provide a comprehensive briefing on the value that offshore wind energy development can bring to business development in Maryland. Members expressed support for the Business Network for Maryland Offshore Wind to act on their behalf in scheduling and organizing this briefing.

Additionally, members emphasize that the most effective way for State agencies such as DBED, DLLR, DNR, MDE and MEA to encourage economic development associated with offshore wind energy is to coordinate and act in concert. Therefore, members recommend that MEA continue to engage with those agencies and that programs and initiatives resulting from these recommendations be coordinated across agencies for maximum benefit. Members recommended that agencies take care to balance the recommendations and ensure equitable resource allocation between the priorities targeted in this report.

## VI. Considerations

The Advisory Committee's recommendations were formulated during the course of meetings from September 2013 to December 2014. During these meetings, a number of guest speakers were invited to share insights, experiences and presentations regarding the offshore wind industry. Members developed the recommendations in this report based on members' exposure to the European offshore wind industry, guidance and

discussion in the meetings and members' own understanding of Maryland's landscape of emerging businesses, including minority-owned emerging businesses.

### *Policy Rationale*

Legislators who supported the passage of the Maryland Offshore Wind Energy Act of 2013 indicated that the promise of job creation and economic development associated with the establishment of a Maryland offshore wind energy supply chain, in combination with the environmental benefits and public health cost reductions, made offshore wind energy an indispensable element of Maryland's energy future. However, legislators and policymakers have been clear that full realization of these benefits will require a carefully targeted approach.

Other nations that have successfully deployed offshore wind as a clean energy generation have also focused on capturing the economic development benefits. Some regions of Europe have had greater success than others in securing those domestic benefits. Governments that have enjoyed the greatest attainment of these benefits have invested heavily in both the research and analysis of potential supply chain opportunities, as well as in the substantive business support and infrastructure development identified in that research. The opportunity cost of this investment may present difficult choices for policymakers. For this reason, Maryland should seek leveraging opportunities to increase the power and reach of the Maryland Offshore Wind Business Development Fund.

Based on discussions between MEA and several offshore wind consulting firms with expertise in this area, only certain parts of the offshore wind supply chain map are currently available. A complete supply chain map by function and competencies would allow Maryland to start matching the functions to Maryland's emerging businesses, including minority-owned emerging businesses, having potential to perform similar functions and participate in the development of a Maryland offshore wind supply chain.

Identifying opportunities within the new offshore wind supply chain map can provide immediate benefits for some of Maryland's manufacturing firms. By reducing some of the barriers that Maryland emerging businesses, including minority-owned businesses, face in entering this new sector, Maryland manufacturers and service providers can secure a strong market position. Outreach to Maryland's emerging businesses, including minority-owned businesses, will help identify the opportunities within the offshore wind sector and will provide insights into resource requirements, skills development, training and standards to obtain globally accepted industry competency levels.

By tailoring efforts to precisely identified opportunities, Maryland policymakers can realize the objectives of the legislature in securing environmental and public health benefits while investing in economic development for the state and business opportunities for all Maryland businesses.

## *Benefits to Maryland*

An offshore wind supply chain by function will allow Maryland businesses to invest strategically in supply chain opportunities. Further, it will aid agency staff and stakeholders in outreach to emerging businesses, including minority-owned businesses, and assessment of these firms' individual assets, skills and competencies. It is important to consider the full scope of Maryland's workforce, from direct construction to PhD's, and to support formation of partnerships and mentor/protégé relationships.

Armed with this analysis, and with all possible leverage of initial funding, the State will be in a great position to develop a comprehensive support program to pursue investments that support Maryland's businesses build their leadership capacity in this new industrial sector. This will provide Maryland emerging businesses, including minority-owned businesses, the best opportunity to succeed, and position Maryland firms at a competitive advantage at the regional and national levels.

A systematic approach is needed to prepare and align Maryland's emerging businesses, including minority-owned businesses, to meet the needs of an established, but evolving global industry. Such an approach will likely foster the interest of other states and regional partners and could result in future opportunities for partnership and collaboration. Knowledge of the complete supply chain will allow State government planners and other stakeholders to ensure that Maryland emerging businesses, including minority-owned businesses, can be included in a successful OREC application to Maryland's Public Service Commission.

The offshore wind supply chain map by function may ultimately identify gaps that cannot be filled by Maryland companies. Maryland has engaged in a comprehensive outreach to European governments and businesses to ensure that, where knowledge sharing, joint ventures, or licensing agreements with foreign firms are identified as the optimal providers of elements beyond the capacity of Maryland firms, direct foreign investment can be achieved along terms most favorable to Maryland.

Supporting Maryland emerging businesses', including minority-owned businesses', early entry into the offshore wind industry by exporting to European markets could improve the revenue and market position of specific state businesses and create immediate employment opportunities for Marylanders. These emerging businesses, including minority-owned businesses, would then represent 'champion businesses' of consortia or 'flagship cluster' examples, where offshore wind opportunities provide return of investment to the state and directly encourage other Maryland companies to pursue the same interest.

Statewide outreach to Maryland's emerging businesses, including minority-owned businesses, has the potential to reach companies that can either be either contracted directly by a successful OREC awardee, or contracted as a secondary or tertiary supply chain participant in growing Maryland's offshore wind supply chain. Further, the outreach targets can include businesses that are uninitiated and not yet highly

knowledgeable about offshore wind energy, aspiring to enter the new evolving offshore wind sector, and/or knowledgeable about offshore wind energy but lacking the understanding of specific opportunities available to them. Companies in all three categories, once identified, would have opportunity to work with State and local agencies and other organizations that provide businesses wrap-around services, in order to strengthen their position and become part of Maryland's offshore wind supply chain cluster.

Implementation of the support program to the emerging businesses, including minority-owned emerging businesses, will require careful design that includes the most successful elements practiced overseas as well as importing best practices from other industries and jurisdictions. Further, the detail of the supportive programs should vary for Maryland businesses with different profiles, and provide specific support in line with consecutive phases of building a major offshore wind project off Maryland's Atlantic coast.

## VII. Leveraging funds

In many of the Advisory Committee's meetings, members discussed fund leveraging opportunities. Stakeholders, such as the Maryland Offshore Wind Business Network representatives, cited possible resources including the U.S. Dept. of Commerce Market Development Cooperation Agreement -- a federally funded match program to help US exporters. Further, a member cited an imminent \$100 million federal grant available for career training. The Advisory Committee acknowledges that Maryland's businesses will require many hundreds of millions of dollars over many years to build a strong offshore wind supply chain. Some of the State's Offshore Wind Development Fund activities have received federal cost-sharing support. It is for this reason that the Advisory Committee members believe that the Business Development Fund can receive leveraged funds needed for all the need support activities and recommends some of the existing Business Development Fund to dedicated to an individual charged with responsibility to seek and realize leverage opportunities for the benefit of the Maryland's emerging business including minority owned businesses.

## VIII. 2015 and Beyond

Some Advisory Committee Members have requested continued engagement with the Maryland Offshore Wind Business Development Fund through additional informal meetings and briefings. Such continued engagement would provide members with an opportunity to learn and to discuss the evolving support directed to emerging businesses, including minority-owned businesses, for subsequent fiscal years.

To act on the recommendations in this report, the following are required:

1. Completion of the supply chain map by function and competencies with application to the Maryland context;

2. Completion of initial outreach efforts that identify appropriate emerging businesses, including minority-owned businesses, and under-served members of the business community, that can be contracted directly by a developer of a Maryland offshore wind energy project, as primary suppliers of services and products. These efforts will also be critical to the successful demonstration of net economic benefit to Maryland within any OREC application. Following results of the supply chain map by function and competencies, additional outreach should be launched to target emerging businesses, including minority-owned emerging businesses, as potential secondary and tertiary suppliers for Maryland's offshore wind supply chain.
3. Allocate necessary resources to seek leveraging opportunities for funding of support programs, and provide assurances to investors within emerging businesses, including minority-owned businesses, as they pursue engagement in different aspects of the offshore wind supply chain.

Develop a support program for Maryland's emerging businesses, including minority-owned emerging businesses, who wish to enter the supply chain as primary, secondary or tertiary supply chain participants. Support programs should contain both financial and technical elements, possibly combined with protégé or mentoring partnerships. The design of the support program will require varying elements during progressive periods in the development of Maryland's supply chain, corresponding to the consecutive phases of offshore wind energy project construction.

4. Continued constructive engagement and communication between the Hogan administration and members regarding progress in implementing the recommendations of this report.
5. Provision of an opportunity for the members to brief the Administration on the importance of the recommendations within this report, and the need for State agencies to provide cohesive and unified programmatic support to Maryland's offshore wind supply chain participants.

## IX. Conclusion

The Advisory Committee's recommendations for FY14 and FY15 allocations of the Maryland Offshore Wind Business Development Fund provide a coordinated approach that will benefit many of the State's emerging businesses, including minority-owned businesses, that are interested in participating in Maryland's offshore wind sector. The recommendations seek to provide the incoming Administration with an understanding of the importance of providing consistency of support for this developing industry.

Further, Members emphasize the importance of having a well-integrated multi-agency strategy to plan, establish, and sustain appropriate training initiatives to support the creation of new offshore wind employment opportunities within Maryland. These

recommendations are likely to increase the number and types of businesses that may participate and contribute to Maryland's offshore supply chain cluster. These recommendations are focused on helping Maryland's emerging businesses, including minority-owned businesses, prepare to meet the needs of Maryland's growing offshore wind industry.