

**PUBLIC COMMENTS
GOVERNOR'S OFFSHORE WIND WORKING GROUP
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Thank you for the opportunity to present some of my views to the working group. I am a thought leader in the wind area since 2001 where I worked as a consultant for the Department of Energy Office of Wind in Washington, DC and the National Renewable Energy Lab based in Colorado.

I have been with the University of DE, Center for Carbon-free Power Integration for about 3 and ½ years and spent 2 years in Denmark at the Danish Technical University focusing on challenges with community engagement for new wind projects on land and at sea. Recently, I have been gauging interest of local decision makers and citizens in renewable energy and the clean energy transition in the Delmarva Peninsula.

There are two central issues that do not appear to be addressed by the working group to date ---The need for offshore wind and stakeholder engagement of local citizens and local decision makers. Establishing the need to invest and/or to purchase new energy supplies must also consider life-cycle impacts and benefits on a regional level. Public engagement of local citizens is a pressing need that I have explored and now have some preliminary observations from research in Sussex County. Key issues that I have identified are as follows.

We know that public engagement must be **two-way process and begin early and continue throughout the decision-making process.** Listening to citizens is really important – we need to know what they know, what are their concerns, what do they think about clean energy supplies? Are they connecting the dots between clean energy and sea level rise and more frequent flooding? Between offshore wind and redevelopment of coastal infrastructure?

At this stage, I can say with confidence that the many of the public in Sussex County have a very limited knowledge about why we need offshore wind and how this fits into the goals of the state. In fact,

there is insufficient public knowledge that the MD commitments involve the DE coastal communities and the cable connections will be in DE. At this stage, the local citizens and businesses are still in the dark about these potential decisions that will impact their communities and their electricity system.

So why does DE need to consider offshore wind energy? It's very simple. Without stepping forward now with a purchase or an investment, DE could miss one of the biggest opportunities for economic development in the next decade. One fact is clear, DE does not have many options in attracting and building new industry. Renewable energies, particularly wind energy and solar power, are the fastest growing jobs in the US. Also, land-based wind industries are growing in the majority of US states now – it's one of the few bipartisan success stories that contribute significantly to our new energy supply as well as the new, good paying jobs supporting it. The Department of Energy report states that there are 41 states with utility-scale wind projects at end 2016 and land-based wind industry jobs up were up 32% to 102,000. These numbers are clearly fact-based and available with the DOE, Department of Labor Statistics as well as the EIA and I would be happy to provide the working group with additional facts if they are not currently available to the working group.

Also, DE owes its citizens a strategy regarding clean energy and a leadership role in climate change. As Gov. Carney has stated quite clearly this summer, "Delaware is the country's lowest-lying state and with 381 miles of coastline, climate change is a very real threat to our future." (Reference:<https://news.delaware.gov/2017/06/01/governor-carneys-statement-on-president-trumps-decision-to-withdraw-u-s-from-the-paris-agreement/>) But what can one of the smallest states do to demonstrate action on climate change?

The low hanging fruit of energy efficiency should be ramped up with continued support from the state. Utility-scale, domestic clean energy needs to be considered along with innovative ideas such as micro-grids. Building greater resiliency along the coast to deal better with extreme weather events requires new investments in infrastructure and is urgent. Could the build-up of the offshore wind market link to these needs? So what are the options for DE now? Doing nothing and waiting is not a realistic option. This working group

and the state owe it to the people of DE to face the risks of climate change by aggressively taking action. A cost-effective, reliable, cleaner electricity system should be the goal.

The harsh reality is that there are few utility-scale choices for DE in transitioning to the next era of clean electricity supplies. Offshore wind is one that addresses some of these concerns, albeit at a premium price. How price and costs are calculated for the ratepayer often obfuscate the true cost of electricity. From **our interviews, it is quite clear that the citizens of DE have sacrificed public health for decades to ensure for cheap energy with coal plants. The public health costs are not calculated in ratepayer impacts.** How does the state account for other environmental and health impacts from pollutants, and benefits of reduced carbon (CO₂)? There are large public health benefits to deploying wind and solar energies. This is documented in a recent peer reviewed study by Lawrence Berkeley Laboratory in the prestigious *Nature Energy* journal. **“For example, in 2015, combined air quality and climate benefits equaled 14.3 ¢/kwh-of-wind in the Mid-Atlantic region.”** (reference: <https://emp.lbl.gov/news/new-journal-article-nature-energy-estimates>) The Working Group could use articles on file, such as those cited above and on your website, to provide a more complete cost comparison.

Delaware’s commitment to solar energy ---when it was more expensive than the competitive prices we see today ---is paying dividends in terms of cleaner energy, improved regional public health, lower costs, and new jobs for Delawareans. Offshore wind will contribute significantly to a new energy economy along the Atlantic Coast, as many states are committing to and investing in this new supply. But it is clear that the calculations of dollars and cents in the traditional manner today --- with no accounting for reduction of GHGs or regard for public health or demonstrating any leadership in the clean energy transition --- is disregarding the voices of many Delawareans.

A two-way engagement process is also a learning process for the decision maker --- Does the working group understand what the citizenry think about offshore wind and why? What is their experience with wind energy or other renewable investments? Do they think the state should do more about climate and reduction of

harmful pollutants? What are their views on how DE is addressing resilience along the coast? What about the farming and poultry communities? How do they address energy efficiency and understand new clean energy options? Has anyone in our coastal communities or on this working group ever seen an offshore wind turbine? These are critical questions that call for answers.

The state cannot leave this involvement process to only the developers ---who at time are not fully involved in community issues-- -and cannot leave it only to other industry players --- who many not represent the interests of the citizens. The state cannot even leave the engagement strategy to the federal agency alone (BOEM) which leads the lease siting and assessment. It cannot even leave it to the state task forces. All these entities are important to the process and new partnerships and collaborations are needed. But a group of key stakeholders may be left out of all these activities--- the citizens of DE, the host communities that may look out on the lights on top of the turbines, the coastal communities that will bury the cable connections, and the tourists that visit our beaches.

The reluctance to consider a premium on new energy supplies when there is a current option of relatively cheap natural gas outside of the region is understandable. But we need to examine how these impacts of fossil fuel use are considered, how the costs will change over time, and how costs and benefits would change with a life-cycle consideration of cradle to grave impacts. Perhaps this working group will recommend that a small purchase of offshore wind is possible or not, given conventional cost calculations that leave out air pollution, water conservation, and public health. What else might be possible at this juncture?

Perhaps an investment in facilities that can support this growing coastal industry is prudent and wise? Given the economic development potential of port developments in DE to support the offshore wind market, a different set of objectives could shape a shared vision. A public-private partnership with state and federal agencies, unions, port managers, fishermen, and local communities could be a win-win for the state and the citizens that want to move more rapidly into the clean energy economy.

Also, DNREC and other state actors will need to **establish collaboration across government agencies and other independent voices** to communicate some of these complicated cost and benefits as well as uncertainties. We know from decades of research that whether there is trust and perceived fairness in communicating risk and benefits are paramount to success. Perhaps the members of this working group will evolve into this needed collaboration no matter what the recommendations?

We all know that effective engagement of the public is messy, time consuming, and sometimes an expensive process. In fact, such engagement does not guarantee success or effective decisions. But without engagement, decisions are too often misguided and controversy may thrive in the community.

With all due respect to the objectives of this working group, a much more robust citizen involvement process is essential for well-considered decisions on offshore wind and any other clean energy investments. This means that creative engagement strategies are needed early on and from the start --- not after decision are already made. This presents an opportunity for the state. How will the need for clean energy and citizen views be addressed and will these two critical steps be a priority for this working group. I truly hope we do not miss the boat!