

## **Noyes, Thomas G. (DNREC)**

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**From:** Charlie Garlow <charliegarlow350@gmail.com>  
**Sent:** Tuesday, December 05, 2017 10:53 PM  
**To:** Noyes, Thomas G. (DNREC)  
**Cc:** flahertyj54  
**Subject:** Comments on Offshore Wind

Dear Mr. Noyes:

Thank you for being a good host for tonight's presentation/comments.

Please add these comments to your compilation of comments on Offshore Wind.

Some speakers had concerns about wind power which cry out for a response.

Senator George Bunting suggested that it might be a problem if large ships ran into one of the wind turbines resulting in OIL SPILLS.

This is the first time I have heard this fear/criticism.

My response is that we have had offshore wind farms in Europe for years and this has not been a problem. We have had offshore drilling rigs in the Gulf of Mexico for years and this has not been a problem. We HAVE had a problem with some US Navy ships running into other ships. If ever there were a ship running into a wind turbine, it will be the ship's fault, so don't blame the wind turbine if a night watchman falls asleep. So long as there are ships at sea there will be accidents, but the risk of oil spills from such crashes is VERY low.

Another commenter tonight worried about the humming noise. Again, there has been no report of European offshore wind farms harming marine mammals or other marine life. Marine wildlife experts have said that what can really harm these creatures is the sonic blasts planned for oil exploration. Ouch ! That commenter said that she preferred onshore rather than offshore wind, as a result. She forgets that offshore wind is much stronger than onshore wind, making offshore wind more feasible in Delaware.

Another commenter said that we should wait until the technology gets better. That is an argument for never buying a computer because next year's model will be better. We should not wait. Global warming is not waiting. Even so, we WILL be waiting quite awhile for "our" offshore wind turbines. After all, Deepwater Wind said that they won't begin construction in Maryland until 2022. If we begin the process of permitting/developing wind offshore in Delaware, it will be several years after the MD projects, so we WILL be waiting for improved technology. We will benefit from the improvement in technology that will happen during the coming years.

Richard Collins had several comments unfavorable to wind. He said that the wind doesn't blow on the hottest days of summer or the coldest days of winter. He offered no proof for this assertion. In reality, winds offshore are strong because of the temperature differential between land and sea temperatures. As Encyclopedia.com explains:

"Local winds are small-scale winds that result from differences in temperature and pressure in localized areas. Sea and land breezes are typical of such winds. Along coastal areas, winds tend to blow onshore during the day and offshore during the evening. This is because dry land heats up and cools down quicker than water. During the day, air over land heats up and rises. Cooler air over the water then moves onshore (sea breeze). At night, air over the water remains warm and rises. The nowcooler air over land is then pushed out to sea (land breeze)."

So, where there are temperature differences, like on hot summer days, you get wind, breezes blowing towards the land.

Mr. Collins also faulted RGGI, which in reality has done a terrific job of reducing CO2 even faster than we originally thought. That is why RGGI recently decided to increase the CO2 reductions. It's working. It's great. He referred to the SEU, Sustainable Energy Utility, as a slush fund. He offered no proof of this assertion. By contrast, I have heard nothing but praise for DE's SEU and the good work they have done with the available funding. To the extent that a 2016 audit pointed out areas of improvement, the SEU should improve its delivery of energy efficiency measures. However, that doesn't have anything to do with offshore wind !

He also found fault with the "bloom energy" deal. Bloom made fuel cells which have nothing to do with offshore wind power. Apparently, Bloom did not hit promised hiring levels, so Bloom returned to the State of Delaware \$1.5 million of a \$12 million grant. There are no such grants being proposed for offshore wind projects.

Another commenter said he was concerned about night time light pollution. There will probably be some night time safety warning lights on the wind turbines offshore, as there are for turbines on land. However the amount of light involved is so small, compared to the glare from major cities that make a real problem for night time light pollution, that this should not be a concern. Also, if this light is 18 or more miles away from the coast, it will not affect astronomers or others who prefer a dark night sky.

Several other questions were adequately answered by you, Mr. Noyes.

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