

**130<sup>th</sup> Maine Legislature  
First Regular Session – 2021**

**Committee on Energy, Utilities and Technology**

**LD 336: An Act to Encourage Research to Support the Maine Offshore Wind Industry**

**Testimony of Dr. Richard Silkman in Support**

Senator Lawrence, Representative Berry, members of the Committee, my name is Dr. Richard Silkman. I am submitting this testimony in support of LD 336: An Act to Encourage Research to Support the Maine Offshore Wind Industry.

A week ago, I appeared before this committee in opposition to a bill that would have prohibited offshore wind development (LD 101). I am here before you today to support LD 336 for exactly the same reasons that I opposed that bill – **It is financially impossible for Maine to meet its climate goals without the development of hundreds of offshore wind turbines in the Gulf of Maine.**

The question before Maine is not whether turbines will be located in the Gulf of Maine – they most certainly will be. Rather the question is whether these turbines will provide direct electricity and climate benefits to Maine and will be floating on platforms made using Maine developed technologies and made in Maine, by Maine workers. LD 336 intends to ensure that the answers to these questions are “yes”.

The process through which basic and applied research is converted into technology that is then embedded in production processes and products that are commercialized into broad adoption in the market carries significant risk. Each stage of the process is designed to reduce that risk by spending money on the design of prototypes, testing of those prototypes in controlled settings, field testing – increasing the scale of such tests and finally bringing the product to market. The University of Maine has made great progress on the design of prototypes and initial testing. The single turbine project off Monhegan will represent the initial field testing. The larger “research

array” to be funded through LD 336 represents the last stage of the process before commercialization.

You might ask why this process needs to be funded by ratepayers and not by competitive wind developers – and then why by Maine ratepayers.

With respect to the first part of the question – the market is good at financing the development of technologies and products that represent significant improvements over those then in existence. For example, the technology embedded in combined cycle natural gas plants, like those in Westbrook and Veazie, significantly lowered the price of generating electricity by almost doubling the efficiency with which plants operated. In contrast, offshore wind turbines do no such thing. They produce the same electricity as every other generating plant – and they do it at a higher not lower cost. Not a winning combination. The difference, though, is they produce that electricity with no CO<sub>2</sub> emissions ... but until, we put an explicit price on those emissions (one way or another), private developers will not underwrite the R&D necessary to commercialize this technology. We need ratepayers – or their equivalents, taxpayers.

OK - but then, why should the legislature ask Maine ratepayers to fund this? The reason is that you are making an educated gamble. You are betting on three things:

1. That the technology developed by the University of Maine will prove to be superior to alternative technologies used to build floating offshore wind platforms – lower costs, longer lives, less O&M, etc.
2. That, unlike the other technologies, the University of Maine’s technology can be fabricated in Maine using Maine factors of production, including our raw materials, our port facilities, and our labor force.
3. That having demonstrated both (1) and (2), Maine will be able to expand this fabrication capacity – through licensing the technology to others around the world and fabrication here in Maine for export – which will bring financial benefits to the State.

I have spent a good deal of time over the past decade following very closely the development of the floating offshore wind turbine industry around the world. My research convinces me that

over the next two decades, we will see enormous growth in this industry, especially in places such as Maine where shallow offshore seafloors simply do not exist; that the advantages of concrete to steel in the design of platforms for these turbines are potentially very significant in terms of cost, lifespan and maintenance; that the technology permits more locational flexibility in where platforms can be physically fabricated; and that Maine has a competitive advantage with respect to this technology in the northeast.

If Maine can move with deliberate speed, it can secure the advantages that will come with being a first mover in this industry ... and these advantages will translate into significant financial benefits to the State. Accordingly, I am satisfied that this is a good bet for Maine – and support LD 336.

Thank you for your consideration. I would be happy to respond to any questions you might have.