

COMMENTS ON OFFSHORE WIND

Off-shore wind energy would be very costly for Delaware with little or no actual benefits except to a few developers at the expense of most Delawareans. It is remindful of Bloom Energy.

1. Bloom is important because it should be a lesson learned, not a mistake repeated.

Total cost of Delaware's Bloom electricity has averaged 20.8 ¢/kWh, nearly FIVE TIMES the 4.2 ¢/kWh average market price Bloom received from PJM network which buys their electricity.

The difference of 16.6 ¢/kWh is charged to Delmarva Power service area ratepayers, including customers who opt for alternate suppliers like Direct Energy or WGE but still must pay Bloom.

Bloom costs now average \$ 4.55 per month to a customer using 1,000 kWh. The Public Service Commission was supposed to cap these costs but has failed to do so.

In the first five years of operation, customers have paid more than \$145 million in above-market costs for Bloom power.

Bloom paid \$1.5 million to the State because they did not create the jobs they promised but will still receive about \$38 million per year from ratepayers for another 15 years due to an "unappealable" long-term contract, a total of about \$750 million.

2. The Maryland wind projects power cost is estimated at 13.2 ¢/kWh net extra above market price. If Delaware adds 50 to 200 MW generation as is being considered this could cost another \$50 million to \$200 million per year or up to five times the cost of Bloom.

3. Bloom has not created the jobs promised because the cost is too high. They depend on government subsidies and deals like Delaware's where customers are forced to pay high prices through legislation.

4. Offshore wind is no different. It is much more expensive than land-based wind, or solar, or natural gas, and can only succeed by subsidies and legislation at the expense of consumers.

5. The extra costs are a drag on the economy and result in a net loss of jobs because they forcibly take money which could be better used elsewhere.

John E. Greer, Jr. P.E.(ret.), Dec. 12, 2017
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Bloom costs are detailed below from Delaware Public Service Commission reports.

BLOOM ENERGY DIAMOND STATE GENERATION COSTS

Below are electrical generation and cost numbers related to Bloom Energy's Diamond State Generation (**DSG**) facility in Delaware, compiled from reports filed with the Delaware Public Service Commission at <https://dep.sc.delaware.gov/delmarva-power-bloom-energy-fuel-cell/>. Total generation costs of 20.8 ¢/kWh have averaged almost FIVE TIMES the 4.2 ¢/kWh average revenue received by DSG from PJM network which buys their electricity at auction.

Delmarva Power ratepayers were charged for the difference, an Excess Cost of 16.6 ¢/kWh.

Monthly cost to Delmarva residential ratepayers goes up as DSG generation goes up. The cost was only \$0.96 per month in the first year at low generation of 4.81 Megawatts but has averaged \$4.55 per month for the last 3 years at full operation averaging 25.87 Megawatts.

Electricity is not sold directly to Delmarva but instead sold to PJM network by auction bidding. Delmarva ratepayers are charged the difference between the total cost and the PJM sales.

Delmarva Power makes forward projections to calculate charges to Delmarva ratepayers who are billed in advance for DSG costs. Later, "true-ups" are made to correct for differences between projected and actual costs.

Year Ending (Month-Year)	DSG Electricity Generated MWh/yr	BLOOM DSG CONTRACT PRICE (\$/yr)	DSG NAT GAS COST (\$/yr)	Admin and Other O&M costs (\$/yr)	True-up+ Carrying Charge (\$/yr)	TOTAL COSTS (\$/yr)	DSG PJM Revenue (\$/yr)	EXCESS COST TO RATEPAYERS (\$/yr)
May-13	40,911	\$ 6,826,819	\$ 1,541,972	\$ 704,022	\$ 145,645	\$ 9,218,458	\$ 1,506,393	\$ 7,712,065
May-14	181,157	\$ 30,229,576	\$10,169,216	\$ 108,620	\$1,302,632	\$ 41,810,044	\$10,776,949	\$ 31,033,095
May-15	226,578	\$ 37,809,216	\$ 8,121,634	\$ 108,000	\$ (301,941)	\$ 45,736,909	\$ 9,535,978	\$ 36,200,931
May-16	226,403	\$ 37,771,679	\$ 4,331,540	\$ 108,000	\$1,167,404	\$ 43,378,623	\$ 8,108,521	\$ 35,270,103
May-17	227,300	\$ 37,929,488	\$ 4,988,040	\$ 108,000	\$ 116,162	\$ 43,141,690	\$ 8,041,760	\$ 35,099,930
AVERAGE	\$ 180,470	\$ 30,113,356	\$ 5,830,480	\$ 227,328	\$ 485,980	\$ 36,657,145	\$ 7,593,920	\$ 29,063,225
TOTAL	\$ 902,349	\$ 150,566,779	\$ 29,152,401	\$ 1,136,642	\$ 2,429,902	\$ 183,285,724	\$ 37,969,600	\$ 145,316,124

Year Ending (Month-Year)	DSG Average Generated MW	Residential cost for 1000kW (\$/mo)	BLOOM DSG CONTRACT PRICE ¢/kWh	DSG Nat Gas Cost ¢/kWh	Admin and Other costs ¢/kWh	DPL True-up + Carrying Charge ¢/kWh	TOTAL COSTS ¢/kWh	DSG PJM Revenue ¢/kWh	EXCESS COST TO RATEPAYERS ¢/kWh
May-13	4.81	\$0.96	16.687	3.77	1.72	0.36	22.53	3.68	18.85
May-14	20.69	\$3.70	16.687	5.61	0.06	0.72	23.08	5.95	17.13
May-15	25.88	\$4.56	16.687	3.58	0.05	-0.13	20.19	4.21	15.98
May-16	25.78	\$4.52	16.683	1.91	0.05	0.52	19.16	3.58	15.58
May-17	25.95	\$4.57	16.687	2.19	0.05	0.05	18.98	3.54	15.44
AVERAGE	20.62	\$3.66	16.686	3.41	0.38	0.30	20.79	4.19	16.60

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