Report on the Status of Net Energy Metering In the State of Maryland

Prepared by
The Public Service Commission of Maryland

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Executive Summary

This report is prepared by the Public Service Commission of Maryland ("Commission") in compliance with Public Utilities Article §7-306(h), *Annotated Code of Maryland*. Section 7-306(h) requires the Commission to report on the amount of capacity by type of energy resource from net-metered facilities in the State and recommend whether the cap on eligible capacity should be altered. This is the fifth report prepared by the Commission. The initial report was produced in 2008.

At this time, the Commission does not recommend changes to the eligibility cap for net metering. The current eligible limit of 1,500 megawatts ("MW") far exceeds the level of installed capacity of approximately 58.5 MW. There has been an increase in the number of recent installations; however, it is unlikely that the current cap would be approached without several years of advance notice.

Net Metering in Maryland

Net metering is a method of simplifying the measurement of energy produced by a renewable energy generator when it is connected to an electric utility distribution system. Net energy metering utilizes the existing meter for all calculations avoiding the expense of a second meter.[1] Net metering is permitted by law for solar, wind, biomass, micro combined heat and power, fuel cell and closed conduit hydro electric generators that are intended primarily to supply the customer's annual energy usage.[2] The term "net metering" refers to measurement of electricity on the basis that is net of energy used and produced by an eligible customer-generator during a single reading period, *e.g.*, one month. As discussed further below, the terms of utility tariffs typically require a customer to pay the monthly customer charge, regardless of the amount of energy produced. However, for energy billed, the customer pays only for energy that is used, netted against any generation produced by the customer. The practical effect of this policy is to allow customers to use the utility grid as battery storage, so that excess energy produced at any given instant can be captured for later use. The law also provides for monetary payment for net excess generation when the customer terminates service or at the end of the net metering year.[3] The dollar value of net excess generation is equal to the generation or commodity portion of the rate that the eligible customer-generator

[1] The use of two meters is not prohibited, and at least one Maryland electric utility uses two meters.

[2] There were several amendments to Section 7-306 that were enacted in the 2011 legislative session. Also, during 2011, the Commission conducted a rulemaking session which resulted in COMAR 20.50.10.01D(1)(b) which states that an eligible customer-generator's proposed electric generating system may not exceed 200 percent of the eligible customer-generator's baseline annual usage.

[3] Section 7-306(f)(6) states: (i) On or before 30 days after the billing cycle that is complete immediately prior to the end of April of each year, the electric company shall pay each eligible customer–generator for the dollar value of any accrued net excess generation remaining at the end of the previous 12–month period ending with the billing cycle that is complete immediately prior to the end of April; (ii) Within 15 days after the date the eligible customer–generator closes the eligible customer–generator's account, the electric company shall pay the eligible customer–generator for the dollar value of any accrued net excess generation remaining at the time the eligible customer–generator closes the account.

would have been charged by the electric company averaged over the previous 12-month period multiplied by the number of kilowatt hours of net excess generation. The following table summarizes the total amount of excess generation credit payouts by rate class for each of the utilities operating in Maryland.

Payout Summary of Net Excess Generation[4]

Electric Utility	Residential	Commercial	Total
Baltimore Gas and Electric Company	$10,725.59	$ 14,265.77	$ 24,991.36
Choptank Electric Cooperative	$30,925.73	$ 24,226.38	$ 55,152.11
Delmarva Power and Light Company	$ 6,994.36	$ 1,863.90	$ 8,858.26
The Easton Utilities Commission	$ 7.48	$ 25.67	$ 33.15
Hagerstown Municipal Electric Light Plant	$ -	$ -	$ -
Thurmont Municipal Light Company	$ -	$ -	$ -
Mayor and Council of Berlin	$ -	$ -	$ -
Potomac Electric Power Company	$ 7,147.00	$ 983.28	$ 8,130.28
The Potomac Edison Company	$ 4,771.98	$ 4,657.00	$ 9,428.98
Williamsport Municipal Light Plant	$ -	$ -	$ -
Southern Maryland Electric Cooperative	$ 1,810.70	$ 1,018.15	$ 2,828.85
State Total	$62,382.84	$ 47,040.15	$109,422.99

Eligible customer-generators[5] also benefit by less expensive interconnection with the utility, *e.g.,* only a single standard meter and without additional switches. In this manner, electricity needs in excess of the renewable output can be obtained from the grid without having to disconnect or shut down the renewable generator. The simplification of interconnection allows the customer to use the renewable generator in a grid-connected manner without significant additional installation or operating expense, thus improving the benefit of the renewable generator.

While the net energy metering law in PUA §7-306 permits renewable net energy metering, utilities implement net energy metering operations through tariffs that are filed with the Commission. These tariffs place terms and conditions on the net energy metering operations and specify monthly customer charges. These tariffs also include requirements for eligibility which cap the maximum installed size as well as the State-wide limit. Any change to the Statute requires each utility to revise its tariff and file the revision with the Commission.

[4] The monetary values depicted in the table were provided to Commission Staff in response to a data request sent on July 12, 2012.

[5] "Eligible customer-generator" means a customer that owns and operates, leases and operates, or contracts with a third-party that owns and operates a biomass, micro combined heat and power, solar, fuel cell, wind or closed conduit hydro electric generating facility that: (i) is located on the customer's premises or contiguous property; (ii) is interconnected and operated in parallel with an electric company's transmission and distribution facilities; and (iii) is intended primarily to offset all or part of the customer's own electricity requirements. See PUA §7-306(a) (4).

Eligibility Cap

Electric companies are required to permit net metering for eligible customers. The current limit on eligible renewable generation capacity in the State is 1,500 MW. This limit represents about 8 percent of the peak demand, which is approximately 20,000 MW in the State. The generating capacity of an electric generating system used by an eligible customer-generator for net metering may not exceed 2 MW.

Current Level of Renewable Deployment

Commission Staff surveyed Maryland electric companies for the number of net-metered facilities currently operating in each electric company distribution service territory. The total amount of generation has increased from approximately 364 kW in 2007 to 58,514 kW through the end of June 2012. The table below shows the results of the Commission Staff's survey of net-metered installations through June 30, 2012 as compared with net-metered installations from the previous reporting period in 2011.

2011[6]						
Electric Utility	**Solar**	**Wind**	**Biomass**	**Utility Total**	**% Change**	**kW Change**
	Kilowatts of Installed Capacity					
Baltimore Gas and Electric Company	14,819	107	0	14,926	27%	3,178
Choptank Electric Cooperative	1,083	69	0	1,152	274%	844
Delmarva Power and Light Company	4,101	166	0	4,267	45%	1,332
The Easton Utilities Commission	32	0	0	32	113%	17
Hagerstown Municipal Electric Light Plant	35	0	0	35	0%	0
Thurmont Municipal Light Company	0	0	0	0	0%	0
Mayor and Council of Berlin	0	0	0	0	0%	0
Potomac Electric Power Company	6,426	2	0	6,428	30%	1,480
The Potomac Edison Company[7]	3,224	144	0	3,368	-27%	-1,261
Williamsport Municipal Light Plant	0	0	0	0	0%	0
Southern Maryland Electric Cooperative	1,185	26	320	1,531	158%	937
State Total	**30,905**	**514**	**320**	**31,739**	**26%**	**6,527**

[6] The data from the previous reporting period is used to calculate the Percent Change and kW Change columns.

[7] The 2011 net metering data received from The Potomac Edison Company ("PE") did not include pending projects. In previous reports, this data was submitted by PE and included in this Report. For this reason, the data for PE is not directly comparable with Reports prior to 2011.

2012						
Electric Utility	Solar	Wind	Biomass	Utility Total	% Change	kW Change
	Kilowatts of Installed Capacity					
Baltimore Gas and Electric Company	22,294	107	0	22,401	50%	7,475
Choptank Electric Cooperative	1,946	73	0	2,019	75%	867
Delmarva Power and Light Company	11,965	926	1,060	13,951	227%	9,685
The Easton Utilities Commission	116	0	0	116	260%	84
Hagerstown Municipal Electric Light Plant	35	0	0	35	0%	0
Thurmont Municipal Light Company	0	0	0	0	0%	0
Mayor and Council of Berlin	36	0	0	36	0%	36
Potomac Electric Power Company	13,513	2	0	13,515	110%	7,087
The Potomac Edison Company	3,221	144	0	3,365	0%	-3
Williamsport Municipal Light Plant	0	0	0	0	0%	0
Southern Maryland Electric Cooperative	2,729	26	320	3,075	101%	1,544
State Total	**55,856**	**1,278**	**1,380**	**58,514**	**84%**	**26,775**

Recommendation on Eligibility Cap

As of June 2012, the level of installed capacity is 3.9 percent of the current limit. At this time, the Commission does not view the 1,500 MW limit as a barrier to installation of new renewable generation. The net-metering survey asked for information on the date of installation. This information indicates an increase in new renewable capacity in recent years. However, the rate of installation does not indicate that the cap would be approached in the near future.

New Net Metering Regulations COMAR 20.50.10

COMAR 20.50.10, which promotes the deployment of net-metered facilities and simplifies the requirements for customer interconnection, was adopted as final and became effective on September 1, 2011. The new regulations address the allowed size for net metering eligibility as a multiple of customer load and establish aggregate net metering for agricultural, municipal, and non-profit customers. The Commission's Technical Staff has convened a stakeholder Net Metering Working Group ("NMWG") to aid utilities, installers, and customers in the implementation of the new regulations and to address any additional technical issues that may arise as each utility drafts and files

revised net metering tariffs. The Commission has also republished related regulations to comply with the 2011 legislation which altered the annual payout mechanism for net metering customers that produce excess generation.

Eligible Customer Size. Under the new regulations, a customer may net meter using facilities that are sized to produce up to 200 percent of a customer's annual baseline energy (kWh) use.

Aggregate Net Metering. Aggregation of net-metered loads is the practice of combining meter readings from more than one utility service point. Utilities can provide this service by using physical interconnection of service points or by summing the total usage from two or more meters (virtual aggregation). Only certain types of customers are permitted to use this service. Agricultural, municipal (including county government), and non-profit (*e.g.* churches or schools) entities are permitted to aggregate net-metered loads under the regulations. The practice of aggregation may provide increased incentives for system deployment by providing greater economies of scale for installations and allowing a customer to make the most efficient use of existing solar or wind resources. An agricultural application of aggregate net metering would consist of combining the load on the farm's barn, outbuildings, and residence. A solar array may be installed on a barn which would normally have excellent sun exposure, although it would use little electric power. Joining the load of the residence (which may have less roof area or be in a shady location) and out buildings to the load of the barn would make the installation practical and cost-effective for the customer.

The NMWG developed a Meter Aggregation Pilot Program, which implements COMAR 20.50.10.07 and .08 requiring utilities to provide aggregate net metering to more than one meter for certain types of customers. The new regulations are being implemented through utility-specific pilot programs with some temporary restrictions in order to allow for a smooth and cost-effective implementation. The Meter Aggregation Pilot Program with its temporary restrictions will end on December 1, 2012, at which time the Meter Aggregation Program will be implemented and open to all eligible customers. The table below shows the number of applications for the net metering aggregation pilot as of June 30, 2012.[8]

[8] The Commission is in the process of compiling data for the number of aggregated net metering projects completed or currently under construction as part of the Meter Aggregation Pilot Program. Information from the Meter Aggregation Program will be included in a future Net Metering Report after the pilots have been completed.

Applications for Net Metering Aggregation

Electric Utility	Number of Applications
Baltimore Gas and Electric Company	1
Choptank Electric Cooperative	3
Delmarva Power and Light Company	6
The Easton Utilities Commission	1
Hagerstown Municipal Electric Light Plant	0
Thurmont Municipal Light Company	0
Mayor and Council of Berlin	0
Potomac Electric Power Company	1
The Potomac Edison Company	4
Williamsport Municipal Light Plant	0
Southern Maryland Electric Cooperative	1
State Total	17

Other Issues

At this time, the Commission has not identified other matters relating to the net-metering eligibility limit or other issues relating to net metering that require the action of the General Assembly.