PUBLIC SERVICE COMMISSION OF MARYLAND

TEN-YEAR PLAN
(2020 – 2029)
OF ELECTRIC COMPANIES
IN MARYLAND

Prepared for the
Maryland Department of Natural Resources
In compliance with Section 7-201
of the Public Utilities Article, *Annotated Code of Maryland*
December 2020

State of Maryland
Public Service Commission

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This report was drafted by the Commission's Energy Analysis and Planning Division.

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I.   Introduction

This report constitutes the Maryland Public Service Commission's *Ten-Year Plan (2020-2029) of Electric Companies in Maryland*. The Ten-Year Plan is submitted annually by the Commission to the Secretary of the Department of Natural Resources in compliance with § 7-201 of the Public Utilities Article, *Annotated Code of Maryland*. It is a compilation of information pertaining to the long-range plans of Maryland's electric companies. The report also includes discussion of selected developments that may affect these long-range plans. The analysis contained in the Ten-Year Plan uses forecasts provided by Maryland utilities, PJM Interconnection, LLC ("PJM"), and other state and federal agencies.

The 2020 – 2029 Ten-Year Plan provides a forward-looking analysis of the composition of Maryland's electricity and generation profile and covers topics relevant to Maryland, including load growth forecasts, and the state of the State's generation resources and electric transmission system.

Changes to Maryland's supply and demand profile may necessitate additional infrastructure investment in the State's distribution network to ensure the safe, reliable, and economic supply of electricity to end users. The Commission exercises its statutory and regulatory power to ensure adequate, economical, and efficient delivery of utility services in the State.[1] A record of these proceedings is published in the Commission's annual report.

II.   Background

Maryland is geographically divided into 13 electric utility service territories.[2] The four largest, by number of Maryland customers, are served by investor-owned utilities ("IOUs"); four represent electric cooperatives (two of which serve mainly rural areas of Maryland); and five are served by electric municipal operations.[3] PJM sub-regions,

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[1] The Maryland Public Service Commission and the Maryland Energy Administration currently represent Maryland on a 16-state Task Force on future distribution system planning. This Task Force started work in 2019 and is funded by the U.S. Department of Energy ("DOE"). The Task Force is being staffed and sponsored by the DOE, the National Association of Regulatory Utility Commissioners ("NARUC") and the National Association of State Energy Officers ("NASEO"). This work will continue through 2020 and will produce a report of its findings and recommendations by 2021.

[2] The Maryland utilities are as follows: Baltimore Gas and Electric Company ("BGE"), Delmarva Power & Light Company ("DPL"), The Potomac Edison Company ("PE"), Potomac Electric Power Company ("Pepco"), Berlin Municipal Electric Plant ("Berlin"), Easton Utilities Commission ("Easton"), City of Hagerstown Light Department ("Hagerstown"), Thurmont Municipal Light Company ("Thurmont"), Williamsport Municipal Electric Light System ("Williamsport"), A&N Electric Cooperative ("A&N"), Choptank Electric Cooperative, Inc. ("Choptank"), Somerset Rural Electric Cooperative ("Somerset"), and Southern Maryland Electric Cooperative, Inc. ("SMECO").

[3] The Commission regulates all Maryland public service companies, as defined by §1-101(x) of the Public Utilities Article, *Annotated Code of Maryland*.

known as zones, generally correspond with the IOU service territories. PJM zones for three of the four IOUs traverse state boundaries and extend into other jurisdictions.[4] Figure 1 provides a geographic picture of the Maryland utilities' service territories. Figure 2 depicts the PJM forecast zones of which Maryland is comprised.

Figure 1: Maryland Utilities and their Service Territories in Maryland[5]

Figure 2: PJM Maryland Forecast Zones[6]
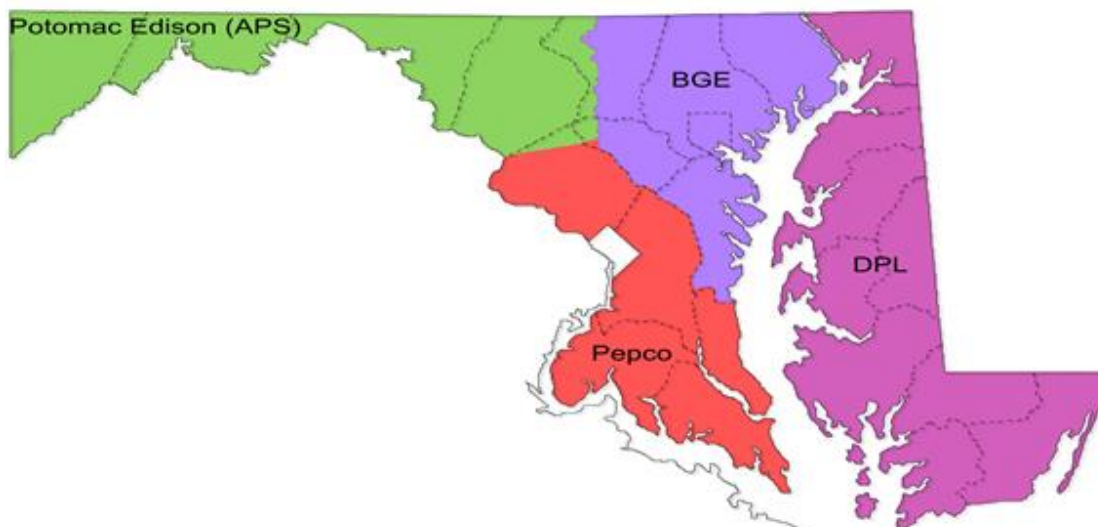
III.   Maryland Load Growth Forecasts

Each year, PJM presents a Load Forecast Report for each PJM zone, region, and locational deliverability area that is derived in part from an independent economic forecast prepared by Moody's Analytics. The economic analysis includes projections related to the expected annual growth of the gross domestic product ("GDP") and can provide insight into possible trends for regional population growth and household disposable income, which in turn can impact energy sector planning.

The PJM forecast contrasts GDP growth projections included in the current (*i.e.* September 2019) load forecast with that of the previous year (*i.e.* September 2018), as depicted below in Table 1. At the outset of the 2020 – 2029 planning period discussed in this Ten-Year Plan, the projected average GDP growth reflected in the current PJM load forecast is slightly higher than that projected by the previous year's forecast for roughly the same time period. The Commission notes that the GDP projections included in the most recent PJM Load Forecast Report may not be reflective of current trends of the GDP which have been adversely affected by the impacts of COVID-19, which are forecasted to result in a 2nd quarter drop in GDP of 32.9%. [7]

Demand forecasts submitted by the Maryland utilities for the 2020 – 2029 planning period discussed in this Ten-Year Plan are comparable to the forecasts provided to the Commission over the last several years. The Maryland utilities' load forecasts indicate a modest amount of projected annual growth in the number of customers, energy sales and demand throughout the State. Again however, these forecasts predated the

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[6] *PJM Load Forecast Report,* PJM, (Jan. 2020), https://www.pjm.com/-/media/library/reports-notices/load-forecast/2020-load-report.ashx

[7] The current GDP can be found at the Bureau of Economic Analysis. https://www.bea.gov/data/gdp/gross-domestic-product

impacts of COVID-19, which have led to an estimated 6.8% drop in weekday peak demand across PJM.[8]

Table 1: Comparison of Compound Annual Growth Rate Projections – 2017, 2018, 2019 and 2020[9]

Forecasts	Ten Year Plan 2017-2026	Ten Year Plan 2018-2027	Ten Year Plan 2019-2028	Ten Year Plan 2020-2029
Customer Growth	0.8%	0.8%	0.8%	0.7%
Energy Sales	0.4%	-0.5%	-0.2%	0.1%
Summer Peak Demand	0.4%	0.4%	0.3%	0.3%
Winter Peak Demand	0.3%	0.2%	0.3%	0.5%

A. Customer Growth Forecasts[10]

At the close of 2019, approximately 90% of utility customers in Maryland were categorized as residential ratepayers; however, residential sales represented only 44% of the year's total retail energy sales, as illustrated in Figure 3 below.[11] Conversely, commercial and industrial ("C&I") customers represented just over 10% of Maryland utility customers, but accounted for over half of the total retail energy sales for the State.

Figure 3 Total Customers and Energy Sales (in GWh) by Customer Class for 2019

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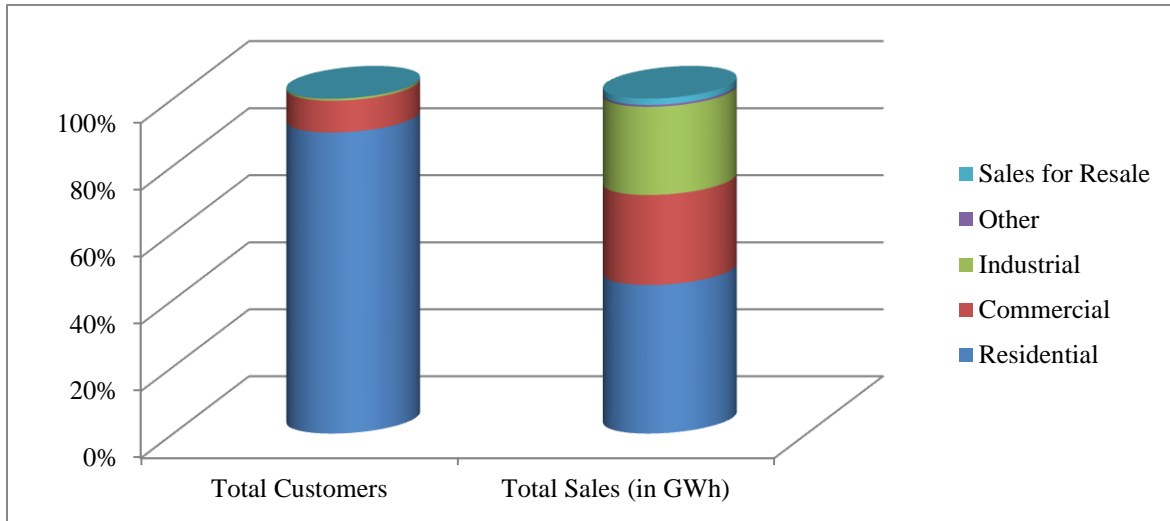
[8]   PJM, Recent COVID-19 Load Impacts, Planning Committee, August 4, 2020, Available at https://www.pjm.com/~/media/committees-groups/committees/pc/2020/20200804/20200804-item-08-recent-covid-19-load-impacts.ashx
[9] *See* Appendix Tables 1(a)(i), 2(a)(i), 3(a)(i), 3(a)(iii).
[10] *See* Appendix Table 1(a) for a complete list of utility-by-utility customer growth forecasts.
[11] *See* Appendix Tables 1(b)(i) and 1(b)(ii).

Utility customer growth, particularly in the residential sector, is closely linked to household formation projections. The current PJM load forecast incorporates projections of a near-term slow growth in housing formation rates with a more positive long-term forecast.[12] Over the planning horizon, however, the projected housing formation rates differ widely across the PJM service territory, as evidenced by Figure 4 below.

Figure 4 Average Annual Household Growth from 2018 to 2033 (%)[13]

Many Shrinking Metro Areas

Avg population growth from 2018 to 2033, %

U.S.=0.6

■ ≥0.6
■ 0 to <0.6
■ <0

Sources: Census Bureau, Moody's Analytics
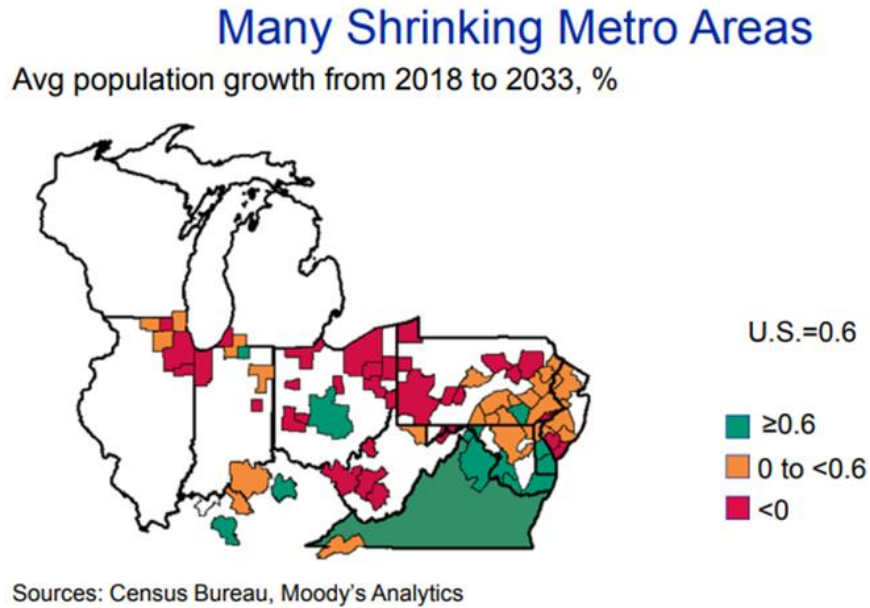
As illustrated by Figure 4 above, Maryland, together with other southern PJM states, has higher household formation rates than the remaining territory, and thus higher utility customer growth projections. The PJM load forecast attributes the increased household and customer projections to expected growth in service-oriented industries in the applicable states, including Maryland.[14] This trend regarding population growth, near-term increases in housing formation, and long-term stability is mirrored by the Maryland utilities' forecasts regarding customer growth. As reflected in Table 2 below, the statewide forecasted compound annual growth rate during the planning period is 0.71% for all customer classes, which translates into a 6.56% increase in the total number of Maryland customers by the end of this ten-year planning period.

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[12] *PJM Load Forecast Report,* PJM, (Jan. 2020), https://www.pjm.com/-/media/library/reports-notices/load-forecast/2020-load-report.ashx
[13] *PJM Load Forecast Report,* PJM, (Jan. 2019), https://www.pjm.com/-/media/library/reports-notices/load-forecast/2019-load-report.ashx
[14] *Id.*

Table 2: Maryland Customer Forecast (All Customer Classes)[15]

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	2,595	1,306,531	54,675	208,291	10,823	17,517	275,150	584,132	169,974	2,875	1,011	2,633,574
2021	2,596	1,311,792	55,147	209,181	10,842	17,561	277,666	588,352	172,254	2,875	1,011	2,649,278
2022	2,609	1,318,088	55,577	210,084	10,861	17,604	280,473	592,728	174,604	2,875	1,011	2,666,515
2023	2,622	1,328,149	55,939	210,949	10,880	17,648	283,289	596,528	176,954	2,875	1,011	2,686,844
2024	2,635	1,338,149	56,247	211,795	10,899	17,692	286,044	599,943	179,344	2,875	1,011	2,706,635
2025	2,661	1,348,212	56,534	212,645	10,918	17,736	288,828	603,378	181,754	2,875	1,011	2,726,553
2026	2,688	1,359,037	56,781	213,499	10,937	17,781	291,537	606,834	184,544	2,875	1,011	2,747,524
2027	2,715	1,369,253	57,032	214,357	10,956	17,825	294,210	610,311	187,164	2,875	1,011	2,767,710
2028	2,742	1,378,654	57,339	215,218	10,975	17,869	296,890	613,810	189,714	2,875	1,011	2,787,098
2029	2,770	1,387,575	57,682	216,084	10,994	17,914	299,566	617,329	192,544	2,875	1,011	2,806,344
Change (2020-2029)	175	81,043	3,007	7,793	171	397	24,416	33,198	22,570	-	-	172,770
Percent Change (2020-2029)	6.73%	6.20%	5.50%	3.74%	1.58%	2.27%	8.87%	5.68%	13.28%	0.00%	0.00%	6.56%
Compound Annual Growth Rate	0.73%	0.67%	0.60%	0.41%	0.17%	0.25%	0.95%	0.62%	1.39%	0.00%	0.00%	0.71%

The customer forecasts provided by the utilities are comparable to the forecasts they provided for the 2019 – 2028 Ten-Year Plan. Overall, the increase in the number of customers across Maryland is primarily driven by growth in the residential class. Growth in the residential sector is projected to account for an additional 161,785 customers by 2029, or 93.6% of total new customers projected. The largest percentage increase in the number of customers is projected to occur in SMECO's service territory with an increase of nearly 14%, or 20,800 new residential customers. The largest absolute increase in the number of customers is projected to come from BGE's residential customer base, with the addition of 77,950 residential customers forecasted during this planning period.[16] BGE's projected increase in its residential customer base accounts for 48% of the total number of new residential customers across all service territories during the ten-year planning period.[17] The increase in residential customers for BGE translates into a compound annual growth rate of 0.71%.[18]

Although several Maryland utilities are projecting an increase in their customer bases during this planning period, Table 3 below shows that the aggregated utilities' customer forecasts are 0.70% lower than the projections provided during the previous planning period. The most significant percentage change observable in the aggregated

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[15] *See* Appendix Table 1(a)(i). Note that A&N and Somerset did not provide the requested applicable information in response to the Commission's 2020 data request for the Ten-Year Plan.
[16] *See* Appendix Table 1(a)(ii).
[17] *Id.*
[18] *Id.*

statewide data between the previous and current Ten-Year Plan forecasts is within the "Industrial" customer class,[19] largely attributable to a decreased projection by BGE.

Table 3: Projected Percentage Increase in the Number of Customers by Class, 2020 – 2029[20]

	All Utilities		
Class	**2019to 2028**	**2020to 2029**	**Difference**
Residential	7.59%	6.83%	-0.76%
Commercial	4.17%	4.11%	-0.06%
Industrial	6.74%	4.75%	-2.00%
Other	1.07%	1.44%	0.37%
Resale	0.00%	0.00%	0.00%
Total Customers	**7.26%**	**6.56%**	**-0.70%**

B. Energy Sales Forecast

The Maryland utilities provide forecasts for energy sales and peak load in terms of "Gross of Demand Side Management ("DSM")" and "Net of DSM."[21] In order to provide a more complete look at Maryland energy sales and peak demand forecasts, Sections III.B and III.C discuss the forecasts in "Gross of DSM" terms, which reflect the forecasts *before* the impact of DSM programs.

Table 4 shows the energy sales forecast within Maryland (Gross of DSM) for the ten-year planning period, as provided by the utilities.

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[19] The "Other" rate class refers to customers that do not fall into one of the listed classes; street lighting is an example of a rate class included under "Other." The Resale class refers to Sales for Resale which is energy supplied to other electric utilities, cooperatives, municipalities, and federal and state electric agencies for resale to end use consumers. PE is the only utility with any resale customers; these wholesale customers are PJM, Monongahela Power Company, West Penn Power Company, and Old Dominion Electric Cooperative.

[20] *See* Appendix Table 1(a)(i)-(vi) for more information.

[21] *See* Appendix Table 2(a)(ii) for the Maryland Energy Sales forecast, Net of DSM programs; Appendix Table 3(a)(ii) for the Maryland Summer Peak Demand Forecast, Net of DSM programs; and Appendix Table 3(a)(iv) for the Maryland Winter Peak Demand Forecast, Net of DSM programs.

Table 4: Maryland Energy Sales Forecast (GWh) (Gross of DSM) [22]

	Berlin	BGE	Choptank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Total
Change (2020-2029)	4	(50)	53	(385)	13	7	487	299	377	806
Percent Change (2020-2029)	8.75%	-0.17%	4.92%	-7.94%	4.98%	2.27%	5.87%	1.75%	10.76%	1.24%
Compound Annual Growth Rate	0.94%	-0.02%	0.53%	-0.92%	0.54%	0.25%	0.64%	0.19%	1.14%	0.14%

The aggregated forecasts show a compound annual increase of 0.14% across all the Maryland service territories for 2020 – 2029, an increase from the -0.18% annual growth rate reported in the 2019 – 2028 Ten-Year Plan. This result is primarily due to Pepco's revised projections of a higher energy sales growth rate in the 2020 – 2029 Ten-Year Plan. The overall growth projected by DPL for this ten-year planning period is the lowest of any Maryland utility in absolute terms, with the Company projecting 385 GWh less in energy sales by 2029.

C. Peak Load Forecasts

PJM's 2020 Load Forecast Report includes long-term projections of peak loads for the entire wholesale market region and each PJM zone.[23,24] Due to the fact that the PJM zones can extend outside of Maryland, the utilities submit peak demand forecasts restricted to their Maryland service territories as part of the Ten-Year Plan.[25] According to PJM's 2020 Load Forecast Report, the PJM Regional Transmission Organization ("RTO") will continue to be summer peaking during the next 15 years.[26] In 2020, three of the PJM zones of which Maryland is comprised are projected to experience their peak demands during the month of July,[27] the same month as the broader PJM Mid-Atlantic

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[22] *See* Appendix Table 2(a) for utility-by-utility energy sales forecasts for the Maryland service territory, available by Gross and Net of DSM. *See* Appendix Table 2(b) for the same information on a system wide basis.

[23] *PJM Load Forecast Report,* PJM, (Jan. 2020) at 35-38, Table B-1, https://www.pjm.com/-/media/library/reports-notices/load-forecast/2020-load-report.ashx.

[24] The four PJM zones spanning the Maryland service territory include APS, BGE, DPL, and Pepco. *See supra* Figure 2 for a map of the Maryland zones. "APS" represents the Allegheny Power Zone, of which PE is a sub-zone.

[25] *See* Appendix Table 3(a) for more information on in-state peak demand forecasts for Maryland utilities, available for summer and winter, and by gross and net of DSM programs. *See* Appendix Table 3(b) for the same information, presented as system wide data for utilities operating in Maryland.

[26] *PJM Load Forecast Report,* PJM, (Jan. 2020) at 2, https://www.pjm.com/-/media/library/reports-notices/load-forecast/2019-load-report.ashx.

[27] *Id.* at 47-48, Table B-5.

Region.[28] The APS region is an exception which is projected to experience its peak demands during January.

In contrast to PJM's forecasts, Berlin, Hagerstown, PE, SMECO, Thurmont, and Williamsport are forecasting their peak demands to occur in the winter in most or all of the forecasted years. These utilities have generally peaked in the winter over the past few planning periods for reasons such as: higher concentrations of electric heating; geographical features; and colder temperatures. Figure 5 shows the breakdown of fuels that Maryland households use as a heating source.

Figure 5 Percentage of MD Households Using Fuel for Heating Source[29]
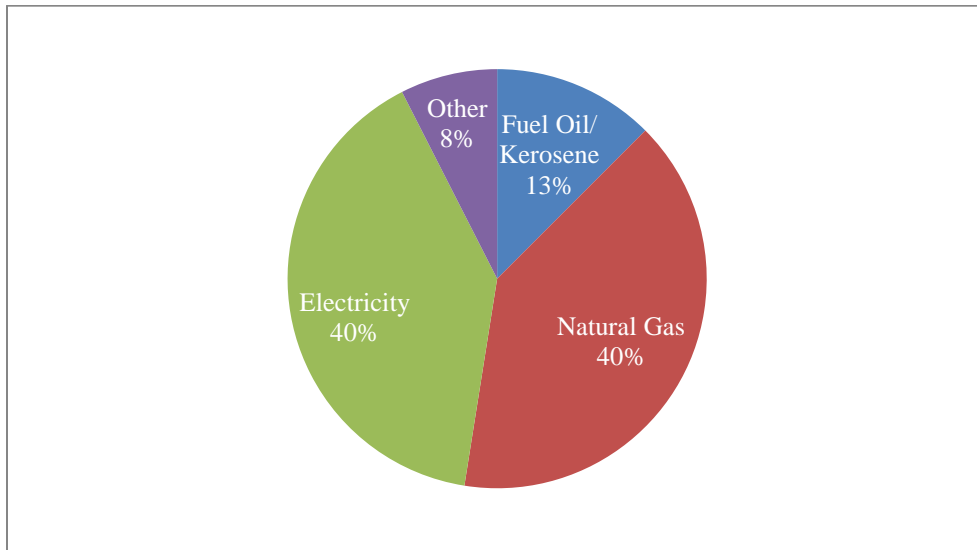
Figure 6 compares the average of the Maryland utilities' forecasted summer peak demands for their Maryland service territories with summer forecasts for the PJM Mid-Atlantic Region and for the PJM RTO as a whole. As illustrated below, the utilities' average summer peak demand growth rate follows a similar path to the PJM RTO and the PJM Mid-Atlantic Region. In the near-term, the Maryland utilities are showing a stronger peak demand growth rate than the PJM RTO and the PJM Mid-Atlantic Region. Also reflected in Figure 6 is a leap in the summer peak demand growth rates for the Maryland utilities in 2021, after which time the growth rates generally level off through 2029.

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[28] *Id.* Three of the Maryland PJM zones (BGE, DPL, and Pepco) are considered to be part of the PJM Mid-Atlantic Region. The fourth Maryland PJM zone (APS) is presented as part of the PJM Western Region data set.

[29] *Maryland State Energy Profile Analysis*, U.S. Energy Information Administration (September 19, 2019). https://www.eia.gov/state/analysis.php?sid=MD

Figure 6 Average of Utilities' Projected Summer Peak Demand Growth Rates (Gross of DSM) Compared to Projected Summer Peak Demand Growth Rates for PJM Mid-Atlantic and PJM RTO[30,31]
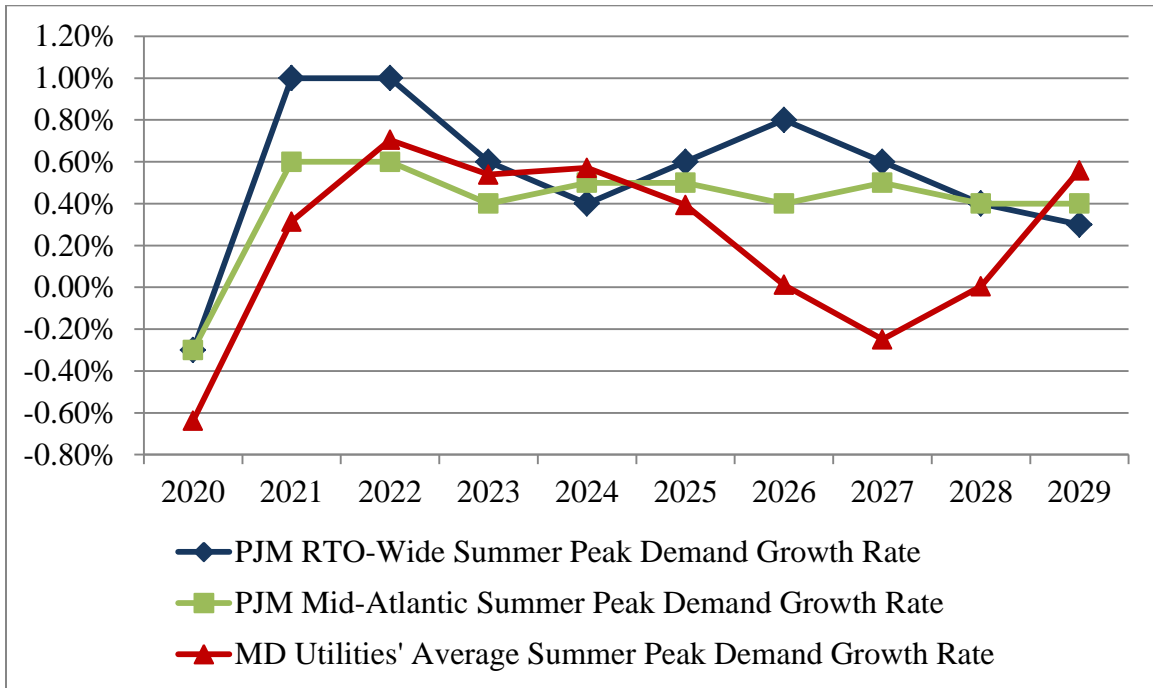
The Maryland utilities also provided peak demand forecasts for the winter season in response to the Ten-Year Plan data request. Figure 7 below depicts an average of the Maryland utilities' forecasted winter peak demands, contrasted with winter peak demand forecasts for the PJM Mid-Atlantic Region and for the PJM RTO. A visual comparison of Figure 6 and Figure 7 illustrates that the aggregated Maryland utilities' winter peak demand forecast follows a trajectory comparable to the summer peak demand growth rate projections through 2029.

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[30] *PJM Load Forecast Report,* PJM, (Jan. 2020) at 35-38, Table B-1, https://www.pjm.com/-/media/library/reports-notices/load-forecast/2020-load-report.ashx.
[31] The Utilities' average summer peak demand growth rates were calculated using the Utilities' data responses to the Commission's 2020 data request for the Ten-Year Plan. *See* Appendix Table 3(a)(i).
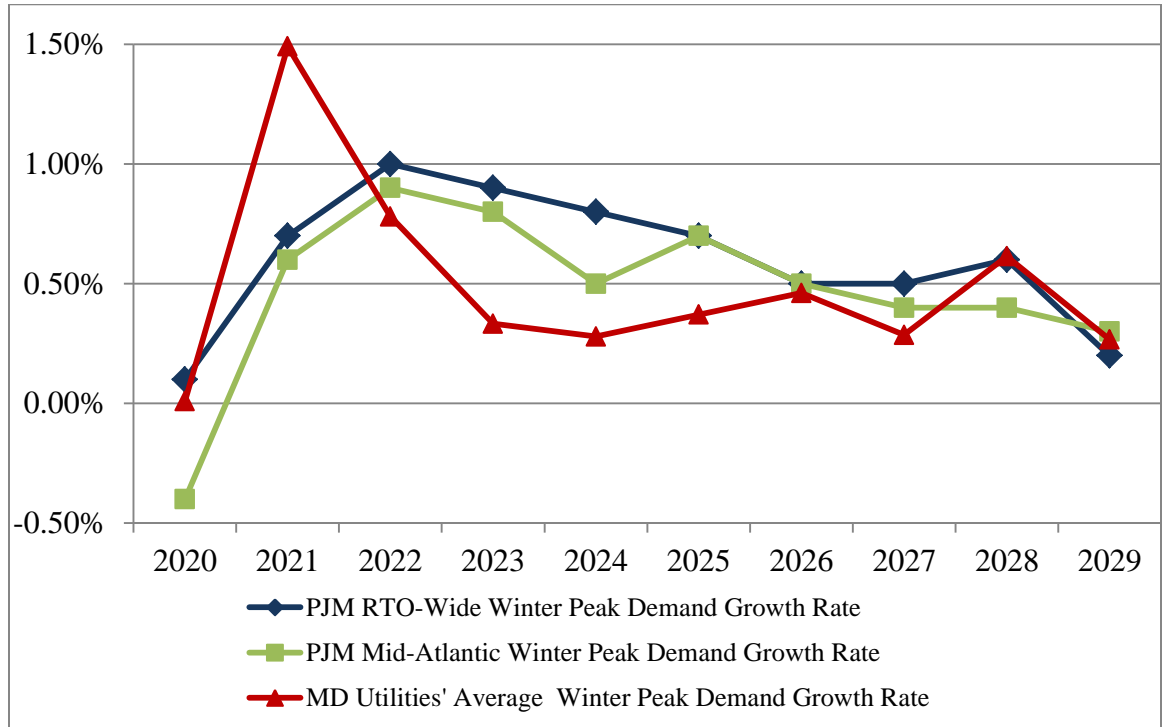
Figure 8 shows that the Utilities' average gross summer peak growth rate is more stable throughout the ten-year planning period than the average gross winter peak growth rate which rises substantially from 2020 to 2021.

Figure 7 Average of Utilities' Projected Winter Peak Demand Growth Rates (Gross of DSM) Compared to Projected Winter Peak Demand Growth Rates for PJM Mid-Atlantic and PJM RTO[32,33]

- PJM RTO-Wide Winter Peak Demand Growth Rate
- PJM Mid-Atlantic Winter Peak Demand Growth Rate
- MD Utilities' Average Winter Peak Demand Growth Rate
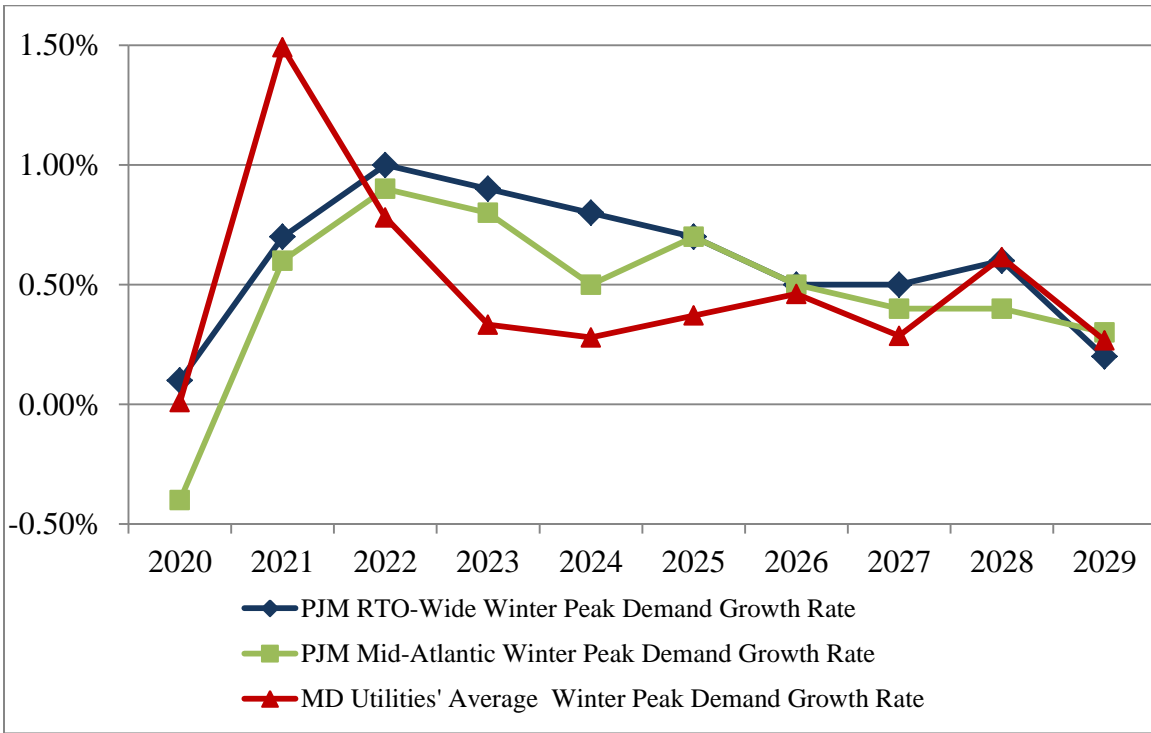
Figure 8 Utilities' Projected Summer Peak Demand Growth Rates (Gross of DSM) Compared to Utilities' Projected Winter Peak Demand Growth Rates (Gross of DSM)

- Utilities' Average Gross Summer Peak Growth Rate
- Utilities' Average Gross Winter Peak Growth Rate

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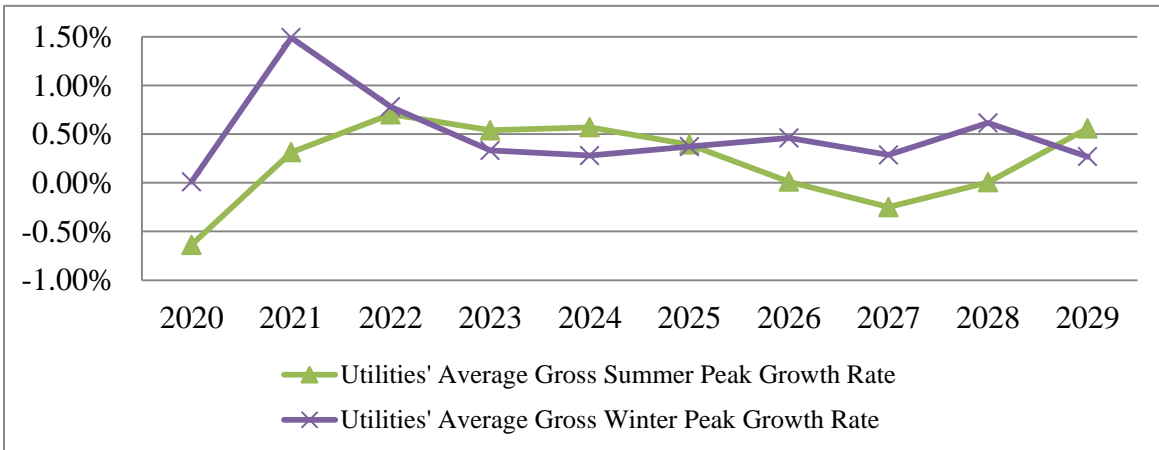
[32] The Utilities' average winter peak demand growth rates were calculated using the Utilities' data responses to the Commission's 2020 data request for the Ten-Year Plan. *See* Appendix Table 3(a)(iii).
[33] *PJM Load Forecast Report,* PJM, (Jan. 2020) at 39-42, Table B-2, https://www.pjm.com/-/media/library/reports-notices/load-forecast/2020-load-report.ashx.

As shown in Table 5 and Table 6 below, the ten-year forecasted Maryland growth rates of summer and winter peak demand (gross of DSM) are 0.32% and 0.54%, respectively.[34] In 2029, at the end of this planning timeframe, these growth rates translate into an expected summer peak demand load (gross of DSM) for the Maryland service territory of 15,056 MW and an expected winter peak demand load (gross of DSM) for Maryland of 13,300 MW.[35]

Table 5: Maryland Summer Peak Demand Forecast (MW) (Gross of DSM)[36,37]

	Berlin	BGE	Choptank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Total
Change (2020-2029)	1	(26)	39	126	2	1	74	140	63	421
Percent Change (2020-2029)	6.69%	-0.39%	14.95%	11.62%	3.77%	2.27%	4.49%	3.54%	7.50%	2.88%
Compound Annual Growth Rate	0.72%	-0.04%	1.56%	1.23%	0.41%	0.25%	0.49%	0.39%	0.81%	0.32%

Table 6: Maryland Winter Peak Demand Forecast (MW) (Gross of DSM)[38, 39]

	Berlin	BGE	Choptank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Total
Change (2020-2029)	6	49	31	98	3	2	130	70	244	632
Percent Change (2020-2029)	38.74%	0.84%	11.48%	9.55%	4.83%	2.27%	7.23%	2.49%	33.16%	4.99%
Compound Annual Growth Rate	3.71%	0.09%	1.21%	1.02%	0.53%	0.25%	0.78%	0.27%	3.23%	0.54%

D. Impact of Demand Side Management

DSM programs result in lower growth of both energy sales and peak demand. To evaluate the impact of DSM programs, this section reflects the Maryland utilities' energy sales forecasts *after* the benefits of DSM programs are included ("net of DSM"). For purposes of this section, only the five utilities participating in EmPOWER Maryland are

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[34] *See* Appendix Table 3(a).

[35] *See* Appendix Tables 3(a)(i) and 3(a)(iii).

[36] *Id.*

[37] Thurmont and Williamsport were not included in this table because the companies do not have any changes in their peak demand forecasts over the ten-year period.

[38] *See* Appendix Tables 3(a)(i) and 3(a)(iii).

[39] Thurmont and Williamsport were not included in this table because the companies do not have any changes in their peak demand forecasts over the ten-year period.

evaluated: BGE, DPL, PE, Pepco, and SMECO ("the Participating Utilities").[40] According to the Participating Utilities' Ten-Year Plan forecasts, the DSM programs will save a total of 46,014 GWh over the planning period. These savings will be achieved by reducing the annual rate of growth in energy sales and peak demand.

The tables below compare the growth in DSM savings across the Participating Utilities from 2020 to 2023. The forecasted savings post-2020, however, fluctuate in method and amount across the Participating Utilities given that Commission-approved plans for utility-implemented EE&C programs pertain only to the 2018 – 2020 program cycle.[41] Table 7 shows the growth in demand savings from DSM programs due to EE&C portfolios, while Table 8 shows the growth in total demand savings attributable to DSM programs as a whole. The variation in the magnitude of impact of the EE&C and DSM programs by utility are due to the different sizes of the programs offered and the way in which the data was forecasted by the Participating Utilities. Also, the Commission notes that demand savings projections later in the 2020 – 2029 planning horizon may be affected by future iterations of EmPOWER Maryland program cycle proposals, as well as pending changes to the capacity market as a result of PJM's Capacity Performance Construct.

Table 7: Average Annual Increase in Demand Savings due to DSM Programs from 2020 to 2023 for EE&C Programs[42]

Description	BGE	DPL	PE	Pepco	SMECO
Average Annual MW Savings Increase due to DSM Programs	-8.8%	8.5%	14.0%	10.1%	0.0%

Table 8: Average Annual Increase in Demand Savings due to DSM Programs from 2020 to 2023 for All DSM Programs[43]

Description	BGE	DPL	PE	Pepco	SMECO
Average Annual MW Savings Increase due to DSM Programs	-4.5%	8.2%	12.8%	8.7%	0.0%

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[40] *See* The EmPOWER Maryland Report to the General Assembly for more information on the energy efficiency and demand response programs associated with EmPOWER Maryland, *available at:* https://www.psc.state.md.us/wp-content/uploads/2020-EmPOWER-Maryland-Energy-Efficiency-Act-Standard-Report.pdf.

[41] Because the Commission has only approved plans pertaining to the 2018 – 2020 program cycle at this date, BGE did not include any EE&C savings projections after 2020, with the exception of its Residential Demand Response Program and CVR, and Dynamic Pricing. The other Participating Utilities assume a level of savings post-2020.

[42] Responses to the Commission's Ten-Year Plan Data Requests.

[43] *Id.*

IV.　Transmission, Supply, and Generation

In order to ensure a safe, reliable, and economic supply of electricity in Maryland, an appropriate balance of generation, DSM, imports, and transmission must be achieved. While importation and DSM offer ancillary benefits to managing the power supply, it is critical that local generation is established and maintained to mitigate the risk to Maryland's long-term reliability.

For purposes of the Ten-Year Plan, the congestion costs and the role of transmission infrastructure in planning processes are discussed in Section IV.A; Section IV.B focuses on the state-specific impact of Maryland's status as a net importer of electricity. Information related to the Commission's concerns about the capacity, composition, and advanced age of Maryland's current generation profile is discussed in Section IV.C.

Maryland depends on PJM to operate the regional transmission system and to schedule the flows of power around the State (including importing power from other areas into Maryland). All load serving entities in PJM are required to ensure that they have sufficient capacity contracts to provide reliable electric service during periods of peak demand. As of 2018, Maryland's net summer generating capacity was 14,777 MW.[44] Maryland's peak demand forecast for 2020, net of utility demand-side management and energy conservation measures, is approximately 12,969 MW.[45] Maryland had the capability to meet over 113.6% of its summer peak demand with in-state generation in 2018.[46] Notwithstanding the ability to meet peak capacity, Maryland still imports a significant portion of its electricity needs as discussed in more detail in Part B of this section.

A. Regional Transmission [47]

PJM in its 2019 Regional Transmission Expansion Plan ("RTEP") authorized about $1.37 billion in system transmission improvement projects. The development of the RTEP takes into account the total effects of system trends, which are often driven by federal and state policy decisions. The planning process applies the North American Electric Reliability Corporation ("NERC") Planning Standard through the application of a wide range of reliability analyses—including load and generation deliverability tests— over a 15-year planning horizon.[48]

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[44] The U.S. Energy Information Administration ("EIA"), State Electricity Profile: Maryland; http://www.eia.gov/electricity/state/Maryland/. The EIA's most recent data available is from 2018. The next anticipated release date is listed as December 2020.

[45] *See* Appendix Table 3(a)(ii).

[46] The peak demand net of DSM programs for the summer of 2018 was 13,035 according to the 2018-2027 Ten-Year Plan. 14,777/13,035 = 113.6%

[47] *See* Appendix Table 4 for a full list of transmission enhancements proposed by Maryland utilities.

[48] *2019 Regional Transmission Expansion Plan.* PJM, (February 29, 2020) at 3, https://www.pjm.com/-/media/library/reports-notices/2019-rtep/2019-rtep-book-1.ashx?la=en.

1.   Regional Transmission Congestion

This section of the Ten-Year Report discusses congestion in PJM and the Maryland Control Zones. Congestion reflects the underlying characteristics of the power system, including the nature and capability of transmission facilities as well as the cost and geographical distribution of facilities. Congestion occurs when available, least-cost energy cannot be delivered to all load because of inadequate transmission facilities, thereby causing the price of energy in the constrained area to be higher than in an unconstrained area. PJM's Locational Marginal Pricing ("LMP") system is designed to reflect the value of energy at a specific location and time of delivery, thus measuring the impact of congestion throughout the PJM system. Total congestion costs for the PJM RTO increased by 55.5% ($726.6 million) between 2018 and 2019.[49]

2.   Regional Transmission Upgrades

The Commission recognizes the need to maintain and improve the transmission system within Maryland in order to ensure safe, reliable, and economic electric service to the State's ratepayers. As with increases in local generating capacity and the reduction of system load, transmission expansions and improvements can reduce congestion and LMP differences among zones; such improvements may also support reliability requirements and mitigate economic concerns. PJM's 2019 RTEP authorized four transmission upgrades for Maryland for approximately $162.5 million.[50]

Appendix 4 lists all transmission enhancements identified by the Maryland utilities in response to data requests for the Ten-Year Plan. Together, the 21 identified transmission enhancements in Appendix Table 4 account for 43.6 miles of upgrades.

B. Electricity Imports

Maryland continues to be a net importer of electricity, similar to many other states in PJM.[51] As of 2018, 34% of the electricity consumed in the state is imported from other states and internationally.[52] Nine of the 13 PJM states plus the District of Columbia are

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[49] Monitoring Analytics, *State of the Market Report for PJM - 2019*, PJM, (March 12, 2020) at 518, https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2019/2019-som-pjm-sec11.pdf.

[50] 2019 Maryland and District of Columbia State Infrastructure Report, PJM, at 19-22, (May 2020), *https://www.pjm.com/-/media/library/reports-notices/state-specific-reports/2019/2019-maryland-dc-state-infrastructure-report.ashx?la=en.*

[51] PJM operates, but does not own, the transmission systems in: (1) Maryland; (2) all or part of 12 other states; and (3) the District of Columbia. With FERC approval, PJM undertakes the task of coordinating the movement of wholesale electricity and provides access to the transmission grid for utility and non-utility users alike. Within the PJM region, power plants are dispatched to meet load requirements without regard to operating company boundaries. Generally, adjacent utility service territories import or export wholesale electricity as needed to reduce the total amount of capacity required by balancing retail load and generation capacity.

[52] *State Electricity Profiles 2018*, U.S. Energy Information Administration, (December 31, 2019) at Table 10, https://www.eia.gov/electricity/state/maryland/xls/md.xlsx.

net importers of electricity. In a nationwide comparison, Maryland is the third largest electricity importer based on a percentage of electricity sales, importing 34% of its electricity in 2018.[53] Only the District of Columbia and Delaware exceed Maryland in the percentage of electricity sales that are imported. In contrast, as of 2018, the states within the PJM region that exported more electricity in aggregate than was consumed within each state are: Illinois, Pennsylvania, Michigan, and West Virginia.[54]

Maryland continues to be a net importer as in-state generation has declined in recent years. In 2007, Maryland resources generated over 50 million MWh in electricity. By 2018, however, in-state resources generated slightly over 43 million MWh.[55] The EmPOWER Maryland program, together with other energy efficiency efforts across the State, contributes to a decrease in the peak demand, which reduces the need to increase capacity and generation capabilities both in Maryland and throughout the PJM region. According to EIA, Maryland is ranked 42nd in the country for per capita energy consumption.[56]

C. Maryland Capacity and Generation Profiles

The capacity and generation profiles of in-state resources must be comprehensively analyzed for both short-term and long-term reliability planning purposes, due to the uncertain future of coal-fired generation.[57] In Case No. 9214, the Commission observed the State's reliability risk is further heightened because neighboring states that export electricity into Maryland also have at-risk coal-fired generation.[58]

1. Conventional Capacity and Generation Profiles, 2019

Coal-fired power plants represent 29% of the electric generating capacity in Maryland, of which 83% of such capacity is aged 31 years or older. Within this category, 38% is considered "at-risk," as defined by PJM.[59] Table 9 and Table 10 below depict the electric generating capacity in Maryland, as well as the age of plants by fuel type.[60]

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[53] *State Electricity Profiles 2018*, U.S. Energy Information Administration, (December 31, 2019), at Table 10 (for each state, https://www.eia.gov/electricity/state/index.php).

[54] *Id.*

[55] *Electricity Power Industry Generation by Primary Energy Source, 1990-2016 Maryland*, U.S. Energy Information Administration, (September 2019) at:
https://www.eia.gov/electricity/data/state/annual_generation_state.xls.

[56] *Maryland State Energy Profile*, U.S. Energy Information Administration (September 19, 2019).
https://www.eia.gov/state/print.php?sid=MD

[57] The uncertainty stems from the economic pressure on coal as a result of decreasing natural gas prices, as well as from regulations promulgated by the U.S. Environmental Protection Agency.

[58] Case No. 9214, *In the Matter of Whether New Generating Facilities Are Needed to Meet Long-Term Demand for Standard Offer Service.* Order No. 84815 (April 12, 2012) at 19.

[59] PJM categorizes coal generation more than 40 years old and less than 400 MW as at "high-risk" of retirement. Case No. 9214, *In the Matter of Whether New Generating Facilities Are Needed to Meet Long-Term Demand for Standard Offer Service*, PJM Comments (January 13, 2012) at 11-12.

[60] *See* Appendix Table 5 for a complete list of Maryland generation capacity in 2019.

Table 9: Maryland Summer Peak Capacity Profile, 2019[61]

Primary Fuel Type	Capacity	
	Summer (MW)	Percent of Total
Coal	4,270.0	29.3%
Oil	1,255.6	8.6%
Natural Gas	6,125.1	42.0%
Nuclear	1,707.8	11.7%
Hydroelectric	590.0	4.1%
Other and Renewables	618.1	4.2%
Total	**14,566.6**	**100.0%**

Table 10: Age of Maryland Generation by Fuel Type, 2019[62]

Primary Fuel Type	Age of Plants, By Percent			
	1-10 Years	11-20 Years	21-30 Years	31+ Years
Coal	0%	0%	17%	83%
Oil	6%	7%	13%	74%
Natural Gas	31%	26%	16%	27%
Nuclear	0%	0%	0%	100%
Hydroelectric	0%	0%	0%	100%
Other and Renewables	65%	28%	1%	6%

Maryland's summer peak capacity profile decreased by 204 MW in 2019 compared to 2018, as illustrated in Figure 9. The capacity reduced in 2019 can be largely attributed to decreases in natural gas.

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[61] *Report EIA-860: "3_1_Generator_Y2019"* Excel, U.S. Energy Information Administration (June 2, 2020), https://www.eia.gov/electricity/data/eia860/.
[62] *Id.*

Figure 9 Maryland Summer Capacity Profile (MW), 2007 – 2019[63]
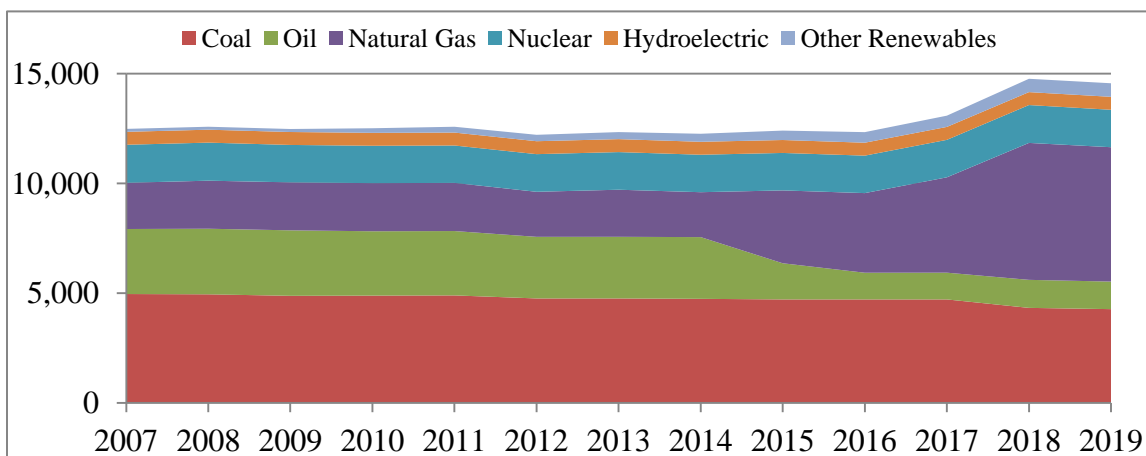
Maryland's generating profile differs from its capacity profile. Coal and nuclear facilities typically generate an overwhelming majority of all electricity produced in Maryland, even though these resources represent a little under half of in-state capacity.[64] Conversely, oil and certain natural gas facilities, which operate as mid-merit or peaking units that come on-line when needed, generate 32% of the electric energy produced in Maryland while representing 51% of in-state capacity. Table 11 summarizes Maryland's 2018 in-state generation profile according to fuel source.

Table 11: Maryland Generation Profile, 2018[65]

Primary Fuel Source	Generation	
	Annual (MWh)	Percent of Total
Coal	10,066,924	23.0%
Oil	260,015	0.6%
Gas	13,849,673	31.6%
Nuclear	14,987,931	34.2%
Hydroelectric	2,830,886	6.5%
Other & Renewables	1,814,220	4.1%
Total	**43,809,649**	**100.0%**

Unlike the stability historically exhibited by Maryland's summer capacity profile, the percentage of in-state generation derived from various fuel sources continues to evolve as illustrated in Figure 10 below. Between 2008 and 2018, in-state coal generation

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[63] U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

[64] *See supra* Table 9. Coal facilities represented 29.3% of the in-state capacity in 2018, while nuclear facilities represented 11.6% of capacity. Therefore, gas and nuclear facilities combined for 41% of Maryland's generating capacity profile in 2018.

[65] *State Electricity Profiles 2018*, U.S. Energy Information Administration, (December 31, 2019) at Table 5, https://www.eia.gov/electricity/state/maryland/state_tables.php.

decreased by 19,632 GWhs, a percentage drop of 63% in 2007. The surge in generation can be largely attributed to a leap in natural gas generation, which increased by 106% in 2018 as compared to 2017.

Figure 10 Maryland Generation Profile, 2007 – 2018[66]
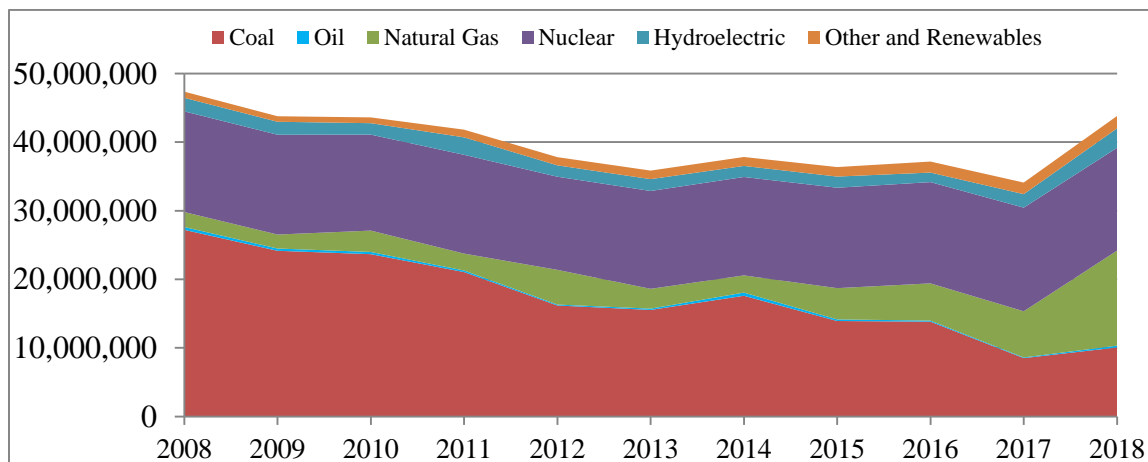
The standard life expectancy for coal generation facilities is approximately 40 years, although extensions can often be granted for up to 60 years. This assessment places a significant percentage of total Maryland coal generation capacity at or near the end of its normal operational life, a fact made especially concerning considering that coal generation facilities provided 23% of the in-state generation in 2018. If operational extensions for Maryland coal generation units are not requested, the need for additional in-state resources will be further necessitated to avoid potential reliability concerns.

PJM lists three plants retired in 2019—two gas-fired gas turbines and one gas-fired boiler and steam turbine, totaling just over 138 MW in capacity.[67] There are three pending deactivation requests in the Pepco service territory with a combined capacity of 544.8 MWs; while PJM currently registers 4.0 GW of capacity resources requesting deactivation within the RTO.[68] PJM completed a reliability analysis and identified no reliability impacts associated with these deactivation requests in Maryland.

2.   Proposed Conventional Generation Additions[69]

The construction of new generation, both conventional and renewable, is a way to address the in-state capacity and electricity import issues discussed in previous sections.

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[66] *Electricity Power Industry Generation by Primary Energy Source, 1990-2017* Maryland, U.S. Energy Information Administration, (December 31, 2019) at Table 5,
https://www.eia.gov/electricity/state/maryland/xls/md.xlsx.
[67] Generation Deactivations, PJM, *https://www.pjm.com/planning/services-requests/gen-deactivations.aspx*
[68] *Id.*
[69] *See* Appendix Table 6 for a complete list of new renewable generation proposed in Maryland.

As of the date of this report, there were 1,328 MWs of proposed new generation active in the PJM queue, with over 66% consisting of solar projects. [70]

3.   Renewable Generation and Proposed Additions[71]

The Commission recognizes the importance renewable generation plays in meeting Maryland's energy needs while also addressing environmental concerns. Based on the PJM queue, Maryland's renewable generation capacity is planned to increase by an estimated 870 MW over the next several years as shown in Table 12 below. This does not, however, account for smaller renewable generators, notably residential solar; these smaller renewable generators are not required to obtain PJM interconnection status, but simply require interconnection with the local utility.

Table 12: Proposed New Renewable Generation in Maryland

Utility	Fuel Type	In-Service Date Range	Total Capacity (MW)
APS	Solar	2020-2023	252.0
	Hydro	2019	15.0
BGE	Solar	2021-2023	57.0
DPL	Solar	2016-2023	493.4
Pepco	Solar	2019-2020	3.6
SMECO	Solar	2020-2021	48.7
		Total (MW):	**869.7**

The amount of solar resources in Maryland will continue to increase due to a suite of State policy initiatives: the requirement that the Renewable Portfolio Standard ("RPS") solar carve-out be interconnected to the distribution network serving Maryland; net metering incentives; tax incentives; the community solar pilot program; and grants administered by the Maryland Energy Administration. Additionally, the Clean Energy Jobs Act of 2019, enacted in May 2019, increases the RPS requirements from 25% by 2020 to 50% by 2030. This includes increasing the solar carve-out to 14.5%.

On May 11, 2017, the Commission approved two offshore wind projects in compliance with the Maryland Offshore Wind Energy Act of 2013. [72] The two projects

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[70] New Services Queue, PJM (July, 2020), https://www.pjm.com/planning/services-requests/interconnection-queues.aspx.

[71] Maryland's Renewable Portfolio Standard has helped incent new renewable generation capacity in Maryland via Renewable Energy Credits ("RECs") and the Alternative Compliance Payments submitted to the Strategic Energy Investment Fund. RECs are the environmental attributes of renewable generation, and are separate from the actual electricity generation from Maryland's renewable resources. Approximately 20% of the new capacity is located within Maryland and 80% is located in other states. More details can be found at the *Renewable Energy Standard Report;* available at*: https://www.psc.state.md.us/wp-content/uploads/FINAL-Renewable-Energy-Portfolio-Standard-Report-with-data-for-CY-2017.pdf.*

total 368 MW in capacity and are projected to be producing energy within the 2020-2029 planning period. Both projects are currently working with the Bureau of Ocean Energy Management ("BOEM"), the federal agency responsible for overseeing the development of energy projects located offshore in federal waters, for approval to begin construction. The Clean Energy and Jobs Act of 2019 requires the Commission to begin accepting applications for additional offshore wind projects in 2020, 2021, and 2022 for at least 1,200 MW of additional capacity. The increasing renewable generation penetration may have the potential to impact the grid, and the Commission will continue to monitor the successful integration of these renewables.

4.   Nuclear Generation

The Commission also recognizes the important role nuclear generation plays in meeting Maryland's energy needs. Nuclear energy provides reliability and resiliency to the grid while assisting Maryland in reaching its Regional Greenhouse Gas Initiative ("RGGI") commitments and its goals under the Greenhouse Gas Emissions Reduction Act as the largest carbon-emission free energy generation source in the state producing 82% of Maryland's emission-free electricity.[73] The Clean Energy and Jobs Act of 2019 also required DNR to conduct an additional study on the relevancy and outlook for nuclear capacity on Maryland's generating portfolio both currently and in the future. The final study was published in January 2020.[74]

5.   Storage

The Energy Storage Pilot Project Act was passed in 2019 and requires the Commission to establish an energy storage pilot program. The investor-owned electric companies are required to seek Commission approval for two storage pilot projects in 2020, and the Commission is required to decide on the pilots by 2021. There are also several storage projects in the PJM queue that are projected to begin operating in the near future as illustrated in Table 13 below.

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[72] Case No. 9431, *In the Matter of the Applications of US Wind, Inc. and Skipjack Offshore Energy, LLC for a Proposed Offshore Wind Project(s) Pursuant to the Maryland Offshore Wind Energy Act of 2013.* Order No. 88192 (May 17, 2017).

[73] *Maryland Fact Sheet*, NEI, https://www.nei.org/resources/fact-sheets/maryland

[74] *Nuclear Power in Maryland: Status and Prospects*, Maryland Department of Natural Resource, https://dnr.maryland.gov/pprp/Documents/NuclearPowerinMaryland_Status-and-Prospects.pdf

Table 13 Proposed New Storage Generation in Maryland PJM Queue Effective Date: July 2020

Transmission Owner	Project Name	County Location	PJM Queue Status	PJM Queue #	Project Capacity (MW)	Projected In-Service Date
DPL	Todd 69 kV	Dorchester	Active	AE1-087	16	12/31/2021
APS	Carlos Junction-Lonaconing 34.5 kV	Allegany	Active	AE2-309	16.66	10/30/2020
DPL	Church 69 kV	Queen Anne's	Active	AF2-109	10	10/31/2022
DPL	Colora 230 kV	Cecil	Active	AF2-208	40.32	10/15/2022
DPL	Vienna 138 kV	Dorchester	Active	AF2-409	100	6/1/2022
				Total	**182.98**	

D. PJM's Reliability Pricing Model

As a means of ensuring reliability of the electric system in the RTO, PJM annually conducts a long-term planning process that compares the potential available generation capacity located within the RTO and the import capability of the RTO against the estimated demand of customers within the RTO. Consequently, the model projects the amount of generation and transmission required to maintain the reliability of the electric grid within PJM. The amount of capacity procured in PJM's Reliability Pricing Model ("RPM") is roughly based upon a forecast of the peak load projected by PJM for a particular year, plus a reserve margin. The RPM works in conjunction with PJM's RTEP to ensure reliability in the PJM region for future years. Locational Constraints are also identified for a delivery year in the PJM Regional Transmission Expansion Planning Process ("RTEPP") prior to each Base Residual Auction ("BRA"). Locational Constraints are capacity import capability limitations that are caused by transmission facility limitations or voltage limitations. Resources in the unconstrained Locational Deliverability Areas ("LDA") (and capacity imported into constrained LDAs) are paid the Unconstrained (lower) Resource Clearing Price.

Using this information, PJM evaluates offers from generators and other resources three years in advance to be available for a one year delivery period running from June through May (up to three years for new generation) through the BRA.[75] Once PJM completes its RTEP and conducts the RPM BRA, PJM is in a position to evaluate the reliability of its system. PJM must operate the transmission system to meet reliability criteria established by the Federal Energy Regulatory Commission ("FERC") and administered by NERC.

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[75] PJM Manual 18: PJM Capacity Market, Section 1: Overview of the PJM Capacity Market Reliability Pricing Model, PJM Markets & Operations (last visited October 1, 2019), https://www.pjm.com/directory/manuals/m18/index.html#Sections/Section%201%20Overview%20of%20the%20PJM%20Capacity%20Market.html

The Mid-Atlantic Advisory Council ("MAAC") LDA[76] has experienced significant volatility in Net Zonal Load[77] capacity prices as a result of the past ten BRAs. The historical pattern suggests that future BRA results could vary significantly from year to year and must be closely monitored by PJM.

Table 14 PJM BRA Capacity Prices by Zone[78]

Delivery Year	APS ($/MW-day)	BGE ($/MW-day)	DPL ($/MW-day)	PEPCO ($/MW-day)	RTO Price ($/MW-day)
2012/2013	$16.74	$133.42	$171.27	$133.42	$16.46
2013/2014	$27.73	$226.15	$245.09	$247.14	$27.73
2014/2015	$125.94	$135.25	$142.99	$135.25	$125.94
2015/2016	$134.62	$165.78	$165.78	$165.78	$136.00
2016/2017	$59.37	$119.13	$119.13	$119.13	$59.37
2017/2018	$120.00	$120.00	$120.00	$120.00	$120.00
2018/2019	$164.77	$164.77	$225.42	$164.77	$164.77
2019/2020	$100.00	$100.30	$119.77	$100.00	$100.00
2020/2021	$79.53	$86.04	$187.87	$86.04	$76.53
2021/2022	$140.00	$200.30	$165.73	$140.00	$140.00

On July 25, 2019, FERC issued an Order[79] directing PJM not to run the BRA in August 2019 as FERC had found PJM's Tariff unduly discriminatory because it fails to protect the capacity market from certain resources. As a result, PJM has suspended all auction activities and deadlines relating to the BRAs for the 2022/2023 and 2023/2024 Delivery Years. PJM is awaiting a FERC Order approving PJM's proposal addressing the discriminatory practices. Once the tariff is approved, PJM will work with the stakeholder community to develop a timeline for future BRAs in accordance with the new rules.

V.   Conclusion

Electricity sector planning will continue to be effected by several different issues over the next 10 years, including projections regarding Maryland utility customers, energy sales, and in-state capacity and generation profiles. Other factors that will play a significant role in the planning process will be Maryland's median income, the state's population, and its housing stock. The Maryland utilities' load forecasts indicate a modest amount of projected annual growth in the number of customers, energy sales and peak

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[76] MAAC includes the South-West MAAC ("SWMAAC") which is the zone serving central Maryland.

[77] The Zonal Net Load capacity price reflects the BRA resource clearing price and credits from any transmission capacity transfer rights.

[78] *PJM RPM Auction User Information: Delivery Year*, PJM Markets & Operations (Delivery Years 2012-2022), https://www.pjm.com/markets-and-operations/rpm.aspx.

[79] Docket Nos. EL16-49-000.

demand throughout the State during the 2020 – 2029 planning horizon. In response to these and other developments, the 2021 – 2030 Ten-Year Plan will enable continued review and assessment of the impacts that the above-mentioned issues will have on Maryland's long-term electricity resource planning.

VI. Appendices to the Public Service Commission of Maryland's Ten-Year Plan (2020 – 2029) of Electric Companies in Maryland

*Data in Appendices 1-4 was derived from the Utilities' responses to Staff's Data Request

Appendix 1(a): Maryland Customer Forecasts

Appendix Table 1(a)(i): All Customer Classes (number of customers)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	2,595	1,306,531	54,675	208,291	10,823	17,517	275,150	584,132	169,974	2,875	1,011	**2,633,574**
2021	2,596	1,311,792	55,147	209,181	10,842	17,561	277,666	588,352	172,254	2,875	1,011	**2,649,278**
2022	2,609	1,318,088	55,577	210,084	10,861	17,604	280,473	592,728	174,604	2,875	1,011	**2,666,515**
2023	2,622	1,328,149	55,939	210,949	10,880	17,648	283,289	596,528	176,954	2,875	1,011	**2,686,844**
2024	2,635	1,338,149	56,247	211,795	10,899	17,692	286,044	599,943	179,344	2,875	1,011	**2,706,635**
2025	2,661	1,348,212	56,534	212,645	10,918	17,736	288,828	603,378	181,754	2,875	1,011	**2,726,553**
2026	2,688	1,359,037	56,781	213,499	10,937	17,781	291,537	606,834	184,544	2,875	1,011	**2,747,524**
2027	2,715	1,369,253	57,032	214,357	10,956	17,825	294,210	610,311	187,164	2,875	1,011	**2,767,710**
2028	2,742	1,378,654	57,339	215,218	10,975	17,869	296,890	613,810	189,714	2,875	1,011	**2,787,098**
2029	2,770	1,387,575	57,682	216,084	10,994	17,914	299,566	617,329	192,544	2,875	1,011	**2,806,344**
Change (2020-2029)	**175**	**81,043**	**3,007**	**7,793**	**171**	**397**	**24,416**	**33,198**	**22,570**	**-**	**-**	**172,770**
Percent Change (2020-2029)	**6.73%**	**6.20%**	**5.50%**	**3.74%**	**1.58%**	**2.27%**	**8.87%**	**5.68%**	**13.28%**	**0.00%**	**0.00%**	**6.56%**
Compound Annual Growth Rate	**0.73%**	**0.67%**	**0.60%**	**0.41%**	**0.17%**	**0.25%**	**0.95%**	**0.62%**	**1.39%**	**0.00%**	**0.00%**	**0.71%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix Table 1(a)(ii): Residential (number of customers)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	2,129	1,179,723	48,892	180,423	8,449	14,911	241,703	533,820	154,500	2,493	851	**2,367,894**
2021	2,128	1,184,590	49,314	181,100	8,462	14,948	243,913	537,899	156,600	2,493	851	**2,382,298**
2022	2,139	1,190,549	49,699	181,748	8,475	14,986	246,358	542,186	158,800	2,493	851	**2,398,283**
2023	2,149	1,200,273	50,023	182,382	8,488	15,023	248,826	545,932	161,000	2,493	851	**2,417,441**
2024	2,160	1,209,936	50,298	183,006	8,501	15,061	251,243	549,299	163,200	2,493	851	**2,436,047**
2025	2,182	1,219,661	50,555	183,631	8,514	15,098	253,689	552,686	165,400	2,493	851	**2,454,760**
2026	2,203	1,230,148	50,776	184,258	8,527	15,136	256,067	556,094	168,000	2,493	851	**2,474,554**
2027	2,226	1,240,027	51,000	184,888	8,540	15,174	258,410	559,523	170,400	2,493	851	**2,493,531**
2028	2,248	1,249,090	51,274	185,520	8,553	15,212	260,755	562,973	172,700	2,493	851	**2,511,668**
2029	2,270	1,257,672	51,582	186,154	8,566	15,250	263,096	566,445	175,300	2,493	851	**2,529,679**
Change 2020-2029)	**141**	**77,950**	**2,690**	**5,731**	**117**	**339**	**21,393**	**32,625**	**20,800**	**-**	**-**	**161,785**
Percent Change (2020-2029)	**6.64%**	**6.61%**	**5.50%**	**3.18%**	**1.38%**	**2.27%**	**8.85%**	**6.11%**	**13.46%**	**0.00%**	**0.00%**	**6.83%**
Compound Annual Growth Rate	**0.72%**	**0.71%**	**600.00%**	**0.35%**	**0.15%**	**0.25%**	**0.95%**	**0.66%**	**600.00%**	**0.00%**	**0.00%**	**0.74%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix 1(a) (Continued): Maryland Customer Forecasts

Appendix Table 1(a)(iii): Commercial (number of customers)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	319	114,209	5,532	27,428	2,374	2,557	30,472	50,183	15,470	336	138	**249,018**
2021	320	114,504	5,580	27,641	2,380	2,563	30,800	50,324	15,650	336	138	**250,237**
2022	322	114,765	5,624	27,897	2,386	2,570	31,162	50,413	15,800	336	138	**251,413**
2023	323	115,027	5,660	28,127	2,392	2,576	31,510	50,467	15,950	336	138	**252,505**
2024	325	115,289	5,692	28,349	2,398	2,583	31,847	50,515	16,140	336	138	**253,611**
2025	328	115,551	5,720	28,574	2,404	2,589	32,180	50,563	16,350	336	138	**254,733**
2026	331	115,812	5,745	28,800	2,410	2,596	32,505	50,611	16,540	336	138	**255,825**
2027	335	116,074	5,771	29,029	2,416	2,602	32,827	50,659	16,760	336	138	**256,947**
2028	338	116,336	5,802	29,259	2,422	2,609	33,152	50,707	17,010	336	138	**258,109**
2029	341	116,597	5,836	29,490	2,428	2,615	33,475	50,756	17,240	336	138	**259,254**
Change 2020-2029)	**22**	**2,388**	**304**	**2,063**	**54**	**58**	**3,003**	**573**	**1,770**	**-**	**-**	**10,236**
Percent Change (2020-2029)	**7.02%**	**2.09%**	**5.50%**	**7.52%**	**2.27%**	**2.27%**	**9.86%**	**1.14%**	**11.44%**	**0.00%**	**0.00%**	**4.11%**
Compound Annual Growth Rate	**0.76%**	**0.23%**	**0.60%**	**0.81%**	**0.25%**	**0.25%**	**1.05%**	**0.13%**	**1.21%**	**0.00%**	**0.00%**	**0.45%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix Table 1(a)(iv): Industrial (number of customers)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	124	12,335	26	175	-	49	2,650	-	4	9	14	**15,386**
2021	125	12,438	26	175	-	49	2,625	-	4	9	14	**15,465**
2022	126	12,516	26	175	-	49	2,621	-	4	9	14	**15,540**
2023	126	12,595	26	175	-	49	2,619	-	4	9	14	**15,617**
2024	127	12,673	26	175	-	49	2,617	-	4	9	14	**15,694**
2025	128	12,751	27	175	-	49	2,618	-	4	9	14	**15,775**
2026	129	12,830	27	175	-	49	2,621	-	4	9	14	**15,858**
2027	131	12,908	27	175	-	49	2,626	-	4	9	14	**15,943**
2028	132	12,986	27	175	-	49	2,633	-	4	9	14	**16,029**
2029	133	13,064	27	175	-	49	2,641	-	4	9	14	**16,116**
Change (2020-2029)	**9**	**729**	**1**	**-**	**-**	**-**	**(9)**	**-**	**-**	**-**	**-**	**731**
Percent Change (2020-2029)	**7.55%**	**5.91%**	**3.85%**	**0.00%**	**N/A**	**0.00%**	**-0.33%**	**N/A**	**0.00%**	**0.00%**	**0.00%**	**4.75%**
Compound Annual Growth Rate	**0.81%**	**0.64%**	**0.42%**	**0.00%**	**N/A**	**0.00%**	**-0.04%**	**N/A**	**0.00%**	**0.00%**	**0.00%**	**0.52%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix 1(a) (Continued): Maryland Customer Forecasts

Appendix Table 1(a)(v): Other (number of customers)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	23	264	225	265	0	0	322	129	0	37	8	**1,273**
2021	23	261	227	265	0	0	325	129	0	37	8	**1,275**
2022	23	258	228	265	0	0	328	129	0	37	8	**1,276**
2023	23	255	230	265	0	0	331	129	0	37	8	**1,278**
2024	23	252	231	265	0	0	334	129	0	37	8	**1,279**
2025	24	249	232	265	0	0	338	129	0	37	8	**1,281**
2026	24	247	233	265	0	0	341	129	0	37	8	**1,283**
2027	24	245	234	265	0	0	344	129	0	37	8	**1,286**
2028	24	243	236	265	0	0	347	129	0	37	8	**1,289**
2029	25	241	237	265	0	0	350	129	0	37	8	**1,292**
Change (2020-2029)	**2**	**(24)**	**12**	**-**	**-**	**-**	**28**	**-**	**-**	**-**	**-**	**18**
Percent Change (2020-2029)	**6.69%**	**-8.91%**	**5.33%**	**0.00%**	**N/A**	**N/A**	**8.83%**	**0.00%**	**N/A**	**0.00%**	**0.00%**	**1.44%**
Compound Annual Growth Rate	**0.72%**	**-1.03%**	**0.58%**	**0.00%**	**N/A**	**N/A**	**0.94%**	**0.00%**	**N/A**	**0.00%**	**0.00%**	**0.16%**

Note: A&N and Somerset did not report applicable information for this table.

Note: The "Other" rate class refers to customers that do not fall into one of the listed classes; street lighting is an example of a rate class included under "Other."

Appendix Table 1(a)(vi): Resale (number of customers)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2021	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2022	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2023	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2024	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2025	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2026	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2027	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2028	N/A	0	0	0	0	0	3	0	0	0	0	**3**
2029	N/A	0	0	0	0	0	3	0	0	0	0	**3**
Change (2020-2029)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Percent Change (2020-2029)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**0.00%**	**N/A**	**N/A**	**N/A**	**N/A**	**0.00%**
Compound Annual Growth Rate	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**0.00%**	**N/A**	**N/A**	**N/A**	**N/A**	**0.00%**

Note: A&N and Somerset did not report applicable information for this table.

Note: The "Resale" class refers to "Sales for Resale," which is energy supplied to other electric utilities, cooperatives, municipalities, and federal and state electric agencies for resale to end-use consumers. PE is the only utility with any resale customers; these wholesale customers are PJM, Monongahela Power Company, West Penn Power Company and Old Dominion Electric Cooperative.

Appendix 1(b): 2019 Customer Numbers and Energy Sales

Appendix Table 1(b)(i): Customer Class Breakdown as of December 31, 2019 (number of customers)

Utility	System Wide						Maryland					
	Residential	Com-mercial	In-dustrial	Other	Sales for Resale	Total	Resi-dential	Com-mercial	In-dustrial	Other	Sales for Resale	Total
Berlin	2,124	319	124	23	-	2,590	2,124	319	124	23	-	2,590
BGE	1,172,806	114,063	12,285	265	-	1,299,418	1,172,806	114,063	12,285	265	-	1,299,418
Choptank	48,640	5,504	26	224	-	53,998	48,640	5,504	26	224	-	54,393
DPL	465,963	62,643	339	618	-	529,563	179,407	27,203	177	266	-	207,053
Easton	8,407	2,367	-	-	-	10,775	8,407	2,367	-	-	-	10,775
Hagers-town	14,911	2,557	49	-	-	17,517	14,911	2,557	49	-	-	17,517
PE	363,295	47,288	4,509	618	5	415,714	239,091	29,608	2,644	315	3	271,660
PEPCO	815,003	77,289	-	153	-	878,856	531,174	50,682	-	125	-	581,981
SMECO	151,720	15,343	6	411	-	167,480	151,720	15,343	6	-	-	167,068
Thurmont	2,493	336	9	38	-	2,875	2,493	336	9	38	-	2,875
William-sport	851	138	14	8	-	1,011	851	138	14	8	-	1,011
Total	3,046,213	327,846	17,362	2,356	5	3,379,797	2,351,624	248,119	15,334	1,263	3	2,616,343

Note: A&N and Somerset did not report applicable information for this table.
Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C.; Delaware; and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

Appendix Table 1(b)(ii): Utilities' 2019 Energy Sales by Customer Class (GWh)

Utility	System Wide						Maryland					
	Resi-dential	Com-mercial	In-dustrial	Other	Sales for Resale	Total	Resi-dential	Com-mercial	In-dustrial	Other	Sales for Resale	Total
Berlin	27	3	16	0	-	46	27	3	16	0	-	46
BGE	12,765	2,951	13,812	264	-	29,791	12,765	2,951	13,812	264	-	29,791
Choptank	684	235	101	1	-	1,021	684	235	101	1	-	1,021
DPL	3,150	3,597	1,090	33	-	7,870	2,146	1,661	369	12	-	4,187
Easton	110	142	-	-	-	252	110	142	-	-	-	252
Hagers-town	160	69	87	-	-	316	160	69	87	-	-	316
PE	5,174	2,886	2,507	24	1,141	11,732	3,285	2,063	1,566	18	1,140	8,071
PEPCO	8,219	15,976	-	143	-	24,338	5,688	7,981	-	64	-	13,733
SMECO	2,180	1,266	55	9	-	3,511	2,180	1,266	55	9	-	3,511
Thurmont	38	16	22	1	-	77	38	16	22	1	-	77
William-sport	10	3	6	0	-	19	10	3	6	0	-	19
Total	32,516	27,146	17,696	474	1,141	78,973	27,092	16,391	16,035	368	1,140	61,024

Note: A&N and Somerset did not report applicable information for this table.
Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C.; Delaware; and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

Appendix 2(a): Energy Sales Forecast by Utility (Maryland Service Territory Only)

Appendix Table 2(a)(i): Maryland Energy Sales Forecast, Gross of DSM (GWh)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	45	29,398	1,078	4,840	253	323	8,304	17,076	3,506	80	20	**64,923**
2021	46	28,687	1,085	4,836	255	324	8,331	17,361	3,587	80	20	**64,611**
2022	46	28,707	1,090	4,837	256	325	8,416	17,569	3,684	80	20	**65,029**
2023	47	28,776	1,096	4,850	257	325	8,510	17,796	3,695	80	20	**65,452**
2024	47	28,920	1,101	4,851	259	326	8,455	18,015	3,720	80	20	**65,794**
2025	47	28,953	1,107	4,768	260	327	8,495	17,884	3,742	80	20	**65,684**
2026	48	29,088	1,112	4,687	262	328	8,546	17,755	3,776	80	20	**65,701**
2027	48	29,248	1,118	4,609	263	329	8,609	17,627	3,808	80	20	**65,758**
2028	49	29,368	1,124	4,531	264	330	8,697	17,500	3,845	80	20	**65,808**
2029	49	29,349	1,131	4,456	266	330	8,791	17,374	3,883	80	20	**65,729**
Change (2020-2029)	**4**	**(50)**	**53**	**(385)**	**13**	**7**	**487**	**299**	**377**	**-**	**-**	**806**
Percent Change (2020-2029)	**8.75%**	**-0.17%**	**4.92%**	**-7.94%**	**4.98%**	**2.27%**	**5.87%**	**1.75%**	**10.76%**	**0.00%**	**0.00%**	**1.24%**
Compound Annual Growth Rate	**0.94%**	**-0.02%**	**0.53%**	**-0.92%**	**0.54%**	**0.25%**	**0.64%**	**0.19%**	**1.14%**	**0.00%**	**0.00%**	**0.14%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix Table 2(a)(ii): Maryland Energy Sales Forecast, Net of DSM (GWh)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	45	28,712	1,077	4,075	253	323	7,380	13,722	3,434	80	20	**59,122**
2021	46	28,474	1,083	3,985	255	324	7,293	13,655	3,515	80	20	**58,730**
2022	46	28,473	1,089	3,901	256	325	7,263	13,512	3,612	80	20	**58,576**
2023	47	28,530	1,095	3,828	257	325	7,243	13,387	3,624	80	20	**58,436**
2024	47	28,674	1,100	3,743	259	326	7,211	13,255	3,649	80	20	**58,365**
2025	47	28,707	1,105	3,661	260	327	7,251	13,125	3,670	80	20	**58,253**
2026	48	28,842	1,111	3,580	262	328	7,300	12,995	3,704	80	20	**58,269**
2027	48	29,002	1,116	3,501	263	329	7,363	12,867	3,736	80	20	**58,325**
2028	49	29,123	1,123	3,424	264	330	7,449	12,740	3,773	80	20	**58,375**
2029	49	29,103	1,129	3,348	266	330	7,543	12,615	3,811	80	20	**58,294**
Change (2020-2029)	**4**	**391**	**52**	**(727)**	**13**	**7**	**163**	**(1,107)**	**377**	**-**	**-**	**(827)**
Percent Change (2020-2029)	**8.75%**	**1.36%**	**4.83%**	**-17.84%**	**4.98%**	**2.27%**	**2.21%**	**-8.07%**	**10.98%**	**0.00%**	**0.00%**	**-1.40%**
Compound Annual Growth Rate	**0.94%**	**0.15%**	**600.00%**	**-2.16%**	**0.54%**	**0.25%**	**0.24%**	**-0.93%**	**600.00%**	**0.00%**	**0.00%**	**-0.16%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix 2(b): Energy Sales Forecast by Utility (System Wide)

Appendix Table 2(b)(i): System Wide Energy Sales Forecast, Gross of DSM (GWh)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	45	29,398	1,078	12,791	253	323	15,788	28,651	3,506	80	20	**91,933**
2021	46	28,687	1,085	12,863	255	324	15,904	28,967	3,587	80	20	**91,816**
2022	46	28,707	1,090	12,945	256	325	16,054	29,221	3,684	80	20	**92,427**
2023	47	28,776	1,096	13,036	257	325	16,214	29,484	3,695	80	20	**93,030**
2024	47	28,920	1,101	13,122	259	326	16,226	29,754	3,720	80	20	**93,574**
2025	47	28,953	1,107	13,082	260	327	16,324	29,453	3,742	80	20	**93,395**
2026	48	29,088	1,112	13,045	262	328	16,432	29,156	3,776	80	20	**93,345**
2027	48	29,248	1,118	13,010	263	329	16,551	28,863	3,808	80	20	**93,337**
2028	49	29,368	1,124	12,976	264	330	16,702	28,574	3,845	80	20	**93,332**
2029	49	29,349	1,131	12,945	266	330	16,852	28,289	3,883	80	20	**93,194**
Change (2020-2029)	4	(50)	53	154	13	7	1,065	(362)	377	-	-	1,261
Percent Change (2020-2029)	8.75%	-0.17%	4.92%	1.20%	4.98%	2.27%	6.74%	-1.26%	10.76%	0.00%	0.00%	1.37%
Compound Annual Growth Rate	0.94%	-0.02%	0.53%	0.13%	0.54%	0.25%	0.73%	-0.14%	1.14%	0.00%	0.00%	0.15%

Note: A&N and Somerset did not report applicable information for this table.

Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C., Delaware, and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

Appendix Table 2(b)(ii): System Wide Energy Sales Forecast, Net of DSM (GWh)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	45	28,712	1,077	11,939	253	323	14,806	24,474	3,434	80	20	**85,164**
2021	46	28,474	1,083	11,892	255	324	14,808	24,271	3,515	80	20	**84,768**
2022	46	28,473	1,089	11,847	256	325	14,843	23,983	3,612	80	20	**84,574**
2023	47	28,530	1,095	11,811	257	325	14,889	23,692	3,624	80	20	**84,369**
2024	47	28,674	1,100	11,769	259	326	14,924	23,386	3,649	80	20	**84,235**
2025	47	28,707	1,105	11,730	260	327	15,022	23,085	3,670	80	20	**84,054**
2026	48	28,842	1,111	11,693	262	328	15,128	22,789	3,704	80	20	**84,003**
2027	48	29,002	1,116	11,657	263	329	15,247	22,496	3,736	80	20	**83,994**
2028	49	29,123	1,123	11,624	264	330	15,397	22,207	3,773	80	20	**83,989**
2029	49	29,103	1,129	11,592	266	330	15,547	21,922	3,811	80	20	**83,849**
Change (2020-2029)	4	391	52	(347)	13	7	740	(2,552)	377	-	-	(1,315)
Percent Change (2020-2029)	8.75%	1.36%	4.83%	-2.91%	4.98%	2.27%	5.00%	-10.43%	10.98%	0.00%	0.00%	-1.54%
Compound Annual Growth Rate	0.94%	0.15%	600.00%	-0.33%	0.54%	0.25%	0.54%	-1.22%	600.00%	0.00%	0.00%	-0.17%

Note: A&N and Somerset did not report applicable information for this table.

Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C.; Delaware; and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

Appendix 3(a): Peak Demand Forecasts (Maryland Service Territory Only)

Appendix Table 3(a)(i): Maryland Summer, Gross of DSM Programs (MW)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	11	6,689	264	1,088	60	60	1,642	3,963	841	14	4	**14,635**
2021	11	6,608	265	1,111	60	60	1,660	4,027	862	14	4	**14,681**
2022	11	6,584	270	1,133	60	60	1,681	4,083	885	14	4	**14,784**
2023	11	6,568	273	1,152	60	61	1,702	4,132	887	14	4	**14,864**
2024	11	6,574	277	1,171	61	61	1,701	4,186	889	14	4	**14,949**
2025	11	6,636	281	1,179	61	61	1,703	4,166	892	14	4	**15,008**
2026	11	6,638	284	1,187	61	61	1,705	4,148	895	14	4	**15,009**
2027	11	6,598	289	1,196	61	61	1,708	4,133	897	14	4	**14,972**
2028	11	6,595	296	1,205	62	61	1,711	4,113	900	14	4	**14,973**
2029	11	6,663	303	1,214	62	61	1,715	4,104	904	14	4	**15,056**
Change (2020-2029)	**1**	**(26)**	**39**	**126**	**2**	**1**	**74**	**140**	**63**	**-**	**-**	**421**
Percent Change (2020-2029)	**6.69%**	**-0.39%**	**14.95%**	**11.62%**	**3.77%**	**2.27%**	**4.49%**	**3.54%**	**7.50%**	**0.00%**	**0.00%**	**2.88%**
Compound Annual Growth Rate	**0.72%**	**-0.04%**	**1.56%**	**1.23%**	**0.41%**	**0.25%**	**0.49%**	**0.39%**	**0.81%**	**0.00%**	**0.00%**	**0.32%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix Table 3(a)(ii): Maryland Summer, Net of DSM Programs (MW) [80, 81]

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	4	6,175	255	941	60	60	1,493	3,195	768	14	4	**12,969**
2021	4	6,176	256	951	60	60	1,490	3,185	789	14	4	**12,990**
2022	4	6,146	261	960	60	60	1,490	3,168	813	14	4	**12,980**
2023	4	6,126	264	966	60	61	1,489	3,144	815	14	4	**12,947**
2024	4	6,132	268	972	61	61	1,488	3,126	817	14	4	**12,947**
2025	4	6,194	272	981	61	61	1,490	3,106	820	14	4	**13,005**
2026	4	6,196	275	989	61	61	1,492	3,088	822	14	4	**13,007**
2027	4	6,156	280	997	61	61	1,495	3,073	824	14	4	**12,970**
2028	4	6,153	287	1,007	62	61	1,498	3,053	827	14	4	**12,970**
2029	4	6,221	294	1,016	62	61	1,502	3,043	830	14	4	**13,053**
Change (2020-2029)	**1**	**46**	**39**	**74**	**2**	**1**	**9**	**(151)**	**62**	**-**	**-**	**84**
Percent Change (2020-2029)	**19.94%**	**0.75%**	**15.48%**	**7.89%**	**3.77%**	**2.27%**	**0.60%**	**-4.73%**	**8.08%**	**0.00%**	**0.00%**	**0.65%**
Compound Annual Growth Rate	**2.04%**	**0.08%**	**600.00%**	**0.85%**	**0.41%**	**0.25%**	**0.07%**	**-0.54%**	**600.00%**	**0.00%**	**0.00%**	**0.07%**

Note: A&N and Somerset did not report applicable information for this table.

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[80] Berlin reported to Staff 6.9 MW of DSM savings per year. This was attributed to the town generating 6.9 MW of fossil fuel generation from generators that they own, operate, and dispatch - independent of PJM.
[81] Choptank's DSM programs include: a voluntary program among the consumers to drop load during "beat-the-peak" alerts; a legacy A/C & water heater switch program; and the availability of experimental interruptible rates, in which a few consumers are still enrolled.

Appendix 3(a) (Continued): Peak Demand Forecasts
(Maryland Service Territory Only)

Appendix Table 3(a)(iii): Maryland Winter, Gross of DSM Programs (MW)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thurmont	William-sport	Total
2020	15	5,858	269	1,025	52	69	1,797	2,820	735	23	5	**12,668**
2021	16	5,841	267	1,032	52	69	1,806	2,845	901	23	5	**12,857**
2022	16	5,860	269	1,047	53	69	1,827	2,864	924	23	5	**12,957**
2023	17	5,860	274	1,058	53	69	1,841	2,873	928	23	5	**13,000**
2024	18	5,862	277	1,070	53	69	1,850	2,879	930	23	5	**13,037**
2025	18	5,862	281	1,085	54	69	1,861	2,885	943	23	5	**13,085**
2026	19	5,876	284	1,095	54	70	1,872	2,890	958	23	5	**13,145**
2027	20	5,883	288	1,101	54	70	1,887	2,891	961	23	5	**13,183**
2028	20	5,905	294	1,115	54	70	1,908	2,893	975	23	5	**13,264**
2029	21	5,907	300	1,122	55	70	1,927	2,891	979	23	5	**13,300**
Change (2020-2029)	**6**	**49**	**31**	**98**	**3**	**2**	**130**	**70**	**244**	**-**	**-**	**632**
Percent Change (2020-2029)	**38.74%**	**0.84%**	**11.48%**	**9.55%**	**4.83%**	**2.27%**	**7.23%**	**2.49%**	**33.16%**	**0.00%**	**0.00%**	**4.99%**
Compound Annual Growth Rate	**3.71%**	**0.09%**	**1.21%**	**1.02%**	**0.53%**	**0.25%**	**0.78%**	**0.27%**	**3.23%**	**0.00%**	**0.00%**	**0.54%**

Note: A&N and Somerset did not report applicable information for this table.

Appendix Table 3(a)(iv): Maryland Winter, Net of DSM Programs (MW)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thurmont	William-sport	Total
2020	15	5,773	260	1,025	52	69	1,657	2,820	733	23	5	**12,431**
2021	16	5,774	258	1,032	52	69	1,648	2,845	899	23	5	**12,620**
2022	16	5,792	260	1,047	53	69	1,649	2,864	921	23	5	**12,700**
2023	17	5,788	265	1,058	53	69	1,643	2,873	925	23	5	**12,720**
2024	18	5,791	268	1,070	53	69	1,653	2,879	928	23	5	**12,757**
2025	18	5,791	272	1,085	54	69	1,664	2,885	941	23	5	**12,805**
2026	19	5,805	275	1,095	54	70	1,675	2,890	956	23	5	**12,866**
2027	20	5,812	279	1,101	54	70	1,690	2,891	959	23	5	**12,903**
2028	20	5,834	285	1,115	54	70	1,711	2,893	973	23	5	**12,984**
2029	21	5,836	291	1,122	55	70	1,729	2,891	977	23	5	**13,020**
Change (2020-2029)	**6**	**63**	**31**	**98**	**3**	**2**	**73**	**70**	**244**	**-**	**-**	**588**
Percent Change (2020-2029)	**38.74%**	**1.09%**	**11.88%**	**9.55%**	**4.83%**	**2.27%**	**4.39%**	**2.49%**	**33.27%**	**0.00%**	**0.00%**	**4.73%**
Compound Annual Growth Rate	**3.71%**	**0.12%**	**1.25%**	**1.02%**	**0.53%**	**0.25%**	**0.48%**	**0.27%**	**3.24%**	**0.00%**	**0.00%**	**0.52%**

Note: A&N and Somerset did not report applicable information for this table

Appendix 3(b): Peak Demand Forecasts (System Wide)

Appendix Table 3(b)(i): System Wide Summer, Gross of DSM (MW)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	11	6,689	264	4,136	60	60	3,005	6,973	841	14	4	**22,056**
2021	11	6,608	265	4,194	60	60	3,030	7,046	862	14	4	**22,155**
2022	11	6,584	270	4,252	60	60	3,055	7,108	885	14	4	**22,303**
2023	11	6,568	273	4,295	60	61	3,080	7,159	887	14	4	**22,412**
2024	11	6,574	277	4,340	61	61	3,081	7,223	889	14	4	**22,534**
2025	11	6,636	281	4,375	61	61	3,085	7,184	892	14	4	**22,603**
2026	11	6,638	284	4,410	61	61	3,089	7,150	895	14	4	**22,617**
2027	11	6,598	289	4,446	61	61	3,094	7,121	897	14	4	**22,595**
2028	11	6,595	296	4,486	62	61	3,100	7,083	900	14	4	**22,611**
2029	11	6,663	303	4,524	62	61	3,106	7,065	904	14	4	**22,717**
Change (2020-2029)	**1**	**(26)**	**39**	**388**	**2**	**1**	**101**	**92**	**63**	**-**	**-**	**662**
Percent Change (2020-2029)	**6.69%**	**-0.39%**	**14.95%**	**9.39%**	**3.77%**	**2.27%**	**3.36%**	**1.31%**	**7.50%**	**0.00%**	**0.00%**	**3.00%**
Compound Annual Growth Rate	**0.72%**	**-0.04%**	**1.56%**	**1.00%**	**0.41%**	**0.25%**	**0.37%**	**0.15%**	**0.81%**	**0.00%**	**0.00%**	**0.33%**

Note: A&N and Somerset did not report applicable information for this table.
Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C.; Delaware; and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

Appendix Table 3(b)(ii): System Wide Summer, Net of DSM (MW)[82, 83]

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	4	6,175	255	3,979	60	60	2,848	6,109	768	14	4	**20,276**
2021	4	6,176	256	4,019	60	60	2,853	6,091	789	14	4	**20,326**
2022	4	6,146	261	4,058	60	60	2,856	6,059	813	14	4	**20,334**
2023	4	6,126	264	4,083	60	61	2,859	6,013	815	14	4	**20,302**
2024	4	6,132	268	4,109	61	61	2,860	5,978	817	14	4	**20,307**
2025	4	6,194	272	4,144	61	61	2,864	5,939	820	14	4	**20,376**
2026	4	6,196	275	4,179	61	61	2,868	5,905	822	14	4	**20,390**
2027	4	6,156	280	4,215	61	61	2,872	5,876	824	14	4	**20,368**
2028	4	6,153	287	4,255	62	61	2,878	5,838	827	14	4	**20,384**
2029	4	6,221	294	4,293	62	61	2,884	5,820	830	14	4	**20,489**
Change (2020-2029)	**1**	**46**	**39**	**314**	**2**	**1**	**36**	**(289)**	**62**	**-**	**-**	**213**
Percent Change (2020-2029)	**19.94%**	**0.75%**	**15.48%**	**7.89%**	**3.77%**	**2.27%**	**1.27%**	**-4.73%**	**8.08%**	**0.00%**	**0.00%**	**1.05%**
Compound Annual Growth Rate	**2.04%**	**0.08%**	**600.00%**	**0.85%**	**0.41%**	**0.25%**	**0.14%**	**-0.54%**	**600.00%**	**0.00%**	**0.00%**	**0.12%**

Note: A&N and Somerset did not report applicable information for this table.
Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C.; Delaware; and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

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[82] Berlin reported to Staff 6.9 MW of DSM savings per year. This was attributed to the town generating 6.9 MW of fossil fuel generation from generators that they own, operate, and dispatch, independent of PJM.
[83] Choptank's DSM programs include: a voluntary program among the consumers to drop load during "beat-the-peak" alerts; a legacy A/C & water heater switch program; and the availability of experimental interruptible rates, in which a few consumers are still enrolled.

Appendix 3(b) (Continued): Peak Demand Forecasts (System Wide)

Appendix Table 3(b)(iii): System Wide Winter, Gross of DSM (MW)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	15	5,858	269	3,729	52	69	3,486	5,699	735	23	5	**19,940**
2021	16	5,841	267	3,755	52	69	3,495	5,748	901	23	5	**20,172**
2022	16	5,860	269	3,810	53	69	3,519	5,788	924	23	5	**20,337**
2023	17	5,860	274	3,852	53	69	3,536	5,805	928	23	5	**20,422**
2024	18	5,862	277	3,893	53	69	3,549	5,818	930	23	5	**20,498**
2025	18	5,862	281	3,948	54	69	3,568	5,829	943	23	5	**20,600**
2026	19	5,876	284	3,986	54	70	3,588	5,839	958	23	5	**20,702**
2027	20	5,883	288	4,007	54	70	3,615	5,842	961	23	5	**20,768**
2028	20	5,905	294	4,060	54	70	3,648	5,846	975	23	5	**20,902**
2029	21	5,907	300	4,085	55	70	3,679	5,841	979	23	5	**20,965**
Change (2020-2029)	**6**	**49**	**31**	**356**	**3**	**2**	**193**	**142**	**244**	**-**	**-**	**1,025**
Percent Change (2020-2029)	38.74%	0.84%	11.48%	9.55%	4.83%	2.27%	5.54%	2.49%	33.16%	0.00%	0.00%	5.14%
Compound Annual Growth Rate	3.71%	0.09%	1.21%	1.02%	0.53%	0.25%	0.60%	0.27%	3.23%	0.00%	0.00%	0.56%

Note: A&N and Somerset did not report applicable information for this table.
Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C.; Delaware; and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

Appendix Table 3(b)(iv): System Wide Winter, Net of DSM (MW)

Year	Berlin	BGE	Chop-tank	DPL	Easton	Hagers-town	PE	Pepco	SMECO	Thur-mont	William-sport	Total
2020	15	5,773	260	3,729	52	69	3,337	5,699	733	23	5	**19,695**
2021	16	5,774	258	3,755	52	69	3,328	5,748	899	23	5	**19,927**
2022	16	5,792	260	3,810	53	69	3,333	5,788	921	23	5	**20,071**
2023	17	5,788	265	3,852	53	69	3,330	5,805	925	23	5	**20,133**
2024	18	5,791	268	3,893	53	69	3,343	5,818	928	23	5	**20,210**
2025	18	5,791	272	3,948	54	69	3,363	5,829	941	23	5	**20,312**
2026	19	5,805	275	3,986	54	70	3,382	5,839	956	23	5	**20,413**
2027	20	5,812	279	4,007	54	70	3,409	5,842	959	23	5	**20,480**
2028	20	5,834	285	4,060	54	70	3,443	5,846	973	23	5	**20,613**
2029	21	5,836	291	4,085	55	70	3,473	5,841	977	23	5	**20,677**
Change (2020-2029)	**6**	**63**	**31**	**356**	**3**	**2**	**136**	**142**	**244**	**-**	**-**	**981**
Percent Change (2020-2029)	38.74%	1.09%	11.88%	9.55%	4.83%	2.27%	4.07%	2.49%	33.27%	0.00%	0.00%	4.98%
Compound Annual Growth Rate	3.71%	0.12%	1.25%	1.02%	0.53%	0.25%	0.44%	0.27%	3.24%	0.00%	0.00%	0.54%

Note: A&N and Somerset did not report applicable information for this table.
Note: "System wide" includes the entire distribution system of a utility, which may extend beyond the Maryland service territory into Washington, D.C.; Delaware; and parts of West Virginia. The affected utilities include DPL, PE, and Pepco.

Appendix 4: Transmission Enhancements, by Service Territory

Transmission Owner	Voltage (kV)	Length (miles)	No. of Circuits	Start Date	Comp. Date	In-Service Date	Purpose	Start location		End Location	
								County	Terminal	County	Terminal
BGE	115	2.38	2.00	2008	11/30/2019	11/1/2019	Transmission work for distribution substation	Baltimore City	Westport	Baltimore City	Wilkens Avenue
DPL	69	6	1	3/30/2017	12/31/2019	12/31/2019	Maryland Corrective Action Plan	Wicomico	N. Salisbury	Wicomico	Hebron
DPL	69	-	1	9/15/2017	5/31/2019	5/31/2019	Supplemental Transmission Reliability	Queen Annes	Stevensville		
DPL	69	9.02	1	3/1/2013	4/4/2019	4/4/2019	Supplemental	Worcester	Worcester	Worcester	Ocean City
DPL	69/25	-	1	1/5/2017	5/1/2019	5/1/2019	Supplemental	Wicomico	Beaglin		
DPL	69	-	1	3/23/2018	11/30/2019	11/30/2019	Supplemental	Queene Anne's	Stevensville		
DPL	69	-	1	3/23/2018	12/10/2019	12/10/2019	Supplemental	Kent	Massey		
DPL	69	-	1	3/23/2018	5/31/2019	5/31/2019	Supplemental	Kent	Lynch		
DPL	69	13.2	1	3/23/2018	12/13/2019	12/13/2019	Supplemental	Kent	Massey REA	Kent	Lynch
DPL	69	-	1	5/25/2018	6/1/2019	6/1/2019	Supplemental	Kent	Chestertown		
PE	138	0.10	2	2013	2021	2021	Accommodate for Interconnection	Allegany	Dans Mountain (new)	Allegany	Carlos Junction-Ridgeley (WV)
PE	138	0	1	2017	Cancelled	2017	Accommodate for Interconnection	Cumberland	Cumberland	Cumberland	Ridgeley
PE	138	0.1	1	2016	Cancelled	2017	Accommodate for Interconnection	Garrett	Hazelton	Garrett	AA1-047
PE	138	0.1	1	2016	Cancelled	2017	Accommodate for Interconnection	Garrett	AA1-047	Garrett	Jennings
PE	230	0	1	2017	2021	2021	Baseline Transmission Reliability	Washington	Ringgold	Washington	Ringgold
PE	230	0	1	2017	2021	2021	Baseline Transmission Reliability	Frederick	Catoctin	Frederick	Catoctin
PE	230	9.7	1	2017	2021	2021	Baseline Transmission Reliability	Washington	Ringgold	Frederick	Catoctin
PE	230	0	1	2017	2021	2021	Baseline Transmission Reliability	Frederick	Garfield	Frederick	Garfield
PE	138	0	1	2019	2024	2024	Baseline Transmission Reliability	Allegany	Messick Road	Morgan (WV)	Morgan
PE	138	0	1	2019	2024	2024	Baseline Transmission Reliability	Allegany	Messick Road	Mineral (WV)	Ridgeley
SMECO	69	3	1	1/1/2019	3/1/2019	3/1/2019	capacity / reliability	Charles	Mason Springs	Charles	Naval Ordnance Indian Head gate

Appendix 5: List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	Summer	% Summer
Brandon Shores LLC	Brandon Shores	Anne Arundel	685.1	635.0	93%
Brandon Shores LLC	Brandon Shores	Anne Arundel	685.1	638.0	93%
H.A. Wagner LLC	Herbert A Wagner	Anne Arundel	132.8	126.0	95%
H.A. Wagner LLC	Herbert A Wagner	Anne Arundel	136.0	118.0	87%
H.A. Wagner LLC	Herbert A Wagner	Anne Arundel	359.0	305.0	85%
H.A. Wagner LLC	Herbert A Wagner	Anne Arundel	414.7	397.0	96%
H.A. Wagner LLC	Herbert A Wagner	Anne Arundel	16.0	12.9	81%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	14.0	78%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	14.0	78%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	14.0	78%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	14.0	78%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	14.6	81%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	15.6	87%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	14.5	81%
Constellation Power Source Gen	Notch Cliff	Baltimore	18.0	16.0	89%
Constellation Power Source Gen	Perryman	Harford	53.1	52.0	98%
Constellation Power Source Gen	Perryman	Harford	53.1	51.0	96%
Constellation Power Source Gen	Perryman	Harford	53.1	52.0	98%
Constellation Power Source Gen	Perryman	Harford	192.0	139.0	72%
Constellation Power Source Gen	Perryman	Harford	141.0	109.8	78%
Constellation Power Source Gen	Philadelphia	Baltimore City	20.7	15.3	74%
Constellation Power Source Gen	Philadelphia	Baltimore City	20.7	16.0	77%
Constellation Power Source Gen	Philadelphia	Baltimore City	20.7	14.8	71%
Constellation Power Source Gen	Philadelphia	Baltimore City	20.7	14.8	71%
Constellation Power Source Gen	Westport	Baltimore City	121.5	115.8	95%
Calpine Mid-Atlantic Generation LLC	Crisfield	Somerset	2.9	2.6	90%
Calpine Mid-Atlantic Generation LLC	Crisfield	Somerset	2.9	2.6	90%
Calpine Mid-Atlantic Generation LLC	Crisfield	Somerset	2.9	2.6	90%
Calpine Mid-Atlantic Generation LLC	Crisfield	Somerset	2.9	2.6	90%
NRG Vienna Operations Inc	Vienna Operations	Dorchester	18.6	14.3	77%
NRG Vienna Operations Inc	Vienna Operations	Dorchester	162.0	153.0	94%
BP Piney & Deep Creek LLC	Deep Creek	Garrett	10.0	9.0	90%
BP Piney & Deep Creek LLC	Deep Creek	Garrett	10.0	9.0	90%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	659.0	597.2	91%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	659.0	585.7	89%

Appendix 5 (Continued): List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	Summer	% Summer
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	16.0	20.0	125%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	35.0	26.0	74%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	103.0	87.6	85%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	103.0	87.6	85%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	125.0	112.0	90%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	125.0	114.9	92%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	364.0	333.1	92%
GenOn Chalk Point, LLC	Chalk Point LLC	Prince Georges	364.0	336.9	93%
GenOn Mid-Atlantic LLC	Dickerson	Montgomery	196.0	173.0	88%
GenOn Mid-Atlantic LLC	Dickerson	Montgomery	196.0	173.0	88%
GenOn Mid-Atlantic LLC	Dickerson	Montgomery	19.0	18.0	95%
GenOn Mid-Atlantic LLC	Dickerson	Montgomery	163.0	147.0	90%
GenOn Mid-Atlantic LLC	Dickerson	Montgomery	163.0	147.0	90%
GenOn Mid-Atlantic LLC	Dickerson	Montgomery	196.0	173.0	88%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	65.0	48.0	74%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	65.0	48.0	74%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	65.0	48.0	74%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	65.0	48.0	74%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	18.0	13.0	72%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	18.0	13.0	72%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	626.0	596.0	95%
GenOn Mid-Atlantic LLC	Morgantown Generating Plant	Charles	626.0	609.0	97%
Exelon Power	Conowingo	Harford	45.0	48.0	107%
Exelon Power	Conowingo	Harford	55.6	65.0	117%
Exelon Power	Conowingo	Harford	55.6	65.0	117%
Exelon Power	Conowingo	Harford	36.0	36.0	100%
Exelon Power	Conowingo	Harford	48.0	48.0	100%
Exelon Power	Conowingo	Harford	47.7	48.0	101%
Exelon Power	Conowingo	Harford	36.0	36.0	100%
Exelon Power	Conowingo	Harford	47.7	48.0	101%
Exelon Power	Conowingo	Harford	48.0	48.0	100%
Exelon Power	Conowingo	Harford	55.6	65.0	117%
Exelon Power	Conowingo	Harford	55.6	65.0	117%
Easton Utilities Comm	Easton	Talbot	3.5	3.5	100%
Easton Utilities Comm	Easton	Talbot	1.5	1.5	100%
Easton Utilities Comm	Easton	Talbot	1.5	1.5	100%
Easton Utilities Comm	Easton	Talbot	3.8	3.6	95%
Easton Utilities Comm	Easton	Talbot	4.1	4.1	100%

Appendix 5 (Continued): List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	**Summer**	**% Summer**
Easton Utilities Comm	Easton	Talbot	5.6	5.6	100%
Easton Utilities Comm	Easton	Talbot	5.6	5.6	100%
Easton Utilities Comm	Easton	Talbot	2.5	2.0	80%
Easton Utilities Comm	Easton	Talbot	2.5	2.0	80%
Easton Utilities Comm	Easton	Talbot	3.0	2.5	83%
Easton Utilities Comm	Easton 2	Talbot	1.5	1.5	100%
Easton Utilities Comm	Easton 2	Talbot	1.5	1.5	100%
Easton Utilities Comm	Easton 2	Talbot	5.4	4.5	83%
Easton Utilities Comm	Easton 2	Talbot	5.4	4.5	83%
Easton Utilities Comm	Easton 2	Talbot	6.2	6.2	100%
Easton Utilities Comm	Easton 2	Talbot	6.2	6.2	100%
Easton Utilities Comm	Easton 2	Talbot	6.3	6.3	100%
Easton Utilities Comm	Easton 2	Talbot	6.3	6.3	100%
Exelon Nuclear	Calvert Cliffs Nuclear Power Plant	Calvert	918.0	866.0	94%
Exelon Nuclear	Calvert Cliffs Nuclear Power Plant	Calvert	932.4	841.8	90%
A & N Electric Coop	Smith Island	Somerset	0.5	0.4	80%
A & N Electric Coop	Smith Island	Somerset	1.2	1.2	100%
Town of Berlin - (MD)	Berlin	Worcester	1.1	1.1	100%
Town of Berlin - (MD)	Berlin	Worcester	1.8	1.8	100%
Town of Berlin - (MD)	Berlin	Worcester	2.5	2.5	100%
Essential Power Rock Springs LLC	Essential Power Rock Springs LLC	Cecil	198.9	168.0	84%
Essential Power Rock Springs LLC	Essential Power Rock Springs LLC	Cecil	175.9	164.3	93%
Essential Power Rock Springs LLC	Essential Power Rock Springs LLC	Cecil	198.9	168.9	85%
Essential Power Rock Springs LLC	Essential Power Rock Springs LLC	Cecil	198.9	169.7	85%
Wheelabrator Environmental Systems	Wheelabrator Baltimore Refuse	Baltimore City	60.2	57.0	95%
Wheelabrator Environmental Systems	Wheelabrator Baltimore Refuse	Baltimore City	4.3	4.3	100%
AES WR Ltd Partnership	AES Warrior Run Cogeneration Facility	Allegany	229.0	180.0	79%
Maryland Environmental Service	Eastern Correctional Institute	Somerset	1.9	1.3	68%
Maryland Environmental Service	Eastern Correctional Institute	Somerset	1.9	1.3	68%
Maryland Environmental Service	Eastern Correctional Institute	Somerset	1.0	1.0	100%
Maryland Environmental Service	Eastern Correctional Institute	Somerset	1.0	1.0	100%
Prince George's County	Brown Station Road Plant I	Prince Georges	0.9	0.8	89%
Prince George's County	Brown Station Road Plant I	Prince Georges	0.9	0.8	89%
Prince George's County	Brown Station Road Plant I	Prince Georges	0.9	0.8	89%
Covanta Montgomery, Inc.	Montgomery County Resource Recovery	Montgomery	67.8	54.0	80%
American Sugar Refining, Inc.	Domino Sugar Baltimore	Baltimore City	5.0	5.0	100%
American Sugar Refining, Inc.	Domino Sugar Baltimore	Baltimore City	2.5	2.5	100%

Appendix 5 (Continued): List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	Summer	% Summer
American Sugar Refining, Inc.	Domino Sugar Baltimore	Baltimore City	10.0	10.0	100%
KMC Thermo, LLC	Brandywine Power Facility	Prince Georges	98.7		n/a
KMC Thermo, LLC	Brandywine Power Facility	Prince Georges	98.7		n/a
KMC Thermo, LLC	Brandywine Power Facility	Prince Georges	91.4	230.0	252%
CB&I	Montgomery County Oaks LFGE Plant	Montgomery	1.6	1.5	94%
CB&I	Montgomery County Oaks LFGE Plant	Montgomery	0.8	0.8	100%
Prince George's County	Brown Station Road Plant II	Prince Georges	1.0	0.8	80%
Prince George's County	Brown Station Road Plant II	Prince Georges	1.0	0.8	80%
Prince George's County	Brown Station Road Plant II	Prince Georges	1.0	0.8	80%
Prince George's County	Brown Station Road Plant II	Prince Georges	1.0	0.8	80%
Trigen-Cinergy Solutions College Park	UMCP CHP Plant	Prince Georges	11.0	9.4	85%
Trigen-Cinergy Solutions College Park	UMCP CHP Plant	Prince Georges	11.0	9.4	85%
Trigen-Cinergy Solutions College Park	UMCP CHP Plant	Prince Georges	5.4	2.0	37%
Trigen Inner Harbor East, LLC	Inner Harbor East Heating	Baltimore City	2.1	2.1	100%
Energy Power Partners	Eastern Landfill Gas LLC	Baltimore	1.0	1.3	130%
Energy Power Partners	Eastern Landfill Gas LLC	Baltimore	1.0	1.3	130%
Energy Power Partners	Eastern Landfill Gas LLC	Baltimore	1.0	1.3	130%
Power Choice/Pepco Energy Serv	NIH Cogeneration Facility	Montgomery	28.0	27.6	99%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
Industrial Power Generating Company LLC	Wicomico	Wicomico	0.3	0.3	100%
CPV Maryland LLC	CPV St Charles Energy Center	Charles	215.0	210.2	98%

Appendix 5 (Continued): List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	Summer	% Summer
CPV Maryland LLC	CPV St Charles Energy Center	Charles	215.0	212.3	99%
CPV Maryland LLC	CPV St Charles Energy Center	Charles	316.0	300.1	95%
Roth Rock Wind Farm LLC	Roth Rock Wind Farm LLC	Garrett	40.0	40.0	100%
Roth Rock Wind Farm LLC	Roth Rock North Wind Farm, LLC	Garrett	10.0	10.0	100%
Criterion Power Partners LLC	Criterion	GARRETT	70.0	70.0	100%
Constellation Solar Maryland, LLC	McCormick & Co. Inc. at Belcamp	Harford	1.4	1.4	100%
NRG Solar Arrowhead LLC	FedEx Field Solar Facility	Prince Georges	2.0	2.0	100%
Constellation Solar Horizons LLC	Mount Saint Mary's	Frederick	13.7	13.7	100%
Terraform Arcadia	Perdue Salisbury Photovoltaic	Wicomico	1.0	1.0	100%
IKEA Property Inc	IKEA Perryville 460	Cecil	2.1	2.0	95%
IKEA Property Inc	IKEA College Park 411	Prince Georges	1.0	1.0	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	5.7	5.6	98%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	2.3	2.3	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	2.3	2.3	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	5.0	5.0	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	2.3	2.3	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	4.3	4.3	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	4.3	4.3	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	4.3	4.3	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	4.3	4.3	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	7.5	7.5	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	7.5	7.5	100%
GSA Metropolitan Service Center	Central Utility Plant at White Oak	Montgomery	4.5	4.5	100%
Terraform Arcadia	Kent County-Kennedyville	Kent	1.0	1.0	100%
Terraform Arcadia	Rock Hall	Kent	1.0	1.0	100%
Terraform Arcadia	Kent County - Worton Complex	Kent	1.0	1.0	100%
LES Operations Services LLC	Millersville LFG	Anne Arundel	1.6	1.5	94%
LES Operations Services LLC	Millersville LFG	Anne Arundel	1.6	1.5	94%
Howard County - Maryland	Alpha Ridge LFG	Howard	1.0	1.0	100%
Constellation Solar Maryland II LLC	UMMS at Pocomoke	Somerset	2.8	2.8	100%
CD Arevon USA, Inc.	Maryland Solar	Washington	27.0	20.9	77%
SMECO Solar LLC	Herbert Farm Solar	Charles	5.5	5.5	100%
Tesla Inc.	Queen Anne's County	Queen Annes	2.0	2.0	100%
Fourmile Wind Energy, LLC	Fourmile Ridge	Garrett	40.0	40.0	100%
Mayor and City Council of Baltimore City	Back River Waste Water Treatment	Baltimore City	1.1	0.9	82%
Mayor and City Council of Baltimore City	Back River Waste Water Treatment	Baltimore City	1.1	0.9	82%
Mayor and City Council of Baltimore City	Back River Waste Water Treatment	Baltimore City	0.8	0.8	100%

Appendix 5 (Continued): List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	Summer	% Summer
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	9.4	8.5	90%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	9.4	8.5	90%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	9.4	8.5	90%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	23.9	21.7	91%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	23.9	21.7	91%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	15.6	12.9	83%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	3.0	3.0	100%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	1.3	1.3	100%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	1.7	1.7	100%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	1.0	1.0	100%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	65.0	40.0	62%
Dominion Cove Point LNG, LP	Cove Point LNG Terminal	Calvert	65.0	40.0	62%
Fair Wind Power Partners, LLC	Fair Wind	Garrett	30.0	30.0	100%
Old Dominion Electric Coop	Wildcat Point Generation Facility	Cecil	310.3	242.5	78%
Old Dominion Electric Coop	Wildcat Point Generation Facility	Cecil	310.3	242.5	78%
Old Dominion Electric Coop	Wildcat Point Generation Facility	Cecil	493.0	492.0	100%
SunE SEM 1, LLC	Chimes West Friendship (Nixon Farms)	Howard	1.5	1.2	80%
NVT LICENSES, LLC	UMES (MD) - Princess Anne	Somerset	2.2	2.1	95%
Rockfish Solar LLC	Rockfish Solar LLC	Charles	10.3	10.3	100%
Constellation Solar Maryland, LLC	General Motors Corp at White Marsh MD	Baltimore	1.0	1.0	100%
Constellation Solar Maryland II LLC	CNE at Cambridge MD	Dorchester	3.2	3.2	100%
Great Bay Solar I LLC	Great Bay Solar 1	Somerset	75.0	75.0	100%
AES Tait LLC	AES Warrior Run Energy Storage Project	Allegany	11.0	5.0	45%
Consolidated Edison Solutions Inc	CES VMT Solar	Washington	1.1	1.1	100%
Constellation Solar Holding, LLC	CCBC-Catonsville	Howard	1.6	1.6	100%
SunE DB27, LLC	Elkton Solar	Cecil	1.6	1.6	100%
Tesla Inc.	Town of Chestertown- Chestertown WWTP	Kent	1.0	1.0	100%
Customized Energy Solutions	NA 1(Hagerstown)	Washington	2.0	2.0	100%
PSEG Keys Energy Center, LLC	Keys Energy Center	Prince Georges	359.6	327.0	91%
PSEG Keys Energy Center, LLC	Keys Energy Center	Prince Georges	235.5	214.0	91%
PSEG Keys Energy Center, LLC	Keys Energy Center	Prince Georges	235.5	214.0	91%
SunE DB42, LLC	Cecil County CCVT HS	Cecil	2.0	2.0	100%
Terraform Arcadia	Presbyterian Senior Living Service	Baltimore	1.2	1.2	100%
Tesla Inc.	The Clorox Company	Harford	1.6	1.6	100%
Tesla Inc.	Chesapeake College	Queen Annes	1.5	1.5	100%

Appendix 5 (Continued): List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	Summer	% Summer
Altus Power America Management, LLC	MEBA	Talbot	1.5	1.5	100%
Tesla Inc.	Wye Mills VNEM CSG	Queen Annes	10.0	10.0	100%
Constellation Solar MC, LLC	Archdiocese of Baltimore J	Harford	2.0	2.0	100%
Constellation Solar MC, LLC	Archdiocese of Baltimore L	Harford	2.0	2.0	100%
Constellation Solar MC, LLC	Baltimore City B	Harford	2.0	2.0	100%
Constellation Solar MC, LLC	Baltimore City D	Harford	2.0	2.0	100%
Constellation Solar MC, LLC	Baltimore City F	Harford	2.0	2.0	100%
Constellation Solar MC, LLC	Baltimore City G	Harford	2.0	2.0	100%
Constellation Solar MC, LLC	City of Havre De Grace C	Harford	2.0	2.0	100%
Constellation Solar MC, LLC	Sod Run WTP A	Harford	2.0	2.0	100%
Annapolis Solar Park, LLC	Annapolis Solar Park, LLC	Anne Arundel	12.0	12.0	100%
Constellation Solar MC, LLC	Havre de Grace II - E at Perryman	Harford	1.4	1.4	100%
Marina Energy LLC	Longview Solar	Wicomico	13.6	13.6	100%
Marina Energy LLC	Church Hill	Queen Annes	6.0	6.0	100%
Tesla Inc.	Montgomery County Correctional Facility	Montgomery	1.4	1.4	100%
Tesla Inc.	Garrett County - DPU Treatment Plant	Garrett	1.2	1.2	100%
UGI Energy Services, LLC	Emmitsburg Solar Arrays	Frederick	1.7	1.7	100%
Terraform Arcadia	Pfeffers	Baltimore	1.0	1.0	100%
US Dept of Army, Garrison, APG	APG Combined Heat and Power Plant	Harford	7.9	6.2	78%
IGS Solar I, LLC	IGS Solar I - BWI5	Baltimore	1.1	1.1	100%
IGS ORIX Solar I, LLC	IGS Solar I - BWI2	Baltimore	1.4	1.4	100%
Cypress Creek Renewables	Baker Point	Frederick	9.0	9.0	100%
Montevue Lane Solar, LLC	Fort Detrick Solar PV	Frederick	15.7	15.7	100%
Montgomery County Solar	Montgomery County Solar	Montgomery	1.9	1.9	100%
GWCC PV Solar Farm	GWCC PV Solar Farm	Prince Georges	1.6	1.6	100%
Constellation Solar MC, LLC	Gateway Solar	Worcester	5.0	5.0	100%
Constellation Solar MC, LLC	Gateway Solar	Worcester	2.6	2.6	100%
NRG Chalk Point CT	NRG Chalk Point CT	Prince Georges	94.0	84.3	90%
Terraform Arcadia	Bowie State Solar	Prince Georges	1.3	1.3	100%
IOS II LLC	First Baptist Church of Glenarden	Prince Georges	1.5	1.6	107%
Tesla Inc.	Bd of Educ of Queen Anne's Cnty, Cnty HS	Queen Annes	1.7	1.7	100%
Constellation New Energy Inc.	NIST Solar	Montgomery	4.0	4.0	100%
Northstar Macy's Maryland 2015, LLC	Macy's MD Joppa Solar Project	Harford	1.8	1.0	56%
Nautilus Solar Solutions	Synergen Panorama, LLC CSG	Prince Georges	5.0	5.0	100%
Standard Solar	UMCES Ground Mount	Dorchester	2.0	2.0	100%
Standard Solar	Anne Arundel County Public Schools	Anne Arundel	1	1	100%
Onyx Asset Services Group	APG Old Bayside	Harford	1.7	1.7	100%
Onyx Asset Services Group	APG New Chesapeake	Harford	2.3	2.3	100%

Appendix 5 (Continued): List of Maryland Generators, as of December 31, 2019

Owner / Operator	Plant Name	County	Capacity Statistics (MW)		
			Nameplate	Summer	% Summer
Chester Woods Point Solar, LLC	Chester Woods Point Solar, LLC CSG	Queen Annes	2	2	100%
Westbound Solar LLC	Amazon Maryland DCA1	Baltimore	1.3	1.3	100%
Standard Solar	MNCPPC Germantown Solar	Montgomery	1	1	100%
Forefront Power, LLC	Kingsville CSG	Baltimore	2	2	100%
Forefront Power, LLC	Upper Marlboro 1 CSG	Prince Georges	2	2	100%
Forefront Power, LLC	Gibbons CSG	Worcester	2	2	100%
Old Court Rd Solar, LLC	Old Court Rd Solar	Howard	2	2	100%
Francis Scott Key Mall	Francis Scott Key Mall	Frederick	1.6	2.1	131%
White Marsh Mall	White Marsh Mall	Baltimore	1.1	1.1	100%
Bluefin Origination 1, LLC	Bluefin Origination 1	Prince Georges	2	2	100%
Tesla Inc.	Frederick County - Landfill	Frederick	2	2	100%
Tesla Inc.	Wor-Wic Community College - Offsite	Wicomico	2	2	100%
GSRP	Spruce - WCMD - Rubble II	Washington	2	2	100%
GSRP	Spruce - WCMD - Rubble I	Washington	2	2	100%
GSRP	Spruce - WCMD - Creek	Washington	2	2	100%
GSRP	Spruce - WCMD - Resh I	Washington	2	2	100%
			16,104.1	14,608.1	91%

Appendix 6: Proposed New Renewable Generation in Maryland PJM Queue

Transmission Owner	Project Name	County Location	PJM Queue Status	PJM Queue #	Fuel Type	Project Capacity (MW)	Projected In-Service Date
APS	Albright-Cross School 138 kV	Garrett	Active	AC2-021	Hydro	15	1/15/2019
APS	Frostburg 138kV	Allegany	Active	AE2-030	Solar	7.56	8/24/2020
APS	Carlos Junction-Lonaconing 34.5 kV	Allegany	Active	AE2-309	Solar; Storage	16.66	10/30/2020
APS	Bedington 138 kV	Frederick	Active	AE2-333	Solar	60	12/1/2022
APS	Oakland-Gorman 69 kV	Garrett	Active	AF2-112	Solar	13.4	6/1/2022
APS	Jennings-Hoyes Road 34.5 kV	Garrett	Active	AF2-310	Solar; Storage	20	11/30/2022
APS	Albright-Mt. Zion 138 kV	Garrett	Active	AF2-356	Solar	120	12/1/2022
APS	Nipetown-Reid 138 kV	Washington	Active	AF2-357	Solar	14.4	12/31/2023
ATSI	Kirby 138 kV	Garrett	Active	AF2-369	Solar	60	12/31/2022
BGE	Otter Point 34.5 kV I	Harford	Active	AF1-299	Solar	12	6/1/2021
BGE	Otter Point 34.5 kV II	Harford	Active	AF1-300	Solar	12	6/1/2021
BGE	Waugh Chapel 115 kV	Anne Arundel	Active	AF2-435	Solar	33	9/1/2023
DPL	Price 25kV II	Queen Anne's	Active	AB1-176	Solar	1.51	12/31/2016
DPL	Church-Steele 138kV	Caroline	Active	AB2-036	Solar	34.9	11/30/2018
DPL	Keeney-Steele 230kV	Caroline	Active	AB2-037	Solar	76.7	10/31/2019
DPL	Piney Grove-New Church 138kV	Worcester	Active	AB2-120	Solar	38	12/14/2018
DPL	Chestertown-Church 69kV	Kent	Active	AB2-133	Solar	24.6	9/30/2018
DPL	Church-Kent 69kV	Queen Anne's	Active	AB2-135	Solar	29.9	5/1/2018
DPL	West Cambridge-Vienna 69kV	Dorchester	Active	AB2-136	Solar	24.8	5/1/2018
DPL	Todd 69kV	Dorchester	Active	AB2-172	Solar	19	12/31/2018
DPL	Rockawalkin 69kV	Wicomico	Active	AB2-180	Solar	14	6/30/2017
DPL	Wye Mills 25kV	Queen Anne's	Active	AB2-185	Solar	14	6/30/2017
DPL	East New Market 69kV	Dorchester	Active	AC1-190	Solar	35	12/31/2017
DPL	North Salisbury 25kV	Somerset	Active	AC1-213	Solar	3.2	9/30/2017
DPL	Hebron 69kV	Wicomico	Active	AC2-023	Solar	26.5	9/30/2019
DPL	Centreville 69 kV	Queen Anne's	Active	AD2-076	Solar	18.62	11/30/2021
DPL	Easton-Steele 138 kV	Talbot	Active	AE2-093	Solar	16.72	11/30/2021
DPL	Carville 138 kV	Queen Anne's	Active	AE2-112	Solar	6.46	11/30/2021
DPL	Easton-Steele 138 kV	Talbot	Active	AF1-015	Solar	6.3	11/30/2021
DPL	Carville 138 kV	Queen Anne's	Active	AF1-036	Solar	8.4	11/30/2021
DPL	Rockawalkin 69 kV	Wicomico	Active	AF1-258	Solar	3.2	10/1/2019
DPL	Price 25 kV	Queen Anne's	Active	AF1-259	Solar	0.8	7/1/2020
DPL	Edgewood 12 kV I	Wicomico	Active	AF2-248	Solar	3.4	6/1/2020
DPL	Edgewood 12 kV III	Wicomico	Active	AF2-250	Solar	1.1	6/1/2020
DPL	Price 69 kV	Queen Anne's	Active	AF2-313	Solar	12.7	8/15/2021

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Appendix 6 (Continued): Proposed New Renewable Generation in Maryland PJM Queue

Transmission Owner	Project Name	County Location	PJM Queue Status	PJM Queue #	Fuel Type	Project Capacity (MW)	Projected In-Service Date
DPL	Jacktown 12 kV	Dorchester	Active	AF2-325	Solar	4.2	2/28/2022
DPL	Cambridge 12 kV	Dorchester	Active	AF2-378	Solar	1.11	2/28/2022
DPL	Princess Anne 25 kV	Somerset	Active	AF2-379	Solar	1.638	2/28/2022
DPL	Hillsboro 138 kV	Queen Anne's	Active	AF2-387	Solar	66.6	12/1/2023
PEPCO	St. Barnabas 13 kV	Prince George's	Active	AD2-058	Solar	2.38	9/30/2019
PEPCO	St. Barnabas 13kV II	Prince George's	Active	AD2-199	Solar	1.26	12/31/2020
PPL	Columbis-Geisinger Tap #1 69 kV	Anne Arundel	Active	AF2-434	Solar	12	6/1/2022
SMECO	Hughesville 69 kV	Charles	Active	AE1-231	Storage; Solar	9.4	7/31/2020
SMECO	Lexington Park 69 kV	St. Mary's	Active	AE2-017	Solar	10.3	3/31/2021
SMECO	Hawkins Gate-Billingsley Rd 69 kV	Charles	Active	AF1-003	Solar	9.5	7/30/2021
SMECO	Hwy 228-Bennsville 69 kV	Charles	Active	AF1-004	Solar	6.5	4/30/2021
SMECO	Charles County Solar I	Charles	Active	AF1-005	Solar	9.9	7/30/2021
SMECO	Lexington Park 69 kV	St. Mary's	Active	AF2-181	Solar	3.1	9/1/2021
					Total	**941.72**	