



Load Forecast and Policy Impacts

Independent State Agencies Committee
August 28, 2023

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Resource Adequacy Planning

Peak demand forecast is used in RTEP and the RPM auctions and is submitted to various agencies such as NERC, FERC, state commissions, etc.



Energy forecast is used in market efficiency planning and for PJM budgeting purposes.



Planning horizon is 15 years.



Forecast is based on a multivariable regression model.



Forecast is reviewed with stakeholders and published each January.

Load Data

Hourly metered load data and estimated load drops




Calendar Data




Economic Drivers



Weather Conditions



Distributed Solar & Battery Storage Generation



Plug-in Electric Vehicles



End-Use Characteristics



RPS and NEM policy assumptions by state

Current RPS policy by state		
State	RPS target (percentage of retail sales)*	Solar carve-out percentage of retail sales)/Distributed carve-outs
DE	25% by 2025, 28% by 2030, 40% by 2035	3.5% by 2025, 5% by 2030, 10% by 2035
DC	100% by 2032	2.85% by 2023, 5.50% by 2032, 10% by 2041
MD	50% by 2030	14.5% by 2030
NJ	50% by 2030*	5.1% by 2021, gradually reduced to 1.1% by 2031
OH	8.5% by 2026	0.5% of total electricity supply in 2026 and thereafter
PA	18% by 2021	0.5% by 2021
WV	-	-
IN	10% by 2025 (voluntary)	-
IL	40% by 2030, 50% by 2040**	1.5% by 2025
KY	-	-
MI	15% by 2021***	-
NC	12.5% by 2021****	0.2% by 2020****
VA	100% by 2045*****	1,100 MW by 2035 (Dominion only), Dominion is required to meet 1% of RPS requirements from DG sources (>1 MW to <3 MW)
TN	-	-

Note: RPS includes solar carve-outs. *New Jersey RPS target only includes Class I renewable technologies and the solar carve-out. **Illinois solar carve-out requires that 50% of the solar procurements must be from distributed/community solar. RPS mandates at least 75% of the standard come from wind and solar. Climate and Equitable Jobs Act invests \$580 million a year to increase Illinois's clean energy from 9% to 50% by 2040 ***Utilities in Michigan have agreed to 25% by 2030. ****RPS compliance in North Carolina can be achieved through energy efficiency and renewable energy credits (RECs) from any state. *****Phase 1 utilities are required to achieve 14% by 2025, 30% by 2030, 65% by 2040, and 100% by 2050 while Phase II utilities are required to achieve 26% by 2025, 41% by 2030, and 100% by 2045. The primary drivers for solar development include existing Public Utility Regulatory Policies Act (PURPA) policy, planned requests for proposal (RFPs), solar resources, solar costs, and the previous state tax credit.

Source: IHS Markit

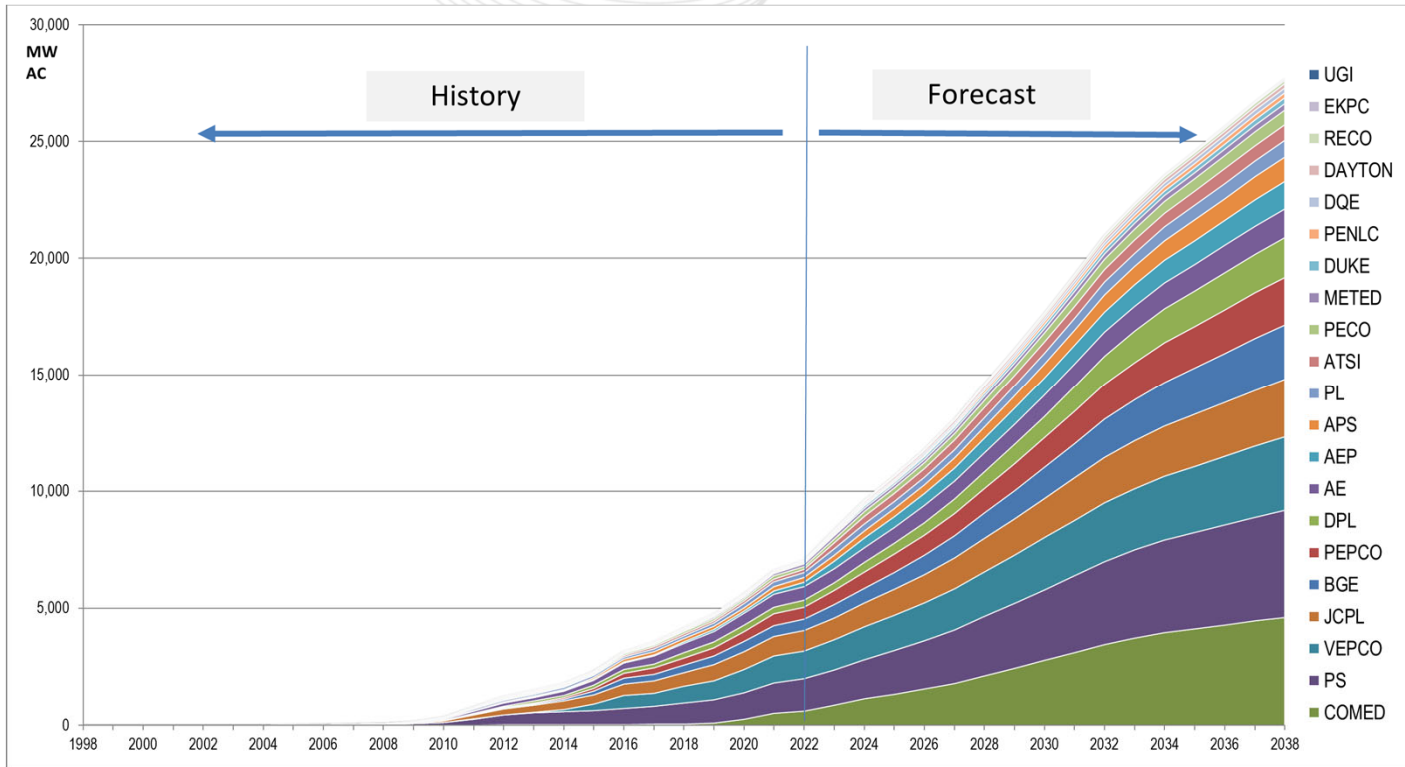
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***From 11/29/2022 Presentation to Load Analysis Subcommittee:** <https://www.pjm.com/-/media/committees-groups/subcommittees/las/2022/20221129/item-03a---ihs-markit---pjm-solar-and-battery-forecasts.ashx>



Distributed Solar Generation 2023 Forecast by Zone

Cumulative

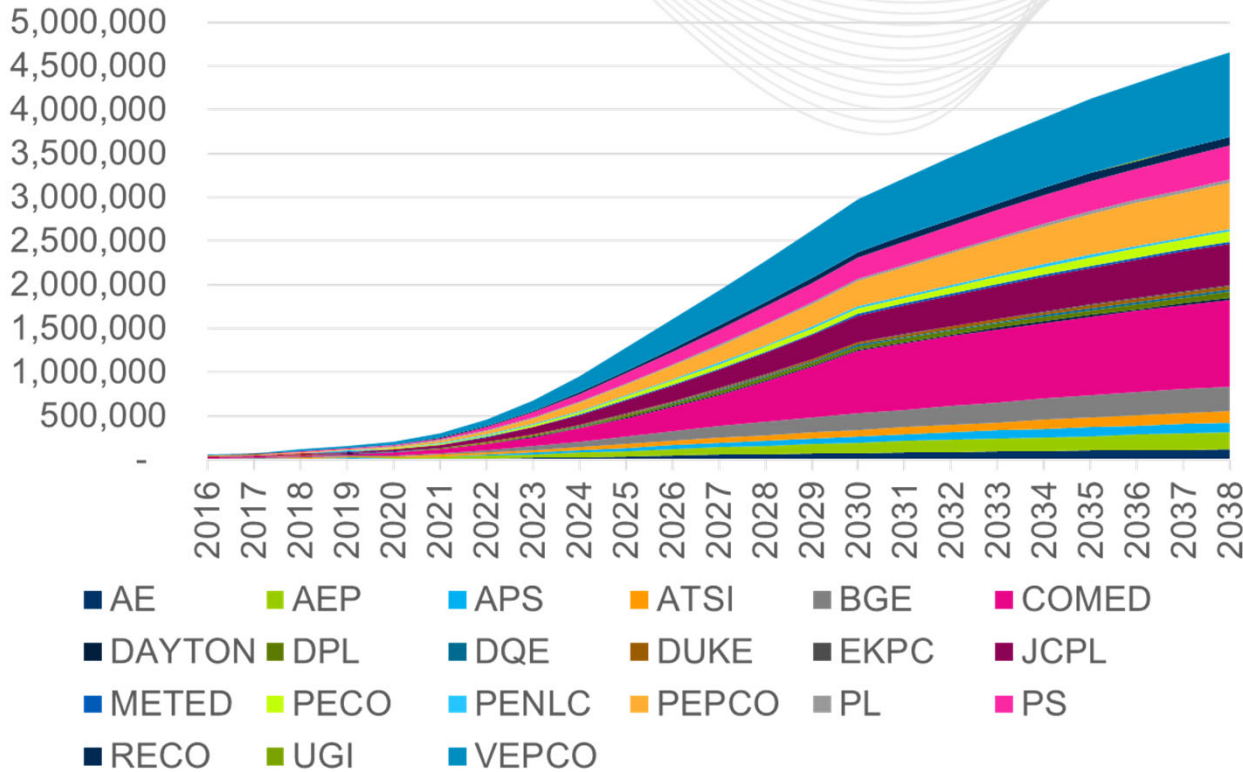


- PJM considers state targets where identified
 - Compiled from <https://afdc.energy.gov/laws>
 - Targets/requirements identified in DC, MD, IL, NC, NJ, VA
 - See Load Forecast Supplement p16-18: <https://www.pjm.com/-/media/planning/res-adeq/load-forecast/load-forecast-supplement.ashx>
- Currently in the process of working with a vendor to provide PJM with an EV forecast (Light, Medium, and Heavy duty) and associated demand impacts



Electric Vehicle Forecast

of EVs



- Calibrated to historical state registration data (2016-2021 from DOE) and/or county/zip data (IL, MD, NJ, PA, VA)
- Forecast driven by combination of state targets (DC, MD, IL, NC, NJ, and VA), and EIA assumptions

- States have been encouraging electrification to meet carbon reduction goals.
 - NJ Governor Murphy issued Executive Actions 315, 316, and 317
 - <https://www.nj.gov/governor/news/news/562023/20230215b.shtml>
 - “target to install zero-carbon-emission space heating and cooling systems in 400,000 homes and 20,000 commercial properties”
 - “adopt Advanced Clean Cars II in New Jersey, which would require all new cars and light-duty truck sales to be zero-emission vehicles (ZEV) by 2035”
 - These could have meaningful impacts on energy demand beyond what is currently being accounted for in the Load Forecast.

- Assumptions for behind-the-meter solar forecast are being released soon for feedback
 - Currently targeting deadline of 9/8 for feedback
- Stakeholders/state representatives should send policies and/or targets that are approved for electrification goals.
 - Date – by October 1, 2023
 - Load_Analysis_Team@pjm.com
- 2024 Load Forecast will be published in late December.



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Long-Term Load Forecast



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