

ANALYSIS OF 2023 LOAD GROWTH FORECAST DATA

Source Data: *The Era of Flat Power Demand is Over* | Published by Grid Strategies December 2023

KEY TAKEAWAYS

- After decades of flat, and occasionally declining, load projections, this year’s forecasts are growing from last year’s load projections as evidenced by the nationwide 5-year forecast for electricity demand almost doubling since last year’s forecast, going from 2.6% to 4.7%.
- Load projections are likely being underestimated because some utilities have already announced higher load forecasts than their recent FERC forecast filings had indicated and not all utilities are factoring in the impacts of higher temperatures and extreme weather events to their forecasts.
- America’s electric grid is not currently ready to handle intense load growth, one reason being that transmission investment from investor-owned utilities has decreased over the past 3 years.
- Domestic manufacturing, industrial, and data center facilities investment appear to be driving load growth with the Boston Consulting Group estimating that, while data centers currently represent 2.5% of U.S. electricity consumption, the total data center energy consumption could grow to 7.5% by 2030.

NOTABLE SUPPORTING DETAILS

- Using the Compound Annual Growth Rate (CAGR), 2023’s 5-year national forecast for peak demand increased 50% from 2022.
- National modeling experts have forecasted that electrification and industrial growth will increase annual electric system growth to 1.5%.
- Most of the load forecast increase is assumed by 10 of the planning areas [see image] which have a combined 17.4 GW increase in their 2028 summer peak demand forecast from 2022 to 2023.

Planning areas with greatest increase in summer 2028 peak demand

Planning Area	2022 Forecast (GW)	2023 Forecast (GW)	Increase (GW)	Percent Increase
ERCOT	83.6	89.1	5.5	6.6%
PJM	152.7	155.7	3.0	2.0%
SPP	56.3	59.3	3.0	5.2%
Duke Energy Carolinas (DEC & DEP)	33.8	35.8	2.0	5.9%
Georgia Power	16.2	17.2	1.0	6.4%
NYISO	31.3	32.3	1.0	3.2%
Arizona Public Service Company	8.6	9.5	0.9	10.9%
Tennessee Valley Authority (TVA)	31.7	32.3	0.6	2.0%
CAISO	49.3	49.8	0.5	1.1%
Puget Sound Energy	4.4	4.9	0.5	10.7%
All other planning areas	367.2	366.6	-0.6	-0.2%
Total	835.1	852.5	17.4	2.1%

RECOMMENDATIONS

- Increase power capacity transfer capability between regions to strengthen reliability.
- Prioritize accurate and holistic forecasting of future load by assessing and planning for:
 - The growing energy needs of manufacturing and industrial sectors, and data center facilities.
 - Federal legislation encouraging “domestic content” which will increase industrial load
 - Electrification of transportation and buildings
 - Emerging investments in hydrogen fuel plants
 - Frequency and severity of extreme weather events

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Grid Strategies report linked below:



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