

Reality Check

A January 2024 report from the International Energy Agency noted that electricity usage worldwide by high-demand data centers and cryptocurrency mining in a worst-case scenario model were expected to double from 460TWh in 2022 to over 1,000TWh by 2026. And that's just the beginning.

On future power demand

Hypocrisy: Big Data Hates Natural Gas Until It Needs...A Lot of It.

While climate-change activists and some elected officials hail the retirement of U.S. coal-fired power plants – about 35.5 gigawatts (GW) between 2022-2025 alone – professionals responsible for keeping the lights on are sounding the alarm about future demand for electricity, with a primary driver being data centers, computer chip manufacturers, and battery and electric vehicle factories.

Among the examples:

- ✦ Georgia Power announced last month that new demand could grow by 7,100 megawatts (MW) in the summer through 2031, 28 times more than projected about two years ago, with winter demand jumping 17-fold during the same time. The company notes that the state's success in attracting dozens of electric vehicle, battery, and clean energy manufacturing projects and data centers – all demanding significantly more electricity than most industrial users - is behind the substantial increases.
- ✦ Meanwhile, the strain on the electric grid from new and planned data centers is playing out in central Ohio, where huge projects by Intel, Amazon, Facebook and Google were initially drawn to the region's affordable and reliable electricity. That luxury was fleeting, however, as reported by JLL, a tech-focused commercial real estate firm, which noted that the expansion of data centers by nearly 150 percent between 2012-2021 had consumed much of AEP Ohio's surplus power.
- ✦ A microchip manufacturing energy challenge focuses on Micron Technology, Inc.'s 2022 announcement to build the largest semiconductor plant in U.S. history in Onondaga County, New York, promised to be powered by 100 percent renewable energy. The facility boasts the potential of 9,000 direct positions at Micron and 50,000 additional jobs, with an investment of more than \$100 billion over 20-plus years.

The problem, according to the Empire Center for Public Policy think tank, is that Micron's completed facilities will consume as much electricity as that required by New Hampshire and Vermont combined. Based on the policy center's assessment, sources for 90 percent of that renewable supply have yet to be determined.

- ✦ Closer to home in Pennsylvania, Amazon Web Services' \$650 million purchase of Talen Energy's 960 MW data center campus in Salem Township, Luzerne County last month included added electricity security: it will be powered directly by Talen's adjacent Susquehanna Steam Electric Station, which generates 2.5 GW of nuclear energy. Following the sale, Talen's president and chief executive officer noted in a call with investors, "as power demand continues to rise worldwide, data centers are at the heart of that growth."