DATA DISPATCH

ChartWatch: Largest North American power markets see 10% demand drop in May

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Market Intelligence

Demand for electricity was down about 10% in May in the two largest organized power markets in North America, according to an S&P Global Market Intelligence analysis, showing the continued impacts of lockdown orders imposed to limit the spread of the novel coronavirus.

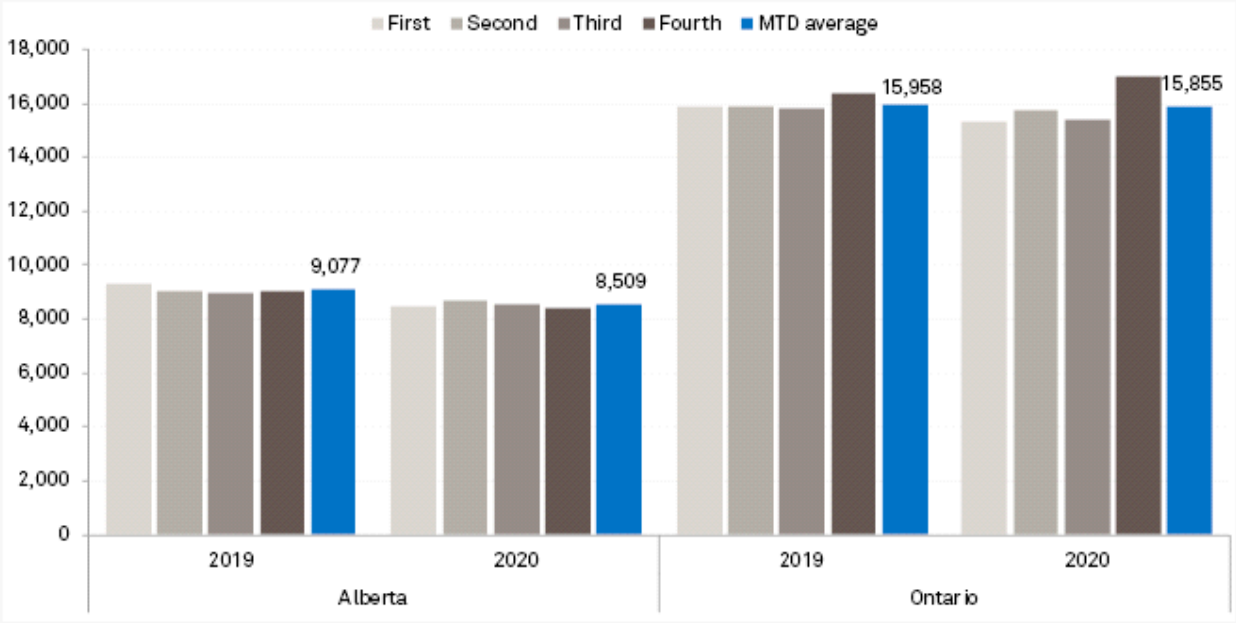
But, toward the end of the month, the easing of lockdowns in some jurisdictions and hotter temperatures prompting increased air-conditioning usage pushed electricity consumption closer to normal levels.

The Market Intelligence analysis compared average hourly load, including both weekday and weekend hours, for the period May 1 to May 28 with average load from May 3, 2019, to May 30, 2019.

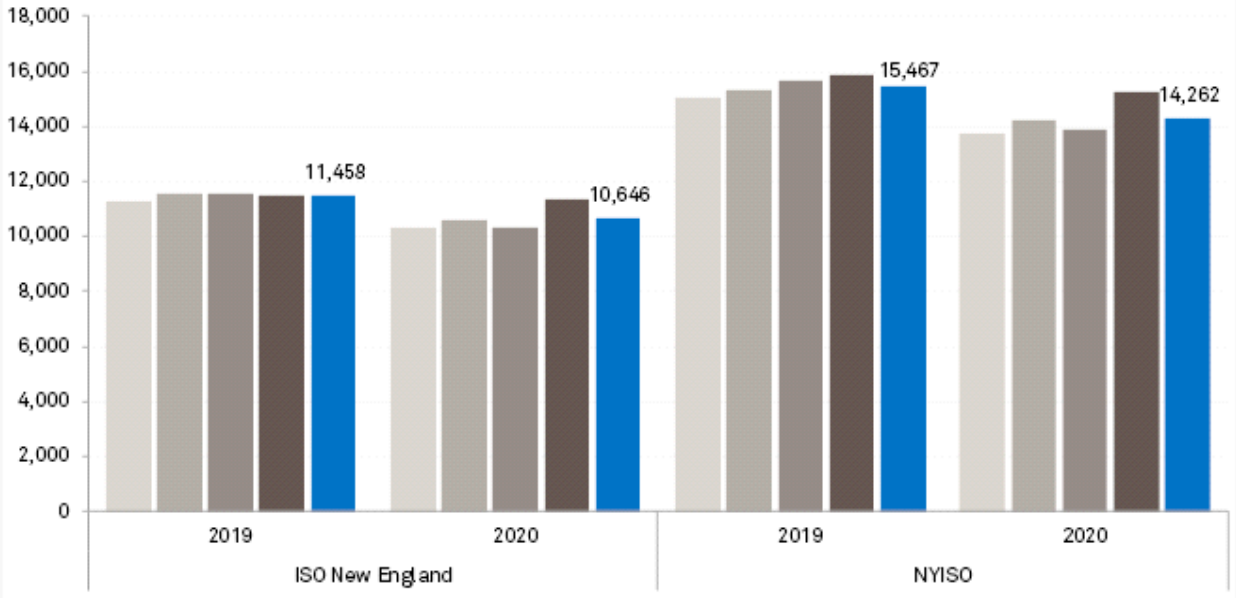
Chart Watch

Average weekly load in May for 2019 and 2020 (MW)

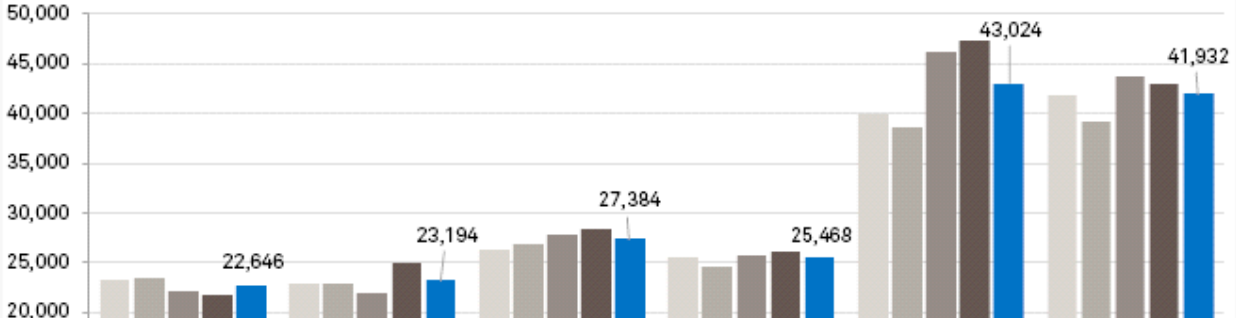
AESO and IESO

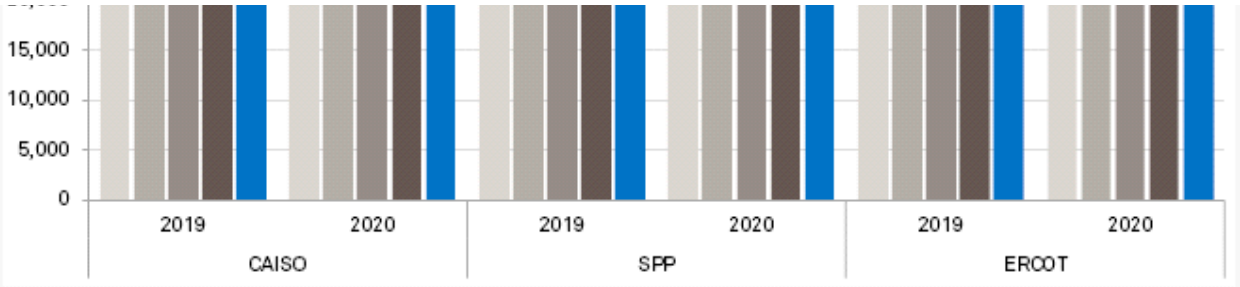


ISO New England and NYISO

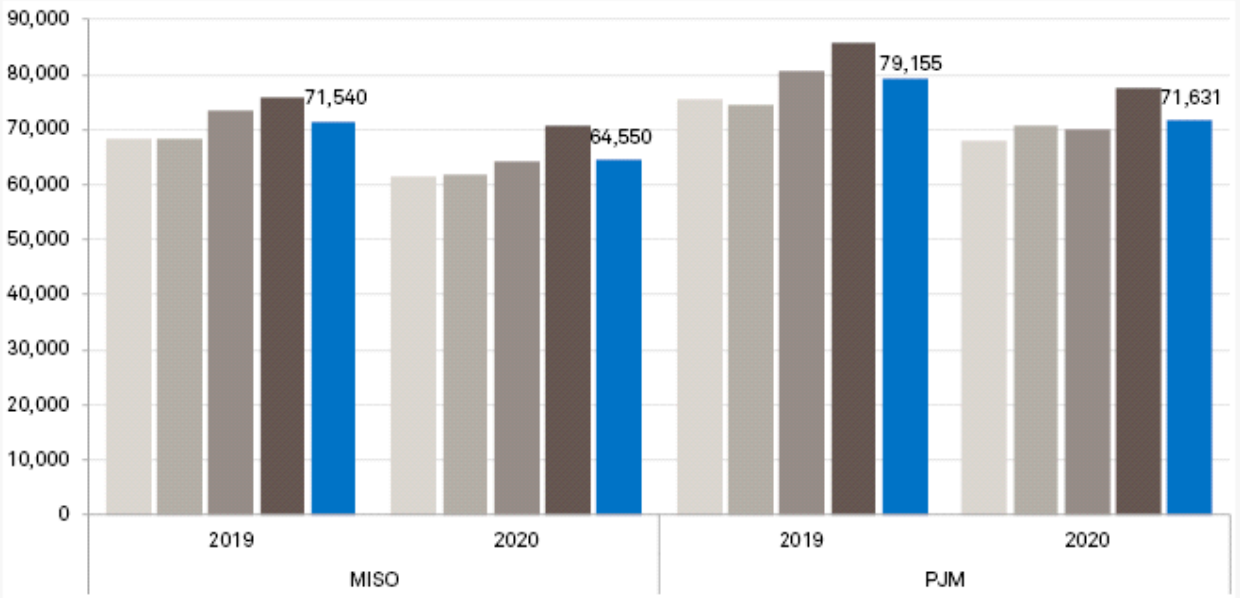


CAISO, SPP and ERCOT





MISO and PJM



Data compiled June 2, 2020.
For this analysis, the first week of May 2020 is defined to run from May 1, 2020, to May 7, 2020, and compares against the period running from May 3, 2019, to May 9, 2019. Load that falls outside the first four weeks defined in this analysis are excluded. Average hourly load figures are not normalized for weather.
AESO = Alberta Electric System Operator; IESO = Independent Electricity System Operator
Source: S&P Global Market Intelligence; Southwest Power Pool

Of the nine regional power markets in the U.S. and Canada, only one, the California ISO, saw an overall increase in electricity consumption in May. The PJM Interconnection, meanwhile, saw its steepest declines during the first full two weeks of May. On several days, peak usage was more than 14% below expectations, according to a June 2 presentation to PJM's Planning Committee by Senior Analyst Andrew Gledhill. By later in the month, however, those declines were lessening, which PJM attributed to weather sensitivity.

Still, PJM has reduced its summer peak forecast through 2025, though from 2023 on, the peak forecast is 0.6% below earlier forecasts.

The Midcontinent ISO saw an average load reduction in May of 10.6%, according to a June 1 presentation. During the first two weeks of May, the average decline was roughly 10% to 11% while the second two weeks, it was roughly 9% to 10%.

On an hourly basis, MISO saw the steepest declines between 6 a.m. and 10 a.m., with average hourly deviations from expected norms of about 15%.

The New York ISO for May saw its average energy use about 8% to 10% below expected levels, with steeper declines in its Zone J, which encompasses New York City. There, weather-normalized load fell nearly 16% below expectations the week of May 24, based on a seven-day rolling average. The average load in Zone J was also more than 20% below expectations during the morning peak hours of 7 a.m. to 10 a.m. between May 25 and May 29.

High temperatures prop up demand in California

The California ISO was the only power market to see a gain in consumption for May, with a a 2.4% rise in average hourly load. Though demand in the first three weeks of May this year were below last year's, average hourly load in the fourth week was over 3,200 MW higher. According to the grid operator's May 27 analysis, above-normal temperatures led to increases in consumption, particularly in the evening peak hours. When adjusting for weather, CAISO's modeling shows average weekday load declines of 4.2% between the start of California's stay-at-home order on March 20 and May 24.

Wholesale power prices in the CAISO market have averaged about $10/MWh lower during the stay-at-home period, as well.

The Electric Reliability Council of Texas Inc. saw a 2.7% decline in average hourly load in May. When removing the impact of weather, ERCOT's modeling as of June 2 showed weekday and weekend peak loads in May were up to 4% lower than normal. Between 6 a.m. and 10 a.m., loads were 6% to as much as 12% below normal.

The Ontario power grid managed by the Independent Electricity System Operator had average hourly load just 0.6% below last year's average as rising temperatures at the end of May kept usage flat year on year. The drop in average load is more pronounced when looking back to when the province closed nonessential businesses on March 23. Business closures and cooler spring weather dropped peak load between 8% and 14% below typical levels on weekdays and between 5% and 10% below normal on weekends, IESO Manager of Demand and Conservation Planning Kausar Ashraf told stakeholders during a May 20 webinar. Residential usage during the morning peak has climbed 13%, but weekday peak demand from commercial, industrial and wholesale customers have run between 11% and 24% below normal. To account for impacts from the coronavirus, the IESO cut its outlook for energy demand in 2020 by 4.6% from a prior forecast and lowered its 2021 energy usage by 4.1%.

The Alberta Electric System Operator power grid experienced a 6% decline in average hourly load, Market Intelligence data shows. AESO Vice President of Grid Reliability Dennis Frehlic, on a May 11 podcast with Western University's Ivey Business School, noted a majority of the provincial system's load — 62%, according to the AESO — is from industrial customers. Low oil prices have slowed activity in that sector and its demand for electricity.

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