

Insights on COVID-19 Crisis Electricity Demand Destruction - Update

Sep 16, 2020

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This daily update on electricity demand destruction uses data available through 15Sep2020. All results are derived from hourly historical demand as published by the market administrators (NYISO, PJM, MISO, ERCOT and CAISO) and are weather-normalized and de-trended. The demand destruction statistics reported here are in percentage departure from normal given prevailing weather conditions and time-of-year.

Note that the significant demand destruction now being observed in MISO South is a result of the impact of Hurricane Laura. See the next page for a more detailed view.

The table below shows results for all hours (7X24) for a selection of regions. More complete statistics are posted daily at www.scovilleriskpartners.com.

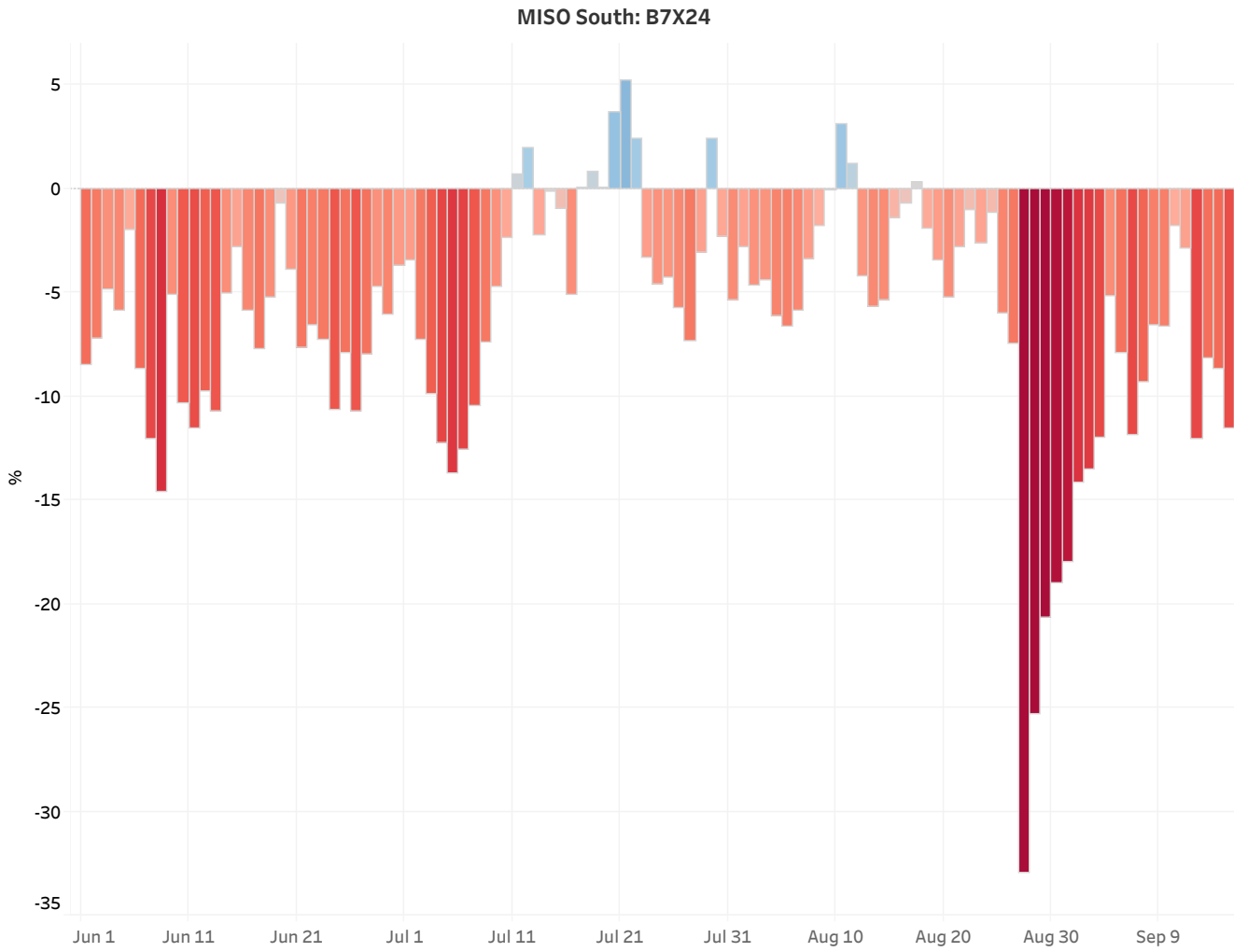
Select Locations Load Variation All Hours

Load	As Of Date	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
NYC	9/15/2020	-12.30	-6.43	-6.41	-7.06	-8.11
NY ex NYC Area	9/15/2020	-9.53	-0.59	-0.10	2.39	3.36
PSEG (NJ)	9/14/2020	-2.66	2.71	1.62	0.74	0.12
PSEG Small C&I	9/14/2020	-7.43	-4.91	-5.77	-7.19	-8.38
PSEG Large C&I	9/14/2020	-14.16	-9.26	-10.04	-10.99	-11.76
PSEG Residential	9/14/2020	5.25	11.34	12.47	9.98	8.56
MD	9/14/2020	-5.89	-3.41	-2.62	-2.78	-3.18
Eastern PA	9/14/2020	-6.00	-0.61	-1.80	-2.24	-1.75
Chicago Area	9/14/2020	-7.13	-6.38	-6.94	-5.97	-6.22
OH/App	9/14/2020	-3.65	-0.80	-1.67	-1.10	-1.02
MISO Central	9/15/2020	-10.77	-4.10	-4.53	-6.12	-6.03
MISO South	9/15/2020	-11.55	-7.53	-7.96	-12.17	-9.05
Texas North/East	9/15/2020	-1.70	-1.96	-1.18	0.14	-0.41
Texas South/Central	9/15/2020	-4.73	-6.85	-4.64	-3.20	-3.04
SoCal Edison	9/15/2020	5.04	0.69	3.57	4.24	5.40

Please visit www.scovilleriskpartners.com for additional information and Covid-19 electricity demand impacts. Technical questions can be addressed to Glen Swindle at glenswindle@scovilleriskpartners.com.

MISO South: Impact of Hurricane Laura

We are tracking the impact and rebound from Hurricane Laura. The figure below shows the daily 7X24 load residuals for MISO South which includes Louisiana. Initial demand destruction levels approached 35% and are currently at roughly 11.5%.

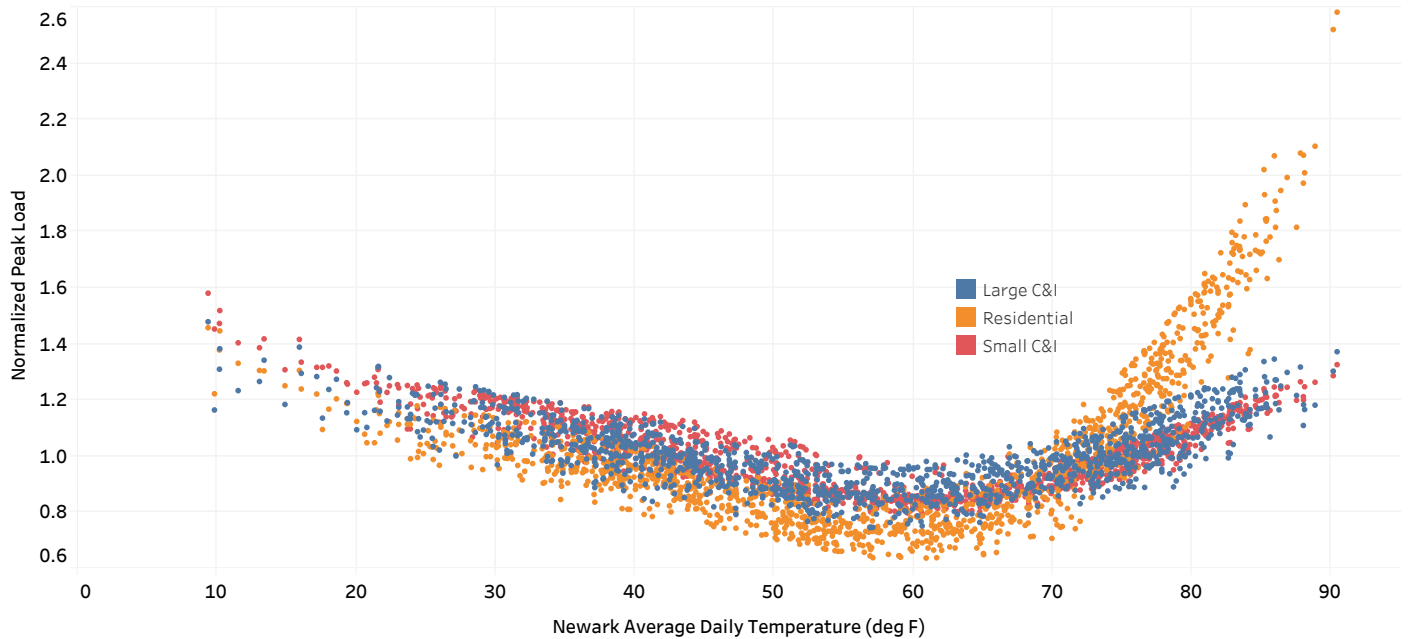


Spurious Seasonal Return to Normal Zonal Usage

Our analysis includes the behavior of PSEG load for three classes of customers: Residential, Small C&I and Large C&I. Zonal loads are aggregates of all sources of electricity demand, with these three being the dominant components. Each of these components also responds differently to variations in temperature. The figure below shows our estimates for these PSEG load groups (normalized by the average load over the historical data sets) versus daily average temperature at Newark. Residential load, as most practitioners would expect, has the largest response to extreme temperatures.

This has important implications for demand destruction statistics at the zonal level. The general increase in residential usage caused by societal response to the COVID-19 pandemic, coupled with relatively greater residential usage at high temperatures, means that zonal loads can exhibit a return to (or at least a trend toward) normal levels even while substantial economic dislocations remain in play. This is currently the case in PSEG and likely pertains broadly across the zonal statistics shown in our report. In the absence of any fundamental change to the COVID-19 landscape, this phenomenon will likely reverse with the approach of autumn.

Estimated Normalized Peak Load by PSEG Customer Type



NYISO Load Variation Peak Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
NYC	-12.76	-8.22	-6.60	-7.95	-9.10
NY ex NYC Area	-9.72	-1.44	0.17	3.10	3.49
Hudson Valley	-11.30	3.14	4.14	7.36	6.98
Long Island	-4.87	2.38	3.66	3.92	2.60

NYISO Load Variation All Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
NYC	-12.30	-6.43	-6.41	-7.06	-8.11
NY ex NYC Area	-9.53	-0.59	-0.10	2.39	3.36
Hudson Valley	-10.99	2.62	2.96	5.99	6.05
Long Island	-5.02	2.59	2.77	3.18	1.96

PJM Load Variation Peak Hours

Load	As Of Date	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
PSEG (NJ)	9/14/2020	-4.68	2.03	2.44	0.77	-0.08
PSEG Small C&I	9/14/2020	-7.31	-5.28	-4.81	-7.03	-7.85
PSEG Large C&I	9/14/2020	-16.00	-10.68	-10.39	-11.56	-12.32
PSEG Residenti..	9/14/2020	4.10	12.69	15.57	11.98	10.91
New Jersey	9/14/2020	-4.78	2.01	3.48	3.03	2.13
MD	9/14/2020	-7.98	-5.56	-3.61	-3.20	-3.23
Eastern PA	9/14/2020	-7.45	-1.37	-1.18	-2.45	-2.03
Chicago Area	9/14/2020	-6.39	-6.54	-6.56	-6.69	-7.03
OH/App	9/14/2020	-3.77	-1.70	-1.58	-1.11	-0.66

PJM Load Variation All Hours

Load	As Of Date	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
PSEG (NJ)	9/14/2020	-2.66	2.71	1.62	0.74	0.12
PSEG Small C&I	9/14/2020	-7.43	-4.91	-5.77	-7.19	-8.38
PSEG Large C&I	9/14/2020	-14.16	-9.26	-10.04	-10.99	-11.76
PSEG Residenti..	9/14/2020	5.25	11.34	12.47	9.98	8.56
New Jersey	9/14/2020	-3.24	2.28	2.29	2.17	1.40
MD	9/14/2020	-5.89	-3.41	-2.62	-2.78	-3.18
Eastern PA	9/14/2020	-6.00	-0.61	-1.80	-2.24	-1.75
Chicago Area	9/14/2020	-7.13	-6.38	-6.94	-5.97	-6.22
OH/App	9/14/2020	-3.65	-0.80	-1.67	-1.10	-1.02

MISO Load Variation Peak Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
MISO Central	-11.55	-5.23	-2.42	-6.08	-6.35
MISO North	-10.25	-8.63	-8.43	-5.02	-3.91
MISO South	-11.60	-5.65	-5.38	-11.81	-8.51

MISO Load Variation All Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
MISO Central	-10.77	-4.10	-4.53	-6.12	-6.03
MISO North	-9.83	-7.97	-7.43	-4.98	-4.00
MISO South	-11.55	-7.53	-7.96	-12.17	-9.05

ERCOT Load Variation Peak Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
Texas North/East	-1.34	-1.91	-0.84	0.14	0.01
Texas South/Central	-4.77	-8.11	-6.62	-4.37	-3.27

ERCOT Load Variation All Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
Texas North/East	-1.70	-1.96	-1.18	0.14	-0.41
Texas South/Central	-4.73	-6.85	-4.64	-3.20	-3.04

Texas North/East is comprised of ERCOT Zones: East, North and NorthCentral. Texas South/Central is comprised of ERCOT Zones: Coast, South and SouthCentral. The western region of Texas has been excluded from reporting pending further analysis due to the effects of large growth rates in the FWEST Zone since 2017.

CAISO Load Variation Peak Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
PG&E	0.04	1.89	1.43	2.37	2.95
SoCal Edison	8.05	2.51	3.91	6.27	7.67
SDG&E	3.36	3.14	4.06	3.12	4.49

CAISO Load Variation All Hours as of 9/15/2020

Load	Last Value (%)	Last 5 Days (%)	Last 10 Days (%)	Last 20 Days (%)	Last 30 Days (%)
PG&E	-0.29	1.45	2.82	2.85	3.34
SoCal Edison	5.04	0.69	3.57	4.24	5.40
SDG&E	0.62	0.78	4.65	2.62	3.79