



Enel X Insights

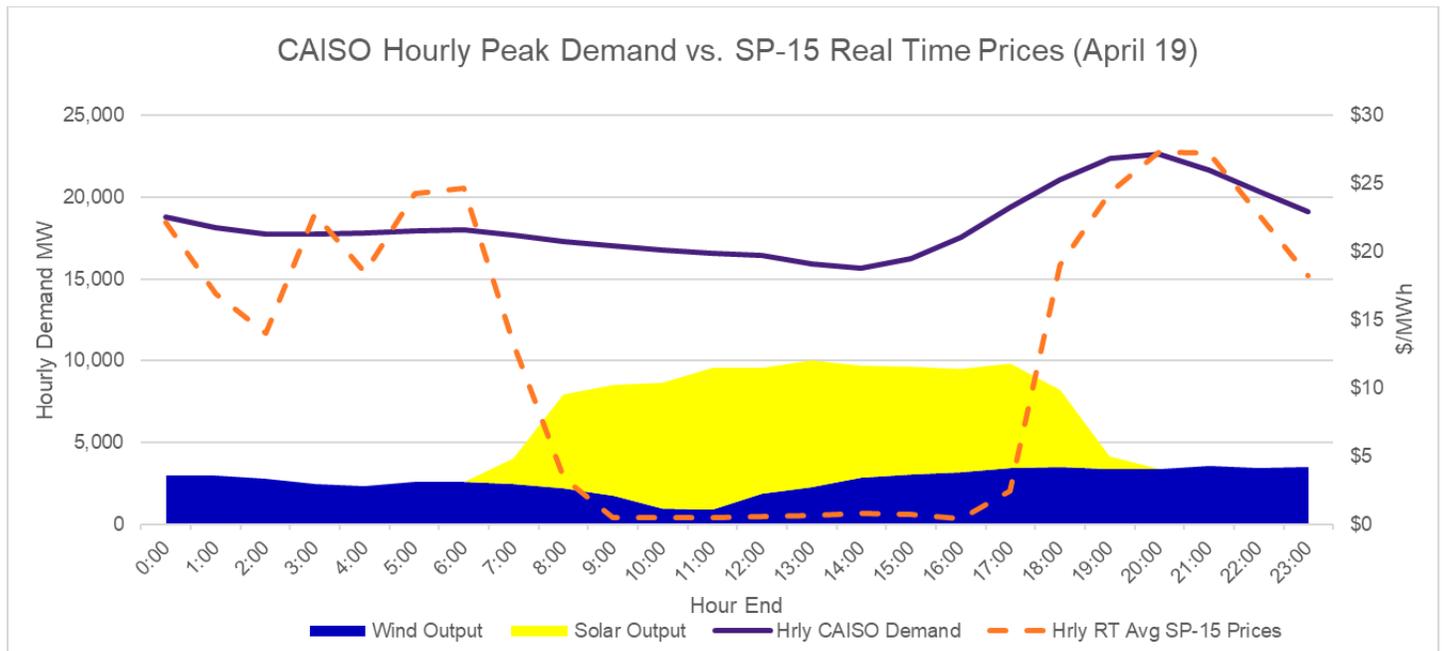
May 2020 California Monthly Market Commentary

California

Electricity Demand Falls to Record Low Amid Statewide Shutdown

On April 19, system-wide electricity demand (net of wind and solar output) hit a record low at 5,262 MW. This historic event comes just one month after California Governor Gavin Newsome issued a state-wide shelter in place order in an effort to mitigate the growing COVID-19 pandemic. The immediate closure of retail stores, offices, and a significant portion of manufacturing operations has reduced the average April peak load by 9% year-over-year. Even as temperatures soared throughout the state, from March 19 through the end of the month real time spot prices in NP-15 and SP-15 have averaged 21% and 30% lower respectively compared to the 2020 average prior to the order.

The drop-off in electricity usage has done little to remedy the state’s generation ramp up problem (also known as the duck curve). On April 19, after net system wide demand fell to a record low in the early afternoon (5,262 MW) it quickly increased more than 10,000 MW over the next four hours. The steep jump in demand caused hourly average spot prices in southern California to go from less than \$1/MWh to more than \$27/MWh between 4 PM and 10 PM. **With electricity demand likely to remain suppressed during business hours for at least the next few months combined with a continued expansion of solar production, CAISO should continue to see large spreads in afternoon and evening energy prices.**





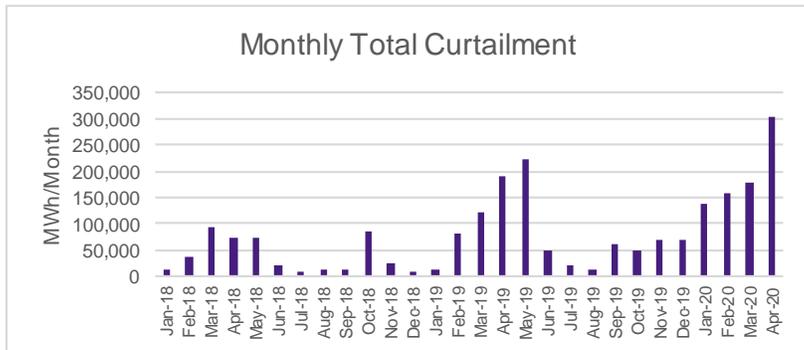
California Public Utilities Commission Finalizes Emission Target

On March 26, the California Public Utilities Commission (CPUC) ruled to update target electric sector emissions to 46 million metric tons by 2030. According to [Reuters](#), this would reduce emission levels to “56% below 1990.”¹ The CPUC concluded that this order, while aggressive, would put the state on track to meet their objective of 100% carbon free electricity generation by 2045. The order outlines that to meet their 2030 goal, load serving entities will need to add more than 24,000 MW of renewable generation and storage while, “retaining all natural gas power plants”, according to Decision 20-03-028 from the CPUC. Costs to build out the required new resources are estimated to be \$45 billion, per CPUC Public Agenda 3458, more than likely resulting in continued electricity price increases for years to come.

CPUC New Resource Buildout by 2030	
Resource Type	Size (MW)
Wind	3,400
Utility Scale Solar	11,000
Battery Storage	8,900
Long Duration Storage	900
Demand Response	200
Total	24,400

CAISO Energy Curtailments

Curtailments have become an unsettling regularity for California, particularly in the spring and fall when comfortable weather conditions result in little heating or cooling demand. As of April 28, CAISO has curtailed 474,141 MWh of generation year-to-date, 118% higher than the same time last year. As curtailments increase this spring, customers who have some exposure to real-time or day-ahead energy markets can expect greater spot market volatility with continued pressure on mid-day prices and escalating evening prices.



CAISO Total Curtailments (MWh)		
	Monthly Total	Year to Date
April-19	190,070	407,669
April-20	304,793	778,934
YOY Variance	+60%	+91%

Source: [CAISO Wind and Solar Curtailment totals by Month](#)

¹ “California sets goal to double clean energy by 2030,” Reuters, March 26, 2020



Regional Electricity Pricing Update

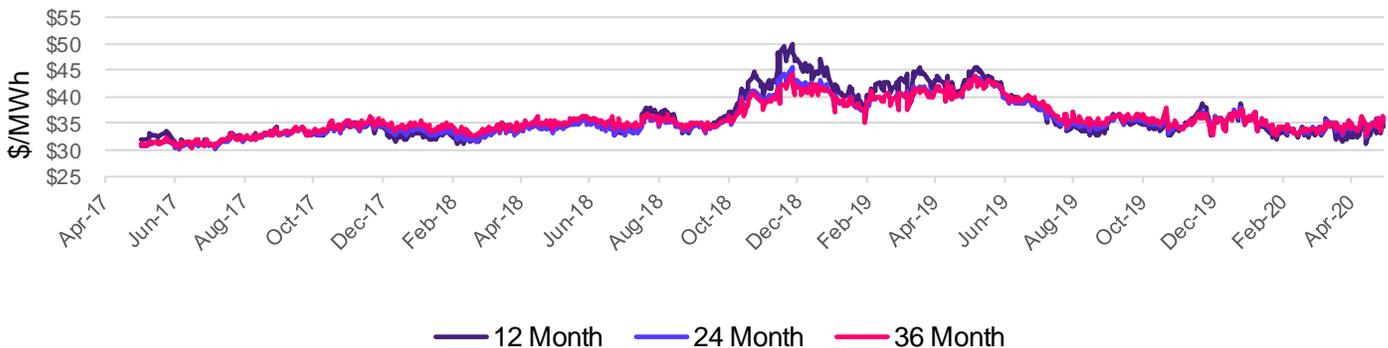
How are spot prices trending?

- April LMP prices in both Northern California (NP15) and Southern California (SP15) declined month-over-month as the shelter-in-place order reduced demand. Overall average monthly spot prices for NP 15 in March were 11% below the 5-year average and 2% below this time last year.

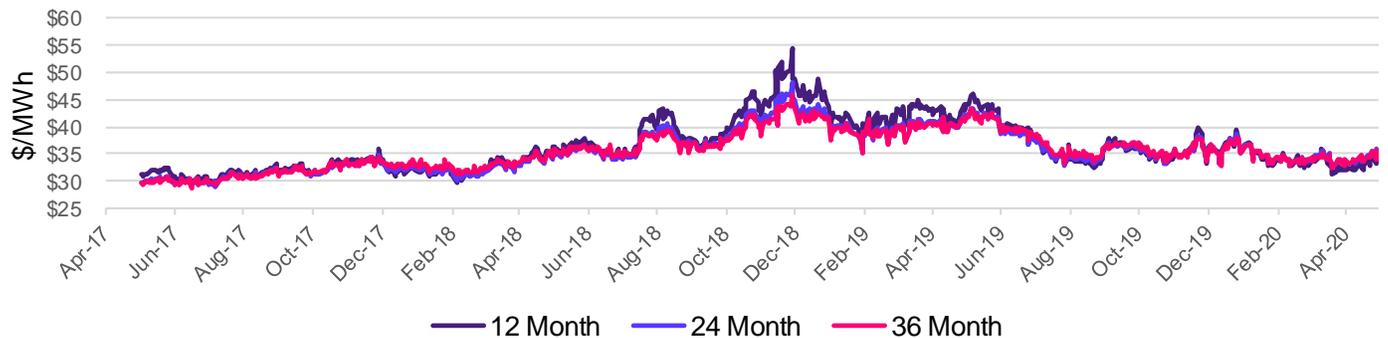
How are forward prices trending?

- Forward power prices throughout the state have increased over the past month as natural gas production declines are expected to reduce availability of the state's largest generating resource. NP15 12-month rolling strip prices increased 8% through the month of April. As of April 30 prices settled at \$34.57/MWh and have been trading near the 50th percentile when compared to the 3-year trading history.

NP-15 ATC Forward Strip



SP-15 ATC Forward Strip



Average Monthly Day Ahead LMP - NP15							
	2014	2015	2016	2017	2018	2019	2020
Jan	\$46.07	\$33.40	\$28.54	\$34.90	\$32.94	\$41.09	\$31.19
Feb	\$61.99	\$30.71	\$24.01	\$29.23	\$30.47	\$75.58	\$26.34
Mar	\$47.63	\$30.72	\$19.60	\$22.12	\$30.06	\$36.63	\$26.58
Apr	\$47.48	\$32.27	\$21.23	\$22.13	\$24.91	\$22.25	\$23.68
May	\$46.67	\$32.69	\$20.76	\$29.28	\$20.75	\$18.46	
Jun	\$45.42	\$34.64	\$28.09	\$33.12	\$28.14	\$22.94	
Jul	\$47.23	\$35.54	\$32.80	\$35.84	\$54.89	\$30.28	
Aug	\$46.49	\$34.32	\$34.85	\$45.20	\$49.84	\$31.82	
Sep	\$45.45	\$34.46	\$34.66	\$39.72	\$33.42	\$34.55	
Oct	\$44.73	\$32.49	\$34.03	\$41.19	\$43.74	\$36.32	
Nov	\$45.12	\$29.41	\$30.17	\$36.27	\$52.40	\$41.51	
Dec	\$37.52	\$28.65	\$36.60	\$34.22	\$54.17	\$39.82	
Avg.	\$46.81	\$32.44	\$28.78	\$33.60	\$37.98	\$35.94	\$26.95

Average Monthly Day Ahead LMP - SP15							
	2014	2015	2016	2017	2018	2019	2020
Jan	\$46.47	\$33.51	\$28.18	\$33.55	\$34.37	\$39.96	\$31.22
Feb	\$61.70	\$30.05	\$22.99	\$26.39	\$34.24	\$70.89	\$25.67
Mar	\$47.60	\$29.00	\$18.05	\$21.75	\$30.53	\$36.02	\$24.99
Apr	\$44.71	\$27.93	\$18.44	\$24.80	\$24.88	\$23.52	\$19.85
May	\$45.85	\$27.21	\$21.01	\$28.35	\$21.65	\$18.43	
Jun	\$45.25	\$33.94	\$29.95	\$32.80	\$28.17	\$23.07	
Jul	\$47.75	\$36.02	\$34.29	\$36.70	\$75.43	\$31.52	
Aug	\$45.89	\$35.69	\$34.93	\$45.35	\$69.73	\$32.84	
Sep	\$46.65	\$34.76	\$32.89	\$38.43	\$35.33	\$36.08	
Oct	\$45.17	\$32.62	\$33.06	\$41.09	\$38.88	\$34.36	
Nov	\$44.98	\$28.86	\$27.79	\$39.51	\$51.59	\$42.03	
Dec	\$37.87	\$28.09	\$33.95	\$39.12	\$52.93	\$40.24	
Avg.	\$46.66	\$31.47	\$27.96	\$33.99	\$41.48	\$35.75	\$25.43

Regional Natural Gas Pricing Update

Natural gas spot prices in both Northern and Southern California declined once again month-over-month in April, falling 8.8% and 19.6%, respectively. Decreased heating demand due to mild shoulder month weather continues to put downward pressure on natural gas prices throughout the state. According to the EIA, as of the week ending 4/24, storage levels in the Pacific remained below the 5-year average, in sharp contrast to the national trend.² Forward basis prices for SoCal City Gate have held steady around \$0.75/MMBtu since February, while national concern regarding declining natural gas product has raised NYMEX forwards through calendar year 2021.

Month over Month				Year over Year	
CA HUB	Mar-20	Feb-20	MoM % Chg	Mar-19	YoY % Chg
PGE Gate	2.563	2.647	-3.2%	4.006	-36.0%
Socal City Gate	2.069	2.489	-16.9%	4.761	-56.5%
Hub Average	2.316	2.568	-9.8%	4.384	-47.2%

For questions or further discussion about these topics, please contact your Enel X Energy Advisor or talk to an [Energy Sourcing Expert](#).

² <http://ir.eia.gov/ngs/ngs.html>