

Wind and Solar Curtailment April 21, 2019

This report is produced daily to provide a detailed accounting of the wind and solar renewable generation that was curtailed and the reasons why¹. This report should be read in the context of the Renewables Watch report for a more complete understanding of both renewable curtailment and generation².

Wind and solar curtailments are grouped into the following categories:

1. Economic - Local: Market dispatch of generators with economic bids to mitigate local congestion³.
2. Economic - System: Market dispatch of generators with economic bids to mitigate system-wide oversupply⁴.
3. SelfSchCut - Local: Market dispatch of self-schedules to mitigate local congestion.
4. SelfSchCut - System: Market dispatch of self-schedules to mitigate system-wide oversupply.
5. ExDispatch - Local: Exceptional dispatch to mitigate local congestion.
6. ExDispatch - System: Exceptional dispatch to mitigate system-wide oversupply.

Note: Amounts smaller than 1 MW are filtered out for simplicity. Such small curtailments are occasionally observed when forecasts are lower than Pmin when market will de-commit the unit and send the 0 MW dispatch.

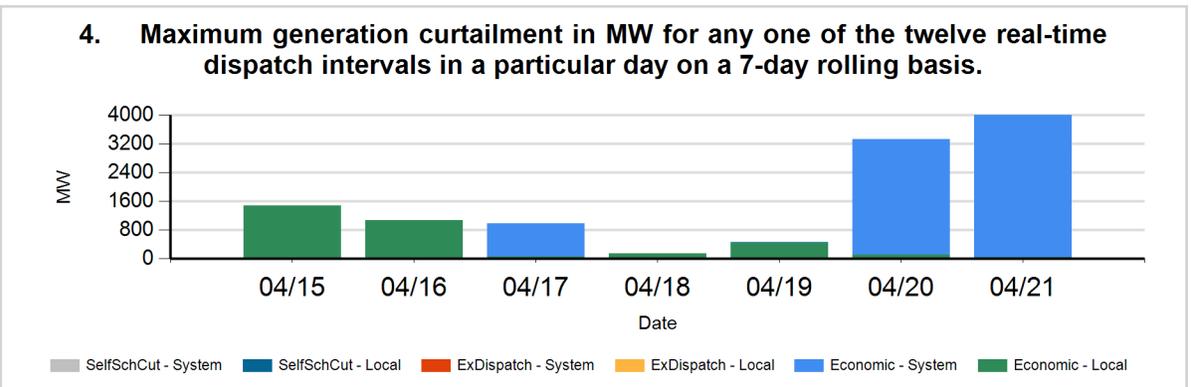
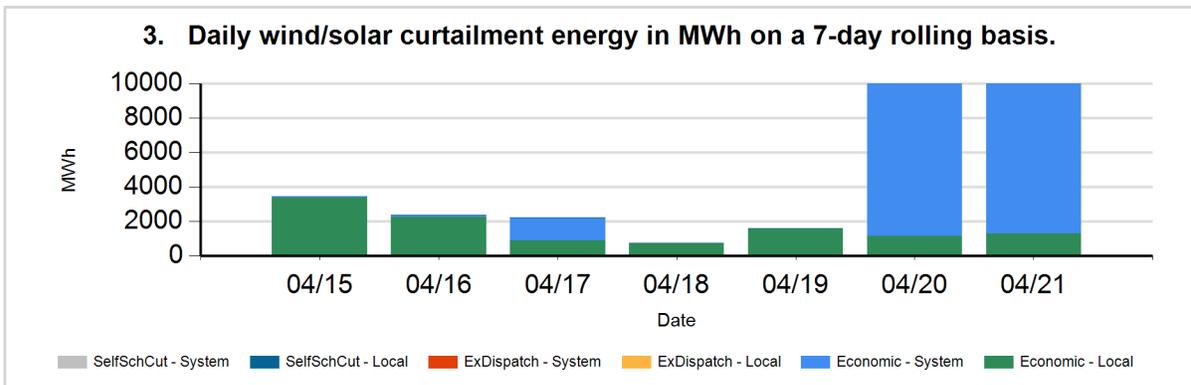
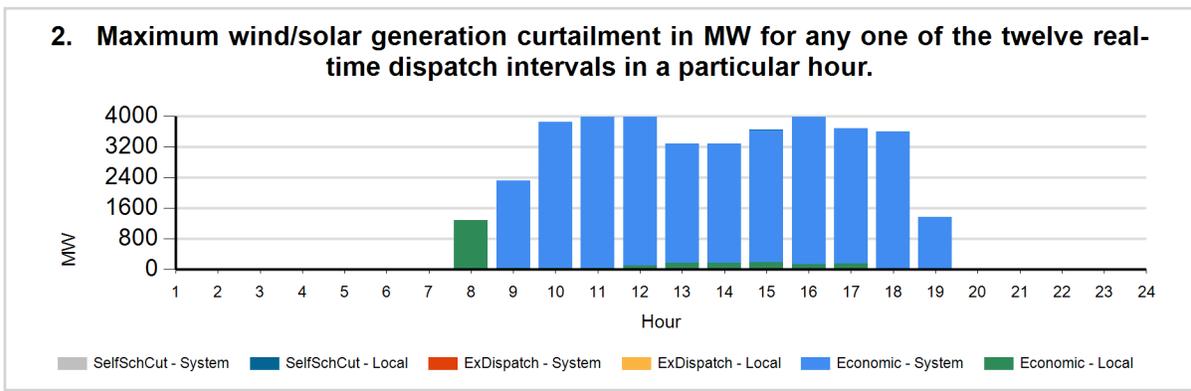
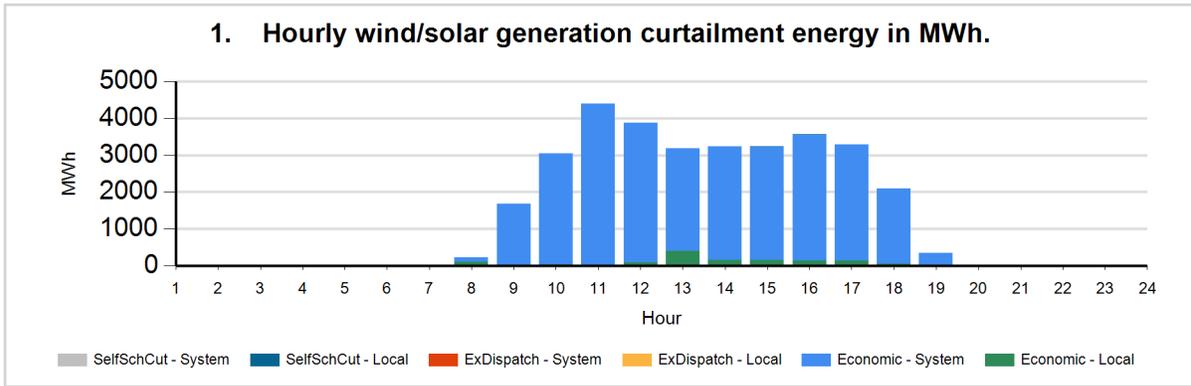
¹Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

²The Renewables Watch report provides daily actual renewable production within the ISO grid. It is available at: <http://www.caiso.com/green/renewableswatch.html>.

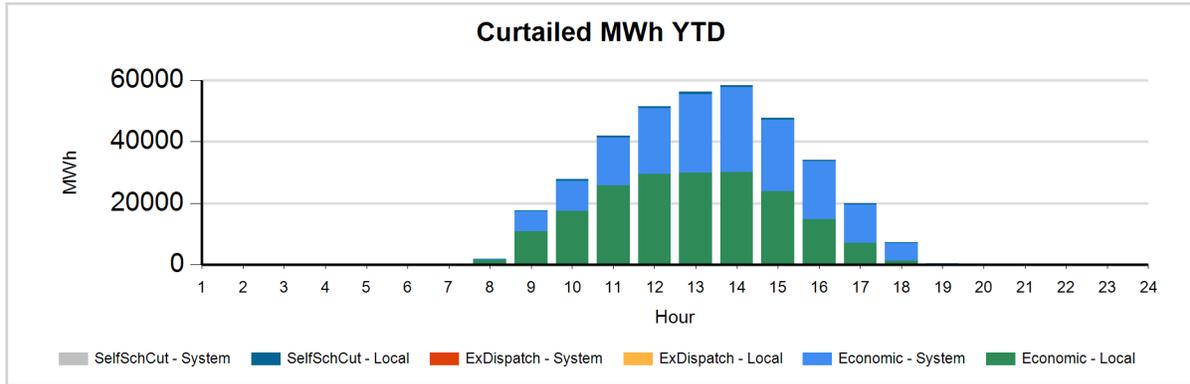
³Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

⁴For more information on oversupply conditions, please see: https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

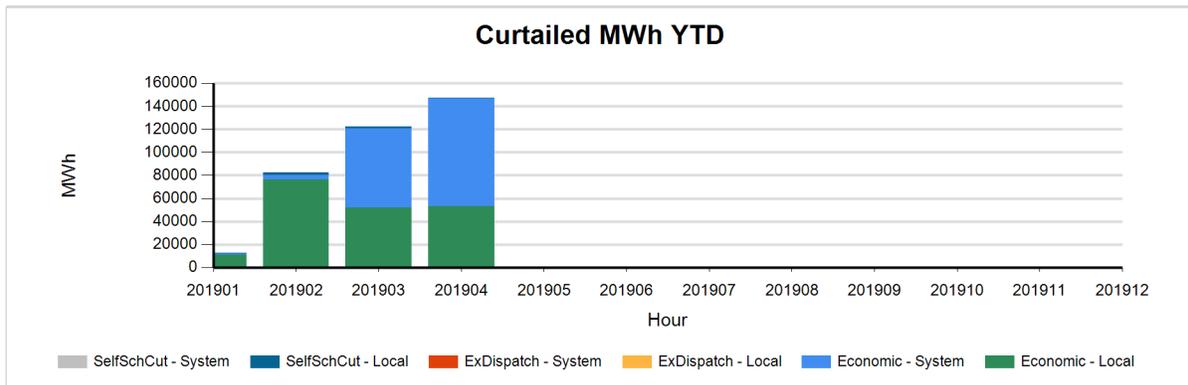
The following charts show the daily and 7-day rolling wind and solar curtailment by category, if any.



The following charts show hourly year to date wind and solar curtailment by category, if any.



The following charts show monthly year to date wind and solar curtailment by category, if any.



TYPE	YTD CURTAILED MWH
LocalEconomic	192,215
LocalSelfSchCut	5,319
SystemEconomic	167,525
TOTAL	365,059

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/21	8	Economic	Local	SOLR	106	1267
04/21	8	Economic	Local	WIND	1	16
04/21	9	Economic	Local	SOLR	16	39
04/21	9	Economic	System	SOLR	1629	2217
04/21	9	Economic	System	WIND	31	61
04/21	10	Economic	Local	SOLR	40	33
04/21	10	Economic	System	SOLR	2953	3690
04/21	10	Economic	System	WIND	59	137
04/21	11	Economic	Local	SOLR	19	33
04/21	11	Economic	System	SOLR	4243	4624
04/21	11	Economic	System	WIND	135	131
04/21	11	SelfSchCut	Local	SOLR	0	1
04/21	12	Economic	Local	SOLR	81	95
04/21	12	Economic	System	SOLR	3694	4053
04/21	12	Economic	System	WIND	101	126
04/21	13	Economic	Local	SOLR	393	173
04/21	13	Economic	System	SOLR	2731	3060
04/21	13	Economic	System	WIND	47	61
04/21	14	Economic	Local	SOLR	151	159
04/21	14	Economic	System	SOLR	3021	3062
04/21	14	Economic	System	WIND	60	61
04/21	15	Economic	Local	SOLR	156	175
04/21	15	Economic	System	SOLR	3014	3370
04/21	15	Economic	System	WIND	66	112
04/21	15	SelfSchCut	Local	SOLR	2	3
04/21	16	Economic	Local	SOLR	141	137
04/21	16	Economic	System	SOLR	3334	3813
04/21	16	Economic	System	WIND	89	111
04/21	16	SelfSchCut	Local	SOLR	3	3
04/21	17	Economic	Local	SOLR	145	147
04/21	17	Economic	System	SOLR	3057	3432

04/21	17	Economic	System	WIND	88	110
04/21	18	Economic	System	SOLR	1955	3325
04/21	18	Economic	System	WIND	92	273
04/21	19	Economic	System	SOLR	316	1259
04/21	19	Economic	System	WIND	20	109
04/21	20	Economic	System	SOLR	0	5

The information contained in this report is preliminary and subject to change without notice. No inference, decision or conclusion should be made based on the information in this report or any series of these reports. All values are hourly average unless otherwise stated. Questions about this report should be directed to Short-Term Forecasting at ShortTermForecasting@caiso.com.