

## Wind and Solar Curtailment December 15, 2019

This report is produced daily to provide a detailed accounting of the wind and solar renewable generation that was curtailed and the reasons why<sup>1</sup>. This report should be read in the context of the Renewables Watch report for a more complete understanding of both renewable curtailment and generation<sup>2</sup>.

Wind and solar curtailments are grouped into the following categories:

1. Economic - Local: Market dispatch of generators with economic bids to mitigate local congestion<sup>3</sup>.
2. Economic - System: Market dispatch of generators with economic bids to mitigate system-wide oversupply<sup>4</sup>.
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.

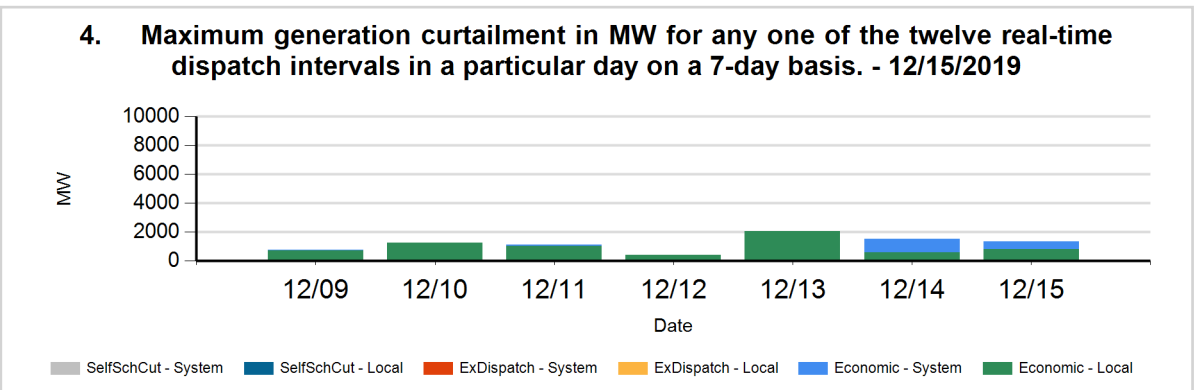
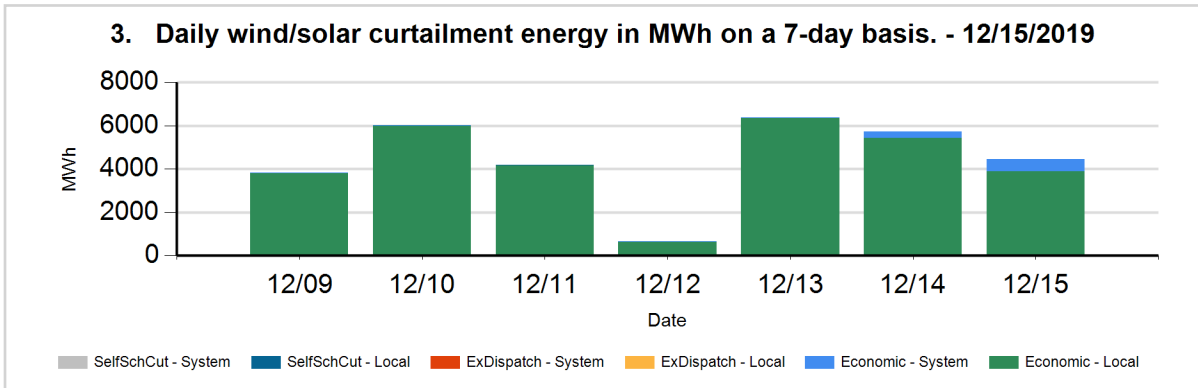
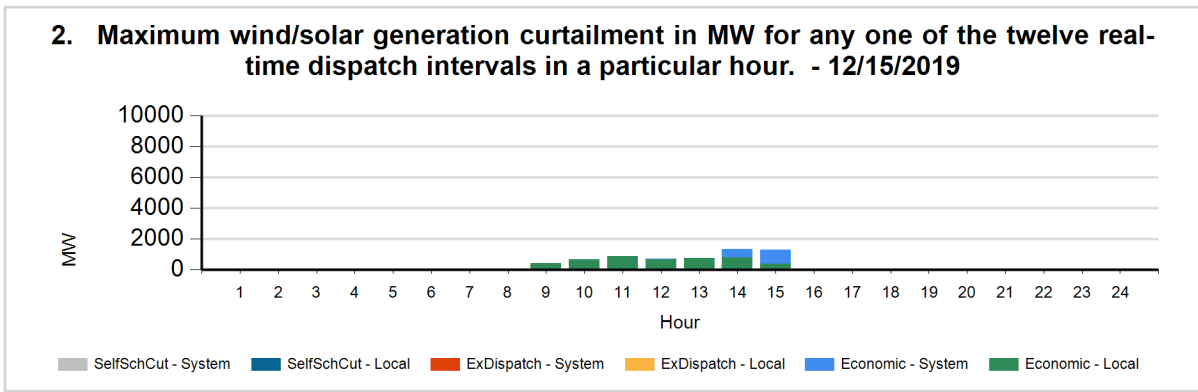
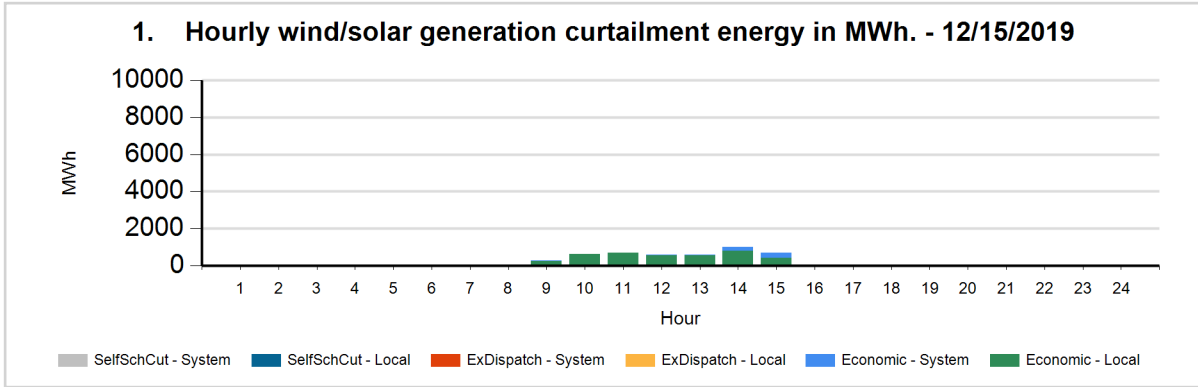
<sup>1</sup>Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

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

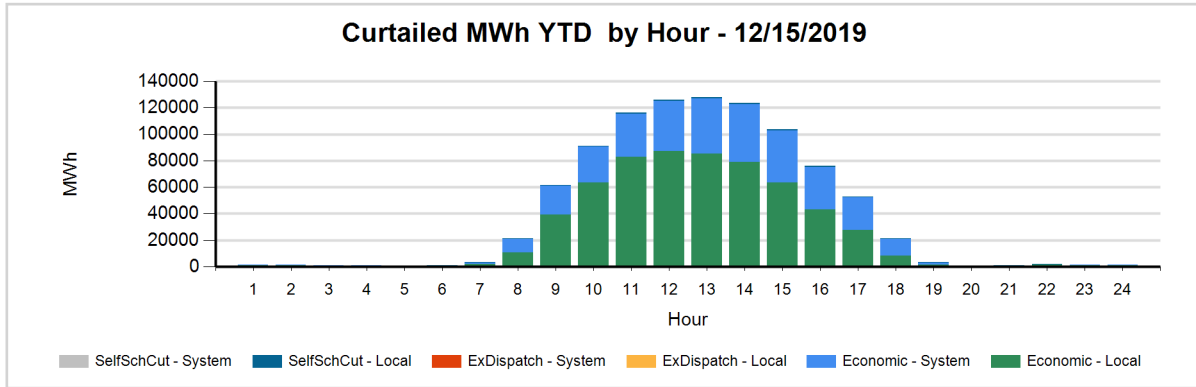
<sup>3</sup>Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

<sup>4</sup>For more information on oversupply conditions, please see: [https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables\\_FastFacts.pdf](https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf)

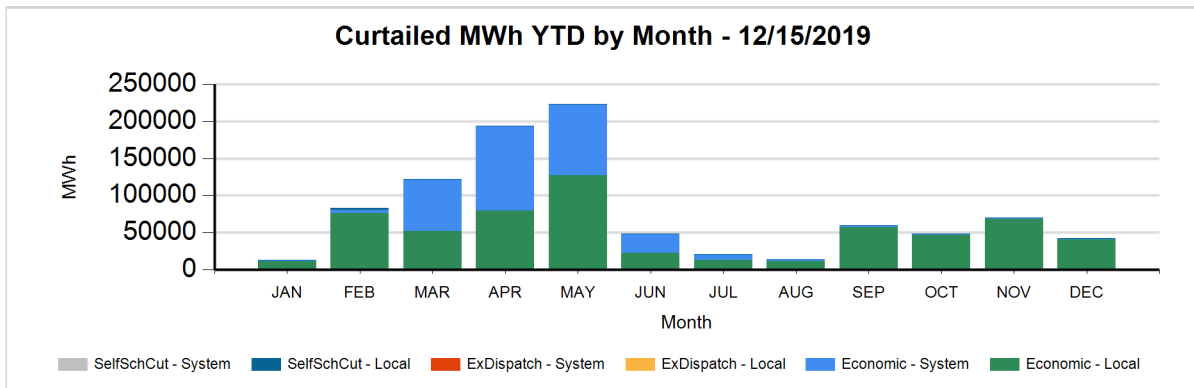
The following charts show the daily and 7-day wind and solar curtailment by category, if any.



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 - 12/15/2019
LocalEconomic	604,337
LocalSelfSchCut	6,379
SystemEconomic	327,189
TOTAL	937,905

**Data used to produce hourly chart**

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
12/15	7	Economic	Local	SOLR	0	6
12/15	8	Economic	Local	SOLR	4	19
12/15	9	Economic	Local	SOLR	198	372
12/15	9	Economic	Local	WIND	48	55
12/15	10	Economic	Local	SOLR	564	626
12/15	10	Economic	Local	WIND	52	53
12/15	11	Economic	Local	SOLR	630	822
12/15	11	Economic	Local	WIND	48	48
12/15	12	Economic	Local	SOLR	540	613
12/15	12	Economic	Local	WIND	44	43
12/15	12	Economic	System	SOLR	5	61
12/15	13	Economic	Local	SOLR	524	687
12/15	13	Economic	Local	WIND	38	40
12/15	14	Economic	Local	SOLR	754	745
12/15	14	Economic	Local	WIND	33	33
12/15	14	Economic	System	SOLR	223	533
12/15	14	Economic	System	WIND	6	16
12/15	15	Economic	Local	SOLR	384	353
12/15	15	Economic	Local	WIND	27	23
12/15	15	Economic	System	SOLR	281	891
12/15	15	Economic	System	WIND	4	15

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](mailto:ShortTermForecasting@caiso.com).



California ISO