

## Wind and Solar Curtailment November 20, 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.

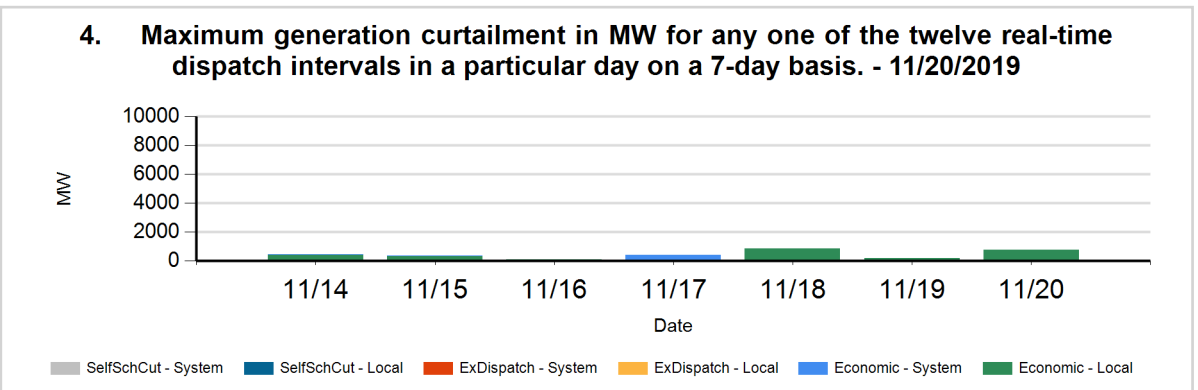
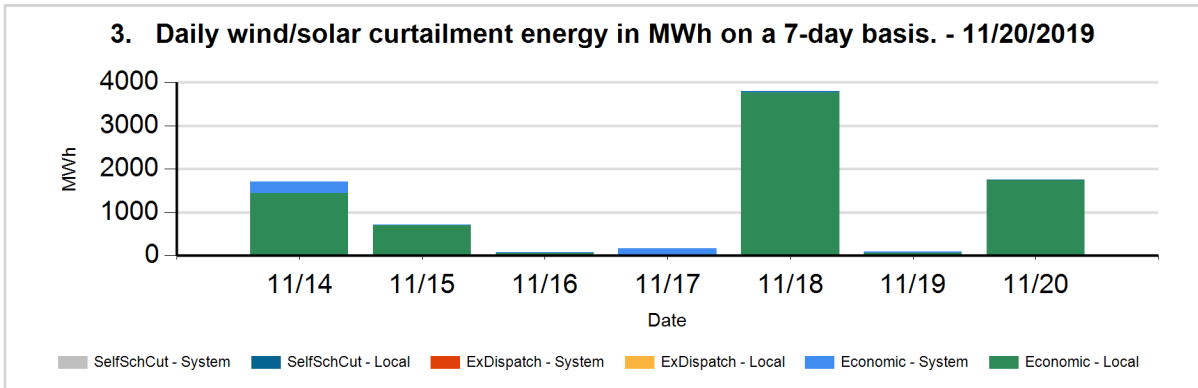
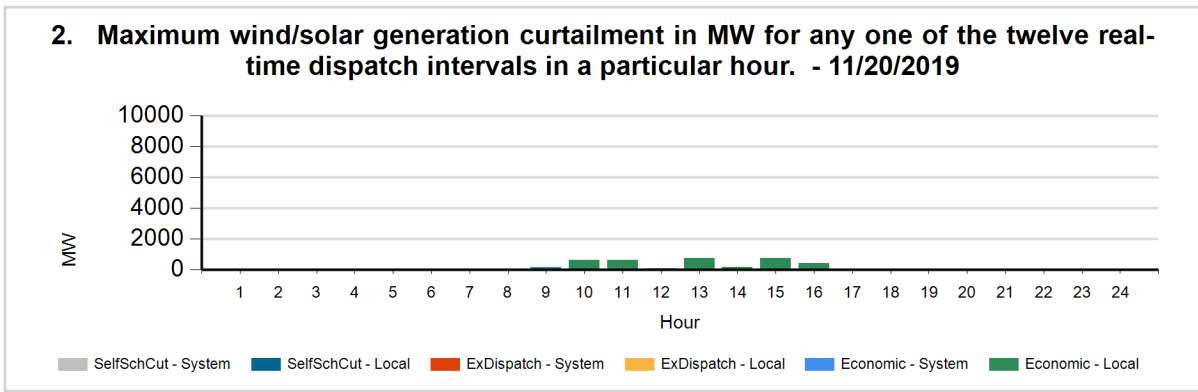
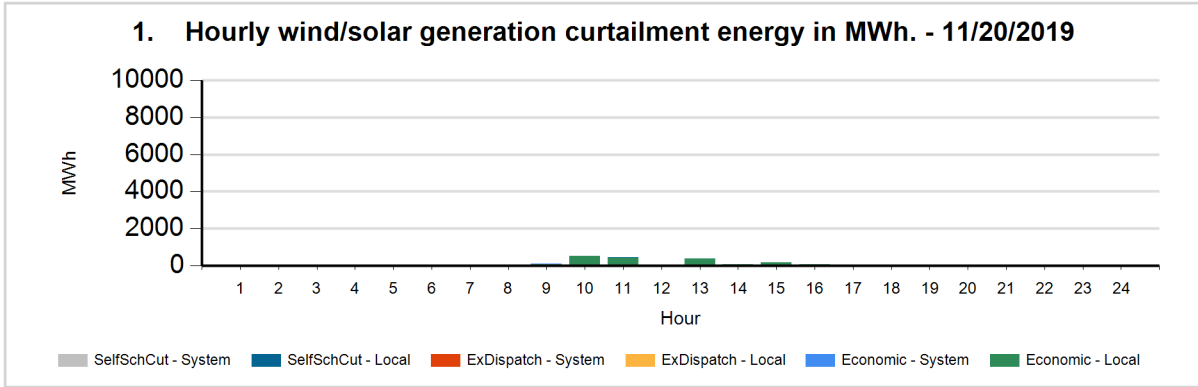
<sup>1</sup>Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

<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>.

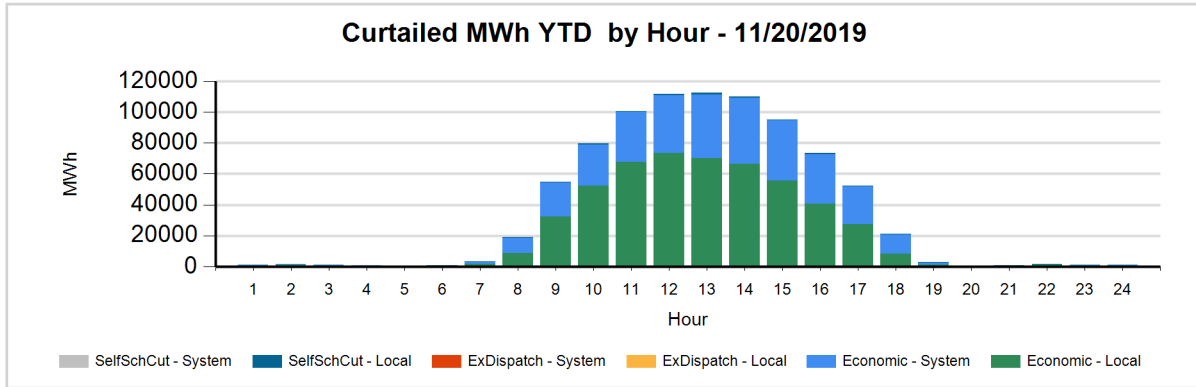
<sup>3</sup>Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

<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)

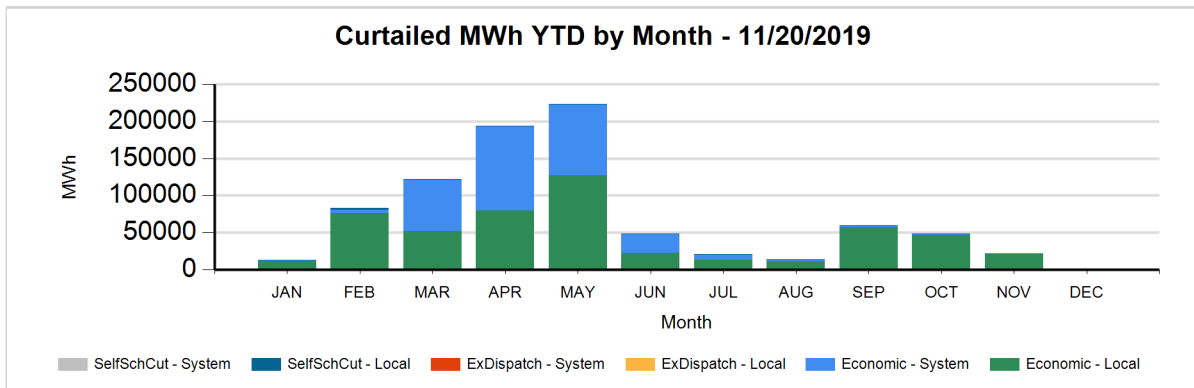
The following charts show the daily and 7-day wind and solar curtailment by category, if any.



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 - 11/20/2019
LocalEconomic	516,517
LocalSelfSchCut	6,182
SystemEconomic	325,354
TOTAL	848,054

**Data used to produce hourly chart**

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
11/20	8	Economic	Local	SOLR	1	9
11/20	8	Economic	Local	WIND	2	24
11/20	8	Economic	System	SOLR	0	5
11/20	9	Economic	Local	SOLR	77	136
11/20	9	Economic	Local	WIND	5	10
11/20	9	Economic	System	SOLR	9	6
11/20	10	Economic	Local	SOLR	485	601
11/20	10	Economic	Local	WIND	20	20
11/20	11	Economic	Local	SOLR	436	617
11/20	11	Economic	Local	WIND	16	16
11/20	12	Economic	Local	SOLR	5	50
11/20	12	Economic	Local	WIND	1	9
11/20	13	Economic	Local	SOLR	344	729
11/20	13	Economic	Local	WIND	34	36
11/20	14	Economic	Local	SOLR	52	140
11/20	14	Economic	Local	WIND	16	30
11/20	15	Economic	Local	SOLR	107	428
11/20	15	Economic	Local	WIND	67	320
11/20	16	Economic	Local	SOLR	27	215
11/20	16	Economic	Local	WIND	44	186

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).