

## Wind and Solar Curtailment April 27, 2018

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.

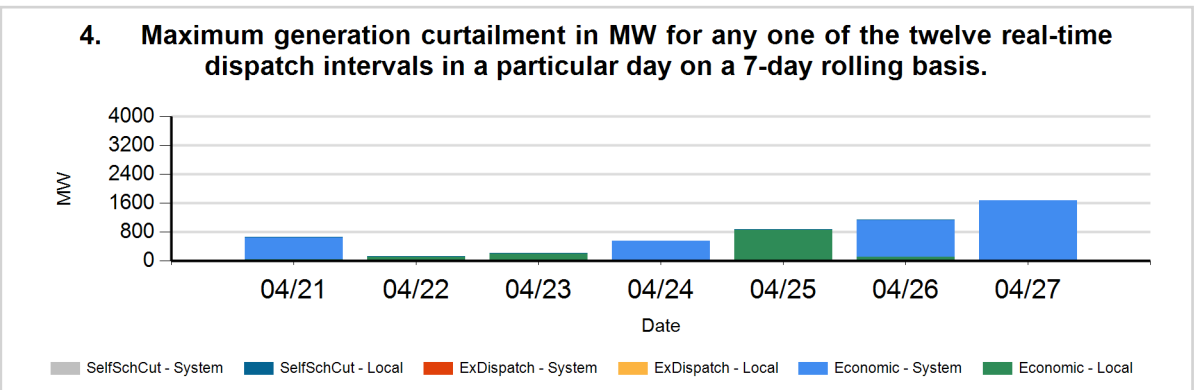
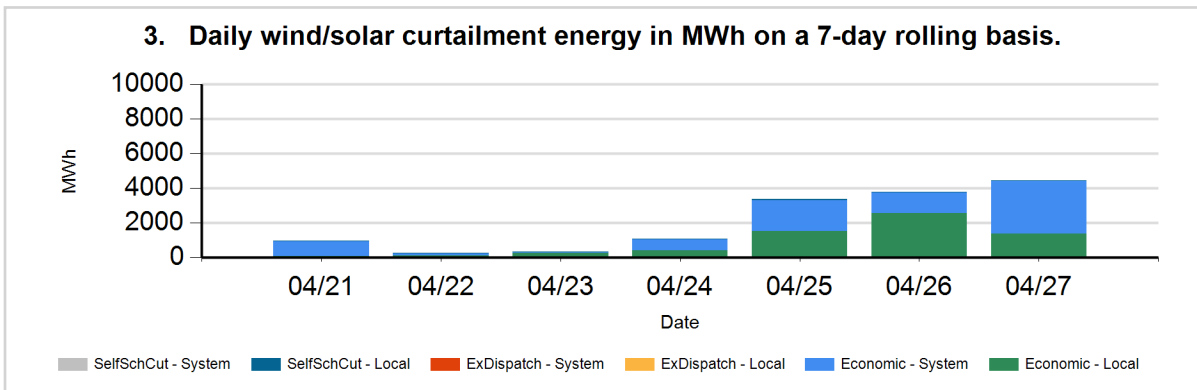
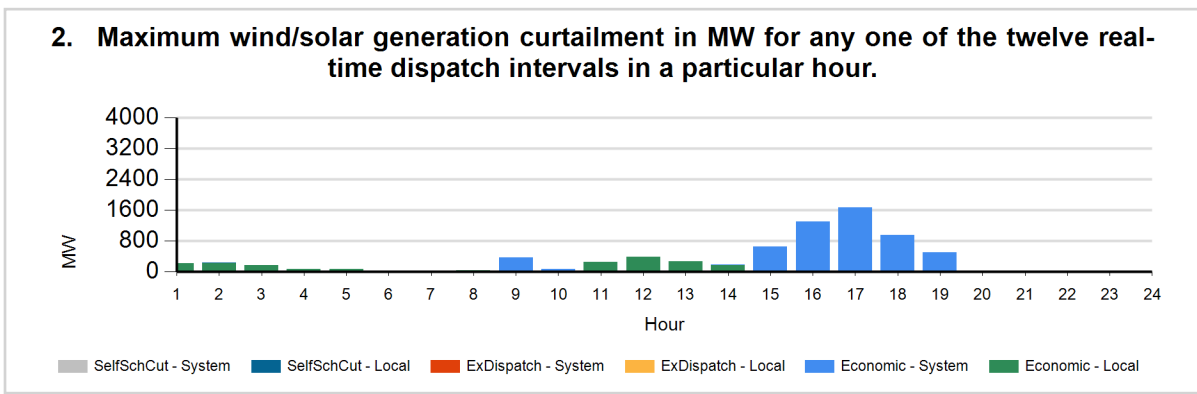
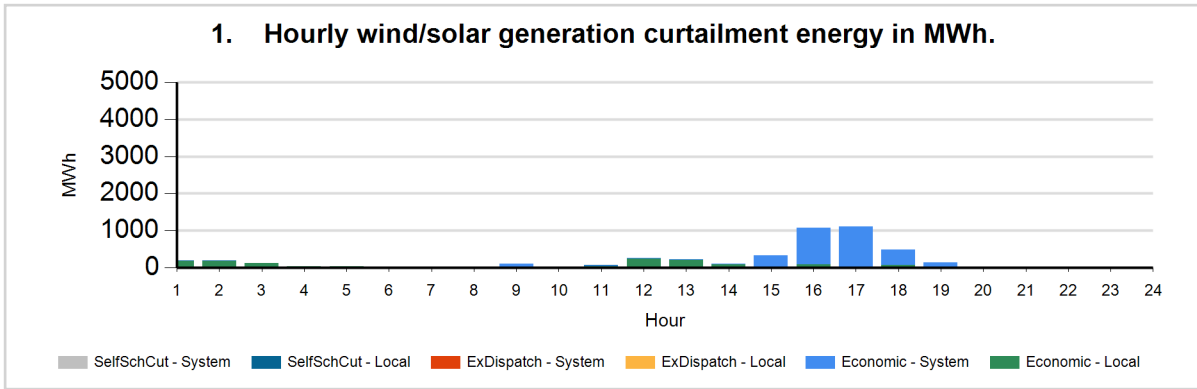
<sup>2</sup>The Renewables Watch report provides daily actual renewable production within the ISO grid. It is available at: <http://www.caiso.com/green/renewableswatch.html>.

<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)

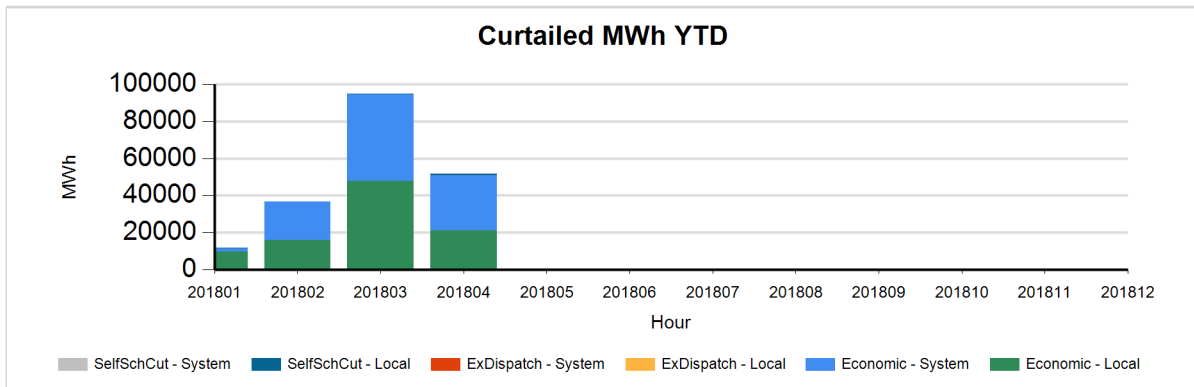
The following charts show the daily and 7-day rolling wind and solar curtailment by category, if any.



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	140,589
LocalSelfSchCut	1,370
SystemEconomic	175,893
SystemSelfSchCut	493
<b>TOTAL</b>	<b>195,415</b>

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/27	1	Economic	Local	WIND	180	211
04/27	2	Economic	Local	WIND	188	218
04/27	2	SelfSchCut	Local	WIND	3	10
04/27	3	Economic	Local	WIND	119	168
04/27	4	Economic	Local	WIND	26	66
04/27	5	Economic	Local	WIND	29	66
04/27	7	Economic	System	SOLR	1	5
04/27	8	Economic	Local	SOLR	16	33
04/27	9	Economic	Local	SOLR	5	3
04/27	9	Economic	System	SOLR	88	353
04/27	9	Economic	System	WIND	4	16
04/27	10	Economic	Local	SOLR	11	12
04/27	10	Economic	System	SOLR	8	44
04/27	10	Economic	System	WIND	1	13
04/27	11	Economic	Local	SOLR	54	257
04/27	12	Economic	Local	SOLR	263	379
04/27	13	Economic	Local	SOLR	221	263
04/27	14	Economic	Local	SOLR	84	162
04/27	14	Economic	System	SOLR	14	19
04/27	15	Economic	Local	SOLR	10	7
04/27	15	Economic	System	SOLR	314	604
04/27	15	Economic	System	WIND	11	31
04/27	16	Economic	Local	SOLR	72	4
04/27	16	Economic	System	SOLR	753	1030
04/27	16	Economic	System	WIND	222	262
04/27	17	Economic	System	SOLR	927	1380
04/27	17	Economic	System	WIND	174	280
04/27	18	Economic	System	SOLR	294	729
04/27	18	Economic	System	WIND	111	226
04/27	19	Economic	System	SOLR	61	235
04/27	19	Economic	System	WIND	80	272
04/27	20	Economic	System	SOLR	0	2

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 Hong Zhou at [hzhou@caiso.com](mailto:hzhou@caiso.com).