

## Wind and Solar Curtailment December 29, 2016

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.

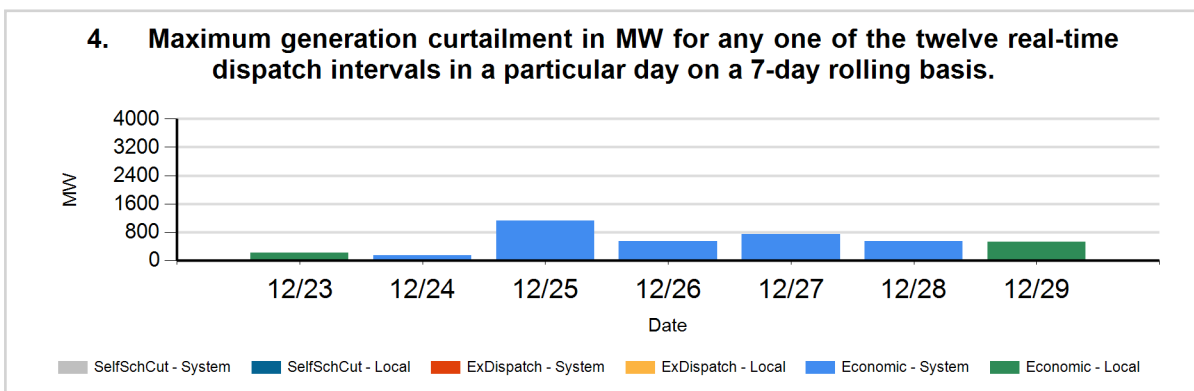
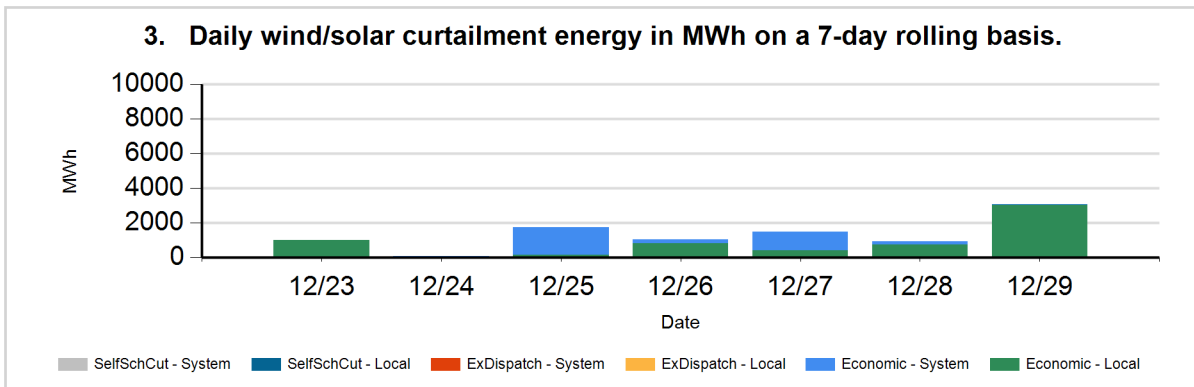
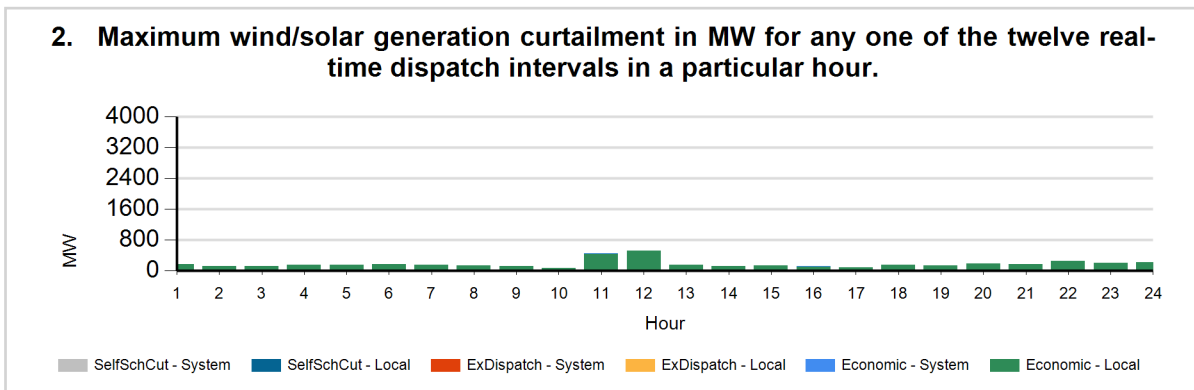
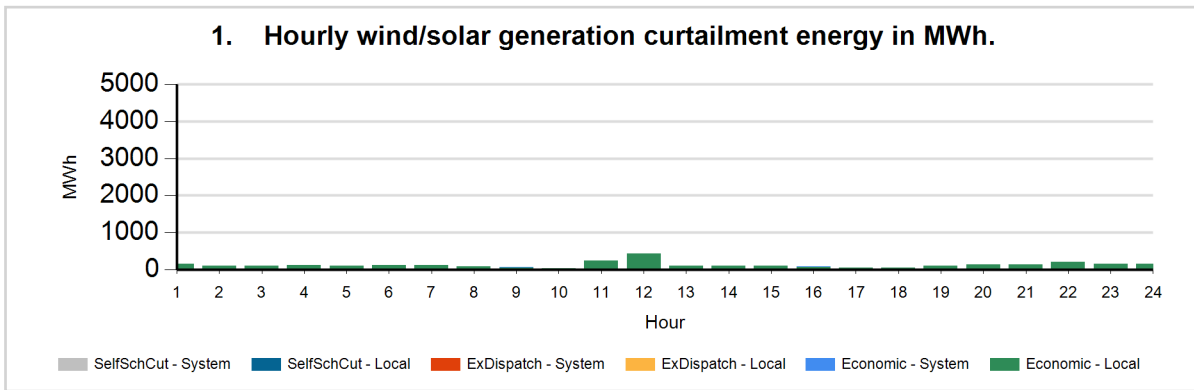
<sup>1</sup>Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

<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.



**Data used to produce hourly charts**

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
12/29	1	Economic	Local	WIND	147	168
12/29	2	Economic	Local	WIND	104	114
12/29	3	Economic	Local	WIND	103	116
12/29	4	Economic	Local	WIND	127	145
12/29	5	Economic	Local	WIND	108	143
12/29	6	Economic	Local	WIND	118	165
12/29	7	Economic	Local	WIND	124	155
12/29	8	Economic	Local	WIND	92	132
12/29	9	Economic	Local	WIND	62	110
12/29	9	Economic	System	SOLR	0	
12/29	9	Economic	System	WIND	3	
12/29	10	Economic	Local	SOLR	6	7
12/29	10	Economic	Local	WIND	26	59
12/29	10	Economic	System	SOLR	0	
12/29	11	Economic	Local	SOLR	125	286
12/29	11	Economic	Local	WIND	120	155
12/29	11	Economic	System	SOLR	0	1
12/29	12	Economic	Local	SOLR	274	372
12/29	12	Economic	Local	WIND	156	152
12/29	12	Economic	System	SOLR	0	
12/29	13	Economic	Local	SOLR	1	
12/29	13	Economic	Local	WIND	109	152
12/29	14	Economic	Local	SOLR	2	1
12/29	14	Economic	Local	WIND	95	112
12/29	14	Economic	System	SOLR	0	
12/29	15	Economic	Local	SOLR	0	
12/29	15	Economic	Local	WIND	97	124
12/29	15	Economic	System	SOLR	0	
12/29	16	Economic	Local	WIND	83	114

12/29	16	Economic	System	SOLR	1	2
12/29	17	Economic	Local	WIND	49	74
12/29	18	Economic	Local	WIND	55	154
12/29	19	Economic	Local	WIND	94	137
12/29	20	Economic	Local	WIND	143	183
12/29	21	Economic	Local	WIND	132	161
12/29	22	Economic	Local	WIND	198	248
12/29	23	Economic	Local	WIND	158	201
12/29	24	Economic	Local	WIND	153	215

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).