

Wind and Solar Curtailment April 23, 2017

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.

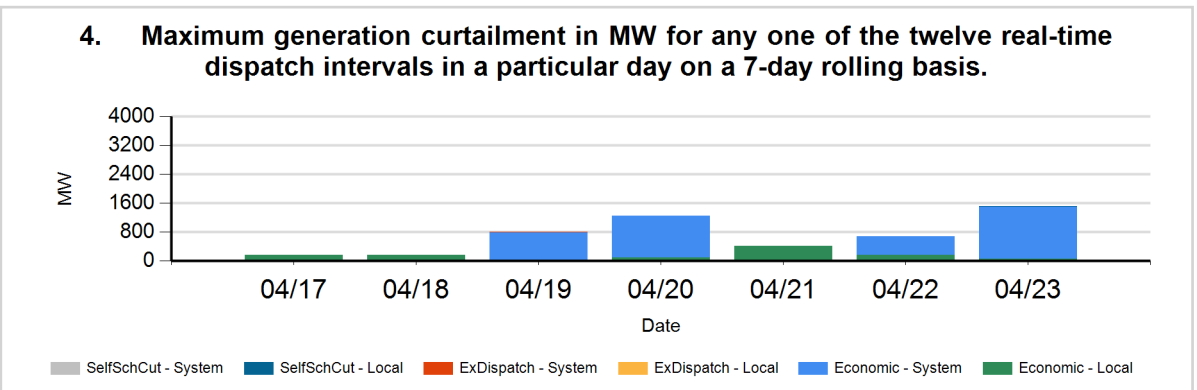
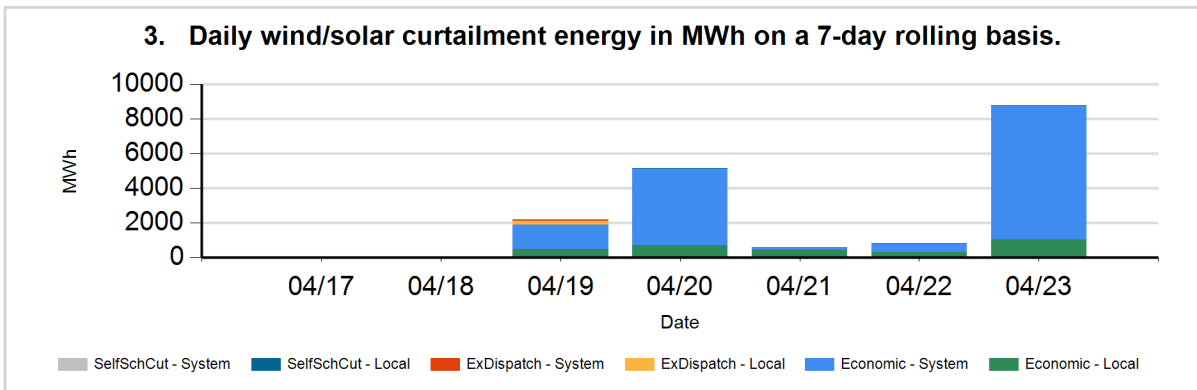
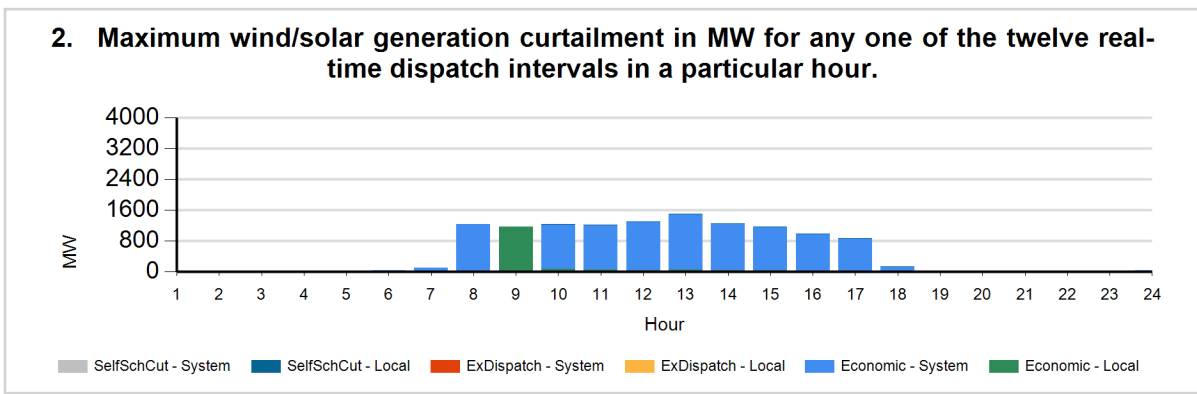
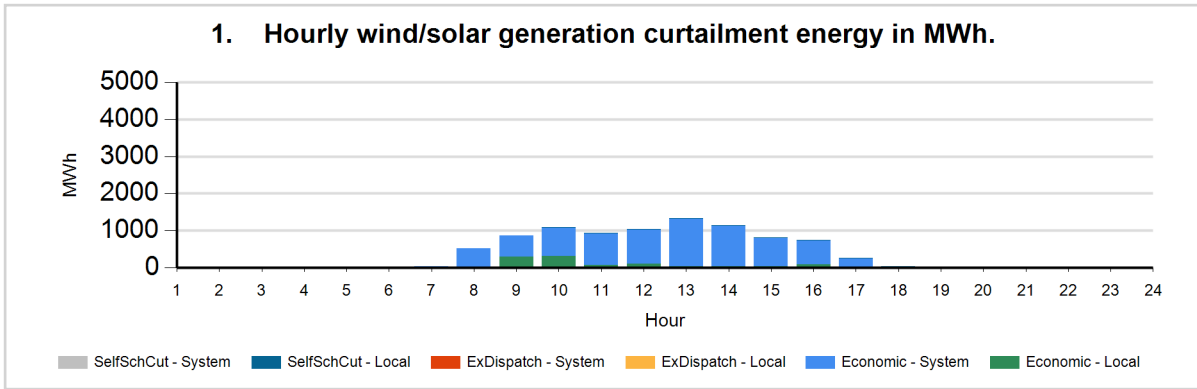
¹Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

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

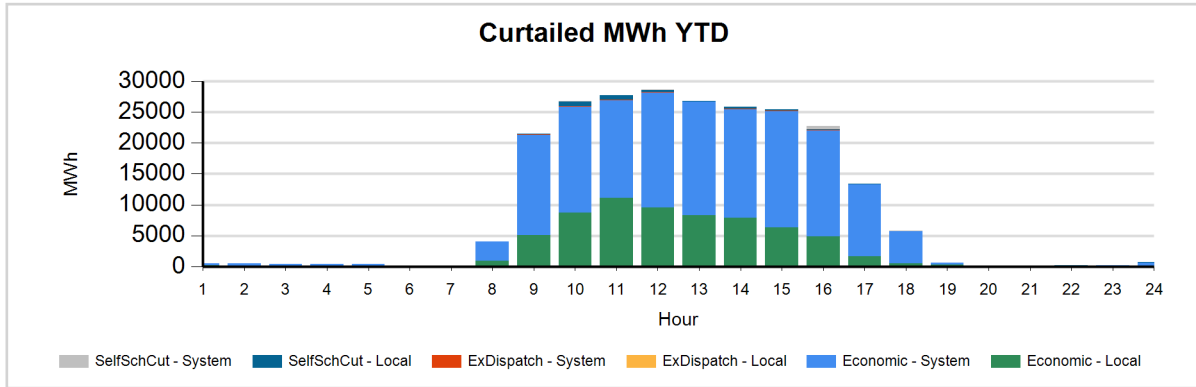
³Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

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

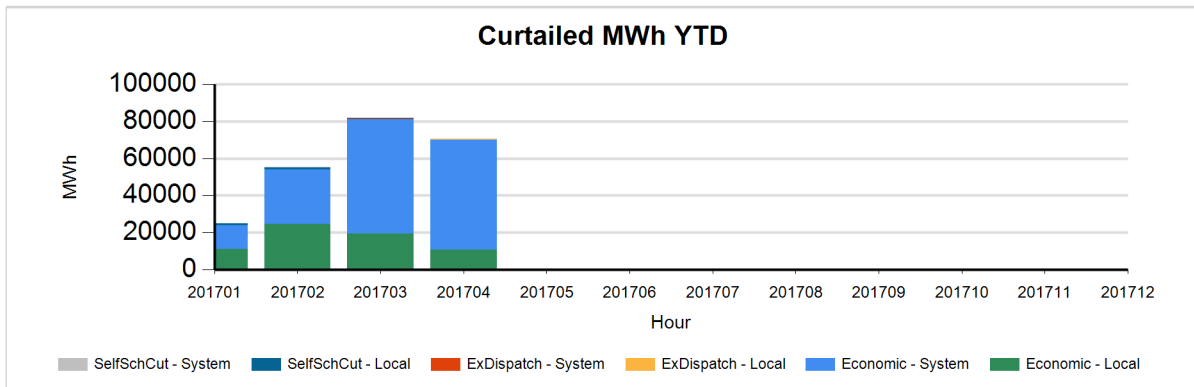
The following charts show the daily and 7-day rolling wind and solar curtailment by category, if any.



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	65,801
LocalExDispatch	272
LocalSelfSchCut	2,831
SystemEconomic	163,287
SystemExDispatch	74
SystemSelfSchCut	550
TOTAL	232,817

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/23	6	Economic	System	WIND	2	24
04/23	7	Economic	Local	SOLR	4	1
04/23	7	Economic	Local	WIND	15	4
04/23	7	Economic	System	SOLR	22	101
04/23	7	Economic	System	WIND	1	
04/23	8	Economic	Local	SOLR	2	
04/23	8	Economic	Local	WIND	9	
04/23	8	Economic	System	SOLR	441	915
04/23	8	Economic	System	WIND	64	326
04/23	9	Economic	Local	SOLR	276	1139
04/23	9	Economic	Local	WIND	8	32
04/23	9	Economic	System	SOLR	571	
04/23	9	Economic	System	WIND	13	
04/23	10	Economic	Local	SOLR	305	62
04/23	10	Economic	Local	WIND	5	
04/23	10	Economic	System	SOLR	760	1167
04/23	10	Economic	System	WIND	9	3
04/23	10	SelfSchCut	Local	SOLR	5	6
04/23	11	Economic	Local	SOLR	66	49
04/23	11	Economic	System	SOLR	851	1154
04/23	11	Economic	System	WIND	8	4
04/23	11	SelfSchCut	Local	SOLR	11	10
04/23	12	Economic	Local	SOLR	108	39
04/23	12	Economic	Local	WIND	0	
04/23	12	Economic	System	SOLR	907	1217
04/23	12	Economic	System	WIND	13	32
04/23	12	SelfSchCut	Local	SOLR	5	4
04/23	13	Economic	Local	SOLR	41	41
04/23	13	Economic	System	SOLR	1252	1427
04/23	13	Economic	System	WIND	14	21
04/23	13	SelfSchCut	Local	SOLR	16	14

04/23	14	Economic	Local	SOLR	38	35
04/23	14	Economic	System	SOLR	1050	1198
04/23	14	Economic	System	WIND	35	0
04/23	14	SelfSchCut	Local	SOLR	14	21
04/23	15	Economic	Local	SOLR	31	39
04/23	15	Economic	System	SOLR	749	1086
04/23	15	Economic	System	WIND	37	31
04/23	15	SelfSchCut	Local	SOLR	3	3
04/23	16	Economic	Local	SOLR	88	20
04/23	16	Economic	Local	WIND	3	
04/23	16	Economic	System	SOLR	613	919
04/23	16	Economic	System	WIND	31	41
04/23	16	SelfSchCut	Local	SOLR	1	2
04/23	17	Economic	Local	SOLR	13	10
04/23	17	Economic	System	SOLR	242	850
04/23	17	Economic	System	WIND	4	10
04/23	17	SelfSchCut	Local	SOLR	1	0
04/23	18	Economic	Local	SOLR	18	8
04/23	18	Economic	System	SOLR	10	119
04/23	18	SelfSchCut	Local	SOLR	2	4
04/23	24	Economic	System	WIND	3	38

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.