

Wind and Solar Curtailment April 19, 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.

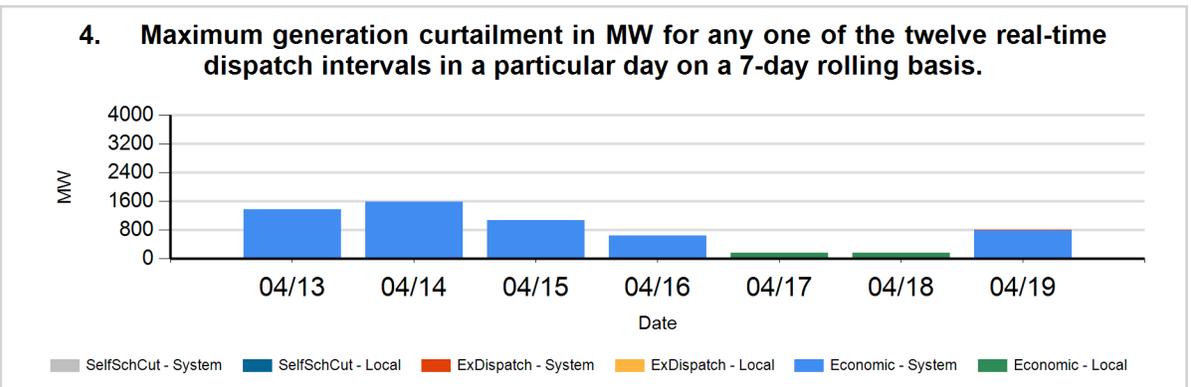
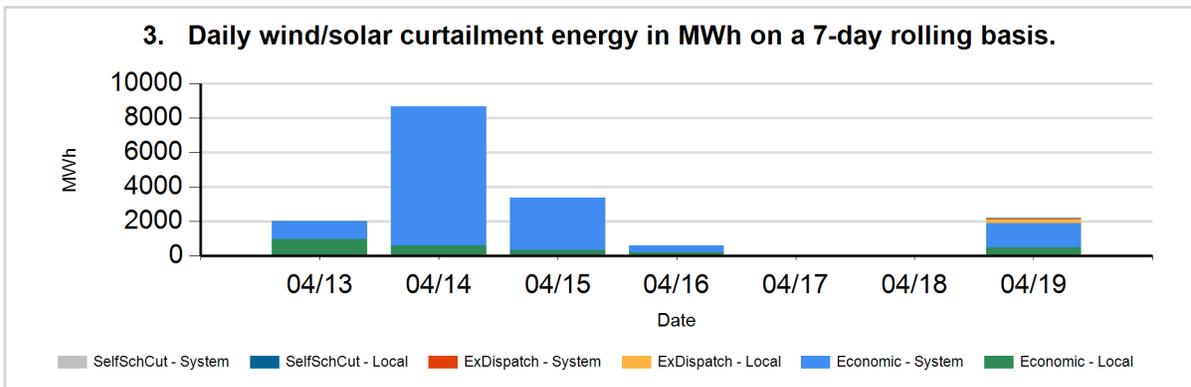
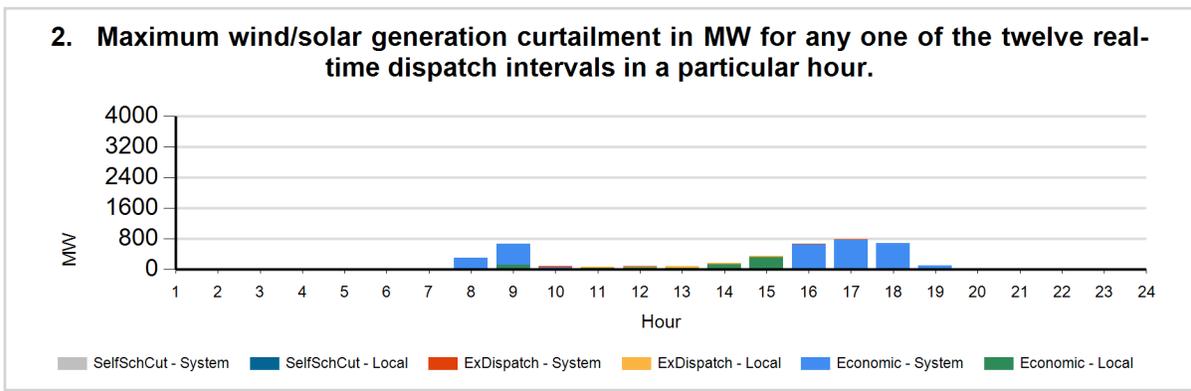
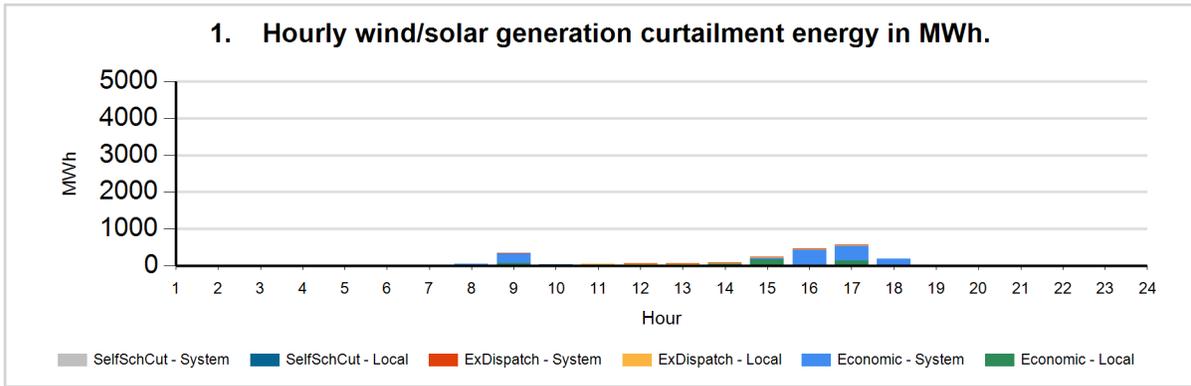
¹Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

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

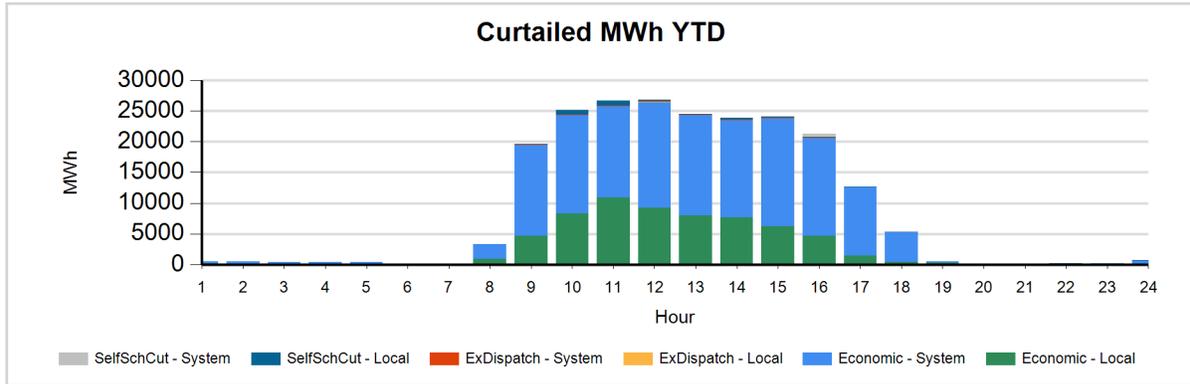
³Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

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

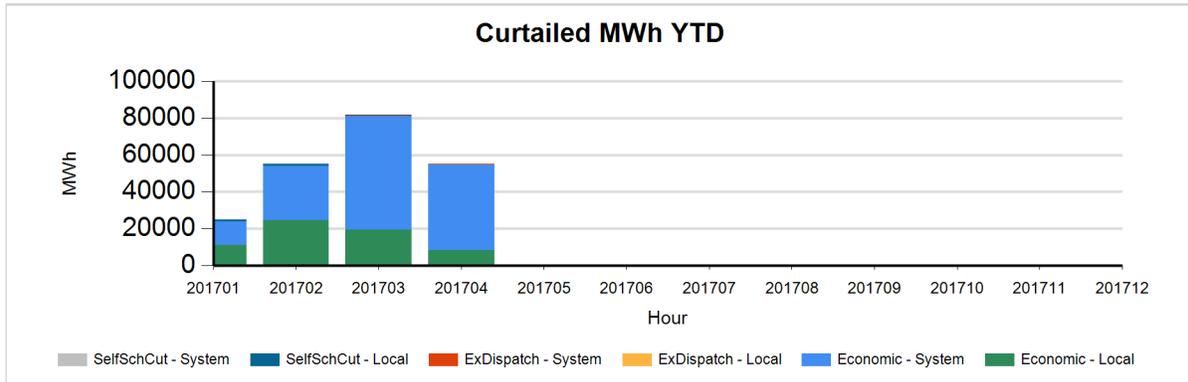
The following charts show the daily and 7-day rolling wind and solar curtailment by category, if any.



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	63,339
LocalExDispatch	272
LocalSelfSchCut	2,770
SystemEconomic	150,485
SystemExDispatch	74
SystemSelfSchCut	550
TOTAL	217,491

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/19	8	Economic	Local	SOLR	1	
04/19	8	Economic	System	SOLR	48	304
04/19	8	Economic	System	WIND	0	0
04/19	9	Economic	Local	SOLR	67	119
04/19	9	Economic	Local	WIND	0	
04/19	9	Economic	System	SOLR	270	544
04/19	9	Economic	System	WIND	0	0
04/19	9	ExDispatch	System	SOLR	2	
04/19	10	Economic	Local	SOLR	5	
04/19	10	Economic	System	SOLR	4	47
04/19	10	ExDispatch	Local	SOLR	16	
04/19	10	ExDispatch	System	SOLR	6	26
04/19	10	SelfSchCut	Local	SOLR	1	
04/19	11	Economic	Local	SOLR	21	39
04/19	11	ExDispatch	Local	SOLR	29	30
04/19	11	ExDispatch	Local	WIND	0	3
04/19	12	Economic	Local	SOLR	22	43
04/19	12	ExDispatch	Local	SOLR	33	30
04/19	12	ExDispatch	Local	WIND	0	
04/19	12	ExDispatch	System	SOLR	3	
04/19	12	ExDispatch	System	WIND	1	3
04/19	13	Economic	Local	SOLR	22	32
04/19	13	ExDispatch	Local	SOLR	41	43
04/19	13	ExDispatch	System	SOLR	2	
04/19	13	SelfSchCut	Local	SOLR	0	
04/19	14	Economic	Local	SOLR	42	128
04/19	14	ExDispatch	Local	SOLR	36	44
04/19	14	ExDispatch	System	SOLR	7	
04/19	15	Economic	Local	SOLR	172	307
04/19	15	Economic	System	SOLR	31	
04/19	15	Economic	System	WIND	1	

04/19	15	ExDispatch	Local	SOLR	39	43
04/19	15	ExDispatch	System	SOLR	5	
04/19	16	Economic	Local	SOLR	6	
04/19	16	Economic	System	SOLR	419	637
04/19	16	Economic	System	WIND	10	16
04/19	16	ExDispatch	Local	SOLR	24	
04/19	16	ExDispatch	System	SOLR	14	14
04/19	16	SelfSchCut	Local	SOLR	0	
04/19	17	Economic	Local	SOLR	134	
04/19	17	Economic	Local	WIND	2	
04/19	17	Economic	System	SOLR	410	768
04/19	17	Economic	System	WIND	5	8
04/19	17	ExDispatch	Local	SOLR	3	
04/19	17	ExDispatch	System	SOLR	11	12
04/19	17	SelfSchCut	Local	SOLR	0	
04/19	18	Economic	System	SOLR	181	676
04/19	18	Economic	System	WIND	3	6
04/19	19	Economic	Local	SOLR	1	
04/19	19	Economic	System	SOLR	19	75
04/19	19	Economic	System	WIND	3	19

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.