

Wind and Solar Curtailment April 20, 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.

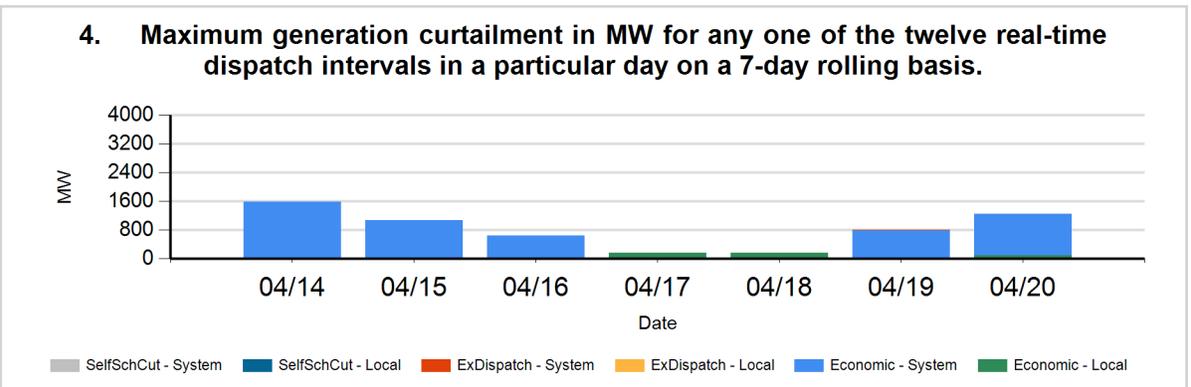
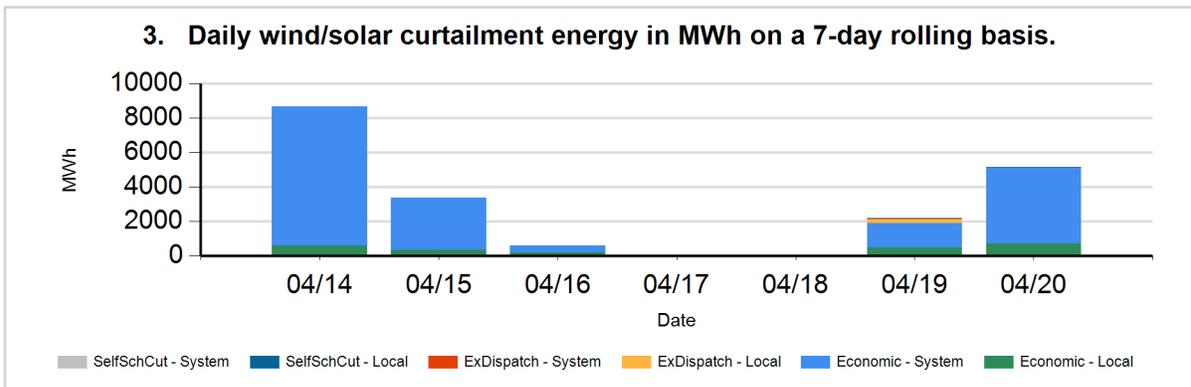
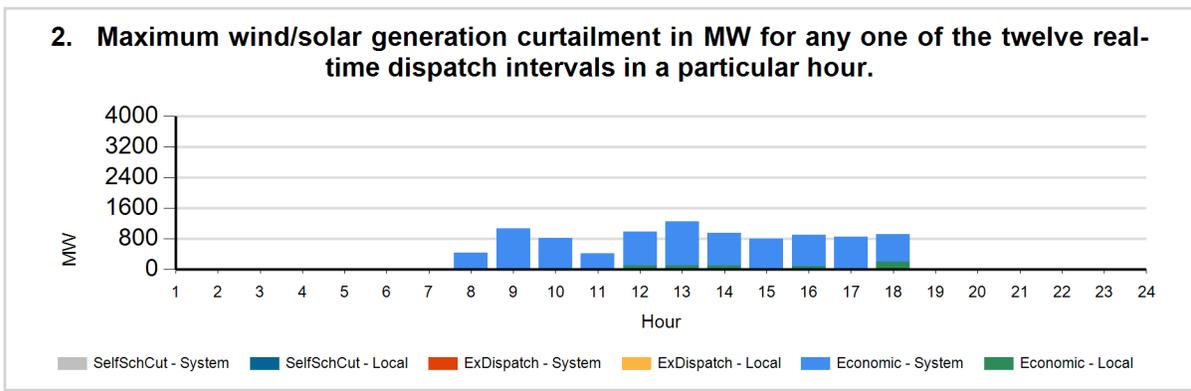
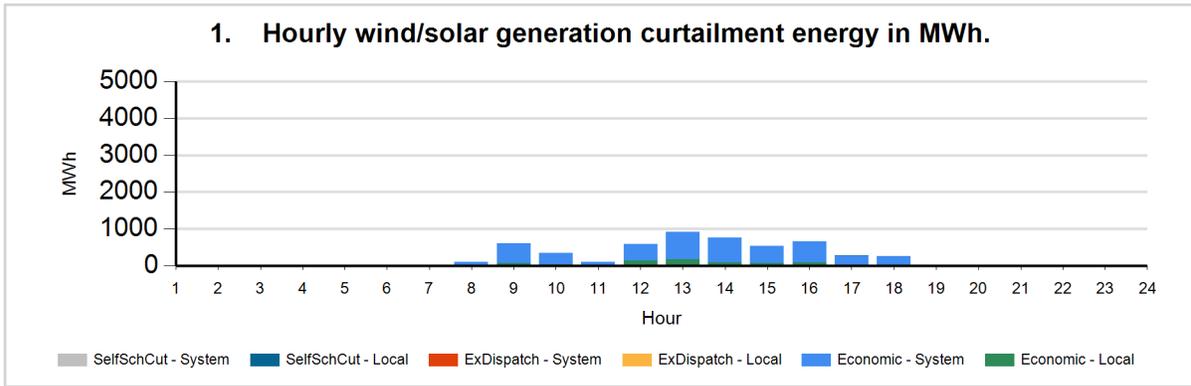
¹Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

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

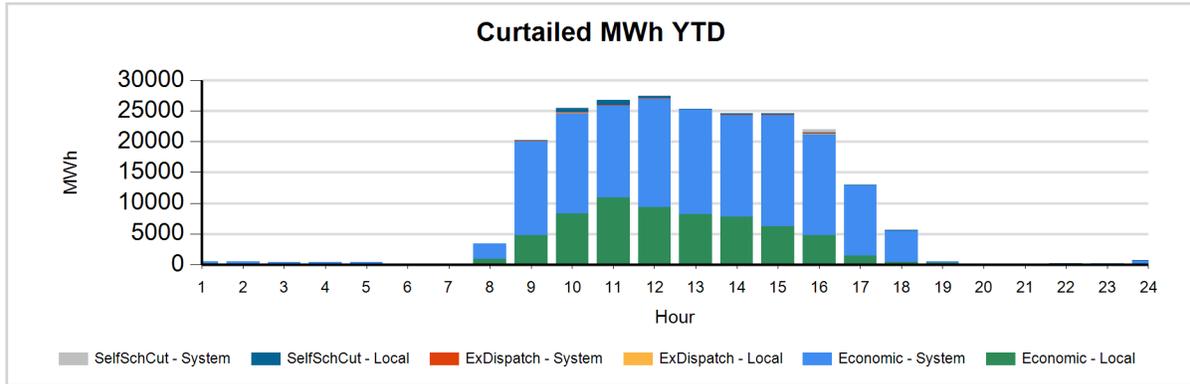
³Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

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

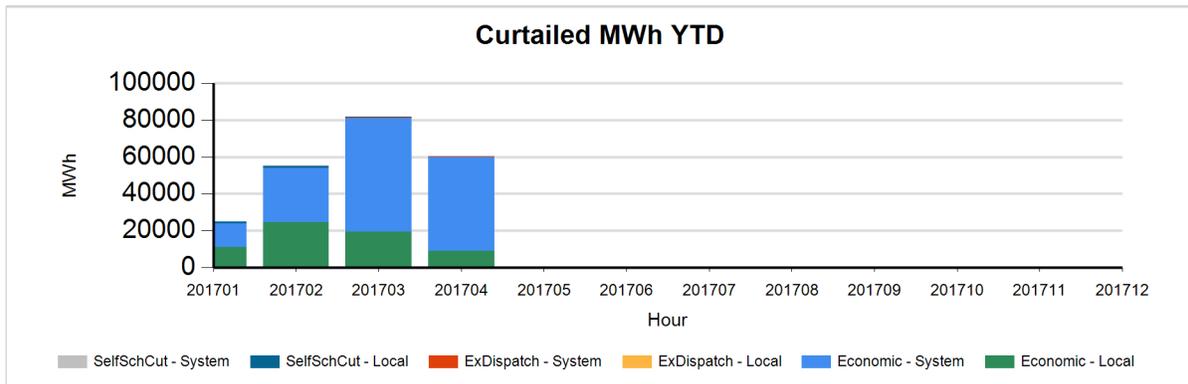
The following charts show the daily and 7-day rolling wind and solar curtailment by category, if any.



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	64,028
LocalExDispatch	272
LocalSelfSchCut	2,771
SystemEconomic	154,932
SystemExDispatch	74
SystemSelfSchCut	550
TOTAL	222,629

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/20	8	Economic	Local	SOLR	16	
04/20	8	Economic	System	SOLR	90	426
04/20	8	Economic	System	WIND	0	0
04/20	9	Economic	Local	SOLR	65	
04/20	9	Economic	Local	WIND	0	
04/20	9	Economic	System	SOLR	533	1059
04/20	9	Economic	System	WIND	1	1
04/20	10	Economic	Local	SOLR	28	19
04/20	10	Economic	System	SOLR	313	803
04/20	10	Economic	System	WIND	1	1
04/20	10	SelfSchCut	Local	SOLR	0	
04/20	11	Economic	Local	SOLR	17	
04/20	11	Economic	System	SOLR	77	409
04/20	11	Economic	System	WIND	0	0
04/20	12	Economic	Local	SOLR	131	91
04/20	12	Economic	System	SOLR	451	892
04/20	12	Economic	System	WIND	0	0
04/20	12	SelfSchCut	Local	SOLR	0	
04/20	13	Economic	Local	SOLR	165	92
04/20	13	Economic	Local	WIND	0	
04/20	13	Economic	System	SOLR	749	1154
04/20	13	Economic	System	WIND	0	0
04/20	13	SelfSchCut	Local	SOLR	0	
04/20	14	Economic	Local	SOLR	82	92
04/20	14	Economic	System	SOLR	678	855
04/20	14	Economic	System	WIND	0	0
04/20	14	SelfSchCut	Local	SOLR	0	
04/20	15	Economic	Local	SOLR	59	
04/20	15	Economic	System	SOLR	471	806
04/20	15	Economic	System	WIND	0	0
04/20	16	Economic	Local	SOLR	83	82

04/20	16	Economic	System	SOLR	579	817
04/20	16	Economic	System	WIND	0	
04/20	17	Economic	Local	SOLR	21	18
04/20	17	Economic	System	SOLR	255	825
04/20	17	SelfSchCut	Local	SOLR	1	
04/20	18	Economic	Local	SOLR	21	201
04/20	18	Economic	Local	WIND	0	1
04/20	18	Economic	System	SOLR	244	716
04/20	18	Economic	System	WIND	1	
04/20	19	Economic	Local	SOLR	1	
04/20	19	Economic	System	SOLR	5	10

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.