

Wind and Solar Curtailment April 28, 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.

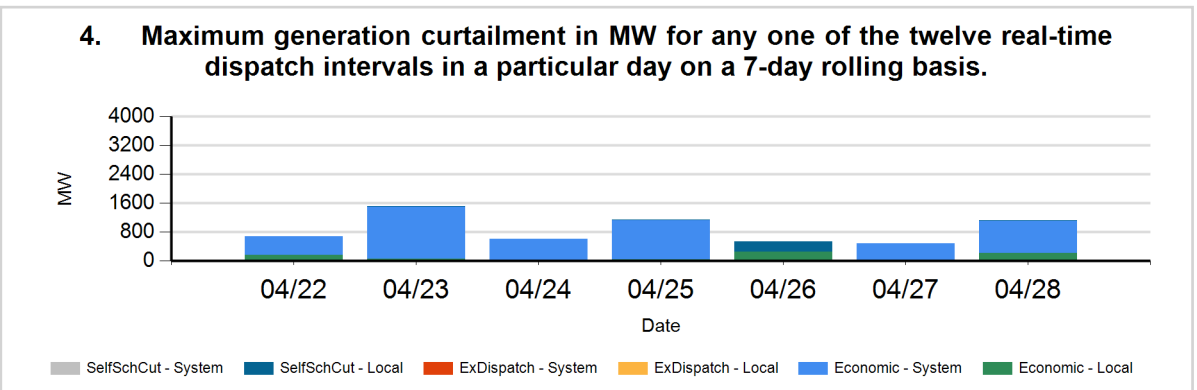
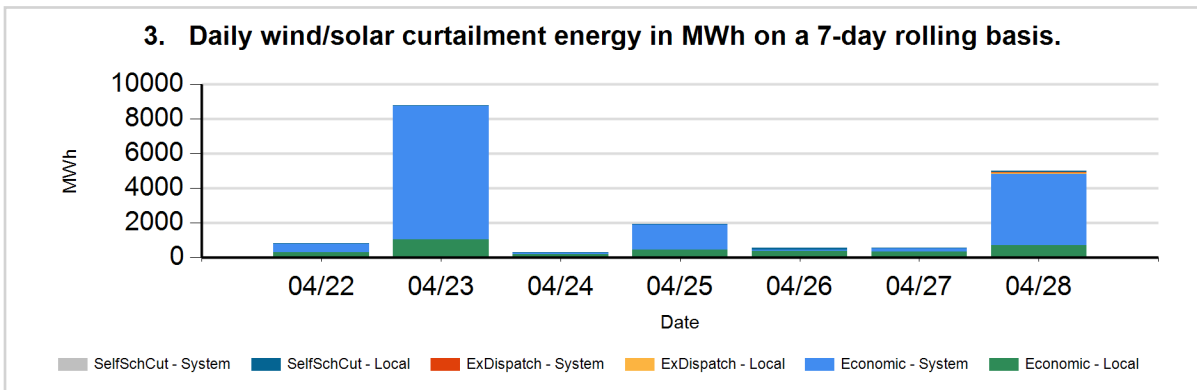
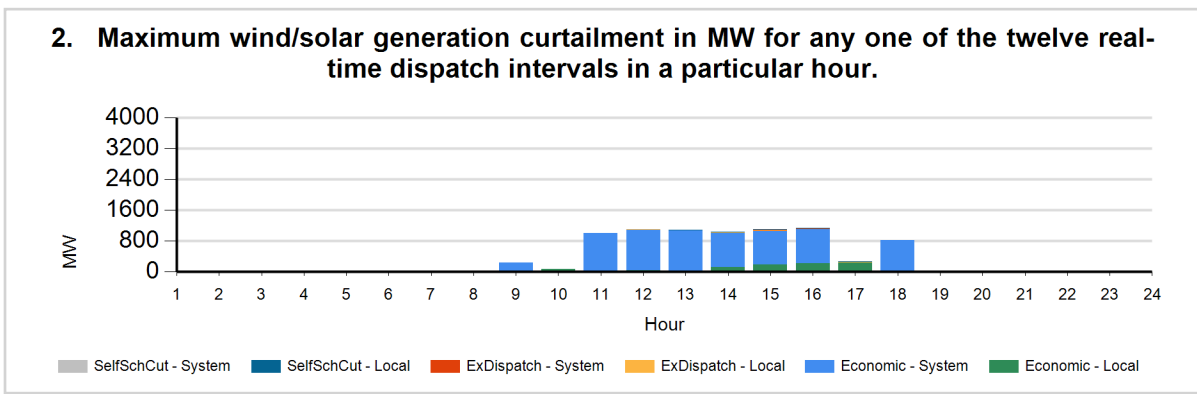
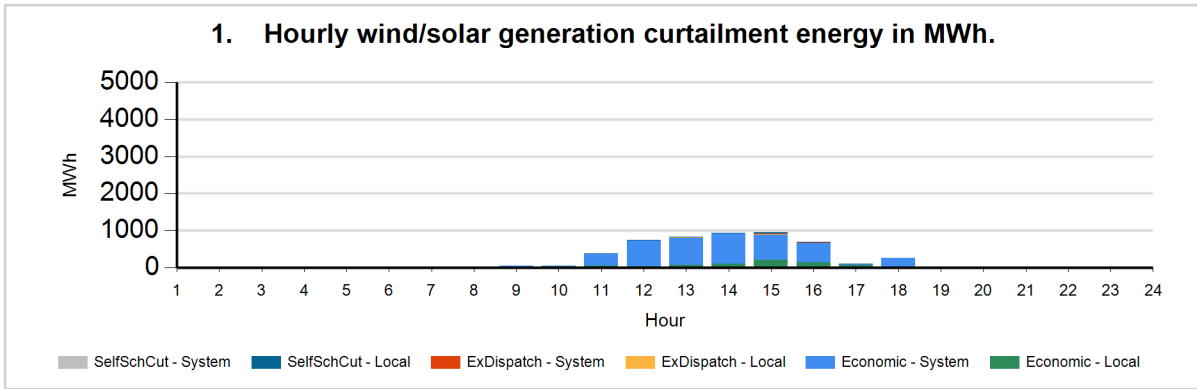
¹Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

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

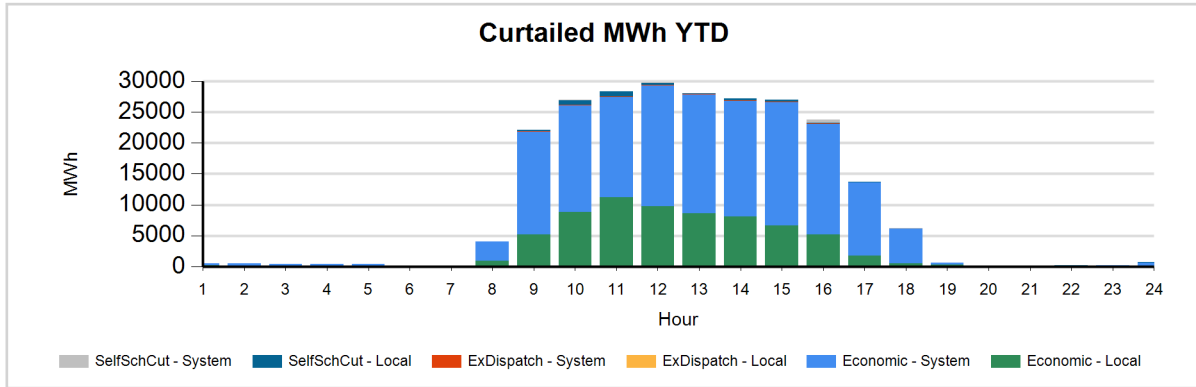
³Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

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

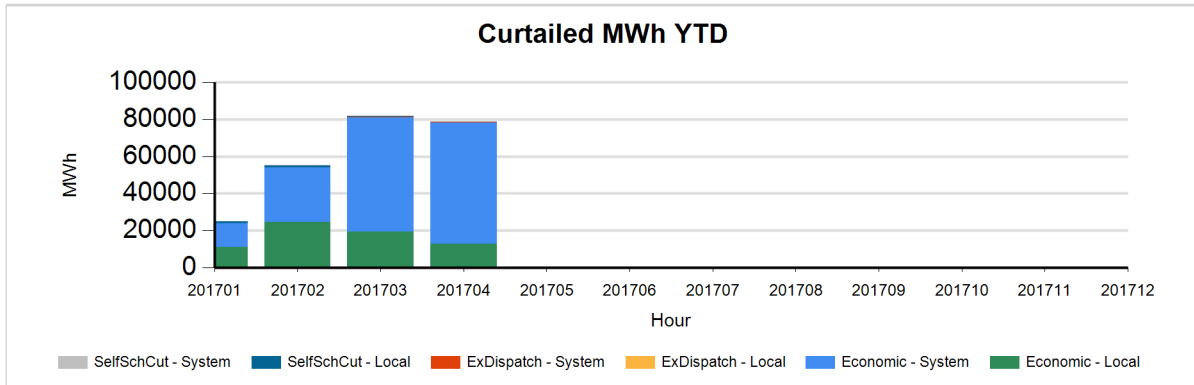
The following charts show the daily and 7-day rolling wind and solar curtailment by category, if any.



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	67,829
LocalExDispatch	369
LocalSelfSchCut	3,062
SystemEconomic	169,194
SystemExDispatch	99
SystemSelfSchCut	550
TOTAL	241,103

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/28	8	Economic	Local	SOLR	0	
04/28	8	Economic	System	SOLR	1	6
04/28	9	Economic	Local	SOLR	11	11
04/28	9	Economic	System	SOLR	38	207
04/28	9	Economic	System	WIND	6	21
04/28	10	Economic	Local	SOLR	40	67
04/28	10	Economic	System	SOLR	3	
04/28	11	Economic	Local	SOLR	42	21
04/28	11	Economic	System	SOLR	309	908
04/28	11	Economic	System	WIND	32	77
04/28	11	SelfSchCut	Local	SOLR	2	
04/28	12	Economic	Local	SOLR	36	35
04/28	12	Economic	System	SOLR	644	1009
04/28	12	Economic	System	WIND	43	44
04/28	12	ExDispatch	Local	SOLR	11	16
04/28	12	SelfSchCut	Local	SOLR	2	
04/28	13	Economic	Local	SOLR	58	10
04/28	13	Economic	Local	WIND	3	
04/28	13	Economic	System	SOLR	720	1017
04/28	13	Economic	System	WIND	23	33
04/28	13	ExDispatch	Local	SOLR	17	17
04/28	13	SelfSchCut	Local	SOLR	5	5
04/28	14	Economic	Local	SOLR	81	98
04/28	14	Economic	Local	WIND	16	17
04/28	14	Economic	System	SOLR	812	890
04/28	14	Economic	System	WIND	1	2
04/28	14	ExDispatch	Local	SOLR	17	17
04/28	14	SelfSchCut	Local	SOLR	8	10
04/28	15	Economic	Local	SOLR	49	21
04/28	15	Economic	Local	WIND	152	167
04/28	15	Economic	System	SOLR	686	858

04/28	15	Economic	System	WIND	0	
04/28	15	ExDispatch	Local	SOLR	17	17
04/28	15	ExDispatch	System	SOLR	6	14
04/28	15	ExDispatch	System	WIND	0	0
04/28	15	SelfSchCut	Local	SOLR	3	2
04/28	15	SelfSchCut	Local	WIND	38	27
04/28	16	Economic	Local	SOLR	56	86
04/28	16	Economic	Local	WIND	85	124
04/28	16	Economic	System	SOLR	514	876
04/28	16	Economic	System	WIND	5	13
04/28	16	ExDispatch	Local	SOLR	10	17
04/28	16	ExDispatch	System	SOLR	9	2
04/28	16	SelfSchCut	Local	SOLR	6	7
04/28	17	Economic	Local	SOLR	40	204
04/28	17	Economic	Local	WIND	31	33
04/28	17	Economic	System	SOLR	20	
04/28	17	ExDispatch	Local	SOLR	5	16
04/28	17	ExDispatch	System	SOLR	4	
04/28	17	SelfSchCut	Local	SOLR	4	5
04/28	18	Economic	Local	SOLR	6	
04/28	18	Economic	Local	WIND	2	
04/28	18	Economic	System	SOLR	252	809
04/28	18	Economic	System	WIND	2	12
04/28	19	Economic	Local	SOLR	1	7
04/28	19	Economic	System	SOLR	1	

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.



California ISO