

Wind and Solar Curtailment April 30, 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.

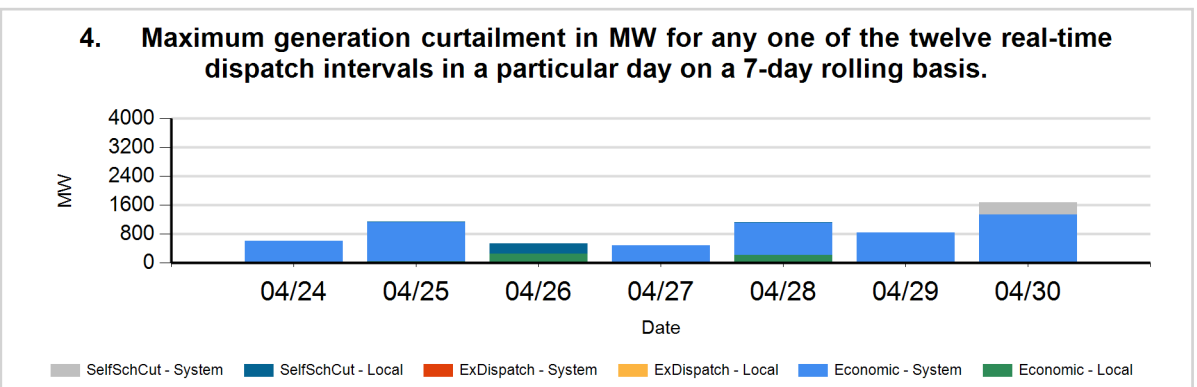
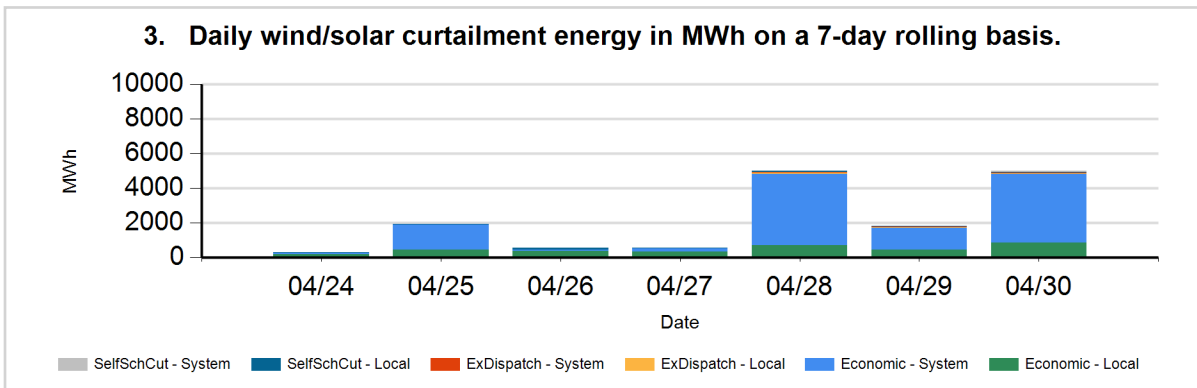
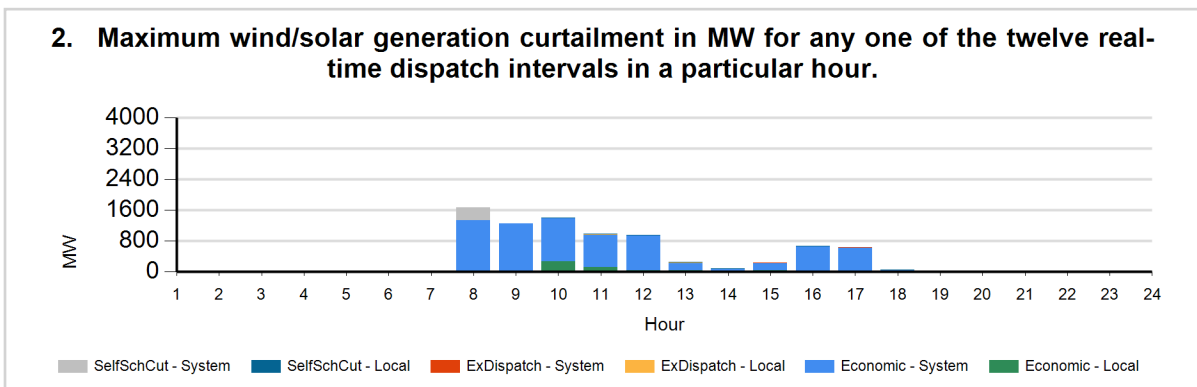
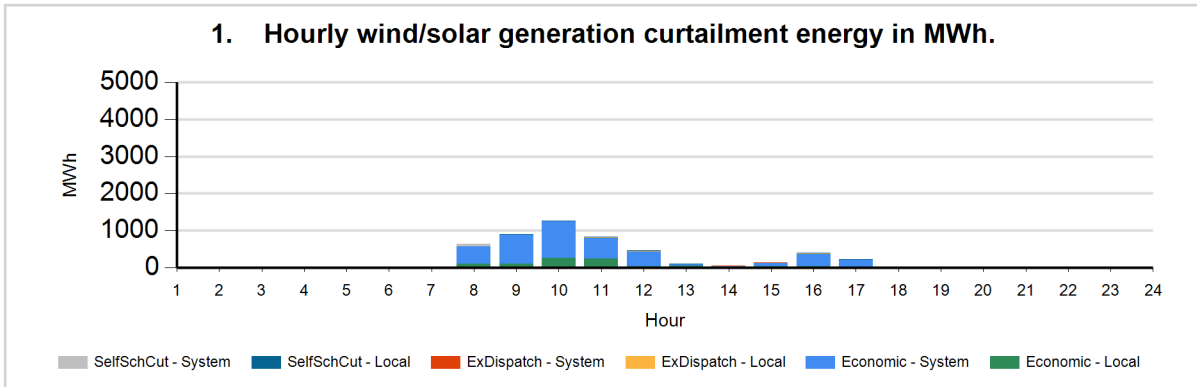
¹Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

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

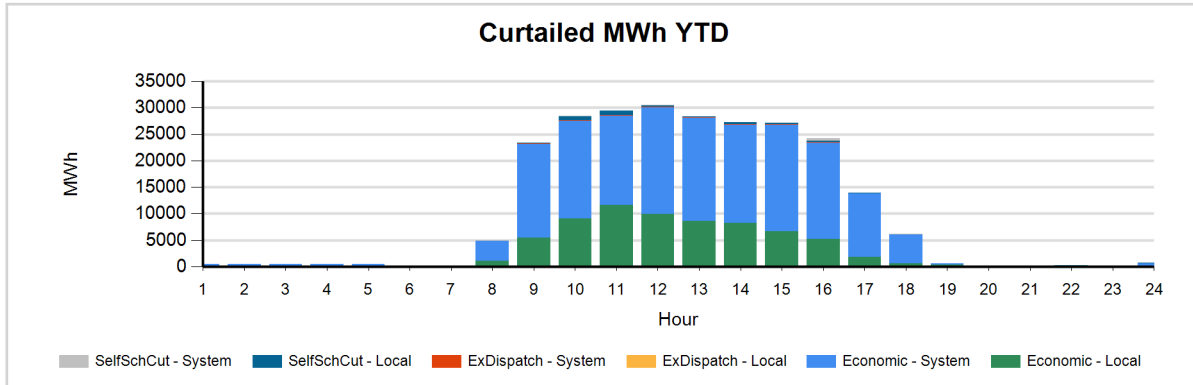
³Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

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

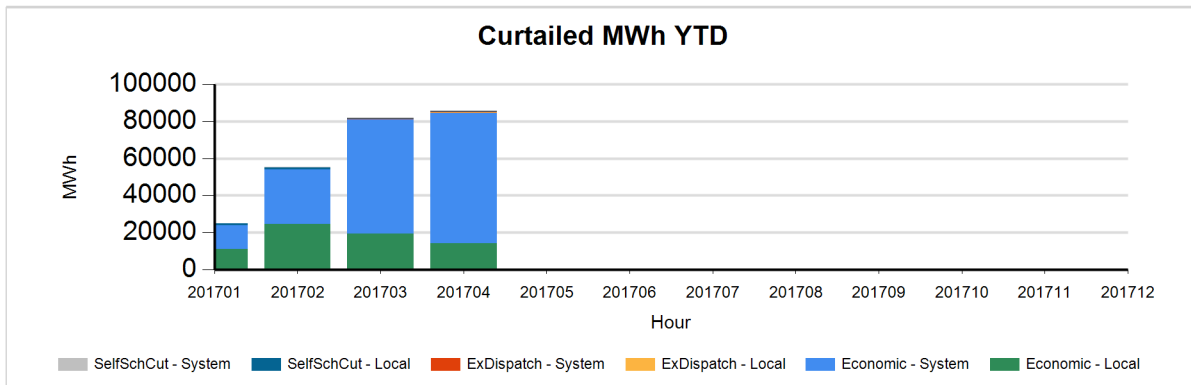
The following charts show the daily and 7-day rolling wind and solar curtailment by category, if any.



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	69,121
LocalExDispatch	505
LocalSelfSchCut	3,123
SystemEconomic	174,411
SystemExDispatch	142
SystemSelfSchCut	612
TOTAL	247,913

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/30	7	Economic	Local	SOLR	0	
04/30	7	Economic	System	SOLR	0	1
04/30	8	Economic	Local	SOLR	93	
04/30	8	Economic	Local	WIND	4	
04/30	8	Economic	System	SOLR	444	1215
04/30	8	Economic	System	WIND	30	111
04/30	8	SelfSchCut	System	SOLR	30	171
04/30	8	SelfSchCut	System	WIND	31	178
04/30	9	Economic	Local	SOLR	95	
04/30	9	Economic	System	SOLR	795	1212
04/30	9	Economic	System	WIND	3	36
04/30	9	SelfSchCut	Local	SOLR	1	
04/30	10	Economic	Local	SOLR	253	260
04/30	10	Economic	System	SOLR	1011	1133
04/30	10	Economic	System	WIND	0	0
04/30	10	ExDispatch	Local	SOLR	0	
04/30	10	SelfSchCut	Local	SOLR	6	9
04/30	11	Economic	Local	SOLR	235	110
04/30	11	Economic	Local	WIND	0	
04/30	11	Economic	System	SOLR	571	852
04/30	11	Economic	System	WIND	0	0
04/30	11	ExDispatch	Local	SOLR	7	7
04/30	11	SelfSchCut	Local	SOLR	8	8
04/30	12	Economic	Local	SOLR	31	32
04/30	12	Economic	System	SOLR	407	903
04/30	12	Economic	System	WIND	0	0
04/30	12	ExDispatch	Local	SOLR	9	8
04/30	12	SelfSchCut	Local	SOLR	12	8
04/30	13	Economic	Local	SOLR	42	31
04/30	13	Economic	System	SOLR	46	184
04/30	13	ExDispatch	Local	SOLR	19	14

04/30	13	SelfSchCut	Local	SOLR	3	13
04/30	14	Economic	Local	SOLR	23	13
04/30	14	Economic	System	SOLR	4	50
04/30	14	ExDispatch	Local	SOLR	16	13
04/30	14	ExDispatch	System	SOLR	4	7
04/30	14	SelfSchCut	Local	SOLR	0	0
04/30	15	Economic	Local	SOLR	39	26
04/30	15	Economic	System	SOLR	82	191
04/30	15	ExDispatch	Local	SOLR	14	12
04/30	15	ExDispatch	System	SOLR	4	7
04/30	15	SelfSchCut	Local	SOLR	0	
04/30	16	Economic	Local	SOLR	27	16
04/30	16	Economic	System	SOLR	357	640
04/30	16	Economic	System	WIND	0	0
04/30	16	ExDispatch	Local	SOLR	3	5
04/30	16	ExDispatch	System	SOLR	9	7
04/30	16	SelfSchCut	Local	SOLR	1	0
04/30	17	Economic	Local	SOLR	9	18
04/30	17	Economic	System	SOLR	205	608
04/30	17	ExDispatch	System	SOLR	1	4
04/30	17	SelfSchCut	Local	SOLR	1	
04/30	18	Economic	Local	SOLR	0	2
04/30	18	Economic	System	SOLR	6	38
04/30	18	SelfSchCut	Local	SOLR	0	3
04/30	20	SelfSchCut	Local	SOLR	0	0

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.

