Wind and Solar Curtailment April 20, 2019

This report is produced daily to provide a detailed accounting of the wind and solar renewable generation that was curtailed and the reasons why[1]. This report should be read in the context of the Renewables Watch report for a more complete understanding of both renewable curtailment and generation[2].

Wind and solar curtailments are grouped into the following categories:

1. Economic - Local: Market dispatch of generators with economic bids to mitigate local congestion[3].
2. Economic - System: Market dispatch of generators with economic bids to mitigate system-wide oversupply.
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.

[1]Only 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.

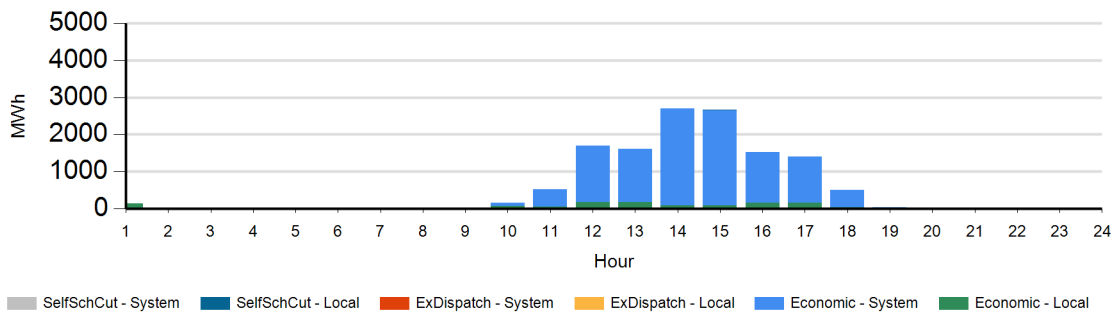
[2]The Renewables Watch report provides daily actual renewable production within the ISO grid. It is available at: http://www.caiso.com/green/renewableswatch.html.

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

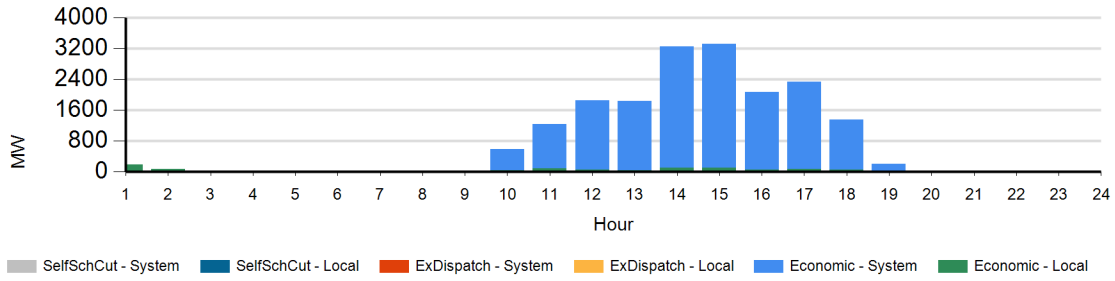
For more information on oversupply conditions, please see: https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

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

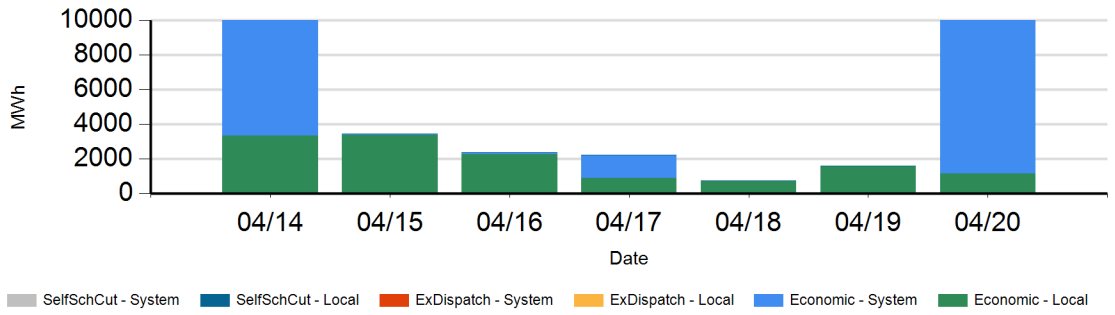
1. Hourly wind/solar generation curtailment energy in MWh.



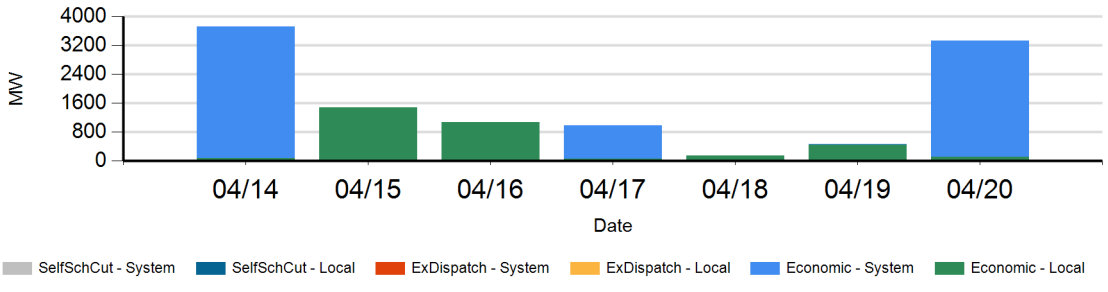
2. Maximum wind/solar generation curtailment in MW for any one of the twelve real-time dispatch intervals in a particular hour.



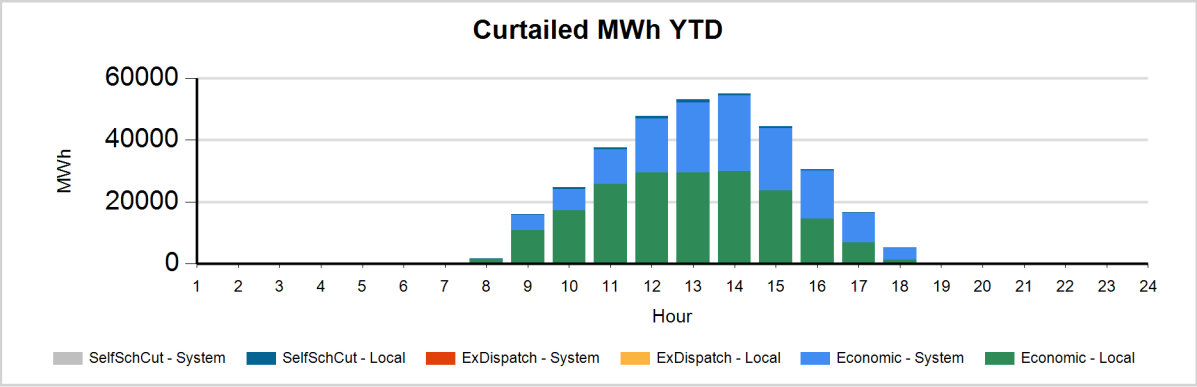
3. Daily wind/solar curtailment energy in MWh on a 7-day rolling basis.



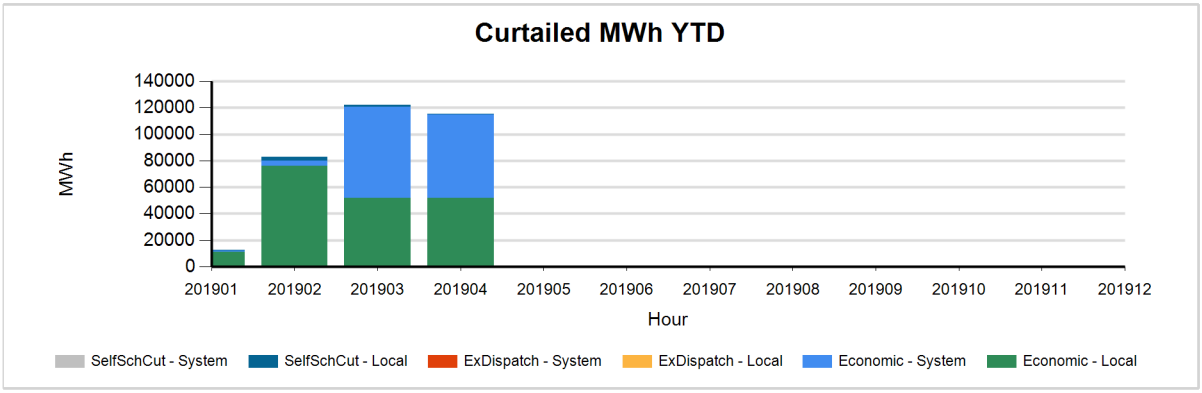
4. Maximum generation curtailment in MW for any one of the twelve real-time dispatch intervals in a particular day on a 7-day rolling basis.



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	190,912
LocalSelfSchCut	5,315
SystemEconomic	136,673
TOTAL	332,900

California ISO

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/20	1	Economic	Local	WIND	130	173
04/20	2	Economic	Local	WIND	23	59
04/20	3	Economic	Local	WIND	1	11
04/20	9	Economic	Local	SOLR	7	13
04/20	9	Economic	System	SOLR	0	5
04/20	10	Economic	Local	SOLR	66	31
04/20	10	Economic	System	SOLR	74	514
04/20	10	Economic	System	WIND	7	40
04/20	11	Economic	Local	SOLR	46	76
04/20	11	Economic	System	SOLR	441	1122
04/20	11	Economic	System	WIND	30	42
04/20	12	Economic	Local	SOLR	175	53
04/20	12	Economic	System	SOLR	1470	1753
04/20	12	Economic	System	WIND	40	43
04/20	13	Economic	Local	SOLR	168	40
04/20	13	Economic	System	SOLR	1388	1756
04/20	13	Economic	System	WIND	40	44
04/20	14	Economic	Local	SOLR	89	98
04/20	14	Economic	System	SOLR	2550	3067
04/20	14	Economic	System	WIND	60	96
04/20	15	Economic	Local	SOLR	84	96
04/20	15	Economic	System	SOLR	2524	3122
04/20	15	Economic	System	WIND	57	105
04/20	16	Economic	Local	SOLR	147	56
04/20	16	Economic	System	SOLR	1330	1978
04/20	16	Economic	System	WIND	40	34
04/20	17	Economic	Local	SOLR	145	65
04/20	17	Economic	System	SOLR	1191	2175
04/20	17	Economic	System	WIND	52	93
04/20	18	Economic	Local	SOLR	32	42
04/20	18	Economic	System	SOLR	443	1255

04/20	18	Economic	System	WIND	22	51
04/20	19	Economic	Local	SOLR	15	1
04/20	19	Economic	System	SOLR	16	190
04/20	19	Economic	System	WIND	0	2
04/20	20	Economic	System	SOLR	0	5