Wind and Solar Curtailment April 29, 2018

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.

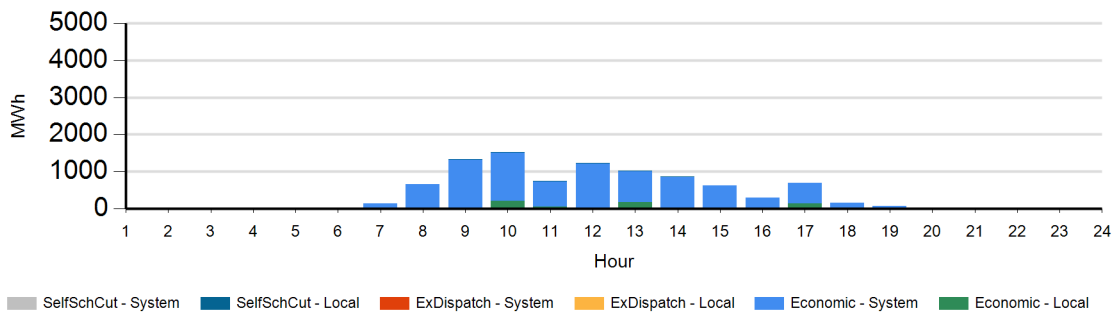
[2]The Renewables Watch report provides daily actual renewable production within the ISO grid. It is available at: http://www.caiso.com/green/renewableswatch.html.

[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.

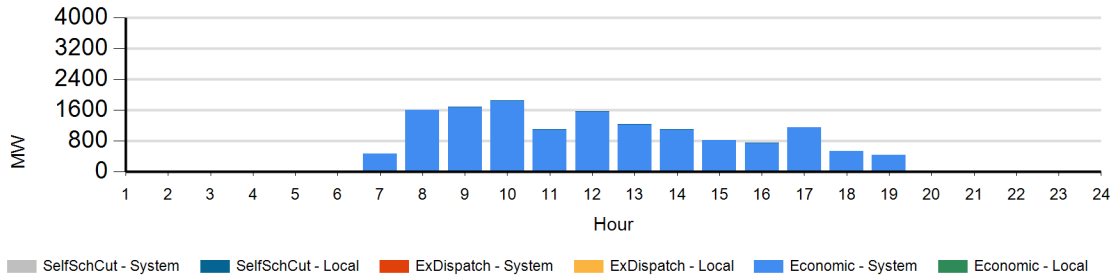
For more information on oversupply conditions, please see:
https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

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

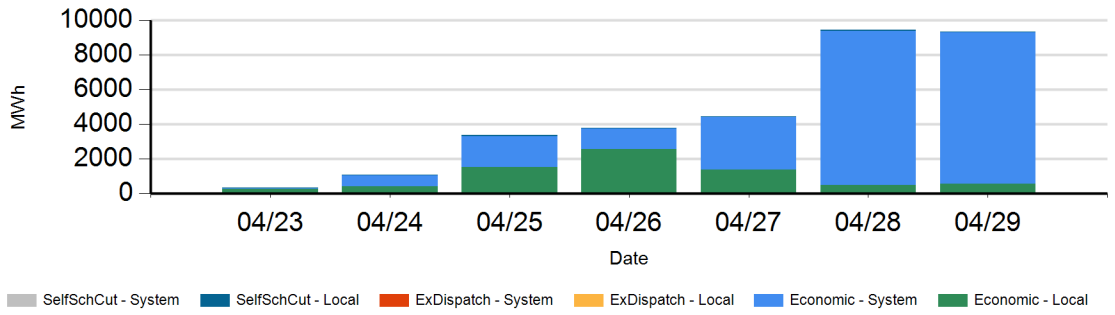
1. Hourly wind/solar generation curtailment energy in MWh.



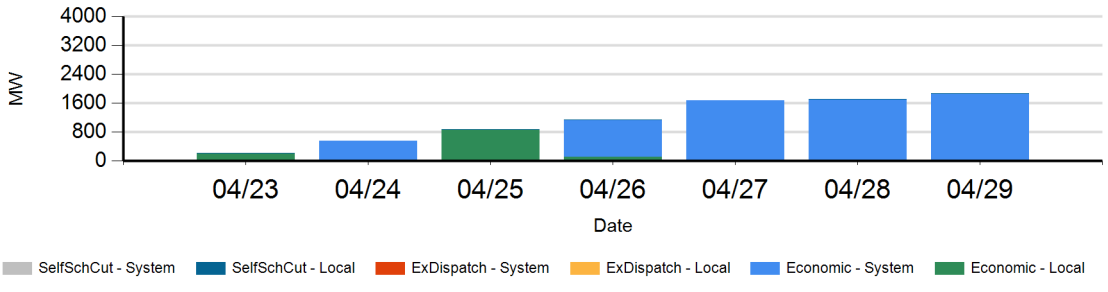
2. Maximum wind/solar generation curtailment in MW for any one of the twelve real-time dispatch intervals in a particular hour.



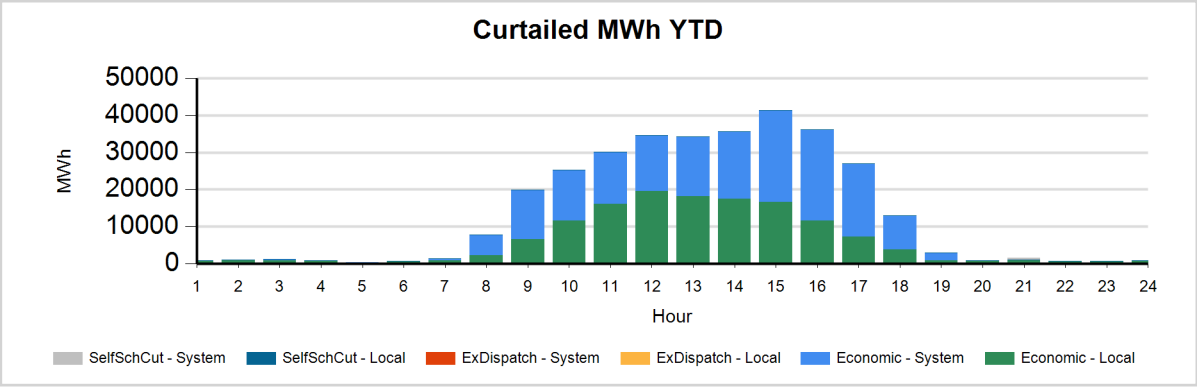
3. Daily wind/solar curtailment energy in MWh on a 7-day rolling basis.



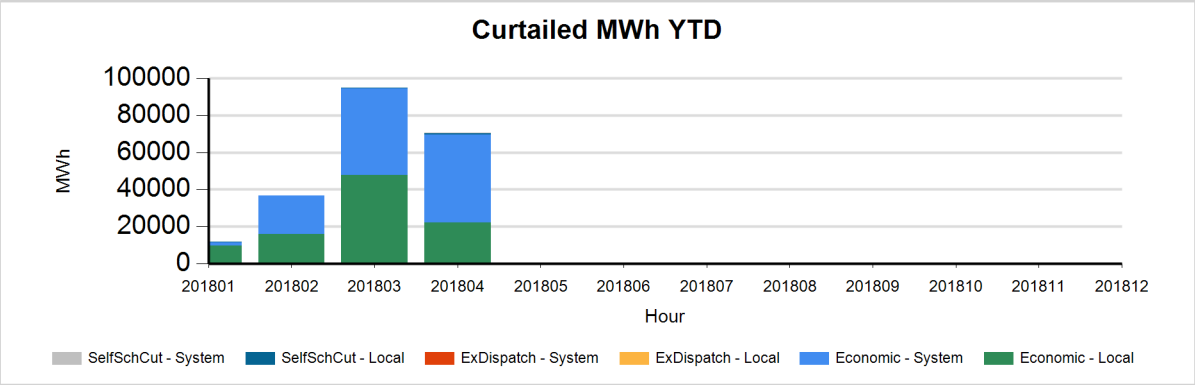
4. Maximum generation curtailment in MW for any one of the twelve real-time dispatch intervals in a particular day on a 7-day rolling basis.



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	140,589
LocalSelfSchCut	1,370
SystemEconomic	175,893
SystemSelfSchCut	493
TOTAL	214,171

California ISO

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
04/29	7	Economic	System	SOLR	48	196
04/29	7	Economic	System	WIND	96	274
04/29	8	Economic	System	SOLR	498	1319
04/29	8	Economic	System	WIND	163	274
04/29	9	Economic	System	SOLR	1071	1433
04/29	9	Economic	System	WIND	252	255
04/29	9	SelfSchCut	Local	SOLR	2	4
04/29	10	Economic	System	SOLR	1091	1560
04/29	10	Economic	System	WIND	228	283
04/29	10	SelfSchCut	Local	SOLR	9	14
04/29	11	Economic	Local	SOLR	36	4
04/29	11	Economic	System	SOLR	498	766
04/29	11	Economic	System	WIND	187	324
04/29	11	SelfSchCut	Local	SOLR	3	6
04/29	12	Economic	System	SOLR	964	1256
04/29	12	Economic	System	WIND	256	300
04/29	12	SelfSchCut	Local	SOLR	8	3
04/29	13	Economic	System	SOLR	718	915
04/29	13	Economic	System	WIND	127	302
04/29	13	SelfSchCut	Local	SOLR	6	9
04/29	14	Economic	Local	SOLR	2	7
04/29	14	Economic	System	SOLR	718	898
04/29	14	Economic	System	WIND	134	195
04/29	14	SelfSchCut	Local	SOLR	2	5
04/29	15	Economic	System	SOLR	528	713
04/29	15	Economic	System	WIND	97	100
04/29	16	Economic	System	SOLR	276	728
04/29	16	Economic	System	WIND	6	21
04/29	16	SelfSchCut	Local	SOLR	0	3
04/29	17	Economic	System	SOLR	419	888
04/29	17	Economic	System	WIND	129	257

04/29	18	Economic	System	SOLR	134	440
04/29	18	Economic	System	WIND	9	89
04/29	19	Economic	System	SOLR	36	178
04/29	19	Economic	System	WIND	38	251