

Wind and Solar Curtailment February 16, 2020

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.
- Economic System: Market dispatch of generators with economic bids to mitigate systemwide 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.

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.

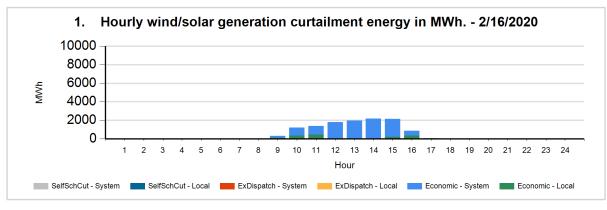
²The Renewables Watch report provides daily actual renewable production within the ISO grid. It is available at: <u>http://www.caiso.com/green/renewableswatch.html</u>.

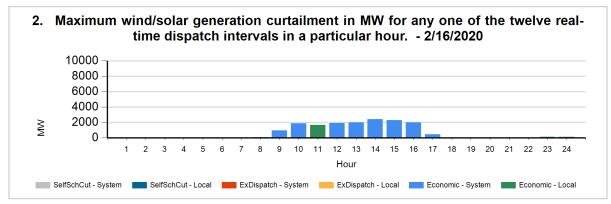
³Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

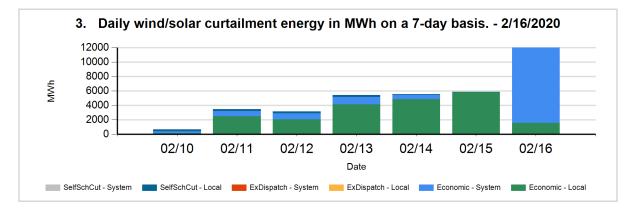
For more information on oversupply conditions, please see: <u>https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf</u>



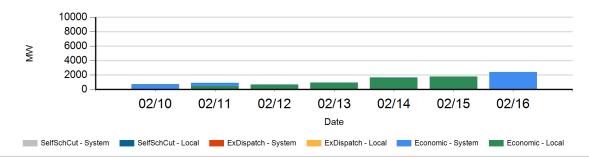
The following charts show the daily and 7-day wind and solar curtailment by category, if any.





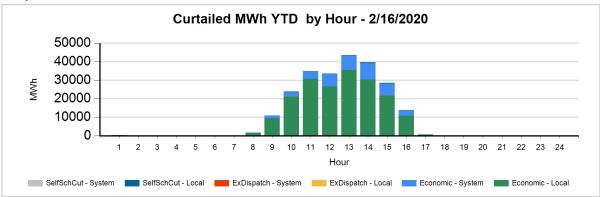


4. Maximum generation curtailment in MW for any one of the twelve real-time dispatch intervals in a particular day on a 7-day basis. - 2/16/2020

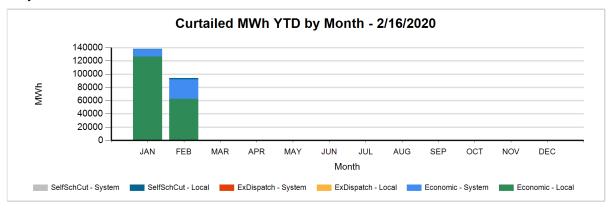




The following charts show hourly year to date wind and solar curtailment by category, if any.



The following charts show monthly year to date wind and solar curtailment by category, if any.



TYPE	YTD CURTAILED MWH - 2/16/2020
LocalEconomic	188,869
LocalSelfSchCut	2,261
SystemEconomic	40,829
TOTAL	231,959



Data used to produce hourly chart

TAILED MW	CURTAILED MWH	FUEL TYPE	REASON	CURT TYPE	HOU R	DATE
9	1	SOLR	System	7 Economic	7	02/16
30	8	SOLR	Local	8 Economic	8	02/16
61	11	SOLR	System	8 Economic	8	02/16
	108	SOLR	Local	9 Economic	9	02/16
904	182	SOLR	System	9 Economic	9	02/16
52	10	WIND	System	9 Economic	9	02/16
	335	SOLR	Local	0 Economic	10	02/16
	11	WIND	Local	0 Economic	10	02/16
1838	834	SOLR	System	0 Economic	10	02/16
50	40	WIND	System	0 Economic	10	02/16
1608	448	SOLR	Local	1 Economic	11	02/16
46	13	WIND	Local	1 Economic	11	02/16
	888	SOLR	System	1 Economic	11	02/16
	34	WIND	System	1 Economic	11	02/16
	0	SOLR	Local	2 Economic	12	02/16
1869	1765	SOLR	System	2 Economic	12	02/16
45	45	WIND	System	2 Economic	12	02/16
22	8	SOLR	Local	3 Economic	13	02/16
1915	1902	SOLR	System	3 Economic	13	02/16
46	46	WIND	System	3 Economic	13	02/16
22	20	SOLR	Local	4 Economic	14	02/16
2218	2059	SOLR	System	4 Economic	14	02/16
156	85	WIND	System	4 Economic	14	02/16
14	185	SOLR	Local	5 Economic	15	02/16
	4	WIND	Local	5 Economic	15	02/16
2230	1910	SOLR	System	5 Economic	15	02/16
47	42	WIND	System	5 Economic	15	02/16
	321	SOLR	Local	6 Economic	16	02/16
	16	WIND	Local	6 Economic	16	02/16
1950	511	SOLR	System	6 Economic	16	02/16
47	14	WIND	System	6 Economic	16	02/16



02/16	17	Economic	System	SOLR	62	436
02/16	17	Economic	System	WIND	2	7
02/16	23	Economic	Local	WIND	31	116
02/16	24	Economic	Local	WIND	46	102
02/16	24	Economic	System	WIND	0	4

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 Short-Term Forecasting at ShortTermForecasting@caiso.com.