

## Wind and Solar Curtailment February 13, 2021

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

Wind and solar curtailments are grouped into the following categories:

- 1. Economic Local: Market dispatch of generators with economic bids to mitigate local congestion<sup>3</sup>.
- 2. 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.

<sup>1</sup>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.

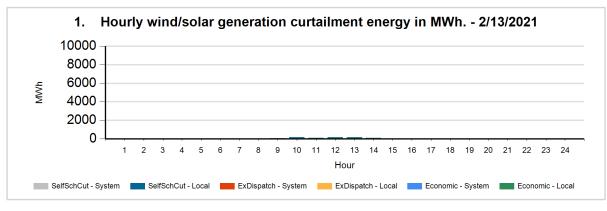
<sup>2</sup>The Renewables Watch report provides daily actual renewable production within the ISO grid. It is available at: <u>http://www.caiso.com/green/renewableswatch.html</u>.

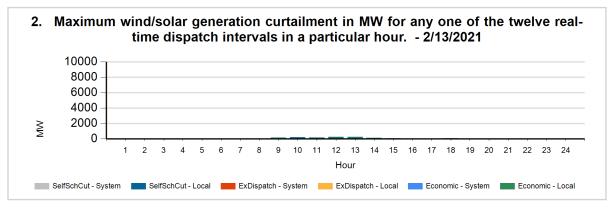
<sup>3</sup>Congestion occurs when available, least-cost energy cannot be delivered to some loads because transmission facilities do not have sufficient capacity to deliver the energy.

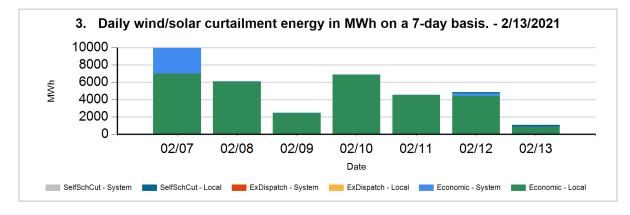
For more information on oversupply conditions, please see: <u>https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables\_FastFacts.pdf</u>



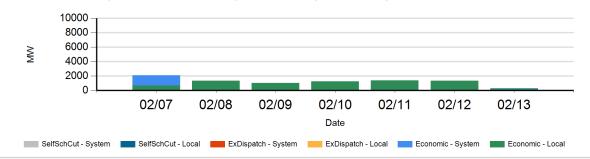
The following charts show the daily and 7-day wind and solar curtailment by category, if any.





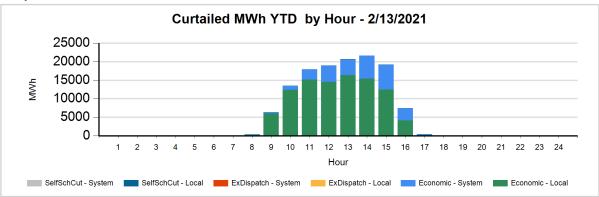


4. Maximum generation curtailment in MW for any one of the twelve real-time dispatch intervals in a particular day on a 7-day basis. - 2/13/2021

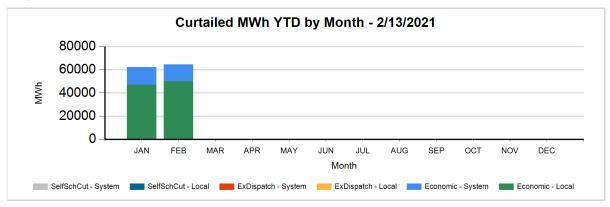




The following charts show hourly year to date wind and solar curtailment by category, if any.



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



TYPE	YTD CURTAILED MWH - 2/13/2021
LocalEconomic	97,176
LocalSelfSchCut	417
SystemEconomic	29,274
TOTAL	126,867



## Data used to produce hourly chart

HOU	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
R 1	Economic	Local	WIND	16	36
					33
					18
					31
					35
					31
7	Economic	Local	WIND	2	7
8	Economic	Local	SOLR	3	
8	Economic	Local	WIND	3	18
9	Economic	Local	SOLR	46	114
9	Economic	Local	WIND	26	53
10	Economic	Local	SOLR	48	65
10	Economic	Local	WIND	24	19
10	Economic	System	SOLR	4	
10	SelfSchCut	Local	WIND	82	129
11	Economic	Local	SOLR	57	63
11	Economic	Local	WIND	39	31
11	SelfSchCut	Local	WIND	14	72
12	Economic	Local	SOLR	62	78
12	Economic	Local	WIND	37	44
12	SelfSchCut	Local	WIND	77	115
13	Economic	Local	SOLR	62	60
13	Economic	Local	WIND	54	90
13	SelfSchCut	Local	WIND	68	99
14	Economic	Local	SOLR	37	52
14	Economic	Local	WIND	62	75
14	Economic	System	SOLR	0	
14	SelfSchCut	Local	WIND	0	2
15	Economic	Local	SOLR	13	40
		Local	WIND	1	
					23
	R   1   2   3   4   5   6   7   8   9   9   10   10   10   10   11   12   12   12   12   13   13   13   13   13   14   14   15   15		RIconomicLocal1EconomicLocal3EconomicLocal4EconomicLocal5EconomicLocal6EconomicLocal7EconomicLocal8EconomicLocal9EconomicLocal10EconomicLocal11EconomicLocal10EconomicLocal11EconomicLocal10EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal11EconomicLocal12EconomicLocal13EconomicLocal13EconomicLocal14EconomicLocal14EconomicLocal14EconomicLocal14EconomicLocal15EconomicLocal15EconomicLocal	RLocalWIND1EconomicLocalWIND2EconomicLocalWIND4EconomicLocalWIND5EconomicLocalWIND6EconomicLocalWIND7EconomicLocalWIND8EconomicLocalWIND9EconomicLocalWIND9EconomicLocalSOLR9EconomicLocalWIND10EconomicLocalWIND10EconomicLocalWIND10EconomicLocalWIND11EconomicLocalWIND11EconomicLocalWIND11EconomicLocalWIND11EconomicLocalWIND11SelfSchCutLocalWIND12EconomicLocalWIND13EconomicLocalWIND14EconomicLocalWIND13SelfSchCutLocalWIND14EconomicLocalWIND14EconomicLocalWIND14SelfSchCutLocalWIND15EconomicLocalWIND15EconomicLocalWIND	RImage: constraint of the system1EconomicLocalWIND1162EconomicLocalWIND1143EconomicLocalWIND1115EconomicLocalWIND2256EconomicLocalWIND2227EconomicLocalWIND2228EconomicLocalWIND229EconomicLocalSOLR339EconomicLocalSOLR469EconomicLocalSOLR469EconomicLocalSOLR4810EconomicLocalSOLR4410EconomicLocalWIND32410EconomicLocalWIND32411EconomicLocalWIND32410EconomicLocalWIND32411EconomicLocalWIND32411EconomicLocalWIND32412EconomicLocalWIND33713EconomicLocalWIND37714EconomicLocalWIND37715EconomicLocalWIND6814EconomicLocalWIND6814EconomicLocalWIND6814EconomicLocalWIND6815EconomicLocalWIND68 <trr>16Econo</trr>



02/13	16	Economic	Local	SOLR	11	31
02/13	16	Economic	System	SOLR	2	17
02/13	17	Economic	Local	SOLR	3	7
02/13	17	Economic	Local	WIND	32	37
02/13	18	Economic	Local	SOLR	0	
02/13	18	Economic	Local	WIND	38	58
02/13	19	Economic	Local	WIND	38	43
02/13	20	Economic	Local	WIND	36	38
02/13	21	Economic	Local	WIND	1	
02/13	21	Economic	System	WIND	1	16

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.