Wind and Solar Curtailment May 08, 2017

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[4].
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.
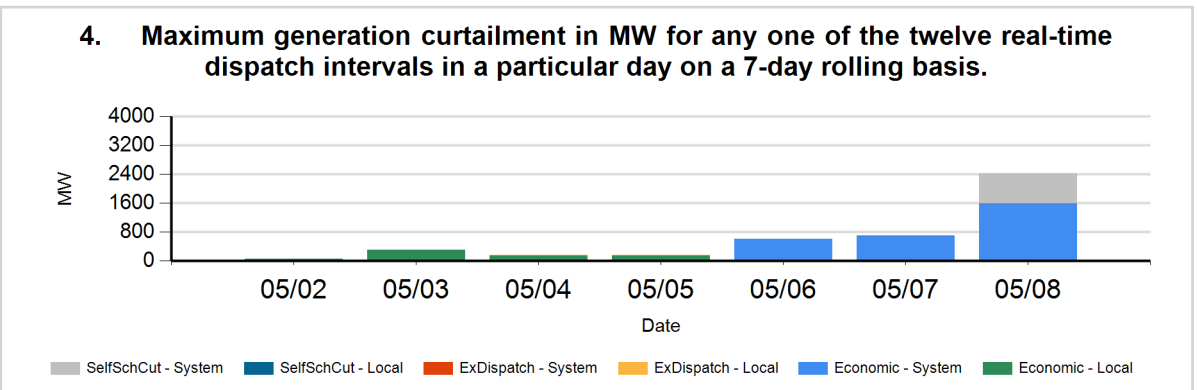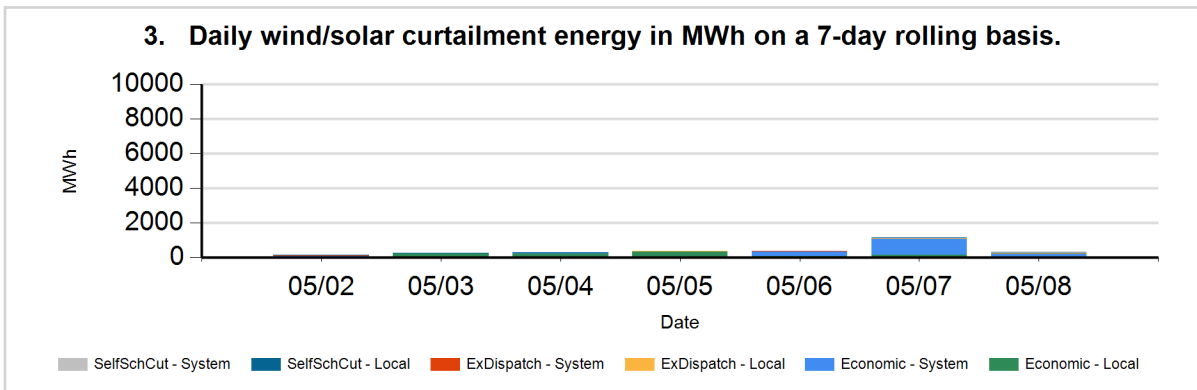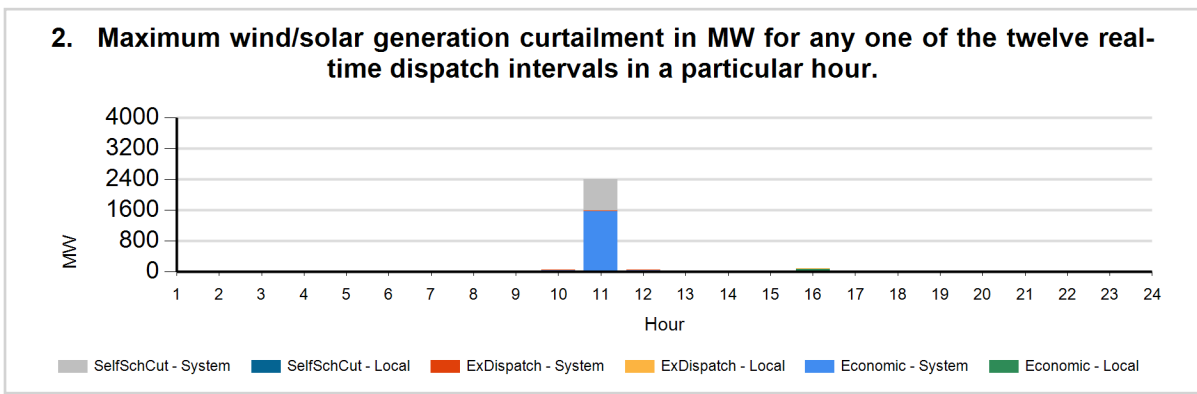
[1]Only wind and solar resources can be reported in this manner because these resources have a forecast. Curtailment is defined as the difference between actual production and the forecast when actual production is less than the forecast.

[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.

[4]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.
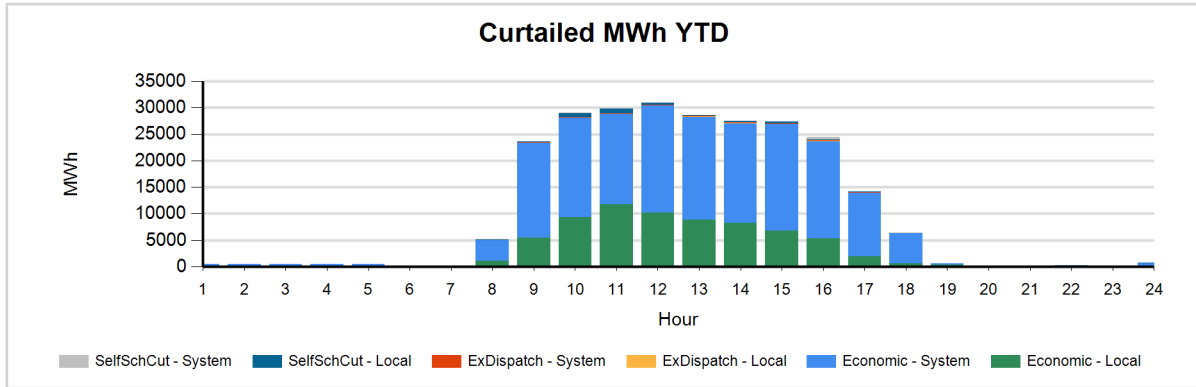
1. Hourly wind/solar generation curtailment energy in MWh.

Legend: SelfSchCut - System | SelfSchCut - Local | ExDispatch - System | ExDispatch - Local | Economic - System | Economic - Local

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

Legend: SelfSchCut - System | SelfSchCut - Local | ExDispatch - System | ExDispatch - Local | Economic - System | Economic - Local

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

Legend: SelfSchCut - System | SelfSchCut - Local | ExDispatch - System | ExDispatch - Local | Economic - System | Economic - Local

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.

Legend: SelfSchCut - System | SelfSchCut - Local | ExDispatch - System | ExDispatch - Local | Economic - System | Economic - Local

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

Curtailed MWh YTD

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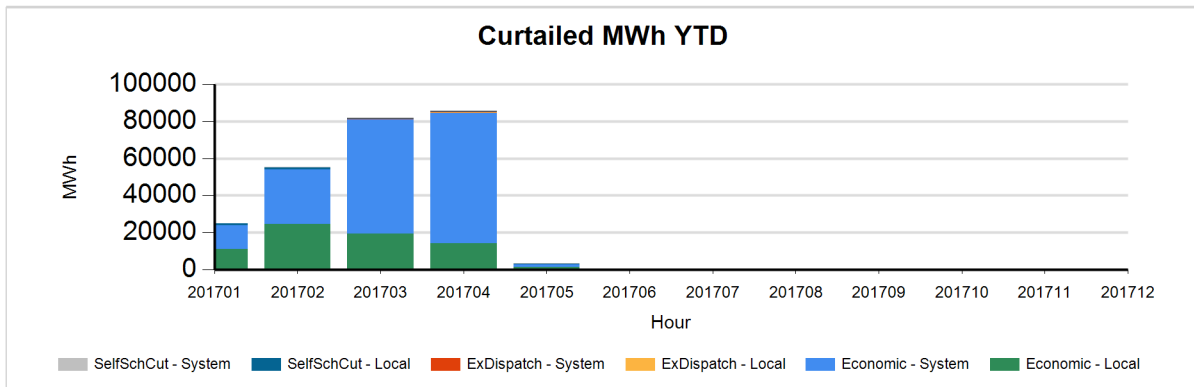
Curtailed MWh YTD

TYPE	YTD CURTAILED MWH
LocalEconomic	70,469
LocalExDispatch	743
LocalSelfSchCut	3,205
SystemEconomic	175,882
SystemExDispatch	199
SystemSelfSchCut	681
TOTAL	251,178

Data used to produce hourly chart

DATE	HOUR	CURT TYPE	REASON	FUEL TYPE	CURTAILED MWH	CURTAILED MW
05/08	8	ExDispatch	Local	SOLR	0	
05/08	8	ExDispatch	System	SOLR	0	3
05/08	9	Economic	Local	SOLR	2	4
05/08	9	ExDispatch	Local	SOLR	0	
05/08	9	ExDispatch	System	SOLR	0	0
05/08	10	Economic	Local	SOLR	7	5
05/08	10	Economic	System	SOLR	3	34
05/08	10	ExDispatch	Local	SOLR	0	
05/08	10	ExDispatch	System	SOLR	0	1
05/08	11	Economic	Local	SOLR	13	
05/08	11	Economic	System	SOLR	148	1565
05/08	11	Economic	System	WIND	1	18
05/08	11	ExDispatch	Local	SOLR	1	
05/08	11	ExDispatch	System	SOLR	2	1
05/08	11	SelfSchCut	Local	SOLR	0	
05/08	11	SelfSchCut	System	SOLR	61	735
05/08	11	SelfSchCut	System	WIND	8	91
05/08	12	Economic	Local	SOLR	9	6
05/08	12	Economic	System	SOLR	11	39
05/08	12	ExDispatch	Local	SOLR	3	
05/08	12	ExDispatch	System	SOLR	6	8
05/08	12	SelfSchCut	Local	SOLR	0	
05/08	13	Economic	Local	SOLR	6	6
05/08	13	Economic	System	SOLR	0	
05/08	13	ExDispatch	Local	SOLR	5	12
05/08	13	ExDispatch	System	SOLR	5	
05/08	14	Economic	Local	SOLR	6	6
05/08	14	ExDispatch	Local	SOLR	3	
05/08	14	ExDispatch	System	SOLR	4	9
05/08	15	Economic	Local	SOLR	3	2
05/08	15	Economic	System	SOLR	1	9

05/08	15	ExDispatch	Local	SOLR	1	
05/08	15	ExDispatch	System	SOLR	1	1
05/08	16	Economic	Local	SOLR	9	73
05/08	16	ExDispatch	Local	SOLR	1	1
05/08	16	ExDispatch	System	SOLR	0	
05/08	16	SelfSchCut	Local	SOLR	5	
05/08	17	Economic	Local	SOLR	0	0
05/08	17	ExDispatch	Local	SOLR	0	
05/08	17	ExDispatch	System	SOLR	0	1
05/08	17	SelfSchCut	Local	SOLR	6	8
05/08	18	Economic	Local	SOLR	0	
05/08	18	Economic	System	SOLR	0	3
05/08	19	Economic	System	SOLR	0	1

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.