California ISO

MONTHLY STATS

September 2017

Peaks for September

Peak demand **50,116 MW**
September 1, 2017

Renewables at peak demand
11,194 MW September13, 2017

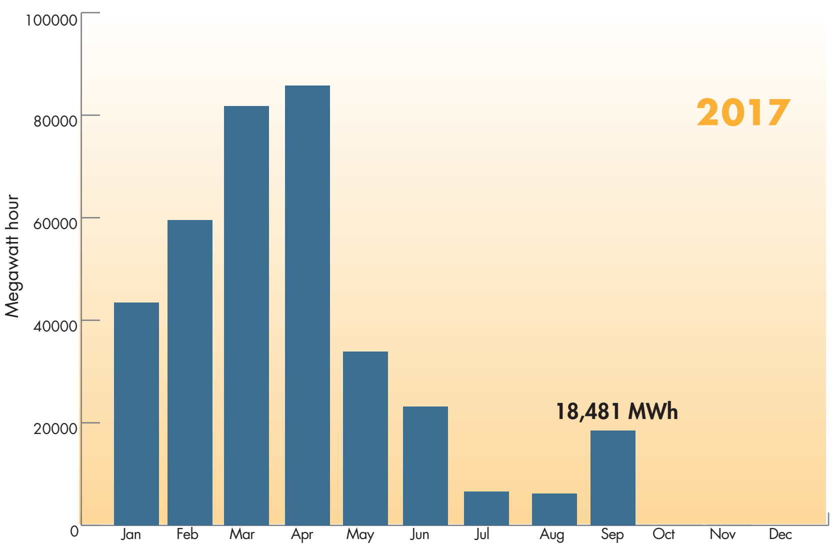
Percentage of renewables at peak
32.3% September 13, 2017

Solar & wind **13,460 MW**
September 20, 2017

Peak solar **9,698 MW**
September 20, 2017

Peak wind **3,999 MW**
September 20, 2017

Key curtailment totals



Click here for more information on managing oversupply

Avoided curtailments due to EIM

2015
31,082 MWh

2016
332,238 MWh

2017 *(as of July 2017)*
119,706 MWh

Click here for EIM quarterly benefits reports

Good facts

Renewables served **67.2%** of load ← **58.7%** = solar & wind
on May 13, 2017 at 2:55 p.m.

Previous milestones
65.2% - April 24, 2017 at 2:53 p.m.
56.7% - March 23, 2017 at 11:23 a.m.

Solar served **47.2%** of load
May 14, 2017 at 1:07 p.m.

Wind served **22.4%** of load
March 31, 2017 at 3:17 a.m.

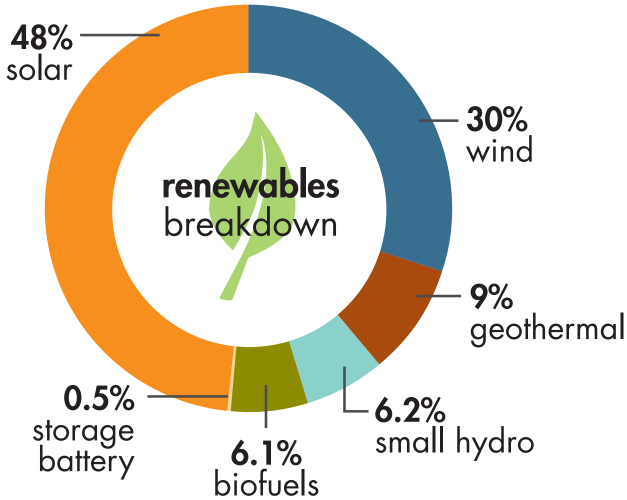
www.caiso.com | 250 Outcropping Way, Folsom, CA 95630 | 916.351.4400

CommPR/10.2017

California ISO

MONTHLY STATS

Installed renewable resources *(as of 09/22/2017)*



	Megawatts
Solar	10,099
Wind	6,298
Small hydro	1,302
Geothermal	1,874
Biofuels	1,284
Storage battery	95
TOTAL	**20,952**

Click here for Today's Outlook

NOTE — Reporting Resource Installed Capacity. This value only counts the full commercial units reported via the Master Generating File and captured in the Master Control Area Generating Capability List found here. This is rather than including constantly changing amounts of test energy as well as partial energy from resources phasing in or out. The numbers above only include resources that are fully commercial — not partials. The numbers are "production maximum" (Pmax), or installed capacity, but not nameplate capacity as those values are not reported to the ISO.

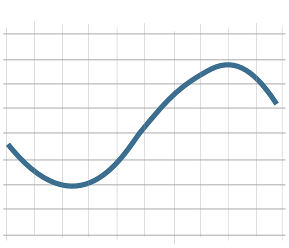
Record peaks *(solar peaks are now frequent and change often)*

SOLAR
9,914 MW
June 17, 2017, 12:13 p.m.

WIND
4,985 MW
May 16, 2017, 5:26 p.m.

PREVIOUS SOLAR RECORD **9,892 MW** set on May 19, 2017, 1:15 p.m.

Season peak demand



2017	**50,116 MW**	SEPTEMBER 1, 2017, 3:58 P.M.
2016	**46,232 MW**	JULY 27, 2016, 4:51 P.M.
2015	**47,358 MW**	SEPTEMBER 10, 2015, 4:53 P.M.
2014	**45,089 MW**	SEPTEMBER 15, 2014, 4:53 P.M.

Click here to see historical peak demand

www.caiso.com | 250 Outcropping Way, Folsom, CA 95630 | 916.351.4400

California ISO

MONTHLY STATS

2016 Energy use *as percentage of total resources available*

Natural gas = 32%
Down from **40%** in 2015

Net imports = 28%
Roughly unchanged from 2015

Nuclear = 8%
About the same from 2015

Total hydro = 10%
Up from **5%** in 2015

Non-hydro renewables = 20%
Up from **18%** 2015

Solar increased 32%
in 2015 and accounts for **9%** of total system energy

Wind increased 12%
in 2015 and accounted for **6%** of total system energy

Geothermal decreased 8%
in 2016 and provided almost **5%** of total system energy

Biofuels = 2% of total system energy, a slight decrease compared to 2015

Other mostly evergreen facts

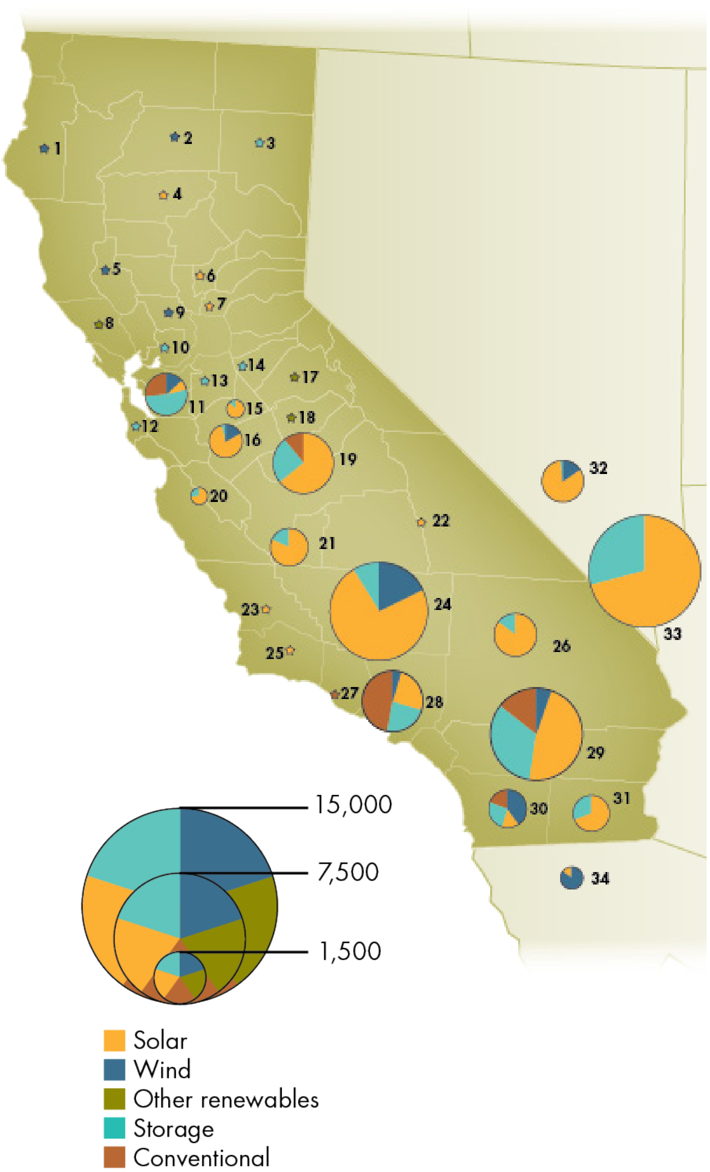
- 30 million California consumers
- 1 MW serves about 750-1,000 homes
- 25,622 (or about 26,000) circuit miles of transmission
- 9,524 Pnodes (pricing nodes) (ISO & all EIM entities as of Jan. 5, 2017) ISO only Pnodes = 5,669
- Serve ~80% of California load
- ISO serves ~33% of WECC Load
- 184 market participants
- 18 Participating transmission owners
- Market transactions for 2016 = 29,651 (2015 = 27,488) daily average
- MWh of load served for 2016 = 237M MWh, ~1.25% lower than 2015 (239.6M in 2015)
- Total estimated wholesale cost of serving load in 2016 = $7.4 billion or about $34 MWh (down ~9% from $8.3 billion/$37MWh in 2015; $12 billion in 2014/$52 MWh).*

*Note — This is lowest nominal cost since at 2008 — mostly due to lower natural gas prices. After normalizing for natural gas prices and greenhouse gas compliance costs, total wholesale energy costs decreased by about 4 percent.

California ISO

MONTHLY STATS

Interconnection queue *as of 07/26/2017*



Interconnection queue by county

	County	# of Projects	Megawatts			
			Renewables	Storage	Conventional	Total
1	Humboldt	2	106	28		134
2	Shasta	1	200			200
3	Lassen	2	21	27		48
4	Tehama	3	386			386
5	Lake	3	145	39		184
6	Yuba	1	20			20
7	Placer	1	20			20
8	Sonoma	1	35			35
9	Yolo	3	266			266
10	Solano	1		314		314
11	Alameda, Contra Costa, Santa Clara	20	582	1,422	723	2,727
12	San Mateo	1		21		21
13	San Joaquin	5	51	235		286
14	Calaveras	1		100		100
15	Stanislaus	6	668	100		768
16	Merced	13	1,478	68		1,546
17	Tuolumne	2	11	10		21
18	Mariposa	1	112			112
19	Fresno, Madera	43	2,988	1,176	492	4,656
20	San Benito, Monterey	3	520	193		713
21	Kings	13	2,082	465		2,547
22	Tulare, Inyo	4	406	110		516
23	San Luis Obispo	1	40			40
24	Kern	57	8,019	766		8,785
25	Santa Barbara	1	31			31
26	San Bernardino	21	2,927	392		3,319
27	Ventura	2		26	300	326
28	Los Angeles, Orange	14	1,388	1,082	2,209	4,679
29	Riverside	29	4,431	2,833	1,208	8,472
30	San Diego	26	1,333	636	475	2,444
31	Imperial	8	1,175	525		1,700
	In-state Totals	289	29,441	10,568	5,407	45,416
32	Nevada	11	1,965	44		2,009
33	Arizona	21	6,660	2,713		9,373
34	Mexico	4	1,321			1,321
	Out-of-state Totals	36	9,946	2,757		12,703
	TOTAL ALL PROJECTS	**325**	**39,387**	**13,325**	**5,407**	**58,119**

as of July 12, 2017