California ISO

MONTHLY STATS

December 2017

Peaks for December

Peak demand **31,067 MW**
December 11, 2017

Renewables serving peak
4,987 MW December 3, 2017

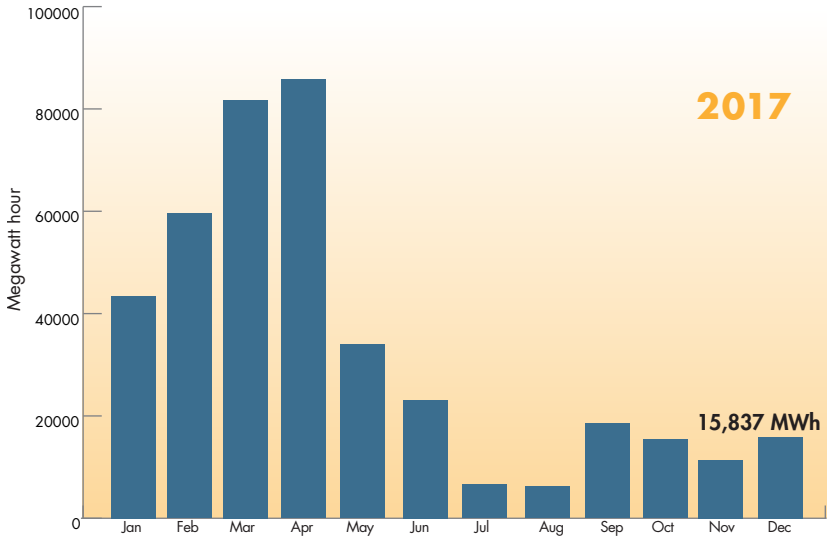
Percentage of renewables serving peak
17.8% December 3, 2017

Solar & wind **9,836 MW**
December 4, 2017

Peak solar **7,590 MW**
December 4, 2017

Peak wind **4,131 MW**
December 16, 2017

Key curtailment totals



Click here for more information on managing oversupply

Avoided curtailments due to EIM

2015
31,082 MWh

2016
328,238 MWh

2017 *(as of September 2017)*
143,037 MWh

Click here for EIM quarterly benefits reports

Good facts

Renewables served **67.2%** of demand
58.7% of demand = 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 demand
May 14, 2017 at 1:07 p.m.

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

California Independent System Operator

CommPR/01.2018

California ISO

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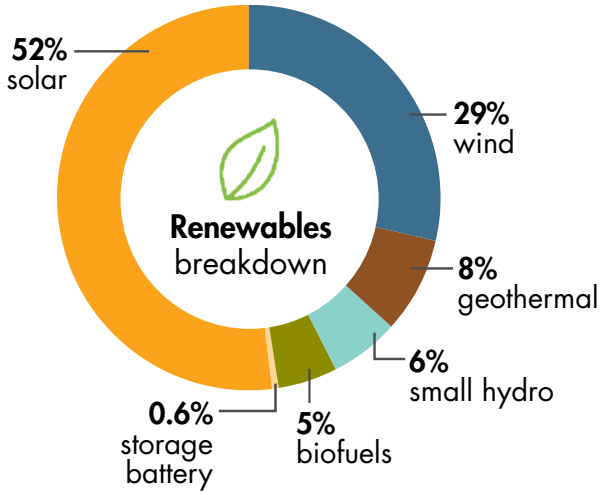
Demand & resources *(as of 01/04/2018)*

Resource adequacy net qualifying capacity (NQC) = **48,578 MW**
Does not include current outages

Installed renewable resources *(as of 01/04/2018)*



	Megawatts
Solar	11,172
Wind	6,269
Small hydro	1,245
Geothermal	1,799
Biofuels	997
Storage battery	136*
TOTAL	**21,618**

Click here for Today's Outlook

NOTE — Reporting Net Dependable Capacity only (numbers are rounded). Only fully commercial units are counted, not partials or test energy, as reported via the Master Generating File and captured in the Master Control Area Generating Capability List found on OASIS under "Atlas Reference".

**Includes 20 MW of storage integrated with power plants*

Record peaks

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.

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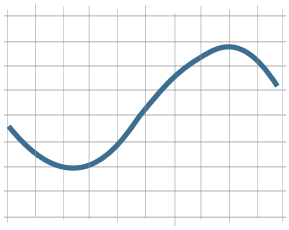
MONTHLY STATS

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

2016 Energy use *as percentage of total resources available*

Natural gas = 32%
Down **40%** from previous year

Net imports = 28%
Unchanged from previous year

Nuclear = 8%
About the same from previous year

Total hydro = 10%
Up **5%** from previous year

Non-hydro renewables = 20%
Up **18%** from previous year

Solar increased 32% and accounted for **9%** of total system energy

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

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

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

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 demand
- ISO serves ~33% of WECC demand
- 184 market participants
- 18 participating transmission owners
- Market transactions for 2016 = 29,651 (2015 = 27,488) daily average
- MWh of demand served for 2016 = 237M MWh, ~1.25% lower than 2015 (239.6M in 2015)
- Total estimated wholesale cost of serving demand 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.