California ISO

KEY STATISTICS

Peaks for November 2018

30,111 MW
Peak demand
November 2

5,171 MW
Renewables served peak
November 23

8,735 MW
Solar peak
November 3

4,177 MW
Wind peak
November 30

Energy Imbalance Market

EIM

Q3 2018 BENEFITS
$100.58M

TOTAL SAVINGS
$502.31M
since Nov 2014 start

GHG

Q3 2018 AVOIDED CURTAILMENTS
19,038MWh

TOTAL ISO GHG SAVINGS
314,258 $mTCO_2$
from avoided curtailment since Nov 2014

Historical stats

Historical peak demand
50,270 MW - July 24, 2006 at 2:44 p.m.

PREVIOUS RECORDS

50,116 MW - September 1, 2017 at 3:58 p.m.
48,615 MW - August 31, 2007 at 3:27 p.m.

Renewables served demand
73.9% - May 26, 2018 at 2:12 p.m.

PREVIOUS RECORDS

72.7% - April 28, 2018 at 1:25 p.m.
70.5% - February 18, 2017 at 2:09 p.m.

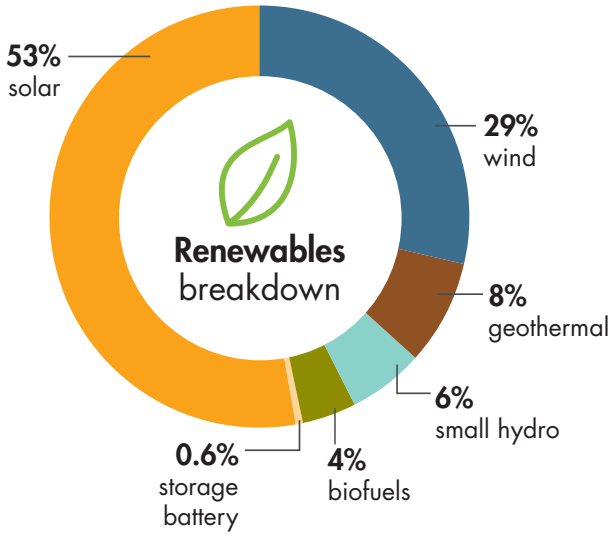
California ISO

KEY STATISTICS

Demand & resources

Resource adequacy net qualifying capacity (NQC) = **49,546 MW**
Does not include current outages

Installed renewable resources *(as of 12/05/2018)*



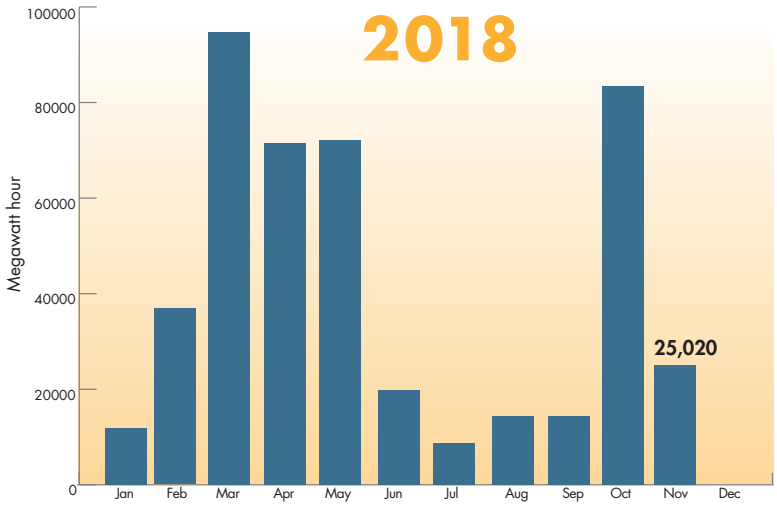
	Megawatts
Solar	11,967
Wind	6,494
Small hydro	1,238
Geothermal	1,785
Biofuels	970
Storage battery	136*
TOTAL	**22,590**

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*

Key curtailment totals



Record peaks

SOLAR
10,739 MW - June 29, 2018, 12:33 p.m.

WIND
5,193 MW - June 8, 2018, 9:04 p.m.

PREVIOUS SOLAR RECORD

10,735 MW - June 8, 2018 at 12:33 p.m.

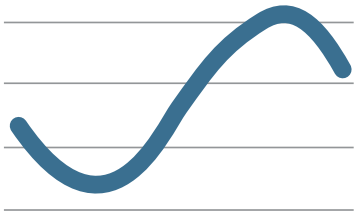
California Independent System Operator

CommPR/12.2018

California ISO

KEY STATISTICS

Annual peak demand



2018	**46,424 MW**	July 25, 5:27 p.m.
2017	**50,116 MW**	September 1,3:58 p.m.
2016	**46,232 MW**	July 27, 4:51 p.m.
2015	**47,358 MW**	September 10, 4:53 p.m.
2014	**45,089 MW**	September15, 4:53 p.m.

Click here to see historical peak demand

2017 Energy use *as percentage of total resources available*

- **Natural gas = 28%** Down **5%** from previous year
- **Net imports = 21%** Down **3%** from previous year
- **Nuclear = 10%** Slightly less from previous year
- **Total hydro = 15%** Up **11%** from previous year
- **Non-hydro renewables = 24%** Up **22%** from previous year
- **Solar increased 22%** and accounted for **11%**
- **Wind increased 3%** and accounted for **6%**
- **Geothermal = 4%**, about the same from previous year
- **Biofuels = 2%**, a slight increase from previous year

Other mostly evergreen facts

- 30 million California consumers
- 1 MW serves about 750-1,000 homes
- 25,685 (or about 26,000) circuit miles of transmission
- 9,696 Pnodes (pricing nodes) (ISO & all EIM entities as of Apr. 4, 2018) ISO only Pnodes = 4,119
- Serve ~80% of California demand
- ISO serves ~33% of WECC demand
- 210 market participants
- 17 participating transmission owners
- Market transactions for 2017 = 31,208 (2016 = 29,651) daily average
- MWh of demand served for 2017 = 239M
- Total estimated wholesale cost of serving demand in 2017 = $9.4 billion or about $42/MWh*
- Total estimated wholesale cost of serving demand in 2016 = $7.4 billion or about $34/MWh

*Note higher cost mostly due to higher natural gas prices. After normalizing for natural gas prices and greenhouse gas compliance costs, total wholesale energy costs increased by about 4 percent.

California Independent System Operator

CommPR/12.2018