California ISO

KEY STATISTICS

Peaks for October 2019

33,487 MW
Peak demand
October 24
Previous month:
44,158 MW

7,564 MW
Peak served by renewables
October 25
Previous month:
14,747 MW

10,504 MW
Solar peak
October 2
Previous month:
11,090 MW

4,677 MW
Wind peak
October 9
Previous month:
4,675 MW

Historical stats & records

11,473 MW
Solar peak
July 2, 2019 at 12:53 P.M.
Previous record:
11,435 MW on July 1, 2019

5,309 MW
Wind peak
May 8, 2019 at 3:21 P.M.
Previous record:
5,193 MW on June 8, 2018

78%
Demand served by renewables
April 20, 2019 at 12:40 P.M.
Previous record:
73.9% on May 26, 2018

50,270 MW
Peak demand
July 24, 2006 at 2:44 P.M.
Next highest:
50,116 MW on September 1, 2017

15,639 MW
Steepest ramp over 3-hour period
January 1, 2019 at 2:25 P.M.
Next steepest:
15,070 MW on Mar 17, 2019 at 4:07 p.m.

Western Energy Imbalance Market (EIM) benefits

Read ISO EIM Benefits Report Q3 here

ECONOMIC

2019 Q3 benefits:
$64.81 million

Total benefits:
$801.07 million
since 2014 launch

ENVIRONMENTAL

Q3 avoided curtailments:
33,843 MWh

Q3 ISO GHG savings:
14,485 $mTCO_2$

Total ISO GHG savings:
418,031 $mTCO_2$
from avoided curtailment since 2014

Equivalent to removing emissions from **87,889** passenger cars

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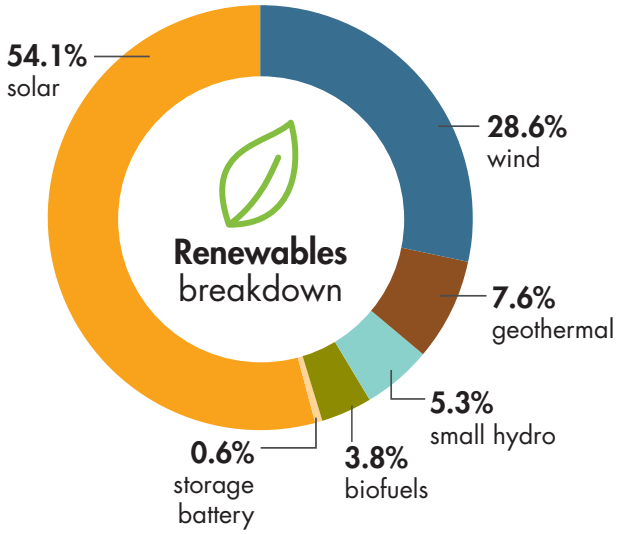
Demand & resources *(as of 11/01/2019)*

Resource adequacy net qualifying capacity (NQC) = **48,930 MW**
Does not include current outages

Renewable resources *(as of 11/01/2019)*



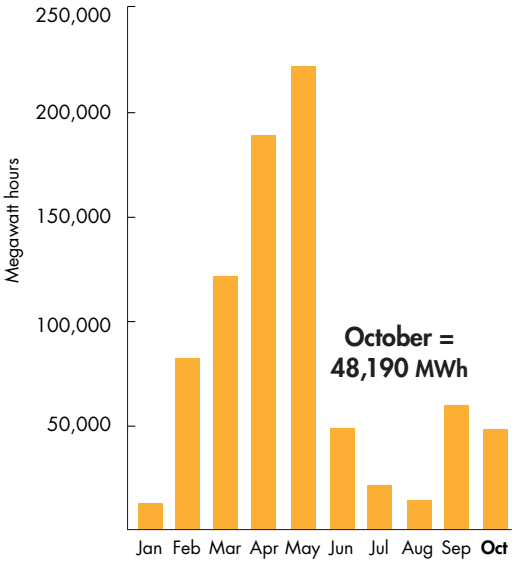
	Megawatts
Solar	12,705
Wind	6,714
Small hydro	1,244
Geothermal	1,785
Biofuels	880
Storage battery*	136
TOTAL	**23,464**

See Today's Outlook

*NOTE — 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 stand-alone and hybrid units.*

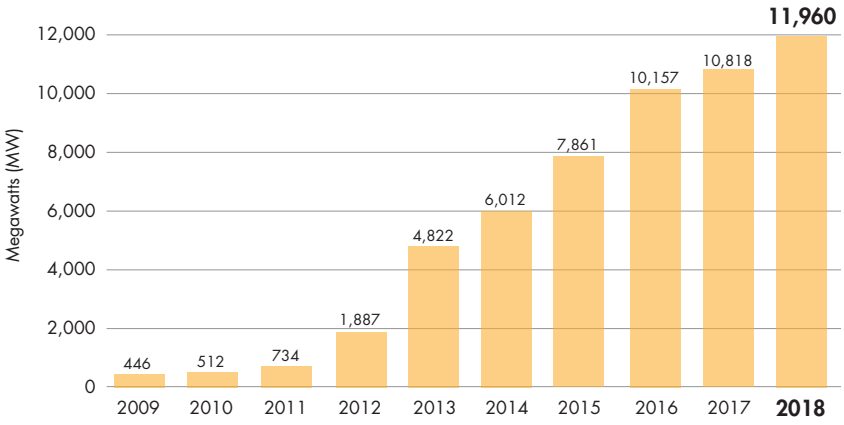
Wind and solar curtailment totals

For more on oversupply, visit here.



Installed solar growth

Solar capacity growth in the California ISO balancing area. Stay informed on how we are greening the grid here.



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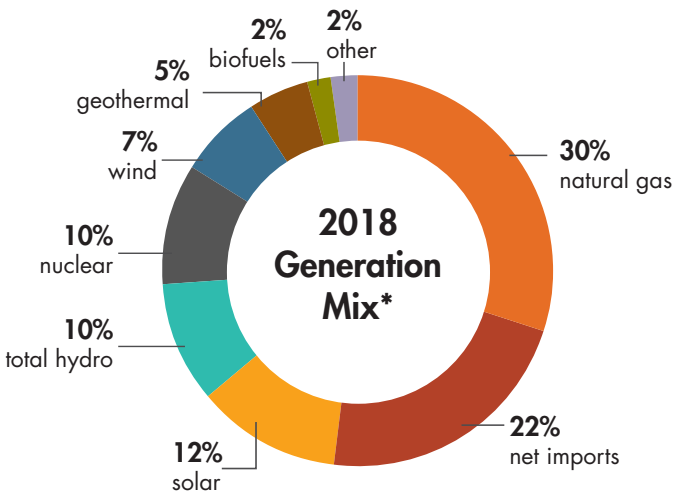

Approximate percentages based on 2018 average hourly generation (MW) from the 2018 Annual Report on Market Issues and Performance

Annual peak demand

2019: 44,301 MW
Aug 15 at 5:50 p.m.

2018: 46,427 MW
Jul 25 at 5:33 p.m.

2017: 50,116 MW
Sep 1 at 3:58 p.m.

2016: 46,232 MW
Jul 27 at 4:51 p.m.

2018 Energy use *(as percentage of total resources available)*

- Natural gas = 30%
  Up 2% from previous year
- Total hydro = 10%
  Down 7% from previous year
- Wind = 7%
  Up 19% from previous year
- Net imports = 22%
  unchanged from previous year
- Non-hydro renewables = 26%
  Up 3% from previous year
- Geothermal = 4%,
  Down 2% from previous year
- Nuclear = 10%
  unchanged from previous year
- Solar = 12%
  Up 9% from previous year
- Biofuels = 2%, a slight increase from previous year

Other facts

- 30 million consumers
- Serve ~80% of California demand
- Serve ~33% of WECC demand
- MWh of load served for 2018 = 232.9 million
- Total estimated wholesale cost of serving demand in 2018 = $10.8 billion or about $50/MWh*
- Total estimated wholesale cost of serving demand in 2017 = $9.4 billion or about $42/MWh*
- 1 MW serves about 750-1,000 homes (1 MWh = 1 million watts used for one hour)
- 18 participating transmission owners
- 25,715 (or about 26,000) circuit miles of transmission
- 217 market participants
- MWh of market transactions for 2018 = 32,635 (2017 = 31,208)
  - Daily average electricity delivered for 2018 = 222.8M MWh
- 9,696 pricing nodes for ISO & all EIM entities as of Apr. 4, 2018. ISO has 4,119 pricing nodes
- Western EIM has 9 active participants serving customers in 8 states
- RC West is the reliability coordinator for 41 entities across 14 western states and northern Mexico

*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.