Peaks for May 2019

- **28,635 MW**
  - Peak demand
  - May 13
  - Previous month: 31,195 MW

- **7,073 MW**
  - Peak served by renewables
  - May 6
  - Previous month: 6,510 MW

- **11,358 MW**
  - Solar peak
  - May 4
  - Previous month: 11,275 MW

- **5,309 MW**
  - Wind peak
  - May 8
  - Previous month: 5,174 MW

Historical stats & record peaks

- **11,358 MW**
  - Solar peak **NEW!**
  - May 4, 2019 at 1:10 P.M.
  - Previous record:
    - 11,275 MW on April 17, 2019

- **5,309 MW**
  - Wind peak **NEW!**
  - 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.
  - Previous peak demands:
    - 50,116 MW on September 1, 2017 at 3:58 p.m.
    - 48,615 MW on August 31, 2007 at 3:27 p.m.

Energy Imbalance Market

- **Q1 2019 BENEFITS**
  - **$85.38M**
- **TOTAL SAVINGS**
  - **$650.26M**
  - since Nov 2014 start

- **Q1 2019 AVOIDED CURTAILMENTS**
  - **52,254 MWh**
- **TOTAL ISO GHG SAVINGS**
  - **346,649 mTCO2**
  - from avoided curtailment since Nov 2014
**Demand & resources (as of 6/01/2019)**

Resource adequacy net qualifying capacity (NQC) = **49,544 MW**

*Does not include current outages*

---

**Renewable resources (as of 6/01/2019)**

Renewable resources breakdown:

- **53%** solar
- **30%** wind
- **7.9%** geothermal
- **5.4%** small hydro
- **0.6%** storage battery
- **3.8%** biofuels

<table>
<thead>
<tr>
<th>Resource</th>
<th>Megawatts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>11,949</td>
</tr>
<tr>
<td>Wind</td>
<td>6,714</td>
</tr>
<tr>
<td>Small hydro</td>
<td>1,229</td>
</tr>
<tr>
<td>Geothermal</td>
<td>1,785</td>
</tr>
<tr>
<td>Biofuels</td>
<td>878</td>
</tr>
<tr>
<td>Storage battery*</td>
<td>136</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>22,691</strong></td>
</tr>
</tbody>
</table>

*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.*

---

**Key curtailment totals**

As daily demand for energy increases and solar generation decreases, grid operators must call on flexible resources to meet the upward ramp in demand. For more on ramping, [visit here](#).

**15,639 MW RECORD!**

Jan 1 starting at 2:25 p.m.

**14,630 MW**

Feb 11 starting at 3:05 p.m.

**15,070 MW**

Mar 17 starting at 4:07 p.m.

**13,177 MW**

Apr 20 starting at 4:49 p.m.

*See Managing Oversupply page*
NEW! Installed solar growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Megawatts (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>446</td>
</tr>
<tr>
<td>2010</td>
<td>512</td>
</tr>
<tr>
<td>2011</td>
<td>734</td>
</tr>
<tr>
<td>2012</td>
<td>1,887</td>
</tr>
<tr>
<td>2013</td>
<td>4,822</td>
</tr>
<tr>
<td>2014</td>
<td>6,012</td>
</tr>
<tr>
<td>2015</td>
<td>7,861</td>
</tr>
<tr>
<td>2016</td>
<td>10,157</td>
</tr>
<tr>
<td>2017</td>
<td>10,818</td>
</tr>
<tr>
<td>2018</td>
<td>11,960</td>
</tr>
</tbody>
</table>

NEW! 2018 Energy use (as percentage of total resources available)

- **Natural gas** = 30%
  - Up 2% from previous year
- **Net imports** = 22%
  - Unchanged from previous year
- **Nuclear** = 10%
  - Unchanged from previous year
- **Total hydro** = 10%
  - Down 7% from previous year
- **Non-hydro renewables** = 26%
  - Up 3% from previous year
- **Solar** = 12%
  - Up 9% from previous year
- **Wind** = 7%
  - Up 19% from previous year
- **Geothermal** = 4%
  - Down 2% 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)
- 17 participating transmission owners
- 27,285 (or about 26,000) circuit miles of transmission
- 214 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 (as of April 2019)

*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.