California

ENERGY AND EMPLOYMENT — 2019

Overview

California has an average concentration of energy employment, with 410,600 Traditional Energy workers statewide (representing 12.2 percent of all U.S. Traditional Energy jobs). Of these Traditional Energy workers, 183,418 are in Electric Power Generation, 74,974 are in Fuels, and 152,207 are in Transmission, Distribution, and Storage. The Traditional Energy sector in California is 2.3 percent of total state employment (compared to 2.3 percent of national employment). California has an additional 318,542 jobs in Energy Efficiency (13.7 percent of all U.S. Energy Efficiency jobs) and 217,587 jobs in Motor Vehicles (8.6 percent of all U.S. Motor Vehicle jobs).

Figure CA-1.
Employment by Major Energy Technology Application

Overall, Traditional Energy jobs declined by 1.0 percent since the 2018 report, decreasing by 3,956 jobs over the period. Energy Efficiency jobs added 8,109 jobs (2.6 percent) and motor vehicles added 8,612 jobs (4.1 percent).
Breakdown by Technology Applications

Electric Power Generation

Electric Power Generation employs 183,418 workers in California, 20.9 percent of the national total and losing 10,237 jobs over the past year (-5.3 percent). Solar makes up the largest segment of employment related to Electric Power Generation, with 126,507 jobs (down 8.5 percent), followed by traditional fossil fuel generation at 22,901 jobs (up 3.9 percent).

Figure CA-2.
Electric Power Generation Employment by Detailed Technology Application

Construction is the largest industry sector in Electric Power Generation, with 39.1 percent of jobs. Professional and business services are next with 18.6 percent.

Figure CA-3
Fuels

Fuels employs 74,974 workers in California, 6.6 percent of the national total, up 11.9 percent over the past year. Petroleum and other fossil fuels makes up the largest segment of employment related to Fuels.

**Figure CA-4.**
Fuels Employment by Detailed Technology Application

[Graph showing employment by technology application]

Professional and business services jobs represent 34.3 percent of Fuels jobs in California.

**Figure CA-5.**
Fuels Employment by Industry Sector

[Graph showing employment by industry sector]
Transmission, Distribution and Storage

Transmission, Distribution, and Storage employs 152,207 workers in California, 11.1 percent of the national total, down 1.1 percent or 1,721 jobs since the 2018 report.

Figure CA-6.
Transmission, Distribution and Storage Employment by Detailed Technology

Construction is responsible for the largest percentage of Transmission, Distribution, and Storage jobs in California, with 32.8 percent of such jobs statewide.

Figure CA-7.
Transmission, Distribution and Storage Employment by Industry Sector
Energy Efficiency

The 318,542 Energy Efficiency jobs in California represent 13.7 percent of all U.S. Energy Efficiency jobs, adding 8,109 jobs (2.6 percent) since last year. The largest number of these employees work in (traditional HVAC firms, followed by ENERGY STAR and efficient lighting.

**Figure CA-8.**
Energy Efficiency Employment by Detailed Technology Application

Energy Efficiency employment is primarily found in the construction industry.

**Figure CA-9.**
Energy Efficiency Employment by Industry Sector
Motor Vehicles

Motor Vehicle employment accounts for 217,587 jobs in California, up 8,612 jobs over the past year (4.1 percent). The industry sector that accounts for the largest fraction of Motor Vehicle jobs is repair and maintenance.

Figure CA-10.
Motor Vehicle Employment by Industry Sector

Workforce Characteristics

Employer Growth

Employers in California are more optimistic to their peers across the country in regards to their job growth over the next year in Traditional Energy (5.2 percent versus 4.1 percent nationally). Energy Efficiency employers expect to add 26,382 jobs in Energy Efficiency (8.3 percent) and Motor Vehicles employers expect to add 4,308 jobs (2.0 percent) over the next year.

Table CA-1.
Projected Growth by Major Technology Application

<table>
<thead>
<tr>
<th>Technology</th>
<th>State Projected Growth Next 12 Months (percent)</th>
<th>U.S. Projected Growth Next 12 Months (percent)</th>
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<tbody>
<tr>
<td>Electric Power Generation</td>
<td>7.4</td>
<td>7.1</td>
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<td>Electric Power Transmission,</td>
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<td>3.2</td>
</tr>
<tr>
<td>Distribution and Storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>8.3</td>
<td>7.8</td>
</tr>
<tr>
<td>Fuels</td>
<td>3.9</td>
<td>3.0</td>
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<tr>
<td>Motor Vehicles</td>
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<td>2.2</td>
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</table>
Hiring Difficulty

Over the last year, 45.1 percent of energy-related employers in California hired new employees. These employers reported the greatest overall difficulty in hiring workers for jobs in Fuels.

Table CA-2
Hiring Difficulty by Major Technology Application

<table>
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<tr>
<th>Technology</th>
<th>Very Difficult (%)</th>
<th>Somewhat Difficult (%)</th>
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</thead>
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<tr>
<td></td>
<td>State</td>
<td>National</td>
</tr>
<tr>
<td>Electric Power Generation</td>
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<td>20.7</td>
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<tr>
<td>Electric Power Transmission, Distribution and Storage</td>
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<tr>
<td>Energy Efficiency</td>
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<tr>
<td>Fuels</td>
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<td>37.9</td>
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<tr>
<td>Motor Vehicles</td>
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<td>30.0</td>
</tr>
</tbody>
</table>

Employers in California gave the following as the top three reasons for their reported difficulty:

1. Lack of experience, training, or technical skills
2. Insufficient qualifications (certifications or education)
3. Competition/ small applicant pool

Employers reported the following as the three most difficult occupations to hire for:

1. Sales, marketing, or customer service – $37.04 median hourly wage
2. Management (directors, supervisors, vice presidents) – $40.05 median hourly wage
3. Electrician/construction laborers – $19.60 median hourly wage