A Return to Rapid Growth, with Clean Vehicle Jobs Driving Ahead

Minnesota clean energy and clean transportation jobs grew by nearly 5 percent in 2021, with electric vehicle manufacturing jobs leading the way.

- **57,931** Clean energy jobs
- **+23%** Growth of jobs in the clean transportation sector, the region’s fastest-growing sector in 2021
- **4.7%** Growth in clean energy jobs in 2021

Clean energy companies employed nearly 58,000 Minnesotans at the end of 2021, almost a 5 percent increase from 2020 and a return to growth after an unprecedented decline in 2020. Approximately 40 percent of the clean energy jobs lost during the COVID-19 economic downturn were regained. In 2021, clean energy jobs grew in line with Minnesota’s overall economy. More Minnesotans worked in clean energy than the number of lawyers, accountants and auditors, web developers, and real estate agents in the state combined.

Clean Energy Jobs* in Minnesota

The biggest sector of the Minnesota clean energy industry is energy efficiency, representing almost 73 percent of the state’s clean energy workforce. The 42,218 energy efficiency workers in Minnesota manufacture ENERGY STAR-rated appliances; install efficient lighting; heating, ventilation, and air conditioning (HVAC) systems; and install advanced building controls and materials in homes and commercial buildings.

As more automakers and their suppliers continued to shift to electric vehicles, the advanced transportation sector saw an increase of 23 percent in Minnesota. The sector added 742 new jobs, for a total of 3,994 workers. Hybrid, plug-in hybrid, and electric-vehicle sector jobs accounted for most of the sector’s growth.

Solar energy jobs, another highlight in Minnesota, grew by 9.7 percent to 4,873 workers.

Across all clean energy sectors, the majority of clean energy jobs in Minnesota were in construction and professional services.

- **69%** Small businesses drive Minnesota’s clean energy sector – in 2021, 69 percent of the state’s clean energy businesses employed fewer than 20 individuals
- **11%** Approximately 11 percent of Minnesota’s clean energy workers were veterans

Learn more about the Midwest’s clean energy industry at [www.cleanjobsmidwest.com](http://www.cleanjobsmidwest.com)
Recent federal policies like the Inflation Reduction Act (IRA), the Infrastructure Investment and Jobs Act (IIJA), and the CHIPS and Science Act, and state policies like the Energy Conservation and Optimization (ECO) Act make unprecedented investments in the clean energy economy and create promise for strong future growth in clean energy jobs. Specifically, the IRA’s focus on reshoring good-paying manufacturing jobs and paying a prevailing wage to maximize incentives for large renewable projects will spur job growth in these sectors.

Still, there is more to do to meet the nation’s climate goals of reducing climate emissions by 50 percent by 2030, and state goals around growing clean energy jobs and improving equity in the clean energy economy outlined in the recently published Minnesota’s Climate Action Framework:

- **Implement recently passed federal policies to support a rapid and just transition to clean energy.** The IRA, IIJA, and the CHIPS and Science Act include a combined investment of hundreds of billions of dollars in the clean energy economy. Coordination across federal, state, and local agencies will be integral to maximize the effectiveness of this historic level of funding.

- **Develop and fund federal and state workforce development programs.** Workforce training will be critical to the continued growth of the industry, as over 84 percent of employers in the state report at least some difficulty hiring workers.

- **Expand our regional transmission grid and increase ease of access for clean energy projects.** The Midcontinent Independent System Operator’s recent announcement of new transmission infrastructure will significantly improve the reliability of Minnesota’s congested grid, allowing for greater investment in clean energy solutions of all scales.

- **Update Minnesota’s building codes to save energy costs and grow energy efficiency jobs.** In 2021, the state legislature considered a bill to allow cities to adopt a more efficient building standard to achieve net-zero energy for new commercial buildings by 2036.

- **Increase Minnesota’s energy standard to 100 percent clean energy.** Under such a standard, utilities could help design a schedule to meet carbon reduction goals by 2040. If passed, Minnesota would join 10 other states in passing legislation to achieve 100 percent carbon-free electricity.

### Jobs by Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency</td>
<td>42,218</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>8,270</td>
</tr>
<tr>
<td>Advanced Transportation</td>
<td>3,994</td>
</tr>
<tr>
<td>Grid &amp; Storage</td>
<td>2,764</td>
</tr>
<tr>
<td>Clean Fuels</td>
<td>684</td>
</tr>
</tbody>
</table>

### 2021 Subsector Details

#### Energy Efficiency
- Energy STAR & Efficient Lighting: 11,018
- Traditional HVAC: 8,353
- High Efficiency HVAC & Renewable H&C: 11,769
- Advanced Materials: 3,914
- Other: 7,164

#### Grid & Storage
- Clean Storage: 1,891
- Smart Grid: 245
- Micro Grid: 327
- Other Grid Modernization: 201

#### Advanced Transportation
- Hybrid Electric Vehicles: 1,833
- Plug-In Hybrid Vehicles: 813
- Electric Vehicles: 993
- Natural Gas Vehicles: 174
- Hydrogen and Fuel-Cell Vehicles: 182

#### Renewable Energy Generation
- Solar: 4,873
- Wind: 2,654
- Geothermal: 79
- Bioenergy/CHP: 467
- Low-Impact Hydroelectric: 197

Unless otherwise stated, the data and analyses presented in this report by Evergreen Climate Innovations and Environmental Entrepreneurs (E2) are based on data collected for the 2021 U.S. Energy Employment Report (2021 USEER), produced by the United States Department of Energy (DOE) and collected and analyzed by BW Research Partnership (BWRP).