SPIE Photonics Industry Summit
Education and Workforce Panel

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Of the 6 key findings in the report, 2 involve workforce

• Energy jobs are on the rise
  • The energy workforce added almost 300,000 jobs from 2021 to 2022 (+3.8% growth) increasing from 7.8M to 8.1M.
  • Women accounted for more than half of that growth, netting 149,732 jobs — a nearly 8% increase for women in the energy workforce compared to the year before.

• Clean energy technologies are making significant strides with clean energy jobs increasing by 3.9% nationally and in every state.
  • Align with the “net-zero” future and can include renewable energy, grid technologies and storage, traditional electricity transmission and distribution for electricity, nuclear energy, biofuels, and plug-in hybrid, battery electric, and hydrogen fuel cell vehicles and components
  • The number of jobs in battery electric vehicles increased by 28,366 (+27%) from 2021 to 2022
  • Clean energy electricity technologies, such as solar and wind, accounted for nearly 87% of net new electric power generation jobs, adding 22,279 jobs (+3.6%).
  • In 2022, there were 3.1 million clean energy jobs meeting the net-zero aligned definition. This represents an increase of more than 114,000 since 2021, or growth of 3.9%. These jobs made up more than 40% of total energy jobs in 2022.
Demographic Trends: DOE Overall Workforce and DOE STEM Workforce, FY 2015 - FY 2022

Representation of Selected Demographic Categories: Overall Permanent DOE Workforce (All Components), FY 2015-2022

## FY 2022 DOE Workforce Benchmarked by Race/National Origin (RNO) and Sex

<table>
<thead>
<tr>
<th></th>
<th>FedScope, Sept. 2022 Permanent Employment</th>
<th>Comparisons: (DOE) - (Benchmark)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All DOE</td>
<td>All Federal</td>
</tr>
<tr>
<td><strong>RNO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latino/a</td>
<td>8.4%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Non-Latino/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alaska Native</td>
<td>1.1%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Asian</td>
<td>5.6%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Black/African</td>
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<td></td>
</tr>
<tr>
<td>American</td>
<td>10.1%</td>
<td>18.6%</td>
</tr>
<tr>
<td>White</td>
<td>72.8%</td>
<td>60.5%</td>
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<tr>
<td><strong>Sex</strong></td>
<td></td>
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</tr>
<tr>
<td>Female</td>
<td>36.4%</td>
<td>44.7%</td>
</tr>
<tr>
<td>Male</td>
<td>63.6%</td>
<td>55.3%</td>
</tr>
</tbody>
</table>


DOE STEM Workforce Build

DOE is looking for applicants in the following career fields to support the implementation of the Bipartisan Infrastructure Law:

- Engineering (Job series: 801, 0810, 0830, 0840, 0850)
- Information Technology/Cybersecurity (Job series: 2210)
- Physical Science (Job series: 1301)

180 open federal positions, at LEAST 40% are STEM or STEM-adjacent

Interdisciplinary + General Engineer $69-$183K
Mathematical Statistician $69-$183K
Interdisciplinary + Physical scientist $69-$183K
IT/Cybersecurity Specialist $69-$183K
Environmental engineer $94-$137K
Electrical engineer $121-$146K
Data Scientist $124-$162K
Archeologist $91K
Environmental Protection Specialist $74-$115K

Lineman – $59/hr
High-voltage electrician $55-$77/hr
Nuclear Materials Courier $51-$81K
Civil Engineering Technician- $88-$115K

Map a Career in Clean Energy

- Advanced Clean Energy Manufacturing
- Bioenergy
- Green Buildings
- Hydrogen and Fuel Cells
- Solar
- Wind

Nuclear Security Enterprise

- Cyber Security
- Engineering
- Physical Sciences
- Intelligence Research
Build The Bench

• STEM Opportunities and Resources
• **Employment Opportunities**
• Upcoming Events and Deadlines
• Participant Highlights
• Who is DOE?
• DOE National Labs and Partners
• Entrepreneurship Opportunities
• Workforce Needs Reports
The growing energy landscape is creating opportunities for individuals with a wide range of skills and training. The workforce analysis reports below, developed by DOE offices, committees, and other federal entities, outline goals for expanding and diversifying the talent pool for DOE mission-related career paths. A knowledgeable and well-trained workforce is essential for meeting future energy, science, nuclear, and environmental demands.
Tribal Engagement

• DOE Interagency MOUs
  • Indigenous Knowledges
  • Tribal Languages
• FIRST STEPS resource
• Culturally Relevant Activities and Curriculum
Thank You!

Questions?  melinda.higgins@nuclear.energy.gov