

## ATLANTA CLEAN JOB OPPORTUNITIES

# Solar Energy

Learn more about the growing solar energy sector and how to get into this type of work

Solar energy jobs include jobs involved in the process of generating and distributing electricity from sunlight. Solar power is one of the most environmentally-friendly ways to create electricity that we use for daily activities like heating water, regulating the temperature in our homes and offices, and keeping our streets lit at night. Solar energy is especially useful for powering portable devices like cell phones and tablets, and to reach rural and remote areas that may not be well-connected to a power grid. **Solar is a renewable energy source that is not only good for the environment, but also helps people and businesses save money on their energy bills.**

Solar energy jobs may include manufacturers, scientific researchers, sales and marketing representatives, installation workers, maintenance workers, and many others. The U.S. solar industry employed 231,474 workers in 2020, with a trajectory to reach 400,000 solar jobs by 2030.

In America, about a seventh of all solar energy workers specialize in manufacturing, which is the process of assembling the different parts of solar panels (like modules, inverters, racking equipment, and batteries).

- ➔ In Georgia, solar is becoming the largest source of electric power. In fact, Georgia ranked No. 1 in solar jobs growth in the Solar Foundation's 2019 Solar Jobs Census.
- ➔ Atlanta has also adopted bold policies to act on climate change, including achieving a 100% clean energy transition for municipal operations and community-wide by 2035.
- ➔ This means there will be increased interest in solar from commercial, residential, industrial and utility companies, leading to a greater demand for solar jobs.

## EDUCATION & SKILL REQUIREMENTS

Nearly all solar jobs require some level of proficiency in construction, manufacturing, or electrical knowledge. **These skills can be acquired through apprenticeship, internships, or in training programs within schools and universities.** Wages for jobs within the solar industry are usually higher than jobs within other industries (for example, solar manufacturing workers generally make more money than manufacturers in other fields), making these opportunities attractive for young professionals with many different skill sets.

## LEARN MORE ABOUT SOLAR ENERGY JOBS

| OCCUPATION  | FUNCTION   | PEOPLE STARTING IN THIS CAREER USUALLY HAVE   | AVG. ATLANTA SALARY | AVG. U.S. SALARY | ACTIVITIES ON THE JOB  | PROGRAMS THAT CAN PREPARE YOU IN ATLANTA   |
|---|--|---|---------------------|------------------|--|--|
| <b>Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers</b><br>Assembler, Electrical Assembler, Electromechanical Assembler, Electromechanical Equipment Assembler, Electronic Assembler, Electronic Technician, Electronics Assembler, Mechanical Assembler, Production Associate, Wiring Technician | Assemble or modify electromechanical equipment or devices, such as servomechanisms, gyros, dynamometers, magnetic drums, tape drives, brakes, control linkage, actuators, and appliances.  | High school diploma or equivalent<br>No work experience<br>1 to 12 months on-the-job training   | \$37,930            | \$39,630         | <ul style="list-style-type: none"> <li>Inspect installed components or assemblies.</li> <li>Align parts or workpieces to ensure proper assembly.</li> <li>Assemble electrical or electronic equipment.</li> <li>Connect supply lines to production equipment or tools.</li> <li>Measure dimensions of completed products or workpieces to verify conformance to specifications.</li> </ul> | <ul style="list-style-type: none"> <li><a href="#">Electrical/Electronics Equipment Installation and Repair Technology/Technician, General</a></li> <li><a href="#">Electrical and Electronics Engineering</a></li> <li><a href="#">Automobile/Automotive Mechanics Technology/Technician</a></li> <li><a href="#">Computer Installation and Repair Technology/Technician</a></li> <li><a href="#">Electrical, Electronic, and Communications Engineering Technology/Technician</a></li> </ul>               |
| <b>Operating Engineers and Other Construction Equipment Operators</b><br>Back Hoe Operator, Engineering Equipment Operator, Equipment Operator (EO), Forklift Operator, Heavy Equipment Operator, Hot Mix Asphalt Operator, Machine Operator, Motor Grader Operator, Operating Engineer, Track Hoe Operator   | Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties. | High school diploma or equivalent<br>No work experience<br>1 to 12 months on-the-job training   | \$41,900            | \$48,360         | <ul style="list-style-type: none"> <li>Update job related knowledge or skills.</li> <li>Position construction or extraction equipment.</li> <li>Monitor construction operations.</li> <li>Operate equipment or vehicles to clear construction sites or move materials.</li> <li>Move construction or extraction materials to locations where they are needed.</li> </ul>                   | <ul style="list-style-type: none"> <li><a href="#">Construction/Heavy Equipment/Earthmoving Equipment Operation</a></li> <li><a href="#">Mobil Crane Operator/Operation</a></li> </ul>   |
| <b>Solar Photovoltaic Installers</b><br>Installer, PV Design Technician (Photovoltaic Design Technician), Photovoltaic Installer (PV Installer), Solar Designer, Solar Installer, Solar Installer Technician, Solar Photovoltaic Installer (Solar PV Installer), Solar Technician   | Assemble, install, or maintain solar photovoltaic (PV) systems on roofs or other structures in compliance with site assessment and schematics. May include measuring, cutting, assembling, and bolting structural framing and solar modules. May perform minor electrical work such as current checks.   | High school diploma or equivalent<br>No work experience<br>1 to 12 months on-the-job training   | \$46,610            | \$47,670         | <ul style="list-style-type: none"> <li>Install solar energy systems.</li> <li>Apply sealants or other protective coatings.</li> <li>Determine appropriate locations for operations or installations.</li> <li>Select construction materials.</li> <li>Install electrical components, equipment, or systems.</li> </ul>   | <ul style="list-style-type: none"> <li><a href="#">Roofer</a></li> <li><a href="#">Solar Energy System Installation and Repair Technology/Technician</a></li> <li><a href="#">Solar Energy Technology/Technician</a></li> </ul>  |
| <b>FirstLine Supervisors of Construction Trades and Extraction Workers</b><br>Production Foreman, Construction Foreman, Construction Supervisor, Electrical Supervisor, Field Operations Supervisor, Field Supervisor, Insulation Foreman, Roustabout Field Supervisor, Sheet Metal Foreman, Site Superintendent                                      | Directly supervise and coordinate activities of construction or extraction workers.  | High school diploma or equivalent<br>5 years or more work experience<br>No on-the-job training  | \$71,010            | \$75,060         | <ul style="list-style-type: none"> <li>Inspect equipment or tools to be used in construction or excavation.</li> <li>Evaluate projects to determine compliance with technical specifications.</li> <li>Monitor construction operations.</li> <li>Review blueprints or specifications to determine work requirements.</li> <li>Direct construction or extraction personnel.</li> </ul>      | <ul style="list-style-type: none"> <li><a href="#">Building Construction Technology/Technician</a></li> <li><a href="#">Building/Construction Site Management/Manager</a></li> <li><a href="#">Building/Home/Construction Inspection/Inspector</a></li> <li><a href="#">Construction Trades, General</a></li> <li><a href="#">Electrician</a></li> <li><a href="#">Pipefitting/Pipefitter and Sprinkler Fitter</a></li> <li><a href="#">Roofer</a></li> <li><a href="#">Well Drilling/Driller</a></li> </ul> |
| <b>Solar Sales Representatives and Assessors</b><br>Energy Consultant, Sales Associate, Sales Representative, Salesman, Solar Consultant, Solar Sales Representative  | Contact new or existing customers to determine their solar equipment needs, suggest systems or equipment, or estimate costs.   | Bachelor's degree<br>No work experience<br>1 to 12 months on-the-job training                   | \$79,540            | \$86,650         | <ul style="list-style-type: none"> <li>Develop proposals for current or prospective customers.</li> <li>Prepare sales or other contracts.</li> <li>Develop content for sales presentations or other materials.</li> <li>Customize energy products or services to meet customer needs.</li> <li>Explain technical product or service information to customers.</li> </ul>                   | <ul style="list-style-type: none"> <li><a href="#">Selling Skills and Sales Operations</a></li> </ul>  |
| <b>Industrial Engineers</b><br>Continuous Improvement Engineer, Engineer, Facilities Engineer, Industrial Engineer, Operations Engineer, Plant Engineer, Process Engineer, Project Engineer, Quality Engineer, Research and Development Engineer (R and D Engineer)   | Design, develop, test, and evaluate integrated systems for managing industrial production processes, including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination.  | High school diploma or equivalent<br>No work experience<br>More than 1 year on-the-job training | \$90,200            | \$95,200         | <ul style="list-style-type: none"> <li>Estimate operational costs.</li> <li>Determine operational methods.</li> <li>Analyze project data to determine specifications or requirements.</li> <li>Confer with technical personnel to prepare designs or operational plans.</li> <li>Discuss designs or plans with clients.</li> </ul>   | <ul style="list-style-type: none"> <li><a href="#">Engineering/Industrial Management</a></li> <li><a href="#">Industrial Engineering</a></li> <li><a href="#">Manufacturing Engineering</a></li> <li><a href="#">Packaging Science</a></li> <li><a href="#">Systems Engineering</a></li> </ul>   |
| <b>Mechanical Engineers</b><br>Application Engineer, Design Engineer, Design Maintenance Engineer, Equipment Engineer, Mechanical Design Engineer, Mechanical Engineer, Process Engineer, Product Engineer, Project Engineer, Test Engineer   | Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.  | Bachelor's degree<br>No work experience<br>No on-the-job training                               | \$96,930            | \$97,000         | <ul style="list-style-type: none"> <li>Review technical documents to plan work.</li> <li>Design industrial processing systems.</li> <li>Design industrial equipment.</li> <li>Evaluate characteristics of equipment or systems.</li> <li>Confer with technical personnel to prepare designs or operational plans.</li> </ul>   | <ul style="list-style-type: none"> <li><a href="#">Electromechanical Engineering</a></li> <li><a href="#">Engineering Mechanics</a></li> <li><a href="#">Mechanical Engineering</a></li> </ul>   |
| <b>Electrical Engineers</b><br>Circuits Engineer, Design Engineer, Electrical Controls Engineer, Electrical Design Engineer, Electrical Engineer, Electrical Project Engineer, Instrumentation and Electrical Reliability Engineer (I&E Reliability Engineer), Power Systems Engineer, Project Engineer, Test Engineer                                | Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.  | Bachelor's degree<br>No work experience<br>No on-the-job training                               | \$114,290           | \$107,890        | <ul style="list-style-type: none"> <li>Operate computer systems.</li> <li>Create electrical schematics.</li> <li>Confer with technical personnel to prepare designs or operational plans.</li> <li>Discuss designs or plans with clients.</li> <li>Design structures or facilities.</li> </ul>   | <ul style="list-style-type: none"> <li><a href="#">Electrical and Computer Engineering</a></li> <li><a href="#">Electrical and Electronics Engineering</a></li> <li><a href="#">Electrical, Electronic, and Communications Engineering</a></li> <li><a href="#">Electromechanical Engineering</a></li> </ul>   |



**Images 1 & 2.** Professionals installing solar panels. A boom in solar and wind power jobs in the U.S. led to a global increase in renewable energy employment (Sources: Guardian, PSR)

## RESOURCES TO LEARN MORE

- Explore occupation profiles including information on salaries, required qualifications, training opportunities, and much more on the [Career One Stop](#) website and [O\\*NET Online](#) website. Career One Stop also presents [a summary](#) of other common renewable energy generation jobs, their respective education and training requirements, and any opportunities for training within your community. You can also click around the Certification Finder to explore certification programs and resources that will help you boost your qualifications for a solar energy job.
- Learn about apprenticeships and other pathways for solar energy careers on [Apprenticeship.gov](#), including guidance on where to find and how to access these opportunities.
- [National Solar Jobs Census 2020](#)
- Learn about the energy policies that are contributing to green job growth in Atlanta:
  - [Clean Energy Atlanta 2019](#)
  - [Atlanta Climate Action Plan](#)
  - [Georgia Power 2019 Integrated Resource Plan](#)
  - [Atlanta Downtown Sustainability Action Plan](#)

*This factsheet is part of a collaborative effort between Smart Growth America (SGA) and the Partnership for Southern Equity (PSE) to support Atlanta's current and future workers' participation in the growing clean economy. The factsheets include introductory information on jobs within the following clean economy sectors: (1) energy efficiency, (2) solar energy, and (3) green infrastructure.*