



CAREER PROFILE

Solar Engineer

JOB OUTLOOK⁴

Overall employment of solar engineers is projected to grow much faster than the average rate for all occupations. The increasing popularity of solar power will create demand for solar engineers and installers. Solar power is becoming more popular as a result of reduced costs for solar panels, as well as the popularity of less-expansive solar leasing plans.

SALARY RANGE⁵

\$50,000 – \$125,000

WHO ARE THEY?^{1,2,3}

Solar engineers are multi-tasking, problem-solving, leadership-oriented professionals. They have knowledge in multiple fields of science and math related to harnessing energy from the sun to power residential, commercial, and industrial establishments. Solar engineers are comfortable designing and implementing complex production plans, but also possess analytical minds for troubleshooting and making adjustments. They collaborate with colleagues and clients representing diverse areas of expertise and energy needs. Solar engineers are approachable and easy to work with, but willing to raise difficult questions to resolve issues. Successful solar engineers maximize the utility of solar power to make sure the energy needs of both businesses and people are met in a cost-effective manner.

WHAT DO THEY DO?^{1,2,3,4}

Solar engineers supervise the design, installation, and monitoring of systems that provide solar energy to residences, offices, and factories. They conduct audits to collect information about the characteristics and energy needs of sites where solar power will be harnessed. They determine the materials, equipment, and labor requirements for solar installation projects. Solar engineers design customized systems that meet the needs of each site, including solar panels, hot water heating systems, and space heating and cooling units. They ensure that project plans minimize risks and comply with government regulations. They use software to create connection diagrams for solar-powered electric systems. Solar engineers provide detailed instructions for teams who will install solar power and perform quality control and safety checks during construction. Finally, they formulate plans for monitoring the performance of systems that provide solar power.



CAREER PROFILE

Solar Engineer (Continued)

EDUCATION/ TRAINING^{1,4}

- At least a bachelor's degree in engineering or a closely related field, with an advanced degree preferred.
- Several years of field experience assisting with the design and installation of projects that provide solar energy to residences, businesses, and factories.
- Experience designing and working with electricity.
- Experience with advanced modeling tools and software as well as other business-related computer programs.

HOW DO I BECOME ONE?^{1,4}

Solar engineers will need at a bachelor's degree in engineering or a closely related field. They will also need as many as 5 years of experience in the field assisting with the design and development of solar power projects and energy storage systems. Solar engineers also need:

- Analytical skills for processing large amounts of information.
- Interpersonal skills for collaborating with colleagues representing different areas of expertise.
- Problem-solving skills for identifying and correcting issues.
- Decision-making skills for balancing conflicting information and data.
- Math skills for measuring and analyzing data.

¹ "Utility Project Engineer, Solar" job listing, AES. https://aes.wd1.myworkdayjobs.com/en-US/AES_US/job/US-Louisville-CO/Utility-Project-Engineer-Solar_R1044467-1.

² "Solar Engineers," Vault. <https://www.vault.com/industries-professions/professions/s/solar-engineers>.

³ "Solar Energy Systems Engineers: Salary, Job Description, How to Become One, Quiz," OwlGuru. <https://www.owlguru.com/career/solar-energy-systems-engineers/>.

⁴ "Civil Engineers," Occupational Outlook Handbook, U.S. Bureau of Labor Statistics. <https://www.bls.gov/ooh/architecture-and-engineering/civil-engineers.htm#tab-4>.

⁵ "Solar Photovoltaic Installers," Occupational Outlook Handbook, U.S. Bureau of Labor Statistics. <https://www.bls.gov/ooh/construction-and-extraction/solar-photovoltaic-installers.htm#tab-6>.