get into energy
WITH THE CENTER FOR ENERGY WORKFORCE DEVELOPMENT

Career Pathway Spotlight

Discover a Career in Engineering

Discover your career in energy!

Engineers design, build, commission, and optimize the systems that power the energy industry — from compressor stations and refineries to industrial plants, renewable energy projects, and the digital tools shaping tomorrow's grid.

Design and Planning

At engineering firms, utilities, and developers, engineers design the systems that move power, fuel, and water across the energy industry. They model performance, run feasibility studies, and produce the drawings and specifications that turn ideas into buildable plans.

Construction and Commissioning

On active project sites — pipelines, refineries, wind farms, and transmission corridors — engineers oversee construction, witness factory acceptance tests, and lead commissioning. They make sure equipment is built to spec and ready to operate safely before plants go online.

Operations and Optimization

At running plants, utilities, and industrial facilities, engineers improve performance day after day. They analyze process data, identify energy-saving opportunities, lead reliability studies, and bring root-cause analysis to equipment failures so operations are safer, cleaner, and more profitable.

CAREER PATH

Start with:

» A high school diploma or GED

Get Educated:

» A four-year bachelor's degree in engineering
- Mechanical, civil, chemical, controls, or environmental engineering disciplines

» A master's degree for specialized or research roles

» A military pathway with engineering experience
- Army Corps of Engineers, Navy Seabees, or Air Force Civil Engineer

Specialize With:

Certificates or credentials

» Engineer in Training (EIT) via the Fundamentals of Engineering (FE) exam

» Professional Engineer (PE) license

» Project Management Professional (PMP) for project engineers

Knowledge in:

» Compressor and rotating equipment

» Industrial energy efficiency

» Controls and automation

» Civil and structural design

» Commissioning and start-up

OCCUPATIONAL SKILLS

» Strong analytical and mathematical reasoning abilities

» Sharp attention to detail and accuracy in calculations

» Clear written and verbal communication with diverse teams

» Strong problem-solving and root-cause analysis skills

» Comfort with technical software and data analysis tools

» Curiosity for how complex systems work and improve

» Adaptability across projects, sites, and many engineering disciplines

BENEFITS

These energy industry careers offer:

» Strong, stable demand across energy industries

» Competitive pay and comprehensive benefits packages

» Growth into senior engineer, manager, and executive roles

» Specialize across mechanical, civil, controls, or process work

» Meaningful work designing tomorrow's energy system

What Might You Do In Engineering?

ENTRY LEVEL
1-4 years

What you will do:

- Supporting senior engineers with calculations, drafting, and design reviews on energy projects
- Modeling systems and equipment performance using industry-standard engineering software
- Conducting field walks, inspections, and data collection for active client projects
- Preparing technical reports, specifications, and bid documents for review
- Supporting commissioning tests, factory acceptance, and start-up activities at the site
- Studying for the Fundamentals of Engineering exam and pursuing EIT designation

What knowledge, skills and abilities will you need to succeed?

- Listen and follow directions from senior engineers and managers
- A bachelor's degree in a relevant engineering discipline
- Strong math, physics, and modeling fundamentals from your degree
- Comfort with CAD, simulation software, and Microsoft Office tools
- Eagerness to pass the FE exam and pursue EIT designation

MID- CAREER
5-8 years

What you will do:

- Independently leading engineering design and analysis on active energy projects
- Stamping drawings and calculations after earning the Professional Engineer (PE) license
- Sizing compressors, pumps, controls systems, and structural components for energy projects
- Using AI-assisted simulation tools and digital twins to optimize complex designs
- Leading commissioning, factory acceptance tests, and start-up activities on-site
- Mentoring entry-level engineers and reviewing their calculations and project drawings

What knowledge, skills and abilities will you need to succeed?

- Active PE license in your state
- Working knowledge of relevant codes, standards, and regulations
- Fluency in engineering simulation, CAD, and data analysis software
- Clear communication with clients, contractors, and other engineering teams
- Composure during construction setbacks and tight commissioning windows
- Familiarity with project management, cost estimation, and risk analysis methods

EXPERIENCED
8+ years

What you will do:

- Leading multi-discipline engineering teams across major capital and modernization projects
- Setting engineering standards, design philosophies, and review processes across teams
- Driving reliability, safety, and efficiency programs across multiple plants or sites
- Adopting new technology like AI design tools, generative engineering, and digital twins
- Coordinating with executives, clients, regulators, and major external engineering consultants
- Mentoring mid-career engineers and shaping recruiting, licensure, and career development pathways

What knowledge, skills and abilities will you need to succeed?

- Deep expertise across one or more relevant engineering disciplines
- Leadership and people-management skills for multi-discipline engineering teams
- Strategic communication with executives, clients, and regulators
- Strong financial judgment for capital decisions and project economics
- Mastery of change management as energy technology evolves rapidly

GET PAID!

For salary information on Engineering roles, please refer back to the Get Into Energy Explorer.

Get Into Energy Explorer

ENERGY INDUSTRY CAREERS OFFER:

- Excellent salaries
- Opportunities for advancement
- Job growth & stability
- Professional development and training
- Great benefits

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