

# INDEX OF CURRENT AND POTENTIAL NEW MEXICO GREEN JOBS

The list of jobs below is not complete, but provides a broad overview of the types of green jobs that will be growing in New Mexico.

## LOW CARBON POWER AND RENEWABLE POWER GENERATION

### PV Fabrication and Testing Technician

*Description:* Device fabrication and testing of flexible, translucent plastic solar cells which generate energy from the sun

*Min. Educational Req.:* Associate's Degree in Electronics/Electrical Engineering, Material Science, Physics, Chemistry, or related discipline or equivalent training and work experience

*Recommended College Coursework:* Electronics, Electrical Engineering, Chemistry, Solar, Physics, Material Science

*Experience Needed:* Entry-Level

Two years' work experience in a laboratory environment is highly desirable

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private consulting, Government, Power Plants/Facilities

*Related Careers:* 1. Solar Lab Technician,  
2. Solar Energy Systems Designer

### Solar Lab Technician

*Description:* Performs a variety of tests on solar devices; examines test samples; and interprets blueprints, diagrams, instruments, and operational instructions

*Min. Educational Req.:* Associate's Degree in related field

*Recommended College Coursework:* Physics, Chemistry, Mechanical/Electrical Engineering, Solar

*Experience Needed:* Entry-Level

Demonstrate ability to perform all common laboratory tests, record lab results, and provide feedback

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

### Solar Fabrication Technician

*Description:* Fabricates and assembles solar panels and arrays using machine shop tools and equipment

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-Level

A combination of three to six months of directly related training and/or experience is typically required

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Solar Energy System Installer  
2. Solar and PV installation: Roofer

## SOLAR POWER INSTALLATION, MAINTENANCE, DEVELOPMENT, AND MANUFACTURING

### Solar and PV Installation: Roofer

*Description:* Installs solar systems on roof while making sure it is air-tight and does not compromise the structural integrity of the building

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-Level

One to three years' related on-the-job experience

*Desired Education:* Trade School or Apprenticeship

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Construction

### ICE Technician

#### (Instrumentation/Controls/Electrical Systems)

*Description:* Monitors and repairs the instrumentation, controls, and electrical systems in a utility scale solar power generating facility

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Mid-Level

Two to three years' experience with increasing responsibilities in troubleshooting and repair of plant instruments

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Installation Engineer

### Solar Residential Installation Electrician

*Description:* Responsible for hardwiring the PV energy system to the power grid

*Min. Educational Req.:* High School Diploma/GED

*Certification:* North American Board of Certified Energy Practitioners (NABCEP) Certified Solar PV Installer

*Experience Needed:* Entry-to-Mid-Level

Assumes Journey-level Electrician but does not need solar experience

*Desired Education:* Associate's Degree, Trade School, or Apprenticeship

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Electrician

### Solar Commercial Installation Electrician

*Description:* Installs solar electric generating systems at commercial customer sites

*Min. Educational Req.:* High School Diploma/GED

*Certification:* North American Board of Certified Energy Practitioners (NABCEP) Certified Solar PV Installer (recommended)

*Experience Needed:* Entry-to Mid-Level Journey level status expected

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Residential Installation Electrician  
2. Energy Efficiency Electrician

### Solar Residential Installation Electrician Foreman

*Description:* Coordinates, directs, and manages solar electric generating systems installations at residential customer sites

*Min. Educational Req.:* High School Diploma/GED

*Certification:* North American Board of Certified Energy Practitioners (NABCEP) Certified Solar PV Installer is recommended

*Experience Needed:* Mid- to High-Level Journey Level attained — Minimum of three to five years of Solar Installation

*Desired Education:* Associate's Degree or equivalent from Trade School or Apprenticeship

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Solar Energy System Installer  
2. Commercial Installation Electrician  
3. ICE Technician

### Solar Commercial Installation Engineering Technician

*Description:* Provides technical support and assistance to field technicians and engineers

*Min. Educational Req.:* Associate's Degree or equivalent from Trade School or Apprenticeship

*Recommended College Coursework:* Solar Installation, Electrical Engineering

*Experience Needed:* Mid-Level

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Solar Lab Technician  
2. Commercial Installation Engineer

## SOLAR POWER INSTALLATION, MAINTENANCE, DEVELOPMENT, MANUFACTURING, DESIGN, AND PROJECT MANAGEMENT

### Solar Commercial Installation Electrician Foreman

*Description:* Coordinates, directs, and manages solar electric generating systems installations at commercial customer sites

*Min. Educational Req.:* Trade School or Apprenticeship

*Recommended College Coursework:* Solar or Renewable Energy Classes

*Certification:* North American Board of Certified Energy Practitioners (NABCEP) Certified Solar PV Installer

*Experience Needed:* Mid- to High-Level Journey level attained—three to five years direct experience in a construction environment in a similar capacity and carpentry and/or roofing experience is required

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Residential Installation Electrician

### Solar Commercial Installation Engineer

*Description:* Responsible for installing solar panel systems on commercial structures. Works with blueprints and technical concerns in installation

*Min. Educational Req.:* Bachelor's Degree in Electrical Engineering

*Recommended College Coursework:* Solar, Electrical Engineering

*Certification:* North American Board of Certified Energy Practitioners (NABCEP) Certified Solar PV Installer recommended

*Experience Needed:* High-Level Established Engineer with experience in Solar Installation

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Residential Installation Engineer  
2. Electrical Engineer

### Solar Energy Systems Designer

*Description:* Designs solar domestic hot water and space heating systems for new and existing structures, applying knowledge of energy requirements of structure, local climatological conditions, solar technology, and thermodynamics

*Min. Educational Req.:* Trade School or Apprenticeship

*Recommended College Coursework:* Shop Math, Mechanical Drawing, Physics, Electronics, Solar Theory, Design

*Experience Needed:* Mid- to High-Level Knowledge of solid-state equipment controls, microelectronics, plumbing, and electrical training

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Geothermal Designer

### Solar Thermoelectric Plant Project Manager

*Description:* Command an entire solar thermoelectric plant

*Min. Educational Req.:* Bachelor's Degree, Trade School, or Apprenticeship

*Recommended College Coursework:* Electrical, Electronic, and/or Energy Engineering

*Certification:* Professional Engineer (PE)

*Experience Needed:* Mid- to High-Level

Minimum of two years' working experience, familiarity with thermoelectric technology as well as the solar energy market

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Solar Operations Engineer

### Solar Operations Engineer

*Description:* Work with integration partners to design solar facilities and be an expert on solar technology and innovation

*Min. Educational Req.:* High School Diploma/GED

*Recommended College Coursework:* Electrical Engineering, Solar Operations

*Certification Required:* Professional Engineer, North American Board of Certified Energy Practitioners (NABCEP) certificate, and/or Electrical Contractors licenses are a plus

*Experience Needed:* High-Level

Have experience designing and building PV electrical generation systems

*Desired Education:* Bachelor's Degree in Electrical Engineering preferred

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Solar PV Designer

### PV Solar Cell Designer

*Description:* Design concentrated photovoltaic solar cells for mass production

*Min. Educational Req.:* Advanced Degree in Electrical Engineering, Materials Science, Chemistry, Physics or related

*Recommended College Coursework:* Engineering, Sciences, Renewable Energies

*Experience Needed:* High-Level

Minimum of five years' industry experience, solar experience not required

*Growth potential:* Solar industry growth will create the need for skilled designers and engineers

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Solar Energy Systems Designer  
2. Electrical Engineer

## SOLAR POWER DESIGN, PROJECT MANAGEMENT, SALES, AND MARKETING

### Solar Energy Engineer

*Description:* Perform site-specific engineering analysis and evaluation of energy efficiency and solar projects involving residential, commercial, and industrial customers by utilizing building simulation software

*Min. Educational Req.:* Bachelor's Degree in an Engineering discipline

*Recommended College Coursework:* Engineering, Physics

*Certification:* Professional Engineer, Engineer-in-Training, and/or Certified Energy Manager is desired

*Experience Needed:* High-Level

Three to ten years' related experience/training; three to five years' facility-related engineering experience; two to five years' experience within the green building, energy efficiency, building science, or related field

*Desired Education:* Master's Degree a plus

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms

*Related Careers:* 1. Electrical Engineer

### PV Power Systems Engineer

*Description:* Drive the development and implementation of highly efficient grid-connected systems for concentrated PV technologies

*Min. Educational Req.:* Master's Degree in Electric Power Engineering or Energy Efficiency or a Bachelor's Degree with strong work experience

*Recommended College Coursework:* Electrical Engineering, Renewable Energies, Physics

*Experience Needed:* High-Level

Three to eight years' experience including large-scale grid interconnect systems experience

*Growth Potential:* High growth alongside the rest of the solar energy sector

*Employer Type:* Private Firms, Government, Power Plants/ Facilities

*Related Careers:* 1. Solar Systems Designer  
2. Photovoltaic Engineer  
3. Energy Engineer

### Residential/Commercial Solar Sales Consultant

*Description:* Establish sales plans, prepare proposals, and finalize client deals

*Min. Educational Req.:* Bachelor's Degree

*Recommended College Coursework:* Marketing, Sales, Sciences

*Experience Needed:* Mid-Level

Two to five years' experience in commercial and/or in-home sales

*Growth Potential:* Grows with and helps propel the solar industry

*Employer Type:* Private Firms

*Related Careers:* 1. Energy Conservation Representative

## WIND DEVELOPMENT AND MANUFACTURING

### Wind Turbine Machinist

*Description:* Make precision metal or plastic parts, use computer numerically controlled machine tools, and set up and operate all the basic machine tools and many specialized variations for wind turbine production

*Min. Educational Req.:* Apprenticeship or Trade School

*Recommended College Coursework:* Metalworking, Drafting, Math, and Computer courses

*Experience Needed:* Entry-to Mid-Level

Journey level status

*Growth Potential:* Good growth alongside the rest of the wind energy sector

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Welder  
2. Sheet Metal Worker

### Wind Turbine Sheet Metal Worker

*Description:* Perform all operations necessary to make, install, and repair a wide variety of sheet-metal products related to wind turbine production

*Min. Educational Req.:* Apprenticeship or Trade School

*Recommended College Coursework:* Math, Mechanical Drawing, Metal Shop, Welding, Heating, and Air-Conditioning

*Experience Needed:* Entry-to Mid-Level

Journey level status

*Growth Potential:* Good growth alongside the rest of the wind energy sector

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Machinist  
2. Welder

### Wind Turbine Engineering Intern

*Description:* Assist engineers while gaining hands-on experience with wind turbines

*Min. Educational Req.:* High School Diploma/GED, prefer some college

*Recommended College Coursework:* Physics, Electrical Engineering

*Experience Needed:* Entry-Level

Hands-on laboratory experience with electronics equipment, physics laboratory, optical equipment, and electronics fabrication

*Desired Education:* Working toward Bachelor of Science or Master of Science Degree in Physics or Electrical Engineering

*Growth Potential:* As demand for jobs grows, so does the demand for internships

*Employer Type:* Private Firms, Power Plants/Facilities

### Wind Farm Electrical Systems Designer

*Description:* Design underground and overhead wind farm collector systems and prepare and develop site specifications

*Min. Educational Req.:* Bachelor's Degree

*Recommended College Coursework:* Electrical Systems, Wind Turbine Design

*Experience Needed:* High-Level

Minimum of five years' experience including wind farm collector systems and/or electric utility distribution

*Growth Potential:* The need for new electrical systems will progress with growth in wind development

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Electrical Engineer

### Wind Turbine Electrical Engineer

*Description:* Responsible for design, development, and testing of all aspects of electrical components and equipment

*Min. Educational Req.:* Bachelor's Degree in Electrical Engineering

*Recommended College Coursework:* Electrical Engineering, Renewable Energies

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Five years with similar responsibilities

*Growth Potential:* Good growth alongside the rest of the wind energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Energy Engineer  
2. Photovoltaic Design Engineer

### Wind Turbine Mechanical Engineer

*Description:* Responsible for design, development, and testing of all aspects of mechanical components, equipment, and machinery

*Min. Educational Req.:* Bachelor's Degree in Mechanical Engineering

*Recommended College Coursework:* Mechanical Engineering, Metal Shop, Machinery

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Five years' experience with similar responsibilities

*Growth Potential:* Good growth alongside the rest of the wind energy sector

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Energy Engineer

## WIND POWER DEVELOPMENT, MANUFACTURING, INSTALLATION, AND MAINTENANCE

### Wind Field Technician

*Description:* Troubleshoot and repair complex problems on variable speed/variable pitch wind turbines

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-Level

One to two years' experience desired

*Desired Education:* Basic math skills in all units of measure using whole numbers, common fractions, and decimals

*Growth Potential:* Wind field operations will increase in demand as installations grow in number

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Electro-Mechanical Wind Turbine Technician  
2. Wind Generating Installer

### Junior Renewable Energy Technician

*Description:* Perform wind turbine resets and site call-outs and act as a central safety call-in for project managers performing high voltage switching, while receiving on-site training

*Min. Educational Req.:* High School diploma/GED

*Recommended College Coursework:* Electro-Mechanical, Wind Power Generation

*Experience Needed:* Entry-Level

Previous operations experience of wind plants or currently attending school for this particular field

*Desired Education:* Trade School or Apprenticeship

*Growth Potential:* Wind field operations will increase in demand as installations grow in number

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Wind Field Technician  
2. Electro-Mechanical Wind Turbine Technician

### Wind Generating Installer

*Description:* Assembles, installs, and maintains electrical and mechanical parts such as alternators, generators, and rotors of electric power generating windmills, according to production specifications

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-to Mid-Level

A combination of more than four years of directly related training and/or experience is typically required

*Growth Potential:* Wind field installation positions will increase in demand as new installations grow in number

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Electro-Mechanical Wind Turbine Technician  
2. Wind Field Technician

### Electro-Mechanical Wind Turbine Technician

*Description:* Responsible for the installation, maintenance, and commissioning of wind turbines

*Min. Educational Req.:* Associate's Degree or equivalent from Trade School, 6 to 12 months' related experience and/or training, or the equivalent combination of education and experience

*Recommended College Coursework:* Electrical/ Mechanical Engineering

*Experience Needed:* Entry-to Mid-Level

*Growth Potential:* Growing as wind power expands

*Employer Type:* Private Firms, Government, Power Plant/Facilities

*Related Careers:* 1. Wind Generating Installer  
2. Wind Field Technician

### Wind Field Operations Manager for Commercial

*Description:* Provide overall leadership for the execution of all site activities in the region, including receiving, installing, and commissioning. Maintain expertise in field EHS and quality procedure and drive project requirements in region including cost, schedules and performance.

*Min. Educational Req.:* Bachelor's Degree

*Recommended College Coursework:* Renewable Energies, Engineering, Industrial Operations

*Experience Needed:* Mid- to High-Level

Minimum of three years in field management on wind farms plus one to two years' direct technical experience on wind farms

*Growth Potential:* Wind power is one of the fastest growing renewable energy sectors

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Plant Operations Manager

### Wind Field Service Technician

*Description:* Perform status checks on turbines and repair the problems

*Min. Educational Req.:* Trade School or Apprenticeship

*Recommended College Coursework:* Iron and/or Metal shop, Mechanical/Electrical Engineering, Renewable Energy Studies

*Experience Needed:* Mid-Level

*Growth Potential:* Wind power is one of the fastest growing renewable energy sectors

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Electro-Mechanical Wind Turbine Technician

## WIND POWER ENGINEERING, DESIGN, AND PROJECT MANAGEMENT

### Wind Power Plant Project Engineer

*Description:* Responsible for overseeing all aspects of the technical specialties at plants including electrical engineering, turbine selection and procurement, revenue generation, expense management and budgets, as well as conducting conceptual engineering and design of wind field processes and facilities

*Min. Educational Req.:* Bachelor's Degree in Mechanical or Electrical Engineering

*Recommended College Coursework:* Mechanical and/or Electrical Engineering, Renewable Energies

*Experience Needed:* High-Level

Five to ten years of experience with power plant design, maintenance, and operations

*Growth Potential:* Huge potential for growth as wind power expands

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Director of Wind Development

### Director of Wind Development

*Description:* Leads and manages the development and evaluation of potential wind energy business opportunities; identifies and analyzes wind energy investment opportunities; and leads projects through the research, analysis, modeling, recommendation, and negotiating phases

*Min. Educational Req.:* Bachelor's Degree in Accounting, Finance, Economics, or related field

*Recommended College Coursework:* Finance, Economics, Accounting, Management

*Experience Needed:* High-Level

Four to six years' wind developer experience with large company or consulting firm

*Desired Education:* MBA, CPA, CMA

*Growth Potential:* Wind development managers needed in increasing numbers as more wind power comes on line  
*Employer Type:* Private Firms, Power Plants/Facilities  
*Related Careers:* 1. Top Environmental Officer

## GEOTHERMAL POWER PLANT DEVELOPMENT AND MANUFACTURING

### Geothermal Heat Pump Machinist

*Description:* Make precision metal or plastic parts for geothermal heat pumps, use computer numerically controlled machine tools, and set up and operate all the basic machine tools and many specialized variations  
*Min. Educational Req.:* Apprenticeship or Trade School  
Recommended College Coursework: Metalworking, Drafting, Math, and Computer courses  
*Experience Needed:* Entry-to Mid-Level  
Journey level status  
*Growth Potential:* Good potential for growth as technology advances  
*Employer Type:* Private Firms, Power Plants/Facilities  
*Related Careers:* 1. Welder  
2. Sheet Metal Worker

### Geothermal Sheet Metal Worker

*Description:* Perform all operations necessary to make, install, and repair geothermal power generators  
*Min. Educational Req.:* Apprenticeship or Trade School  
Recommended College Coursework: Math, Mechanical Drawing, Metal Shop, Welding, Heating and Air-Conditioning  
*Experience Needed:* Entry-to Mid-Level  
Journey level status  
*Growth Potential:* Good potential for growth as technology advances  
*Employer Type:* Private Firms, Power Plants/Facilities  
*Related Careers:* 1. Machinist  
2. Welder

### Geothermal Engineering Intern

*Description:* Help design, build, and implement geothermal power strategies  
*Min. Educational Req.:* High School Diploma/GED, some college preferred  
*Recommended College Coursework:* Physics, Electrical Engineering  
*Experience Needed:* Entry-Level  
Hands-on laboratory experience with electronics equipment, physics laboratory, optical equipment, and electronics fabrication  
*Desired Education:* Working toward Bachelor of Science or Master of Science Degree in Physics or Electrical Engineering  
*Growth Potential:* As demand for jobs grows, so does demand for internships  
*Employer Type:* Private Firms, Power Plant/Facilities

### Geothermal Electrical Engineer

*Description:* Responsible for design, development, and testing of all aspects of electrical components and equipment  
*Min. Educational Req.:* Bachelor's Degree in Electrical Engineering  
*Recommended College Coursework:* Electrical Engineering, Renewable Energies, Geology  
*Certification:* Professional Engineer  
*Experience Needed:* High-Level  
Five years with similar responsibilities  
*Growth Potential:* Good potential for growth as technology advances  
*Employer Type:* Private Firms, Government, Power Plants/Facilities  
*Related Careers:* 1. Energy Engineer  
2. PV Systems Design Engineer

### Geothermal Power Generation (Mechanical) Engineer

*Description:* Involved with preparing specifications, performance modeling and analysis, cost estimations, and negotiation of supply and service contracts for a company that generates renewable electric power  
*Min. Educational Req.:* Bachelor's Degree in Mechanical Engineering  
*Recommended College Coursework:* Mechanical Engineering, Renewable Energies  
*Certification:* Professional Engineer  
*Experience Needed:* High-Level  
Five years' experience with boilers and steam turbines, vessels, piping, valves, control systems, equipment, and piping supports systems  
*Growth Potential:* Good potential for growth as technology advances  
*Employer Type:* Power Plants/Facilities  
*Related Careers:* 1. Geothermal Electrical Engineer

### Geothermal Plant Installation Technician

*Description:* Installs geothermal projects  
*Min. Educational Req.:* High School Diploma/GED  
*Experience Needed:* Entry-Level  
Experience in construction, refrigeration, electrical and/or plumbing installations  
*Growth Potential:* Good potential for growth as technology advances  
*Employer Type:* Private Firms, Power Plants/Facilities  
*Related Careers:* 1. Systems Service Technician

## GEOTHERMAL POWER PLANT INSTALLATION, ENGINEERING, AND MANAGEMENT

### Geothermal Plant Efficiency Operator

*Description:* Responsible for maintaining and monitoring plant equipment for efficient and safe plant operations and planning and handling all hazardous materials and wastes in a safe and environmentally sensitive manner  
*Min. Educational Req.:* High School Diploma/GED  
*Certification:* HAZMAT certificate

*Experience Needed:* High-Level

Minimum of five years of power plant operating experience

*Growth Potential:* This position will see tremendous growth as efficiency becomes a concern of more businesses

*Employer Type:* Government, Power Plants/Facilities

*Related Careers:* 1. Weatherization Operations Manager

### **Geothermal Engineering Intern**

*Description:* Assists Engineer in various aspects of geothermal power production

*Min. Educational Req.:* High School Diploma/GED, some college preferred

*Recommended College Coursework:* Physics, Electrical Engineering

*Experience Needed:* Entry-Level

Hands-on laboratory experience with electronics equipment, physics laboratory, optical equipment, and electronics fabrication

*Desired Education:* Working toward Bachelor of Science or Master of Science Degree in Physics or Electrical Engineering

*Growth Potential:* As demand for jobs grows, so does demand for internships

*Employer Type:* Private Firms, Power Plant/Facilities

### **Geothermal Operations Engineer**

*Description:* Collects and processes information on well field and plant performance, diagnoses well problems, and designs procedures to fix them

*Min. Educational Req.:* Bachelor's Degree or higher in Engineering

*Recommended College Coursework:* Resource/Petroleum Engineering, Computer Programming

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Fifteen years' experience in geothermal resource engineering as well as petroleum engineering

*Growth Potential:* Geothermal industry expected to have higher growth rate than some other renewable power sectors

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Mechanical Engineering  
2. Power Generation Development

### **Hydrogeologist**

*Description:* Work with other hydrogeologists on field-related activities connected to the groundwater monitoring duties as well as collect water level measurements and water quality samples from production wells and monitoring wells

*Min. Educational Req.:* Bachelor of Science Degree in the field of geology, hydrogeology, earth science, or related field

*Recommended College Coursework:* Hydrogeology, Earth Sciences

*Experience Needed:* Entry-Level

Some experience in groundwater sampling activities and hydrogeologic data presentation is a plus

*Growth Potential:* Approximately 30 percent growth rate by 2016

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Water Purification Systems Service Technician

### **Geothermal Mechanical Engineer**

*Description:* Responsible for design, development, and testing of all aspects of mechanical components, equipment, and machinery

*Min. Educational Req.:* Bachelor's Degree in Mechanical Engineering

*Recommended College Coursework:* Mechanical Engineering, Earth Sciences, Geothermal production

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Five years with similar responsibilities

*Growth Potential:* Good potential for growth as technology advances

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Electrical Engineer  
2. Energy Engineer

### **Geothermal Electrical Engineer**

*Description:* Responsible for design, development, and testing of all aspects of electrical components and equipment

*Min. Educational Req.:* Bachelor's Degree in Electrical Engineering

*Recommended College Coursework:* Electrical Engineering, Geothermal Technology

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Five years with similar responsibilities

*Growth Potential:* Good potential for growth as technology advances

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Energy Engineer  
2. Photovoltaic Design Engineer

## **GEOTHERMAL POWER PLANT ENGINEERING, DESIGN, AND PROJECT MANAGEMENT**

### **Geothermal Power Plant Structural Engineer**

*Description:* Designs the geothermal power generating structure

*Min. Educational Req.:* Bachelor's Degree in Civil Engineering

*Recommended College Coursework:* Structural Engineering, Mechanical Systems, Geothermal

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Five to fifteen years of facility and industrial system design with five years of power plant design

*Growth Potential:* Good potential for growth as technology advances

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Civil Engineer

## **BIOGAS AND BIOMASS GENERATED ENERGY**

### **Landfill Gas Collection System Operator**

*Description:* Responsible for daily operations, maintenance and repair, and extracting landfill gas in a proper, safe, reliable, and efficient manner

*Min. Educational Req.:* Trade School, Apprenticeship, or Associate's Degree

*Recommended College Coursework:* Power Generation Operation, Landfill Gas Plant Operations, Chemistry

*Experience Needed:* Mid-Level

Minimum of three years' equipment operations experience using mechanical, electrical, instrumental, or control system skills

*Growth Potential:* Growth expected

*Employer Type:* Landfill Facilities, Consultants

*Related Careers:* 1. Landfill Gas Collection System Technician

### **Landfill Gas Technician**

*Description:* Responsible for assisting head landfill operator in daily operations, maintenance and repair, and performing landfill gas leak checks on recurring basis

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-Level

*Growth Potential:* Growth expected

*Employer Type:* Landfill Facilities, Consultants

*Related Careers:* 1. Landfill Gas Collection System Operator

### **Landfill Gas to Energy LGE Plant Installation, Operations, Engineering, and Management**

*Description:* Designs, constructs, operates and/or maintains system that delivers landfill gas to energy facilities to produce useable fuel for vehicles

*Min. Educational Req.:* Bachelor's Degree or higher in Engineering

*Recommended College Coursework:* Resource/Petroleum Engineering, Computer Programming

*Certification:* Dependent on position sought

*Experience Needed:* High-Level

*Growth Potential:* Unknown, will grow as technology is proven and developed

*Employer Type:* Private Firm, Government, Power Plants/Facilities

## **BIOMASS COLLECTION AND POWER PLANT**

### **Animal Waste Biomethane Gas Collection System Technician**

*Description:* Responsible for daily operations and maintenance and repair of biomethane equipment at animal waste operations

*Min. Educational Req.:* Trade School, Apprenticeship, or Associate's Degree

*Recommended College Coursework:* Power Generation Operation, Landfill Gas Plant Operations, Chemistry

*Experience Needed:* Mid-Level

Minimum of three years' equipment operations experience using mechanical, electrical, instrumental, or control system skills

*Growth Potential:* Growth depends on the future of industry and regulations development

*Employer Type:* Agriculture, Consultants, Utilities

*Related Careers:* 1. Landfill Gas Collection System Technician

### **Biomass Plant Operations, Engineering, and Maintenance**

*Description:* Designs, constructs, operates, and/or maintains plants that generate electricity from the combustion of biomass

*Min. Educational Req.:* Bachelor's Degree or higher in Engineering

*Recommended College Coursework:* Resource/Engineering, Computer Programming

*Certification:* Dependent on position sought

*Experience Needed:* High-Level

*Growth Potential:* Good potential for growth alongside alternative fuel industry

*Employer Type:* Private Firms, Government, Power Plants/Facilities

### **Biomass Collection, Separation, and Sorting**

*Description:* Collects, hauls, sorts, and processes biomass waste for distribution to biomass facilities

*Min. Educational Req.:* High School Diploma/GED

*Recommended College Coursework:* Resource/Engineering, Computer Programming

*Experience Needed:* Entry-Level

*Certification:* Commercial driver's license

*Growth Potential:* Growth expected as recycling increases

*Employer Type:* Private Firms, Government, Power Plants/Facilities

## **HYDROGEN ENERGY PLANT INSTALLATION, OPERATIONS, AND MANAGEMENT**

### **Hydrogen Power Plant Installation, Operations, Engineering, and Management Staff - General**

*Description:* Designs, constructs, operates, and/or maintains hydrogen energy generation facilities

*Min. Educational Req.:* Bachelor's Degree in Chemical or Industrial Engineering

*Recommended College Coursework:* Resource/Petroleum Engineering, Computer Programming

*Certification:* Dependent on position sought

*Experience Needed:* High-Level

Minimum of three years with process and/or chemical engineering experience in a power plant

*Growth Potential:* Unknown, may grow as technology is proven and developed

*Employer Type:* Private Firms, Power Plants/Facilities

### **Hydrogen Plant Operator and Operations Manager**

*Description:* Accountable for overall management of operations of a hydrogen energy generating facility

*Min. Educational Req.:* Bachelor's Degree in Engineering

*Recommended College Coursework:* Engineering, Alternative Energies, Chemistry

*Experience Needed:* High-Level

Minimum of three to five years as a power plant operator

*Growth Potential:* Good potential for growth alongside alternative fuel industry

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Geothermal Plant Operations and Maintenance Manager

## CARBON CAPTURE AND STORAGE – GEOLOGIC SEQUESTRATION (CCS)

### Carbon Capture Power Plant Installation, Operations, Engineering, and Management

*Description:* Designs, constructs, operates, and/or maintains carbon capture facilities

*Min. Educational Req.:* Bachelor's Degree or higher in Engineering

*Recommended College Coursework:* Resource/Petroleum Engineering, Computer Programming

*Certification:* Dependent on position sought

*Experience Needed:* High-Level

*Growth Potential:* Unknown, may grow as technology is proven and developed

*Employer Type:* Private Firms, Government, Power Plants/Facilities

### Carbon Sequestration Plant Installation, Operations, Engineering, and Management

*Description:* Designs, constructs, operates, and/or maintains carbon sequestration facilities that inject and store carbon dioxide in geologic formations

*Min. Educational Req.:* Bachelor's Degree or higher in Engineering

*Recommended College Coursework:* Resource/Petroleum Engineering, Computer Programming

*Certification:* Dependent on position sought

*Experience Needed:* High-Level

*Growth Potential:* Unknown, may grow as technology is proven and developed

*Employer Type:* Private Firms, Government, Power Plants/Facilities

### Geologist and Hydrogeologist

*Description:* Performs site characterization and analysis on potential and ongoing CCS sites and works with other geologists and hydrogeologists on field-related activities connected to CCS monitoring

*Min. Educational Req.:* Bachelor of Science Degree in the field of Geology, Hydrogeology, Earth Science, or related field. A Master's Degree or Ph.D., will likely be required for most positions

*Recommended College Coursework:* Geology, Earth Science, Biology, Chemistry, Physics, Math

*Experience Needed:* Mid- to High-Level

Experience in geology, geologic sequestration, groundwater sampling activities, and hydrogeologic data presentation

*Growth Potential:* This is a new technology and growth dependent on technology, adoption, and development

*Employer Type:* Private Firms, Government, Power Plants/Facilities

### GIS Specialist

*Description:* Develop and use advanced Geographic Information Systems (GIS) programs and methods to create site analysis and carbon migration and monitoring plans

*Min. Educational Req.:* Bachelor's Degree in Geography

*Recommended College Coursework:* GIS courses, Engineering, Math

*Experience Needed:* High-Level

Five to seven years' experience in related field

*Growth Potential:* Good growth projected

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Restoration Planner

## PLANT ENVIRONMENTAL, HEALTH, AND SAFETY (GENERAL FACILITY POSITIONS)

### Environmental, Health, and Safety Engineering Manager

*Description:* Directs and oversees environmental, health, and safety activities for the operation and develops, coordinates, and implements programs to maintain safe and healthy working conditions

*Min. Educational Req.:* Bachelor's Degree in Environmental Science, Health and Safety Management, Environmental Engineering, or related discipline

*Recommended College Coursework:* Engineering, Environmental Health and Safety

*Experience Needed:* Mid- to High-Level

Minimum of three years' related EHS experience with focus in a manufacturing/industrial environment

*Growth Potential:* Expected 13.5 percent growth in EHS personnel between 2006 and 2016

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Environmental Engineer

### Environmental Health and Safety Lead

*Description:* Ensure compliance of plant operations with federal and state requirements relating to air emissions, solid waste, hazardous waste, waste water treatment, and chemical management

*Min. Educational Req.:* Master's Degree or equivalent in Environmental Science, Environmental Management, Environmental Engineering, Chemistry, or Biology

*Recommended College Coursework:* Environmental Studies, Engineering, Sciences

*Experience Needed:* High-Level

One year plus Master's Degree or three years plus Bachelor's Degree

*Growth Potential:* Expected 13.5 percent growth in EHS personnel between 2006 and 2016

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Environmental, Health, and Safety Engineering Manager

### Plant Technical Specialist – Safety Equipment Testing

*Description:* Perform seismic testing of safety-related equipment and other technical surveillances

*Min. Educational Req.:* Bachelor's Degree or equivalent combination of education, training, and experience

*Recommended College Coursework:* Plant Safety, Quality Assurance

*Experience Needed:* High-Level

Minimum of five years' technical and/or inspection-related experience

*Growth Potential:* Will grow with creation of more power plants

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Plant Safety Engineer

### **Safety Investigator/Cause Analyst**

*Description:* Receives, investigates, and responds to employee concerns about plant safety

*Min. Educational Req.:* Bachelor's Degree in Business or Engineering

*Recommended College Coursework:* Business, Engineering, Plant Safety

*Experience Needed:* High-Level

Minimum of three years performing cause analysis, investigations, or consulting, Minimum of two years' power plant experience

*Growth Potential:* High potential for growth as plants are modified and renewable power generation grows

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Plant Auditor

### **Plant Maintenance Supervising Technical Operator**

*Description:* Manages and ensures uniform application and technical correctness of the plant's maintenance procedures and specifications

*Min. Educational Req.:* Bachelor's Degree in Engineering or technical related field

*Recommended College Coursework:* Mechanical/Electrical Engineering

*Experience Needed:* High-Level

Minimum of five years' experience in a supervisory role

*Growth Potential:* As more plants are developed, the need will increase for personnel, including managerial positions

*Employer Type:* Government, Power Plants/Facilities

*Related Careers:* 1. Plant Safety Engineer

### **Plant Safety Engineer**

*Description:* Conduct plant safety meetings and inspections and aid in improving plant safety statistics while working to standardize plant safety regulations for all related plants

*Min. Educational Req.:* Bachelor's Degree

*Recommended College Coursework:* Industrial Safety, Occupational Safety/Health, Industrial Hygiene

*Certification:* Safety Certification

*Experience Needed:* High-Level

Five to ten years of industrial safety experience in a power plant environment

*Growth Potential:* Potential for growth will increase as power plants adhere to stricter standards

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Plant Auditor

## **TERRESTRIAL SEQUESTRATION AND SOIL CONSERVATION**

### **Soil Conservation Technician**

*Description:* Provides technical assistance to land users in

planning and applying soil and water conservation practices, utilizing basic engineering and surveying knowledge of agricultural and related sciences

*Min. Educational Req.:* Bachelor's Degree in field of specialty or equivalent education and experience

*Recommended College Coursework:* Agriculture, Agronomy, Soil Conservation, Hydrology

*Experience Needed:* Mid-Level

*Growth potential:* As innovative agriculture practices are explored, this sector will grow

*Employer Type:* Private Firms

*Related Careers:* 1. Soil Conservationist  
2. Forest Conservation Technicians

### **Soil Conservationist**

*Description:* Deals with soil erosion control, moisture conservation, and sound land use and plans soil management practices such as reforestation, terracing, and crop rotation

*Min. Educational Req.:* Bachelor's Degree in field of specialty

*Recommended College Coursework:* Agronomy, Soil Science, Forestry, Agriculture, Environmental Studies

*Experience Needed:* Mid-Level

Applies principles of two or more specialized fields, thus, is more qualified than technician

*Growth potential:* Expected 10 percent growth in soil conservation positions by 2016

*Employer Type:* Private Firms

*Related Careers:* 1. Hydrogeologist  
2. Environmental Scientist

## **FORESTRY**

### **Forestry Conservation Worker**

*Description:* Perform manual labor necessary to develop, maintain, or protect forest, forested areas, and woodlands and build erosion and water control structures and leaching for forest soil

*Min. Educational Req.:* High School Diploma/GED

*Recommended College Coursework:* Forestry, Ecology, Natural Resources

*Experience Needed:* Entry-Level

*Desired Education:* Associate's Degree

*Growth potential:* Starting point for many conservation and forestry careers; this will increase with demand

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Environmental Scientist

### **Forestry Conservation Consultant**

*Description:* Advisor on all forest and woodland ecosystem management activities, including matters relating to the development prescriptions to support threatened, endangered, and special status plants and animals; development of special inventory protocols to support the Wildlife Habitat Relationships Inventory System in New Mexico; and supervision of the Forest Ecosystem Health and Recovery Fund Salvage program

*Min. Educational Req.:* Associate's Degree in Forestry  
*Recommended College Coursework:* Forest Biology, Management of Renewable Resources, Forest Resource Measurements and Inventory  
*Experience Needed:* Mid- to High-Level  
*Desired Education:* Bachelor's Degree  
*Growth Potential:* Good potential for growth as we conserve our forests while dealing with wildfires  
*Employer Type:* Government  
*Related Careers:* 1. Forestry Supervisor

### **Forestry Supervisor**

*Description:* Deals with forest management, urban forests, wildlife management, conservation, and reclamation of land for forestry use  
*Min. Educational Req.:* Bachelor's Degree in Forestry Management  
*Recommended College Coursework:* Forestry, Math, Science, Forest Resource Management  
*Certification:* Forester License for Professionals  
*Experience Needed:* Mid-Level  
Two to three years' related experience as licensed forester  
*Growth Potential:* Some growth expected  
*Employer Type:* Private Firms, Government  
*Related Careers:* 1. Agricultural Farm Worker

### **Restoration Planner**

*Description:* Collaborate with field and biology staff to oversee the implementation of restoration projects and to develop new projects. Accurately process and synthesize complex scientific data into practical, on-the-ground strategies for restoration, monitoring, and management  
*Min. Educational Req.:* Master's Degree in related discipline  
*Recommended College Coursework:* Ecology, Biology, Environmental Science, Landscape Architecture, and Planning  
*Experience Needed:* High-level  
Two to four years' relevant work experience including environmental compliance and permitting  
*Growth Potential:* Good potential for growth as we work toward sustainable forests  
*Employer Type:* Private Firms, Government  
*Related Careers:* 1. Conservationist  
2. Forestry

## **ENERGY DEMAND RESPONSE – GOVERNMENT PROGRAMS**

### **Energy Commission Specialist**

*Description:* Coordinate and develop policy  
*Min. Educational Req.:* Bachelor's Degree  
*Recommended College Coursework:* Public Policy, Policy Implementation, Energy Generation and Conservation, Environmental Impact Assessment  
*Experience Needed:* High-Level  
*Desired Education:* Master's Degree

*Growth Potential:* Great potential for growth as policies evolve  
*Employer Type:* Government  
*Related Careers:* 1. Air Quality Specialist  
2. Air Resources Engineer  
3. Renewable Energy Consultant

### **Smart Grid Engineer**

*Description:* Addresses complex problems in the electric power delivery infrastructure related to grid modernization  
*Min. Educational Req.:* Advanced level of capability either through education, Ph.D./Master's, or equivalent experience  
*Recommended College Coursework:* Electrical Engineering, Systems Control, Computer Science, and Information Technology  
*Experience Needed:* High-Level  
Journey level status plus two to five years of related experience dealing with the technical aspects of power grids  
*Growth Potential:* This sector has only begun to develop; there is much room for growth  
*Employer Type:* Private Firms, Government, Power Plants/Facilities  
*Related Careers:* 1. Electrical Engineer  
2. Power Grids Planner

### **Power System Operator**

*Description:* Monitor and operate equipment on transmission lines and in transformer and power generation stations and control the distribution and regulate the flow of electrical power in the transmission network grid  
*Min. Educational Req.:* High School Diploma/GED  
*Recommended Coursework:* Computer Programming, Electronics  
*Experience Needed:* High-Level  
Three to four years in a training program, typically in-house  
*Growth Potential:* Huge potential for growth as the power sector expands  
*Employer Type:* Government, Power Plants/Facilities  
*Related Careers:* 1. Hydro-Electric Plant Operator

## **GREEN BUILDING PRACTICES AND RETROFITS - PROJECT DESIGN, DEVELOPMENT, AND ENGINEERING**

### **Field Energy Consultant**

*Description:* Field-based energy efficiency consultant who will encourage equipment and energy system retrofits at grocery stores and other retail sites  
*Min. Educational Req.:* High School Diploma/GED  
*Recommended College Coursework:* Marketing and Sales, HVAC, Mechanical Engineering  
*Experience Needed:* Entry-Level  
One to two years consultant sales background and experience building a portfolio of businesses  
*Desired Education:* Familiarity with HVAC, lighting, and/or refrigeration  
*Growth Potential:* Will grow alongside efficiency sector  
*Employer Type:* Private Firms  
*Related Careers:* 1. Sales Representative

### Energy Conservation Representative

*Description:* Inspects homes of utility customers to identify conditions that cause energy waste and suggests actions to reduce waste

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-to Mid-Level  
One to three years' related experience

*Growth Potential:* As more standards are adopted, the demand will increase greatly

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Environmental Compliance Specialist  
2. Energy Control Officer

### Energy Procurement Manager and Analyst

*Description:* Analyzes energy efficient measures and conducts audits in industrial and large commercial facilities

*Min. Educational Req.:* Bachelor's Degree in Energy Analysis, Sciences, or Business Administration

*Recommended College Coursework:* Business Administration, Sciences, Energy Analysis, Energy Efficiency Methods

*Experience Needed:* Mid- to High-Level

Three to five years as an energy analyst in an energy efficiency technical discipline

*Growth Potential:* Great potential for growth as building standards change

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Field Energy Consultant  
2. Energy Conservation Representative

### Energy Efficiency Finance Manager

*Description:* Project-management role in energy efficiency projects and policies; also conducts relevant market analysis and research

*Min. Educational Req.:* Bachelor's Degree in Accounting, Finance, or Business Administration

*Recommended College Coursework:* Economics, Environmental Studies, Public Policy, Finance, Accounting

*Experience Needed:* High-Level

Eight or more years in related field with supervisory responsibilities

*Desired Education:* MBA

*Growth Potential:* Huge potential for growth as energy efficiency sector expands

*Employer Type:* Private Firms

*Related Careers:* 1. Financial Officer

### Engineering Intern

*Description:* Assists Electrical Engineer with LEED certification projects

*Min. Educational Req.:* High School Diploma/GED, some college preferred

*Recommended College Coursework:* Physics, Electrical Engineering

*Experience Needed:* Entry-Level

Hands-on laboratory experience with electronics equipment, physics laboratory, optical equipment, and electronics fabrication

*Desired Education:* Working toward Bachelor of Science or Master of Science Degree in Physics or Electrical Engineering

*Growth Potential:* As demand for jobs grows, so does demand for internships

*Employer Type:* Private Firms

### Water Systems Designer and Engineer

*Description:* Design and install energy efficient water systems in residential and commercial settings

*Min. Educational Req.:* Trade School or Apprenticeships

*Recommended College Coursework:* Plumbing, Pipefitting, Energy Efficiency, Mechanical Engineering

*Certification:* Professional Engineer

*Experience Needed:* Mid-Level

*Growth Potential:* Huge potential for growth as building codes change

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Plumber

## GREEN BUILDING PROJECT DESIGN AND ENGINEERING

### Site Supervising Technical Operator

*Description:* Manages and ensures uniform application and technical correctness during construction

*Min. Educational Req.:* Bachelor's Degree in Engineering or related field

*Recommended College Coursework:* Mechanical/ Electrical Engineering

*Experience Needed:* Mid- to High

Level-Minimum of five years' experience in a supervisory role

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Safety Technical Specialist

### Environmental Compliance Specialist

*Description:* Performs environmental compliance assessments, documents compliance status, and makes recommendations on corrective action required to achieve compliance; develops plans and procedures necessary to achieve and maintain compliance; and develops audit plans and audit surveillance checklists

*Min. Educational Req.:* Bachelor's Degree in Science or Engineering preferred

*Recommended College Coursework:* Science, Engineering, Green Building

*Experience Needed:* Mid- to High

Level-One to three years' related experience with degree or five to ten years' related experience with no degree

*Growth Potential:* As environmental standards get stricter, we will see a greater need for those who aid in compliance

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Energy Conservation Representative  
2. Energy Efficiency Auditor

## Refrigeration Engineer

*Description:* Design and install refrigeration units and maintain and repair controls

*Min. Educational Req.:* Bachelor's Degree in Engineering or equivalent Trade School/Apprenticeship

*Recommended College Coursework:* Mechanical Engineering, Refrigeration Controls

*Experience Needed:* Mid-to High-Level

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. HVAC Engineer

## Lighting and HVAC Energy Engineer

*Description:* Provides a full range of technical services related to energy efficiency, renewable energy, carbon emissions reductions, and cogeneration projects

*Min. Educational Req.:* Bachelor's Degree in Engineering or related field

*Recommended College Coursework:* Engineering, Energy Efficient Building, HVAC and Lighting Systems, Green Building Design

*Experience Needed:* Mid- to High-Level

Minimum of three years' energy engineering experience in the identification and evaluation of energy efficient measures

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Energy Engineer

## Civil Engineer

*Description:* Deals with the overall design, construction, and maintenance of green buildings and works with project managers on building projects within design specifications

*Min. Educational Req.:* Bachelor's Degree in Civil Engineering

*Recommended College Coursework:* Engineering, Land Use, Green Building

*Certification:* Professional Engineer or Engineer-in-Training

*Desired Education:* Master's Degree

*Experience Needed:* High-Level

Most projects require experience of two to five years

*Growth potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Energy Efficient Engineer  
2. Construction

## HVAC Engineer

*Description:* The design and installation of all types of air conditioning, heating and ventilation systems, building automation systems, and hot water heating for building heat

*Min. Educational Req.:* Trade School, Apprenticeship, or Associate's Degree

*Recommended College Coursework:* Mechanical Engineering, HVAC Controls

*Experience Needed:* High-Level-Journey level plus five years' related experience

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Refrigeration Engineer

2. Energy Engineer

3. HVAC Service Technician

## GREEN BUILDING PROJECT DESIGN AND ENGINEERING

### Electrical Engineer

*Description:* Electrical Engineer with a LEED-certified, sustainable, Green-building MEP and Architectural firm

*Min. Educational Req.:* Bachelor's Degree in Electrical Engineering

*Recommended College Coursework:* Electrical Engineering

*Certification:* Professional Engineer

*Experience Needed:* High-level

Four to seven years' electrical engineering experience in an MEP or construction firm

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Civil Engineer

### Residential Green Building and Retrofit Architect

*Description:* Design residential buildings that meet LEED qualifications as well as develop retrofits for current structures

*Min. Educational Req.:* Bachelor's Degree in Architecture

*Recommended College Coursework:* Architecture, Civil Engineering, Drafting, Retrofitting

*Certification:* LEED-Accredited Professional

*Experience Needed:* High-Level

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Civil Engineer

### Commercial Green Building and Retrofit Architect

*Description:* Participate in all phases of design for commercial and educational buildings

*Min. Educational Req.:* Bachelor's Degree in Architecture

*Recommended College Coursework:* Architecture, Drafting, Energy Efficiency

*Certification:* LEED-Certified Builder

*Experience Needed:* High-Level

Minimum of five years' experience

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Civil Engineer

### Indoor and Outdoor Landscape Architect

*Description:* Incorporate green building practices into the indoor and outdoor landscaping

*Min. Educational Req.:* Bachelor's Degree in Landscape Architecture

*Recommended College Coursework:* Landscape Architecture, Urban Planning, Green Building

*Experience Needed:* High-Level

Three to ten years of design and construction experience, depending on position sought

*Desired Education:* Master's Degree

*Growth Potential:* Large potential for growth as energy efficient landscaping practices evolve

*Employer Type:* Private Firms

*Related Careers:* 1. Green/Retrofit Architects

### **Industrial Green Systems and Retrofit Designer**

*Description:* Design energy efficient and retrofit structures on industrial buildings

*Min. Educational Req.:* Bachelor's Degree in Architecture

*Recommended College Coursework:* Architecture, Industrial Building

*Certification:* LEED-Certified Builder

*Experience Needed:* High-Level

Five to eight years' experience

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Structural Engineer

### **Senior HVAC Engineer**

*Description:* Coordinate HVAC equipment, ductwork, and piping layouts with architectural/structural designs to prevent conflict during construction and work on Title 24 Compliance

*Min. Educational Req.:* Bachelor of Science in Mechanical Engineering

*Recommended College Coursework:* Mechanical Engineering, HVAC, Building Design

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Ten years working with a consulting engineering firm as an HVAC engineer or with a design build mechanical contractor

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Environmental Construction Engineer

## **GREEN BUILDING PROJECT DESIGN AND ENGINEERING**

### **Environmental Construction Engineer**

*Description:* Project manager for an environmental construction or landfill project

*Min. Educational Req.:* Bachelor's Degree in Civil Engineering

*Recommended College Coursework:* Environmental Construction, Civil Engineering

*Certification Requirements:* Licensed Civil Engineer

*Experience Needed:* High-Level

Twelve plus years' experience in civil engineering with at least five years' experience in a management role

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Civil Engineer

2. Construction Foreman

### **Energy Engineer**

*Description:* Perform site-specific engineering analysis and evaluation of energy efficiency and solar projects involving

residential, commercial, and industrial end-use customers by utilizing building simulation software

*Min. Educational Req.:* Bachelor's Degree in Engineering

*Recommended College Coursework:* Engineering, Physics

*Certification Requirements:* Professional Engineer, Engineer-In-Training, and/or Certified Energy Manager desired

*Experience Needed:* High-Level

Three to ten years of related experience or training an equivalent combination of education and experience, or two to five years of experience within the green building, energy efficiency, building science, or related field

*Desired Education:* Master's Degree a plus

*Growth Potential:* The direct linkage between solar programs and energy efficiency will create demand

*Employer Type:* Private Firms

*Related Careers:* 1. Civil Engineer

### **Structural Design Engineer**

*Description:* Analyze and design structural elements and systems for steel, concrete, timber, and masonry buildings in accordance with building code and design standards and prepare construction documents and specifications for structural systems

*Min. Educational Req.:* Master's Degree in Structural Engineering

*Recommended College Coursework:* Structural and Seismic Engineering

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Three to six years' experience and competence in structural analysis programs

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Civil Engineer

## **GREEN BUILDING PROJECT INSTALLATION AND OPERATIONS**

### **Home Improvement Retrofit Trainee**

*Description:* Install energy efficient products for in-home retrofits, run safety tests on gas appliances, and identify home energy reduction measures including doors, glass, weather-stripping, etc.

*Min. Educational Req.:* High School Student

*Experience Needed:* Entry-Level

Experience in door, window, and sheetrock repair and replacement helpful

*Growth Potential:* As standards for buildings become stricter, this occupation will grow exponentially

*Employer Type:* Private Firms

*Related Careers:* 1. HVAC Maintenance Trainee

2. Environmental Compliance Specialist

### **Residential Air Sealing Technician**

*Description:* Develop and implement effective air sealing techniques and applications while receiving on-the-job training,

working, and explaining for customers about the applications and benefits of air sealing

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry Level

Residential construction or work on an insulation crew is a plus

*Desired Education:* Trade School or Apprenticeship

*Growth Potential:* Huge growth likely, and a great way to get into energy efficient building

*Employer Type:* Private Firms

*Related Careers:* 1. HVAC Trainee

### **Insulation Installer**

*Description:* Responsible for pasting, wiring, taping, or spraying insulation onto a variety of structures and surfaces to exclude or retain heat

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-Level

One to three months' related experience

*Growth Potential:* Huge potential as energy efficient technology advances

*Employer Type:* Private Firms

*Related Careers:* 1. Carpenter

## **GREEN BUILDING PROJECT INSTALLATION AND OPERATIONS**

### **HVAC Maintenance/Repair Trainee**

*Description:* Install and maintain heating, ventilation, and air conditioning equipment; test and repair environmental systems; and repair or replace sealants, parts, and components

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-level

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. HVAC Technician  
2. HVAC Engineer

### **Water Purification Systems Service Technician**

*Description:* Install and service water purification systems at customer sites, including, but not limited to, reverse osmosis and deionization applications

*Min. Educational Req.:* High School Diploma/GED

*Recommended College Coursework:* Chemistry, Hydrology

*Experience Needed:* Entry-level

Two years of water industry experience; reverse osmosis, ion exchange, and related equipment highly desirable (College, Military, or Technical/Vocational School)

*Desired Education:* Associate's Degree in Electrical, Industrial/Mechanical Engineering, or Water Treatment disciplines

*Growth Potential:* Growing as the need for water purification increases

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Hydrogeologist

### **Building Maintenance Engineer**

*Description:* Effectively and efficiently operate and maintain all HVAC and MEP equipment, serve as a systems operator, and perform and supervise maintenance work

*Min. Educational Req.:* High School Diploma/GED, Trade School, or Apprenticeship

*Recommended College Coursework:* HVAC Maintenance, Energy Auditing

*Experience Needed:* Entry-to Mid-Level

Two to three years' experience in commercial HVAC and in operating large tonnage chill plant

*Growth Potential:* As more HVAC and building maintenance equipment "goes green," potential for growth increases

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. HVAC Engineer

### **Machinist**

*Description:* Make precision metal or plastic parts, operate computer numerically controlled machine tools, and set up and operate all the basic machine tools and many specialized variations

*Min. Educational Req.:* Apprenticeship or Trade School

*Recommended College Coursework:* Metalworking, Drafting, Math, and Computer courses

*Experience Needed:* Mid-Level

Journey level status

*Growth Potential:* Good growth expected

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Welder  
2. Sheet Metal Worker

### **Welder**

*Description:* Operate manual, semiautomatic, and automatic arc and gas equipment and fabricate and repair machine parts, motors, trailers, and manufacturing equipment

*Min. Educational Req.:* Apprenticeship or Trade School

*Recommended College Coursework:* Welding, Machine Shop, Math, Drafting, Physics, Chemistry, and Engineering

*Certification:* Various certifications dealing with different materials and uses

*Experience Needed:* Entry-to Mid-Level

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Machinist  
2. Sheet Metal Worker

### **Carpenter**

*Description:* Work in almost every type of construction — including reading plans, identifying and locating materials, measuring and marking, assembly and installation, and operating hand tools and power equipment

*Min. Educational Req.:* Apprenticeship or Trade School

*Recommended College Coursework:* Math, Drafting, and Shop

*Experience Needed:* Entry-to Mid-Level  
Journey Level status

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Roofers

## GREEN BUILDING PROJECT INSTALLATION AND OPERATIONS

### Electrical System Installer

*Description:* Plan, lay out, install, repair, and maintain electrical equipment that provides light, heat, communications, and power and install electrical wires, cables, and conduit systems

*Min. Educational Req.:* Apprenticeship or Trade Schools

*Recommended College Coursework:* Electric Installation courses

*Experience Needed:* Mid-Level

Journey Level status

*Growth Potential:* Will grow as more buildings become energy efficient

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Lighting Engineer

### Field Technician

*Description:* Primary duties include installation, maintenance, and repair of facilities but can also include field installations, commissioning of advanced energy management and control systems, controls programming, and controls sales.

*Min. Educational Req.:* Trade School or Apprenticeship

*Experience Needed:* Entry-to Mid-Level

Master or Journey level HVAC, electrical, and/or automation and controls installation and service experience. One to three years of related experience and/or training or equivalent combination of education and experience

*Growth Potential:* As the efficiency sector grows, so will this position

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Solar PV Installer  
2. Energy Engineer

### Green Plumber and Pipefitter

*Description:* Installation of sinks, tubs, and other fixtures; connection to water and sewage systems; and maintenance of existing plumbing systems

*Min. Educational Req.:* Apprenticeship or Trade School

*Recommended College Coursework:* Plumbing, Pipefitting, Energy Efficiency

*Experience Needed:* Mid-Level

Journey Level status

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Water Purification

### HVAC Service Technician

*Description:* Maintenance and repair of all types of air conditioning, heating, and ventilation systems

*Min. Educational Req.:* Trade School, Apprenticeship, or Associate's Degree

*Recommended College Coursework:* HVAC controls

*Certification:* EPA HVAC certification, Commercial HVAC if necessary

*Experience Needed:* Mid-Level

Two to four years' related technical experience

*Growth Potential:* This is one of the fastest growing sectors in the energy efficiency industry

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. HVAC Engineer

### Roofing and Skylight Installer

*Description:* Install skylights and other energy efficient roof ventilation systems

*Min. Educational Req.:* Apprenticeship or Trade School

*Recommended College Coursework:* Carpentry, Roofing, Energy Efficiency

*Experience Needed:* High-Level

Five to seven years of related roofing and framing experience

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Carpenters

### Weatherization Operations Manager

*Description:* Manage day-to-day weatherization activities to ensure that production goals are met and supervise the activities of installers, assessors, and weatherization office staff

*Min. Educational Req.:* None Specified

*Experience:* High-Level

Two years' experience in construction supervision and/or management. Technical and functional skills in building trades

*Growth Potential:* Will grow in number with trend of weatherization

*Employer Type:* Private Firms

*Related Careers:* 1. Construction Foreman

### Deconstruction and Adaptive Reuse Technician

*Description:* Completes partial or complete deconstruction of existing building structures. Salvages usable materials, removes hazards, and prepares structures for energy efficient reconstruction and reuse

*Min. Educational Req.:* Appropriate EPA and OSHA certifications combined with necessary work experience.

*Recommended College Coursework:* Construction Technology, Materials Science, Basic Electrical Systems, Basic HVAC Systems

*Experience Needed:* No experience required at entry level; one to two years' work experience on deconstruction projects is highly desirable for more advanced positions

*Growth Potential:* Estimated 50,000 new technicians needed within three years

*Employer Type:* Private companies

*Related Careers:* 1. Construction Materials Analyst  
2. Energy Efficiency Auditor

## ENERGY EFFICIENCY SERVICES

### Residential Energy Field Auditor

*Description:* Conducts home energy audits in residential homes that consist of visually checking HVAC equipment, lighting, ducts, windows, and weather-stripping and identifies areas of improvement and makes recommendations to homeowner

*Min. Educational Req.:* Associate's Degree in Building Materials, Environmental Science, Environmental Studies, Energy Management

*Recommended College Coursework:* Environmental Studies, Energy Management, Auditing

*Certification:* HERS Certification

*Desired Education:* Bachelor's Degree preferred

*Experience Needed:* Entry-to Mid-Level

*Growth Potential:* Very large potential for growth due to increased construction of energy efficient housing

*Employer Type:* Private Firms, Public Utilities

*Related Careers:* 1. Auditing Services Sales Consultant  
2. Energy efficiency consultant

### Commercial Energy Field Auditor

*Description:* Conducts energy audits in commercial businesses that consist of visually checking HVAC equipment, lighting, ducts, windows, and weather-stripping to capture data for future use; identifies areas of improvement, and makes recommendations to business

*Min. Educational Req.:* Associate's Degree in Building Materials, Environmental Science, Environmental Studies, Energy Management

*Recommended College Coursework:* Energy Management, Building Materials

*Certification:* HERS Certification

*Desired Education:* Bachelor's Degree preferred

*Experience Needed:* Entry-to Mid-Level

*Growth Potential:* Very large potential for growth due to increased construction of energy efficient buildings

*Employer Type:* Private Firms, Public Utilities

*Related Careers:* 1. HVAC Technician  
2. Energy Efficiency Consultant

### Industrial Energy Field Auditor

*Description:* Conducts energy audits of industrial areas that consist of visually checking HVAC equipment, ducts, windows, and weather-stripping to capture data for future use

*Min. Educational Req.:* Bachelor's Degree in Building Materials, Environmental Science, Environmental Studies, Energy Management

*Recommended College Coursework:* Environmental Studies, Industrial Operations

*Experience Needed:* Mid-Level

Two to three years in related field of auditing and/or energy efficiency sector

*Growth Potential:* Very large potential for growth due to increased construction of energy efficient housing

*Employer Type:* Private Firms

*Related Careers:* 1. Energy Engineer

### Auditing Services Sales Consultant

*Description:* Establish sales plans, prepare proposals, and finalize client deals

*Min. Educational Req.:* Bachelor's Degree

*Recommended College Coursework:* Marketing, Sales, Sciences

*Experience Needed:* Mid-Level

Two to five years' experience in commercial and/or in-home sales

*Growth Potential:* Grows with and helps propel the green building industry

*Employer Type:* Private Firms

*Related Careers:* 1. Energy Conservation Representative

### Renewable Energy Consultant

*Description:* Assesses industry trends and related implications, monitors product developments and preferences, explores competitive landscapes, and examines emerging technologies

*Min. Educational Req.:* Advanced Degree

*Recommended College Coursework:* Specialize in Renewable Energy with a focus on any or all technologies

*Experience Needed:* High-Level

*Growth Potential:* High demand and will grow

*Employer Type:* Private Firms, Government, Education

*Related Careers:* 1. Environmental Scientist

## AUTOMOTIVE OPERATIONS, VEHICLE PRODUCTION, MANUFACTURING, AND MODIFICATION

### Automotive Plant Assembly

*Description:* Installs various filters to diesel powered vehicles

*Min. Educational Req.:* High School Diploma/GED

*Recommended College Coursework:* Diesel Retrofit, Engine Design

*Experience Needed:* Entry-Level

*Desired Education:* Trade School or Apprenticeship

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

### Diesel Retrofit Installer

*Description:* Installs various filters on diesel-powered vehicles

*Min. Educational Req.:* High School Diploma/GED

*Recommended College Coursework:* Diesel Retrofit, Engine Design

*Experience Needed:* Entry-Level

*Desired Education:* Trade School or Apprenticeship

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Diesel Retrofit Manufacturer

### Diesel Retrofit Manufacturer Plant Labor

*Description:* Manufactures diesel particulate filters as well as other retrofitting technology

*Min. Educational Req.:* Trade School or Apprenticeship

*Recommended College Coursework:* Diesel Engines, Air Quality, Auto Manufacturing

*Experience Needed:* Entry-to Mid-Level

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Diesel Retrofit Installer

### **Electric Vehicle Electrician**

*Description:* Support project planning and design implementation for electrical vehicle projects and install dedicated circuits needed to support high current charging systems

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Mid- to High

Level-Five to ten years' experience including old and new aspects of electrical installations

*Desired Education:* Bachelor of Science or C10

*Growth Potential:* The number of electric vehicle maintenance and development personnel will grow as electric vehicle technology adoption expands

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Hybrid Powertrain Development Engineer

### **Hybrid Powertrain Development Engineer**

*Description:* Develops powertrain designs including components and sub-systems, performs complex design analyses, creates specifications, and conducts calibration for alternative fuel and hybrid powertrains

*Min. Educational Req.:* Bachelor's Degree in Electrical or Mechanical Engineering or related field

*Recommended College Coursework:* Must have knowledge of powertrain technology, vehicle engineering, development, certification, OEM calibration, alternative fuels calibration, and hybrid powertrain development

*Experience Needed:* Entry-to Mid-Level

Up to five years' experience in auto engineering and powertrain controls

*Growth Potential:* Increase alongside the hybrid automotive sector

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Automotive Power Electronics Engineer,  
2. Powertrain Control Systems and Software Engineer

### **Powertrain Control Systems and Software Engineer**

*Description:* Design and release powertrain control systems software into embedded automotive powertrain controllers, including hydrogen internal combustion, hybrid electric, and fuel cell applications

*Min. Educational Req.:* Bachelor's Degree in Electrical or Mechanical Engineering

*Recommended College Coursework:* Engineering, Computer Software, Automotive, Alternative Fuels

*Experience Needed:* Mid- to High

Level-Two to five years embedded control software development and assembly experience. Also automotive or hybrid experience

*Growth Potential:* Huge potential for growth as alternative fuel technology expands

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Hybrid Powertrain Development Engineer,  
2. Automotive Power Electronics Engineer

## **AUTOMOTIVE OPERATIONS, VEHICLE PRODUCTION, MANUFACTURING, AND MODIFICATION**

### **Air Pollution Specialist**

*Description:* Investigates local government and land use activities, develops protocols for estimating greenhouse gas (GHG) emissions, develops community GHG inventories, and evaluates GHG reduction benefits from green buildings

*Min. Educational Req.:* Bachelor's Degree in Chemistry, Chemical Engineering, or Physical Science

*Recommended College Coursework:* Climate Change, Emissions, Accounting Methods, Green Building, Chemistry

*Experience Needed:* Mid- to High-Level

*Growth potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Air Resources Engineer

### **Senior Automotive Power Electronics Engineer**

*Description:* Responsible for development of controls for electric traction motors and power electronics for hybrid and electric vehicle applications

*Min. Educational Req.:* Bachelor's Degree in Engineering

*Recommended College Coursework:* Engineering, Alternative Fuels, Electronic Controls

*Experience Needed:* High-Level

Ten years' experience of both automotive engineering and motor/power electronics controls

*Growth Potential:* Increase in alternative fuels will drive increased specialization and higher demand for these jobs

*Employer Type:* Plants/Facilities

*Related Careers:* 1. Diesel Retrofit Designer

### **Diesel Retrofit Designer**

*Description:* Designs and develops diesel retrofitting technology to produce cleaner burning engines

*Min. Educational Req.:* Master's Degree in Engineering

*Recommended College Coursework:* Engine Design, Catalytic Converters, Diesel Retrofit

*Experience Needed:* High-Level

*Desired Education:* Ph.D.

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms

*Related Careers:* 1. Automotive Power Electronics Engineer

## **EFFICIENT MASS TRANSIT VEHICLE OPERATIONS**

### **Bus System Operator**

*Description:* Transport passengers around scheduled routes, usually within urban areas

*Min. Educational Req.:* None required

*Certification:* New Mexico Class B Driver's License

*Experience Needed:* Entry-Level

*Desired Education:* High School Diploma/GED

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Train Operator

### **Train System Operator**

*Description:* Work as a train conductor or train system engineer

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-Level

While there is training provided for conducting and engineering positions, all personnel start at entry-level as yard workers

*Growth Potential:* Good growth expected

*Employer Type:* Private Firm, Government

*Related Careers:* 1. Shipyard Operator

### **Electric Shipyard Operator**

*Description:* Manage operations on an electrified port

*Min. Educational Req.:* High School Diploma/GED

*Experience Needed:* Entry-Level

While there is training provided for operations and engineering positions, most personnel start at entry-level as yard workers

*Growth Potential:* Good potential for growth

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Rail Systems Operator  
2. Crane Operator  
3. Bus Operator

## **BIOFUEL PRODUCTION, FACILITIES OPERATIONS, AND MANAGEMENT**

### **Biofuel Plant Operations Engineer**

*Description:* Collect and process information on well-field and plant performance, diagnose well problems, and design procedures to fix them

*Min. Educational Req.:* Bachelor's Degree or higher in Engineering

*Recommended College Coursework:* Resource/Petroleum Engineering, Computer Programming

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Fifteen years' experience in geothermal resource engineering as well as petroleum engineering

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Mechanical Engineering  
2. Power Generation Development

### **Biodiesel/Biofuel Plant Field Technician**

*Description:* Maintenance of plant, including pump maintenance, safety inspections, record keeping, and any other required repairs or maintenance and performs basic titration (measurements using scales and liquid measuring devices) and other lab tests

*Min. Educational Req.:* High School Diploma/GED with experience or Trade School or 30 semester hours with no experience

*Recommended College Coursework:* Chemistry, Plant Operations, Metal Fabrication, Industrial Safety and Health

*Certification:* Welding Certification desired

*Experience Needed:* Entry-Level

Up to two years at production facility

*Growth Potential:* Will grow alongside biodiesel/biofuel production facilities

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Biofuel Technology and Product Development Manager

### **Biodiesel/Biofuel Technology and Product Development Manager**

*Description:* Define, plan, and execute research programs that evaluate alternative feedstock and process technologies for biodiesel/biofuel and have near-term commercial potential

*Min. Educational Req.:* Bachelor's Degree in Chemistry, Engineering, or Biology

*Recommended College Coursework:* Chemistry, Alternative Fuels, Engineering, Fuel Production

*Experience Needed:* Mid-Level

Two to five years of development and commercialization experience

*Growth Potential:* Grows alongside the biodiesel/biofuel technology sector

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Biodiesel/Biofuel Plant Operator

### **Alternative Fuels Policy Analysts and Business Sales**

*Description:* Stay apprised of alternative fuel legislation and the renewable energy credits market, coordinate with partners in sales and project implementation, and help market alternative fuels to consumers

*Min. Educational Req.:* Bachelor's Degree

*Recommended College Coursework:* Marketing and Sales, Economics, Environmental Studies, Alternative Fuels

*Experience Needed:* Mid-Level

Three to five years' experience in business-to-business sales

*Growth Potential:* Both analyst and sales jobs will increase as alternative fuel technologies expand

*Employer Type:* Private Firms, Plants/Facilities

*Related Careers:* 1. Solar Sales  
2. Policy Analyst

### **Civil Engineer Agriculture/Irrigation/Water Supply**

*Description:* Engineers commercial agricultural operations and works with irrigation, water supply, and other farm systems

*Min. Educational Req.:* Bachelor's Degree in Agricultural or Civil Engineering

*Recommended College Coursework:* Civil Engineering, Biofuels, Chemical Engineering, Agriculture

*Desired Education:* Master's Degree preferred

*Experience Needed:* High-Level

Minimum of five years work experience in design, construction, and operations of large agricultural systems

*Growth Potential:* Good growth expected

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Wastewater Engineer

## TRANSPORTATION SYSTEMS DESIGN

### Program Manager Environmental Construction

*Description:* Plan, staff, schedule, budget, quality control, safety, and coordination of subcontractors and internal support staff for environmental construction projects, with the direction and supervision of more senior staff as required

*Min. Educational Req.:* Bachelor's Degree in Engineering

*Recommended College Coursework:* Civil Engineering, Environmental Construction

*Experience Needed:* High-Level  
Fifteen years of related experience

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Civil Engineer

### Urban Planner

*Description:* Develops short- and long-term comprehensive plans and programs for development, growth, revitalization, and utilization of land and physical facilities of cities, counties, and metropolitan areas to maximize quality of life for the community and its residents

*Min. Educational Req.:* Bachelor's Degree in Urban Planning, Civil Engineering, or related field

*Recommended College Coursework:* Civil Engineering, Urban Planning, Land Use

*Experience Needed:* Mid- to High-Level  
Experience in planning and development

*Growth potential:* Good potential for growth as we become more aware of our impact on the environment

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Urban Renewal Manager  
2. Civil Engineer

### Environmental Engineering Manager

*Description:* Develops and coordinates environmental control activities, including air and water quality and land conservation policies, and evaluates hazards within the facility for environmental risks

*Min. Educational Req.:* Bachelor's Degree in related field

*Recommended College Coursework:* Environmental Engineering

*Experience Needed:* Mid-Level  
A combination of over four years of directly related training and/or experience is required

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Environmental Engineer  
2. Energy Engineer

### Environmental Planner

*Description:* Assist in a wide range of projects including environmental impact reports, environmental impact statements, land use planning, and environmental permit processing

*Min. Educational Req.:* Bachelor's Degree in Environmental Studies or Environmental Science

*Recommended College Coursework:* Social Science, Urban and Rural Land Use, Socioeconomics, Environmental Studies

*Desired Education:* Master's Degree

*Experience Needed:* Mid- to High-Level

Three to four years' experience in related science or planning field

*Growth Potential:* Great potential for growth

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Urban Planner  
2. Restoration Planner

### Civil Engineer

*Description:* Deals with the design, construction, and maintenance of the physical and naturally built environment, including works such as bridges and roads

*Min. Educational Req.:* Bachelor's Degree in Civil Engineering

*Recommended College Coursework:* Engineering, Land Use, Green Building

*Certification:* Professional Engineer or Engineer-in-Training

*Desired Education:* Master's Degree

*Experience Needed:* High-Level

Most projects expect two to five years of experience

*Growth potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Energy Efficient Engineer  
2. Construction

### Energy Infrastructure Engineer

*Description:* Specializes in transit/rail, highways and bridges, mines, airports, and energy infrastructure engineering

*Min. Educational Req.:* Bachelor's Degree in Mechanical Engineering

*Recommended College Coursework:* Mechanical and Electrical Engineering, Infrastructure Development

*Certification:* Certified Energy Manager, Professional Engineer License

*Experience Needed:* High-Level

Four to ten years of experience in energy management/engineering and a strong HVAC background

*Growth Potential:* Huge potential for growth as the infrastructure becomes more efficiently engineered

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Mechanical Engineer

## TRANSPORTATIONS SYSTEMS DESIGN

### Environmental Engineer

*Description:* Plans, designs, and oversees construction and maintenance of structures and facilities such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units to solve environmental problems and determines sources and methods of controlling pollutants in air, water, and soil

*Min. Educational Req.:* Bachelor's Degree in Environmental Engineering

*Recommended College Coursework:* Science, Chemistry, Engineering  
*Certification:* Engineer-in-Training – Successfully complete the National Council of Examiners for Engineering and Surveying (NCEES) Eight-Hour Fundamentals of Engineering exam

*Experience Needed:* Mid- to High-Level

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Environmental Scientist  
2. Energy Engineer

### **Environmental Sampling Technician**

*Description:* Receive, check, log, bottle, and ship samples and analyze the samples for trace level organic, inorganic, radiological contaminants, and air emissions

*Min. Educational Req.:* High School Diploma/GED

*Recommended College Coursework:* Sciences, Environmental Studies

*Certification Programs:* OSHA 40-hour HAZWOPER training is a plus (All OSHA compliance training is usually provided without charge)

*Experience Needed:* Entry-Level

Must demonstrate basic lab operational proficiency if nondegreed

*Desired Education:* Bachelor of Science Degree preferred, Environmental Lab experience a plus

*Growth Potential:* Increased demand as research and environmental sampling needs expand

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Environmental Scientist

## **CLIMATE CHANGE ADAPTATION AND CLIMATE STUDIES**

### **Climatologist**

*Description:* Conducts climate change research and data analysis and collects and synthesizes data derived from pollution emission measurements, atmospheric monitoring, meteorological and mineralogical information, and soil or water samples

*Min. Educational Req.:* Bachelor's Degree in Scientific or Engineering Discipline

*Recommended College Coursework:* Advanced study in Environmental Sciences

*Experience Needed:* High-Level

*Desired Education:* Master's Degree or Ph.D.

*Growth Potential:* Expected 25 percent growth in atmospheric, earth, marine, and space science teachers by 2016

*Employer Type:* Private Firms, Government, Treatment Plants/Facilities

*Related Careers:* 1. Environmental Engineer

### **Environmental Scientist**

*Description:* Conducts research to identify and abate/eliminate sources of pollutants that affect people, wildlife, and their environments; collects and synthesizes data derived from pollution emission measurements, atmospheric monitoring, meteorological

and mineralogical information, and soil or water samples; analyzes data to assess pollution problems; establishes standards; and develops pollution control programs

*Min. Educational Req.:* Bachelor's Degree in Scientific or Engineering Disciplines

*Recommended College Coursework:* Advanced study in Environmental Sciences

*Experience Needed:* High-Level

*Desired Education:* Master's Degree or Ph.D.

*Growth Potential:* Extremely high growth sector

*Employer Type:* Private Firms, Government, Treatment Plants/Facilities

*Related Careers:* 1. Hydrogeologist

### **Environmental Engineer/Scientist Internship**

*Description:* Support project managers and air quality staff in conducting projects, including emissions inventories and environmental assessments for private and public clients

*Min. Educational Req.:* One to two years of college coursework pursuing a Bachelor's Degree in Engineering (Environmental, Chemical, or Civil) or Sciences (Chemistry, Physics, or Biology)

*Recommended College Coursework:* Science, Chemistry, Environment Sciences, Engineering

*Experience Needed:* Internship Experience generating Excel reports and graphs

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Power Plants/Facilities

## **GOVERNMENT CONSERVATION MANAGEMENT**

### **Biologist – Marine/Fisheries**

*Description:* Plan and conduct evaluations of factors affecting New Mexico's fish populations and provide oversight of fisheries monitoring programs

*Min. Educational Req.:* Bachelor's Degree in Biology or related field

*Recommended College Coursework:* Biology, Marine Biology

*Experience Needed:* Mid- to High-Level

*Growth potential:* Huge potential for growth

*Employer Type:* Private Firms

*Related Careers:* 1. Environmental Scientist

### **Water Resource Engineer**

*Description:* Preparation of environmental documentation for water resources, regulatory program compliance, data management, analysis, and field work (e.g., compliance monitoring and site reviews)

*Min. Educational Req.:* Bachelor's Degree in Environmental Science/Studies, Engineering, Chemistry, Hydrology, or related field

*Recommended College Coursework:* Hydrology, Storm Water, Wastewater, Environmental Studies/Sciences

*Experience Needed:* High-Level

Experience in water quality compliance, permitting, and

associated technical document preparation

*Growth Potential:* Huge potential for growth as our water resources are examined

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Policy Analyst and Advocate

### **Environmental Research Manager**

*Description:* Analyze data to interpret correlation between property development and physical or health hazards and prepare reports for city, state, and federal authorities for permits

*Min. Educational Req.:* Master's Degree in Chemical Engineering, Chemistry, Environmental Science, or Atmospheric Science

*Recommended College Coursework:* Chemical Engineering, Chemistry, Policy, Public Health

*Experience Needed:* High-Level

*Growth Potential:* Great potential for growth as we analyze our impact on the environment

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Environmental Scientist

### **GIS Specialist**

*Description:* Experienced Engineer with GIS training. Develop and use advanced Geographic Information Systems methodologies and customized software applications in the fields of floodplain analysis, storm water management, surface water quality, and wetland migration banking and restoration

*Min. Educational Req.:* Bachelor's Degree in Geography

*Recommended College Coursework:* GIS courses, Water/Wastewater Treatment

*Experience Needed:* High-Level

Five to seven years in related field

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government, Power Plant/Facilities

*Related Careers:* 1. Environmental Engineer  
2. Restoration Planner

### **Engineering Geologist**

*Description:* Conduct geologic field investigations on a wide range of public and private projects involving seismic evaluations, landslides, subsurface soil, rock and water conditions for dams, buildings, water and waste water treatment facilities, transportation projects, and remedial actions

*Min. Educational Req.:* Bachelor's Degree in Engineering Geology

*Recommended College Coursework:* Soil, Soil Gas, Groundwater, Environmental Studies, Engineering, and Waste Management

*Certification:* Engineering Geologist Certified, OSHA 40-hour HAZWOPER training desirable

*Experience Needed:* High-Level

Minimum of five years' experience as an engineering geologist

*Desired Education:* Master's Degree in Engineering Geology

*Growth Potential:* Huge potential for growth

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Soil Conservationist

### **Urban Planner**

*Description:* Develops short- and long-term comprehensive plans and programs for development, growth, revitalization, and utilization of land and physical facilities in cities, counties, and metropolitan areas to maximize quality of life for the community and its residents

*Min. Educational Req.:* Bachelor's Degree in Urban Planning, Civil Engineering, or related field

*Recommended College Coursework:* Civil Engineering, Urban Planning, Land Use

*Experience Needed:* Mid- to High-Level  
Experience in planning and development

*Growth potential:* Huge potential for growth as we become more aware of our impact on the environment

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Urban Renewal Manager  
2. Civil Engineer

## **GOVERNMENT CONSERVATION MANAGEMENT, POLLUTION PREVENTION, AND ENERGY MANAGEMENT**

### **Urban Renewal Manager**

*Description:* Recommends governmental measures affecting land use, public utilities, community facilities and housing, and transportation to control and guide community development and urban renewal

*Min. Educational Req.:* Master's Degree in Urban Planning, Civil Engineering, Environmental Studies, or related field

*Recommended College Coursework:* Civil Engineering, Urban Planning, Land Use

*Experience Needed:* High-Level  
Experience in Urban Planning

*Growth potential:* Huge potential for growth as we become more aware of our impact on the environment

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Civil Engineer  
2. Urban Planner

### **Conservation of Resources Commissioner**

*Description:* Directs conservation of natural resources within state and negotiates with interested parties to promote maximum utilization of resources consistent with public interest. Establishes standards for resource depletion, such as annual oil production quotas or limitations on extraction of iron ore deposits

*Min. Educational Req.:* Advanced Degree

*Recommended College Coursework:* Public Policy, Environmental Studies, Natural Resources

*Experience Needed:* High-Level

*Growth potential:* Low growth rate since this is a high-level job

*Employer Type:* Government

*Related Careers:* 1. Policy Analyst

### **Chemist**

*Description:* Performs various testing and analysis on chemical compounds, from air toxics to biofuels

*Min. Educational Req.:* Bachelor's Degree in Chemistry

*Recommended College Coursework:* Chemistry, Organic Chemistry, Chemical Engineering

*Experience Needed:* High-Level

Two to five years' lab experience

*Desired Education:* Master's Degree or Ph.D.

*Growth Potential:* Huge potential for growth as technology advances

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Biologist

2. Environmental Scientist

### **Air Quality Specialist and Enforcement Officer**

*Description:* Provides expertise on subject matter to help identify and resolve air quality issues and assesses pollution control technologies for achieving air emissions compliance

*Min. Educational Req.:* Bachelor's Degree in Engineering, Science, or related field

*Recommended College Coursework:* Engineering, Chemistry, Climate and Air, Pollution Control, State and Federal Air Quality Standards, Environmental Science

*Experience Needed:* Entry-to Mid-Level

Minimum of one to two years' experience in air quality/environmental issues

*Certifications:* Desired: CHMM, REA, AHERA, CPEA, REHS, HZWOPR

*Growth potential:* Good growth expected

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Renewable Energy Consultant

2. Environmental Scientist

### **Air Emissions Permit Engineer**

*Description:* Provides expertise on emissions permitting for greenhouse gases and pollution control equipment

*Min. Educational Req.:* Bachelor's Degree in Engineering, Science, or related field

*Recommended College Coursework:* Engineering, Chemistry, Climate and Air, Pollution Control, State and Federal Air Quality Standards, Environmental Science

*Experience Needed:* High-Level

Minimum of four years of progressively more responsible experience in air quality/environmental issues

*Certifications:* Desired: PE, RG, CHMM, REA, AHERA, CPEA, REHS, HZWOPR

*Growth potential:* As standards change, a greater demand for specialists will arise

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Renewable Energy Consultant

2. Environmental Scientist

### **Power System Operator and Instructor**

*Description:* Operates power distribution systems and designs, reviews, evaluates, and conducts NERC Continuous Education training to Power Systems Operations control room personnel

*Min. Educational Req.:* High School Diploma/GED

*Certification:* NERC Reliability Authority or System Operator Certification

*Experience Needed:* High-Level

Ten years of progressively responsible work experience with five years in control room operations and three years as a Senior Shift Power System Operator

*Growth Potential:* Good growth expected

*Employer Type:* Government, Power Plants/Facilities

## **GOVERNMENT PROGRAMS MANAGEMENT**

### **Economist**

*Description:* Conduct primary and secondary research to support the formulation of analytical solutions, the development of economic models, and the interpretation of results in the areas of transportation, environment, energy, economic development, and finance

*Min. Educational Req.:* Bachelor's Degree in Economics

*Recommended College Coursework:* Economics, Environmental Studies, Energy Efficiency

*Experience Needed:* High-Level

Experience in conceptualizing and developing economic or business models using analytical methods

*Desired Education:* Master's Degree

*Growth Potential:* Large potential for growth as competition for innovation in green industries increases

*Employer Type:* Private Firms

*Related Careers:* 1. Top Environmental Officer

## **ENVIRONMENTAL CONSULTING AND RESEARCH**

### **Environmental Technician**

*Description:* Develops methods and devices used in the prevention, control, and correction of environmental hazards. Work is highly specialized (e.g., collect water samples from streams and lakes; raw, semi-processed, or processed water; industrial waste water; or water from other sources to assess pollution problems)

*Min. Educational Req.:* Associate's Degree in Engineering Technology

*Recommended College Coursework:* Environmental Science, Engineering, Mathematics, or Chemistry

*Experience:* Mid-Level

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Environmental Scientist

2. Environmental Engineer

### **Air Quality Control Engineer**

*Description:* Conduct air quality analyses and permitting efforts and implement environmental compliance management systems and processes

*Min. Educational Req.:* Bachelor's Degree in Chemical Engineering or a technical discipline

*Recommended College Coursework:* Chemistry, Chemical Engineering, Engineering, Air Quality/Pollution

*Experience Needed:* High-Level

Minimum of five years' experience in air permitting plus knowledge of federal/state environmental programs

*Growth Potential:* Great potential for growth as air quality standards change

*Employer Type:* Private Firms, Government, Power Plants/Facilities

*Related Careers:* 1. Air Quality Specialist

### **Greenhouse Gas Emissions Permitting Consultant**

*Description:* Conduct data gathering, data analysis, calculations, inventories, and reduction planning and be familiar with emerging regulations on greenhouse gas management

*Min. Educational Req.:* Bachelor's Degree in Engineering or Science

*Recommended College Coursework:* Environmental Studies, Policy, Engineering

*Experience Needed:* Mid- to High-Level

Two to five years' experience in energy management and efficiency, air pollutant inventories and permitting, and/or greenhouse gas inventories and management

*Desired Education:* Master's Degree

*Growth Potential:* Huge potential for growth as we increase regulations of GHG emissions

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Air Quality Control Engineer

### **Air Pollution Specialist**

*Description:* Investigates local government and land use activities, develops protocols for estimating greenhouse gas emissions, develops community GHG inventories, and evaluates GHG reduction benefits from green buildings

*Min. Educational Req.:* Bachelor's Degree in Chemistry, Chemical Engineering, or Physical Science

*Recommended College Coursework:* Climate Change, Emissions Accounting, Green Building, Chemistry

*Experience Needed:* Mid- to High-Level

*Growth potential:* Good growth expected

*Employer Type:* Private Firm, Government

*Related Careers:* 1. Air Resources Engineer

### **Air Resource Engineer**

*Description:* Develop control measures and other strategies to reduce emissions of greenhouse gases from stationary and mobile sources

*Min. Educational Req.:* Bachelor's Degree in Engineering

*Recommended College Coursework:* Engineering, Climate Change, Air Quality, Emissions, Clean Air Technology

*Experience Needed:* Mid- to High-Level

*Growth potential:* Great potential for growth

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Air Pollution Specialist

## **ENVIRONMENTAL CONSULTING AND RESEARCH**

### **Greenhouse Gas Emissions Report Verifier**

*Description:* Conduct data audits of reported greenhouse gas emissions inventories

*Min. Educational Req.:* Bachelor's Degree in Engineering or Science

*Recommended College Coursework:* Environmental Studies, Policy, Engineering

*Experience Needed:* Mid- to High-Level

Two to five years' experience in energy management and efficiency, air pollutant inventories and permitting, and/or greenhouse gas inventories and management

*Desired Education:* Master's Degree

*Growth Potential:* Large potential for growth as GHG reporting and verification protocols are implemented

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Air Quality Control Engineer

### **Water Quality Consultant - Water/Wastewater Engineer**

*Description:* Deals with issues surrounding water quality discharge permitting

*Min. Educational Req.:* Bachelor of Science in related field

*Recommended College Coursework:* Hydrology, Wastewater, Engineering, Permitting, Land Use

*Experience Needed:* High-Level

Three to five years' experience with water quality issues

*Desired Education:* Master's Degree, Professional Engineer

*Growth potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Wastewater Treatment

### **Water Resource Consultant**

*Description:* Deals with broader issues of water management and discharge, including flooding, ecosystem needs, distributions, and marketing

*Min. Educational Req.:* Bachelor of Science in related field

*Recommended College Coursework:* Environmental Science, Hydrology, Wastewater, Engineering, Permitting, Land Use

*Experience Needed:* High-Level

Three to five years' experience with water quality issues

*Desired Education:* Master's Degree

*Growth potential:* Good growth expected

*Employer Type:* Private Firms, Government

*Related Careers:* 1. Water Resource Engineer

### **Senior Environmental Consultant**

*Description:* Manage all compliance requirements during pre-construction, construction, and commercial operation phases of project, including environmental and building requirements

*Min. Educational Req.:* Bachelor's Degree in Environmental Science, Engineering, Chemistry, Biology, or related field

*Recommended College Coursework:* Environmental Sciences, Natural Science, Engineering

*Experience Needed:* Mid- to High Level-Minimum of three years regulatory compliance experience at power plants or industrial or construction sites  
*Growth potential:* As new building standards are developed, the need for this job will grow  
*Employer Type:* Private Firms, Power Plants/Facilities  
*Related Careers:* 1. Renewable Energy Consultant

### **Waste Reduction Consultants/Energy Efficiency Experts**

*Description:* Environmental consultant to design, implement, and monitor a variety of commercial and municipal programs that include energy efficiency, waste prevention, recycling, construction and demolition, household hazardous waste, illegal hauling, and used oil programs  
*Min. Educational Req.:* Bachelor's Degree in Waste Management and/or Energy Efficiency  
*Recommended College Coursework:* Waste Reduction, Environmental Studies, Recycling  
*Experience Needed:* High-Level  
Five to seven years in related experience  
*Desired Education:* Master's Degree or Ph.D.  
*Growth Potential:* Will grow exponentially alongside waste reduction management  
*Employer Type:* Private Firms  
*Related Careers:* 1. Environmental Consultant

### **Renewable Energy Consultant**

*Description:* Assessing industry trends and related implications, monitoring product developments and preferences, exploring competitive landscapes, and examining emerging technologies  
*Min. Educational Req.:* Advanced Degree  
*Recommended College Coursework:* Specialize in Renewable Energy with focus on one or all technologies  
*Experience Needed:* High-Level  
*Growth Potential:* High demand and will grow  
*Employer Type:* Private Consulting, Government, Education  
*Related Careers:* 1. Environmental Scientist  
2. Environmental Educator

## **MUNICIPAL WASTE TREATMENT AND RECYCLING OPERATIONS**

### **Recycling Collections Driver**

*Description:* Drives around and picks up recycling from designated locations  
*Min. Educational Req.:* None  
*Experience Needed:* Entry-Level  
Must have a driver's license  
*Growth Potential:* Good growth expected  
*Employer Type:* Private firms, Government  
*Related Careers:* 1. Recycling Center Operator

### **Recycling Center Operator**

*Description:* Performs daily operations at a recycling center, including processing materials, customer service, and hand sorting and separating recyclable from nonrecyclable materials according to established procedures  
*Min. Educational Req.:* None  
*Experience Needed:* Entry-Level  
One year as general laborer  
*Growth Potential:* Good growth expected  
*Employer Type:* Private Firms, Government  
*Related Careers:* 1. Recycling Collections Driver

### **Hazardous Materials Removal Worker**

*Description:* Identifies, removes, transports, and disposes of various hazardous materials, including asbestos, lead, and radioactive and nuclear materials  
*Min. Educational Req.:* High School Diploma/GED  
*Certification Requirements:* One to three months' training and licensure is required for each material to be handled  
*Experience Needed:* Entry Level  
Must have certification  
*Growth Potential:* The need for waste management will increase with production  
*Employer Type:* Private Firms, Government, Power Plants/Facilities  
*Related Careers:* 1. Hazardous Waste Management Specialist,  
2. Nuclear Waste Management Engineer

### **Hazardous Waste Management Specialist**

*Description:* Conducts studies on hazardous waste management projects; provides information on treatment and containment of hazardous waste; and provides technical assistance in the event of hazardous chemical spill, identifies pollutant, determines hazardous impact, and recommends corrective action  
*Min. Educational Req.:* Bachelor's Degree in Chemistry or other Science  
*Recommended College Coursework:* Analytical Chemistry, Organic Chemistry, and Physical Chemistry  
*Experience Needed:* Mid-Level  
Two years in a comprehensive environmental, health, and safety program  
*Growth Potential:* The need for waste management will increase with production  
*Employer Type:* Private Firms, Government, Plants/Facilities  
*Related Careers:* 1. Hazardous Materials Removal Worker  
2. Nuclear Waste Management Engineer

### **Solid Waste (Energy) Engineer/Manager**

*Description:* Works on solid waste projects, including planning, operations, and technology development  
*Min. Educational Req.:* Bachelor's Degree in Engineering or Environmental Studies  
*Recommended College Coursework:* Engineering, Green Building, Cogeneration, Auditing, Water Efficiency

*Certification:* Engineer-in-Training

*Experience Needed:* Mid- to High-Level

Two to five years' experience in performing engineering and economic analyses for energy efficiency or solid waste management projects and/or programs

*Growth Potential:* Need will increase as efficiency in this sector increases

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Wastewater Engineer

### **Nuclear Waste Management Engineer**

*Description:* Designs, implements, and tests systems and procedures to reduce volume and dispose of hazardous waste materials and contaminated objects; oversees construction, testing, and implementation of waste disposal systems; and resolves operational problems

*Min. Educational Req.:* Bachelor's Degree in Nuclear Engineering or a related field

*Recommended College Coursework:* Engineering, Waste Management

*Experience:* High-Level

*Growth Potential:* Good potential for growth as possible alternative energy industries are explored

*Employer Type:* Government, Power Plants/Facilities

*Related Careers:* 1. Hazardous Materials Removal Worker

## **WASTEWATER TREATMENT AND MANAGEMENT**

### **Operations Maintenance Worker for Water Services**

*Description:* Responsible for repairing water mains, services, general maintenance, and other duties

*Min. Educational Req.:* High School Diploma/GED

*Certification Requirements:* Grade II Distribution certification desired or must have or obtain Grade II Distribution certification within ten months

*Experience Needed:* Entry-Level

*Growth Potential:* Advancement available within water/waste water treatment facility

*Employer Type:* Government, Power Plants/Facilities

*Related Careers:* 1. Wastewater Engineer

### **Associate Engineer – Wastewater Treatment**

*Description:* Evaluate and provide recommendations on renewable energy projects and assist with the development of a comprehensive energy management strategy

*Min. Educational Req.:* Bachelor's Degree in Mechanical or Electrical Engineering or equivalent combination of training and experience

*Recommended College Coursework:* Mechanical or Electrical Engineering, Renewable Energies

*Experience Needed:* Mid-Level

Two years of comprehensive experience with renewable energy projects and energy procurement principles

*Growth Potential:* Good growth expected

*Employer Type:* Power Plants/Facilities

*Related Careers:* 1. Energy Engineer

2. Electrical Engineer

### **Wastewater Engineer in Industrial Facilities**

*Description:* Administer the stormwater/wastewater program for major industrial facilities, manage the implementation of the Spill Prevention Control and Countermeasure Plan (SPCC) and the Stormwater Pollution Prevention Plan (SWPPP), complete the Air Emissions Report, and lead the new Greenhouse Gas Program

*Min. Educational Req.:* Bachelor's Degree in Chemical, Petroleum, Mechanical, or Environmental Engineering

*Recommended College Coursework:* Chemistry, Mechanical Engineering, Water/Wastewater treatment

*Experience Needed:* High-Level

Minimum of five years related experience

*Growth Potential:* Good growth expected

*Employer Type:* Plants/Facilities

*Related Careers:* 1. Environmental Engineer

2. Wastewater Treatment Operator

### **Wastewater Plant Civil Engineer**

*Description:* Project manager for wastewater design and implementation, responsible for all facets of hydraulic modeling and pipeline design

*Min. Educational Req.:* Bachelor's Degree in Civil Engineering

*Recommended College Coursework:* Civil Engineering, Mechanical Engineering, Wastewater Management

*Certification:* Professional Engineer

*Experience Needed:* High-Level

Ten years' experience in Civil Design

*Growth Potential:* Good growth expected

*Employer Type:* Private Firms, Power Plants/Facilities

*Related Careers:* 1. Civil Engineer

2. Wastewater Plant Operator

## **NONPROFIT SECTOR**

### **Conservation Policy Analyst and Advocate**

*Description:* Plan and manage conservation programs, including program development, project implementation, budget management, fundraising, and community relations as well as provide high-level oversight for restoration programs

*Min. Educational Req.:* Bachelor's Degree in Environmental Studies or Science, Environmental Policy, Conservation Biology, or another field related to Natural Resources Conservation

*Recommended College Coursework:* Environmental Studies, Ecology, Natural Resources, Conservation

*Experience Needed:* Mid- to High-Level

Three years' experience in wildlife conservation policy and advocacy

*Growth Potential:* Nonprofit sector growth will occur as green economy matures

*Other Employer Type:* Private Firms

*Related Careers:* 1. Conservation Scientist

2. Government Analyst

### **Climate Change Policy Specialist and Advocate**

*Description:* Develop and advance a policy strategy to promote the creation of a long-term price signal for the reduction of global emissions of greenhouse gases, including financial incentives to prevent deforestation, and restore valuable forest habitats

*Min. Educational Req.:* Master's Degree in International Relations, Public Policy, Forestry, Energy Resource Management, or related field

*Recommended College Coursework:* Forestry, Public Policy, Resource Management, Air Quality

*Experience Needed:* High-Level  
Six years of related experience

*Growth Potential:* Nonprofit sector growth will occur as green economy matures

*Employer Type:* Private Firms

*Related Careers:* 1. Policy Analyst  
2. Government Analyst

### **Water Resource Policy Specialist and Advocate**

*Description:* Conduct hydrogeologic and hydrologic analysis for environmental and water resources projects, including computer simulations of water resources, evaluations of how to best plan for the future availability of water resources and surface and subsurface water quality modeling, development of input values that go into water supply and water quality models, and development of environmental management and decision support systems and technical report writing

*Min. Educational Req.:* Master's Degree in Environmental Studies, Science, or Environmental Engineering

*Recommended College Coursework:* Environmental Studies, Hydrology, Engineering

*Experience Needed:* High-Level

*Growth Potential:* Nonprofit sector growth will occur as green economy matures

*Employer Type:* Private Firms

*Related Careers:* 1. Hydrogeologist  
2. Government Scientist