



# MISSOURI GREEN OCCUPATIONS

## What are the Green Occupations in Missouri?

Much has been written and said about the emerging Green Economy and the potential impact Green Job opportunities can have on a state's employment. But, what are these opportunities? And, which occupations are considered to be Green Jobs in Missouri?

A Green Job can generally be thought of as one in which the outcome of work creates a positive impact on the environment. Following this definition, the researchers at the Missouri Economic Research and Information Center (MERIC) identified 81 occupations as Green Occupations in the state of Missouri.

*The average salary for these 81 occupations is \$45,345.*

## Determining Missouri's Green Occupations...

The Missouri Green Occupation list and associated employment and wage data was formulated based on the combination of three sets of data. These are: (1) The 2009 Missouri Green Jobs Survey; (2) The Occupational Information Network (O\*NET) classification of Green Occupations; and (3) Long-Term (2008–2018) Statewide Occupational Projections.

Since each occupation, nationally and in Missouri, is given a six-digit numerical identification (known as the Standard Occupational Code or SOC), this cross-variable within all three datasets was used to develop a Missouri-specific list of Green Occupations.

MERIC used results from their first-ever Green Jobs Survey as the initial base of Green Occupations in the state. After employer-provided job titles were coded with the related SOC, they were merged with a Green Occupations list provided by O\*NET. This was done to ensure there were not any missing Green Occupations identified by other significant research.


















From the merged survey and O\*NET occupation lists, certain occupations were discarded based on the general function of these particular occupations. For instance, some occupations identified in the Green Jobs Survey were jobs whose activities may or may not lead to the production of Green-related products or services. Given the broad nature of these occupation titles they were not labeled a "Green Occupation" in Missouri.

However, occupations that do require extensive training/education or job skills necessary in directly generating a firm's green-related products or services were included and examined. This list was then merged with the Missouri occupational projections data to provide employment, wages, career grades, WorkKeys® scores, typical training/education required, etc.

In the process of merging the lists from the Green Jobs Survey, O\*NET, and Missouri projections, the 81 occupations in this table were identified as Missouri's Green Occupations.

From the list of 81 occupations, a narrowed list of 26 occupations are flagged as Core Green Occupations. These are identified in this table with a green leaf. Typically, the training/education pathway for these jobs involves learning ways to conserve resources, maintain environmental sustainability or achieve energy efficiency.



Green Scale	SOC	Occupation Title
	11-2011	Green Marketers
	11-3051	Industrial, Biomass, Geothermal & Hydroelectric Production Managers Including Methane/Landfill Gas Collection System Operators
	11-9012	Farmers & Ranchers
	11-9021	Construction Managers
	11-9041	Biofuels/Biodiesel Technology & Product Development & Engineering Managers
	11-9121	Natural Sciences Managers & Water Resource Specialists
	11-9199	Compliance, Logistics, Regulatory Affairs, Supply Chain, Wind Energy Operations, Wind Energy Project & Brownfield Redevelopment Site Managers
	13-1041	Regulatory Affairs Specialists
	13-1073	Training & Development Specialists
	13-1199	Energy Auditors
	13-1199	Sustainability Specialists
	17-1011	Architects, Except Landscape & Naval
	17-1012	Landscape Architects
	17-2041	Chemical Engineers
	17-2051	Civil & Waste/Wastewater Engineers
	17-2071	Electrical Engineers
	17-2072	Electronics Engineers, Except Computer
	17-2081	Environmental Engineers
	17-2111	Health & Safety Engineers, Except Mining Safety Engineers & Inspectors
	17-2141	Mechanical, Automotive & Fuel Cell Engineers
	17-2161	Nuclear Engineers
	*17-2199	Biochemical, Energy, Manufacturing, Mechatronics, Microsystems, Nanosystems, Photonics, Robotics, Solar Energy Systems, Validation & Wind Energy Engineers
	17-3011	Architectural Drafters
	17-3023	Electrical & Electronic Engineering Technicians
	17-3025	Environmental Engineering Technicians
	17-3029	Electrical, Electromechanical, Electronics, Manufacturing Engineering, Manufacturing Production, Mechanical Engineering & Industrial Engineering Technologists Including Nanotechnology, Photonics & Fuel Cell Technicians
	19-1012	Food Scientists & Technologists
	19-1013	Soil & Plant Scientists
	19-1023	Zoologists & Wildlife Biologists
	19-1031	Conservation Scientists; Soil & Water Conservationists
	19-2031	Chemists
	19-2041	Environmental Scientists & Specialists, Including Health, Climate Change Analysts, Environmental Restorations Planners & Industrial Ecologists
	19-2042	Geoscientists, Except Hydrologists & Geographers

## What sources were used to determine whether an occupation was a Green Occupation?

### The 2009 Missouri Green Jobs Survey

In the 2009 Missouri Green Jobs Survey, employers reported the green employment for their firm by job title. These job titles were coded by occupation using the SOC system in order to assign each title a six-digit code used for occupational analysis. Once the titles were coded, survey responses were weighted based on each industry's share of sample units. The survey counts of Green Jobs by job title were converted into estimates of total Green Jobs by occupation by Green Industry sector.

### Long-Term (2008–2018) Statewide Occupational Projections

Occupational employment projections are developed using data from the Missouri's Occupational Employment and Wage Survey (OES) along with Quarterly Census of Employment and Wages (QCEW) data provided by the State of Missouri and the U.S. Bureau of Labor Statistics. The data collected reflects the Standard Occupational Classification (SOC).

### The Occupational Information Network (O\*NET) classification of Green Occupations

O\*NET research investigated the impact of Green Economy activities and technologies on occupational requirements to determine their impact on current O\*NET–SOC occupations. It also identified new and emerging Green Occupations for inclusion in the O\*NET–SOC system. O\*NET established three general occupational categories:

#### Green Increased Demand

The impact of green economy activities and technologies leads to an increase in the employment demand for an existing occupation.

#### Green Enhanced Skills

The impact of green economy activities and technologies results in a significant change to the work and worker requirements of an existing O\*NET–SOC occupation.

#### Green New and Emerging (N&E)

The impact of green economy activities and technologies is sufficient to create the need for unique work and worker requirements, which results in the generation of a new occupation relative to the O\*NET taxonomy.



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Green Scale	SOC	Occupation Title
	19-2043	Hydrologists
	*19-3011	Economists & Environmental Economists
	19-3051	Urban & Regional Planners
	19-4031	Chemical Technicians
	19-4051	Nuclear Equipment Operation Technicians
	19-4091	Environmental Science & Protection Technicians, Including Health
	19-4093	Forest & Conservation Technicians
	19-4099	Precision Agriculture Technicians
	27-1021	Commercial & Industrial Designers
	41-3099	Energy Brokers
	43-5061	Production, Planning & Expediting Clerks
	45-2011	Agricultural Inspectors
	45-4011	Forest & Conservation Workers
	*47-1011	First-Line Supervisors of Construction Trades & Extraction Workers Including Solar Energy Installation Managers
	47-2031	Carpenters
	47-2061	Construction Laborers
	47-2073	Operating Engineers & Other Construction Equipment Operators
	47-2111	Electricians
	47-2131	Insulation Workers, Floor, Ceiling & Wall
	47-2152	Plumbers, Pipefitters & Steamfitters
	47-2181	Roofers
	47-2211	Sheet Metal Workers
	47-2221	Structural Iron & Steel Workers
	47-3012	Helpers—Carpenters
	47-4011	Construction & Building Inspectors
	47-4041	Hazardous Materials Removal Workers
	*47-4099	Construction & Related Workers, All Other Including Solar Photovoltaic, Solar Thermal & Weatherization Installers & Technicians
	49-2094	Electrical & Electronics Repairers, Commercial & Industrial Equipment
	49-3023	Automotive Service Technicians & Mechanics
	49-9021	Heating, Air Conditioning & Refrigeration Mechanics & Installers
	49-9041	Industrial Machinery Mechanics
	49-9042	Maintenance & Repair Workers, General
	49-9051	Electrical Power—Line Installers & Repairers
	49-9098	Helpers—Installation, Maintenance & Repair Workers
	*49-9099	Installation, Maintenance & Repair Workers, All Other Including Geothermal Technicians & Wind Turbine Service Technicians
	51-2022	Electrical & Electronic Equipment Assemblers
	51-2031	Engine & Other Machine Assemblers
	51-2041	Structural Metal Fabricators & Fitters
	51-2092	Team Assemblers
	51-4121	Welders, Cutters & Welder Fitters
	51-8011	Nuclear Power Reactor Operators
	51-8091	Chemical Plant & System Operators
	51-8099	Biofuels Processing, Biomass Plant, Hydroelectric Plant & Methane/Landfill Gas Generation System Technicians
	51-9061	Inspectors, Testers, Sorters, Samplers & Weighers
	*51-9199	Production Workers, All Other Including Recycling & Reclamation Workers
	53-1021	Recycling Coordinators
	53-7062	Laborers & Freight, Stock & Material Movers, Hand
	53-7081	Refuse & Recyclable Material Collectors

\*Occupational category includes both green and non-green occupational job titles