



# California Occupational Guides

Guide for



## Energy Auditors in California

**May also be called:** Building Performance Specialists; Commercial Energy Field Auditors; Energy Advisors; Energy Analysts; Energy Specialists; Residential Energy Field Auditors

### What Would I Do?

Energy Auditors play an important role of construction and engineering firms. Energy Auditors provide their expertise in the planning and construction of energy-efficient buildings (commercial, industrial, and residential), as well as testing and rating existing buildings on energy efficiency and recommending improvements to existing buildings in order to become more energy efficient. Energy Auditors need to have knowledge of heating, ventilation, and air conditioning (HVAC) systems; water heaters; windows; and lighting. Energy Auditors must be up to date on local, State, and federal building codes and regulations in order to provide clients with the most accurate information possible. Through the use of analytical computer software and knowledge of construction and building standards, Performance Specialists ensure that buildings operate at a high efficiency level and meet the minimum building requirements. Experienced Auditors often operate building simulation computer software to predict building performance.

Energy Auditors work in residential and commercial buildings and industrial sites performing inspections, running tests, and meeting with clients to discuss audit findings and recommendations. Energy audits require assessing how well a building retains heating or air-conditioning. The Auditor inspects areas where energy loss occurs, such as single pane windows, lack of wall or attic insulation, gaps in doorways where weather-stripping can be used, HVAC systems, interior and exterior lighting systems, and hot water heaters. Experienced Energy Auditors may be called on to perform evaluations of industrial equipment, such as air compressors, pumps, and manufacturing equipment. Energy Auditors support their energy-efficiency recommendations through the principles of mathematics, engineering, and other scientific disciplines in order to demonstrate to clients the benefits and short- or long-term cost savings that will be experienced through the implementation of energy-efficiency practices. Energy Auditors also serve as sales representatives due to their need to inform clients on the benefits of purchasing energy-efficient equipment and appliances and making retrofits to existing buildings in order to improve efficiency.

### Tools and Technology

Energy Auditors use a variety of tools in order to perform their audits. Energy Auditors use light meters, digital thermometers and digital infrared thermometers, air velocity and temperature monitors, heating system combustion analyzers, water flow meters, and smoke generators and smoke pens in order to test for leaks.

### Important Tasks and Related Skills

Each task below is matched to a sample skill required to carry out the task.

<b>Task</b>	<b>Skill Used in this Task</b>
Identify and prioritize energy saving measures.	Problem Sensitivity
Prepare audit reports containing energy analysis results and recommendations for energy cost savings.	Clerical
Collect and analyze field data related to energy usage.	Systems Analysis
Inspect or evaluate building envelopes, mechanical systems, electrical systems, or process systems to determine the energy consumption of each system.	Computers and Electronics
Perform tests such as blower-door tests to locate air leaks.	Inductive Reasoning
Educate customers on energy-efficiency or answer questions on topics such as the costs of running household appliances and the selection of energy-efficient appliances.	Customer and Personal Service
Calculate potential for energy savings.	Mathematics
Prepare job specification sheets for home energy improvements such as attic insulation, window retrofits, and heating system upgrades.	Information Ordering
Recommend energy-efficient technologies or alternate energy sources.	Sales and Marketing
Quantify energy consumption to establish baselines for energy use and need.	Written Expression

Source: U.S. Department of Labor [Occupational Information Network \(O\\*NET\)](http://ononline.org) at ononline.org

### **Working Conditions**

Energy Auditors work in office buildings and construction and building sites. They may also need to meet with clients in person or via teleconference in order to discuss the energy-efficiency needs of the buildings. They frequently spend time outdoors at construction sites to oversee project implementation. When working in hazardous conditions, Energy Auditors must be trained in health and safety procedures, and they must wear personal protective equipment. Most Energy Auditors work a standard 40-hour workweek, but can expect occasional evening, weekend, and holiday work to meet pressing needs.

Unionization is not common in this occupation. However, Energy Auditors who work for government entities or municipalities may belong to a union.

### **Will This Job Fit Me?**

The job of Energy Auditors may appeal to those who want to be a part of the green economy and assist in the reduction of fossil fuel use. This occupation may interest those who are interested in making new and existing buildings energy efficient and, therefore, make their carbon footprint as minimal as possible. They need to be skilled in building design and knowledgeable in energy-efficient practices. This requires a type of intelligence that is logical, detail oriented, inquisitive, and creative. Energy Auditors need to possess written and verbal communication skills in order to provide customers with accurate information and effectively communicate recommendations to clients and coworkers.

Energy Auditors need to be able to perform modest physical activities such as climbing ladders, measuring building dimensions, crawling in confined spaces, and inspecting operating equipment.

### ***What Wages and Benefits Can I Expect?***

#### **Wages**

A formal salary survey is not available; however, references to annual salaries range from the lower boundary of \$50,000 to the upper boundary of \$65,000. All salaries depend on the pay structure established by each employer for work performed, the nature of the project, and the skill of the specialists. Generally, workers in large cities earn higher wages than those who work in small towns and rural areas.

#### **Benefits**

Energy Auditors typically receive benefits such as health and life insurance, vacation, holidays, and pension plans. Self-employed Auditors are responsible for providing their own insurance and retirement plan.

### ***What is the Job Outlook?***

As this is an emerging occupation, the number of Energy Auditors in California is unknown at this time. Employment opportunities should increase in the future considering society's growing interest in environmental protection and energy conservation. Additionally, consumers benefit from local utility rebates and tax credits by making retrofits to their homes and businesses. However, like many occupations connected to the construction industry, employment is sensitive to the fluctuations of the economy. Workers in these trades may experience periods of unemployment when the overall level of construction falls.

### ***How Do I Qualify?***

#### **Education, Training, and Other Requirements**

An associate degree in a field such as mathematics, physics, chemistry, or engineering is generally the minimum education level that employers will consider for a position as an Energy Auditor, although many employers view substantial experience in the mechanical or electrical trades to be desirable. Energy Auditors also need to have experience and knowledge of HVAC systems and basic construction knowledge in order to effectively communicate with contractors and building retrofitters.

#### **Experience**

Employers prefer new hires to have prior experience in construction, technical, or an energy-related field.

#### **Early Career Planning**

High school students who are interested in the job of Energy Auditor should take classes in English, mathematics, physical and life sciences, computer science, and mechanical drawing or computer-aided design processes. Some Regional Occupational Programs (ROP) offer courses in the trades which can provide an exposure to skills useful for the Energy Auditor. To find an ROP program near you, go to the California Association of Regional Occupational Centers and Programs Web site at [www.carocp.org/carocps.html](http://www.carocp.org/carocps.html).

#### **Continuing Education**

To provide clients with the accurate recommendations regarding the rapidly changing field of energy efficiency, Energy Auditors attend seminars and workshops in order to stay on top of energy-efficient appliances and practices, and be up to date on local, State, and federal building codes and regulations. Professional certifications generally require certification holders to complete preapproved continuing education courses in order to maintain good standing.

## Certification

It is generally beneficial to have one or more of the following certifications:

- Building Operator Certification (BOC) from the Building Operator Certification Program
- Certified Plant Engineer (CPE) from the Association of Facility Engineers
- Certified Energy Manager (CEM) from the Association of Energy Engineers
- Certified Energy Plans Examiner (CEPE) from the California Association of Building Energy Consultants (CABEC)
- Certified Energy Analyst (CEA) from the California Association of Building Energy Consultants (CABEC)
- Home Energy Rating Systems (HERS) from the California Energy Commission

Contact the certifying agency directly in order to obtain information regarding certification requirements.

## Where Can I Find Training?

There are two ways to search for training information at [www.labormarketinfo.edd.ca.gov/?Pageid=1013](http://www.labormarketinfo.edd.ca.gov/?Pageid=1013):

- [Search by Field of Study](#) to find what programs are available and what schools offer those programs. You may use keywords such as: Energy Engineer, Energy Manager, and Green Building Certification Program.
- [Search by Training Provider](#) to find schools by name, type of school, or location.

Contact the schools you are interested in to learn about the classes available, tuition and fees, and any prerequisite course work.

## Where Would I Work?

According to the 2009 *California Green Economy Survey*, Energy Auditors in California work in the Specialty Trade Contractors industry which includes electrical and other wiring installation contractors in addition to Plumbing, Heating, and Air-Conditioning Contractors. Energy Auditors also work in the Utilities sector and the Educational Services sector such as elementary schools and junior colleges.

## Finding a Job

Direct application to employers is one of the most effective job search methods. Jobs may also be found through classified advertisements in newspapers and online job boards. Online job opening systems include JobCentral at [www.jobcentral.com](http://www.jobcentral.com) and CalJOBSSM at [www.caljobs.ca.gov](http://www.caljobs.ca.gov).

To find your nearest One-Stop Career Center, go to [Service Locator](http://www.servicelocator.org) at [www.servicelocator.org](http://www.servicelocator.org). View the [helpful job search tips](http://www.labormarketinfo.edd.ca.gov/occguides/JobSearchTips.pdf) at [www.labormarketinfo.edd.ca.gov/occguides/JobSearchTips.pdf](http://www.labormarketinfo.edd.ca.gov/occguides/JobSearchTips.pdf) for more resources. (requires [Adobe Reader](#)).

## Yellow Page Headings

You can focus your local job search by checking employers listed online or in your local telephone directory. Below are some suggested headings where you might find employers of Energy Auditors.

- Electric and Gas Utilities
- Energy Services Companies (ESCOs)
- Heating and Air Conditioning Contractors
- Lighting Contractors

## Find Possible Employers

To locate a list of employers in your area, use "Find Employers" on the LaborMarketInfo Web site at [www.labormarketinfo.edd.ca.gov/aspdotnet/databrowsing/empMain.aspx?menuChoice=emp](http://www.labormarketinfo.edd.ca.gov/aspdotnet/databrowsing/empMain.aspx?menuChoice=emp)

- Select the search for employers by occupation.
- Select a geographic area.
- Search for an occupation by keyword, occupation, or category.
- Select one of the top industries that employ the occupation.
- This will give you a list of employers in that industry in your area.
- Click on “View Filter Selections” to limit your list to specific cities or employer size.
- Click on an employer for the street address, telephone number, size of business, Web site, etc.
- Contact the employer for possible employment.

### ***Where Could This Job Lead?***

As Energy Auditors become experienced, they may take on more responsibility, carry out assignments with limited supervision, and eventually supervise less experienced Auditors.

### ***Related Occupations***

Below is a list of occupations related to Energy Auditors.

- Heating, Air Conditioning, and Refrigeration Mechanics and Installers (49-9021)
- Construction Managers (11-9021)

### ***Other Sources***

- California Department of Consumer Affairs  
[www.dca.ca.gov](http://www.dca.ca.gov)
- California Energy Commission  
[www.energy.ca.gov/HERS](http://www.energy.ca.gov/HERS)
- U.S. Department of Energy  
[www.energy.gov](http://www.energy.gov)
- Association of Energy Engineers  
[www.aeecenter.org](http://www.aeecenter.org)
- Association of Facility Engineers  
[www.afe.org](http://www.afe.org)
- Building Performance Institute, Inc.  
[www.bpi.org](http://www.bpi.org)
- California Association of Building Energy Consultants  
[www.cabec.org](http://www.cabec.org)
- California Commission Collaborative  
[www.cacx.org](http://www.cacx.org)
- Building Operator Certification  
[www.theboc.info](http://www.theboc.info)

These links are provided for your convenience and do not constitute an endorsement by EDD.

### ***For the Career Professional***

The following codes are provided to assist counselors, job placement workers, or other career professionals.

<b>System</b>	<b>Code</b>
SOC – <a href="http://www.bls.gov/soc">Standard Occupational Classification</a> at <a href="http://www.bls.gov/soc">www.bls.gov/soc</a>	13-1199
O*NET – <a href="http://online.onetcenter.org">Occupational Information Network</a> at <a href="http://online.onetcenter.org">online.onetcenter.org</a>	
Energy Auditors	13-1199.01

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