

Key Findings, 2009



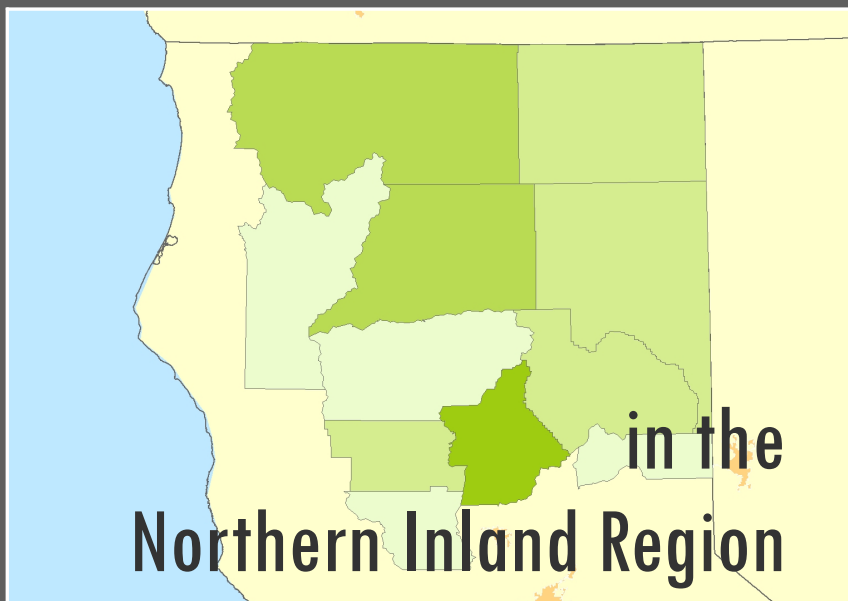
C·O·E

CENTERS OF EXCELLENCE

Inform Connect Advance

www.coecc.net

Energy Efficiency Occupations



Inside:

Research Objectives
Energy Efficiency Employers
Occupational Employment
Workforce Challenges
Education and Training

Centers of Excellence
Economic and Workforce Development
California Community Colleges

The Centers of Excellence, in partnership with business and industry, deliver regional workforce research customized for community college program decision making and resource development.



Research Objectives

Increasing energy and commodity costs, legislative requirements and consumer demand for a more sustainable environment have all led to a substantial push for a greener economy. To better understand the implications for community colleges, the Centers of Excellence (COE) conducted a study of the energy efficiency sector and related occupations. The research objectives of this study were to:

- Estimate the current number and size of firms, as well as geographic concentration.
- Project future job growth over three years in energy efficiency occupations relevant to community colleges.
- Identify employer needs and challenges for hiring and training employees.
- Define skill sets and education requirements needed for key occupations.
- Identify industry interest in accessing community college education and training programs.

Energy Efficiency Employers

Type of Firm

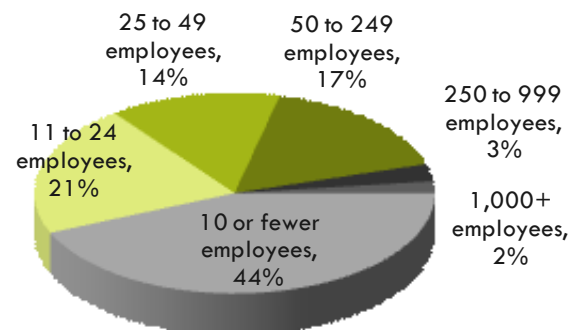
Firms that hire energy efficiency workers are found in different industries. This study focused on employers in the following three industry groups.



- In the 11-county Northern Inland Region, approximately 384 firms were identified as employing energy efficiency workers in one or more of the eight occupations studied.¹
- Two out of three employers identify themselves as involved directly with energy efficiency work; the remaining indicated they are indirectly involved with energy efficiency work.
- The primary services offered by energy efficiency employers include construction, consulting, HVAC installation and repair, electrical, engineering, controls, and retail sales of energy efficiency products.

Size of Firm

The data compiled on the size of firms reveals that most of the firms are relatively small – 65% employ less than 25 employees – with a significant portion (44%) employing 10 or fewer employees.



Occupational Employment

Eight energy efficiency occupations were identified as high-growth and align with community college education programs. The combined employment in the Northern Inland Region for the eight occupations totals at least 694 jobs (known employment from survey respondents) and could be as high as 2,780 jobs. The latter figure is an extrapolated estimate of employment, based on survey responses and an estimate of the number of energy efficiency-related firms in the region. Five of the eight occupations show growth over the next 12 months and all eight show growth over the next three years.

- In the next 12 months, the largest growth is projected for HVAC mechanics, technicians or installers with 60 new jobs (7.3% growth) and project managers for construction or design work with 30 new jobs (6.8% growth).
- Over the next three years, the fastest growing occupations are building controls systems technicians (33.8% growth) and energy auditors or home energy rater (26.1% growth).

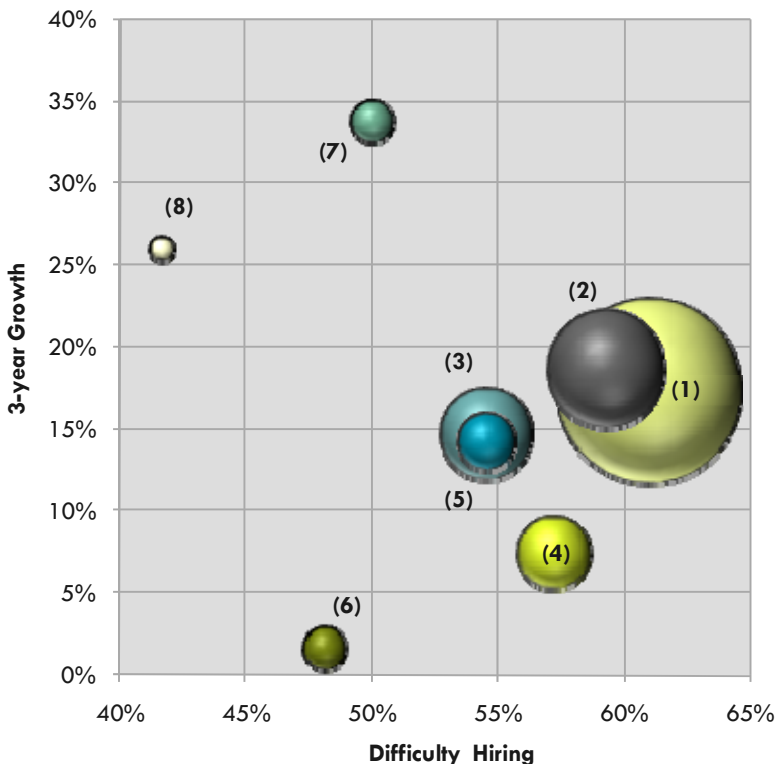
¹Of the estimated 384 energy efficiency firms in the region, 108 firms participated in the survey (a response rate of 28%).

Occupational Employment

Energy Efficiency Occupations	Estimated 2009 Employment	3-Year Projected Growth	Growth Rate
Building performance or retrofitting specialists are contractors who improve the energy efficiency of homes or buildings by installing insulation, windows, lighting and other energy efficient products.	400	60	14.8%
Energy auditors or home energy raters are responsible for collecting, analyzing and validating energy usage in the field and preparing reports on a building or home's total energy profile.	110	30	26.1%
Resource conservation or energy efficiency managers assess current energy and	320	15	7.5%
Project managers for construction or design work are responsible for communicating with project partners and ensuring that the project is completed in a timely manner and within budget.	510	90	18.7%
Building controls systems technician combine some of the traditional skill sets of building technicians with advanced skills in controls programming, networking, and systems integration.	190	70	33.8%
HVAC mechanics, technicians or installers install, repair and maintain heating, ventilation, air-conditioning and refrigeration systems.	800	140	17.4%
Compliance analyst or energy regulation specialists evaluate if projects are meeting regulatory requirements and/or incentives and provide recommendations as needed to meet compliance.	190	<5	1.7%
Building operators or building engineers troubleshoot, install, replace, and repair building energy systems and controls to optimize energy efficiency.	250	40	14.3%
Total, All Occupations (totals may not add due to rounding)	2,780	460	

Workforce Challenges

Employers indicate difficulty in hiring for all eight occupations. The chart below shows the 3-year projected growth rate of the eight occupations in relationship to the level of difficulty hiring. The area of each bubble represents the size of current employment for each occupation.



- More than 42% of employers surveyed reported great or some difficulty finding qualified applicants for all eight occupations.
- Nearly 60% of employers surveyed reported difficulty finding qualified HVAC mechanics, technicians or installers and project managers for construction or design work.

- (1) HVAC mechanics, technicians or installers
- (2) Project managers for construction or design work
- (3) Building performance or retrofitting specialists
- (4) Resource conservation or energy efficiency managers
- (5) Building operators or building engineers
- (6) Compliance analysts or energy regulation specialists
- (7) Building controls systems technicians
- (8) Energy auditors or home energy raters

Education, Training, and Skill Requirements

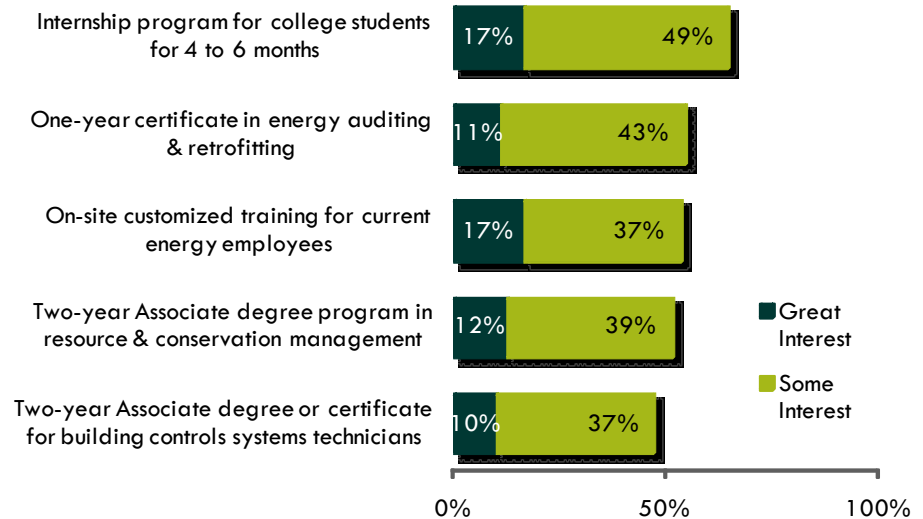
Employers expressed great interest in education and training programs that can be developed by community colleges:

- Two out of three employers expressed great or some interest in an internship program for community college students.
- More than half of employers surveyed expressed interest in a two-year Associate program for resource and conservation management and a one-year certificate program in energy auditing and retrofitting.
- 54% of employers expressed great or some interest in on-site customized training for current energy employees.

Employers' Top 3 Most Important Knowledge and Skill Areas

1. Ability to communicate with customers, in writing and in person.
2. Understanding of local and state energy efficiency requirements and incentives for new and existing buildings.
3. General understanding of the mechanics and engineering of energy systems, including HVAC, lighting, and renewable energy systems.

Employer Interest in Community College Programs



For More Information

For more information on this study, contact:

Theresa Milan, Center Director
Northern California Region
(916) 563-3221
milanti@losrios.edu

Coming soon! The Northern Inland Region Energy Efficiency Occupations environmental scan will be available to download at www.coecc.net/energy in August, 2009.

Research Partners



Industry Partners

