

Key Findings, 2008

Green Economy Workforce Study

Central Valley Region



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.

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**ECONOMIC &
WORKFORCE
DEVELOPMENT**
through the
CALIFORNIA
COMMUNITY
COLLEGES

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 Central Valley Region Center of Excellence (COE) conducted a study of the green economy workforce. The research objectives focused on identifying:

- Industries expected to be significantly impacted by the green economy.
- Key green workforce needs and the most relevant occupations.
- Employer challenges in recruiting, hiring and retaining workers.

The study, completed in 2008, included a survey of 59 area employers, a series of executive interviews with green economy and regional economy professionals, and applicable secondary research.

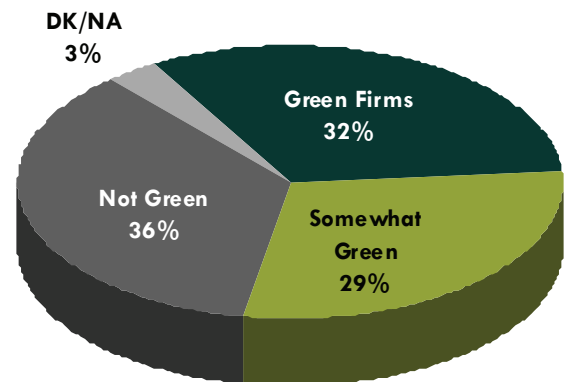
Green Economy Profile

For the 15-county Central Valley region, there are an estimated 10,980 firms that fall into one of the five industries most likely to be connected to the green economy. These industries include engineering and environmental services, building and design services, public administration agencies, agriculture, and energy production and utilities. Of the firms surveyed for this report, the study found:

- One-third identify themselves as a green firm.
- 71% have some degree of difficulty recruiting experienced employees with adequate skills and work experience.
- More than half reported difficulty retaining valuable employees.
- 46% of firms are interested in on-site customized training for employees provided by community colleges.

Employers Self-identified as a “Green Firm”

In the study, “green firms” were defined as businesses making money by providing products or services that use resources more efficiently, provide alternative sources of energy, or lower or minimize greenhouse gas emissions. The chart on the right shows how surveyed employers responded when asked to self-identify their firms as green, somewhat green, or not green at all.



Green Firms by Industry

Unlike more traditional industries, green firms are found throughout the economy, from energy and public administration to engineering and construction. In the Central Region, five industries were considered to be the most impacted by the green economy. The chart below illustrates the share each green industry occupies in relationship to all green industries identified for the study.



Industry Employment

The green economy workforce study identified more than 3,500 green firms and 28,000 green jobs within the identified industry sectors in the 15-county Central Region.

- Building and design services have the largest number of green jobs (19,610).
- Energy and utility services have the smallest number of green jobs (820); however, 45% of the workforce within this sector will be eligible for retirement in the next five years.¹

The table below shows the region's green industry employment in more detail.²

Central Region Green Jobs by Industry, 2007³

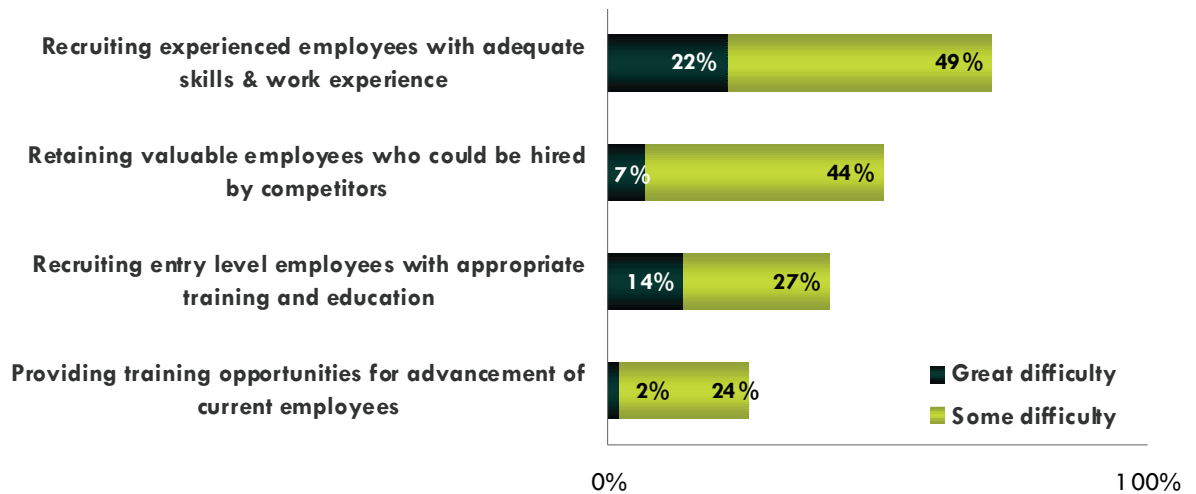
Green Economy Industry	Number of Firms in 2007	Number of Green Firms in 2007	Employment in 2007	Green Employment in 2007
Engineering and Environmental Services	1,450	460	13,790	4,640
Building and Design Services	8,760	2,800	62,770	19,610
Local Government and Public Administration	210	70	3,880	1,220
Agriculture	330	100	6,500	2,080
Energy and Utility Services	230	70	2,680	850
Total	10,980	3,510	89,630	28,380

Workforce Challenges

The green economy workforce study revealed that Central Region employers most impacted by the green economy are also experiencing significant workforce issues.

- 71% have difficulty recruiting non-entry level employees with adequate skills and work experience.
- More than half of the businesses surveyed have difficulty retaining valuable employees.
- 41% of employers reported difficulty recruiting entry-level employees with appropriate training.

Recruitment and Retention



¹Source: California Public Utilities Commission, *The Energy Action Plan*.

²Data may not add due to rounding. Totals were calculated using unrounded data.

³Source: InfoUSA, 2008.

Education and Training

During executive interviews and validation for this study, three key points relevant to the green workforce emerged.

- **It would be beneficial for colleges in the region to embed green curriculum throughout all courses.** The idea of green is much more of a value belief than a trade that is taught. The green workforce is made up of individuals that have selected to work towards improving the environment. If existing degree and certificate programs had a 'green thread' throughout the program, students would begin to understand and value the green economy.
- **There are few specific new programs for green that need to be created.** Jobs that may require specific programs are the technician level jobs for specific trades (i.e., wind, solar, geothermal). A plumber trained in an existing program is sufficient to work in a green firm. However, employers do see a value in all employees having a base understanding of what green is and the value behind it.
- **Safety is an issue.** Many of the jobs in the green economy require safety training beyond industry standards. This is particularly true in the renewable energy sector. Employers expressed a great need for additional safety training for new and existing employees.

Gaps identified

According to the primary research data collected for this report, the greatest needs for training programs for the green economy in the Central Region are: (1) renewable energy training programs; (2) environmental policy (planners); and (3) green engineering programs.

The following table lists some of the Central Region programs currently training workers for the green economy.

Community College	Green Programs (as of August, 2008)
Bakersfield	Environmental engineering, environmental science, environmental horticulture
Cerro Coso	Natural resources, industrial technology
Columbia	Environmental science, watershed restoration, GIS
Fresno City	HVAC and industrial electronics, environmental technology
Hartnell	Environmental technology
Merced	Agriculture science, horticulture, HVAC, natural resources
Modesto	Horticulture, environmental engineer, natural resources, industrial systems technician
Porterville	Agricultural production
Reedley	Metalworking, horticulture, mechanized agriculture, agriculture technician, automotive technician
San Joaquin Delta	Building, welding, carpentry, horticulture, HVAC, wastewater engineering and operations, natural resources, automotive technician
College of the Sequoias	Construction, welding, carpentry, HVAC, ag power equipment, welding industrial maintenance
Taft	Automotive specialist
West Hills Coalinga	Precision agriculture

For More Information

For more information on this study, contact the Center of Excellence (COE) at:

Michelle Marquez, Center Director
 Central Valley Region
 (209) 575-6908
mmarquez@mjc.edu

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