



**ANTELOPE VALLEY COLLEGE**

CAREER/TRANSFER  
RESOURCE CENTER

## CAREER CENTER SERVICES:

**Discover :** This career-planning program measures your values, interests and abilities, and matches them to appropriate careers on the World-of-Work map. The assessment is online-based and can be completed at home. To obtain access to this program visit the career center.

**Eureka:** This program provides information on careers including salary ranges, job outlook, educational preparation, associations, licensing information, etc. on more than 1,000 occupations. In addition, you can search for schools that offer the major you are interested in pursuing. For access, visit the career center.

**Advisement:** Make an appointment with a career advisor for assistance in interpreting assessment results or to establish a career or academic goal. Visit the career center or call (661) 722-6343 to make an appointment.

**Workshops/Events:** Check with the career center for upcoming career planning workshops and specialized career events

**Library /Computer Use:** Computers are available for AVC students to complete assessments and to engage in occupational exploration. A library of labor trends and academic information is also available.



## Careers in Wind Energy

Wind power has been used for centuries, but is a relatively new source of electricity generation. Visually identifiable by its characteristic turbines, wind power has been used on a utility scale for only a few decades. Wind-generating capacity in the United States grew 39 percent per year from 2004 to 2009, and is expected to grow more rapidly as demand for renewable energy increases. As the wind energy industry continues to grow, it will provide many opportunities for workers in search of new careers. These careers extend beyond the wind farm: it also takes the efforts of workers in factories and offices to build and operate a turbine.

The wind energy industry has experienced rapid growth in the past decade. Energy capacity in the United States was under 3,000 megawatts. It is now over 35,000 megawatts, enough electricity to power approximately 9.7 million homes. And this growth is accelerating. In 2009, 10,010 megawatts of new wind energy capacity was installed, more than in any previous year. As wind energy continues to grow in popularity, the development of American wind farms is



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## Careers in Wind Energy Cont.

expected to increase. Of course, the pace of wind energy development is influenced by current economic conditions.

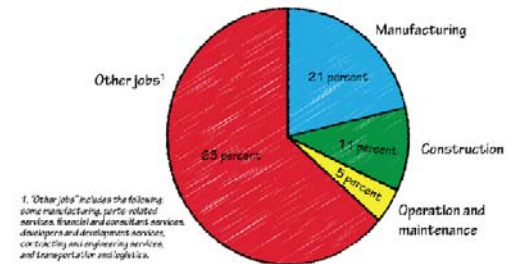
Despite this growth, wind power is only a tiny segment of the national energy market. In 2009, wind energy made up 1.8 percent of U.S. power generation, an increase from 1.3 percent in 2008. However, wind power accounts for about 50 percent of renewable energy, which includes wind, solar, hydroelectric, and geothermal power, as well as energy from biomass and wood or wood-derived products.<sup>[3]</sup> Some States rely significantly more on wind power to fill their energy needs. For example, in 2009, 19.7 percent of Iowa's electricity was produced by wind power.<sup>[4]</sup> Growth in wind power is expected to continue. According to a report by the Department of Energy, it may be feasible for wind power to provide 20 percent of U.S. electricity needs by the year 2030.<sup>[5]</sup>

According to AWEA, an estimated 85,000 Americans are currently employed in the wind power industry and related fields. Many workers are found on wind farms, which are frequently located in the Midwest, Southwest, and Northeast regions of the United States. Texas, Iowa, and California are the leading States in wind power generating capacity, but many other States—including Illinois, Indiana, Oregon, and Washington—are in the process of substantially increasing their wind-generating capacity.

By James Hamilton and Drew Liming

Bureau of Labor Statistics

**Chart 1. Jobs in wind power, 2009**



SOURCE: American Wind Energy Association



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## Highlighted Career in Wind Energy: Electrical Engineers

### Job Duties:

Electrical engineers design, develop, test, and supervise the manufacture of turbines' electrical components, including electric motors, machinery controls, lighting and wiring, generators, communications systems, and electricity transmission systems.

### Educational Requirements:

Engineers typically enter the wind power industry with at least a bachelor's degree in an engineering specialty. However, a significant number of jobs require more education, such as a master's or doctoral degree. In addition, engineers typically are licensed and are expected to complete continuing education to keep current with rapidly changing technology. Wind turbine manufacturers prefer to hire engineers with 3–5 years of experience in their respective field and knowledge of commonly used systems and processes. Engineers are then given additional training lasting several weeks or months prior to assignment, and then they undergo extensive on-the-job training.

### Earnings:

Median annual salary for Electrical Engineers: \$83,000

Earnings are dependent on a number of factors, such as experience, education and training, licensure and certifications, the size and type of company, geographic location, and the complexity of the work.

- U.S. Bureau of Labor Statistics

### FOUR-YEAR INSTITUTIONS WITH ELECTRICAL ENGINEERING AS A MAJOR OPTION:

CPSU San Luis Obispo

CSPU Pomona

CSU Chico

CSU Dominguez Hills

CSU Fresno

CSU Fullerton

CSU Long Beach

CSU Northridge

UC Los Angeles

UC Berkeley

UC Santa Barbara

UC Davis

UC San Diego

\* For a full list of institutions offering a degree in electrical engineering, please visit the career/transfer resource center in SSV 101.

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