Solar Energy Job Creation

Background

Each day more solar energy hits the Earth than the total energy that the 6 billion inhabitants of the planet would consume in 27 years. Clean energy from the sun can replace power sources that pollute the environment. A 100-megawatt solar electric power plant, over its 25-year life, will avoid more than 3 million tons of carbon dioxide (CO_2) emissions when compared with the cleanest conventional fossil fuel-powered electric plants available today.

Concentrated Solar Thermal Power and Photovoltaic (PV) arrays can be combined to create large-scale electricity power plants. Concentrating solar power technologies convert sunlight into electricity efficiently and with minimum effect on the environment. Other uses of concentrating solar technologies include water heating for buildings and swimming pools, and space heating and cooling systems for buildings.

Workforce Implications of Solar Energy

Solar energy can be a significant source of job creation. A recent study [Ref 1] estimates that 20 manufacturing job-years and 13 installation job-years are created for each Mega-Watt power (MWp) of solar panels installed. The majority of jobs created are white-collar or highly-skilled craft labor, including engineers, assemblers, sales representatives and installers. In addition, a large number of indirect jobs are created in supporting industries, such as the production of raw materials. Statistics show that for every job created by the PV industry, between 1.8 and 2.8 jobs are created in other segments of the economy. The study validated its findings by examining Japan and the European Union solar energy job creation records. By 2002, 360 MWp of PV power were installed in Japan, which created an estimated 9,800 cumulative jobs or 27.2 job-years/MWp installed. European PV employment data estimates a job creation of 56,000 job-years/2000MWp or 28 job-years per MWp.

Although the precise estimates of employment impact may vary, most agree that the impacts could be significant. The workforce implications of renewable energy will vary by job function and technology area. Solar energy industry will require personnel in:

- Research and Development
- Product Design
- Product Manufacturing
- Sales (retail and wholesale)
- Installation
- Operations and Maintenance

According to the U.S. Department of Energy there are two main reasons why renewable energy technologies offer an economic advantage: (1) they are labor-intensive, so they generally create more jobs per dollar invested than conventional electricity generation technologies, and (2) they use primarily indigenous resources, so most of the energy dollars can be kept at home.

Workforce Development

The success of renewable energy proliferation in any state or country hinges on the development of a skilled workforce. In addition to university and college curricula on renewable energy, continuing education training must be offered in photovoltaics, solar water heating, home energy rating and energy-efficient building strategies.

References

1. George Ban-Weiss et al., “Solar Energy Job Creation in California”, University of California at Berkeley

2. Randy Gee, “Solar Electric Division Annual Report 2006”.

3. Solarbuzz.com

About Stalix

Headquartered in Orlando, Florida, Stalix is a technology development leader in many fields including Renewable Energy. The Company’s foundation is based on 25 years of technology development and a proven record of transforming innovation into business opportunities. Applying our extensive expertise in many industries, we develop breakthrough innovations that make products more efficient and cost effective, thereby allowing our customers to compete successfully on the world market.