

## I ndustry Snapshots

- **The Energy Industry incorporates a broad range of sectors, including: Natural Gas and Petroleum (Extraction, Refining and Distribution through pipelines), Electricity, including Nuclear, Coal Mining and Refining. The Energy industry incorporates the subsectors of Oil and Gas Extraction, Coal Mining, Utilities, including electricity and gas transmission and distribution and Petroleum and Coal Products Manufacturing.**
- **Utilities employed about 570,000 workers in 2004. Electric power generation, transmission and distribution provided almost three in four jobs (412,000), while natural gas distribution (112,000) and other systems (46,000) provided the rest of the jobs (U.S Bureau of Labor Statistics, Career, [www.bls.gov/oco/cg/cgs018.htm#employ](http://www.bls.gov/oco/cg/cgs018.htm#employ)).**
- **Energy's Gross Domestic Product (GDP) for 2005 was nearly \$502 billion, a 4 percent share of the national total. Although small in comparison to the total, by supplying power to American industry, the energy industry's 4 percent share makes the other 96 percent possible. (U.S. Bureau of Economic Analysis).**

# High Growth INDUSTRY PROFILE

## W orkforce Issues

### Image and Outreach to the Public

The energy industry has an image problem. Though it is a high tech industry, public perceptions do not reflect this reality. Stereotyping of energy careers as unstable and low-skilled has caused qualified workers – especially among the youth – to be unaware of the many well-paying career opportunities. Additionally, some energy occupations lack clear and understandable career ladders necessary for changing perceptions that working in the industry is a viable career choice.

### Recruitment & Retention

Promoting careers in energy to the next generation of workers must be improved. Unlike the past, in many sectors of the industry, workers are no longer staying in one job for life, which makes it difficult to find and retain highly skilled experts in the energy field. Furthermore, too few industry-defined, portable credentials have been developed in the energy industry.

The average age of workers in the energy industry is now over 50, and the industry estimates that up to half of its current workforce will retire within five to 10 years – more than 500,000 workers. Employers also report that they will need to hire well above replacement levels as new power plants are constructed, new technologies are adopted, mines are opened and new oil and gas wells are tapped to keep pace with the nation's need for energy.

### Skill Development

Creative solutions are necessary to help retiring workers transfer their knowledge and skills to incoming workers as quickly as possible. Additionally, there is a need for workers with basic skills such as reading, writing and math. Also, workforce and education systems must improve

existing programs and develop new training programs, competency models and career ladders. By expanding successful models, new workers can enter the field with the required basic skills and can acquire higher level skills required for energy jobs.

## S kill Sets

- Workers can enter the Oil and Gas Extraction industry with a variety of educational backgrounds. The most common entry-level field jobs usually require little or no previous training or experience. Other entry-level positions, such as engineering technician, usually require at least a two-year Associate degree in engineering technology. Professional jobs, such as geologist, geophysicist, or petroleum engineer, require at least a bachelor's degree, but many companies prefer to hire candidates with a master's degree, and may require a Ph.D. for those involved in petroleum research. (<http://www.bls.gov/oco/cg/cgs005.htm#training>)
- Employers seek high school graduates for entry-level power plant operator, distributor and dispatcher positions. Candidates with strong mathematics and science skills are preferred. College-level courses or prior experience in a mechanical or technical job may be helpful. With computers now used to keep records, generate reports and track maintenance, employers are increasingly requiring computer proficiency. (<http://www.bls.gov/oco/cg/cgs018.htm#related>)
- While most mining jobs can be entered directly from high school, the increasing sophistication of equipment and machinery requires a higher level of technical skill. (<http://www.bls.gov/oco/cg/cgs004.htm#training>)

## E TA in Action

In June 2003, ETA announced the President's High Growth Job Training Initiative to engage businesses with local education providers and the local/regional workforce investment system to find solutions that address changing talent development needs in various industries.

In October 2005, the Community-Based Job Training Grants were announced to improve the role of community colleges in providing affordable, flexible and accessible education for the nation's workforce.

ETA is investing more than \$260 million in 26 different regions across the United States in support of the WIRED (Workforce Innovation in Regional Economic Development) Initiative. Through WIRED, local leaders design and implement strategic approaches to regional economic development and job growth. WIRED focuses on catalyzing the

creation of high skill, high wage opportunities for American workers through an integrated approach to economic and talent development.

These initiatives reinforce ETA's commitment to transform the workforce system by engaging business, education, state and local governments and other federal agencies with the goal of creating a skilled workforce to meet the dynamic needs of today's economy.

## I nvestments

**ETA has invested over \$49,408,652 in the energy industry. This includes 11 High Growth Job Training Initiative grants totaling \$27,093,668 and 13 Community-Based Job Training Grants totaling \$22,314,984. Leveraged resources from all of the grantees total \$50,753,327.**

## R esources

For additional background information about the industry and details on the grants, information about employment and training opportunities and workforce development tools for employers, educators and workforce professionals, please visit: [www.doleta.gov/BRG](http://www.doleta.gov/BRG), [www.careervoyages.gov](http://www.careervoyages.gov), [www.careeronestop.org](http://www.careeronestop.org), and [www.workforce3one.org](http://www.workforce3one.org).