



Pennsylvania: Meeting Energy's Workforce Needs

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Wind Industry Anticipates Huge Job Creation

American Wind Energy Association says:

- The wind energy industry currently employs about 45,000 people in the United States and had \$9 billion worth of investment last year (2007), a 45% increase from 2006.
- Given that growth, we're already seeing constraints in terms of workers.
- **By 2030, nearly a half-million new jobs could be created in the wind industry - in manufacturing, construction, and operation.**



Nuclear Industry Has An Immediate Crisis

Nuclear Energy Institute says:

- A worker shortage could be one of the biggest roadblocks for a nuclear energy revival in the U.S.
- Nearly 30% of the people who currently work in the industry will be eligible to retire in five years. Many of the experts in plant construction have already retired.
- **Nearly 80,000** plant construction and operations workers plus **as many as 250,000** more in services and component manufacturing will be needed.



Solar Industry Growth Needs Workers To Support It

Solar Energy Industries Association says:

- Last year 314 megawatts of new solar capacity was installed in the U.S. - enough to power about 80,000 homes.
- The market was worth just about \$200 million five years ago. Last year, it topped \$2 billion, **up by a factor of ten** with a corresponding demand for workers.



DOE Sounds The Alarm For Lineworkers

A 2005 U.S. Dept. of Energy report says that:

- **Over the next decade there will be a 10,000 lineworker shortage (current workforce is 58,000) – nearly 20%!**
- **“...which could limit the nation’s ability to maintain and/or increase the electricity supply, potentially impacting the economic and national security of the United States.”**



Oil And Gas Industry Facing Worker Shortages

According to the Interstate Oil and Gas Compact Commission:

- The average age of employees working for major operators and service companies is in the range of 46 to 49 years old.
- With the average retirement age for the industry being 55 years, the industry faces a crisis **in the next 7 to 10 years as more than half of the employee base leaves the work force.**



Mining Industry Challenged By Lack Of Workers

The National Mining Association estimates:

- **The U.S. will need 50,000 new coal miners to meet increasing demand and to replace retirees.**

Energy Industry And Its Supply Chain Are In Crisis



HELP WANTED: THOUSANDS OF SKILLED WORKERS





Energy Industry Is A Cornerstone In The Pennsylvania Economy

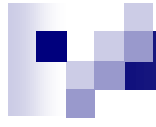
- National center for energy research (National Energy Technology Lab, universities, corporate)
- Home of major corporations in the energy supply chain – Gamesa, Westinghouse, Joy Manufacturing, Iberdola, CONSOL Energy, Conergy, Equitable Resources, and many others
- Strong generation assets to support manufacturing base – region exports about 1/3 of the power it generates
- Vast reserves of natural energy resources

An international center for energy technology



And The Energy Industry Is Growing!

- Westinghouse – first orders in 30 years booked
- Utilities – growing demand from the east
- Natural gas (“gold rush”) - \$1T worth
- Biofuels – new legislation calling for 10% ethanol blend – 350M gallons needed
- Solar – hiring 2000 over next 2 years in SW PA alone



Pennsylvania Is Responding To The Demand By Gearing Up Its Workforce Development Machinery