

## **CAREER OPPORTUNITIES IN ENERGY**

### **Description of the Field**

The energy industry encompasses a variety of products and services including electricity, natural gas, oil, and renewable energy technology. It examines issues of energy acquisition and energy trading worldwide. The focus on deregulation and the privatization of energy has increased throughout the world. Multilateral partnerships examining impact on the environment and sustainable development have resulted in policy recommendations and expanded markets for renewable energy alternatives. There is also growing concern around the relationship between energy resources and security/conflict.

Professional work in the energy industry involves:

- Researching and analyzing policy
- Understanding policy trends and directions
- Examining regional and market trends
- Developing and operating energy infrastructure projects
- Marketing energy efficiency improvements
- Developing community outreach related to projects or plants
- Environmental and regulatory compliance
- Integrating energy management services
- Assessing global impact and advocating new approaches toward management, development, and technology
- Understanding natural gas storage, production and transportation assets
- Marketing and trading physical and financial energy products including natural gas, power, crude oil and associated commodities
- Acquiring or developing power plants for the competitive market.

### **Career Paths and Entry Salaries**

Some career paths in the energy field may target an engineering or business background, but many opportunities exist that target a wider scope of marketable skills, experience, and training. Career paths in policy making, policy analysis, and policy research often do not require the technical background, but knowledge of the energy field and an understanding of finance, development, and the environment can increase competitiveness depending on the interest area. Knowledge of particular regions and languages can also be marketable skills in the energy field. Gaining internship experience that is relevant to the area of interest provides exposure to technical aspects while further developing analytical and communication skills. An internship also places an essential foot in the door that can help with employment prospects and advancement within energy companies.

Salaries vary depending on the qualification needed and the employer. Entry-level salaries range from the upper \$30,000s in non-profit organizations, government and research organizations to the upper \$60,000s in engineering firms and consulting companies, with the upper range targeting those with more work experience or technical knowledge. Salary differentials may exist for candidates who have technical or scientific degrees or significant work experience in the field, on Capitol Hill, or in federal agencies.

### ***Private Sector***

Many private sector employers, especially large oil or gas companies, tend to invest in the development of career employees and promote from within. Depending on the size, nonprofits may operate similarly with opportunities for further career training. Willingness to travel can be an advantage, along with gaining specific experience in project or program management important for long-term career advancement.

### ***Public and Nonprofit Sectors***

A person entering the public or nonprofit sectors as a research or policy assistant might expect to move to analyst or technical consultant and into project or program management. The career path within a federal government agency such as Department of Energy will be similar to other policy positions in government. Opportunities exist for recent graduates and other entry-level positions in areas such as economic and policy analysis.

In the nonprofit world, positions focus on general research of energy trends, international energy policy formation, training, and arranging international collaboration between utilities or other energy entities. Because of their relatively small size, all professionals are expected to participate in a wider range of activities than is true in large for-profit companies, though this will include the occasional administrative task. Except for larger nonprofits, advancement often comes from moving to another organization. Experience in one sector can lead to a career path in one of the others.

### **Demand**

The demand continues for candidates with business backgrounds as a result of consumer utility industry deregulation, advancements in alternative energy sources and a growing demand of current sources of energy in the third world. Graduates can still find growing opportunities in marketing, management, and planning positions. Other opportunities exist in consulting companies who typically advise foreign governments on establishing regulation, planning for transmission, and restructuring distribution companies.

Though private sector employers have tended to hire graduates with engineering or technical backgrounds, opportunities exist for graduates with experience in specific geographic regions, language skills, policy analysis, marketing, public affairs, and business development. Openings can also occur in strategic planning or external relations departments for candidates with congressional or federal experience. In research and consulting organizations that serve the federal government, there is some demand for science & technology specialists, especially for those with expertise in alternative energy and technology transfer.

Environmental impact and increased attention to energy conservation continue to provide new and challenging opportunities for graduates with an interest in technology and policy issues for private industry and governments.

A combined interest in energy, environment, and development is also a growing area for nonprofits and international organizations with programs or whole divisions examining implications for sustainable development. In the private sector there is also an increased focus on corporate responsibility as it relates to sustainable development.

## **Qualifications Necessary to Enter the Field**

- ✓ Excellent writing skills
- ✓ Ability to gather and synthesize information
- ✓ Ability to write business plans
- ✓ Client management skills
- ✓ Understanding of policy process
- ✓ Strong background in economics
- ✓ Quantitative skills
- ✓ In-depth regional knowledge or specialization
- ✓ Language skills
- ✓ Engineering and/or private industry background or experience a plus

## **Sample Group of Employers**

### ***Private Sector***

- AES <http://www.aes.com/>
- BP <http://www.bp.com/>
- Chevron Texaco <http://www.chevron.com/>
- Duke Energy <http://www.duke-energy.com/>
- Energy Security Analysis Inc. <http://www.esai.com/>
- Evolution Markets <http://www.evomarkets.com/>
- ExxonMobil <http://www.exxonmobil.com/corporate/>
- International Resources Group <http://www.irgltd.com/>
- Mirant <http://www.mirant.com/>
- Natsource <http://fw-www-natsource.appliedinfo.com/index.asp>
- Nexant Energy Consulting <http://www.nexant.com/>
- Nuclear Research and Consultancy Group <http://www.nrg-nl.com/>
- PA Consulting <http://www.paconsulting.com/Home>
- PACE Global Energy Services <http://www.paceglobal.com/paceglobal/index.cfm>
- Shell <http://www.shell.com/>

### ***Nonprofit Organizations***

- Academy for Educational Development <http://www.aed.org>
- Alliance to Save Energy <http://www.ase.org/>
- American Gas Association <http://www.aga.org/>
- American Wind Energy Association <http://www.awea.org/>
- Business Council for Sustainable Energy <http://www.bcse.org/>
- Edison Electric Institute <http://www.eei.org/>
- Institute of International Education <http://www.iie.org/>
- US Energy Association <http://www.usea.org/>
- Winrock International <http://www.winrock.org/>

### ***Government***

- House Committee on Energy and Commerce <http://energycommerce.house.gov/>
- State Utility Commissions <http://www.consumeraction.gov/utility.shtml>

- US Agency for International Development <http://www.usaid.gov/>
- US Department of Energy <http://www.energy.gov/>
- US Environmental Protection Agency <http://www.epa.gov/>

## **Resources for Additional Information**

### ***Energy Associations***

- American Petroleum Institute <http://api-ec.api.org>
- American Wind Energy Association <http://www.awea.org/>
- Electric Power Research Institute <http://www.epri.com/>
- Europa, Oil Marketing and Refining Industry <http://www.europia.com/>
- Gas Technology Institute <http://www.gastechnology.org>
- International Hydropower Association <http://www.hydropower.org/>
- International Petroleum Industry Environmental Conservation Association <http://www.ipeica.org/>
- Nuclear Energy Institute <http://www.nei.org/>
- US Energy Association <http://www.usea.org/>

### ***Internet Resources***

- Energy Careers <http://www.energycareers.com/>
- Energy Efficiency and Renewable Energy <http://www.eere.energy.gov/education/careers.html>
- Environmental Career Opportunities <http://ecojobs.com/>
- European Commission on Energy Research [http://europa.eu.int/comm/research/energy/index\\_en.html](http://europa.eu.int/comm/research/energy/index_en.html)
- International Association for Energy Economics <http://www.iaee.org/>
- International Emissions Trading Association <http://www.ieta.org/>
- International Energy Agency <http://www.iea.org/>
- Professional Energy Jobs <http://www.professionalenergyjobs.com/>
- Sustainable Business.com <http://www.sustainablebusiness.com/>
- World Bank Energy Program <http://web.worldbank.org/WBSITE/EXTERNAL/>
- UNDP Energy for Sustainable Development <http://www.undp.org/energy/>

### ***Publications***

*Plunkett's Energy Industry Almanac*, published annually

*Vault Guide to the Top Energy & Oil/Gas Employers*, T. Turner, 2005. <http://www.vault.com>

*WetFeet Guide to Careers in Oil and Gas*. <http://www.wetfeet.com>