

## **CAREER OPPORTUNITIES IN ENERGY**

### **Description of the Field**

The energy industry encompasses a variety of products and services related to the safe and reliable delivery of electricity, natural gas, and oil. It examines issues of energy procurement, capital investment, energy trading, demand forecasting, product development, behavior change, regulatory and policy analysis, and renewable energy technologies. The focus on deregulation and the privatization of energy has increased throughout the world. Multilateral partnerships examining the 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 acquiring energy resources, regional conflict and national security.

Professional work in the energy industry involves:

- Analyzing energy policy trends
- Program measurement, evaluation, and verification
- Examining policies and trends impacting energy markets
- Developing, evaluating, and operating energy infrastructure projects
- Marketing energy efficiency programs
- Developing community outreach related to projects or plants
- Assessing environmental and regulatory compliance
- Integrating energy management services
- Advocating new approaches toward energy management, development, and technology
- Understanding natural gas storage, production, and transportation
- 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**

Some career paths in the energy field may require an engineering or business background, but many opportunities exist for those with a wider scope of transferable skills, experience, and training. Career paths in regulatory analysis, economic modeling, policy making, and policy research often do not require a technical background, but knowledge of the energy field and an understanding of finance, economics, and the environment regulation can increase competitiveness. 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.

### ***Private Sector***

Many private sector employers, especially large oil & gas companies and investor owned electric utilities, tend to invest in the professional development of employees and promote from within. These firms frequently hire graduates to fill positions in regulatory relations, economic and demand research, law, product and service development, finance, and energy procurement. Depending on the company's market, which can range from local to global, knowledge of the regional customer segments and regulatory structures can be a very important asset for employers. Willingness to travel

can be an advantage, along with gaining specific experience in project or program management is 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 progress to analyst or technical consultant and eventually into project or program management. The career path within a federal government agency such as the Department of Energy will be similar to other policy positions in the government. Opportunities exist for recent graduates and other entry-level positions in areas such as economic, regulatory, or policy analysis.

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

### **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 for current sources of energy from developing countries. Graduates can still find growing opportunities in marketing, management, and planning positions. Other opportunities exist in consulting companies which 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 abilities, policy analysis, marketing, public affairs, and business development. Openings can also arise 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 and 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, the 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
- Quantitative analysis
- Principles of energy and market regulation
- Background in regulatory economics
- Ability to collect and synthesize information
- Ability to write business plans
- Client management skills
- Understanding of policy process
- Specialized regional knowledge

- Language skills
- Engineering and/or private industry experience is a plus

## **Sample Group of Employers**

### ***Private Sector***

- AES – [www.aes.com](http://www.aes.com)
- BP - [www.bp.com](http://www.bp.com)
- Con Edison (New York) – [www.coned.com](http://www.coned.com)
- Chevron Corporation - [www.chevron.com](http://www.chevron.com)
- Duke Energy - [www.duke-energy.com](http://www.duke-energy.com)
- Energy Security Analysis Inc. - [www.esai.com](http://www.esai.com)
- Evolution Markets - <http://www.evomarkets.com/>
- Exelon Corporation – [www.exeloncorp.com](http://www.exeloncorp.com)
- Exxon Mobil – [www.exxonmobil.com](http://www.exxonmobil.com)
- Nexant Energy Consulting – [www.nexant.com](http://www.nexant.com)
- Nuclear Research and Consultancy Group – [www.nrg.eu](http://www.nrg.eu)
- PA Consulting Group – [www.paconsulting.com](http://www.paconsulting.com)
- PACE Global Energy Services – [www.paceglobal.com](http://www.paceglobal.com)
- Pacific Gas & Electric Company – [www.pge.com](http://www.pge.com)
- Pepco (Washington, D.C) – [www.pepco.com](http://www.pepco.com)
- Southern California Edison – [www.sce.com](http://www.sce.com)
- Shell Energy- [www.shell.com](http://www.shell.com)

### ***Nonprofit Organizations***

- Academy for Educational Development – [www.aed.org](http://www.aed.org)
- Alliance to Save Energy – [www.ase.org](http://www.ase.org)
- American Gas Association – [www.aga.org](http://www.aga.org)
- American Wind Energy Association – [www.awea.org](http://www.awea.org)
- Business Council for Sustainable Energy – [www.bcse.org](http://www.bcse.org)
- Edison Electric Institute – [www.eei.org](http://www.eei.org)
- Environmental Defense Fund – [www.edf.org](http://www.edf.org)
- Institute of International Education – [www.iiie.org](http://www.iiie.org)
- Natural Resources Defense Council – [www.nrdc.org](http://www.nrdc.org)
- US Energy Association – [www.usea.org](http://www.usea.org)
- Winrock International – [www.winrock.org](http://www.winrock.org)

### ***Government***

- House Committee on Energy and Commerce – [www.energycommerce.house.gov](http://www.energycommerce.house.gov)
- State Utility Commissions – [www.consumeraction.gov/utility.shtml](http://www.consumeraction.gov/utility.shtml)
- USAID – [www.usaid.gov/our\\_work/economic\\_growth\\_and\\_trade/energy](http://www.usaid.gov/our_work/economic_growth_and_trade/energy)
- US Department of Energy - [www.energy.gov](http://www.energy.gov)
- US Environmental Protection Agency – [www.epa.gov](http://www.epa.gov)

## **Resources for Additional Information**

### ***Energy Associations***

- American Petroleum Institute - [www.api.org](http://www.api.org)
- American Wind Energy Association – [www.awea.org](http://www.awea.org)
- Electric Power Research Institute – [www.epri.com](http://www.epri.com)

- Europa, Oil Marketing and Refining Industry – [www.europia.com](http://www.europia.com)
- International Hydropower Association – [www.hydropower.org](http://www.hydropower.org)
- International Petroleum Industry Environmental Conservation Association (IPIECA) – <http://www.ipieca.org/>
- Nuclear Energy Institute – [www.nei.org](http://www.nei.org)
- US Energy Association – [www.usea.org](http://www.usea.org)

### **Internet Resources**

- Energy Careers – [www.energycareers.com](http://www.energycareers.com)
- Energy & Power Career Guide – [www.khake.com](http://www.khake.com)
- Energy Efficiency and Renewable Energy – [www.eere.energy.gov](http://www.eere.energy.gov)
- Environmental Career Opportunities – [www.ecojobs.com](http://www.ecojobs.com)
- European Commission on Energy Research – [www.ec.europa.eu](http://www.ec.europa.eu)
- International Association for Energy Economics – [www.iaee.org](http://www.iaee.org)
- International Emissions Trading Association- [www.ieta.org](http://www.ieta.org)
- International Energy Agency – [www.iea.org](http://www.iea.org)
- PowerMarketers - [www.powermarketers.com/pmajobs.htm](http://www.powermarketers.com/pmajobs.htm)
- Professional Energy Jobs – [www.professionalenergyjobs.com](http://www.professionalenergyjobs.com)
- Sustainable Business- [www.sustainablebusiness.com](http://www.sustainablebusiness.com)
- World Bank Energy Sector Management Assistance Program – [www.esmap.org](http://www.esmap.org)
- UNDP Energy for Sustainable Development – [http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus\\_areas/sustainable-energy.html](http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus_areas/sustainable-energy.html)

### **LinkedIn Groups**

- Energy & Utilities Network - [linkedin.com/groups/Linked-Energy-Energy-industry-expertise-62696?gid=62696&trk=group-name](https://www.linkedin.com/groups/Linked-Energy-Energy-industry-expertise-62696?gid=62696&trk=group-name)
- Energy & Utilities Network - <https://www.linkedin.com/grp/home?gid=67258>
- Renewable Energy Network - <https://www.linkedin.com/grp/home?gid=1894339>

### **Publications**

*Plunkett's Energy Industry Almanac*, published annually -

[www.plunkettresearch.com/Industries/EnergyUtilities/tabid/155/Default.aspx](http://www.plunkettresearch.com/Industries/EnergyUtilities/tabid/155/Default.aspx)

*Vault Guide to the Top Energy & Oil/Gas Employers*, by Aman Singh Das, 2009 -

[www.vault.com/wps/portal/usa/store/bookdetail?section=cs\\_employer&item\\_no=755&origin=com.vault.store.portlet.bookStore\\$vault.1\\_win](http://www.vault.com/wps/portal/usa/store/bookdetail?section=cs_employer&item_no=755&origin=com.vault.store.portlet.bookStore$vault.1_win)