Urban and Regional Affairs

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 development of career 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 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**


BP - http://www.bp.com/bodycopyarticle.do?categoryId=1&contentId=7052055
Con Edison (New York) - http://www.coned.com/
Chevron Corporation - http://www.chevron.com/
Evolution Markets - http://new.evomarkets.com/ http://www.sustainabilitypractice.net/about.html ExxonMobil -
Exelon Corporation - http://www.exeloncorp.com/
Exxon Mobil - http://www.exxonmobil.com/corporate/
Mirant - http://www.mirant.com/Pages/default.aspx
Natsource - http://www.natsource.com/
Nuclear Research and Consultancy Group - http://www.nrg.eu/
Pepco (Washington, D.C) - http://www.pepco.com/
Southern California Edison – http://www.sce.com
Shell Energy- 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/
Edison Electric Institute - http://www.eei.org/Pages/default.aspx/
Environmental Defense Fund – www.edf.org
Government


US Environmental Protection Agency - http://www.epa.gov/

Resources for Additional Information

Energy Associations


Europia, 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 (IPIECA) - http://www.ipieca.org/

Nuclear Energy Institute - http://www.nei.org/


Internet Resources


Environmental Career Opportunities - http://ecojobs.com/


International Association for Energy Economics - http://www.ieee.org/


Sustainable Business.com http://www.sustainablebusiness.com/


Publications

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

*Vault Guide to the Top Energy & Oil/Gas Employers*, by Aman Singh Das, 2009 -
CAREER OPPORTUNITIES IN ENVIRONMENTAL SUSTAINABILITY

Description of Field

Over the past 100 years, environmental policy analysts have tracked the general environmental movement. Early efforts were targeted at conservation and preservation, eventually growing into the pollution regulation and mitigation focus of the 1970s through the mid-1990s. Today’s environmental managers and policy makers are focused on pollution prevention and the integration of environmental considerations into economic and social decision making.

Population and economic growth pressures are creating complex environmental problems that directly impact all aspects of human society. Sustainable development, once the cutting edge of environmental issues, is now expanding to incorporate education, governance and democracy, poverty reduction, public health, security, and economic strategy along with traditional environmental fields of agriculture, natural resource management, pollution abatement and conservation. For example, waste management cannot be addressed with simply landfill policies, but must incorporate smart growth, recycling, emission capture, and the creation of markets to turn waste into a useful commodity.

Challenges for today’s international environmental policy analysts include: controlling global climate change, considering environmental regulations in treaties and trade agreements, creating environmentally and economically sustainable development, and helping the private sector find ways to incorporate environmental concerns into business planning. In much of the world, basic environmental management such as water resources, wetlands protection and restoration, and environmental health are also very important developments as economic progress puts stress on existing systems.

Career-related activities within this field include policy and scientific research, environmental education and advocacy, regulatory and legislative design, technical assistance to government agencies for planning and management, regulatory compliance and enforcement, and entrepreneurial development in environmental products and services.
Career Paths and Entry Salaries

Entry level positions in international environmental policy can be found in government, private industry, international organizations, and research, nonprofit and non-governmental organizations.

The U.S. federal government is the largest single employer in the environmental career world. While the Environmental Protection Agency is the agency traditionally associated with environmental policy development in the U.S., including international environmental policy, many federal agencies pursue international environmental activities, including the Forest Service, Fish and Wildlife Service, Food and Drug Administration, USAID, and the State Department. One program that provides entry into the federal government and work with such agencies is the Presidential Management Fellowship.

The private sector has both traditional businesses and consulting firms involved with environmental sustainability. Traditional businesses seek qualified managers to work in environmental compliance programs, incorporate environmental concerns into business strategies, improve performance through waste reduction and energy efficiency, and develop sustainable strategies. Environmental consulting firms provide technical assistance to both domestic and foreign government agencies as they work on environmental problems and solutions. They need both administrative managers to write and manage the contract proposals and technical experts to provide the research for various tasks in an awarded contract. Starting as a contract employee with a consulting firm might provide an entry point into environmental consulting. While starting salaries are not unusually high, income is often complemented with supplements for staff that regularly travel overseas.

Employment opportunities within nonprofit, non-governmental, and international organizations are highly competitive and not as numerous as within the other sectors mentioned. According to a survey by the Environmental Careers Organization, the 30 best-known environmental nonprofit organizations employ less than 5,000 employees, and approximately half of those employees are with The Nature Conservancy - the largest environmental nonprofit group. While salaries are sometimes lower in nonprofits than in government or private organizations, nonprofit boards are showing more willingness to reward hard work with increased compensation in order to maintain organizational stability.

Demand

While the need for understanding global environmental issues is great, jobs in the field are very competitive as many students are interested in international environmental careers.

Positions in the federal government are being privatized to increase flexibility; networking is therefore important to determine the appropriate contractors for specific policy areas. International organizations also hire contractors through personal and professional connections. Even nonprofit and non-governmental organizations receive a glut of applications for program positions.
Qualifications Necessary to Enter the Field

In most cases a graduate degree is essential for success in the international environmental field. Programs in public policy, environmental management, international relations, public health, or law can provide some of the necessary skills. Some institutions offer joint degrees, allowing students to get skills in both policy analysis and environmental science. Expertise in regional politics and economics are helpful in understanding the economic, political, and social consequences of environmental policy decisions. An environmental science or water engineering background is also valuable in those positions in which specialized knowledge is important.

In addition to educational credentials, a demonstrated commitment to environmental issues is critical to success in this field, shown through both volunteer and paid experiences. While these experiences also provide essential networking opportunities, passion and commitment will not be sufficient for a career in environmental advocacy. Nonprofit organizations look for staff with management, analytical, communications, and fundraising skills. Coursework in nonprofit management or social entrepreneurship is important for a career in nonprofit and nongovernmental organizations. Prior international experience, such as with the Peace Corps, or prior experience in a domestic setting that is transferable to an international issue, like rural water distribution, is critical to a successful career search.

Multidisciplinary education and experience are also important for international environmental positions. The field has now expanded beyond strictly environmental issues to also include economics, politics, negotiation, and management. The ability to incorporate other disciplines into the solutions for environmental problems is important, as most jobs will require more than one type of skill. In addition, the ability to translate science into policy will be highly regarded.

As in all international careers, foreign language skills and overseas field experience are desirable to potential employers; organizations such as the World Bank require a second language. GIS and information technology skills are also valuable.

Sample Group of Employers

Private Sector

Environmental Resources Management http://www.erm.com

**Research, Nonprofit and Non-Governmental Organizations**

Friends of the Earth - http://www.foe.org
The Nature Conservancy - http://nature.org
World Conservation Union - http://www.iucn.org
World Resources Institute - http://www.wri.org

**International Organizations**

European Union - http://europa.eu/
World Trade Organization - http://www.wto.org

International Careers: Summaries of the Field

Trade Policy/Promotion
**U.S. Federal Government**


Forest Service - [http://www.fs.fed.us/](http://www.fs.fed.us/)

Department of Defense - [http://www.defenselink.mil/](http://www.defenselink.mil/)

Defense Environmental Network and Information Exchange –

Department of Energy - [http://www.doe.gov](http://www.doe.gov)

Department of Health and Human Services, Food and Drug Administration –
[http://www.fda.gov/oia/homepage.htm](http://www.fda.gov/oia/homepage.htm)


Fish and Wildlife Service - [http://www.international.fws.gov](http://www.international.fws.gov)

Department of State, Bureau of Oceans and International Environmental and Scientific Affairs -
[http://www.state.gov/g/oes/](http://www.state.gov/g/oes/)

Environmental Protection Agency Office of International Affairs - [http://www.epa.gov/international/](http://www.epa.gov/international/)


House Committee on Resources - [http://resourcescommittee.house.gov/](http://resourcescommittee.house.gov/)

Senate Committee on Agriculture, Nutrition and Forestry - [http://agriculture.senate.gov/](http://agriculture.senate.gov/)

Senate Committee on Energy and Natural Resources - [http://energy.senate.gov/](http://energy.senate.gov/)


**Future Challenges of the Profession**

Through the hard work of many dedicated individuals, environmental issues have become more integrated into the thinking of all development issues. Taking that awareness and translating it into global action is the next challenge, particularly in countries where local officials are not accustomed to taking the lead in solving environmental problems. Many environmental problems will require multilateral solutions; creating and enforcing those agreements will be a key to the success of future efforts.
Resources for Additional Information

Internet Resources


Environmental Career Opportunities - http://www.ecojobs.com

EnvironmentalCareer.com - http://www.environmentalcareer.com


Environmental Careers Organization - http://www.eco.org


Environmental Yellow Pages - http://www.enviroyellowpages.com/

Green Directory - http://www.greendirectory.net/jobs/

Green Dream Jobs - http://www.sustainablebusiness.com

Idealist - http://www.idealist.org


SustainUs - www.sustainus.org

OneWorld - http://www.oneworld.net

The Regional Environmental Center for Central and Eastern Europe - http://www.rec.org

Publications


The ECO Guide to Careers that Make a Difference, The Environmental Careers Organization, 2004


CAREER OPPORTUNITIES IN HUMAN RESOURCES

Description of the Field

Attracting the most qualified employees and matching them to the jobs for which they are best suited is important for the success of any organization. However, many enterprises are too large to permit close contact between top management and employees. Human resources and training managers and specialists provide this link. In the past, these workers have been associated with performing the administrative functions of an organization, such as handling employee benefits questions or recruiting, interviewing, and hiring new personnel in accordance with the policies and requirements that have been established in conjunction with top management. Today's human resources workers manage these various tasks and, increasingly, consult top executives regarding strategic planning. They have moved from behind-the-scenes staff work to leading the company in suggesting and changing policies. Senior management is recognizing the importance of the human resources department to their bottom line (Occupational Outlook Handbook, http://www.bls.gov/oco/ocos021.htm).

In an effort to improve morale and productivity and limit job turnover, human resource specialists also help their firms effectively use employee skills, provide training opportunities to enhance those skills, and boost employee satisfaction with their jobs and working conditions. Although some positions in the human resources field require only limited contact with people outside the office, dealing with people is an essential part of the job. Typical positions in this field include:

**Human Resources Generalist**

The responsibilities of human resources generalists can vary widely, depending on their employers' needs. In a small organization, a human resources generalist may handle all aspects of human resources work, therefore requiring a broad range of knowledge. While in a large corporation, the top human resources executive usually develops and coordinates personnel programs and policies. These policies are generally implemented by a director or manager of human resources and, in some cases, a director of industrial relations.

**Director of Human Resources**

The director of human resources may oversee several departments, each headed by an experienced manager who most likely specializes in one personnel activity such as employment, compensation, benefits, training and development, or employee relations.

**Training and Development Managers**
Training and development managers and specialists conduct and supervise training and development programs for employees. Increasingly, management recognizes that training offers a way of developing skills, enhancing productivity and quality of work, and building loyalty to the firm. Training is widely accepted as a method of improving employee morale, but this is only one of the reasons for its growing importance. Other factors include the complexity of the work environment, the rapid pace of organizational and technological change, and the growing number of jobs in fields that constantly generate new knowledge. In addition, advances in learning theory have provided insights into how adults learn and how training can use such insights more effectively.

**Training Specialists**

Training specialists plan, organize, and direct a wide range of training activities. Trainers conduct orientation sessions and arrange on-the-job training for new employees. They help rank-and-file workers maintain and improve their job skills and possibly prepare development programs among employees in lower level positions. These programs are designed to develop both current and potential executives to replace those retiring. Trainers also lead programs to assist employees with transitions due to mergers and acquisitions, as well as technological changes. In government-supported training programs, training specialists function as case managers. They first assess the training needs of clients and then guide them through the most appropriate training method. After training, clients may either be referred to employer relations representatives or receive job placement assistance.

Planning and program development is an important part of the training specialist's job. In order to identify and assess training needs within the firm, trainers may confer with managers and supervisors or conduct surveys. They also periodically evaluate training effectiveness.

Depending on the size, goals, and nature of the organization, trainers may differ considerably in their responsibilities and in the methods they use. Training methods include on-the-job training; schools in which shop conditions are duplicated for trainees prior to putting them on the shop floor; apprenticeship training; classroom training; and electronic learning, which may involve interactive Internet-based training, multimedia programs, distance learning, satellite training, videos and other computer-aided instructional technologies, simulators, conferences, and workshops for jobs requiring greater skill.

**Career Paths**

The duties given to entry-level workers will vary depending on whether they have a degree in human resource management, have completed an internship, or have some other type of human resources-related experience. Entry-level workers often enter formal or on-the-job training programs in which they learn how to classify jobs, interview applicants, or administer employee benefits. They then are assigned to specific areas in the personnel department to gain experience. A possible career path may see one then advance to a managerial position, overseeing a major element of the personnel program-compensation or training.
**Demand**

Human resources, training, and labor relations managers and specialists held about 904,900 jobs in 2008. The following table shows the distribution of jobs by occupational specialty:

<table>
<thead>
<tr>
<th>Occupational Specialty</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training and development specialists</td>
<td>216,600</td>
</tr>
<tr>
<td>Employment, recruitment, and placement specialists</td>
<td>207,900</td>
</tr>
<tr>
<td>Human resources, training, and labor relations specialists, all others</td>
<td>224,600</td>
</tr>
<tr>
<td>Human resources managers</td>
<td>63,100</td>
</tr>
<tr>
<td>Compensation, benefits, and job analysis specialists</td>
<td>121,900</td>
</tr>
</tbody>
</table>

Human resources, training, and labor relations managers and specialists were employed in virtually every industry. About 12,900 specialists were self-employed, working as consultants to public and private employers.

The private sector accounted for more than 8 out of 10 salaried jobs, including 11 percent in administrative and support services; 9 percent in professional, scientific, and technical services; 9 percent in manufacturing; 9 percent in health care and social assistance; and 9 percent in finance and insurance firms.

**Qualifications Necessary to Enter the Field**

The human resources field demands a wide range of personal qualities and skills. The diversity of the workforce requires that they work with or supervise people with various cultural backgrounds, levels of education, and experience. They must be able to cope with conflicting points of view, function under pressure, and demonstrate discretion, integrity, fair-mindedness, and a persuasive, congenial personality. In addition, human resources and training managers and specialists must speak and write effectively.

Because of the diversity of duties and level of responsibility, the educational backgrounds of human resources and training managers and specialists vary considerably. In filling entry-level jobs, employers usually seek college graduates. A master's degree in human resources, labor relations, or in business administration with a concentration in human resources management is highly recommended for those seeking general and top management positions.

**Sample Group of Employers**

**Private Sector**

Future Challenges of the Profession
The abundant supply of qualified college graduates and experienced workers should create strong competition for jobs. Overall employment of human resources and training managers and specialists is expected to grow at about the same pace as the average for all occupations through 2010. In addition to openings due to growth, many job openings will arise from the need to replace workers who transfer to other occupations or leave the labor force.

Resources for Additional Information

Associations
American Management Association - http://www.amanet.org/
American Society for Training and Development - http://www.astd.org
American Staffing Association - http://www.americanstaffing.net
International Association for Human Resources Information Management - http://www.ihrim.org/

Internet Resources
DiversityInc - http://www.diversityinc.com/


Jobs4HR.com - http://www.jobs4hr.com/


Workforce Management - http://www.workforce.com/

**Publications**


The Hr Answer Book: An Indispensable Guide for Managers and Human Resources Professionals, American Management Association, 2004