# **A P P E N D I C E S**

THE FOLLOWING PAGES LIST SOURCES OF ADDITIONAL INFORMATION, DEPART-MENT OF ENERGY OIL AND GAS PROGRAMS AND CONTACTS, AND REFERENCES THAT PROVIDE DOCUMENTATION FOR THIS REPORT.



The following list, while not inclusive, illustrates the broad array of organizations concerned about oil and gas E&P technology and protection of the environment. Also, see Appendix 2, DOE Oil and Gas Programs.

## Industry Associations and Professional Societies

### American Association of Petroleum Geologists

More than 31,000 members in 115 countries. Established in 1917, its purpose is to foster the spirit of scientific research among its members and to advance the science of geology - particularly as it relates to petroleum, natural gas, other subsurface fluids, and mineral resources. The Division of Environmental Geosciences, formed in 1992, provides members with opportunities to increase their knowledge about the environment and the petroleum industry, including concepts for using geological, geochemical, geophysical, and hydrogeological principles and methodologies to resolve environmental problems. Tulsa, Oklahoma (918) 584-2555. Internet: www.geobyte.com

### Association of American State Geologists

Organization of the chief executives of the State geological surveys in 50 States and Puerto Rico. The responsibilities of the various State surveys differ from State to State, depending on the enabling legislation and the traditions under which the survey evolved. Almost all function as a basic information. source for their State governments' executive, legislative, and judicial branches. Some have regulatory responsibilities for water, oil and gas, and land reclamation. Web site includes an Earth Science Education Source Book for Teachers and Students, a compendium of earth science education materials and services available from the 50 State Geological Surveys in the United States, Puerto Rico, and the Association of American State Geologists. Internet: http://www.kgs.ukans.edu/AASG/AASG. html

### **American Gas Association**

Represents natural gas utilities and pipeline companies. Interests include all technical and operational aspects of the gas industry. Publishes a comprehensive statistical record of gas industry; conducts national standards testing for gas appliances; monitors legislation and regulations. Web site includes extensive information on natural gas. Washington, DC (202) 824-7000. Internet: www.aga.org

### American Geologic Institute

Nonprofit federation of 32 geoscientific and professional associations that represent more than 100,000 geologists, geophysicists, and other earth scientists. Founded in 1948, the Institute provides information services to geoscientists, serves as a voice of shared interests in the profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in mankind's use of resources and interaction with the environment. Maintains a Clearinghouse for Earth Science Education with an electronic database for elementary school teachers and secondary school science teachers. Produces directories of geoscience organizations and academic institutions. Its GeoRef database provides access to the geoscience literature of the world. Alexandria, Virginia (703) 379-2480. Internet: www.agiweb.org

### American Geophysical Union

International scientific society of more than 35,000 researchers, teachers, and science administrators in more than 115 countries, over 30 percent of whom are outside the U.S. Dedicated to advancing the understanding of the earth and its environment in space and making results available to the public. Washington, DC (202) 462-6900. Internet: www.agu.org

### American Petroleum Institute

Represents producers, refiners, marketers, and transporters of oil, natural gas, and products. Provides data and information on industry performance, including an annual report on E&P Environmental Performance. Develops guidelines for E&P environmental operations. STEP program encourages responsible environmental operations. Web site includes extensive education information on topics such as the history of oil, materials for teachers, petroleum products at home, and petroleum museums. Washington, DC (202) 682-8000. Internet: www.api.org

### Independent Petroleum Association of America

Represents independent oil and gas producers, land and royalty owners, and others with interests in domestic exploration, development, and production of oil and natural gas. Advocates environmental policy being guided by good science, economics, and reasonable goals. Washington, DC (202) 857-4722. Internet: www.ipaa.org

## International Association of Drilling Contractors

Promotes safety, preservation of the environment, and advances in drilling technology. Member companies are involved in oil and gas exploration and production, well servicing, oil field manufacturing, and other rig site services. Houston, Texas (281) 578-7171. Internet: www.iadc.org



## SOURCES OF ADDITIONAL INFORMATION

### **Interstate Natural Gas** Association of America

Represents U.S. interstate and Canadian interprovincial natural gas pipeline companies. Promotes technologies to reduce methane emissions through EPA Natural Gas STAR Program. Washington, DC (202) 216-5900. Internet: www.ingaa.org

### **Natural Gas Supply Association**

Organization of major and independent producers of domestic natural gas. Interests include the production, consumption, marketing, and regulation of natural gas. Monitors legislation and regulations. Encourages producers to apply cost-effective methane emission reduction strategies. Maintains a natural gas education site on the Internet. Washington, DC (202) 326-9300. Internet: www.ngsa.org

### **National Ocean Industries** Association

Sole national trade association representing all facets of the domestic offshore petroleum and related industries -producers of crude oil and natural gas, contractors, oil field service companies, and others with an interest in the process of exploring for and producing hydrocarbon energy resources from the Nation's Outer Continental Shelf in an environmentally responsible manner. Washington, DC (202) 347-6900. Internet: www.noia.org

### Society of Exploration Geophysicists

Promotes the science and education of exploration geophysicists. Fosters the expert and ethical practice of geophysics in the exploration and development of natural resources, in characterizing the near-surface, and in mitigating earth hazards. More than 15,000 members working in 110 countries. Tulsa, Oklahoma (918) 497-5500. Internet: www.seg.org

### **Society of Petroleum Engineers**

Largest individual-membership organization serving professional engineers, scientists, and managers in E&P segments of the worldwide oil and gas industry. Members include more than 50,000 professionals from oil- and gasproducing regions around the world. Facilitates the collection, dissemination, and exchange of technical information concerning the development of oil and gas resources, subsurface fluid flow, and production of other materials through wellbores for the public benefit. Provides opportunities for interested (and qualified) individuals to maintain and upgrade their individual technical competence in these areas. Web site includes a Virtual Suitcase to explore career opportunities in petroleum engineering. Richardson, Texas (972) 952-9393. Internet: www.spe.org

### Colleges and Universities

Numerous colleges and universities, including historic black colleges and universities, offer educational courses and degrees in geology, petroleum engineering, and other fields related to oil and gas and the environment. Listings are relatively easy to find via professional organization Web sites or various Internet search engines. Representative of such institutions are:

### Louisiana State University

Learn about petroleum engineering, the jobs of drilling, production, and reservoir engineers, and well log analysts on the Craft and Hawkins Department of Petroleum Engineering Web site: www.pete.lsu.edu

### **New Mexico Institute** of Mining and Technology (New Mexico Tech)

Founded in 1889 to advance the geological sciences and mineral industries in New Mexico. Throughout its centurylong history, Tech has maintained a tradition of excellence in geoscience. Earth and Environmental Science Department, Socorro, New Mexico (505) 835-5635. Internet:

### www.ees.nmt.edu

#### University of Oklahoma

The School of Petroleum and Geological Engineering, rated among the top three petroleum engineering programs in the world, has almost 4,000 alumni, including top executives in Fortune 500 companies. Norman, Oklahoma (405) 325-2921 or (800) 522-0772, ext. 2921. Internet: www.ou.edu/engineering/peteng

The Sarkeys Energy Center includes seven interdisciplinary institutes and a research program encompassing oil and gas exploration, production, utilization, and policy and environmental concerns, involving faculty from the colleges of Geosciences, Arts and Sciences, Law, Business, and Engineering. Norman, Oklahoma (405) 325-3821 Internet: www.ou.edu/sec

## **Research** and Technology **Organizations**

### **Gas Research Institute**

Research arm of the Nation's gas supply and transportation industry. Its mission is to discover, develop, and deploy technologies and information that measurably benefit gas customers and the industry. Evaluates and transfers information about gas resources and technologies, including E&P environmental technology. Chicago, Illinois (773) 399-8100. Internet: www.gri.org



### International Centre for Gas Technology Information

International forum on gas technology serving senior executives and technical and marketing professionals' information needs. Transfers information on gas technologies to ensure that global gas market needs are met efficiently. Arlington, Virginia (703) 526-7810. Internet: http://www.gtion.org/

### Institute of Gas Technology

Independent, not-for-profit center for energy and environmental research, development, education, and information. Performs sponsored and in-house research, development, and demonstration. Provides educational programs and services. Disseminates scientific and technical information in four areas: energy utilization; energy supply; environmental protection and remediation; and natural gas transmission, distribution, and operations. Des Plaines, Illinois (847) 768-0500. Internet: www.igt.org

### Petroleum Technology Transfer Council

National clearinghouse, with 10 regional centers, to identify and transfer E&P technologies to enable domestic oil and gas producers, principally smaller independent oil and gas producers, to reduce costs, improve operating efficiency, increase ultimate recovery, enhance environmental compliance, and add new oil and gas reserves. Funded primarily by DOE oil and natural gas programs with additional funding provided by State governments, industry, universities, State geological surveys, and other sources. Washington, DC (202) 785-2225. Internet: www.pttc.org

## Education and Environmental Organizations

**Ground Water Protection Council** A nonprofit organization dedicated to the protection of the Nation's groundwater supplies. Its mission is to promote the safest methods and most effective regulations regarding comprehensive groundwater protection and underground injection techniques. Meetings, workshops, seminars, and symposia provide forums, educational resources, open communication, and active participation by members who include local, State, and Federal governments, citizen groups, industry, academia, and other parties interested in responsible protection and management of groundwater resources. Oklahoma City, Oklahoma (405) 516-GWPC. Internet: http://gwpc.site.net

### Environmental Defense Fund

Nonprofit organization with more than 300,000 members and five regional offices, addressing a broad range of regional, national and international environmental issues. A leading advocate of economic incentives as a new approach to solving environmental problems. Provides environmental information by mail and electronically; participates in environmental education projects; maintains a Member Action Network to influence national environ mental policy; works with grassroots groups at the local and regional level in the U.S. and abroad. Efforts include the Alliance for Environmental Innovation, a joint initiative with the Pew Charitable Trust to work with private companies to create environmental change. New York, New York (800) 684-3322. Internet: <u>www.edf.org</u>

**National Academy of Sciences** A private, nonprofit society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Under the charter granted to it by Congress in 1863, the Academy has a mandate that requires it to advise the Federal government on scientific and technical matters. The National Research Council, organized in 1916, is the working arm of the National Academy of Sciences and the National Academy of Engineering, carrying out most of the studies done in their names. Most requests for such studies come from government agencies or Congress. Washington, DC (202) 334-2000. Internet: www.nas.edu

### National Energy Education Development (NEED) Project Established by a Congressional

Resolution in 1980, and founded on the conviction that an energy-literate public is essential to a coherent and viable energy future. NEED is "Educating for America's Energy Future." Promotes an energy conscious and educated society by creating effective networks of students, educators, business, government, and community leaders to design and deliver objective, multisided energy education programs. Herndon, Virginia (703) 471-6263. Internet: www.tipro.com/need or www.energyconnect.com/need

## National Fish and Wildlife Foundation

Nonprofit organization, with five regional offices, established by Congress in 1984. Dedicated to promoting conservation and sustainable use of our natural resources through environmental education, natural resource management, habitat protection, ecosystem restoration, and public policy development. Since 1986, has awarded more than 2,550 "challenge" grants using over \$100 million in Federal funds, which have been matched with nonfederal dollars to bring more than \$300 million to conservation projects. Privately funded partnerships include the Shell Marine Habitat Program to support projects to protect and enhance the Gulf of Mexico ecosystem and the Save the Tiger Fund, an international effort with Exxon to assist in the long-term survival of Asia's remaining populations of wild tigers. Washington, DC (202) 857-0166. Internet: www.nfwf.org

### **Nature Conservancy**

Responsible for the protection of more than eight million acres in 50 States and Canada. Preserves habitats, species, and natural communities by buying the lands and waters they need to survive. Manages the resulting preserves with the most sophisticated ecological techniques available. With partner organizations, has preserved millions of acres in Latin America, the Caribbean, the Pacific, and Asia. Owns more than 1,400 preserves—the largest private system of nature sanctuaries in the world. Arlington, Virginia (703) 841-5300. Internet: www.tnc.org



### **National Energy Foundation**

Nonprofit provider of educational materials and programs related to energy, natural resources, and the environment. Supported by businesses, government agencies, professional associations, and the education community. Salt Lake City, Utah (801) 539-1406. Internet: www.xmission.com/-nef

### Oklahoma Energy Resources Board

Nonprofit organization funded by voluntary industry contributions. Restores abandoned oilfield sites and educates public about the Oklahoma oil and gas E&P industry. Encourages efficient use of energy; promotes environmentally sound production methods and technologies; supports research and educational activities. Oklahoma City, Oklahoma (405) 942-5323 or (800) 664-1301. Internet: www.oerb.com

### **Oil and Gas Museums**

From the grassroots perspective, local oil and gas museums offer excellent opportunities to learn about the evolution of oil and gas E&P technology in the United States. For information, explore local Chamber of Commerce, oil and gas industry, and professional organization Web sites such as www.api.org/edu/museums.htm These museums include:

### East Texas Oil Museum at Kilgore College

A tribute to the independent oil producers and wildcatters, the men and women who dared to dream as they pursued the fruits of free enterprise. Kilgore, Texas (903) 983-8295. Internet: http://kilgore.cc.tx.us/attr/etom/etom.html

### Healdton Oil Museum

The opening of the Healdton oil field in 1913 set into motion one of Oklahoma's greatest oil booms, establishing southern Oklahoma as a major petroleum-producing area. By 1937, this field, the largest of nine such fields located in Carter County, had produced over 200 million barrels of oil, making it one of the most productive pools in the State. Healdton, Oklahoma (580) 229-0317. Internet: http://www.brightok.net/chickasaw/ ardmore/county/healdoil.html

## International Petroleum Museum and Exposition

Maintains "Mr. Charlie," an authentic offshore drilling rig, for public viewing. A tribute to the pioneering men and women of an industry that developed a culture based on initiative, perseverance, creativity, and hard work. Efforts under way include a Web site "virtual tour." Morgan City, Louisiana (504) 384-3744. Internet: www.rigmuseum.com

### Kansas Oil Museum and Hall of Fame

Founded in 1990 to preserve the history of the oil and gas industry. El Dorado, Kansas (316) 321-9333. For more information see: <u>http://www.greatbend.net/gbcc/</u> tourism/oilmus/

### **Offshore Energy Center**

Operates a state-of-the-art refurbished jackup facility, the Ocean Star, which is a museum, educational attraction, and working drilling rig all rolled into one. Visitors absorb the day-to-day excitement of offshore drilling and production, marine transportation, environmental protection, construction, pipelining—all experienced through three decks of videos, equipment exhibits, and interactive displays. Galveston, Texas (409) 766-STAR. Internet: www.oceanstaroec.com

### Penn-Brad Oil Museum

Preserves the philosophy, the spirit, and the accomplishments of an oil country community; takes visitors back to the early oil boom times of The First Billion Dollar Oil Field. Guided tours are conducted by over 100 oil country veterans who volunteer their time to relate first-hand experiences. Talks are illustrated with colorful display items such as yellow dogs and barkers, headache posts and Samson posts, hurry-up sticks and sucker rods, all used to produce Pennsylvania oil. Bradford, Pennsylvania. Internet: http://bradford-online.com

### Pennsylvania Historical and Museum Commission Drake Well Museum

Located on the site where Edwin L. Drake drilled the first commercially successful oil well in 1859. Documents the birthplace of the petroleum industry with exhibits, operating field equipment, an extensive photographic collection, and a research library. Titusville, Pennsylvania (814) 827-2797. Internet: www.usachoice.net/drakewell

### **Texas Energy Museum**

Offers a learning experience for both children and adults through multimedia techniques that include rig sounds, motion, light, cinema projection, voice, and photo-mural backgrounds. Exhibits deal with the geology of hydrocarbons and the history of the petroleum industry within a total energy picture. Beaumont, Texas (409) 833-5100.

### Spindletop Gladys City Boomtown Museum

A reconstruction of an oil boomtown that appeared almost overnight following the discovery of the Spindletop oil fields in 1901. The site includes a 58-foot granite monument to the Lucas Gusher and is a national historic landmark located on the Lamar University Campus. Beaumont, Texas (409) 835-0823.

### **Oil and Gas Companies**

Corporations are too numerous for a complete listing. Following are three with interesting Web sites:

### Chevron

Check out the Exploration Zone for an educational primer about oil production and refining. With simple graphics and nontechnical text, it's great for students and teachers.

Internet: www.capitalchevron.com

### **BP Amoco**

Takes a leadership position in addressing climate change and other environmental issues; offers energy educational materials in six languages for teachers and students worldwide as part of its Science Across the World Web site. Internet: www.bpamoco.com and http://www.bp.com/saw/

### Conoco, Inc.

Conoco's Web site features short on-line movies about some of the industry's newest and most innovative technologies. These videos provide an excellent tool for understanding how advanced oil and gas exploration and production technology is impacting the world and protecting the environment in which we live, both in the United States and around the world. Internet: <u>www.conoco.com/about/</u> glance/index.html



### Other Government Agencies and Offices

### **Department of the Interior**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and to honor our trust responsibilities to tribes. This mission as related to oil and gas is implemented by several agencies:

Bureau of Land Management, which manages fluid and solid mineral leasing on Federal lands as part of its mission to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations. Washington, DC (202) 452-5125. Internet: www.blm.gov

Minerals Management Service (MMS), which manages the Federal offshore oil and gas leasing program, including Rigs to Reefs and Safety and Environmental Management Plan activities in cooperation with industry. These activities are part of MMS' mission to manage the mineral resources on the Outer Continental Shelf in an environmentally sound and safe manner and to timely collect, verify, and distribute mineral revenues from Federal and Indian lands. Washington, DC (202) 208-3985. Internet: www.mms.gov, MMS Internet KidsPage: www.mms.gov/mmskids

United States Geological Service, which evaluates and classifies onshore oil, natural gas, geothermal resources, and all solid energy and mineral resources, including coal and uranium on Federal lands, as part of its mission to provide the Nation with reliable, impartial information to describe and understand the earth. Reston, Virginia (888) 275-8747 Internet: <u>http://energy.usgs.gov</u>

### Department of Labor Occupational Safety and Health Administration

Dedicated to saving lives, preventing injuries, and protecting the health of America's workers through regulatory and voluntary programs and partnering with Federal and State agencies to protect more than 100 million working men and women and their 6.5 million employers who are covered by the Occupational Safety and Health Act of 1970. Voluntary Protection Programs recognize outstanding achievements by companies that successfully integrate a comprehensive safety and health program into their total management system. Washington, DC (202) 693-2000 and (202) 693-1999. Internet: <u>www.osha.gov</u>

### Department of Transportation Coast Guard

Carries out search-and-rescue missions in and around navigable waters and on the high seas. Enforces Federal laws on the high seas and navigable waters of the United States and its possessions. Conducts marine environmental protection programs; administers boating safety programs; inspects and regulates construction, safety, and equipment of marine vessels, including those for oil and gas E&P. Establishes and maintains a system of navigation aids; carries out domestic icebreaking activities. Washington, DC (202) 267-2229. Internet: http://www.uscg.mil

### Department of Transportation Office of Pipeline Safety

Issues and enforces Federal regulations for oil, natural gas, petroleum products, and hazardous liquids pipeline safety. Conducts a voluntary program to advance pipeline safety. Washington DC (202) 366-4595. Internet: http://ops.dot.gov/

### Energy Information Administration

Clearinghouse for statistical information on energy data, including information on natural gas and oil production. Established in 1977, its mission is to develop energy data and analyses that enhance the understanding of energy issues on the part of business, government, and the general public. A KidsPage is under development in cooperation with the National Energy Education Development Project. Washington, DC (202) 586-8800. Internet: www.eia.doe.gov

### Environmental Protection Agency

Implements Federal laws designed to promote public health by protecting our Nation's air, water, and soil from harmful pollution. Aims to accomplish its mission by integration of research, monitoring, standard-setting, and enforcement activities. Coordinates and supports research and antipollution activities of State and local governments, private and public groups, individuals, and educational institutions. Washington, DC (202) 260-2090. Internet: www.epa.gov

Agency programs include:

Natural Gas STAR to encourage the natural gas industry to reduce leaks through cost-effective best management practices.

Coalbed Methane Outreach to increase methane recovery at coal mines.

Project XL to allow companies to test alternative approaches that achieve cleaner and cheaper environmental results than would be realized under existing requirements. Environmental Technology Initiative, an interagency effort supporting more than 250 partnerships and projects throughout the United States to promote improved public health and environmental protection by advancing the development and use of innovative environmental technologies.

### Interstate Oil and Gas Compact Commission

An organization of States which promotes conservation and efficient recovery of domestic oil and natural gas resources while protecting health, safety and the environment. Represents the governors of 37 States—30 members and seven associate States—that produce virtually all the domestic oil and natural gas in the United States. Established in 1935, it is among the oldest and largest interstate compacts in the Nation. Oklahoma City, Oklahoma (405) 525-3556. Internet: www.iogcc.oklaosf.state.ok.us

### **National Governors Association**

A bipartisan organization comprising the governors of the 50 States, the commonwealths of the Northern Mariana Islands and Puerto Rico, and the territories of American Samoa, Guam, and the Virgin Islands. Founded in 1908 after the Governors met with President Theodore Roosevelt to discuss conservation issues. Through three standing committees on Economic Development and Commerce, Human Resources, and Natural Resources, the Association's Center for Best Practices, and other activities, the governors identify priority issues and deal collectively with issues of public policy and governance at both the national and State levels. Washington, DC (202) 624-5300. Internet: www.nga.org



### **United States Congress**

Numerous committees, such as those listed below, have jurisdiction over energy, environment, and science and technology issues and the capability to make national public policy decisions affecting the advancement of oil and gas technology. Washington. DC. More information is available on the Internet: www.senate.gov and www.house.gov

U.S. House of Representatives: Committees on Appropriations, Commerce, Resources, Science, Small Business, Transportation and Infrastructure, and Ways and Means.

U.S. Senate: Committees on Appropriations, Commerce, Science and Transportation, Energy and Natural Resources, Environment and Public Works, Foreign Relations, and Small Business.

## On-Line Petroleum Business Information

Numerous Internet sites are maintained by private services. For example:

Oil-Link, a privately owned on-line directory of petroleum-related Internet sites and information, rated #1 by the Dow Jones Business Directory: www.oillink.com

Offshore Technology, a London-based Web site for the offshore oil and gas industry that includes information on current E&P projects and organizations, country-by-country, worldwide: www.offshore-technology.com

### Journals and Publications

For more information about the oil and gas industry and advanced oil and gas technologies, talk to your local librarian. The following are just some of the numerous journals and publications on the oil and gas industry.

The American Oil & Gas Reporter

A monthly independent trade magazine on exploration, drilling, and production that also serves as the official publication for 23 oil and gas associations and two biennial oil and gas industry trade shows.

### **E&P Environment**

A biweekly newsletter reporting on environmental issues, technological innovations, and State and Federal regulations affecting oil and gas E&P. Web site links from www.epeonline.com include an Amazing Environmental Organization Web Directory characterized as the Earth's Biggest Environment Search Engine.

### Hart's Petroleum Engineer International

A monthly magazine for engineering, management, and operating decision makers engaged in drilling, production, and reservoir engineering worldwide.

### Improved Recovery Week

A newsletter published since 1982 on news and developments in worldwide improved and enhanced oil and gas recovery. Inside Energy/with Federal Lands A weekly newsletter from McGraw-Hill Companies on Department of Energy programs in energy, science and technology, and nuclear-weapons cleanup, and the Department of Interior's management of energy and minerals on Federal lands.

### Journal of Petroleum Technology

Official publication of the Society of Petroleum Engineers, with peer-reviewed oilfield management and engineering articles focusing on practical engineering solutions to oilfield problems.

### Oil & Gas Journal

A magazine published weekly by PennWell Publishing Co. on technology, industry news, statistics, and special reports and analyses for the petroleum industry. Other publications include Offshore Magazine and Revista Latinoamericana Magazine, published quarterly in Spanish about the petroleum industry in Latin America.

### Energy Alert, Natural Gas Week, Oil Daily, Petroleum Intelligence Weekly, World Gas Intelligence

Five of 12 publications from the Energy Intelligence Group that disseminate market, financial, and technology information related to the oil and gas industry.



A primary mission of the Department of Energy's Office of Fossil Energy is to foster advanced, more efficient, and cleaner fossil energy technologies through research and development programs. Planning and implementation of our Natural Gas and Petroleum Technology Programs reflects the collaboration of DOE staff in the Office of Natural Gas and Petroleum Technology in Washington, DC; at the National Petroleum Technology Office in Tulsa, Oklahoma; and at the Federal Energy Technology Center in Morgantown, West Virginia and Pittsburgh, Pennsylvania.

Our overall goals are to (1) reduce the vulnerability of the United States economy to disruptions in oil supply by stabilizing domestic oil production; (2) increase domestic energy production in an environmentally responsible manner by increasing domestic gas production and recovering oil with less environmental impact; (3) ensure energy system reliability, flexibility, and emergency response capability of oil and gas transportation and storage systems; and (4) develop technologies that expand long-term energy options.

### For further information on the *Environmental Benefits* of Advanced Oil and Gas Exploration and Production Technology, contact:

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Like any organization, DOE is made up of people—people who care about having a healthy domestic oil and gas industry and a healthy environment. DOE staff are committed to finding real solutions that allow the Nation to benefit from a strong economy and a clean environment. Advanced oil and gas technologies and innovation are part of America's heritage and its future.

We offer our gratitude to the many individuals who made this report possible. Special thanks are extended to Sandra L. Waisley for her efforts on this report while previously serving as Acting Deputy Assistant Secretary.



### DOE OIL AND GAS TECHNOLOGY PROGRAM CONTACTS

## Advanced Drilling, Completion, and Stimulation Systems

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#### Natural Gas Market Access Program

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#### **HBCU** Internship

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### DEPARTMENT OF ENERGY OUTREACH



#### Regions

- WEST COAST
- **SOUTHWEST**
- South Midcontinent
- ROCKY MOUNTAINS
- TEXAS
- APPALACHIA
- North Midcontinent
- MIDWEST
- EASTERN GULF
- CENTRAL GULF

### Field Offices

• NATURAL GAS AND OIL TECHNOLOGY PARTNERSHIP (NGOTP) *Albuquerque, NM* 

#### http://132.175.127.176/ngotp/NGOTP.htm

Describes research activities of the National Laboratories in partnership with industry, working to transfer new technologies to the oil and gas industry.

NATIONAL PETROLEUM TECHNOLOGY OFFICE (NPTO) *Tulsa, OK* 

http://www.npto.doe.gov NPTO news, calendar of workshops, and resources for companies, including valuable software to download.

Federal Energy Technology Center (FETC) Morgantown, WV and Pittsburgh, PA

### http://www.fetc.doe.gov

Project fact sheets, electronic business center for procurements and on-line publications, as well as a "cool science" educational page for students. U.S. DEPARTMENT OF ENERGY <u>http://www.doe.gov</u> DOE programs, science education, recent DOE news. Links to related government offices and all National Laboratories.

## OFFICE OF FOSSIL ENERGY (FE) <u>http://www.fe.doe.gov</u>

Fossil-energy-related DOE activities, including news, technology information, publications, speeches, events, issues, international activities, and projects within FE's coal and power, oil and gas, or regulatory areas.

OFFICE OF NATURAL GAS AND PETROLEUM TECHNOLOGY <u>http://www.fe.doe.gov/programs\_oilgas.html</u> Details on oil and gas research and development projects, with links to Fossil Energy's Strategic Petroleum Reserve and the Naval Oil Shale Petroleum Reserves sites.

NATIONAL ENERGY INFORMATION ADMINISTRATION (EIA) <u>http://www.eia.doe.gov</u>

Extensive archive of historical data as well as current facts and figures on energy resources and trends in the energy industry.

PETROLEUM TECHNOLOGY TRANSFER COUNCIL (PTTC) http://www.pttc.org

National technology clearinghouse for oil and gas producers, offering software, workshops, and resources for industry, especially small independent producers.



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Corbis Images — pages 12, 19, 21, 51, 66 (circuit square), 69, 78 (tractor); fact sheets 30 through 32 (upper left icon: tractor)

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Hart Publications — fact sheets 19 (freezing operations), 24 (men with gun)

Larry Lee Photography—cover (rig); pages 11, 24-25

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Tony Stone Images — cover (globe); pages 2 (pump jack), 4-5, 9, 15, 61 (small rig), 66-67 (hands with globe, field), 68 (road)

Walt Seng Photography — page 7 (rollerblader)

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## **Comprehensive National Energy Strategy**

In coming decades, our quality of life will depend significantly on scientific and technological advances supported by today's energy policies:

- Improve the efficiency of the energy system. Efficient resource use is a fundamental tenet of sustainable development, enhancing overall economic performance while protecting the environment and advancing national security.
- Ensure against energy disruptions. Reducing the vulnerability of the United States economy to disruptions in oil supply relies on stabilizing domestic oil production; maintaining readiness of the Strategic Petroleum Resource, our Nation's oil stockpile; diversifying import sources; and reducing consumption.
- Promote energy production and use in ways that respect health and environmental values. Improving our health and local, regional, and global environment quality must be integral to domestic energy production. Advanced oil and gas technologies are critical to achieving this goal.
- Expand future energy choices. Pursuing continued progress in science and technology will provide future generations with a robust portfolio of clean and reasonably priced energy sources.
- Cooperate internationally on global issues. The development of open, competitive international energy markets and facilitating the adoption of clean, safe and efficient energy systems are vital to addressing global economic, security, and environmental concerns. Advanced oil and gas technologies provide opportunities for international cooperation and demonstrating United States leadership.

Source: Comprehensive National Energy Strategy, Department of Energy, 1998

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