State-led solutions
since 1935

FEDERAL PROJECTS PORTFOLIO

Spring 2009

INTERSTATE
Oil & Gas
COMPACT COMMISSION

IOGCC FEDERAL PROJECTS PORTFOLIO

The Interstate Oil and Gas Compact Commission (IOGCC) has a long history of conducting research, collecting and synthesizing data, reviewing collected information and comparing it to benchmarks, and forming and communicating recommendations and findings.

The IOGCC continues to serve its 30 member and 8 associate member states through the application, development, and implementation of federally funded grant projects designed to meet the unique needs of individual states and regions.

IOGCC Chairman Oklahoma Gov. Brad Henry in a roundtable discussion with state oil and gas program directors.

Projects are designed to support the IOGCC's mission of promoting the conservation and efficient recovery of domestic oil and natural gas resources while protecting health, safety, and the environment.

Throughout its nearly 75 years of existence, the IOGCC has established core competencies in the areas of:

- Regulatory guidance materials development
- IOGCC/state-led research projects
- Specialized training targeted toward regulators
- Specialized training targeted toward small and independent operators
- Outreach and education
- Technology demonstration projects

IOGCC has published numerous research studies and publications, many of which are available to download online at http://www.iogcc.state.ok.us.

Getting the Job Done - and Doing it Right!

The IOGCC has a knowledgeable staff with a history of success in the execution of grant programs and access to a wide variety of resources in both the public and private sectors.

The IOGCC also has a wealth of organizational resources as a result of its unique status as a multi-state government agency and long-standing relationships with state

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agencies, governors, industry associations, oil and gas legal experts, industry, federal government agencies, and the environmental community. The IOGCC leverages its vast knowledge base to ensure that the highest quality of work is performed in the most efficient manner possible.

Achieving Results Through Partnership

The IOGCC recognizes that the best way to address energy challenges is through all-inclusive, collaborative projects that involve input and expertise from all key players, including educators, industry, regulators, government representatives, and communities. Utilizing this synergistic approach, the goal is to find system-wide solutions that benefit all parties involved.

Some examples of partnerships include:

Government

- Dept. of Energy (DOE)
- Environmental Protection Agency (EPA)
- Federal Energy Regulatory Commission (FERC)
- Dept. of Transportation (DOT)
- Dept. of the Interior (DOI)
- State Regulators
- State Oil and Gas Directors
- State Environmental Agencies
- Natural Gas STAR

Associations

- Southern States Energy Board
- Stripper Well Consortium
- Oil & natural gas industry associations
- Professional associations

Academia

- New Mexico Institute of Mining & Technology
- Oklahoma City University Economic Research & Policy Institute

Other

- ALL Consulting
- Oklahoma Marginal Well Commission

Project Methodology and Partnership Roles

IOGCC Collaborative Work Groups

IOGCC's volunteer work groups --- which assist with the research and development of projects --- are comprised of state oil and gas lawyers, regulatory authorities, local, state and federal agencies, content-area experts, industry representatives, and other stakeholders.

Typical projects include the development and review of statutory and regulatory guidance documents, assistance with the development and analysis of project research, assistance with the achievement of communications objectives, and provision of professional expertise.

These experts donate their valuable time, expertise, and resources to all aspects of project planning, implementation and reporting at local, regional, and national levels. They ensure that all key stakeholders' input is

incorporated into the project management process.The work groups are facilitated by the IOGCC project management team and contracted content-area experts. This distinctive collaborative process leverages the combined experience and expertise of oil and gas community members to create comprehensive guidance documents that encompass all management aspects, including regulatory, legal, economic, environmental, and educational issues.

Content-area Expert(s)

Contracted content-area experts provide the necessary expertise and guidance to grant projects. Experts assist with volunteer work groups and ensure that grant deliverables meet appropriate industry standards.

Technical Researcher(s)

Contracted technical researcher(s) perform research and development activities associated with the project goals and objectives. This includes planning, implementing, and reporting field-based research and analytic work and coordinating field test sites.

Statistical Analysts

Statistical analysts perform data collection, analysis, and reporting associated with communications and training objectives. This includes development and delivery of any developmental focus groups, initial foundation and continuous tracking surveys, and the analysis and reporting of collected data for a comprehensive program evaluation. Additionally, analysts assist technical researchers in the development, measurement, and analysis of project metrics, ensuring that findings and recommendations can be reported to general audiences in a manner that is understandable.

Economic Analysts

Economists make economic analyses of research and development activities in cooperation with technical researchers, industry test sites, and statistical analysis components. This includes participating in the development, measurement, and analysis of associated project metrics to incorporate economic factors into the research process.

Educational Consultants

Contracted educational consultants provide professional expertise in the development of audience analysis materials, deliverables, and associated educational materials. They will participate in group discussions and provide input regarding layout of technical content and educational approaches for key audiences.

Industry Field Test Sites

Industry representatives provide test sites for research and development of tools, techniques, and methods that substantially increase, in an environmentally sound manner, commercial production and recovery of unconventional natural gas and other petroleum resources. They also apply existing technology to make marginal resources economically feasible and to decrease the impact of development in environmentally sensitive areas.

U.S. Department of Energy Funded Projects

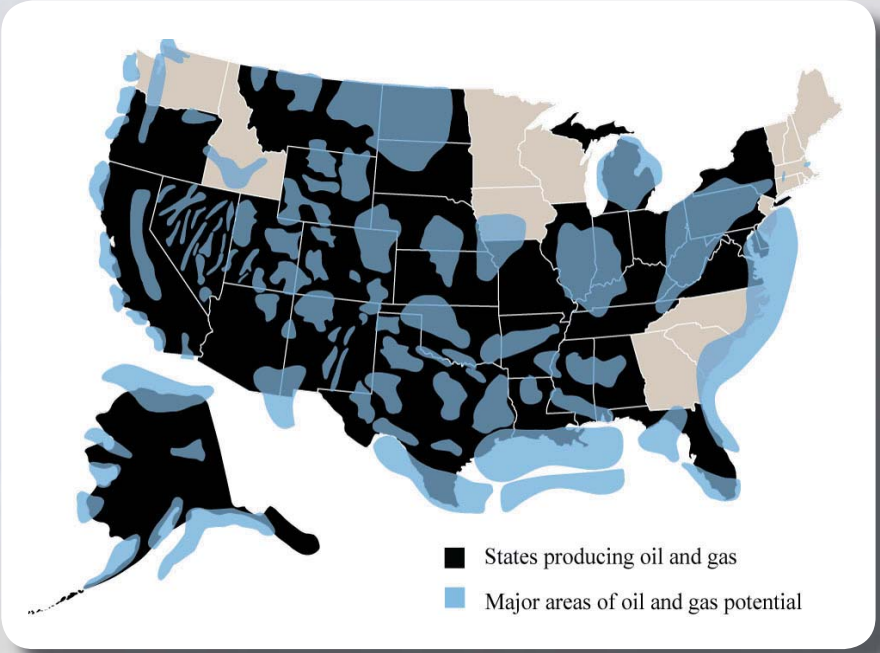
"Reducing Onshore Natural Gas and Oil Exploration and Production Impacts Using a Broad-Based Stakeholder Approach" DE-FC26-06NT42937

Project Classification:

- IOGCC/state-led research projects
- Outreach & Education

Project Partners to Date:

- State Oil & Gas Directors
- U.S. DOE
- U.S. FERC
- University of Pittsburgh
- Oil & Gas Industry Associations



Under the leadership of IOGCC Chairman Gov. Brad Henry, oil and gas producing states will lead an initiative to stimulate the development of domestic oil and natural gas resources in underdeveloped basins. The commission believes a comprehensive and coordinated strategy that involves critical stakeholders is vital to the full development of these available resources and will bring much-needed energy resources to the marketplace while achieving regional economic and environmental goals.

The United States is the world's third-largest producer of oil and second-largest producer of natural gas. Prospects for future production from domestic oil and gas basins remain promising yet challenging. Making optimal use of available domestic oil and gas resources is key to ensuring adequate supplies of energy for American consumers.

The 30 member states of IOGCC recognize that the nation's large endowment of strategic unconventional fuels, including heavy oil, tar sands, oil shale and resources suitable for carbon dioxide enhanced recovery provide opportunities for the development of regional, basin-oriented strategies that will increase domestic oil and gas supplies. Each of these basins has unique geological, economic, institutional and environmental characteristics and approaches that require different solutions.

The IOGCC Chairman's Select Committee will provide strategic direction and broadly oversee the work of expert subgroups that will focus on specific basins. To

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a great degree, these work groups will be composed of employees of state oil and gas regulatory commissions, state economic development offices, state geologists and governors' staff members. Each work group will conduct an analysis of information on underdeveloped basins in order to compile a basin-wide view of development possibilities. The IOGCC has found in previous efforts that such reports have been extremely effective cornerstones in the technology transfer activities that are vital to spur development.

In addition, the IOGCC is leveraging partnerships to plan a "Marcellus Shale Summit," tentatively scheduled for early summer 2009 to be held at the University of Pittsburgh in Bradford to address industry, public sector, and infrastructure issues. By bringing together all of the key players in the region, it is anticipated that the summit will foster an increase in knowledge, awareness and perceptions at the individual, industry, investment, regulatory, and legislative levels. An integral component of the summit is the creation of opportunities for inter-company dialogue and the promotion of collaborative partnerships across the supply chain.

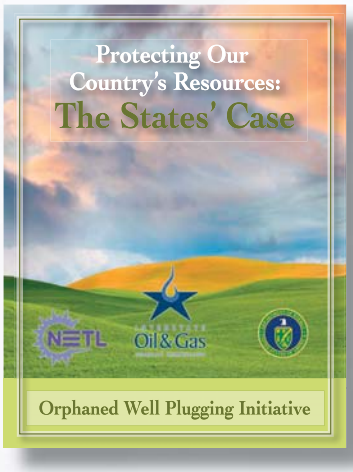
"Technology's Impact on Production: Developing Environmental Solutions at the State and National Level" DOE DE-FC26-04NT15541

Project Classification:

- IOGCC/state-led research projects
- Outreach and education

Project Partners:

- State Oil & Gas Directors



As part of a cooperative agreement with the Department of Energy, the IOGCC has been tasked with assisting state governments in the effective, efficient, and environmentally sound regulation of the exploration and production of natural gas and crude oil, specifically in relation to orphaned and abandoned wells and wells nearing the end of productive life.

Project Goals

(1) Development of (a) a model framework for prioritization and ranking of orphaned or abandoned well sites; (b) a model framework for disbursement of EPACT funding; and (c) a research study regarding the current status of orphaned wells in the nation;

(2) Research regarding the impact of new technologies on environmental protection. Research will identify and document (a) state reactions to changing technology and knowledge; (b) how those reactions support state environmental conservation and public health; and (c) the impact of those reactions on oil and natural gas production;

(3) Research assessing emergent technology issues associated with wells nearing the end of productive life.

Research will provide a 360-degree evaluation of the issues surrounding these wells including: (a) the location of orphaned and abandoned well sites; (b) well site remediation; (c) plugging materials; (d) plug placement; (e) the current regulatory environment; and (f) the identification of emergent technologies affecting end-of-life wells.

"Southwest Regional Carbon Sequestration Partnership Subcontract with New Mexico Institute"
DE-FC26-05NT42591

Project Classification:

- Regulatory guidance materials development
- Outreach and education

Project Partners:

- U.S. DOE
- Regional Carbon Sequestration Partnerships
- Association of American State Geologists
- New Mexico Institute of Mining & Technology
- State and provincial oil and gas agencies

The IOGCC Carbon Capture and Geologic Storage Task Force (Task Force) has been addressing the legal and regulatory issues surrounding the capture and storage of anthropogenic sources of CO_2 since the group's inception in 2002.

Task Force members have diverse backgrounds --- from state oil and gas lawyers, to regulatory authorities, to scientists, to industry representatives. They create comprehensive guidance documents that encompass all management aspects, including regulatory, legal, economic, environmental, and educational issues.

Early in 2005, the Task Force completed Phase I of the project, funded by DOE and its National Energy Technology Laboratory (NETL) through a cooperative agreement with the University of Illinois. The project consisted of an examination of the technical, policy, and regulatory issues related to the safe and effective storage of CO_2 in subsurface geological media for both enhanced hydrocarbon recovery and long-term CO_2 storage.

Phase II of the project, a cooperative agreement with the New Mexico Institute of Mining and Technology (NMMT), funded by the DOE and NMMT, consisted of a more in-depth examination of the legal and regulatory aspects surrounding the storage of CO_2 in geologic media. The study results, Storage of Carbon Dioxide in Geologic Structures, A Legal and Regulatory Guide for States and Provinces, was published in September 2007. It presented model legislation and regulations for use by states. This legal and regulatory framework is providing states and provinces with an excellent foundation for the development of regulations and statutes regarding CO_2 storage. Phase II work, scheduled for completion in 2009, includes further work to disseminate and explain the document to a broad-based audience, more regulatory work with the pilot projects, and testing the model documents for additional refinement.

Phase III of the project, under development, will address issues that the Task Force believes remain as barriers to the establishment of state and federal legal and regulatory frameworks capable of providing prospective project developers with the certainty necessary to more forward.

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"Focused Research in Federal Lands Access and Produced Water Management in Oil and Gas Exploration and Production" DE-FC-26-04NT15541

Project Classification:

- IOGCC/state-led research projects
- Specialized training

Project Partners:

- U.S. DOE
- U.S. EPA
- State Regulatory Agencies
- ALL Consulting

As part of a cooperative agreement with the Department of Energy, the IOGCC and ALL Consulting have been tasked with the development of consistent methods for use in environmental impact analysis associated with oil and natural gas exploration and production on federal lands. The study results, "Improving Access to Oil & Gas Resources on Federal Lands," published in March 2007, presented guidelines and best practices for evaluating the potential environmental impact associated with oil and natural gas development activities.

To communicate this pertinent and crucial information to key stakeholders in the NEPA process, IOGCC and ALL Consulting have developed a practical handbook and educational program for use by federal agencies, industry, and consultants in preparing NEPA planning documents specifically related to oil and gas exploration and production. The program is based upon the results of the study and supplemental research regarding categorical exclusions and adaptive management practices also performed under the grant. Planned technical content includes (1) a broad overview of the NEPA process with a focus on onshore oil and gas exploration and production activities; (2) NEPA document preparation; and (3) categorical exclusions.

"Reducing Onshore Natural Gas and Oil Exploration and Production Impacts Using a Broad-Based Stakeholder Approach" DE-FC26-06NT42937

Project Classification:

- IOGCC/state-led research projects
- Outreach and education

Project Partners:

- U.S. DOE
- State Regulatory Agencies
- ALL Consulting

Never before has the reduction of the adverse effects of oil and gas exploration and production been as important as it is today for operators, regulators, non-governmental organizations, and landowners. Collectively, these stakeholders are keenly interested in the potential benefits from implementing effective environmental impact-reducing technologies and practices. This research project strived to gain input and insight from the broad

array of stakeholders to identify approaches with the potential to satisfy their diverse objectives. The research team examined three of the most vital issue categories facing onshore domestic production today: 1 - surface damages including development in urbanized areas, 2 – effects on wildlife (specifically greater sage grouse), and 3 - air pollution, including its potential contribution to global climate change.

The results of the study, titled "The Adverse Impact Reduction Handbook," and informative fact sheets were published in early 2009. The handbook outlines approaches aimed at avoiding, minimizing, or mitigating environmental impacts and identifies technical solutions and approaches that can be implemented in a practical and feasible manner to simultaneously achieve a legitimate balance between environmental protection and fluid mineral development. It is believed that the results of this research will facilitate informed planning and decision making by management agencies as well as producers of oil and natural gas.

"Oilfield Flare Gas Electricity Systems (OFFGASES)"
DE-FC26-02NT15444

Project Classification:

- Technology demonstration projects

Project Partners:

- California Energy Commission
- California Oil Producers Electric Cooperative

This project was developed in response to a cooperative agreement offering by the U.S. Department of Energy (DOE) and the National Energy Technology Laboratory (NETL) under the Preferred Upstream Management Projects (PUMP III). The partners included the Interstate Oil and Gas Compact Commission (IOGCC) as lead agency working with the California Energy Commission (CEC) and the California Oil Producers Electric Cooperative (COPE).

The project was designed to demonstrate that the entire range of oilfield "stranded gas" can be cost-effectively harnessed to make electricity. Stranded gas is defined as produced gas that is not sold to a commercial market because of its poor quality, small quantity, or lack of transport facilities. Utilization of existing, proven distribution generation technologies to generate electricity was successfully field-tested at four marginal well sites, selected to cover a variety of potential scenarios: high Btu gas, medium Btu gas, ultra-low Btu gas, and "harsh," or high contaminant, gas.

Two of the four sites for the OFFGASES project returned to production idle wells that had been shut in because of no solution for the stranded noncommercial gas that they produced. Converting stranded gas to useable electrical energy eliminates a waste stream that has potential negative environmental impacts to oil production operations. The electricity produced can offset electricity normally

purchased from the electric utility, potentially lowering operating costs and extending the economic life of the wells.

"Identification, Verification, and Compilation of Produced-Water Best Management Practices for Conventional Oil and Gas Production Operations"
DE-FC26-04NT15545

Project Classification:

- IOGCC/state-led research projects
- Outreach and education

Project Partners:

- State Regulatory Agencies
- ALL Consulting
- Oil & Natural Gas Industry

The high-saline ("produced") water that is a by-product of oil and gas production historically has been viewed as waste stream that must be disposed of. However, recent issues such as droughts and water shortages for power generation, combined with increasing environmental awareness, has led to the belief that produced water can be used beneficially. Beneficial uses of produced water management practices vary widely across the United States and in some instances across a single oil and gas field.

"A Guide to Practical Management of Produced Water from Oil and Gas Operations in the United States" (2006), provides an overview of produced water management practices currently in use, as well as other practices and water treatment alternatives that are being tested, researched, and implemented to further beneficial uses.

U.S. EPA Funded Projects

"Training and Technical Assistance to Independent Operators in West Virginia, Virginia & Oklahoma"
X9-97358901, X9-96686201

Project Classification:

- Specialized training

Project Partners:

- West Virginia Dept. of Environmental Protection
- Oklahoma Corporation Commission
- Natural Gas STAR
- Oklahoma Independent Petroleum Association
- West Virginia Independent Oil & Gas Association
- Oklahoma Marginal Well Commission

The problem of methane emission due to natural gas loss and leakage is an almost incalculable source of greenhouse gases nationwide. Yet this issue generally is addressed through voluntary self-regulation, meaning that education is a key method for reaching those who are unaware of cost-effective technologies and practices. Through its extensive contacts, the IOGCC will engage state-based industry, industry advocates, and state officials to get technological and best management practices information to those who could benefit from it most.

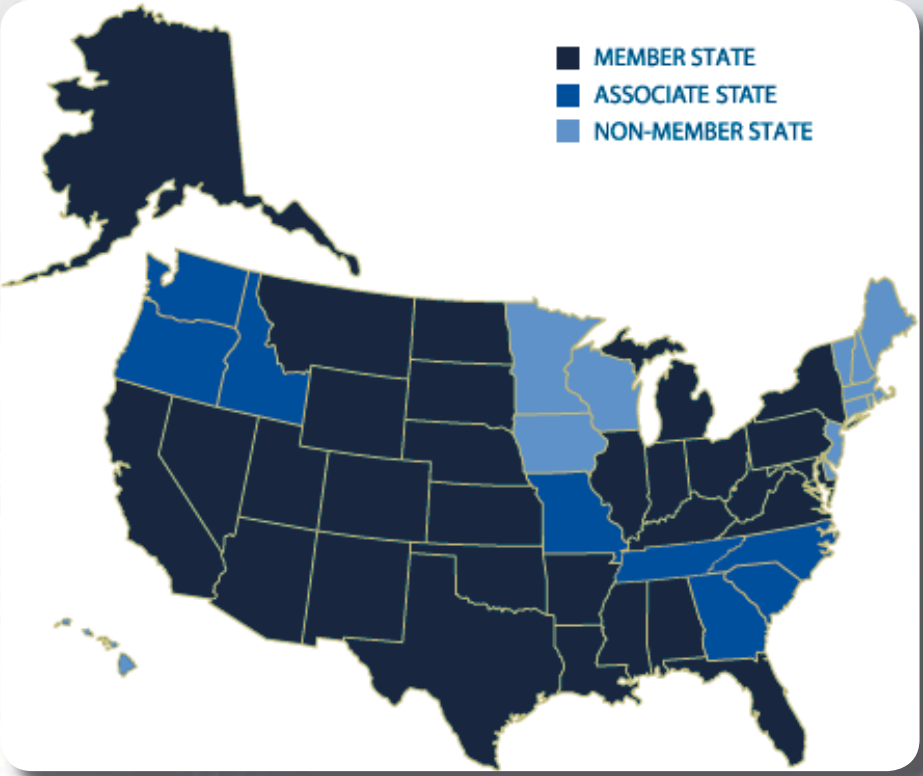
While education produces results, independent producers and operators generally cannot justify large research and development expenditures. This free training is essential to giving them the knowledge to replace or repair faulty or outdated equipment, efficient production systems, and other best management practices.

About the IOGCC

The Interstate Oil and Gas Compact Commission is a multi-state government agency that promotes the conservation and efficient recovery of our nation's oil and natural gas resources while protecting health, safety and the environment.

The IOGCC consists of the governors of 38 states (30 members and eight associate states) that produce most of the oil and natural gas in the United States. Chartered by Congress in 1935, the organization is the oldest and largest interstate compact in the nation. The IOGCC assists states in balancing interests through sound regulatory practices. These interests include: maximizing domestic oil and natural gas production, minimizing the waste of irreplaceable natural resources, and protecting human and environmental health. The IOGCC also provides an effective forum for government, industry, environmentalists and others to share information and viewpoints, allowing members to take a proactive approach to emerging technologies and environmental issues.

Member States



Key Contacts

Carl Michael Smith,
Executive Director
mike.smith@iogcc.state.ok.us

Gerry Baker,
Associate Executive Director
gerry.baker@iogcc.state.ok.us

Rachel Henderson,
Federal Projects Director
rachel.henderson@iogcc.state.ok.us

P.O. Box 53127
Oklahoma City, OK 73152

405.525.3556 (Phone)
405.525.3592 (Fax)
www.iogcc.state.ok.us

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