

ROAD TO A GREENER ENERGY FUTURE

CO₂ STORAGE:

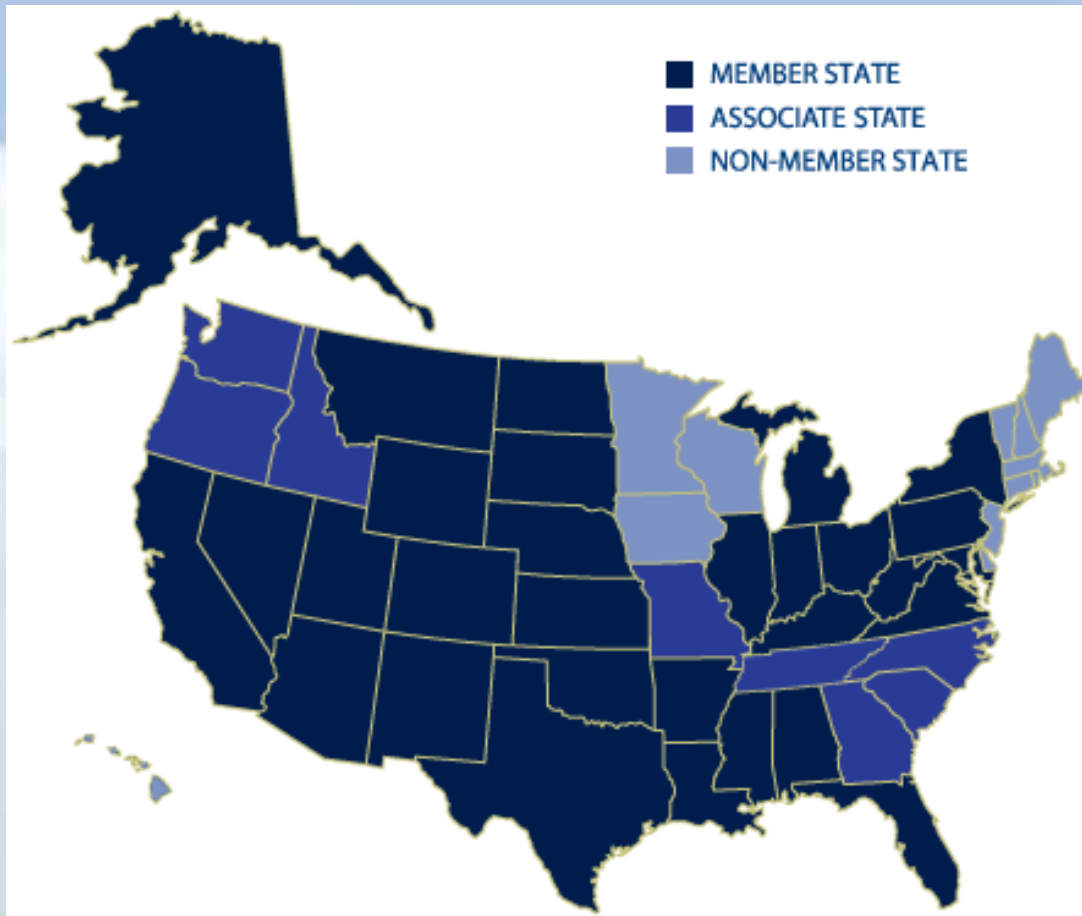
A LEGAL AND REGULATORY GUIDE FOR STATES



INTERSTATE
Oil & Gas
COMPACT COMMISSION



INTERSTATE OIL & GAS COMPACT COMMISSION



International Affiliates

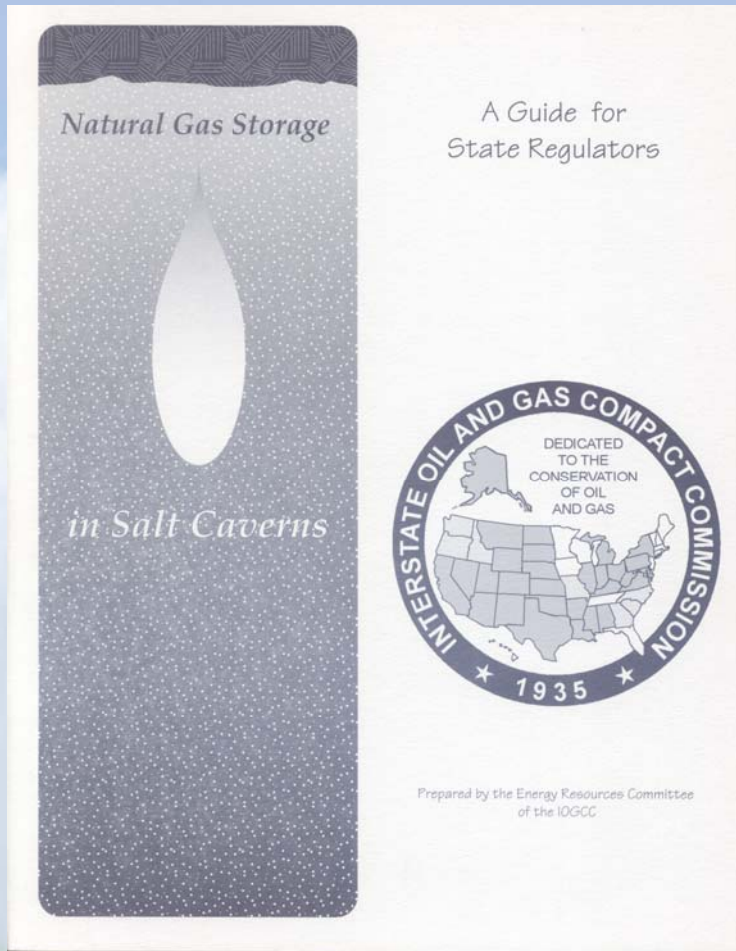
- Alberta
- British Columbia
- Egypt
- Republic of Georgia
- Newfoundland and Labrador
- Nova Scotia
- Saskatchewan
- Venezuela
- Yukon

Other Affiliates

- U.S. Department of Energy
- U.S. Department of the Interior
- U.S. Environmental Protection Agency
- Federal Energy Regulatory Commission
- National Association of Regulatory Utility Commissioners



Model Regulatory Guidance

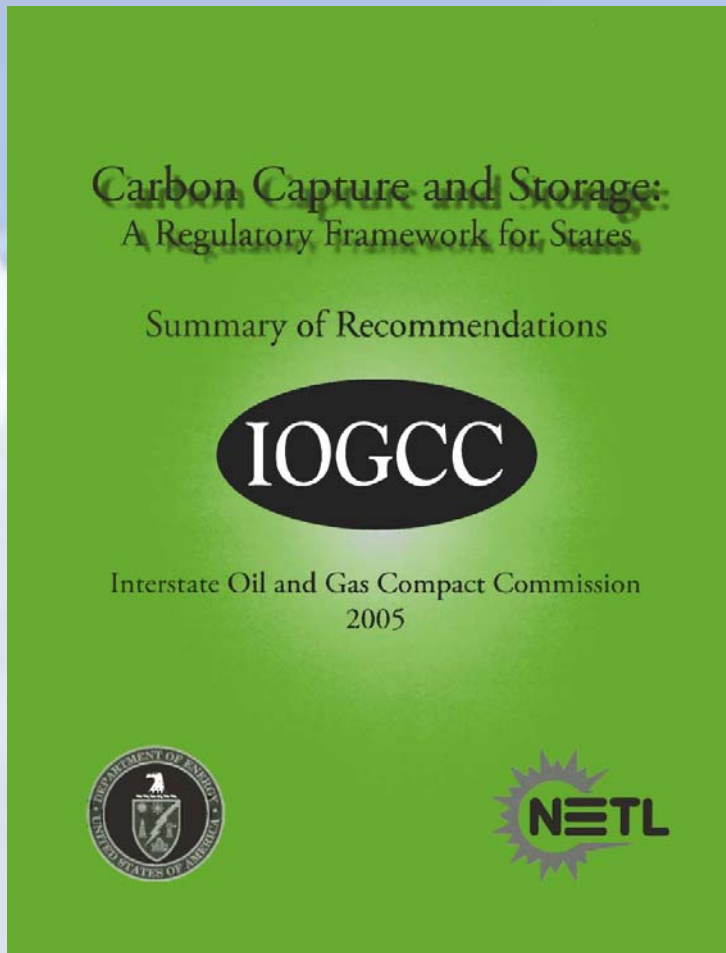


- One of many IOGCC regulatory guidance documents for states and provinces
- Helps ensure regulatory consistency among states and provinces.

Task Force Representatives

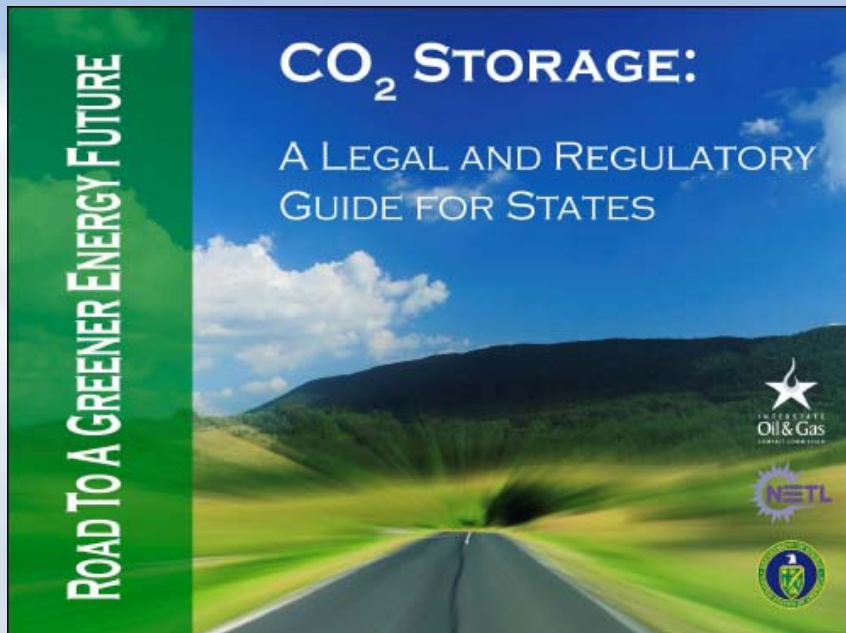
- Representing 15 States
- IOGCC member state and provincial oil and gas agencies
- DOE sponsored Regional Carbon Sequestration Partnerships
- Association of State Geologists
- US DOE
- Independent experts
- US EPA
- US BLM
- Environmental organizational observer

Brief Summary of Phase I Work and Recommendations



- Industry and states have 30 years experience in the production, transport and injection of CO.
- States have necessary regulatory analogues in place to facilitate development of a comprehensive CCGS regulatory framework.
- CO₂ should be regulated as a commodity to allow the application of oil and gas conservation laws which will facilitate development of storage projects.
- Involve all stakeholders including general public in the development of regulatory frameworks.

New IOGCC Phase II Report



- Released in January 2008
- Summary of the report and a copy of the full report on CD-ROM.

What the Guidance Document provides to states & provinces

**Storage of Carbon Dioxide in Geologic Structures
A Legal and Regulatory Guide for States and Provinces**

Topical Report

**Reporting Period Start Date: April 14, 2006
Reporting Period End Date: August 20, 2007**

**Prepared by the IOGCC Task Force on Carbon Capture and Geologic Storage.
Principal authors: Lawrence E. Bengal,
Berry H. Tew, Jr., Michael D. Stettner and
Kevin J. Bliss**

Report Issued: September 20, 2007

DOE Award No. DE-FC26-05NT42591

**Interstate Oil and Gas Compact Commission
P.O. Box 53127
Oklahoma City, OK 73105**

- Background on why states and provinces are the most logical “cradle to grave” regulators.
- Useful background on climate change and the importance of geologic storage.

Model Statutes and Regulations

Model Statute¹

GEOLOGIC STORAGE OF CARBON DIOXIDE

Section 1. Legislative declaration; jurisdiction.²

(a) The Legislature of the State of _____ declares that (1) the geologic storage of carbon dioxide will benefit the citizens of the state and the state's environment by reducing greenhouse gas emissions; (2) carbon dioxide is a valuable commodity to the citizens of the state; and (3) geologic storage of carbon dioxide gas may allow for the orderly withdrawal as appropriate or necessary, thereby allowing carbon dioxide to be available for commercial, industrial, or other uses, including the use of carbon dioxide for enhanced recovery of oil and gas (EOR).

(b) The State Regulatory Agency shall have the jurisdiction and authority over all persons and property necessary to administer and enforce effectively the provisions of this article concerning the geologic storage of carbon dioxide. In exercising such jurisdiction and authority granted to it, the State Regulatory Agency may conduct hearings and promulgate and enforce rules, regulations, and orders concerning geologic storage of carbon dioxide.

Section 2. Definitions.

(a) *Carbon dioxide*. Anthropogenically sourced carbon dioxide of sufficient purity and quality as to not compromise the safety and efficiency of the reservoir to effectively contain the carbon dioxide.

(b) *Oil or gas*. Oil, natural gas, or gas condensate.

(c) *Reservoir*. Any subsurface sedimentary stratum, formation, aquifer, or cavity or void (whether natural or artificially created) including oil and gas reservoirs, saline

¹ Canadian provinces should replace "state" with "province" as appropriate.

² The purpose of this section is to make clear that the primary goal is to permanently store carbon dioxide to mitigate its impact on global climate change, however, given the commodity status of carbon dioxide, under certain circumstances states need statutory authority to regulate withdrawal of previously stored carbon dioxide for EOR and other uses that do not involve release to the atmosphere.

General Rules and Regulations

GEOLOGIC STORAGE OF CARBON DIOXIDE

Section 1.0. Applicability

The following rules and regulations shall govern the geologic storage of CO₂ in geologic reservoirs. These rules apply to all CO₂ storage operations occurring within the territorial jurisdiction of the state.¹

Section 2.0. Definitions

The following terms, as used in these regulations for geologic CO₂ storage facilities, shall have the following meanings:

(a) *CO₂* means anthropogenically sourced carbon dioxide of sufficient purity and quality as to not compromise the safety and efficiency of the reservoir to effectively contain the CO₂.

(b) *CO₂ Facility (CF)* means, all surface and subsurface infrastructure including wellhead equipment, down hole well equipment, compression facilities and CO₂ flow lines from injection facilities to wells within the Geological Storage Unit (GSU), monitoring instrumentation, injection equipment, and offices. CF does not include the main transportation pipeline to the GSU and pump stations along that pipeline.

(c) *CO₂ flow lines* means the pipeline transporting the CO₂ from the CF injection facilities to the wellhead.

(d) *CO₂ injection well* means a well used to inject CO₂ into and/or withdraw CO₂ from a reservoir.

(e) *CO₂ Storage Project (CSP)* means the project in its entirety, including CF and GSU.

(f) *CSP Closure Period* means that period of time (10 years unless otherwise designated by the State Regulatory Agency (SRA)) from the permanent cessation of active CSP injection operations until the expiration of the CSP performance bond, unless monitoring efforts following the operational period demonstrate to SRA that a different time frame is appropriate.

(g) *CSP Operational Period* means the period of time in which injection occurs.

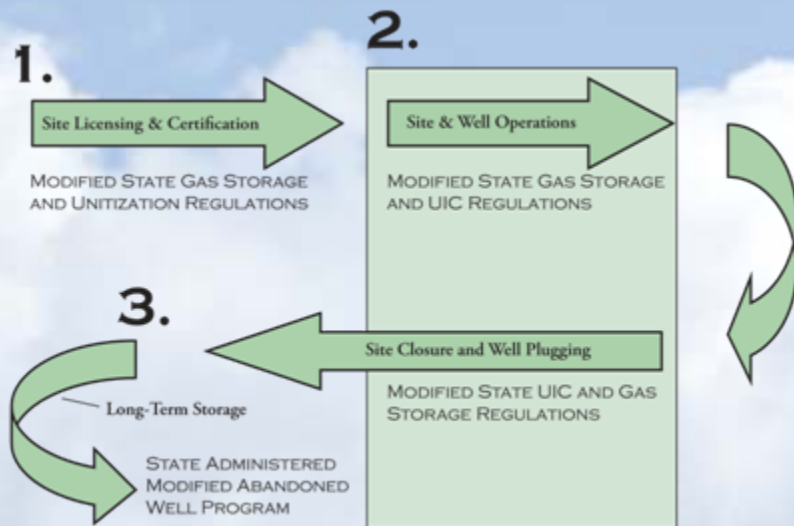
(h) *CSP Operator* means that entity required by SRA to hold the permit.

(i) *CSP Permit* means the permit issued by the state or province to operate a CSP.

(j) *CSP Post Closure Period* means that period of time after the release of the CSP performance bond.

¹ This document is drafted using the word "state". Canadian provinces should substitute either the word "province" or "provincial" as required. Similarly, Canadian provinces should substitute as appropriate the definitions of Underground Sources of Drinking Water (USDW) and Safe Drinking Water Act (SDWA) here and in the following text.

EPA Regulatory Overlap



- EPA authority under SDWA in green box
- Will ensure national consistency and protection of drinking water for operational phase
- State and EPA regulatory frameworks systems can work “seamlessly”.

States and Provinces Currently Developing Regulatory Systems Using IOGCC Model Legislation and Regulations

California

Indiana

Michigan

Montana

New Mexico

New York

North Dakota

Oklahoma

West Virginia

Texas

Alberta

British Columbia

Nova Scotia

Saskatchewan

States Which Have Enacted Legislation

- **Wyoming**
- **Kansas**
- **Ohio**
- **Utah**
- **Washington (also has draft rules out for public comment)**
- **Illinois**

IOGCC Task Force – Next Steps

- **The Guidance Document will continue to be perfected based on the experience of the states and provinces.**
- **DOE and other funding sources sought to continue work of the Task Force.**
- **Task Force is continuing public outreach efforts and assisting states with legislation and rule development.**

CONTACT INFORMATION

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