
Climate Change: Framework, Recent Regulatory Developments and Potential Impacts on the Oil & Gas Industry

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Interesting time lapse (draw your own conclusion)



http://www.nasa.gov/centers/goddard/earthandsun/climate_change.html

Introduction



- > United States & International Developments
- > USEPA: Proposed CO2 Regulation for Mobile Sources
- > California & The Climate Registry
- > Western/Mountain States
 - Colorado: Climate Change Action Plan
 - Wyoming: Voluntary Reporting, The Climate Registry
 - New Mexico: Final GHG Reporting Rules
 - Western Climate Initiative (WCI): Multiple Western States
- > Other Climate Change Related Developments
- > What does all this mean for Oil & Gas Sector?



Supreme Court Ruling on CO2 Emissions

- > April 2, 2007: Supreme Court ruled that CO2 meets definition of air pollutant under the Clean Air Act (CAA), USEPA initiated review and development of regulations of CO2 emissions for mobile sources
- > October 18, 2007: Kansas DHE denied air permit for coal-fired power plant due to CO2; citing Supreme Court ruling; demonstrated compliance with existing CAA regs.
- > December 19, 2007: USEPA denied California's waiver to develop its own vehicle CO2 emission standard (Section 209(b)) separate from USEPA; CA and 15 other states has petitioned Ninth Circuit Court to review the denial.
- > October 2008: Scheduled date for USEPA issuance of final rule on mobile source CO2 emissions?
- > What is next (stationary sources)?



U.S. Congressional momentum is building:

- > More than 100 climate change related bills during last two years; Will it continue this election year???
- > Warner-Lieberman Climate Security Act of 2007 (S. 2191); see summary
- > S. Bingaman, Boxer, Feinstein, McCain, Udall, Carper etc.: mostly cap & trade variations; sector specific & economy-wide bills

International: Kyoto Protocol expires in 2012

- > Bali Roadmap finalized in December 2007 at Bali conference; U.S. signed onto roadmap in final hours after concessions.

Warner-Lieberman Climate Security Act of 2007



- > Warner-Liebermann Climate Security Act of 2007 (S. 2191):
 - Approved by Environment & Public Works Committee on December 5, 2007; sent to full Senate; awaiting vote
 - Requires the EPA to establish
 - a Federal greenhouse gas (GHG) registry;
 - regulations that accounts for work done by The Climate Registry
 - accounting and reporting for fossil fuel energy sectors
 - a GHG emission allowance and emission offset trading system including specified facilities within multiple electric, industrial, and energy sectors including oil and gas.
 - Establishes emission allowances and emission trading for 2012-2050;
 - Amendments to the Safe Drinking Water Act to permit commercial-scale underground injection of CO₂ for purposes of geological sequestration.
 - a task force to study the cost implications of potential federal assumption of liability with respect to closed geological storage sites.

California and The Climate Registry



> California Climate Action Registry (CCAR)

- First state to establish voluntary GHG emission registry (CCAR)
- 318 members as of January 14, 2008
- Lists 26 Oil & Gas companies (BP, Chevron, ConocoPhillips, El Paso, Shell, Valero and several regional & local companies)
- Expanded to provide technical, management and advisory role for the development of The Climate Registry



> The Climate Registry (TCR)

- Initiated by CCAR: involves WRAP, NESCAUM, SESARM, and LADCO
- 39 states, 4 Canadian Provinces, 3 Indian Tribes, and 1 Mexican State
- Members represent approximately 80 percent of U.S. population
- Entity-wide reporting based on financial or operational control; inclusion of equity share reporting undecided
- Oil & Gas Sector Reporting Protocol: Kickoff meeting held in Santa Fe on 10/31/2007; awaiting next step
- January 1 and 15, 2008: Official start date and charter member meeting

> Colorado

- Governor Ritter officially announced Climate Action Plan on November 5, 2007
- Establishes list of GHG Recommendations for the state
 - Reduction Goals: 20 percent below 2005 (2020) and 80 percent below 2005 (2050)
 - Establish state GHG reporting registry consistent with current protocols
 - Work with DNR and CDPHE to reduce methane leakage using proven technologies (no specific goal)
- Next step likely is establish Executive Orders and GHG regulations implementing recommendations
- Has joined The Climate Registry
- An observer in the Western Climate Initiative (covered later)
- Key obstacles for GHG implementation in Colorado:
 - Ozone SIP Development for Front Range
 - Regional Haze SIP Development
 - Permitting backlog for Oil & Gas facilities
 - Resource and budget limitations
- Regardless of the obstacles, climate change is a high profile issue so it will not be ignored so expect movement/announcements in the near future

> Wyoming

- Initial Stakeholder Meeting on November 30, 2007.
- Joined The Climate Registry as a governing member, but not reporting member
- Expects that it will only be a matter of time before GHG regulation in place
- Staffing and resources is still needed to handle GHG reporting mechanism of The Climate Registry
- No GHG regulations currently proposed for the state
- Has initial GHG inventory for the state;
- Stakeholder involvement: looking to establish more accurate estimates of initial state GHG inventory

States - New Mexico



> **New Mexico**

- GHG Reporting Regulations
 - Final in November 2007
 - Require mandatory GHG reporting for emissions occurring in CY2008 for electric generator units >25MW, petrochemical refining facilities, and cement manufacturing facilities and other Title V sources.
- GHG Emission Reduction Goals
 - Goal to reduce CO2 emissions to 2000 levels by 2010, and
 - 10% below 2000 levels by 2020, and
 - 75% below 2000 levels by 2050 per executive order.
- Emissions reduction of methane emissions in oil and gas sector shall be 20% by 2020
- Partner in Western Climate Initiative (WCI)
- Member of The Climate Registry for companies to report GHG emissions

Regional – Western Climate Initiative



> **Western Climate Initiative (WCI)**

- Governors of AZ, CA, NM, OR, and WA (2/07) announced the formation of a strategy to reduce GHG emissions via a regional cap and trade program.
- Utah, British Columbia, and Manitoba have also joined the WCI as full partners; Six other states (including CO & WY), 3 Provinces, and 1 Mexican state are observers
- August 22, 2007: WCI Partners released their regional goal to collectively reduce GHG emissions 15% below 2005 levels by 2020
- December 2007: Final WCI Workplan
- January 10, 2008: Initial WCI stakeholder workshop held in Portland, OR
- February to May 2008: Stakeholder workshops/conference calls to be held
 - The Climate Registry planned to be the reporting platform for WCI
 - Many options being considered for establishing caps, allocations, offsets, trading, and reporting
- August 2008: Finalize WCI cap and trade program
- Oil and gas sector emissions: if emissions not easily measured or feasible to measure such as fugitive equipment leaks, those would not be included in establishing caps

Other Climate Change Related Developments



- > **Federal Trade Commission reviewing green guides**
 - Validity of carbon offset and renewable energy certificates market
- > **Geologic sequestration regulatory movement: Amending Safe Drinking Water Act to address CO2 underground injection**
- > **Northeast: Regional Greenhouse Gas Initiative (RGGI),**
 - December 2005 (7 states signed MOU, currently developing rulemaking)
 - January 1, 2009 (start date of cap & trade program)
- > **Midwest Climate Accord:**
 - Agreement announced on November 2007
 - Developing GHG cap and trade program along same lines as WCI
- > **CDPHE and COGCC:**
 - Assessment of GHG emissions as part of permitting and environmental impact analysis may likely be only a matter of time

What does this mean for Oil & Gas Sector?



- > **Add GHG to lengthy list of regulatory programs affecting Oil & Gas sector**
- > **Oil and Gas sector emissions: combustion and methane venting specifically mentioned for potential regulation in most of the proposed initiatives/programs**
- > **The Climate Registry being established in key states: Proposed Oil & Gas Exploration, Production & Processing GHG Reporting Protocol**
- > **Opportunities:**
 - **Early Action Credit for GHG reductions (i.e., methane reductions)**
 - **Engagement in stakeholder meetings/workshop**

Bottom-Line: Gradually evolving from voluntary to mandatory programs; Are we ready?

Finally.....



- > **Climate Change/GHG is not going away**
 - **Federal legislation may pass as early as this year, but seems to be more of a possibility in 2009 with a new administration**

- > **Only a few pieces of GHG puzzle remaining to establish a more cohesive program across the U.S.**
 - **The Climate Registry seems to be a widely accepted reporting platform on a federal and state level**
 - **Cap & Trade programs: RGGI, WCI, Midwest Accord, Federal Legislation**
 - **Awaiting Federal Legislation passage and USEPA regulatory development; how will it mesh with state and regional initiatives????**