Coal Session: Linking Policy to Changing Conditions: Framework for Stimulating Investments

U.S. CMM Emission Reduction Projects: Public Policies, Major Barriers, and Key Incentives – A Study of Contrasts

Collon Kennedy, Esq.

For
U.S. EPA Coalbed Methane Outreach Program
Tuesday, March 29, 2016
Discussion

**Overview: U.S. Coal/CMM Facts & Public Policy**
- Status Of CMM Emission Reduction (ER) Projects

**CMM Opportunities In A Changing Energy Environment**
- Major U.S. Coal Industry Contraction

**U.S. CMM Policy**
- Over 200 Years In The Making… And Still Evolving

**U.S. CMM Project Barriers & Incentives**
- Industry Inertia But An Improving Carbon Offset Market

**U.S. CMM Projects: Next Generation**
- Issues & Policy Challenges
Overview

CMM ER Projects: Product of Good Policy & Stewardship

U.S. Coal & CMM Facts

➢ 2015:
  • Over 900 active underground and surface coal mines
  • Mine Safety and Health Administration (MSHA) identified 115 U.S. gassy coal mines
  • Coal industry undergoing major restructuring due to rapidly changing U.S. energy market

➢ Total CMM ER projects (sale, use, or destruction) (2012):
  • Active Mines: 16 with 22 projects
  • Abandoned Mines: 38 with 16 projects

➢ So….how do we accelerate next generation of CMM ER projects?
“Public policy” - Governmental action taken to maintain order or address needs of its citizens

“Public policy” represents laws, orders, and regulations established through a political process

Major CMM policy & legal issues primarily focus on:
- Ownership/Control
- Safety
- Alternative/Eligible Energy Resources/Carbon Market
- Environment (greenhouse gas (GHG) inventory & impact analysis)
U.S. Coal Regions

CMM Ownership Different East & West of Mississippi River

2013 Coal Production by Region (MMst)

Five (5) Major U.S. Coal Basins
- Northern Appalachian Basin
- Central Appalachian Basin
- Illinois Basin
- Powder River Basin (PRB)
- Rocky Mountain Region

- Federal government owns about 47% of land in western U.S. and separately leases surface & mineral rights to private parties
- About 40% of U.S. coal is produced from federal lands

Federal Coal Program: Key Agencies

Responsible for Coal Leasing

- 2014
  - 570 million coal acs.
  - 308 Coal Leases
  - 475,171 acs.
  - Royalties: $775 million+

National Forests & Parks (surface)

- 2014
  - 192 million surface acs. for multiple use & sustained yield – timber, recreation, grazing, fish & wildlife habitat, watershed protection

Environmental Compliance

Mining, Safety & Health
Changing U.S. Energy Landscape

**OIL & GAS INDUSTRY**

- **2014**: U.S. world’s largest oil/gas producer
  - 14.44 Tcf unconventional gas (shale/CBM)
  - MMBtu natural gas spot (Henry Hub LA):
    - 2014: $4.38
    - 2015: $2.61
    - 2016: $1.99 (2/16)

**UTILITY INDUSTRY**

- **2015**: 4.6% of coal fired capacity retired coincides with EPA’s *Mercury & Air Toxic Standards* regs
  - Av. Age: 54 yrs.
  - **2012-2020**: Est. 60 GWs of coal-fired power projected to retire

**COAL INDUSTRY**

- **2015**: Production 890 MMst (est.)
  - 10% decline from 2014 – lowest since 1986
- **2016**: EIA forecasts continued decline
  - Appalachian - 9%
  - Interior - 4%
  - Western - 17%

**U.S. COAL INDUSTRY FACING STRONG HEADWINDS**
U.S. CMM Policy Cornerstones

LEGAL AND ECONOMIC FRAMEWORK SHAPING POLICY

PRIVATE PROPERTY RIGHTS

PROTECT PUBLIC SAFETY, HEALTH & WELFARE

U.S. ENERGY & ENVIRONMENTAL POLICIES

FREE ENTERPRISE SYSTEM MARKET BASED ECONOMY

FEDERALISM/SEPARATION OF POWERS

WHERE DID THE CORNERSTONES COME FROM?
Private Property Rights
(Fifth Amend.)

- Government cannot take property for “public use” without “due process of law” and payment of “just compensation” (market value)

Public Safety, Health & Welfare
(Art. I Sec. 8 & Tenth Amend.)

- Power of government (federal, state or local) to make laws to protect communities they serve

Federalism / Separation of Powers
(Preamble, Art. I Sec. 8, Tenth Amendment/ Arts. I, II & III)

- Fragmented Authority – allocates power between national and state/local governments
Federal Policies Impacting CMM
1960 - 2003

1960s
- 1963 Clear Air Act (CAA)
- 1964 Wilderness Act – National Wilderness Preservation System (NWPS)
- 1969 Coal Mine Safety and Health Act (Coal Act)

1970s
- 1970 National Environmental Protection Act (NEPA)
- 1976 Federal Land Policy and Management Act (FLPMA)
- 1977 Mine Safety and Health Act

1980s
- 1980 Crude Oil Windfall Profits Tax (Sec. 29 Tax Credits for nonconventional fuel)
- 1989 Natural Gas Wellhead Decontrol Act (repealed gas price ceilings)

1990s - 2003
- 1999 U.S. S. Ct. AMOCO Production Co. v. Southern Ute Tribe
  - Gas in coal part of oil & gas estate
  - Mine has right to vent CMM to protect miners
- 2001 Pres. Clinton issues Roadless Area Conservation Policy

Public/Private R & D Partnerships
- Focused on developing unconventional gas technology & innovation including fracking
CMM Policy…. Still Evolving

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2016</td>
<td>DOI Moratorium on Federal Coal Leasing</td>
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<td>2015</td>
<td>Delta-Montrose Electric Assoc. (FERC)</td>
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<td>2010</td>
<td>Federal Study: Social Cost of Carbon (SCC)</td>
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<td>2009</td>
<td>EPA GHG Reporting Program</td>
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<td>2008</td>
<td>Pres. Fact Sheet: Energy/Climate Change</td>
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<td>2007</td>
<td>Pres. Goal: Stop GHG growth by 2025</td>
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<td>2006</td>
<td>CA Global Warming Solutions Act</td>
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<td>2005</td>
<td>Energy Policy Act (all forms of energy)</td>
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<td>2004</td>
<td>End Sec. 29 Tax Credit</td>
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<td>2003</td>
<td>Pres. Goal: Reduce GHGs 18% by 2012</td>
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<tr>
<td>2002</td>
<td>Pres. Bush - Congress Requires GHG Reporting</td>
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<td>2001</td>
<td>E.O. 13352: “Cooperative Conservation”</td>
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* HCCA: High Country Conservation Advocates
** CO RES: Colorado’s Renewable Energy Standard
Contrasting Federal CMM Policies

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<th>AGENCIES’ DECISION PROCESSES &amp; PROCEDURES</th>
<th>ENVIRONMENTAL/ SAFETY POLICIES</th>
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<td>Mineral Leasing Act of 1920: Grants private parties right to lease federal coal (creating “Property Right”)</td>
<td>Assist in resolving property rights disputes with oil, gas, other minerals &amp; surface estates</td>
<td>CAA: Monitor and control air pollution</td>
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<td>FLPMA: Establishes “multiple use” principle</td>
<td>NEPA: A process to assess impacts of federal actions on environment (coal leasing) that: • Identifies potentially significant impacts on environment • Provides opportunity for public comment</td>
<td>Coal Act: Developed mine ventilation standards</td>
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<td>PURPA: Promotes small scale waste fuel power generation</td>
<td>E.O. Support economic growth</td>
<td>NWPS/Roadless Rule: Protects wilderness and undeveloped areas</td>
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<td>E.O. Improve permitting efficiency</td>
<td>E.O. Reduce pollution</td>
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3/29/16
CMM Projects: Barriers & Incentives

**Barriers:** Active coal mines are reluctant to develop CMM ER Projects due to:

- Insufficient gas at most mines
- Safety is Job One! CMM venting considered safe mining practice
- Depressed coal market
- CMM title uncertainty
- Lack of sustainable carbon market
- Desire to avoid conflating good environmental stewardship with support for climate change

**Incentives:** Market solutions to reduce GHG emissions include:

- Coal Mine Methane Project Protocol approved by California’s Air Resources Board (ARB)
- Price stability in carbon markets; now $12.00+ per CO$_2$e ton (Climate Reserve Tonnes (CRT))
- Growing public & private sector commitment to “voluntarily” reduce GHG emissions
- Utility industry shifting from large scale power plants to small scale renewable & waste fuel generation
CMM ER Projects: Next Generation
Issues & Policy Challenges

- Adopt federal waste mine methane (WMM) rule that:
  - places CMM ownership/control with mine, and
  - includes economic incentives to reduce CMM emissions

- Make development of CMM ER Projects a land management priority for agencies
- Develop program to accelerate permitting to meet GHG reduction goals

- Extend California’s Cap-and-Trade Program beyond 2020
- Expand market-based solutions to reduce CMM emissions

- With MSHA support develop standard best safe operating practices for CMM operations at active mines
Conclusions

• U.S. coal industry is engaged in major restructuring & downsizing due to market conditions and retirement of 60 GWs (est.) of older coal-fired power generation capacity

• With no major U.S. coal sector growth on horizon next generation of CMM ER Projects will likely be smaller scale/lower cost operations focused on abandoned mines

• To help meet national GHG reduction goals for 2020 and beyond refinement of existing CMM policies is required to:
  • resolve ownership/control issues
  • extend and increase carbon market financial incentives
  • accelerate ER Project development permitting
Global Methane Forum
Coal Session: U.S. CMM Policy

QUESTIONS?

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