United States Coal Sector Update to the 21st Session of the Global Methane Initiative (GMI) Coal Subcommittee

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United States Coal Sector Update

- **Coal sector trends**
  - Coal production increased from 893 MMt in 2013 to 907 MMt in 2014 (+1.5%)
  - Number of producing coal mines decreased by 71 mines in 2014 (-4.4%)
  - **U.S. EPA Greenhouse Gas Reporting Program Data**
    - Comprehensive GHG data reported directly to EPA from across the U.S. are easily accessible to the public
      - [http://www.epa.gov/ghgreporting/](http://www.epa.gov/ghgreporting/)
    - 2013: 118 active underground mines, 41 MMt CO₂e
      - Emissions are -6.8% from the first reporting year in 2011
      - Emissions are +2.5% from 2012
    - 2012: 111 active underground mines, 40 MMt CO₂e
      - 2012 & 2013 values uses new methane GWP of 25
2014 trends in the energy sector
- Slight increase in natural gas consumption (+3%)
- Natural gas prices continue to rebound (+17%)
- Coal consumption decreased slightly (-1%)
- Coal prices decreased (-7.8%)

Regulatory update
- U.S. Department of Interior’s Bureau of Land Management (BLM) issued Advance Notice of Proposed Rulemaking for Waste Mine Methane Capture in April 2014
  - [https://federalregister.gov/a/2014-09688](https://federalregister.gov/a/2014-09688)
  - Public comments accepted until 30 June 2014
In June 2013, President Obama issued Climate Action Plan that included:

1) Steps to cut greenhouse gas pollution
2) Steps to prepare U.S. for impacts of climate change
3) Continue U.S. leadership in international efforts to combat climate change

Under Step 1: Interagency Methane Strategy
- EPA, USDA, DOE, DOI, DOT were directed to develop a comprehensive methane strategy (March 28, 2014)
- Takes into account data on where methane pollution is coming from
- Builds upon best practices and activities under way to tackle methane waste
Methane Strategy Overview

- The plan focuses on four sectors:
  - Landfills (EPA)
  - Agriculture (EPA, USDA, DOE)
  - Coal Mines (DOI, EPA)
  - Oil & Gas (EPA, DOE, DOI)

- Reducing Methane Emissions: Builds on best practices and activities to reduce methane emissions
  - Combination of regulatory and voluntary domestic activities, depending on sector
  - Call for continued international data collection through GMI, nonCO2 mitigation report

- Improving Methane Data: Also calls for assessment of current methane emissions data
  - Identifies ways in which EPA can improve the GHG inventory and GHGRP
  - Focusses on improving global estimates
Improving Methane Data and Measurements

- Identifies key actions to improve methane emissions data for all sectors, particularly oil and gas

**Enhancing the GHG Inventory and GHGRP**
- US EPA will continue to update and enhance the annual GHG Inventory as new data and information emerges and make ongoing improvements to the Greenhouse Gas Reporting Program regulatory requirements

**Improving Global Emissions Monitoring and Estimates**
- US EPA will continue to collect emission reduction data through GMI and will continue to update and publish detailed emissions estimates through the *Global Mitigation of Non-CO2 GHGs and Global Anthropogenic Non-CO2 GHG Emissions*
- Also highlights NOAA, DOE, and NASA activities

**Other Activities:**
- Building our National Methane Monitoring Network (NOAA)
- Encouraging the Development of Cost-Effective Measurement Technologies (DOE’s ARPA-E) program new methane fund to develop methane sensing
U.S. CMM Project Outlook

- Challenges to emission reduction projects in United States:
  - Lack of infrastructure (e.g., pipelines) in certain regions of the country (i.e. particularly in the west) to move CMM from mines to natural gas markets.
  - Low energy prices (gas and electricity) in some parts of the country (e.g., western US) that make CMM energy projects unattractive from an economic perspective.

- Approaches to overcoming challenges
  - Compliance carbon market in California establishes more robust price signal for offsets
  - State alternative energy and renewable energy programs
  - State capital investment, loans, and tax benefits and credits
  - Support for technology demonstration projects
U.S. CMM Project Outlook (2)

- New carbon-based incentives supporting CMM projects
  - **July 2014**: New project opportunities presented by California Air Resources Board (ARB) inclusion of CMM as compliance offset source (Mine Methane Capture protocol)
    - Several early action projects from CAR and VCS registries being transferred to ARB
    - $9-$10/tCO$_2$e price for offset credits (increasing year-over-year)
    - Increased activity for new ARB projects (AMM and gob gas flaring)
  - **April 2015**: State of California announces new emission reduction targets for 2030
    - Current cap-and-trade program only goes through 2020
    - Full ten-year crediting period needed for VAM projects
United States Coal Sector Methane Action Plan

- **Priorities:**
  - Reduce GHG emissions and promote use of clean energy source
  - Achieve profitable recovery of CMM

- **Activities to Promote Methane Mitigation and Abatement**
  - Between 1994 and 2012, U.S. CMM emissions reductions have effectively removed the equivalent of more than 326 MMtCO₂e from the atmosphere
  - U.S. identifies, evaluates and promotes CMM recovery and use opportunities; provides support for technology demonstration projects; and develops technical documents, tools and resources
  - International activities under the auspices of GMI
    - CMM/CBM Clearinghouses; pre-feasibility and feasibility studies
    - UNECE Best Practice Guidance for Effective Methane Drainage and Use in Coal Mines, technical seminars
    - Technical resources; tools; policy white papers
    - CMM Finance Guide and CMM Financial Model: updates in progress; will assist with international CMM project development

Updated online at [https://www.globalmethane.org/coal-mines/index.aspx](https://www.globalmethane.org/coal-mines/index.aspx)
Contact Information and Announcements

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U.S. CMM Conference Track

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