

REGIONAL COOPERATION TO IMPLEMENT FEDERAL CARBON STANDARDS FOR EXISTING POWER PLANTS

BRAD CRABTREE
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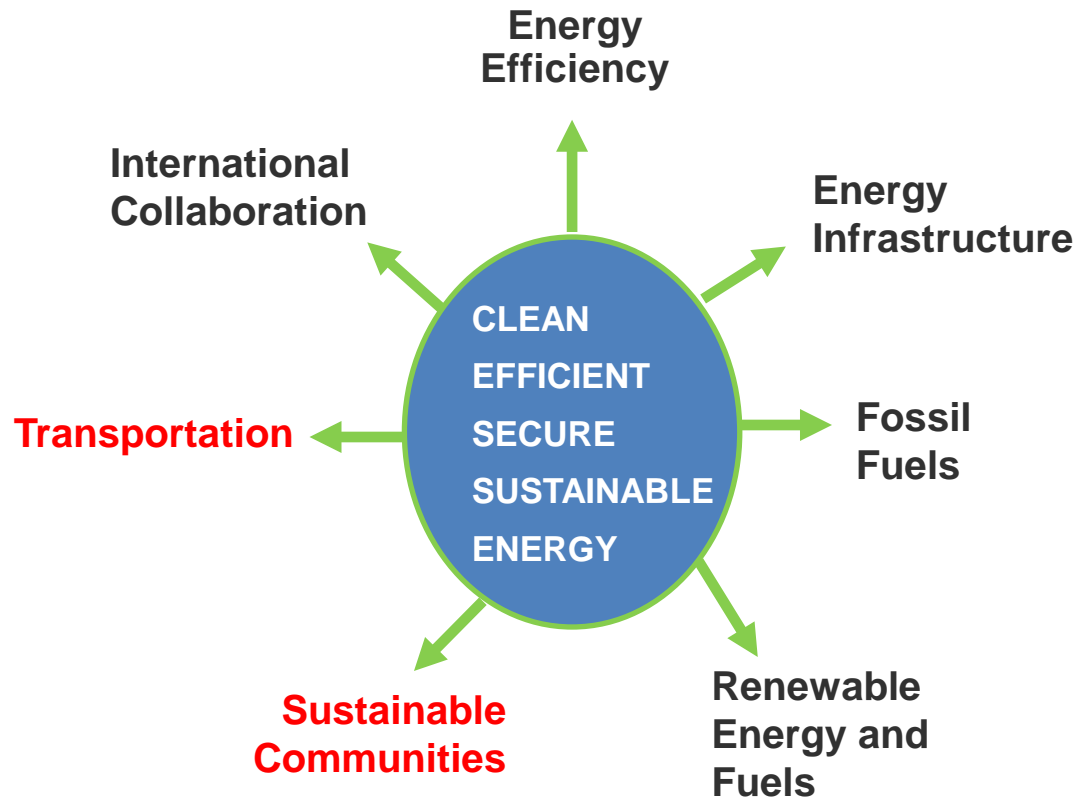
MINNESOTA ENVIRONMENTAL QUALITY BOARD
CLIMATE CHANGE SUBCOMMITTEE MEETING
ST. PAUL, MN
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Great Plains Institute's Portfolio Approach to Energy



Who We Work With



What brings Midwestern power companies, state regulators and environmental organizations together in a collaborative approach to proposed EPA power plant carbon regulation?

Reliance on coal in region's power sector

Well-developed regional wholesale electricity markets and transmission organizations—MISO and PJM

Industrial and agricultural heartland with energy-intensive industries and jobs base

Mostly pragmatic approach to policy and politics

State support for stakeholder engagement in regulatory policy development



Midwestern Power Sector Collaborative Overview

- Began early 2012 following exploratory meeting in 2011
- **Minnesota leadership:** early state-level dialogue on EPA rules in 2011 involving MN PCA and key stakeholders inspired this regional effort

Project rationale:

- The Midwest/Northern Plains is potentially significantly affected by EPA regulation of carbon emissions from existing power plants under Section 111(d) of the Clean Air Act.
- Consensus among coal-based power companies, state regulators and environmental advocates on flexible, least-cost ways to achieve emissions reductions can have significant influence on how EPA crafts the final federal rule.



Midwestern Collaborative Overview (cont.)

- *Two years of patient, respectful dialogue* led to recommendations to EPA in November 2013:
 - Agreement on guiding principles and flexible, cost-effective framework for achieving emissions reductions from existing power plants.
 - First detailed consensus among coal-based power companies, regulators and advocates in this arena.
- **Engagement does not mean endorsement:**
 - States and stakeholders have mutual interest in shaping a potential federal rule, even though some participants oppose EPA exercising Clean Air Act authority to regulate power plant CO₂ emissions.



Midwestern Collaborative Participants & Observers

State Regulators

- **Delanie Breuer**, Executive Assistant to Commissioner Nowack, Wisconsin Public Service Commission (observer)
- **Vince Hellwig**, Chief, Air Quality Division, Michigan Department of Environmental Quality
- **Robert Kenney**, Chairman, Missouri Public Service Commission (observer)
- **John Lyons**, Assistant Secretary, Climate Policy, Kentucky Energy & Environment Cabinet (observer)
- **Bart Sponseller**, Director, Air Bureau, Wisconsin Department of Natural Resources (observer)
- **Doug Scott**, Chairman, Illinois Commerce Commission
- **David Thornton**, Associate Commissioner, Minnesota Pollution Control Agency
- **Nicholas Evans**, Public Utilities Engineer, Michigan Public Service Commission



Midwestern Collaborative Participants (cont.)

Regulated Utilities

- **Jack Ihle**, Director of Environmental Policy/**Nicholas Martin**, Manager, Environmental Policy, Xcel Energy
- **Kris McKinney**, Manager, Environmental Policy, We Energies (observer)
- **Greg Ryan**, Senior Technology Specialist, DTE Energy, Inc.

Generation and Transmission Cooperatives

- **Bob Ambrose**, Director, Governmental Affairs/**Mary Jo Roth**, Manager, Environmental Services, Great River Energy
- **Steve Tomac**, Senior Legislative Representative, Basin Electric Power Cooperative (observer)
- **Brian Warner**, VP, Environmental Strategy, Wolverine Power Cooperative

Merchant Generator

- **Shawn Konary**, Environmental Director, NRG (parent company of Midwest Generation)/**Maria Race**, Director of Asset Management, NRG

Municipal Joint Action Agency

- **Andy Kellen**, Vice President, Power Supply Resources, WPPI Energy



Midwestern Collaborative Participants (cont.)

Environmental Organizations

- **Mike Bull**, Director of Policy and Communications, Center for Energy and Environment
- **Megan Ceronsky**, Attorney, Environmental Defense Fund
- **Trent Dougherty**, Managing Director, Legal Affairs, Ohio Environmental Council
- **Steve Frenkel**, Midwest Director, Union of Concerned Scientists
- **Charles Griffith**, Climate & Energy Program Director, Ecology Center
- **Keith Reopelle**, Senior Policy Director, Clean Wisconsin
- **Conrad Schneider**, Advocacy Director, Clean Air Task Force



Overview of Collaborative's Recommendations

- **Unprecedented agreement among coal-reliant power companies, states and environmental organizations** on key principles to guide federal regulation under Sec. 111(d) of Clean Air Act. Issues the principles address include:

- Achieving meaningful emissions reductions, while ensuring system reliability and affordability;
- Providing regulatory certainty and consistent investment signals;
- Acknowledging states' opportunity and legal authority to tailor flexible, cost-effective alternatives to meet federal requirements;
- Recognizing past and future emissions reductions achieved through industry investment and early action and through state renewable energy, energy efficiency and other policies; and
- Enabling and encouraging states, at their option, to develop multi-state compliance solutions that take advantage of regional, market and other economic efficiencies to achieve environmental outcomes.



Overview of Recommendations (cont.)

- Agreement on flexible compliance options that states and industry can adapt to their economic needs, resource mix and policies:

- Compliance with existing state renewables, efficiency & other policies;
- Power plant retirements;
- Addition of new renewables and efficiency standards, programs and investments;
- Fuel-switching or co-firing with a lower-emitting fuel;
- Demand side management, load shifting and demand response;
- Carbon capture, utilization and storage through CO₂-enhanced oil recovery or other geologic storage;
- Utilization of waste heat and generation by combined heat and power units;
- Power plant boiler heat rate improvements;
- Generator turbine efficiency increases; and
- Improvements in transmission and distribution to reduce line loss.



Midwestern Collaborative 2014 Agenda

- Collaborative participants have two major priorities in 2014:
 1. Provide consensus comments to EPA and states on existing source rule (111d) proposed this month.
 2. Modeling begun to evaluate efficacy and cost-effectiveness of different approaches to regional, multi-state implementation under 111(d) and make further recommendations to EPA and states.



Regional Implementation Options being Evaluated

Approaches for Evaluation

Unit-by-unit or “inside the fence” (stringency of proposed EPA rule would exceed reductions available under this approach alone)

Mass-based utility portfolio (incorporating utility investments and state policy for renewable energy, efficiency and other options)

Rate-based standard with trading (with or without EE and RE credits)

Mass-based budget with trading (e.g. SO₂, NO_x programs)

Independent system operator-based compliance (e.g. generator dispatch through a regional transmission organization)



Criteria for Optimal Implementation

Approach/framework must:

- Preserve system reliability.
- Meet federal emissions guidelines.
- Yield emissions reductions cost-effectively.
- Avoid disproportionate regional cost impacts.

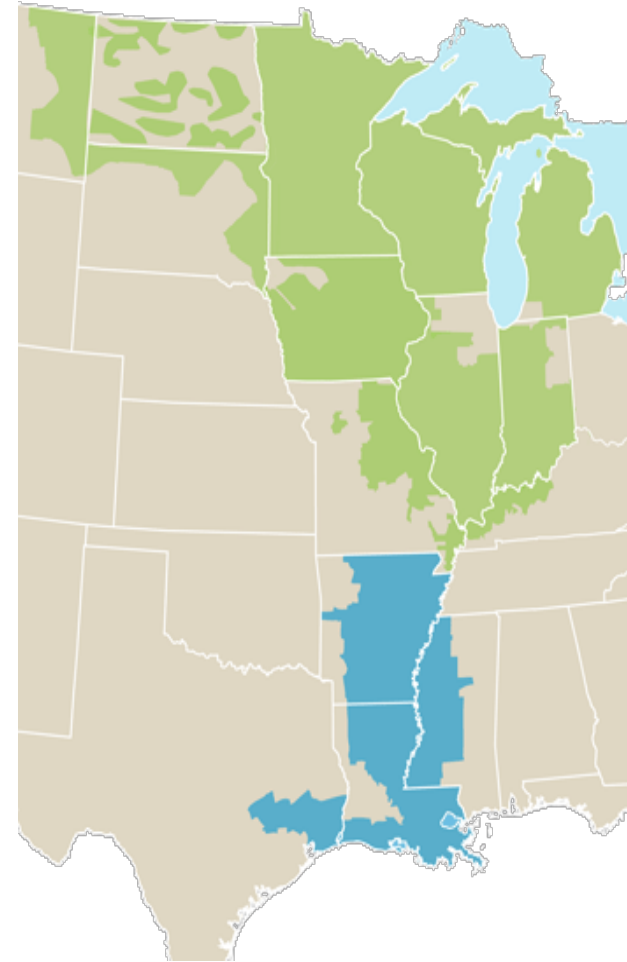
Optimally, chosen approach/framework would also:

- Encourage resource/portfolio diversity to limit exposure to risk and to achieve above objectives.
- Promote timely and effective implementation at the state and/or regional level.
- Allow flexible and efficient approaches to implementation.
- Encourage and reward early action.
- Provide regulatory certainty and long-range price signals.



Next Steps in Region

- Environmental & utility regulators from midcontinent states (jurisdictions with MISO operations) met in April to explore potential cooperation on 111d compliance.
- MN participates on steering committee with AR, IL, MI, MO and WI officials
- Officials to meet again this month in St. Louis for further discussion, following release of proposed EPA rule.
- Staffing assistance from Great Plains Institute and Bipartisan Policy Center.



Conclusion

- Prospects for federal regulation of power plant carbon emissions remain uncertain, but increasingly likely with proposed EPA rule.
- Coal-reliant states, power companies, and environmental advocates have much at stake in details of an existing source rule.
- Midwestern Collaborative demonstrates rare joint industry, environmental and regulator support for key elements in a rule to mitigate costs, while achieving required environmental outcomes:
 1. Flexible compliance beyond the plant gate;
 2. Recognition of state and private sector early action; and
 3. State authority and opportunity to propose least cost alternatives to meet federal EPA guidelines.



Conclusion cont'd

Importance of proactive MN leadership:

- MN state officials were among first in the nation to begin exploring options under anticipated EPA power sector rules.
- Xcel Energy and Great River Energy, MN's 1st & 2nd largest power providers, have engaged constructively on a national stage by authoring their own proposals for implementation of an EPA 111d rule.
- Now, the state of MN, private and NGO stakeholders are helping the larger midcontinent region consider a tailored, lower-cost approach to meeting required federal emissions reductions.



THANK YOU

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