

Present and Emerging Threats from the Power Sector



Presentation to
PALTA Conference

May 2009

Ginny Kreitler

Kreitler Research & Consulting, LLC

Dynamics of transmission sector

- ◉ Upsurge in transmission activity
- ◉ Principal driver = Federal energy policy
 - Goal of expediting transmission expansion
 - Replace state rule with federal oversight
- ◉ Prior to EPAAct2005 states had jurisdiction
- ◉ Push to federalize system:
 - 2005: Section 1221 Energy Policy Act
 - 2009: SB 539, SB 774, draft SENR bill, 2 house bills

Mechanisms for facilitating transmission

◉ Streamlining of regulatory review by:

- Limiting state authority
- Shortening regulatory timelines
- Streamlining NEPA review
- Giving backstop authority to federal government

◉ Providing attractive financial incentives for transmission projects

- Transmission adders with guaranteed returns of 12% or more

National Interest Electric Transmission Corridors

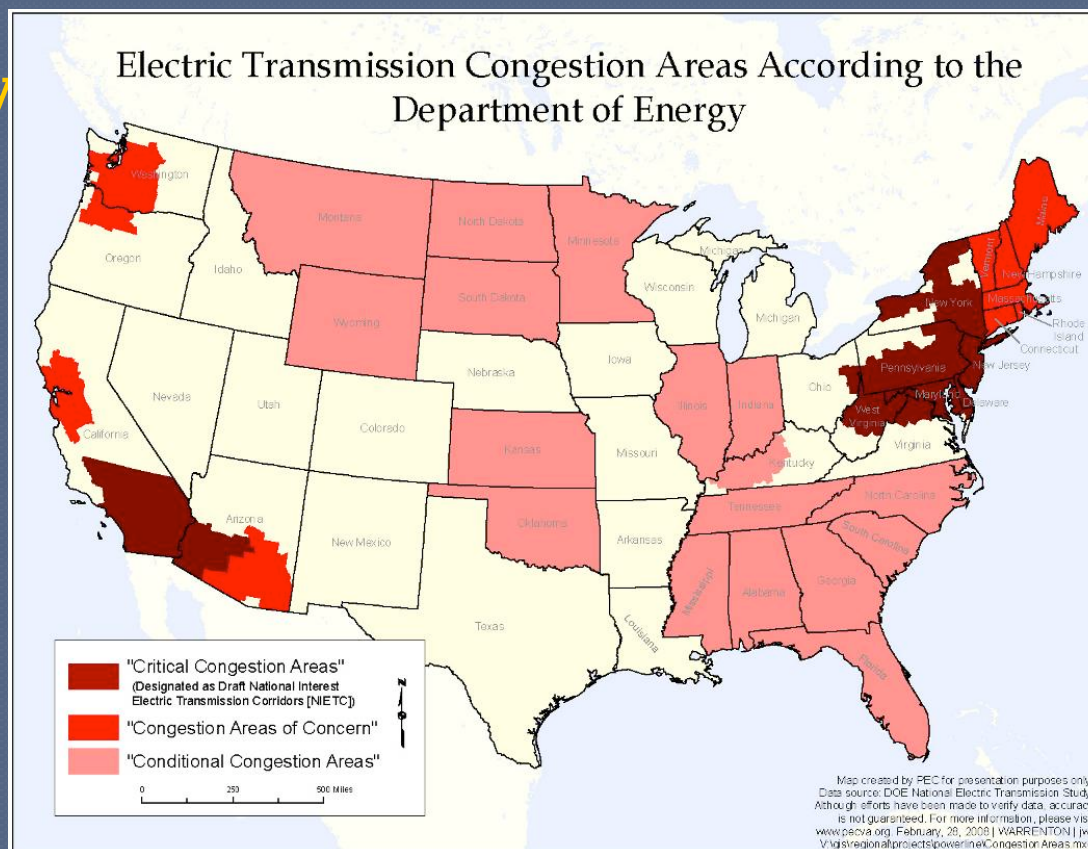
◉ DOE designated two NIETCs in 2007

Undercuts state authority on interstate projects

Federal backstop siting powers created to accelerate approvals

Eminent domain for transmission projects

Source: Piedmont Environmental Council



Ramifications of Corridor Designation

- ◉ State allowed one year to approve project
- ◉ DOE interpreted law to trigger federal backstop authority even when states had affirmatively denied proposals
- ◉ After 12 months transmission company could appeal to FERC to take over
 - Noteworthy: no other parties are granted any appeal rights

Why Overriding PA PUC process matters

- ◉ Federal oversight puts decisionmaking at a far remove from those affected

- ◉ Strengths of PA PUC process:

- Requires comparative analysis of alternative routes
- Creates a public record; provides recourse to appeal
- Factors considered in PUC rulings:

Land use Soils & sedimentation Plant & wildlife habitats
Terrain Hydrology Landscape Wilderness areas
Scenic areas Scenic rivers Archaeologic and historic resources

Did Backstop Authority Influence State Decisions?

Snapshot of TrAIL line review process:

◉ Timeline

- Process churned through accelerated schedule targeting 1 year timetable
- ALJ recommendation for denial based on evidence: month 11
- Allegheny cuts deal with local govts: month 12
- PA PUC approved application: month 13

◉ Outcome: applicant got approval in 13 months of trigger date – in a state actively fighting the Corridor

The New Pace of Transmission Proposals

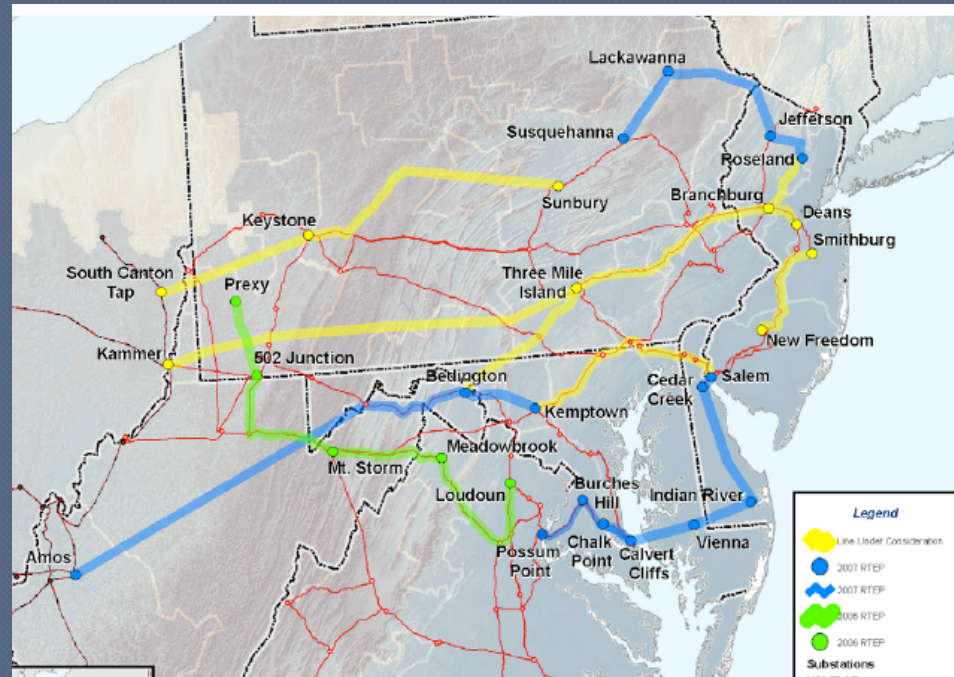
- Under the Corridor designation, PJM and transmission companies have moved to advance power line approvals

2006 – 2009

Yellow = in five year plan

Blue = PJM board-approved

Green = state-approved



Today's policy outlook

- ⦿ New legislation changes the rules of the game
- ⦿ A new paradigm is being developed and is being shaped by:
 - Renewables policy
 - Aging infrastructure
 - Bad economy
- ⦿ The good news: rescinding of NIETCs
- ⦿ The bad news: all of US becomes a corridor

Growing threats

Comparison of 2005 and 2009 legislation

Energy Policy Act of 2005	New Legislation
Applied to DOE-designated Corridors only	Nationwide; all states to create designated zones
Predicated on findings of congestion	Federal plans will define; may be defined based on rural resources
Limited to interstate transmission lines	System-wide; intrastate as well as interstate
Eminent domain	Eminent domain

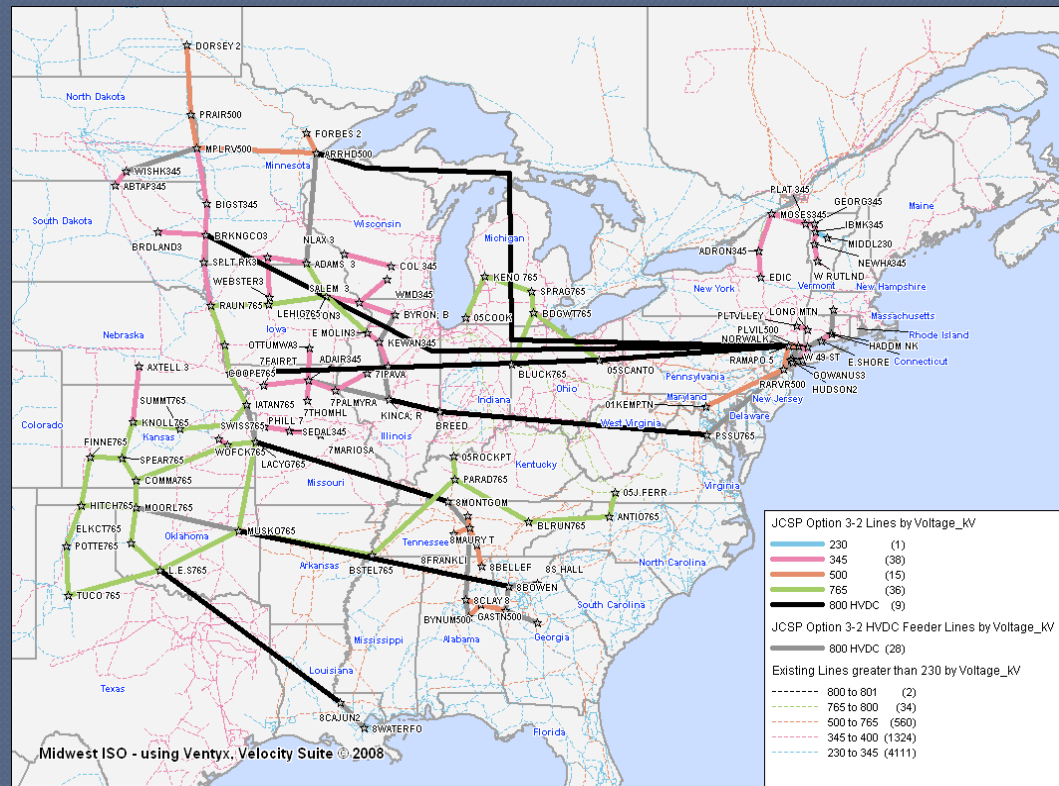
The Newest Transmission Push

New (2009) plan to wheel power from the upper Midwest dwarfs earlier NIETC proposals

Proposal of regional transmission operators (RTOs) of Eastern US

New industry talking points

Source: *Joint Coordinated System Plan, 2009*

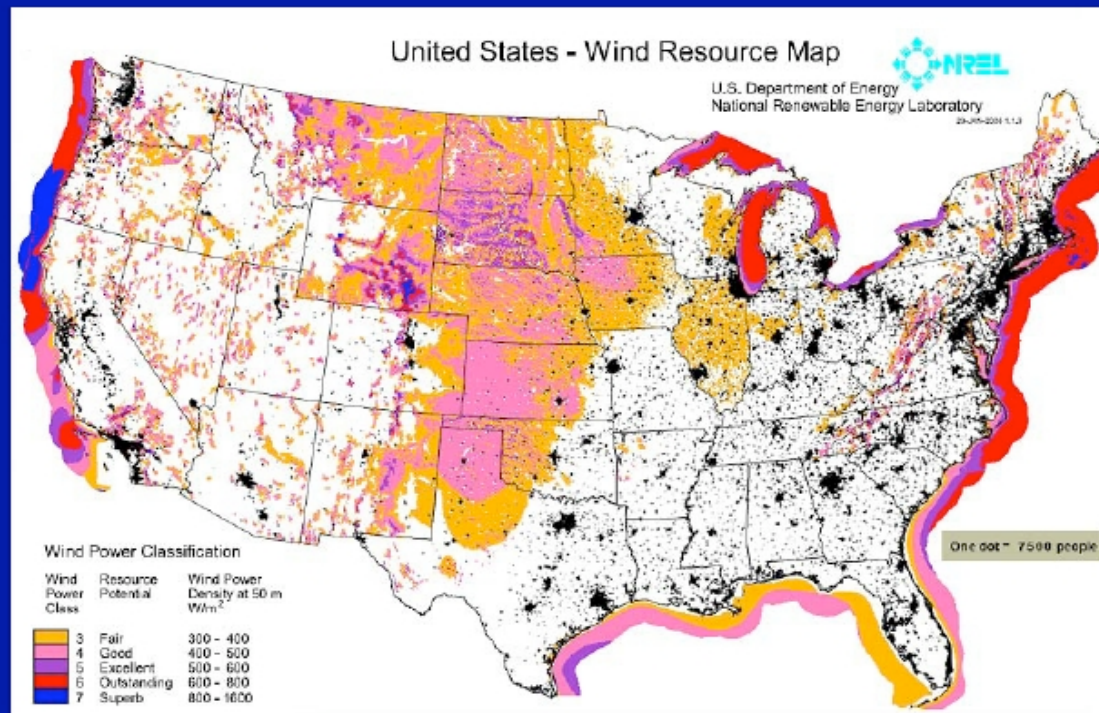


But is it the best solution?

- ◉ Grid operators in New England and NY slammed the report saying:
 - “the 2008 JCSP report cannot be viewed as a ‘plan’ to be relied upon for decision-making purposes”
- ◉ Ten eastern governors reject the plan as biased and a hindrance to state priorities
- ◉ A primary concern: the failure to include local resources

Best wind resources are off shore, not in the Dakotas

Added Value 2: Better Wind Resources Located Closer to Urban Load Centers



14

Image taken from presentation by Ocean Energy Institute

Biases of the Congestion Study (2006)

- ◉ Data used in DOE's study were supplied by those with vested financial interests
- ◉ Proven wrong 1 year later
- ◉ Lack of "Sunshine" and biased methods
 - No new generation ?
 - No state and RGGI policy impacts?
 - No market-based energy efficiency?
 - No impacts from PJM's capacity auction?
- ◉ Obscures the underlying profit motive

Biases of the JCSP Study (2009)

- ◉ Déjà vu all over again
 - Prejudicial analyses and misleading PR
- ◉ Power sector interests prepared the JCSP plan
- ◉ Key energy resources were omitted:
 - Generation resources in the northeast
 - Offshore wind
 - Imported hydropower
 - Energy efficiency and demand response
- ◉ Ignores state energy policies

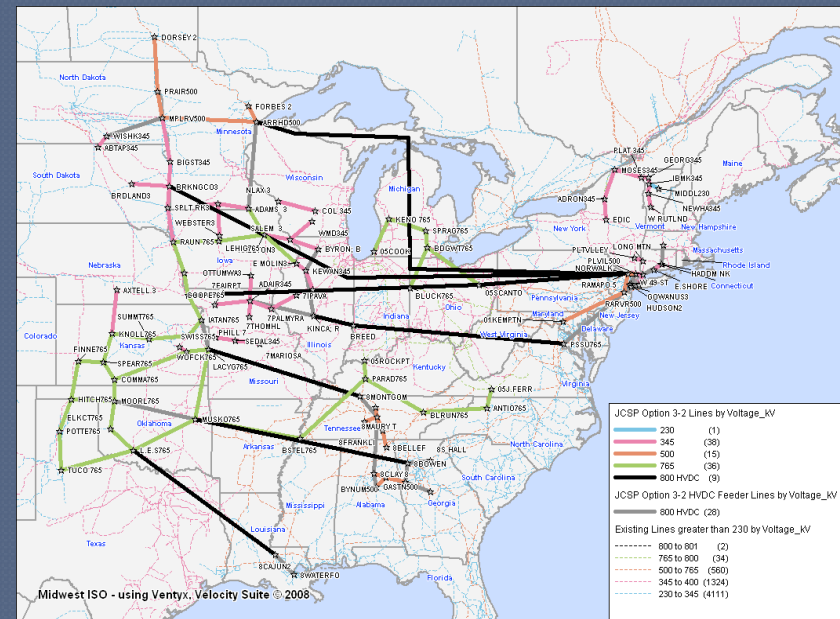
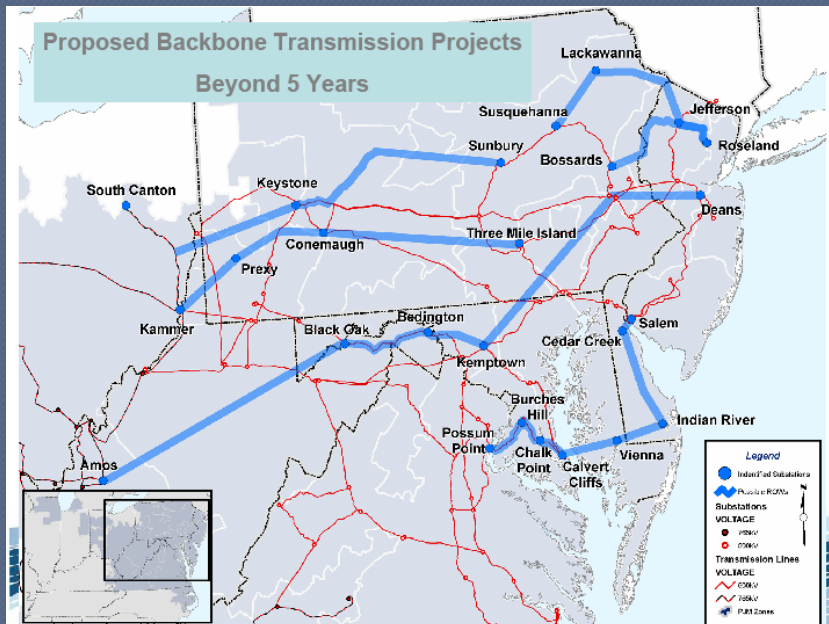
Take Aways from Mid-Atlantic NIETC Experience and JCSP plan

- ⦿ Problems of relying upon information from vested interests as the policy justification
- ⦿ Disconnect between data assumptions and reality
- ⦿ Need for impartial, empirical and comprehensive planning, transparency, and vetting of the assumptions

Why the push for new transmission

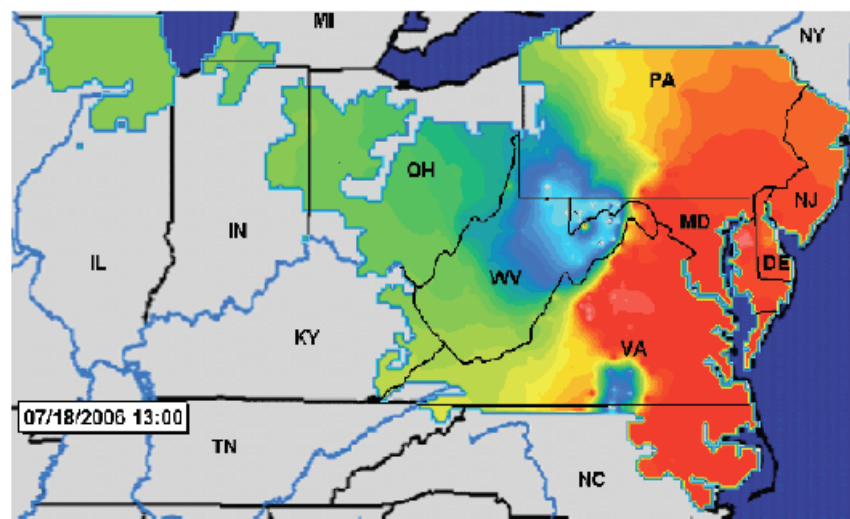
- ⦿ This ain't your daddy's utility industry
 - Competitive - new market entrants are enabled
 - Changed rules – open access & policies which foster long-distance power wheeling
- ⦿ Profit potential varies regionally
 - Most lucrative markets along eastern seaboard
- ⦿ The grid is not sized for the new supplier demand for interstate power wheeling to the east coast

Why does all power head to the East Coast?



Follow the money

The profit potential along the eastern seaboard is three times as large



LMP Price Range*

(Locational Marginal Price)

Blue \$0 - \$50

Green \$50 - \$100

Yellow \$100 - \$130

Orange \$130 - \$170

Red \$170 - \$500

* Colors are representative of the LMP prices.

Source: Allegheny Energy

What's happening now

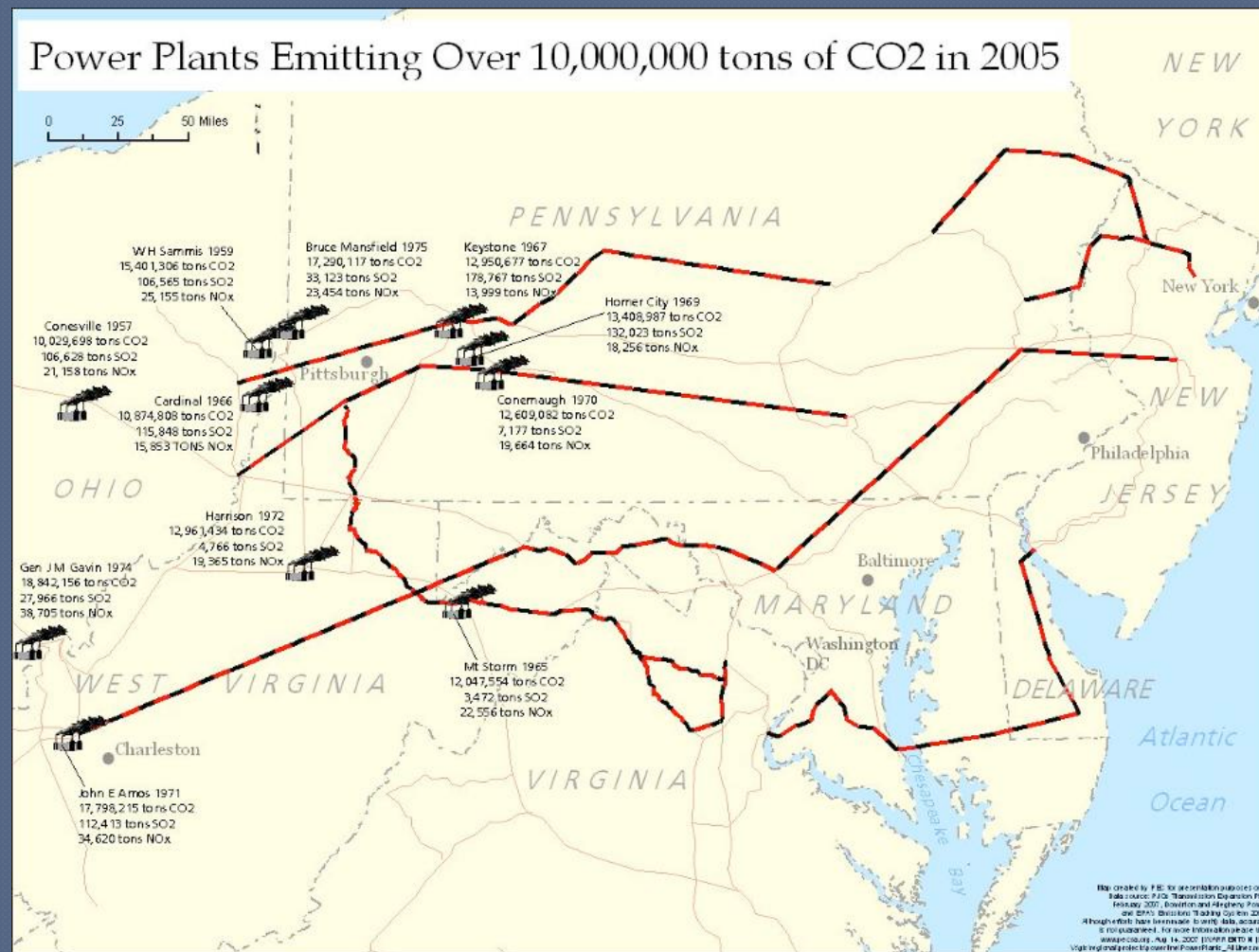
- ◉ Lots of energy and climate bills
- ◉ Key shortcomings of new transmission bills
 - Chooses solutions based on incomplete assessment of problem
 - Promotes large footprint solutions over small footprint solutions
 - Undercuts – inadvertently – clean energy policy, creating new opportunities for coal-fired power

Under Current FERC Rules Coal Outcompetes Renewables

Coal is
lower cost
thereby
getting
dispatch
priority

Plenty of
coal-fired
capacity
exists

Source: Piedmont
Environmental Council

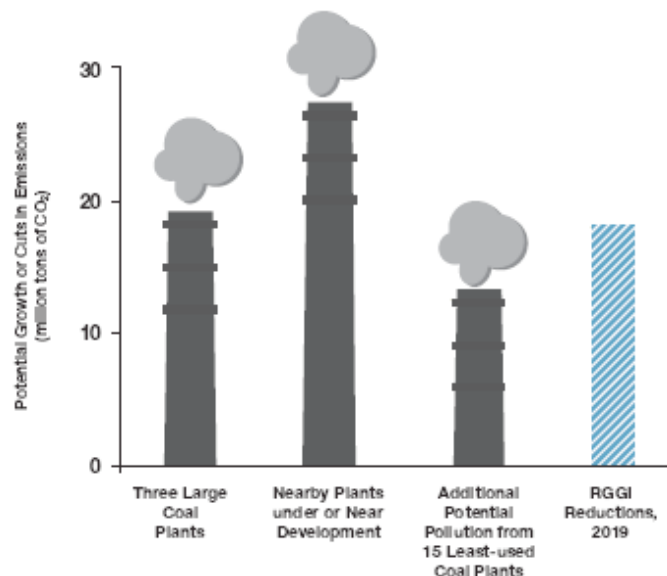


The Inconvenient Truth About Mid-Atlantic transmission

- Under current policies and rules:
New Transmission = New Emissions
- Emissions from a handful of power plants will negate the impacts of the RGGI compact

FIGURE 11: Coal vs. Climate

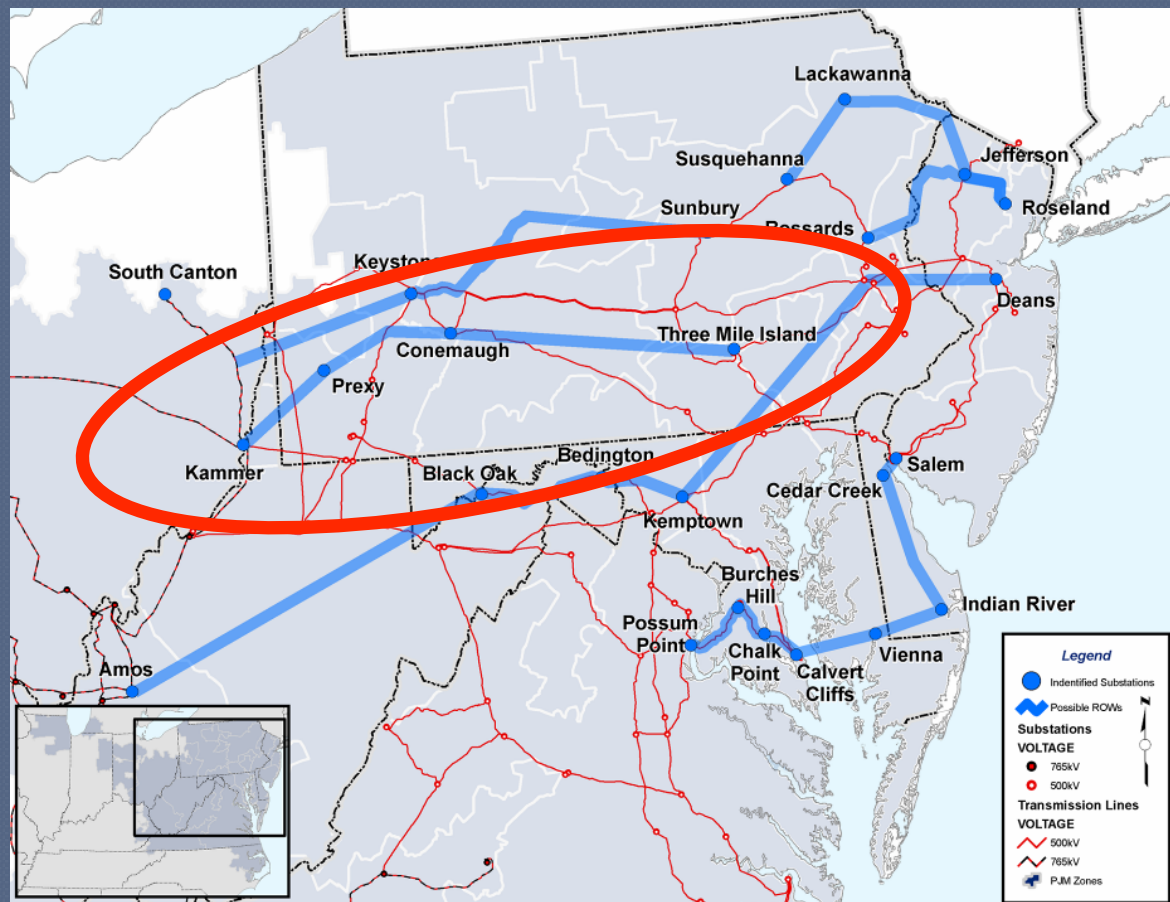
A single year's CO₂ emissions from three large new coal plants, from plants now under or near development in nearby states, or from full use of the 15 nearby coal plants with the lowest capacity factors would cancel out most or all of the cuts in global warming pollution expected from RGGI.



Source:
Union of
Concerned
Scientists

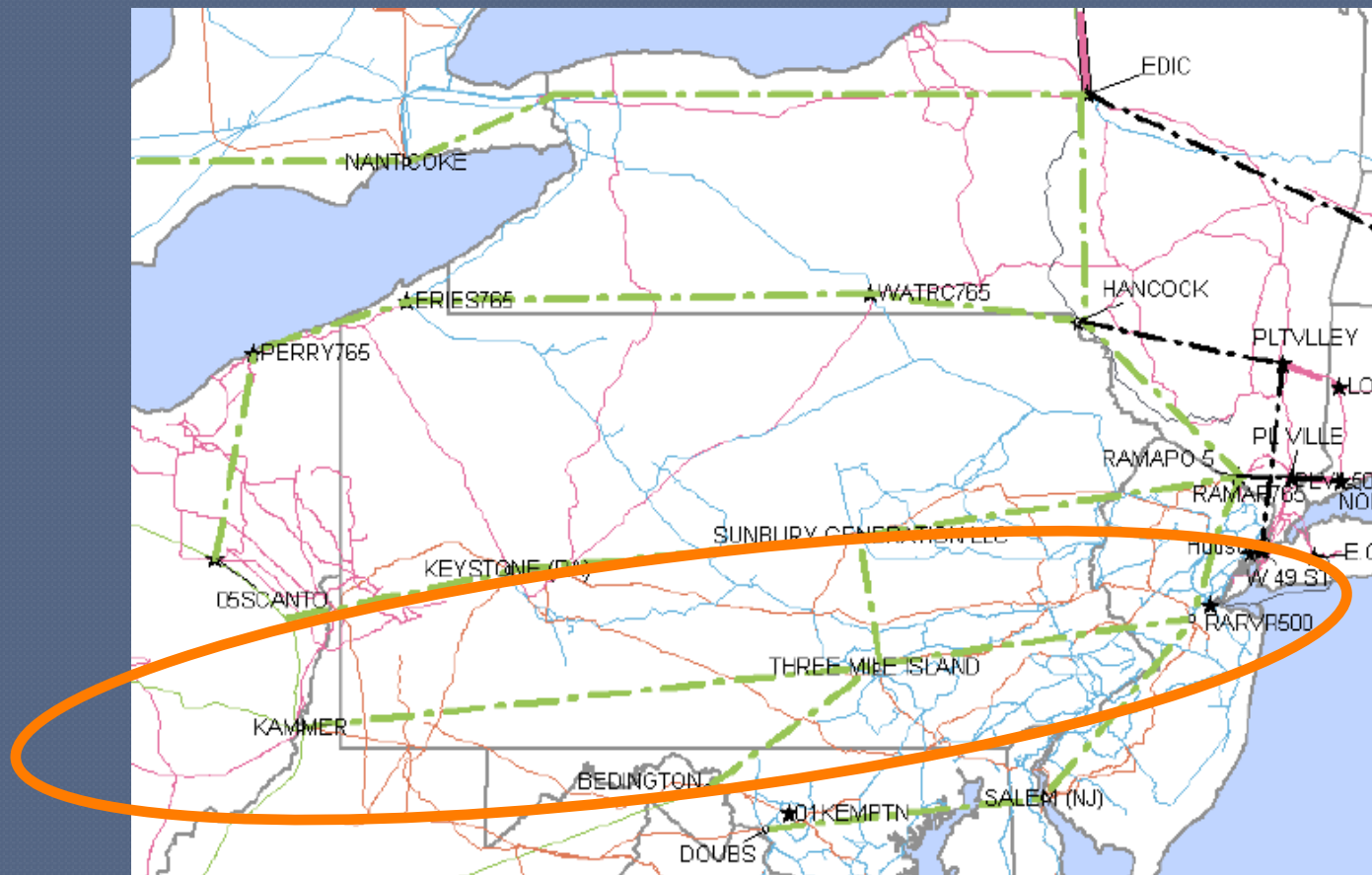
In 2006 these lines were proposed for transporting coal-fired power

'Superhighway for coal' 2005 testimony to FERC



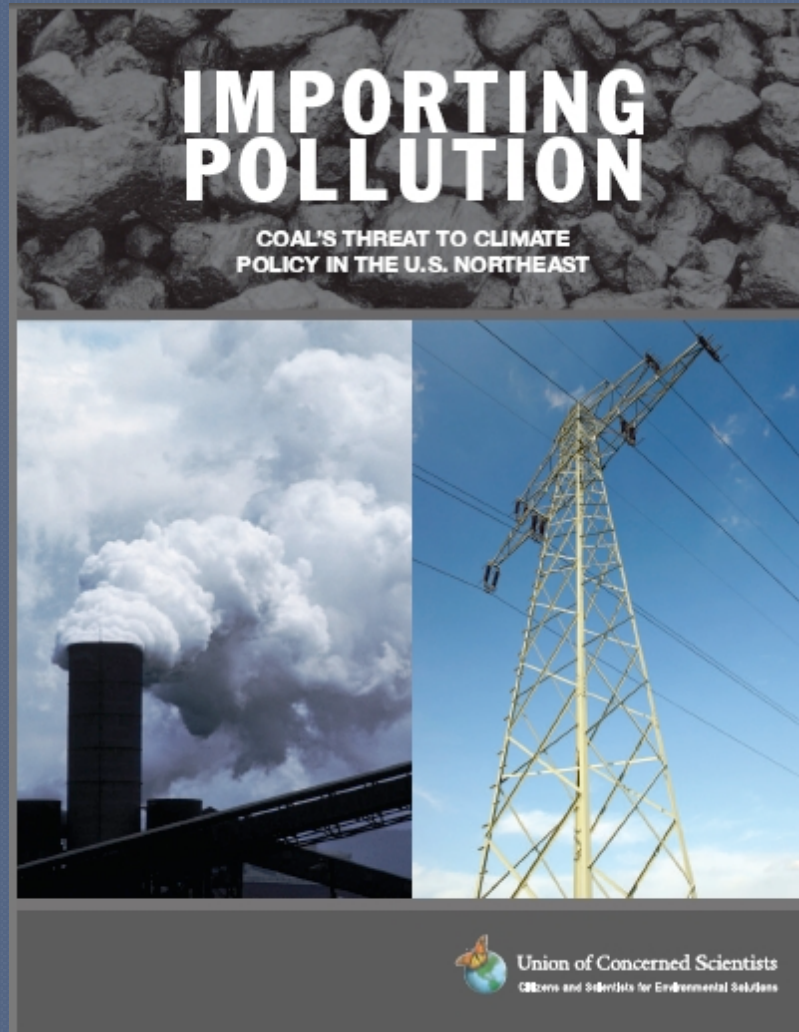
Source: PJM

Now they are 'green' power lines



For more information on transmission-driven emissions

Excellent report on
Impacts available at
Union of Concerned
Scientists website



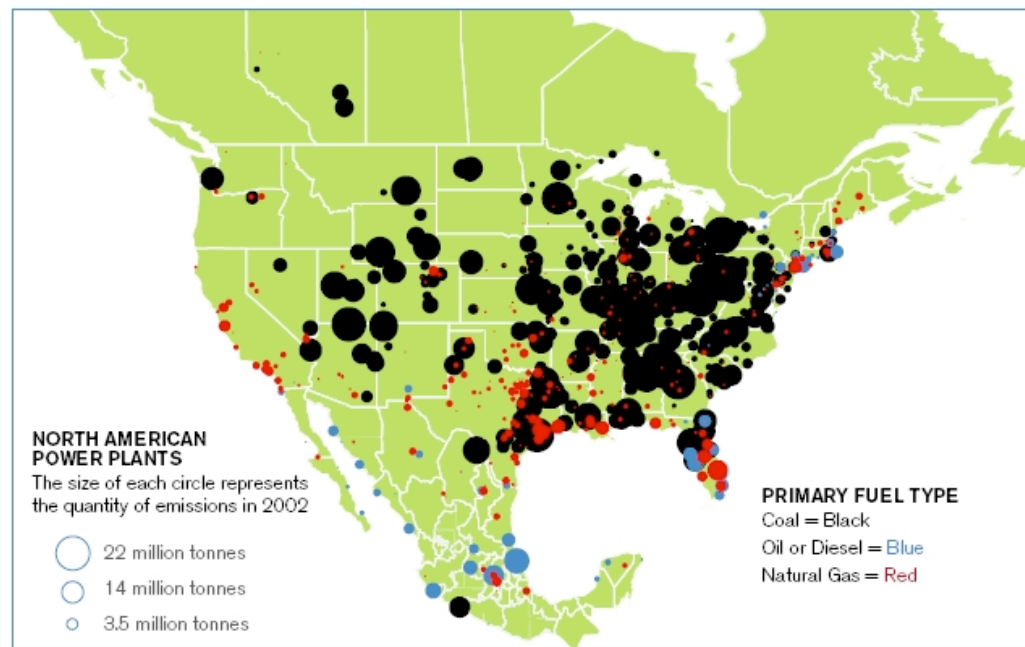
The Emissions Uptick Potential Is Large

The scale of the impact is globally significant

To prevent this
it is critically
important
that climate
legislation is
passed first

Source: Commission for
Environmental Quality
2004

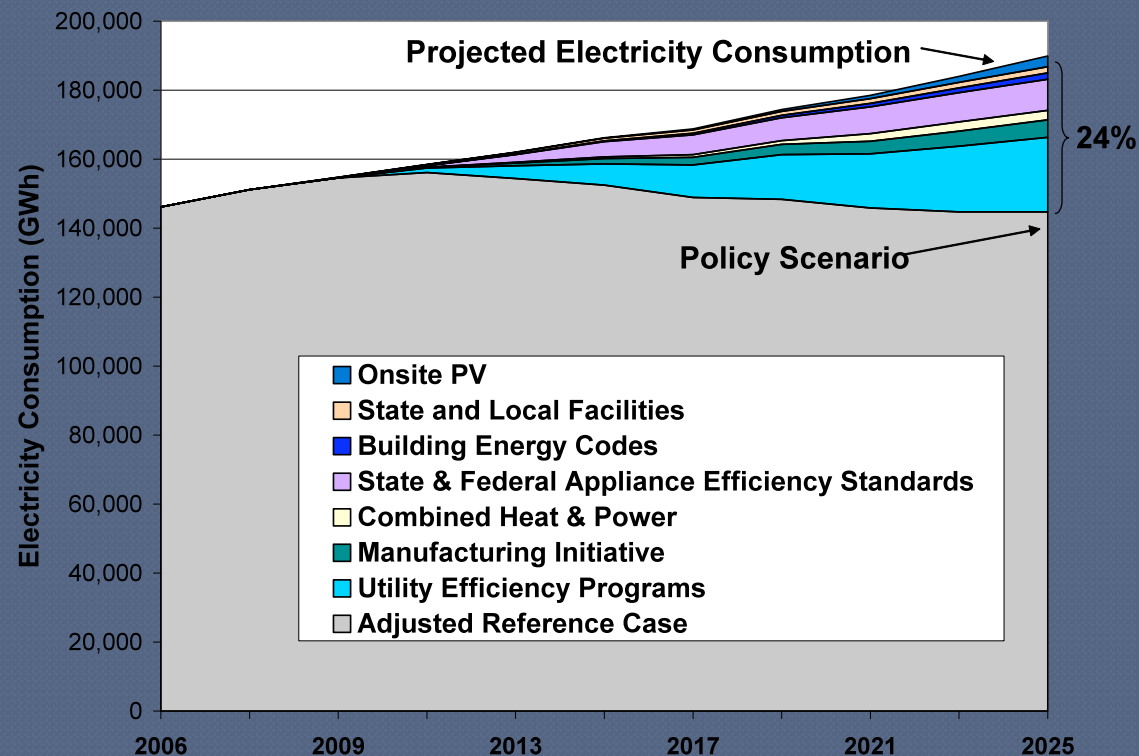
Figure 3.8
GEOGRAPHIC DISTRIBUTION OF POWER PLANT CO₂ EMISSIONS*



* In general, CO₂ emissions data were not available for individual Canadian power plants. Data were available for the major facilities in the Province of Ontario from Ontario Power Generation's *Towards Sustainable Development: 2002 Progress Report*. In Alberta, the map reflects only a subset of the major power plants in the province. CO₂ emissions data were only available for facilities included in ATCO Power's *Environment, Health and Safety Review 2002*. All other facilities without public CO₂ emissions data for 2002 are not shown on the map.

Energy efficiency: potential problem solver

Share of Projected Electricity Use Met by Energy Efficiency For Pennsylvania: 2006 - 2025

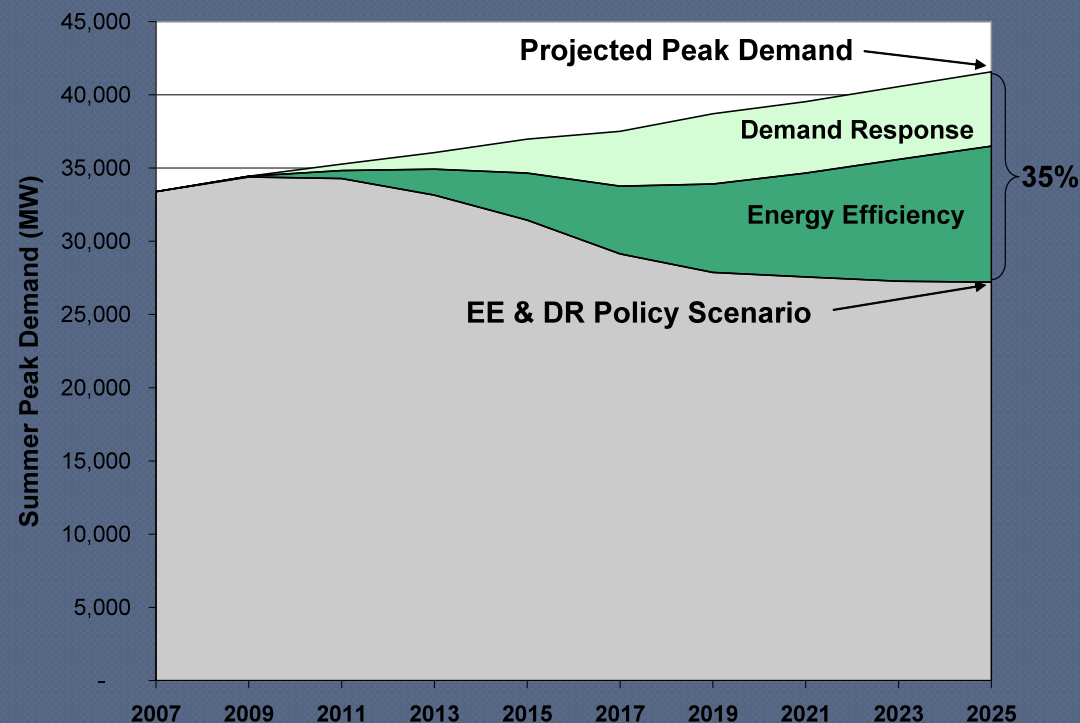


Source:
American Council
For an Energy
Efficient Economy

'Demand' not 'Energy' is the key when looking at grid capacity

**Again, efficiency and related programs can avert the
need for new supply**

**Peak Demand Impacts from
Energy Efficiency and Demand Response**



Source:
American Council
For an Energy
Efficient Economy

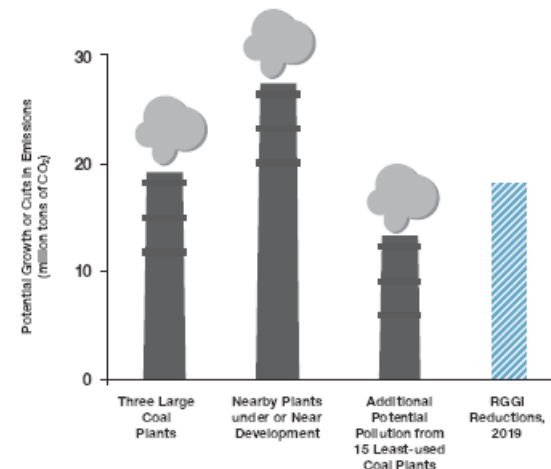
EE is also the path to a cleaner future

- Emissions from 2100 MW of new plants would offset all RGGI benefits (source: Union of Concerned Scientists)
- Robust efficiency programs could displace 1.5% annual growth - 4800 MW or twice the level cited above - *in Pennsylvania alone* (source: PennFuture)

To achieve these results we need the right policy actions: EERS bill (Schumer)

FIGURE 11: Coal vs. Climate

A single year's CO₂ emissions from three large new coal plants, from plants now under or near development in nearby states, or from full use of the 15 nearby coal plants with the lowest capacity factors would cancel out most or all of the cuts in global warming pollution expected from RGGI.



Policy position of leading environmental groups

◉ Principles for transmission planning and siting

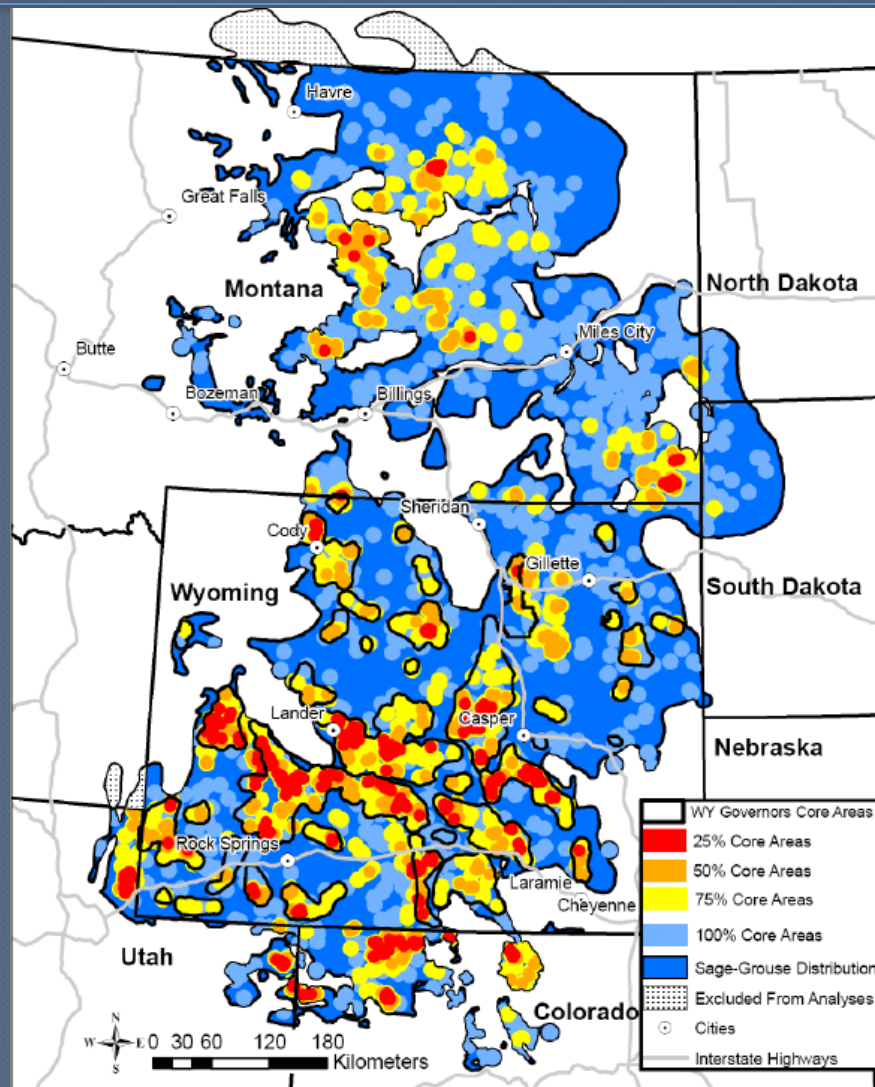
- Climate policy (cap and trade) first
- Integrated Resource Planning
- Transparent planning process
- Siting avoids environmentally important areas
- Include environmental interests along with energy interests as decisionmakers

(See letter to Carol Browner, March 2009)

Siting Decisionmaking

- ◉ An area of opportunity
- ◉ Exemplary models in California, Rocky Mountain states, New England
 - Habitat data and permitted land use incorporated in to siting decision processes
 - Need for broader application of approaches
- ◉ Senate bills call for avoiding public lands and, sometimes, sensitive lands

Application of Habitat Data in Siting Decisionmaking



Source:
Audubon
Wyoming

Wyoming Governors Core Areas:

- Approximately 75% breeding cores, but modified by input from: industry, agriculture, federal agencies, state agencies, and conservation organizations.
- Similar efforts underway in other states

Needed improvements

- ⦿ Language not framed in a way to effectively protect most Pennsylvania resource lands
 - Delineates federal lands protections
 - Vaguer on other lands
 - Easements not recognized
- ⦿ Gives lead authority to FERC, not DOI or EPA, for most siting
- ⦿ Roles for state agencies and conservation groups need to be codified

Congress is poised to revise transmission policy again

◉ Three bills on the Senate side

- Reid – S 539 – *Clean Renewable Energy and Economic Development Act*
- Dorgan – S 774 – *National Energy Security Act of 2009*
- Bingaman – likely lead bill – *Siting of Interstate Electric Transmission Facilities*

◉ House – more focus on climate bills

- Waxman-Markey – draft
- Inslee – transmission bill equivalent to Reid's

Features of all senate bills

- Stimulate large-scale (interconnection-level) regional transmission planning
- Require major plans for high priority new transmission across all states
- Stipulate FERC to do planning if others fail to
- Consolidate siting authority at the federal level – giving exclusive authority to FERC with no state role or create universal NIETC-style backstop
- Provide for eminent domain takings

Formulating better policy

◉ Embrace good elements

- Integrated resource planning, inclusion of demand side resources
- Longer planning processes with public input opportunity
- Criteria to sync buildout with cleaner energy policy

◉ Work for further changes

- Reid's bill is superior to Committee bill in its definition of a role for environmental groups and its discussion of avoiding sensitive lands
- Strengthen language even further to protect eased lands and conservation priority areas

We Can Do Better

- ◉ Policy planning has been based on false benchmarks and faulty assumptions
- ◉ Proposed bills will create damaging footprints
 - On the ground
 - In greenhouse gas emissions
- ◉ Public and policymakers both must be aware
 - Unrecognized large influence of industry
 - Unintended GHG consequences which are globally significant
 - Other solutions: local generation, efficiency
 - Exemplary models of eco-friendly decisionmaking
 - Risks to conservation lands

Going Forward

- ◉ Superior planning must be implemented nationally
 - Prove the need first
 - Use best practices from states - IRP
 - Align energy policy with climate policy
- ◉ Sequencing is key: Climate policy must be implemented simultaneous to or in advance of national grid policy
- ◉ Optimize siting by including environmental criteria and organizations; address non-federal lands