EPA Clean Power Plan
& the Role of Wind

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U.S. Energy Sector Risks
(regulator and/or utility perspective)

• Retiring coal
• Defaulting to gas
  • Concerns about volatility
• Regulatory uncertainty
• Potential nuclear retirements
• Uncertain demand growth
• High capital expenditures
• Intermittent renewable generation (rooftop solar)
• CO₂ regulations
• Infrastructure planning for drought and extreme weather
Risk Mitigation Strategies

• Demand response/energy efficiency
  – Delay major capital investments
• Dynamic pricing, smart grid options
• Renewable generation
• New/emerging technology
• New nuclear(?)
• Increased dispatch of existing coal
GHG Reduction Strategies

- Energy efficiency
- Renewable energy
- Emission averaging/trading
- Retire high emitting facilities
- New technologies
Electricity sector risk
• Demand response/energy efficiency
• Dynamic pricing, smart grid options
• Renewable generation
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Power sector GHG reductions
• Energy efficiency/reduce demand
• Renewable energy
• Emission averaging/trading
• Retire high emitting facilities
• New/emerging technologies
• New nuclear (?)
Multi-benefits

Electricity sector risk
- Demand response/energy efficiency
- Dynamic pricing, smart grid options
- Renewable generation
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Power sector GHG reductions
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- Emission averaging/trading
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Clean Power Plan Basics

- EPA role
- State role
- Limited precedent
- “Best system of emission reductions” = 4 “building blocks”
Building Blocks

2012 Fossil Units

- CO$_2$ emissions

- Heat rate improvement

- Re-dispatch

+ MWh Generation

+ Nuclear

+ Renewables

+ EE
“reflects the degree of emission limitation achievable through the application of the best system of emission reduction ...”
“reflects the degree of emission limitation achievable through the application of the best system of emission reduction ...”

Decision Points Affecting Wind Generation

• Rate or mass?
• Markets?
• State or multistate?
CPP Challenge

• Meet state emissions target
• Achieve cost-effective compliance/enhance operator flexibility
• Reduce administrative complexity
  – Recognize barriers to formal multistate collaboration
• Maintain traditional roles of environmental agencies, PUCs, and energy offices
• Recognize political barriers
Present Value of Cost Change thru 2030
Rate vs Mass, Regional vs State

Note: EE savings already included in Baseline used
Common elements

• Benefits of interstate emissions credit trading w/o formal multistate plan

• Basic Requirements:
  – Common definition tradable unit
    • Individual state plan
  – Allow EGUs to use tradable compliance instrument
  – Tracking system to ensure no double counting
RECs Example

• Separate state laws define RECs, tracking systems
  – NC, MO, KS → NC RETS, North American Registry

Existing registries/tracking systems for carbon credits, carbon offsets, EE credits

EGUs, States and EPA experience with allowance tracking under Title IV, CAIR, CSAPR

Note: Under proposal cannot trade RECs
Thank you
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Common Elements Policy Brief

Webinar Southeast CPP Modeling
http://nicholasinstitute.duke.edu/content/webinar-impacts-clean-power-plan-compliance-choices-southeastern-united-states#.VS0katzF_14