Carbon Markets and the Clean Power Plan

Chance for a real market?

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EPRI-IEA Future of GHG Trading in North America
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Disclaimer

• Speaking for myself – not Duke Energy
• In some instances numbers are approximations and some data is old.
• Translating from other’s work to put forward the generalized views.
• Before citing anything – go to original sources.
What is Duke Energy?

- Serve 22 million people
- 57,700 MW in US
- 4,900 MW in Latin America
- 29,250 employees
- $100 B of assets
Duke Energy Renewables

**Wind**
- Business model: develop/acquire, build, own and operate utility-scale wind power facilities throughout the U.S.
- 19 operating facilities totaling 1,627 MW

**Solar**
- Business model: develop/acquire, build, own and operate solar projects throughout the U.S.
  - Primary focus on utility-scale PV projects
  - Also distributed-scale projects through INDU Solar Holdings joint venture with Integrys Energy Services
- 32 operating facilities totaling 189 MWac (net)
And lots of Energy Efficiency
Challenges

• State regulators’ understanding of markets
• Mass based = emissions trading
• Rate base = trading of Reduction Credits
• Cap and Trade hangover – political casualty
  – Budget and Trade
  – Emissions Trading
• Linking mass and rate looks impossible (EPA discourages)
• Legal Challenges
• Trading great – however ...
  – “winners and losers” language
  – “wealth transfer”
• Extent of California or RGGI influence
  – California – trust market or policies?
  – RGGI understanding re how markets incentivize (auction/subsidy)
Re Winners and Losers

• Modeling underway
  • Some States may be nearly compliant

Implications for trading with States with more stringent targets
Assumption: CO2 price increases = loser

CO2 Price goes up … money flows in?
• Electricity price increases, non-energy employment less than otherwise
• More capital investment in your territory
• More employment in energy
• More tax base from energy

CO2 Price goes down … money flows out?
• Electricity price -> less increase, less change in employment in non-energy sector
• Less Capital investment in energy
• Less employment (in energy sector)
• Less tax base (in energy sector)

What happens to power flows and fuel purchases?