

Climate Change Strategy and Legislation



Mountaineer Plant - New Haven, WV



Northeastern Plant - Oologah, OK

Bruce Braine

Vice President - Strategic Policy Analysis

March 12, 2008

Company Overview



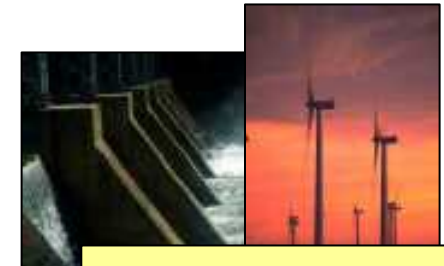
Coal/Lignite
67%



Nat. Gas/Oil
24%

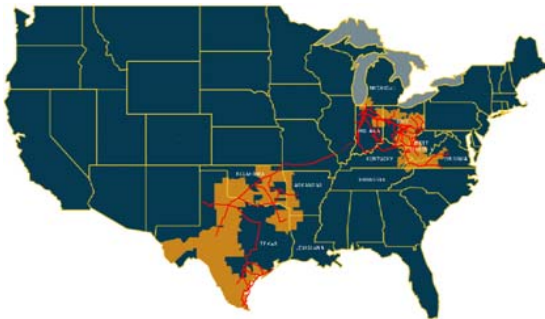


Nuclear
6%



**Pumped Storage/
Hydro/Wind**
3%

AEP's Generation Fleet
38,388 MW Capacity



5.1 million customers in 11 states
Industry-leading size and scale of assets:

<u>Asset</u>	<u>Size</u>	<u>Industry Rank</u>
Domestic Generation	~ 38,300 MW	# 2
Transmission	~ 39,000 miles	# 1
Distribution	~ 208,000 miles	# 1

AEP's Climate Strategy



Clean Energy for a Secure Future



GLOBAL ROUNDTABLE
ON CLIMATE CHANGE



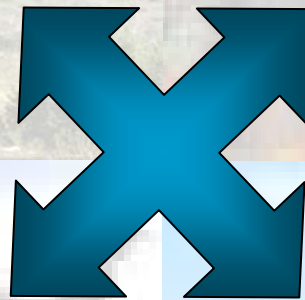
- **Being proactive and engaged in the development of climate policy**
 - IETA, EPRI, Pew Center, GROCC, WBCSD
 - **Supports Reasonable Cap-and Trade Legislation- Bingaman-Spector**
- **Investing in science/technology R&D**
 - FutureGen, US DOE, EPRI, MIT, B&W
- **Taking voluntary, proactive action now, making real reductions and setting policy precedents thru CCX**
 - Chicago Climate Exchange (CCX), EPA Climate Leaders
 - Asia-Pacific Partnership, Business Roundtable, Numerous forestry activities
- **Investing in longer term technology solutions--new generation and carbon capture and storage (e.g., IGCC, Ultra-supercritical PC)**

AEP must be a leader in addressing climate change

AEP's Long-Term GHG Reduction Portfolio

Renewables (Biomass
Co-firing, Wind)

Supply and Demand
Side Efficiency



Off-System Reductions
and Market Credits
(forestry, methane, etc.)

Commercial Solutions of
New Generation and
Carbon Capture &
Storage Technology

AEP is investing in a portfolio of GHG reduction alternatives

A Portfolio Approach: AEP's Long-Term CO₂ Reduction Commitment

Existing Programs

- Existing plant efficiency improvements
- Renewable Energy
 - 800 MWs of Wind
 - 300 MWs of Hydro
- Domestic Offsets
 - Forestry – 0.35MM tons/yr
 - Over 63MM trees planted through 2006
 - 1.2MM tons of carbon sequestered
- International Offsets
 - Forestry projects have resulted in 1MM tons of carbon sequestered through 2006
- Chicago Climate Exchange

AEP's reductions/offsets of CO₂:

- 2003-2005: 31 MMT
- 2006-2010 (proj.): Additional 15 MMT

New Program Additions (by 2011)

- 1000 MWs of Wind PPAs: 2MM tons/yr
- Domestic Offsets (methane): 2MM tons/yr
- Forestry: Tripling annual investment to increase to 0.5MM tons/yr by 2015
- Fleet Vehicle/Aviation Offsets: 0.2MM tons/yr
- Additional actions--end use and supply efficiency and biomass: 0.3MM tons/yr

New Technology Additions

- New Generation – IGCC and USC
- Commercial solutions for existing fleet
 - Chilled Ammonia
 - Oxy-Coal

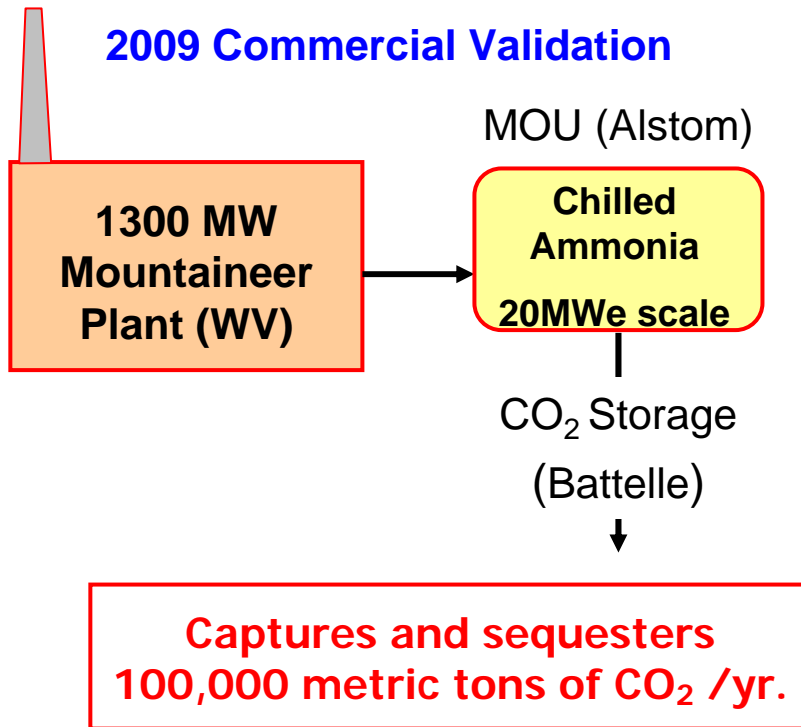
AEP's reductions/offsets of CO₂:

- 2011+: 5 MMT/YEAR
- Longer Term—New Technology

AEP Leadership in New Technology: Chilled Ammonia CCS

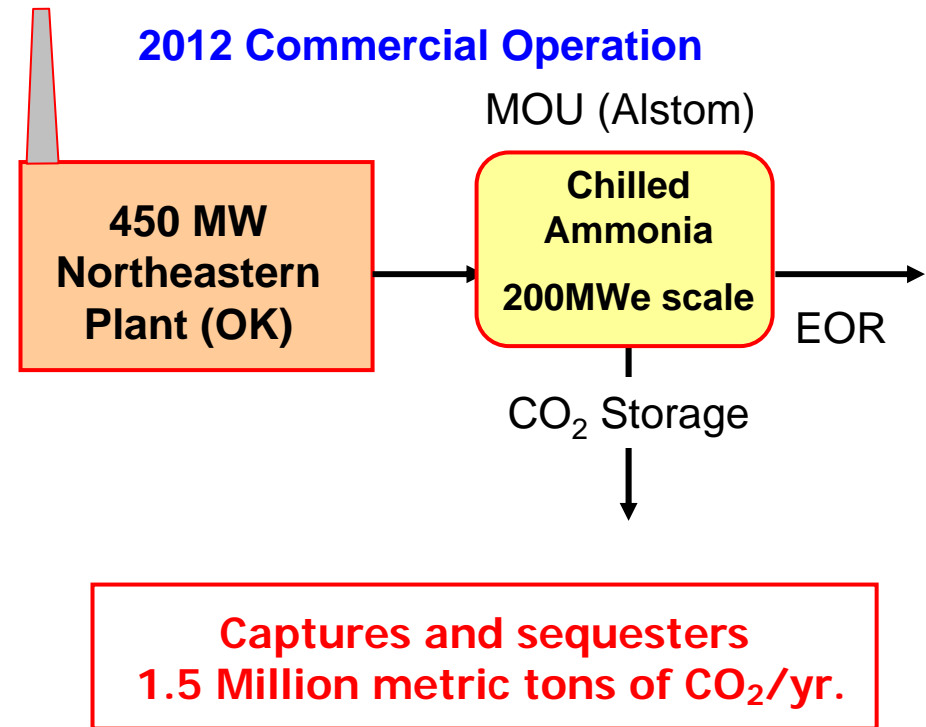
Phase 1

2009 Commercial Validation

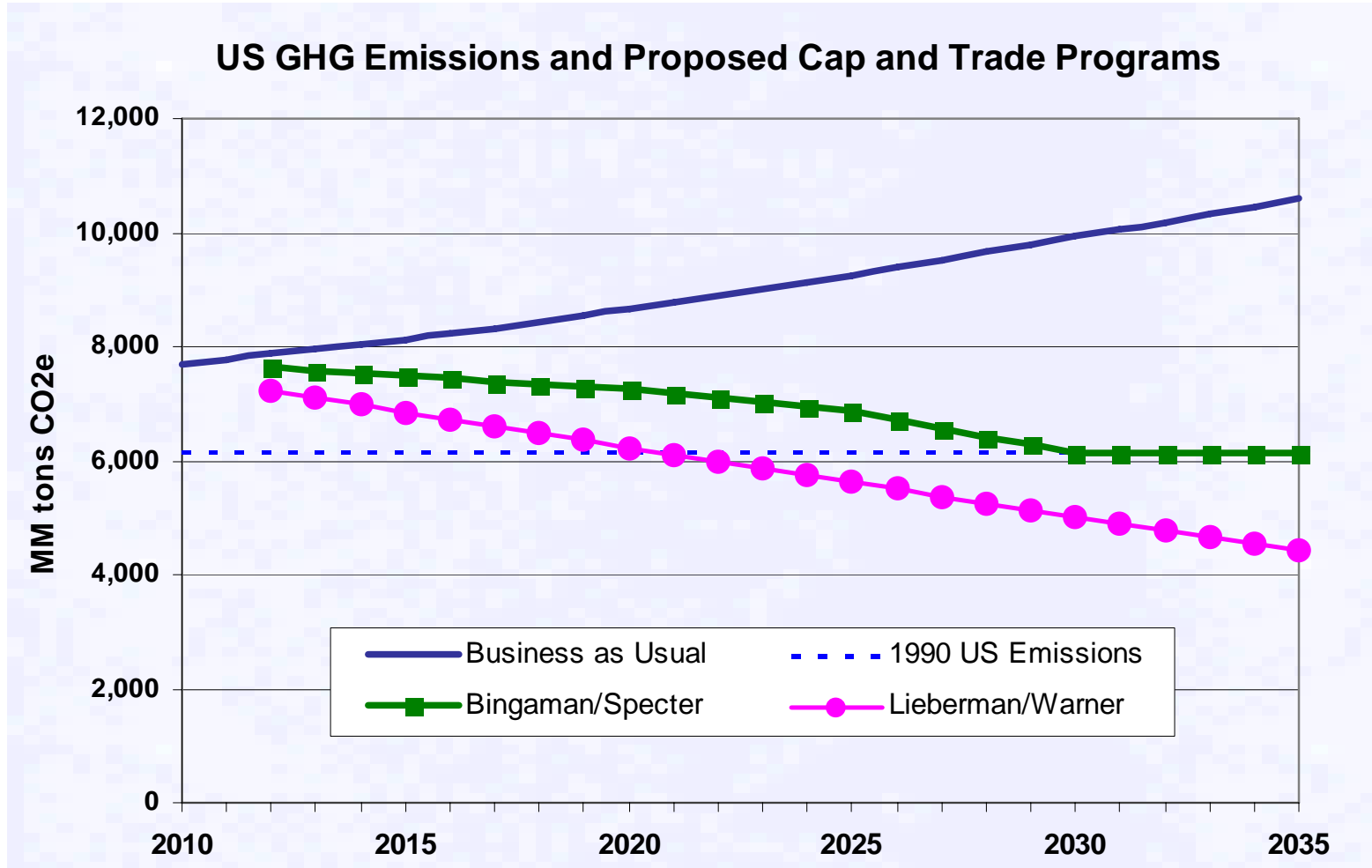


Phase 2

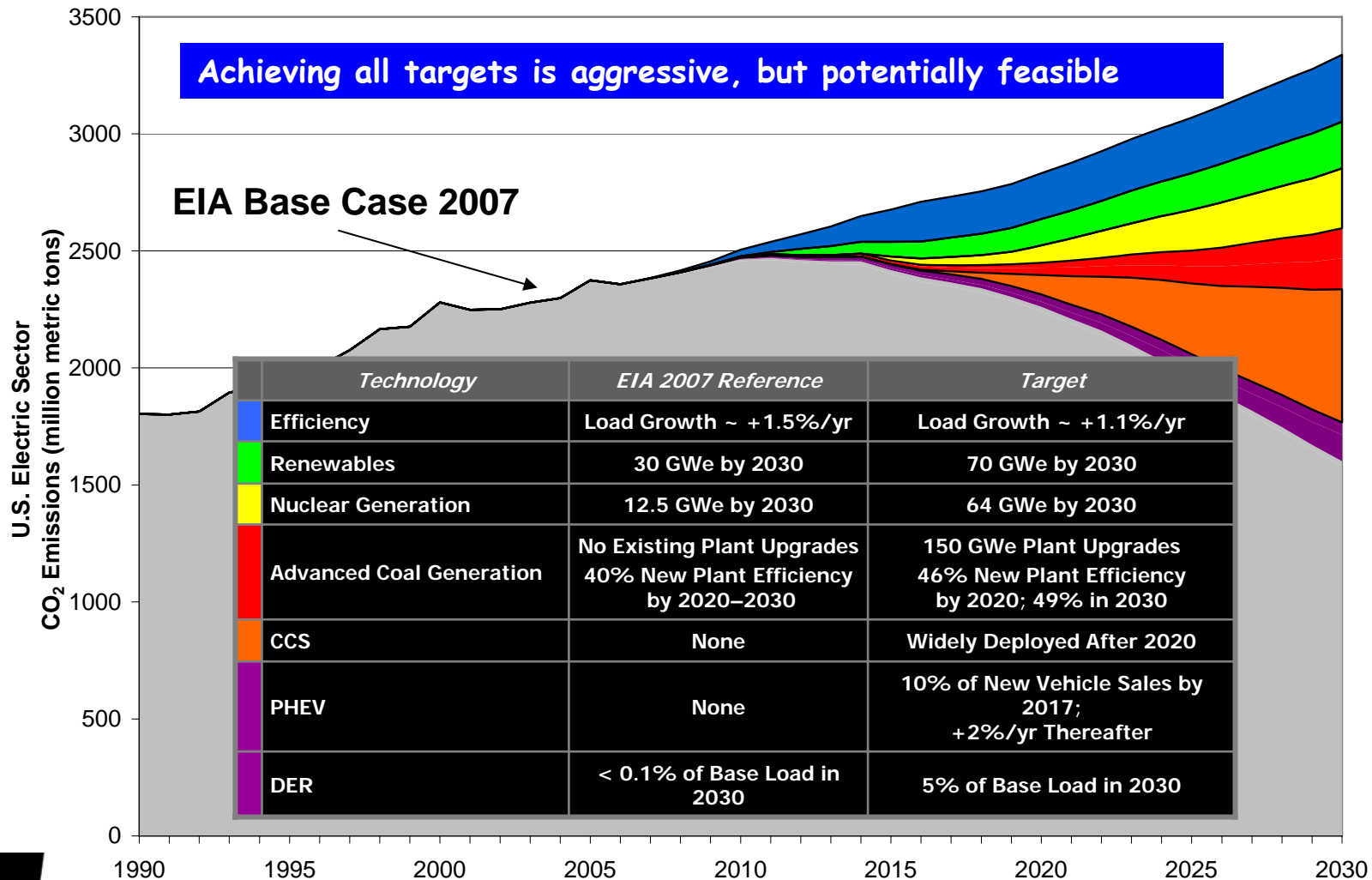
2012 Commercial Operation



Emission Reductions Under Selected Bills



EPRI CO₂ Reduction “Prism”

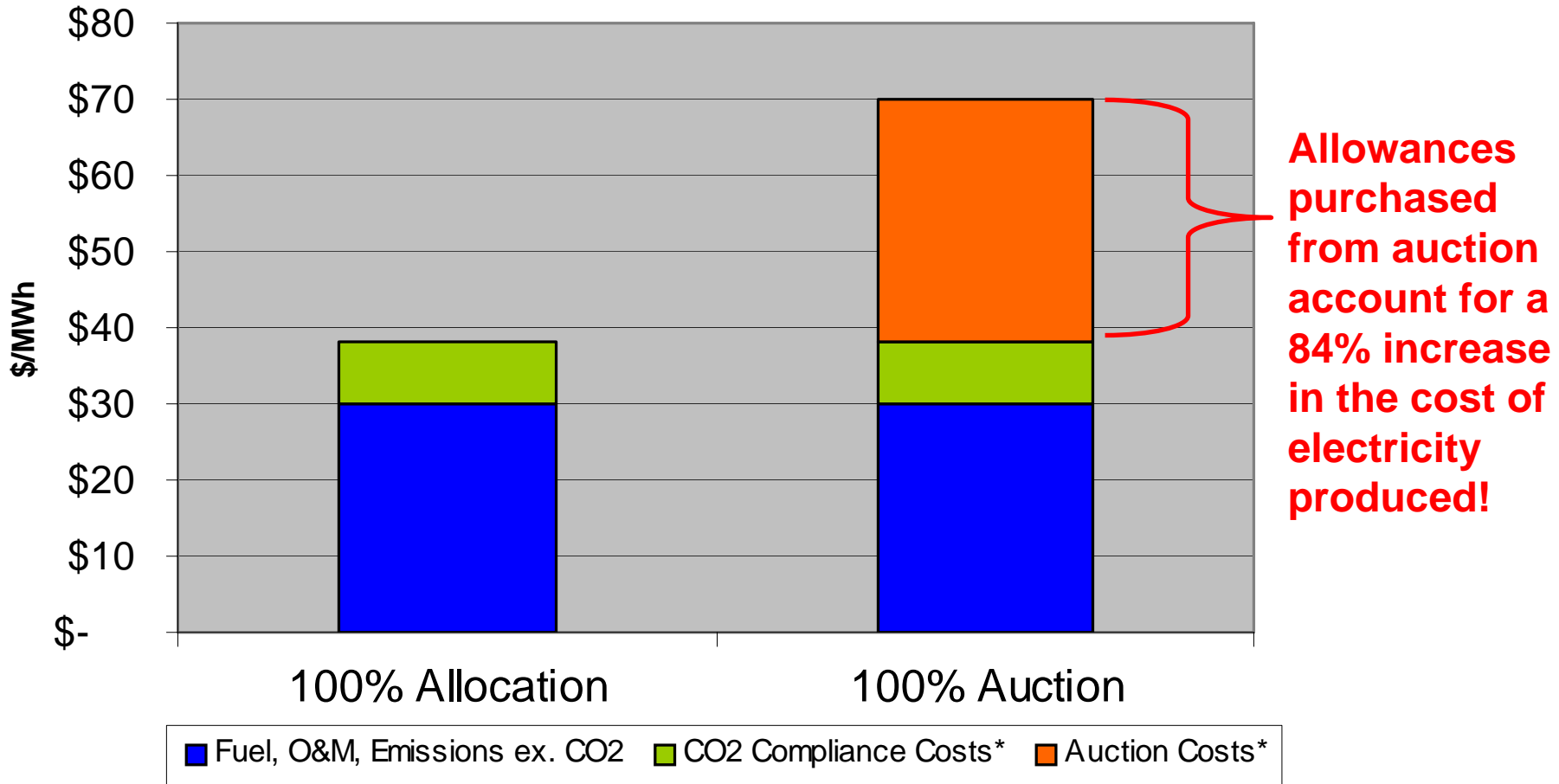


AEP Position: A “Reasonable” Approach to Climate Legislation

- Reductions and Timing--Moderate with Adequate Lead Times
- Scope of Program-- Economy Wide
- Flexibility of the Program—Trading, Banking, Unrestricted Offsets, Early Action Credits
- Allowance Allocation And Other Cost Issues—“Low” auctions and safety valve
- Technology Development/Deployment—Bonus allowances for carbon capture and storage
- International Provisions—e.g. AEP-IBEW Proposal

AEP Supports Reasonable Legislation on GHG: Bingaman-Specter “Low Carbon Economy Act of 2007”

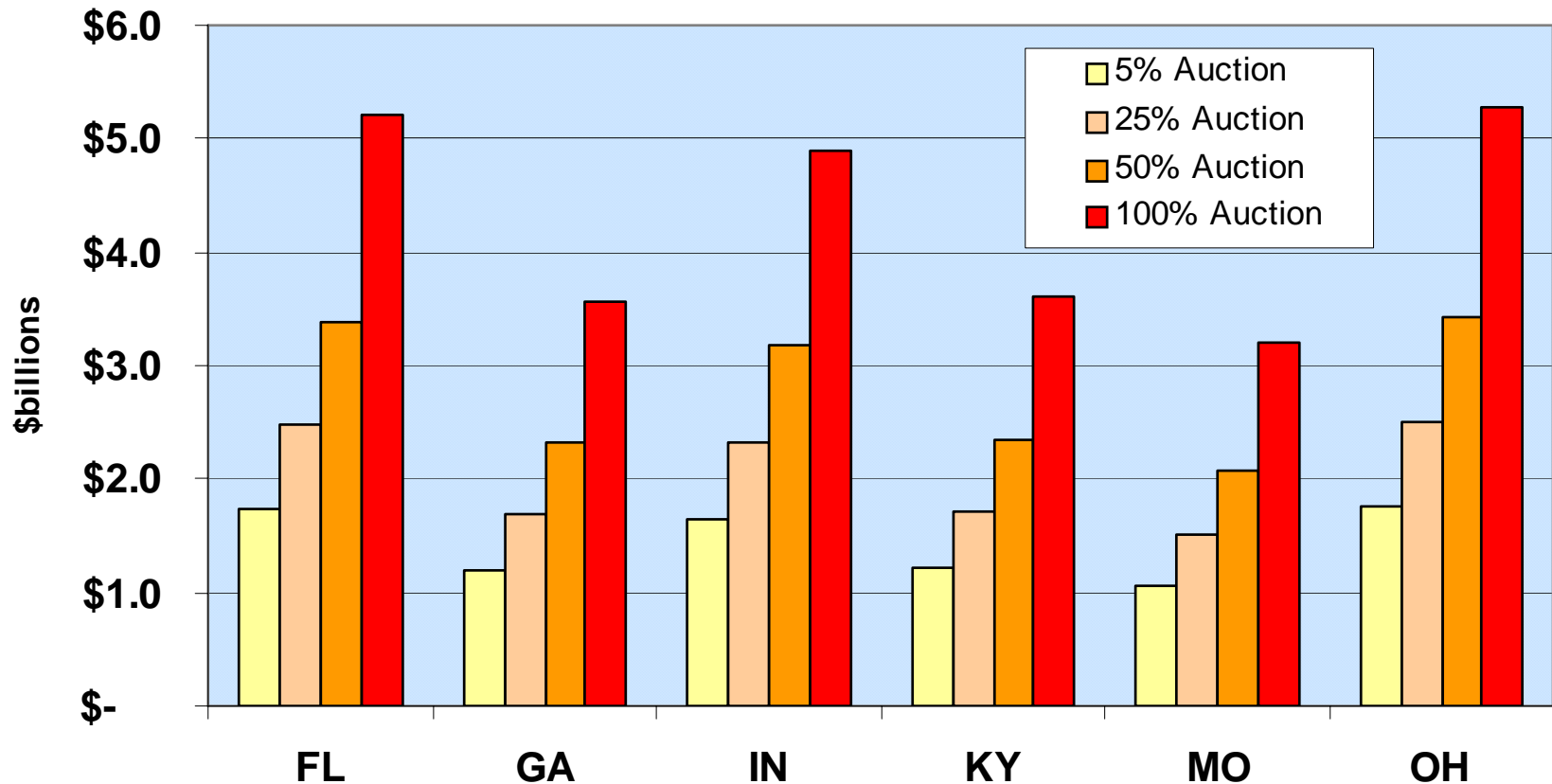
Cost of Electricity from a Typical Regulated Coal-Fired Generating Unit



*Approximate Calculation based on a 30% reduction in electric sector GHG emissions with CO_{2e} reductions/allowances costing \$40/ton

Increase in Customer Electricity Costs/Rates due to Auctions

Annual Increase in Electricity Costs (in Billions of Dollars)



Approximate Calculation based on a 30% reduction in electric sector GHG emissions with CO_{2e} reductions/allowances costing \$40/ton