Allowance Price Containment

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Root of the Issue

Goal	Instrument(s)	Advantages	Risks	Address risk
Price certainty	Tax	Guaranteed price	Undermine emissions target	Re-evaluate or re-set emission targets?
Emissions certainty	Cap and trade with firm cap	Guaranteed long-term emissions target	Price/Cost uncertainty	Flexibility: Banking, borrowing, and offsets Intervention (price ceiling, price floor, allowance reserve)

Cap-and-Trade: Price Uncertainty Implications

- Policymakers: A rational decision (ex ante)
  - "Trusted" economists estimate the allowance prices and economic impacts in advance
  - Congress chooses target/options with highest expected efficiency (or with "acceptable" cost)
  - Program is implemented
- Problem (ex post)
  - Even "trusted" estimates are likely to be off once program takes off
    - Mean/trend
    - Un-modeled fluctuations
- Adaptive measures needed?

NO_x OTC Current Vintage Price

Source: Presentation, Billy Pizer RFF

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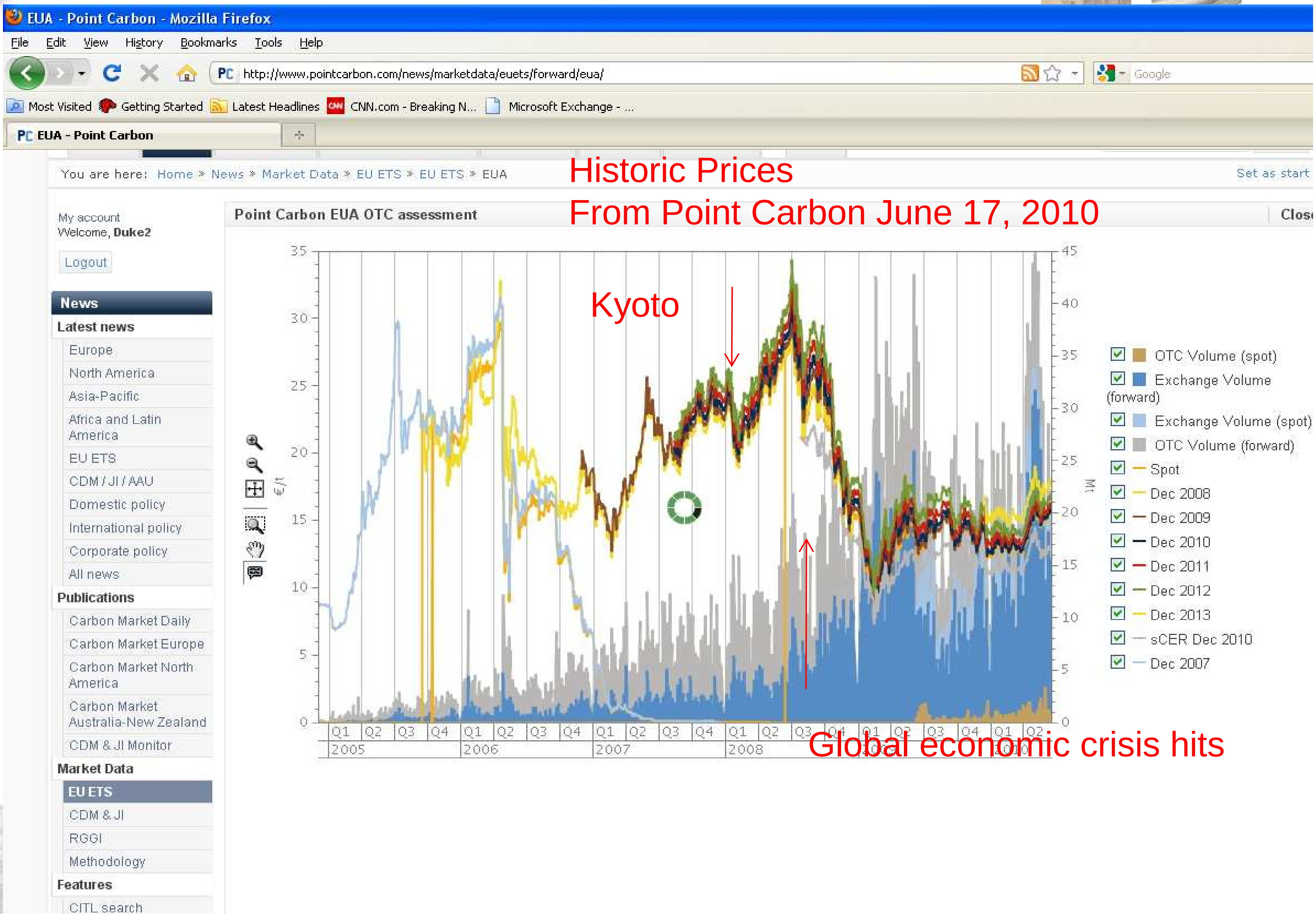
Duke University



Why do allowance prices vary?

- Fundamentals
  - Allowance demand uncertainty
    - Economic growth
    - Pace and cost of low carbon technology
  - Supply uncertainty
    - Offsets
  - Policy shifts
- Fluctuations
  - Weather
  - Macroeconomic factors (growth, exchange rates,…)
  - Energy markets
- Hedging/speculation ?

Goldilocks Paradox

- Don’t want prices “too high”
  - Excessive cost burden on households and businesses
  - Trade flow disruption
- Don’t want prices “too low”
  - May not generate sufficient investment
  - Foregone cheap reductions
- Want it “just right”

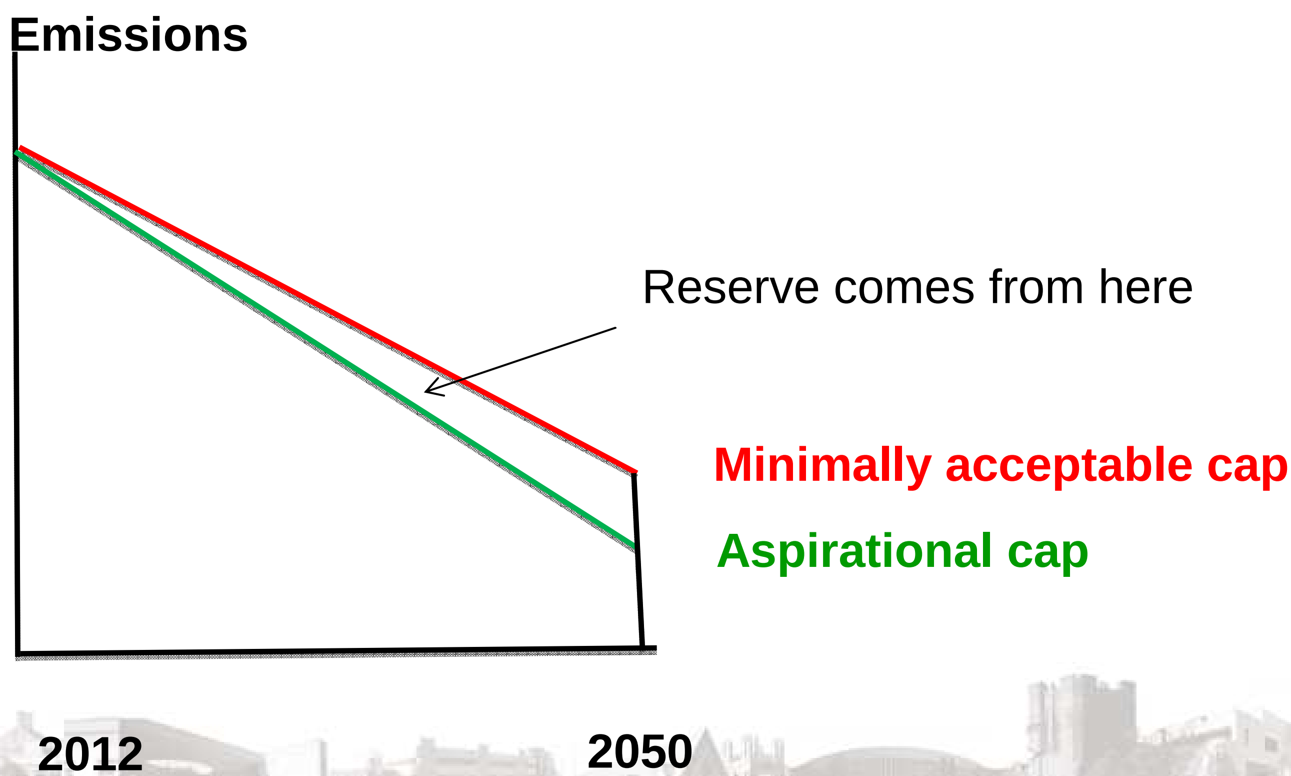
"Getting it Right" options

- Rein in high prices
  - Safety valve: hard price ceiling
  - Allowance Reserve Auctions: flexible price ceiling
- Prop-up low prices
  - Hard price floor
- Price "collar" tries to do both

Waxman-Markey: Flexible collar

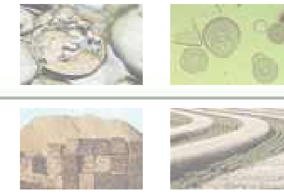
- Hard price floor
  - Regular auction will set a reservation price of at $10
    - Government will not sell allowances for less than this
  - Rising at 5% per year
- Flexible price limit: Strategic reserve
  - Initial: ~ 2.5 billion tons set aside within long-term cap
  - Cost containment auction at a“reserve” price
    - 2012: $28, Rising at 5% (double the projected price)
    - 2015 -> 36 month rolling average of market price
  - Annual limits on use (5%, 10% of cap)
  - Replenishable with international offsets (REDD),…
  - Flexible? Price not absolutely guaranteed

A View of the Waxman/Markey Reserve



Kerry/Lieberman: Discount Window

- Hard price floor
  - Regular auction will set a reservation price of at $12
  - Rising at 3% per year
- Discount Window to access strategic reserve
  - Initial: 4 billion tons set aside within long-term cap
  - Right to purchase up to 15% of compliance at set price
    - 2012: $25, Rising at 5%
  - Replenishable with government purchased offsets, 80% ratio
  - No banking when access window
  - No sales of allowances within 90 days of window purchase



Refinement options

- Reserve Modifications
  - Size of reserve
  - Reserve price points
    - Change initial reserve price
    - Drop rolling average approach
  - Move decisions to discretionary board
  - Triggered by something else other than a price spike.