The EPA and Carbon:

From Cap and Trade to Notice and Comment

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I. Where are we…
(and how did we get here?)

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Where Are We?

- Carbon cap and trade is dead (legislatively)
- So is US climate policy on indefinite hold?

- What does this mean? EPA regulation under the Clean Air Act.

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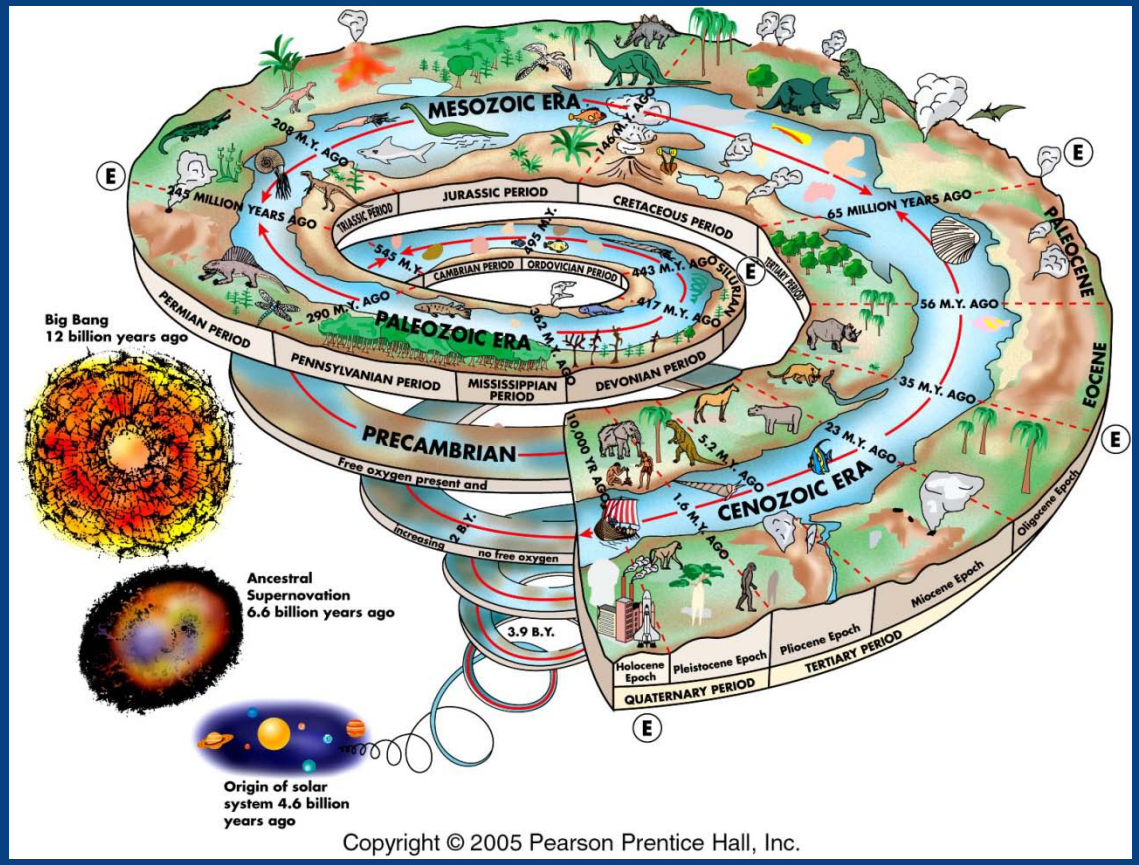
Where Are We?

- Is this an EPA power grab?
  - No – the CAA has been around a long time…



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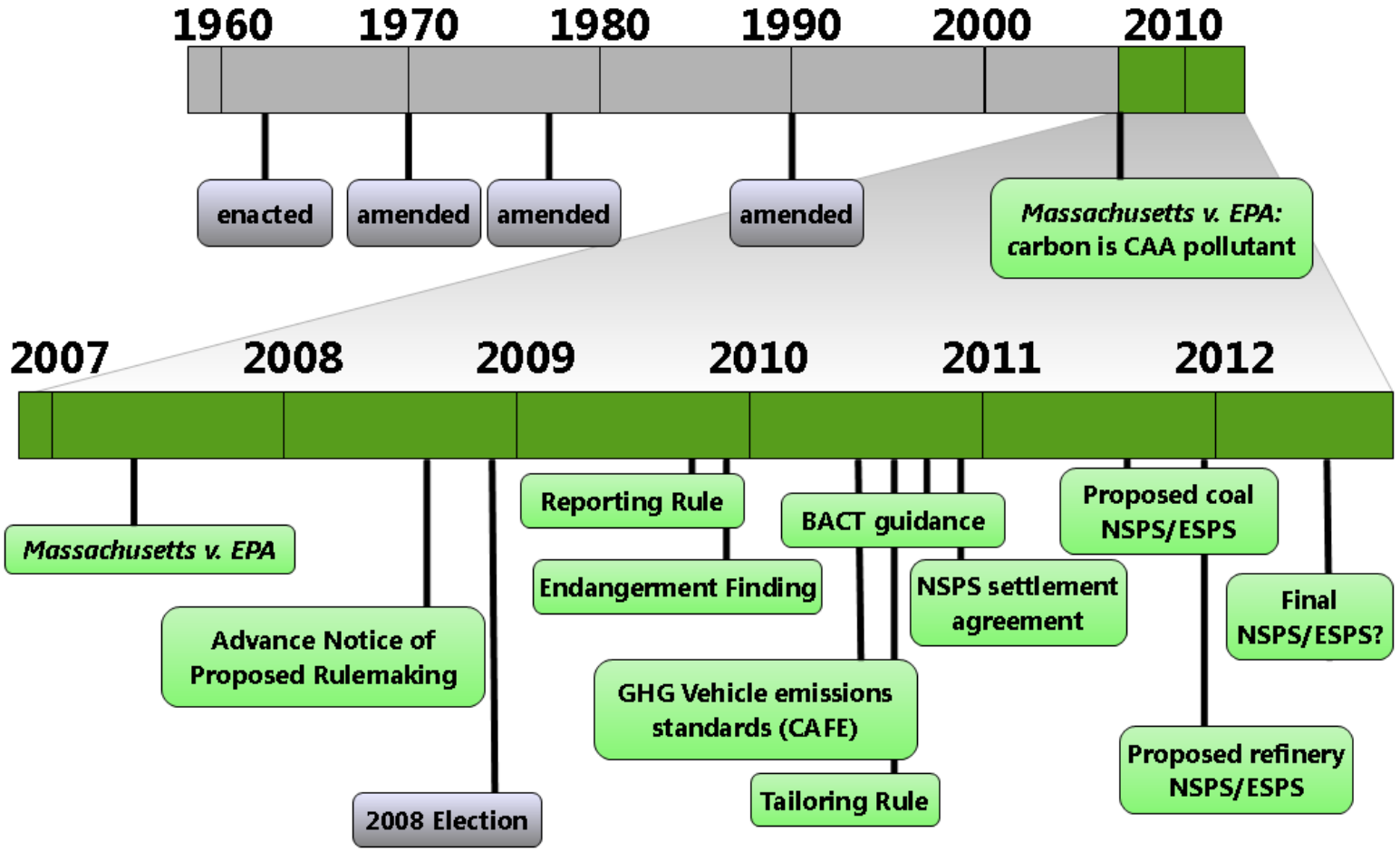
Carbon and the Clean Air Act



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How did We Get Here?

- EPA pathway is prominent now for three reasons:
  1) M*assachusetts v. EPA* confirms EPA powers
  2) Obama administration uses these powers
  3) Congress fails to act
     - Most important reason
     - What Congress has given, it can take away

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II. What Do We Know?

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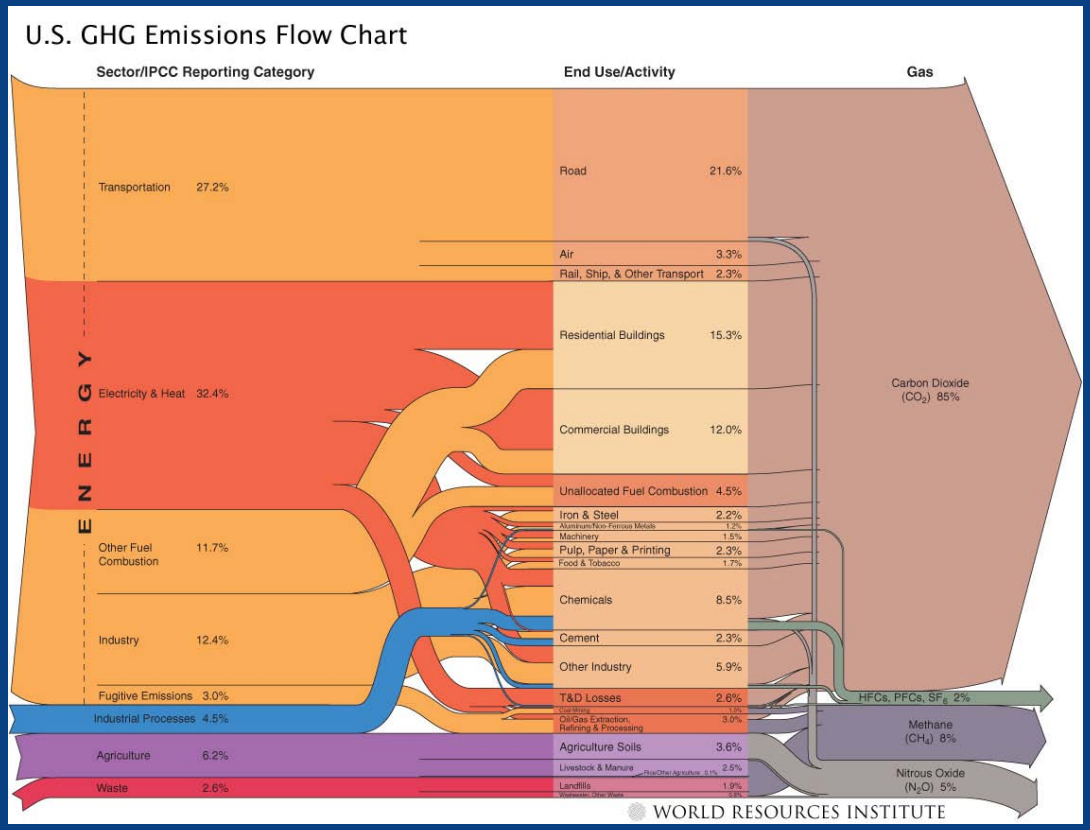
Step 1: Reporting

- 2009 EPA rule requires emitters of over 25,000 $MtCO_2e$/year to report



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Step 2: Endangerment Finding

- Scientific inquiry: do GHGs harm health/welfare?
- Allows *and requires* EPA to regulate carbon
  - 2007-2008: Bush EPA prepares, but delays

  - December 2009: Obama EPA issues

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Clean Air Act Tools for GHGs

Mobile Sources

I

- Fuel economy standards (CAFE)

Stationary Sources

Permitting

II

- New Source Review (NSR)
- Title V

Standards

III

- Performance standards (§111)
- ~~Hazardous pollutant standards (HAP)~~
- ~~Air quality standards (NAAQS)~~
- ~~Others (§115, Title IV)~~

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Step 3: Cars and Trucks

- May 2010: EPA issues new vehicle emissions standards (CAFE)
  - Among strictest in the world
  - Even stricter after 2016

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Step 4: Stationary Source Permits

- New and modified emitters must use “best available control technology” (BACT)
- Problem: NSR threshold is very low
  - 250 tons/year
- Solution: EPA “Tailoring” rule
  - Large (75,000 $MtCO_2e$/year) emitters do NSR first

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Step 5: Performance Standards

- Apply to new and existing sources
- Sector-by-sector
  - Fossil EGUs first (July 2011 proposal),
  - then refineries (late 2011 proposal)
- Most wide-reaching, important part of EPA program
  - … but there are major open questions

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III. What *Don't* We Know?

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Existing Sources

- Unclear how EPA will regulate existing sources
- Tool will be performance standards, but:
  - Traditional, technology-based standards?
  - Tradable performance standard?
  - Cap-and-trade?
- What sources will be covered?
  - Can they trade with each other?

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Tradable Performance Standard

- 3-part process:
  1) EPA sets pivot point
     - CO_2 or BTU/kWh
  2) EGUs receive credits equal to pivot point (output subsidy)
  3) EGUs trade
     - Efficient EGUs have surplus credits
     - Inefficient EGUs must acquire credits
     - Industry-wide efficiency is pivot point

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CAA Advantages

1) Off-the-shelf tool – don't have to go to Congress

2) Real emissions reductions plausible
   - RFF analysis: up to 10% of US GHG emissions
   - comparable to Waxman-Markey *domestic* reductions if:
     - EPA allows trading
     - Biomass co-firing is assumed to be carbon-neutral

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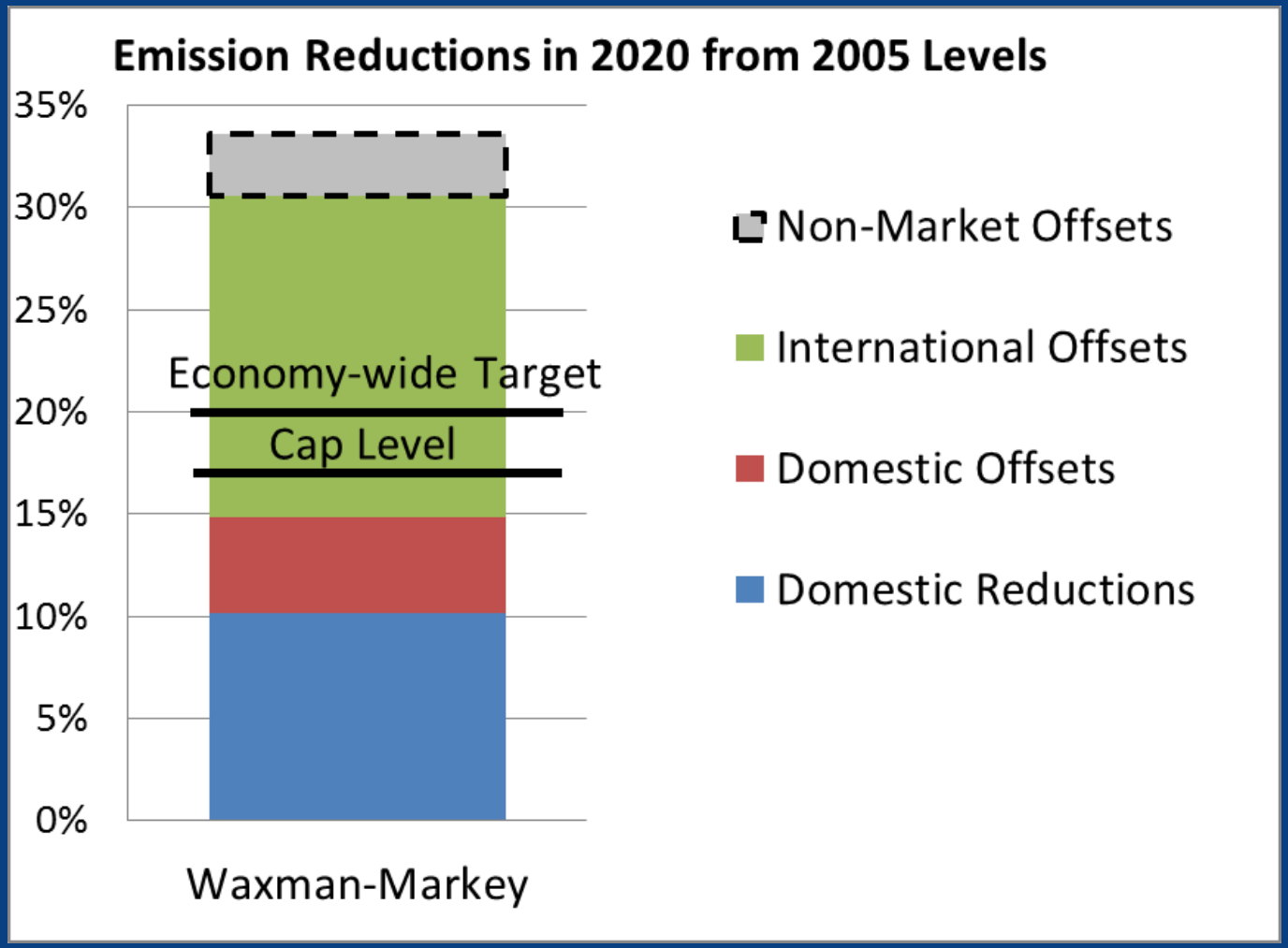
CAA vs. Waxman-Markey



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CAA Disadvantages

- Carbon price more efficient over long term
- Cost-control mechanisms not available
  - Inter-sector trading
  - Trading with uncovered sources
  - Offsets

- Hard to push fuel switching, renewables
- No revenue generation

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CAA Disadvantages

- Few tools to address leakage/ competitiveness
- Legal risks
- Democracy?
- All of these get worse over time . . .

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IV. Challenges

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Congress

- Major opposition in Congress to EPA GHG program
  - But veto certain if anti-EPA bill passes
  - …unless there is a broad carbon compromise?

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States

- Compatibility with existing state programs (RGGI, AB32) is unclear
  - Not fatal to state programs, but may increase costs
  - EPA programs affect incentives to start/join/remain in state programs

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Other EPA Rules

- EPA is working on more than just carbon
  - Upcoming rules affect EGUs

RULE	PROPOSED	FINAL
Transport Rule	July 2, 2010	April 2011
Ozone NAAQS Reconsideration	January 19, 2010	December 2010
Particulate Matter NAAQS	January 2011	October 2011
Air Toxics Maximum Achievable Control Technology (MACT)	March 2011	January 2012
Cooling Water Intake	January 2011	July 2012
Coal Combustion Waste	June 21, 2010	July 2011

- Effect on GHG emissions could exceed that from carbon rules

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IV. Three Conclusions

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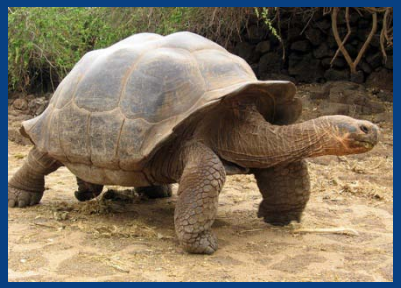
1. Not an EPA Power Grab

- CAA is not an ideal tool for carbon regulation



- But EPA is following the law . . .

- And Congress has not supplied an alternative . . .

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II. Key Features Still Unclear

- Performance standards for existing sources are the key piece of EPA's GHG program
  - But we know almost nothing about them
  - July proposal likely to remain vague
    - trading?
    - Biomass?
    - State equivalency?

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III. CAA is a Viable Option…if

- Capable of achieving real emissions reductions at modest cost
  - *Only* if EPA is both bold and smart
  - And *only* over the short term
- Legislative climate policy – ideally a carbon price – is still needed
  - But EPA can bridge the gap

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Thank you!

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