

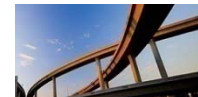
# Economic analysis of climate change legislation in the Southeast

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South Carolina BioEnergy Summit  
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Climate Change Policy Partnership

Duke University



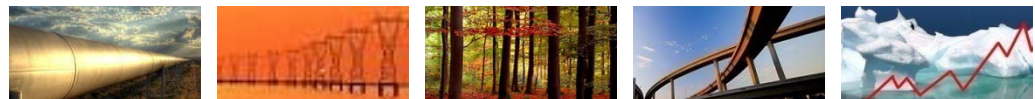
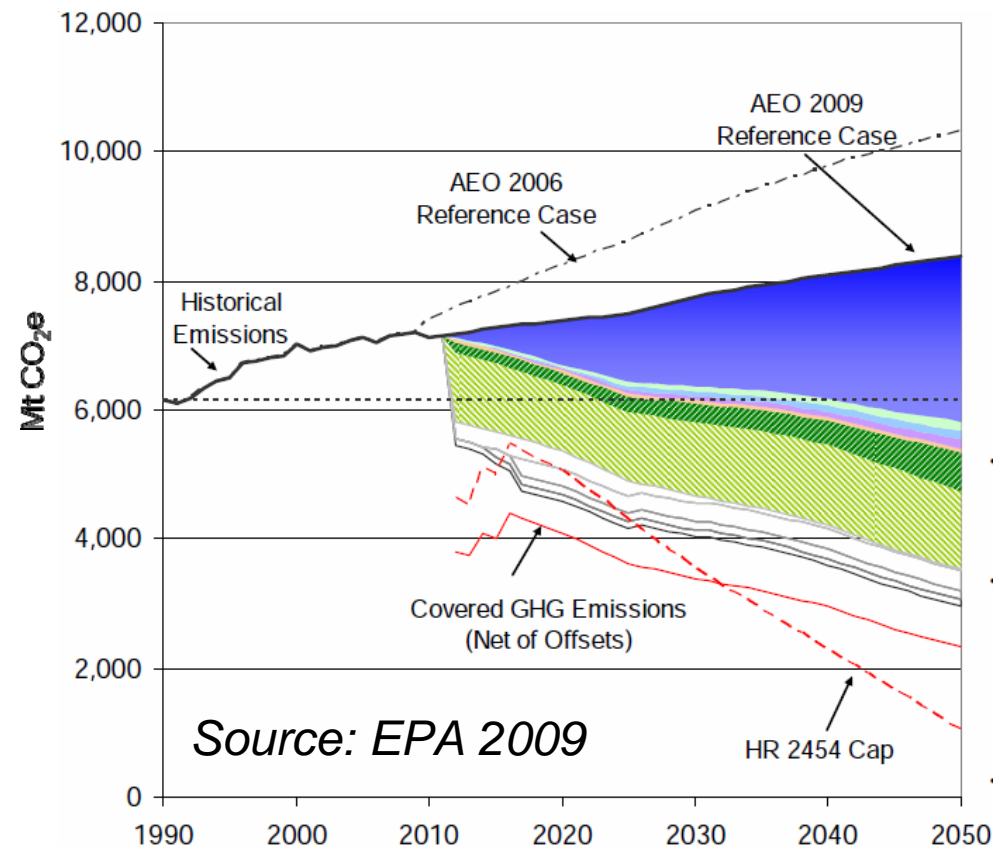
# Overview

- Defining drivers and factors
- Recent examples in Congress
- Regional differences and effects
- Concluding thoughts



# Economic Impact – Defining Factors

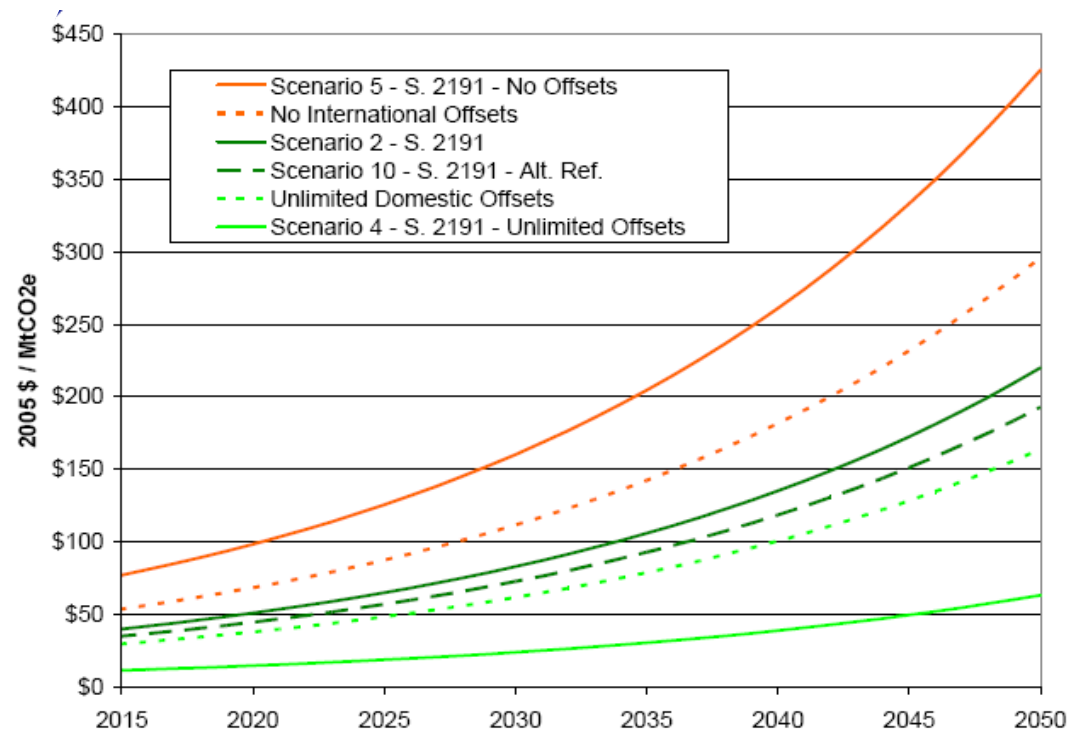
- Emissions Trajectory and Baseline
- Efficiency Programs, Rebates, etc.



# Economic Impact – Defining Factors

- Cost-Containment and Stabilization

- Price Restrictions
- Allowance Supply
- Offsets



Source: EPA 2008



	<b>House Bill (Waxman-Markey) American Clean Energy and Security Act</b>	<b>Proposed Senate Bill (Kerry-Boxer) Clean Energy Jobs and American Power Act</b>
<b>2020 Emissions Target (2005 baseline)</b>	Cuts emissions by 17%	Cuts emissions by 20%
<b>2050 Emissions Target (2005 baseline)</b>	Cuts emissions by 83%	Cuts emissions by 83%
<b>Carbon offsets</b>	2 billion tons per year	2 billion tons per year
<b>International carbon offsets</b>	Capped at 50% of total offsets*	Capped at 25% of total offsets*
<b>Carbon market: Cost stabilization</b>	\$10/ton price floor	\$11/ton price floor
<b>Carbon market: Cost containment</b>	Uses a “strategic reserve pool” to stabilize prices*	Uses a “strategic reserve pool” to stabilize prices*
<b>Trade protection</b>	Employs border tariffs to compensate for international carbon inequities	No mechanism yet to deal with non-carbon constrained economies
<b>Natural gas and nuclear energy</b>	Loan guarantees and clean energy investment funds for nuclear	Includes provisions to promote nuclear energy and natural gas

*Adapted from Chameides 2009*



# The New York Times

## Yes We Can (Pass Climate Change Legislation)

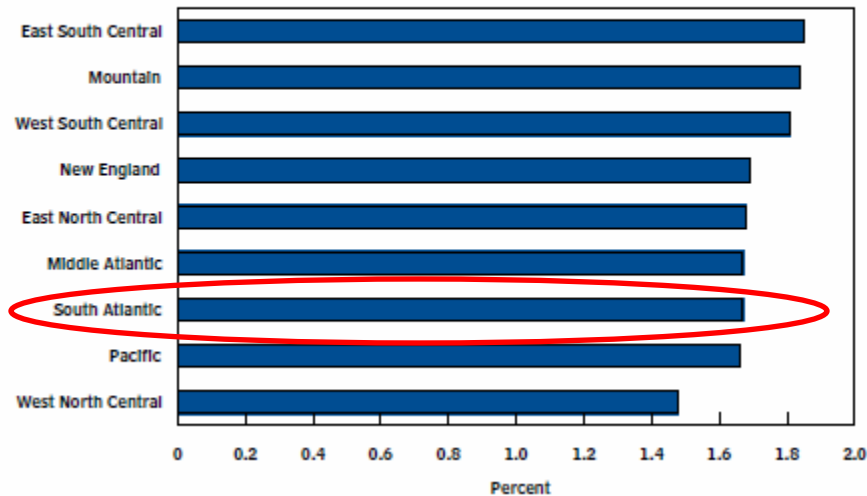
By John Kerry and Lindsey Graham

Published October 10, 2009

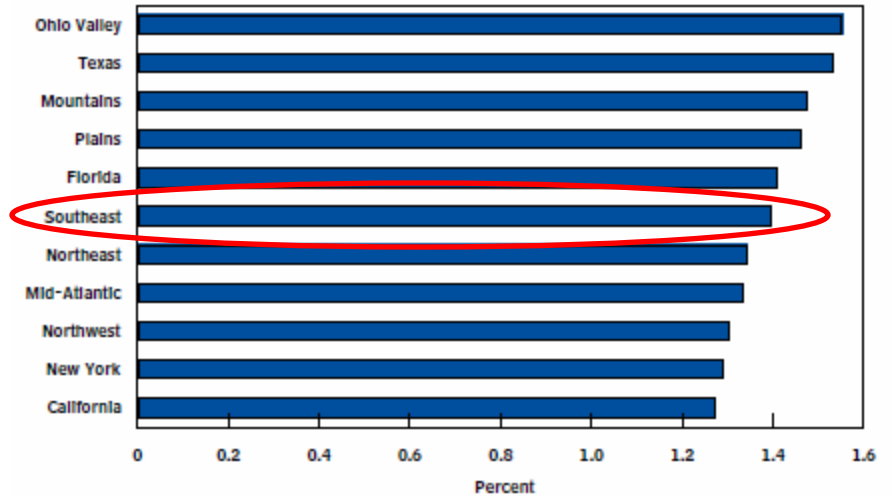


# Regional Effects

**NBER's Estimates of a Cap-and-Trade Program's Average Costs per Household as a Share of Income, by Region**



**RFF's Estimates of a Cap-and-Trade Program's Average Costs per Household as a Share of Income, by Region**



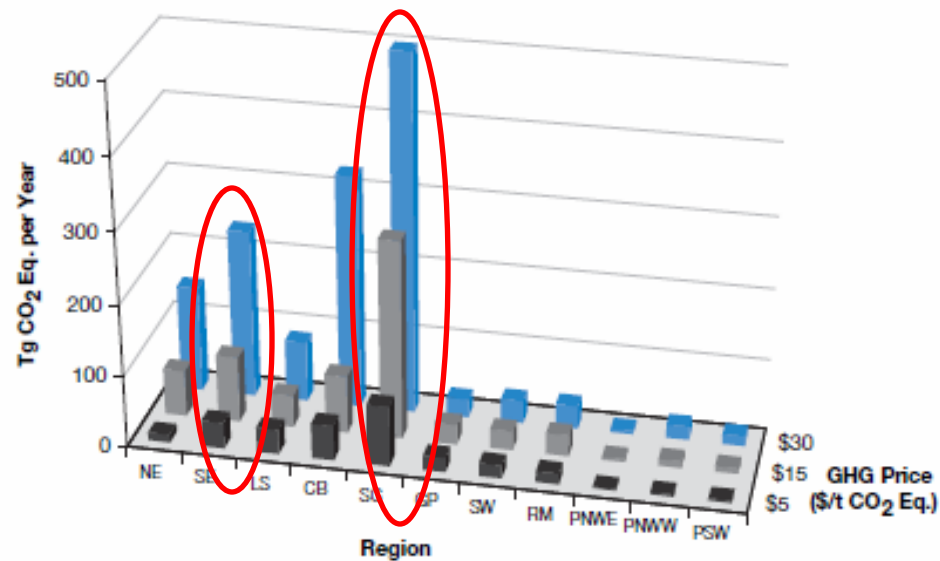
*Source: Elmendorf 2009, citing Hassett et al. 2008 & Burtraw et al. 2009*



# Regional Differences

**Figure 4 11: Total Forest and Agriculture GHG Mitigation by Region**

Quantities are Tg CO<sub>2</sub> Eq. per year net emissions reduction below baseline, annualized over the time period 2010-2110.

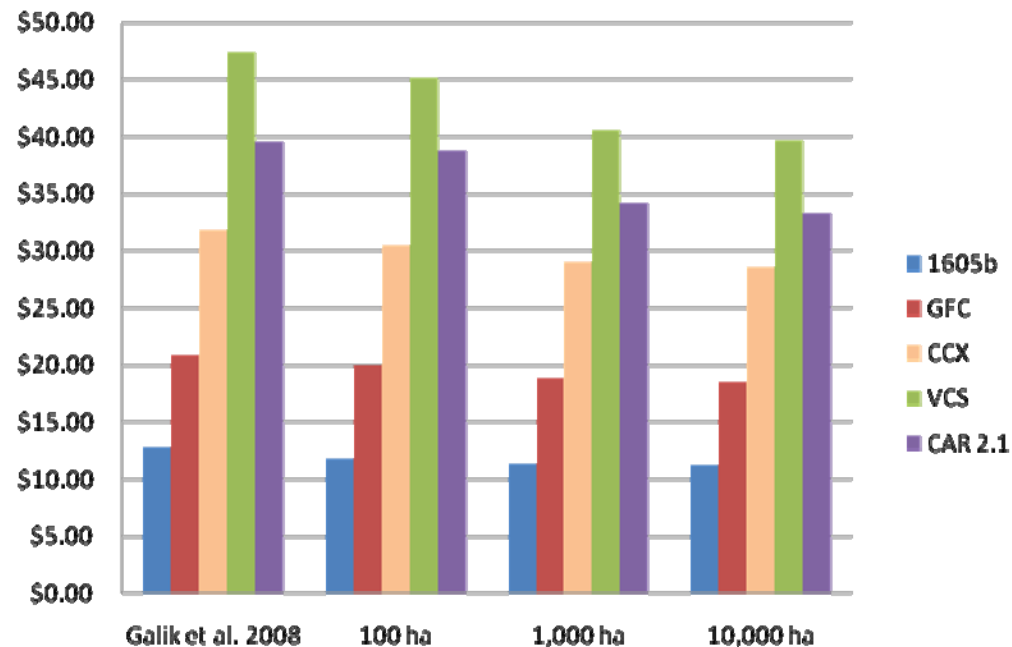


Source: EPA 2005



# The Southeast and Climate Policy: Offset Accounting Example

Break-even carbon price by protocol (\$/metric ton CO<sub>2</sub>e) for a doubling of rotation length (25 to 50 years) in a hypothetical SC loblolly pine stand at the Calhoun Experimental Forest. Results reflect the inclusion of all eligible carbon pools, mean transaction costs, and a discount rate of 5%.



*Adapted from Galik et al. 2009*



# Concluding Thoughts

- Multiple drivers and defining factors
- Distribution is important
- Implementation is important



# Thank you...

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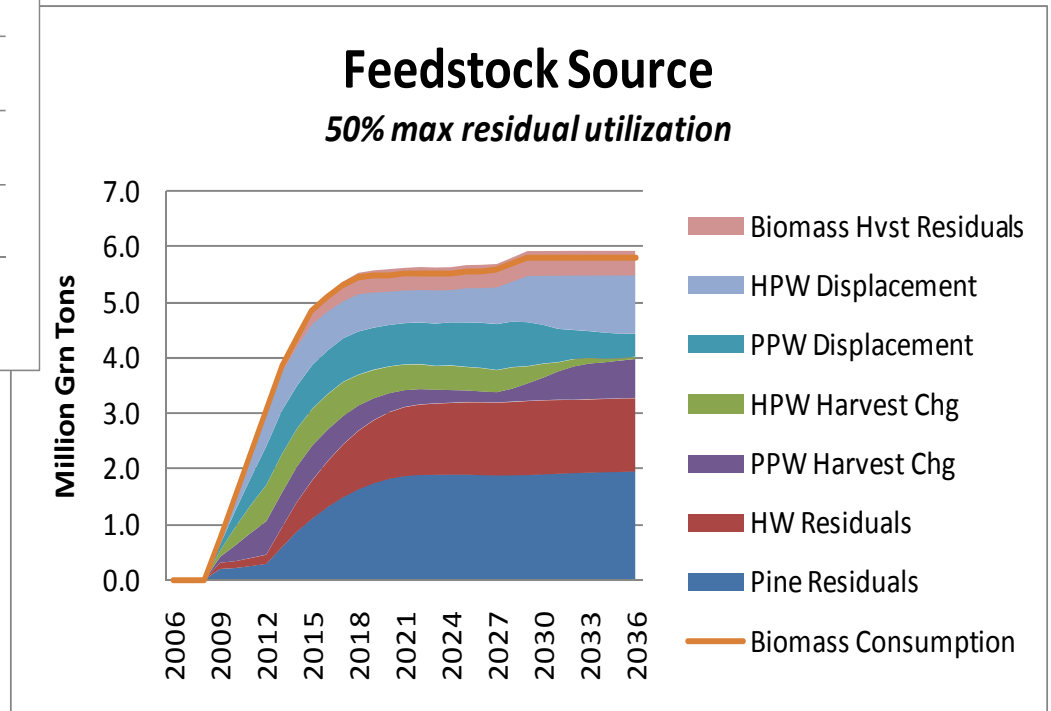
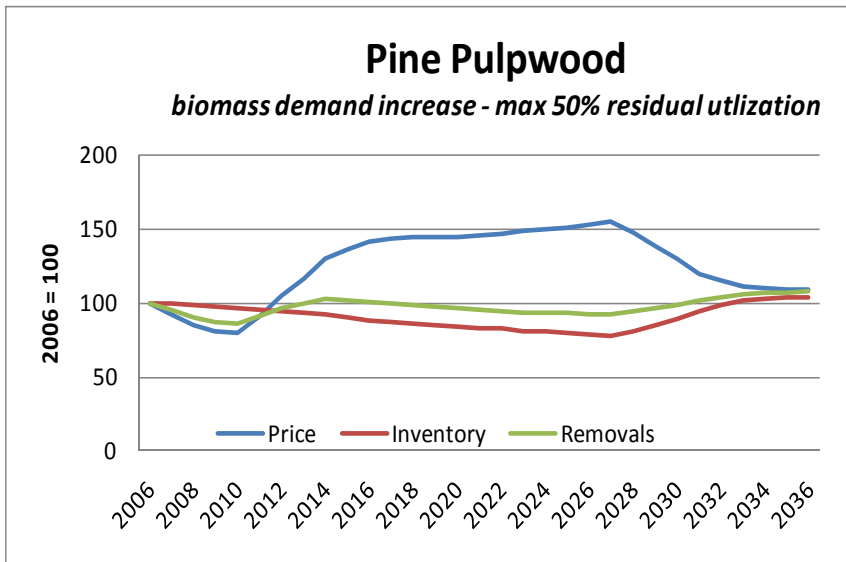
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# Additional Material: NC Cofiring Example



From Abt 2009

