

Forest Carbon Sequestration

Opportunities for Georgia's Forests in a Carbon-Constrained World

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Presentation Outline

- Land-use and Carbon
- Forestry offsets: current opportunities and barriers
- Measuring forest carbon
- Georgia's Carbon Registry Program

Ways to reduce GHG emissions

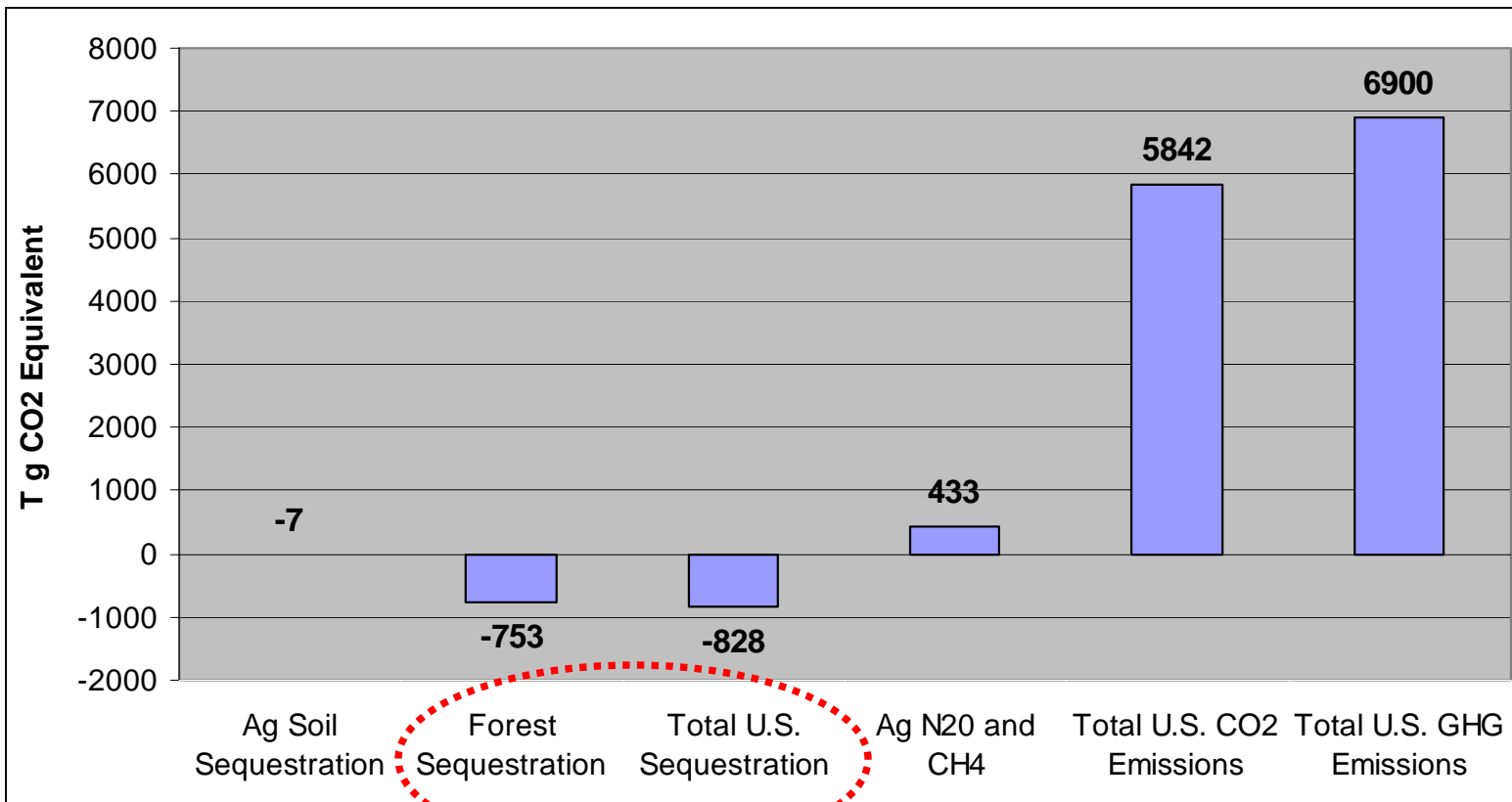
- Point-source reductions through technology
- Shrink carbon footprint
- Purchase emissions allowances from another entity
- Invest in offset projects

Forest C Sequestration In Georgia

- GA timberland offsets ~12.6 million tonnes of CO₂ / yr (FIA)
 - Above ground biomass (excluding foliage) + coarse woody roots
 - Mitigation of about 8% state CO₂ emissions / yr (EPD)
- Nationally, U.S. forests are also a carbon sink
 - Offset 12% of national CO₂ emissions
- Globally, however, deforestation contributes 18% of anthropogenic CO₂ emissions

U.S. Forests are a Carbon Sink

Forestry and Agriculture Net Contributions to GHG Emissions in the United States in 2003
Source: EPA 2005



Forest sector is a carbon sink (offsets ~12% of U.S. GHG admissions)

State Needs:

- Improve returns to forest landowners
- Maintain productive land base
- Encourage sustainable development
- Encourage private land stewardship

Keep Forests in Forests

Incentives that reflect true economic/ecological/social value...

...Is carbon part of the solution?

Circumstances for Success

- Federal GHG Policy and Protocol that recognizes terrestrial offsets as viable and important
- Adequate carbon “credit” price
 - Low transaction costs
 - Market infrastructure
- Incentives for “new” sinks
- Incentives to **maintain existing** sinks
- Technology Diffusion

Land use offsets in existing markets

- Guidelines:
 - Kyoto: forestry offsets are limited, expensive
 - CCX: forestry and ag. offsets eligible, but ambiguous
 - RGGI: afforestation eligible, but rules not formalized
 - 1605(b) most general, most favorable to land use
- “Over the Counter” markets
 - Forestry offsets represents 36% of trades

BOTTOM LINE: Forestry is implicitly recognized, but specific standards vary widely...uncertainty abounds.

It is a Buyer's Market

- For Forestry Offsets, it is more than just the carbon
 - High quality offsets = social, ecological, economic co-benefits of investment.
- Regulatory uncertainty means “quality” drives investment
 - Hence, afforestation is most commonly accepted practice
 - **Additionality** is evident, easily documented
 - **Permanence** addressed through contracts, easements, etc.
- What's lacking?
 - Incentives for maintaining existing carbon stocks in working forests.

Why is Forestry Controversial?

- Lack of confidence in OTC markets
- The art and science of forest management is poorly understood by the majority of the population
- “Permanence” issue
- Forestry interests (in U.S) are not good cheerleaders
 - Skepticism, lack of knowledge
- Opportunity Costs

Measuring Forest Carbon

- Carbon Pools
 - Above ground living biomass (wood)
 - Below ground living biomass (roots)
 - Soil
 - Dead biomass
- Baseline establishment
 - Business as Usual
 - Base-year approach

What about Forest Products???

- Until recently, forest products have not been recognized in offset accounting
- Why?
 - Carbon markets are a work in progress
 - Perceived inefficacy of working forests to generate offsets
 - Accounting complexities...who gets credit?
- Recognition of forest products is vital to proper accounting of forest offset projects

1605(b) Federal GHG Registry

- Series of protocols developed for carbon in forest products:
 - 100 year method: Carbon “credit” is amount of carbon remaining 100 years after harvest.
 - Current year method: carbon “credit” is tracked every year.
- Allocation of carbon from trees to end use products and carbon disposition over time
 - Industrial roundwood harvest approach
 - Primary wood products approach

Chicago Climate Exchange

- Managed forests are able to credit forest products harvested from enrolled lands
- “Credits” remain with project owner.
- Used as a buffer against harvest activities (i.e. decrease in carbon stocks)
- 100-year carbon storage coefficients used.
- Products in landfill are not counted

Georgia's Carbon Registry

- Created through state legislation in 2004 (funding in FY 2007)
- Provides official mechanism for documentation and tracking carbon stocks in forest offset projects.
- Protocols designed by GFC and UGA
- Registry data administered by GSCCCA



Georgia Forestry
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Protecting and Conserving Georgia's Forests

Georgia Carbon Sequestration Registry

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About Us

The Georgia Carbon Sequestration Registry is a non-profit program established by [Georgia Senate Bill 356](#) in 2004 and is administered by the Georgia Forestry Commission (GFC) and the Georgia Superior Clerks Cooperative Authority (GSCCCA). The purpose of the Registry is to provide forest landowners, municipalities, and public and private entities with an official mechanism for the development, documentation, and reporting of carbon sequestration projects undertaken in Georgia. Participation in the Registry is completely voluntary.

With the assistance the University of Georgia Warnell School of Forestry and Natural Resources, along with input from public and private stakeholders, the Registry has developed a protocol for estimating and reporting carbon stocks in forests. Similar protocols will be developed for conservation tillage and urban forestry in the future.

If you are interested in registering a project, please review all of the [informational materials](#) and browse the [links](#) found on this website. Feel free to [contact us](#) with any questions or comments.

[Frequently Asked Questions](#) about the Registry.

Some of Our Specific Responsibilities:

Enable the voluntary reporting of carbon sequestration projects undertaken in the state of Georgia in a transparent and uniform format.

Facilitate the emerging market for carbon offsets generated from forestry and agricultural practices in the Southeast.

Promote all environmental markets that recognize the important ecological, social, and economic values of forests and farmland and that fairly compensate landowners for the services their lands provide for all of us.

Generate new economic incentives for Georgia's forest owners and farmers.

Maintain an official record of carbon storage and carbon accumulation for all registered projects.

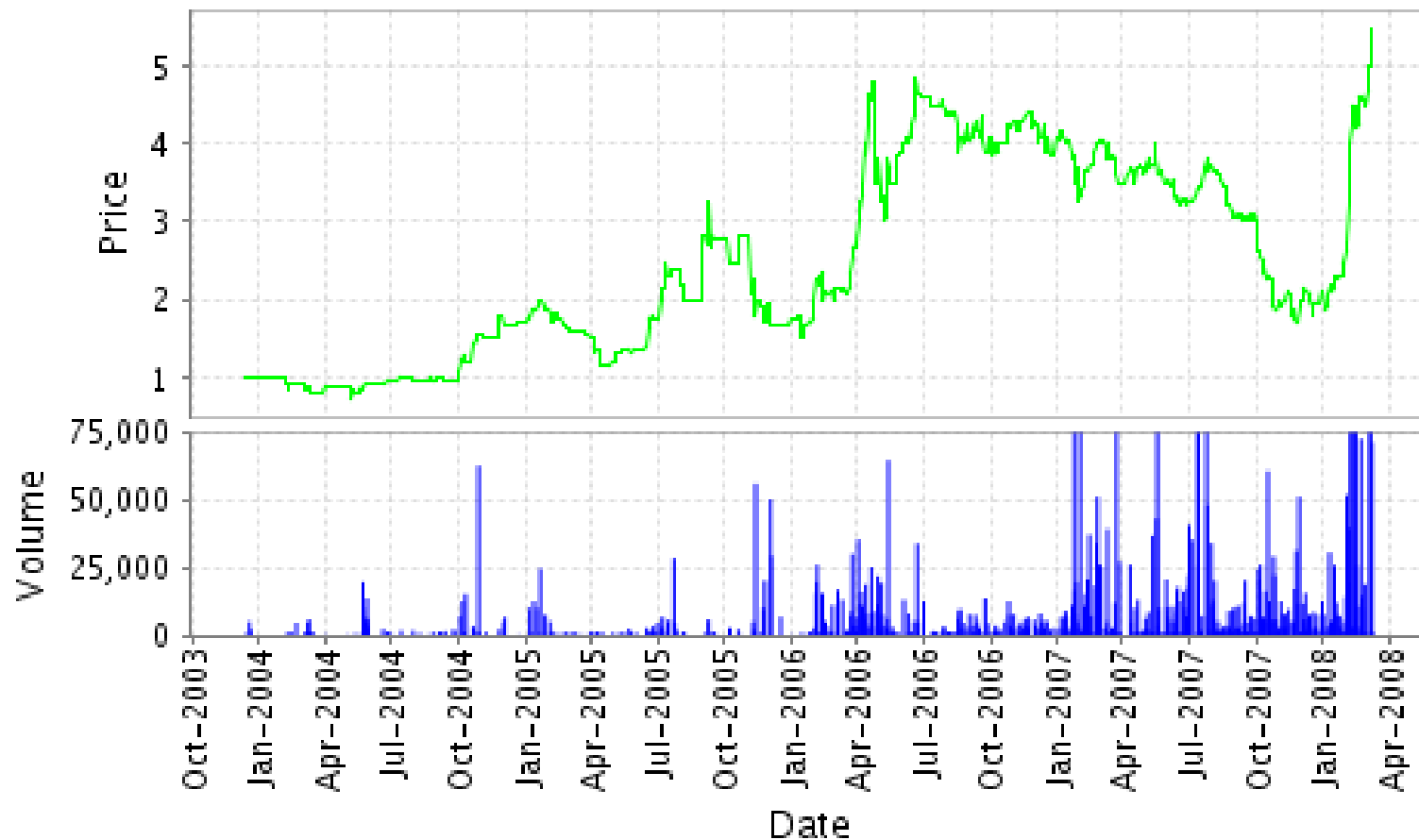


REGISTRY
HOME

UGA Pine Plantation Carbon Measurement

- Default tables utilize field data
- Developed using premium growth and yield models
- Conservative estimates (merch. volume only)
- Hundreds of permutations/scenarios

CCX Carbon Financial Instrument (CFI) Contracts Daily Report



Source: www.thechicagoclimateexchange.com