



Development of a National Carbon Market in the U.S.: Trends and Considerations

Christopher Galik

Carbon Offsets: Growing Trees in a Growing Market

Presented by the ISTF at NCSU

April 25, 2008



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Development of a National Market: Overview

- Political Developments and Trends
- Work by Duke University and Others
- Implementation Issues





Political Developments & Trends: The Senate

- **S.2191** (Lieberman-Warner) - Lieberman-Warner Climate Security Act of 2008

The New York Times

Senate Panel Passes Bill to Limit Greenhouse Gases

By JOHN M. BRODER



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Political Developments & Trends: The House of Representatives

Greenwire

THE LEADER IN ENERGY & ENVIRONMENTAL POLICY NEWS

CLIMATE: Key House Democrats unveil global warming 'principles'

ENVIRONMENT
& ENERGY DAILY

THE BEST WAY TO TRACK CONGRESS

CLIMATE: Dingell shoots for mid-April release of draft cap-and-trade bills



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Political Developments & Trends

SUPREME COURT OF THE UNITED STATES

MASSACHUSETTS ET AL. v. ENVIRONMENTAL
PROTECTION AGENCY ET AL.

Greenwire

THE LEADER IN ENERGY & ENVIRONMENTAL POLICY NEWS

CLIMATE: Prospect of EPA regulations a 'glorious mess' -- Dingell

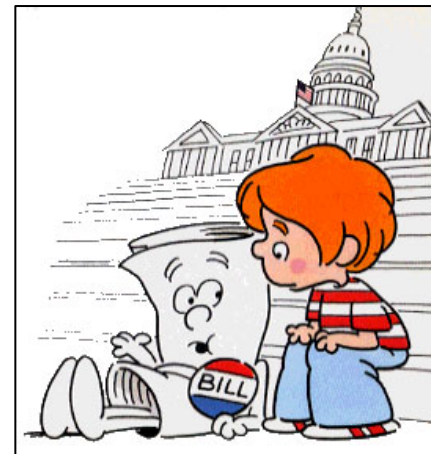
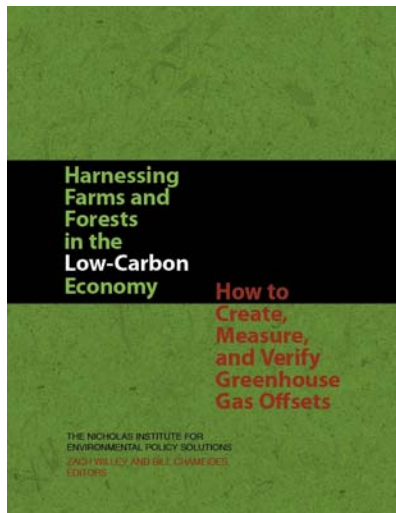


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Policy Development: Harnessing Farms & Forests

- Guidelines developed by independent scientists & other experts





Policy Development: Broader Offsets Policy



DRAFT

Designing Offsets Policy for the U.S.
Principles, Challenges, and Options for Encouraging Domestic and International Emissions Reductions and Sequestration from Uncapped Entities as part of a Federal Cap-and-Trade for Greenhouse Gases

Lydia Clander
With the assistance of Tim Profeta,
Brian Murray, Christopher Galik, and Megan Dawson

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 NICHOLAS INSTITUTE
FOR ENVIRONMENTAL POLICY SOLUTIONS
DUKE UNIVERSITY

www.nicholas.duke.edu/institute





Implementation Issues

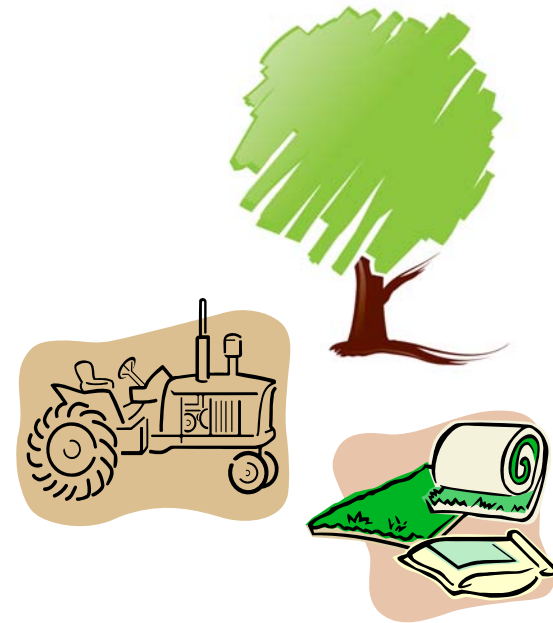
- Eligible Activities
- Size of Allowable Contribution
- Project Accounting
- Allocation and Other Mechanisms
- Early Actors



Implementation Issues: Eligible Activities

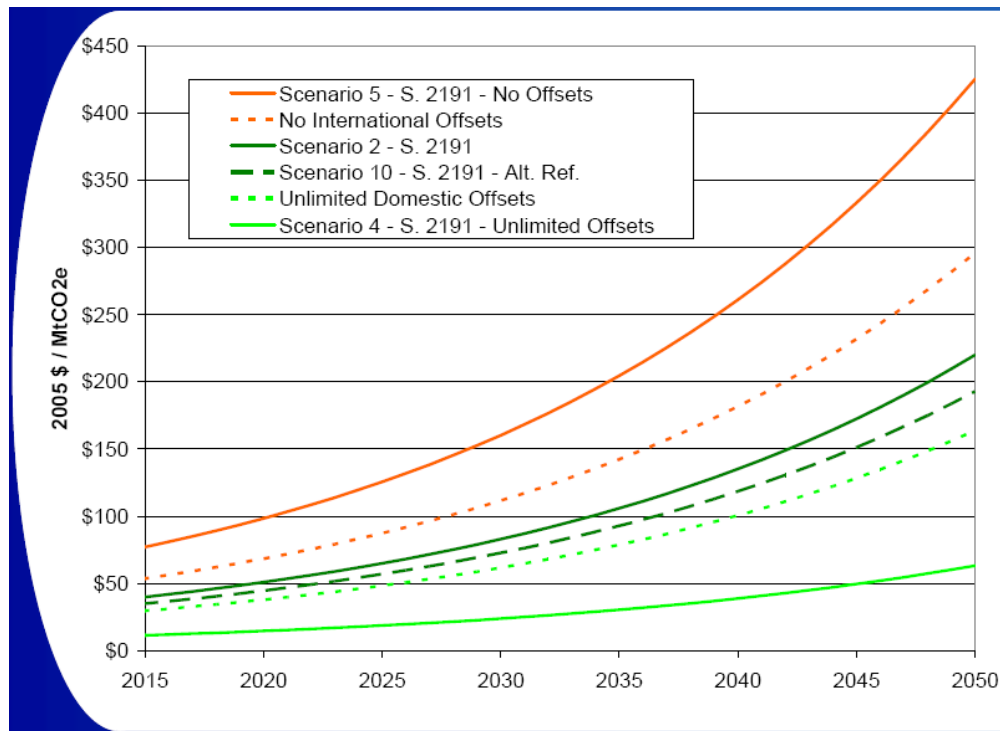
- Afforestation
- Reforestation
- Forest Management

- Altered Tillage
- Cover Cropping
- Manure & Fertilizer Management





Implementation Issues: Size of Allowable Contribution





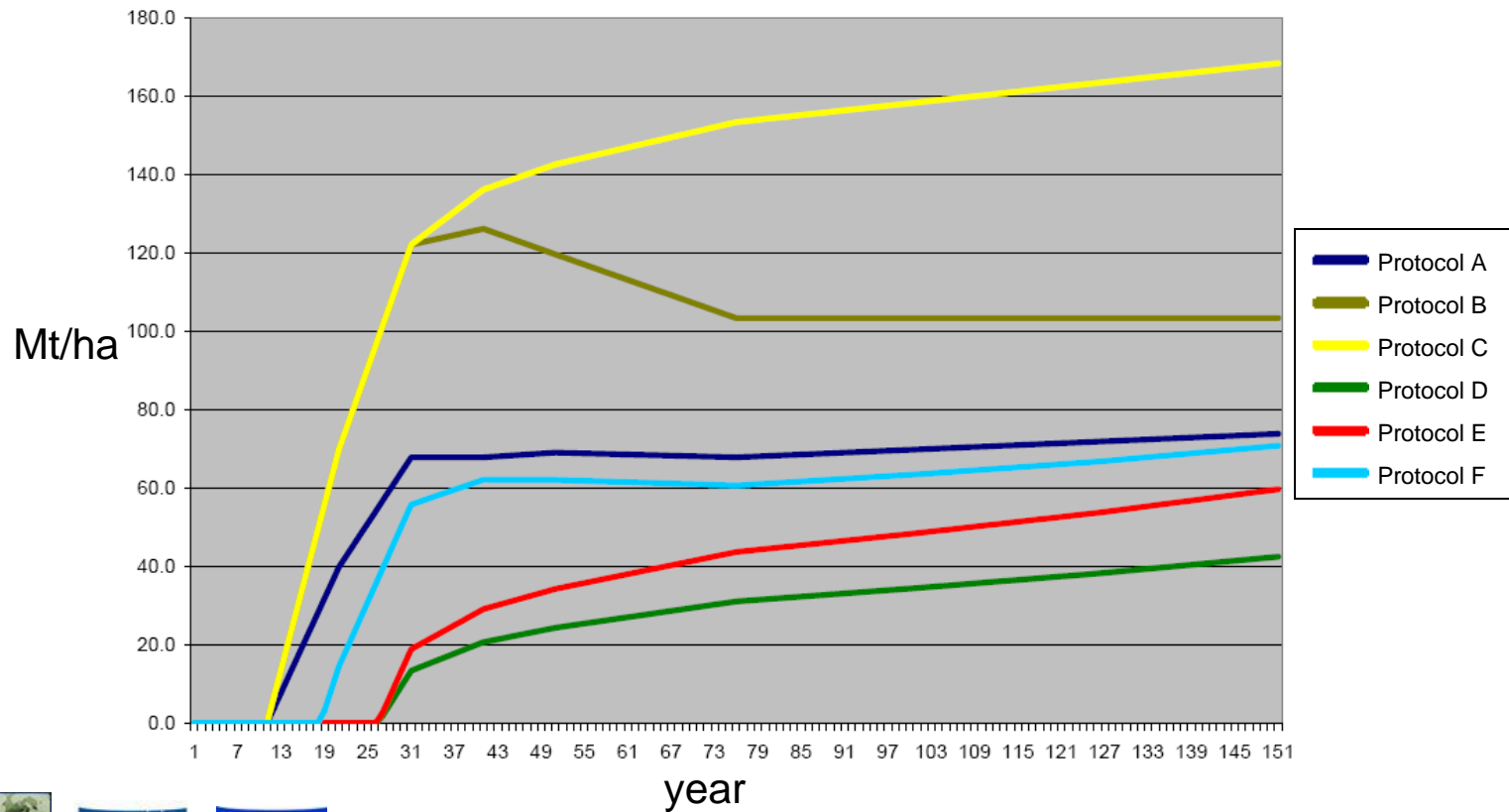
Implementation Issues: Project Accounting

- Baseline
- Additionality
- Measurement
- Leakage
- Reporting





Implementation Issues: Accounting Matters





Implementation Issues: Project Accounting & National Baselines

- Establishes a benchmark
- Allows for “true-up” if projects or accounting are underperforming

U.S. EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks:
1990-2006 (April 2008) USEPA #430-R-08-005



<http://www.epa.gov/climatechange/emissions/usinventoryreport.html>



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Implementation Issues: Allocation and Other Mechanisms

- Allocation v. Offsets
- “Other Mechanisms”





Implementation Issues: Early Actors

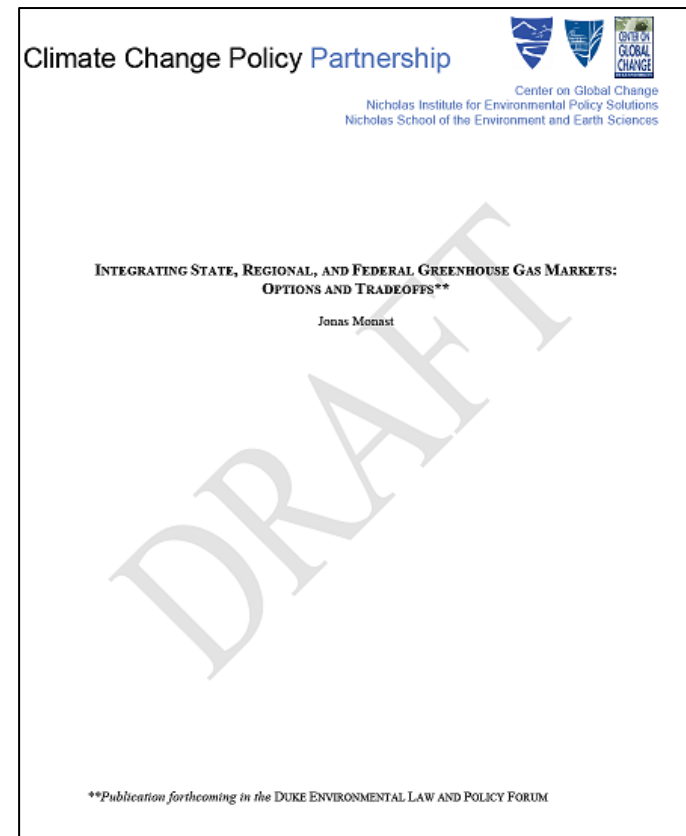
- Who are “Early Actors”?





Implementation Issues: Early Actors

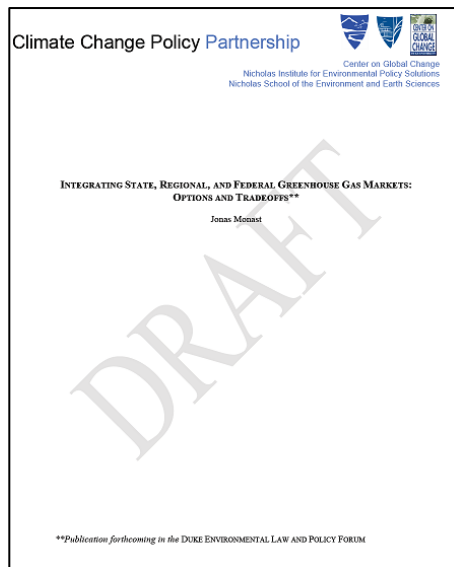
- What are the Options?
- Continuing Role of the Voluntary Market...





Further Questions

christopher.galik@duke.edu – 919.681.7193



http://www.nicholas.duke.edu/ccpp/convenientguide/PDFs/integ_mark_080304_v2.pdf



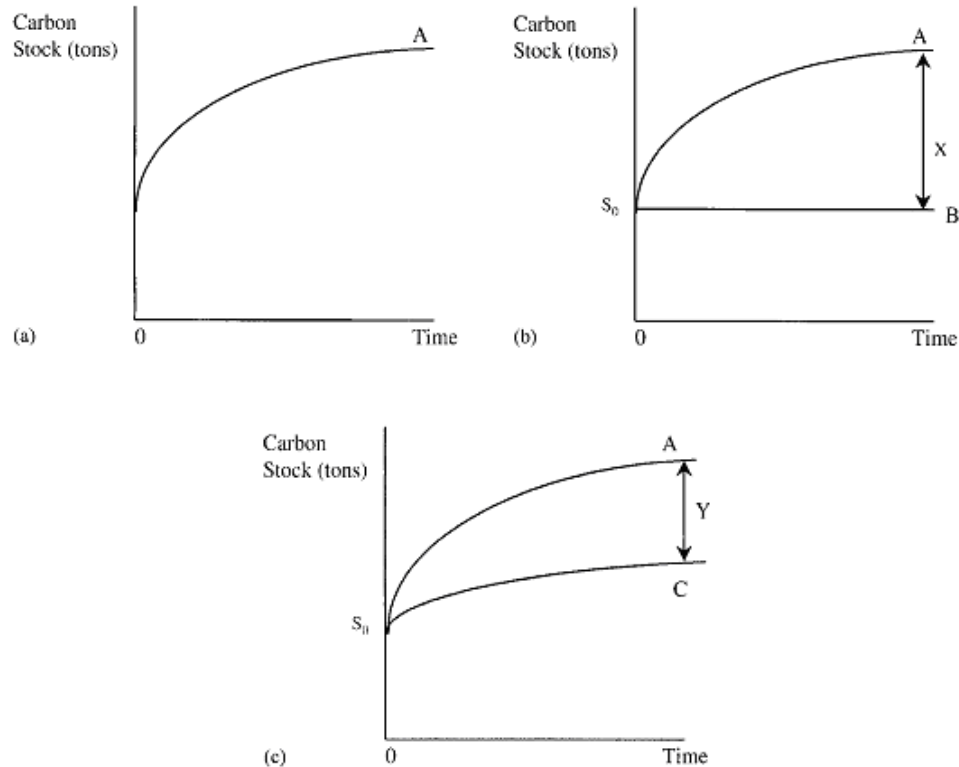
<http://www.nicholas.duke.edu/institute/offsetspolicy.pdf>



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Additional Material – Baseline



Source: Richards, K., and K. Andersson (2001) *Climate Policy* 1: 41-54



Additional Material – Additionality

| Additionality Test | General Description |
|-----------------------|---|
| Legal or Regulatory | Better than any required actions. |
| Initiation Date | Must be initiated before set date. Test often used in combination with another. |
| Proportional | Credit for only the proportion of project that is additional. |
| Common Practice | A practice better than common practice, better than business-as-usual is used. |
| Performance Benchmark | Better than pre-determined benchmark of emissions or sequestration. |
| Barriers | Implementation barrier that is not faced by the alternative action. |
| Technology | New technology, not the business-as-usual is used. |





Additional Material – Estimating Leakage

- Project-Based
 - Tables
 - Equations

| Project Action | Leakage Risk | Leakage Credit Adjustment |
|---|--------------|---------------------------|
| Reduced impact logging with no effect or minimal effect on total timber harvest volumes | None | 0 |
| Extend rotations moderately, (5-10 years) leading to a shift in harvests across time periods but minimal change in total timber harvest over time | Low | 10% |

Source: VCS (2007) AFOLU Guidance

- National Model (FASOM-GHG)





Additional Material – Offsets Explained

