Carbon Trading

New Jersey Farm Bureau
Marie Banasiak
What is carbon trading?

- Market-based strategy for mitigating the emissions of carbon dioxide and other greenhouse gases in the atmosphere.
- Carbon trading markets bring buyers and sellers of carbon credits together with standardized rules of trade.
- “Cap-and-trade” program is one type of carbon trading program.
Cap-and-trade program

- Market-based system for controlling emissions of GHG’s
- “Cap” is the limit on the total amount of emissions. An emissions cap is set for an entire industry for a set period of time.
  - Allowances (a.k.a. permits or credits) is the total amount of pollutant that can be emitted within the regulation period.
- Trade: Emission sources can buy or sell allowances with other emission sources, or they can purchase “offsets” from non-regulated market participants.
Basics of cap and trade program

• Government sets cap on total emissions from regulated industry
• Industry must hold allowances equal to their emissions
• In order to meet the compliance requirements, industry can:
  1. Reduce their own emissions
  2. Buy allowances
  3. Buy offsets from greenhouse gas emission reductions achieved by other non-regulated market participants
How it works

Industry Cap = 800 tons

**Plant A**
- Before: 500 tons
- Allowance: 400 tons
- Activity: None
- Reductions: 0 tons
- After: 500 tons
- Purchase: 100 tons

**Plant B**
- Before: 500 tons
- Allowance: 400 tons
- Activity: Reduce
- Reductions: 200 tons
- After: 300 tons
- Sell: 100 tons

Carbon Offsets

• Greenhouse gas emission reductions achieved by non-regulated parties
• Offsets allow entities outside the capped sector to participate and reduce emissions
• Offset projects provide the regulated community with additional flexibility in order to meet caps at the lowest cost
• Criteria for offsets:
  • Real – must represent actual emission reduction
  • Additional – emission reduction must be beyond a BAU
  • Permanent – permanent and backed by guarantee
  • Verifiable – must be readily and accurately quantified, monitored, and verified
## Offset opportunities for agriculture

<table>
<thead>
<tr>
<th>Chicago Climate Exchange (CCX)</th>
<th>Regional Greenhouse Gas Initiative (RGGI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Soil carbon sequestration</td>
<td>• Manure methane destruction</td>
</tr>
<tr>
<td>– Conservation tillage (no-till, strip-till)</td>
<td>• Forestry projects</td>
</tr>
<tr>
<td>– Permanent grass planting</td>
<td>– Afforestation</td>
</tr>
<tr>
<td>• Forestry projects</td>
<td>• Reduction or avoidance of CO₂ emissions from natural gas, oil or propane end-use combustion due to end-use energy efficiency</td>
</tr>
<tr>
<td>– Afforestation</td>
<td>– Boiler efficiency</td>
</tr>
<tr>
<td>– Sustainable forestry management</td>
<td></td>
</tr>
<tr>
<td>– Long-lived wood products</td>
<td></td>
</tr>
<tr>
<td>• Manure methane destruction</td>
<td></td>
</tr>
<tr>
<td>• Renewable energy</td>
<td></td>
</tr>
</tbody>
</table>
Aggregators

• Credits sell in 100 ton units
• An aggregator collects individual farm credits, bundles them together in pools that are large enough to trade, and sells them to a buyer.
• Some aggregators:
  • AgraGate Climate Credits Corp.
  • North Dakota Farmers Union Carbon Credit Program
  • National Carbon Offset Coalition
  • Pennsylvania Farm Bureau/Global Emissions Exchange Carbon Credit Trading Program
The AgraGate Network
Contract Facilitators in place and active in 26 states

There are seven Farm Bureaus working as facilitators

Source: www.kfb.org/naturalresources/.../AgraGate%20PP%202009-2.ppt, last accessed 12-14-09
Sale of credits

- Farm activities are evaluated for eligibility. If eligible, a baseline is established on the existing rate of emissions or sequestration.
- Aggregator develops a contract.
- A certified 3rd party verifier reviews the contract and performs a site-inspection.
- If activities are acceptable, the verifier notifies the aggregator and registry validating the credits.
- The registry purchases the credits. Credits are retired once they have been used to offset emissions.
- Net proceeds are sent to the project owner.

Carbon trading markets

- Variety of markets with different prices and different requirements
- Each market has different:
  - Rules
  - Offset types
  - Start dates for eligible activities
  - Quantity of credits that can be earned
  - Price per carbon credit
Carbon offset prices

2003 - 2009

Source: www.kfb.org/naturalresources/.../AgraGate%20PP%202009-2.ppt, last accessed 12-14-09
CCX: Recent market trends

Source: [www.chicagoclimatex.com](http://www.chicagoclimatex.com), last accessed 12-14-09
Conclusions

• Carbon trading markets are available
• Most agricultural offset projects will need to be registered with an aggregator
• Sale of offsets can supplement farm revenue
• Carbon credit market is in flux
• Current price for carbon is insufficient to attract widespread participation by farmers in trading