








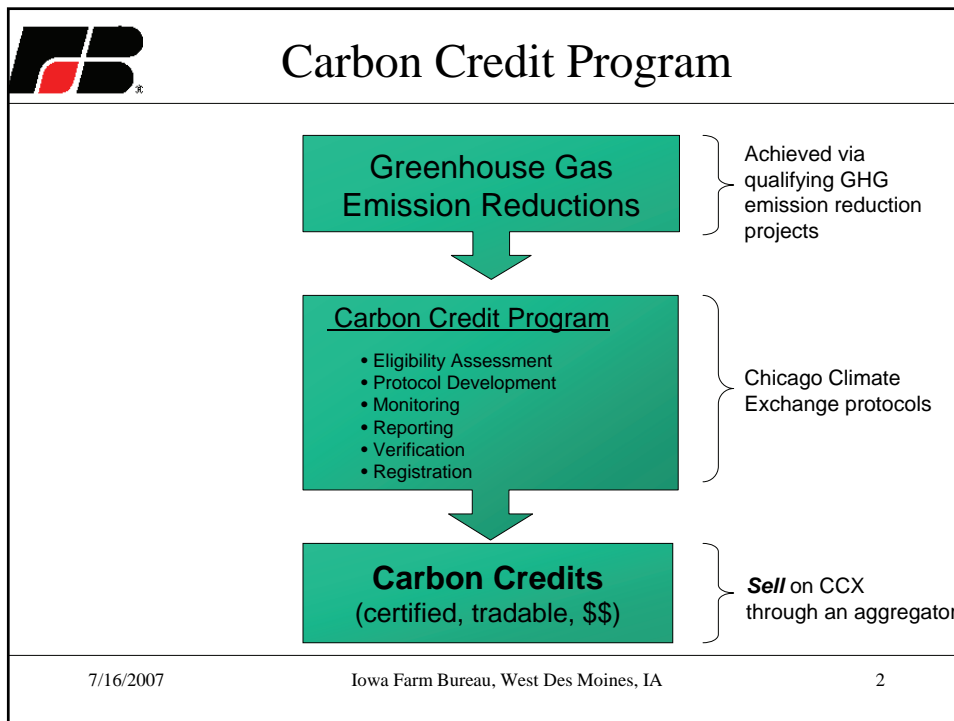
# IOWA FARM BUREAU CARBON CREDIT AGGREGATION PROGRAM



FARMERS CAN REGISTER AND SELL CARBON CREDITS FROM AGRICULTURAL PRACTICES THROUGH THE IOWA FARM BUREAU CARBON CREDIT AGGREGATION PROGRAM

SOIL	 <p><b>SOIL</b></p> <ul style="list-style-type: none"> <li>• IMPROVES SOIL QUALITY AND TILTH</li> <li>• CREDITS OFFERED FOR CONTINUOUS, NO-TILL, STRIP-TILL OR RIDGE-TILL CROP PRODUCTION IN ELIGIBLE AREAS</li> <li>• CREDITS ALSO OFFERED FOR NEW GRASS PLANTINGS (AFTER JAN. 1 1999)</li> <li>• RANGELAND IMPROVEMENT PROJECTS ELIGIBLE</li> <li>• ELIGIBILITY BY ZONE</li> </ul>		SOIL
FORESTRY	 <p><b>FORESTRY</b></p> <ul style="list-style-type: none"> <li>• IMPROVES SOIL RECOVERY AND DEPLETED BIODIVERSITY</li> <li>• CREDITS EARNED FOR NET CARBON SEQUESTERED DURING THE CONTRACT PERIOD</li> <li>• REFORESTATION OR NEW PLANTINGS (AFTER JAN. 1 1999) ON AFFORESTED LAND</li> <li>• ALL AREAS OF THE U.S. ELIGIBLE</li> </ul>		FORESTRY
METHANE	 <p><b>METHANE</b></p> <ul style="list-style-type: none"> <li>• ON FARM METHANE DIGESTERS</li> <li>• DRASTICALLY REDUCES METHANE EMISSIONS INTO THE ATMOSPHERE</li> <li>• CREDITS OFFERED FOR DIGESTERS INSTALLED AFTER JAN. 1 1999</li> <li>• ALL AREAS OF THE U.S. ELIGIBLE</li> </ul>		METHANE

FOR INFORMATION ON THESE AND OTHER IOWA FARM BUREAU ENERGY PROGRAMS PLEASE CALL 515-225-5431 OR VISIT [WWW.IOWAFARMBUREAU.COM/CARBON](http://WWW.IOWAFARMBUREAU.COM/CARBON).





## The Chicago Climate Exchange®

- The Chicago Climate Exchange® (CCX®) is a greenhouse gas (GHG) emission reduction and trading pilot program for emission sources and offset projects in the United States and for offset projects undertaken in Brazil. CCX® is a self-regulatory, rules-based exchange designed and governed by CCX® Members.
- These members have made a voluntary, legally binding commitment to reduce their emissions of greenhouse gases by four percent below the average of their 1998-2001 baseline by 2006, the last year of the first phase of the pilot program.

7/16/2007

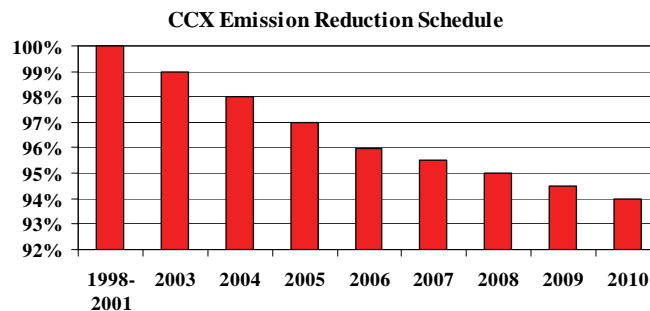
Iowa Farm Bureau, West Des Moines, IA

3



## CCX Reduction Timetable

- 2003-2006: Reduce emissions to 1%, 2%, 3%, 4% below 1998-2001 baseline
- 2006 – 2010: Reduce emissions to 6% below 98-01 baseline



7/16/2007

Iowa Farm Bureau, West Des Moines, IA

4



## Meeting CCX Reductions

- Allowances (x% less than baseline)
- Own reductions
- Industry credits from excess reductions
- Offsets (no more than 50% of reduction requirement)
  - Industry
  - Agriculture
    - No-till
    - Rangeland Improvement
    - Ag Methane
  - Forestry

7/16/2007

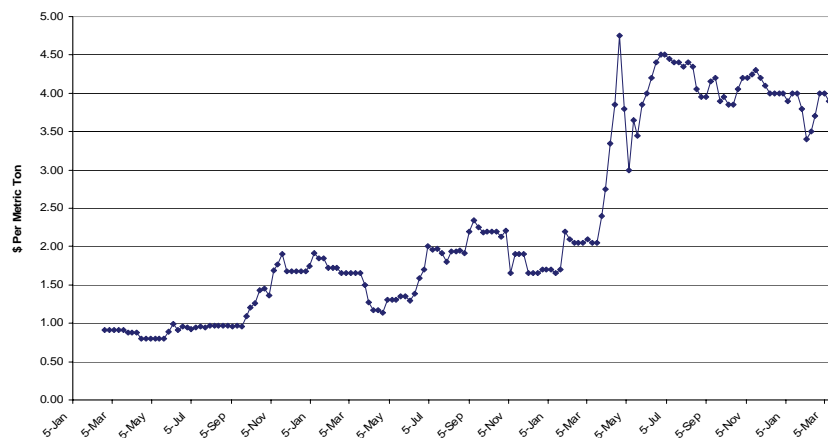
Iowa Farm Bureau, West Des Moines, IA

5



## Carbon Offset Prices 2004 - 2006

2006 Vintage  
Carbon Offset Prices



7/16/2007

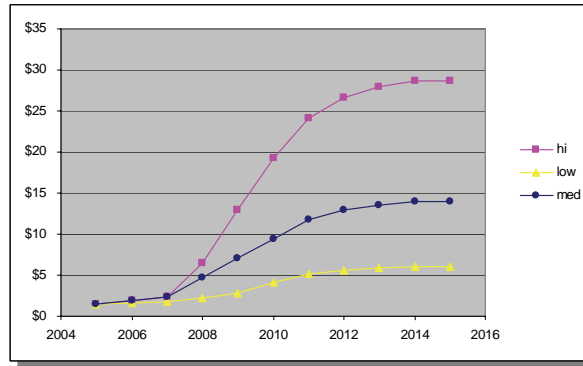
Iowa Farm Bureau, West Des Moines, IA

6



## Price forecasts for US carbon credits

Figure 1. Projected price curves for US carbon credits (\$US per metric ton).



Sources: Carbon Finance, August 2004; EIA/DOE 2004, Analysis of S. 1844, the Clear Skies Act of 2003; S. 843, the Clean Air Planning Act of 2003; and S. 366, the Clean Power Act of 2003. Energy Information Administration, USDOE, SR/OIAF/2004-05, May 2004; EIA/DOE 2005, Impacts of Modeled Recommendations of the National Commission on Energy Policy. Energy Information Administration, USDOE, SR/OIAF/2005-02, April 2005; AEP 2004, An assessment of AEP's actions to mitigate the economic impacts of emissions policies. American Electric Power, August 31 2004

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

7



## Details of Eligible CCX Offset

Soil Offsets  
Rangeland Offsets  
Forestry Offsets  
Methane Offsets

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

8



## XSO Eligible Land

- Land must be in the eligible project area
- Land must be capable of being cropped
  - Must be farmed with no-till, strip till practices
  - Crop land can be in hay, but if row-cropped must be done in compliant manner
- Crop land that was recently converted to permanent grass (after Jan 1, 1999)

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

9



## Exchange Soil Offsets (XSOs)

- Commitment to 5 years of conservation tillage
- Annual certification of compliance
- Credits transferred to FB on Jan 1
- 20% reserve held until end of pilot project
- Transfer price will be the price as determined by sale through CCX less a 10% service fee.

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

10



# Tillage Equipment

- Full width inversion
  - Moldboard plow
  - Chisel plow
  - Field cultivator
  - Tandem disk
  - Offset disk
  - Row crop cultivator
- Okay to use
  - No-till/strip-till planter
  - No-till drill
  - Rolling harrow
  - Tools with wide knives
    - Subsoiler/ripper
    - Anhydrous applicator
    - Manure knife applicator
- General Guideline: After the implement has been through the field, there must still be a substantial amount of surface residue present and the soil disturbance must not be full width. If use of the implement would require that a leveling or smoothing activity follow, it would probably result in too much soil disturbance.
- No credits earned during year if residue is removed or burned

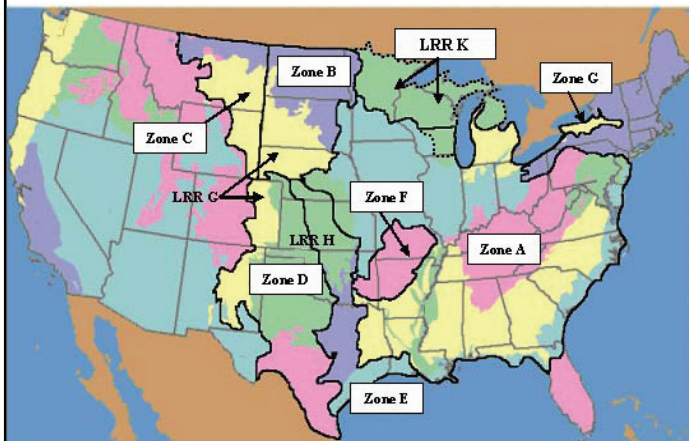
7/16/2007

Iowa Farm Bureau, West Des Moines, IA

11



# Soil Offset Credit Zones



No-till Credit Rates (Metric Tons CO <sub>2</sub> /Acre/Year)		
CCX Zone	Dryland	Other
A	0.60	
B, E, G & LRR(K)	0.40	LRR-G & H Irrigated 0.60
C	0.32	MLRA 52, 53A, 54 Chem Fallow 0.32/0.00
D & F	0.20	LRR-G & H Irrigated 0.60

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

12



## Rangeland Project Eligibility

- Land meets CCX definition of Rangeland
- Rangeland is in a CCX-approved area
- Project involves rangeland management practices that include use of *all* of the following tools:
  - Light or Moderate Stocking rates;
  - Sustainable Livestock Distribution

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

13




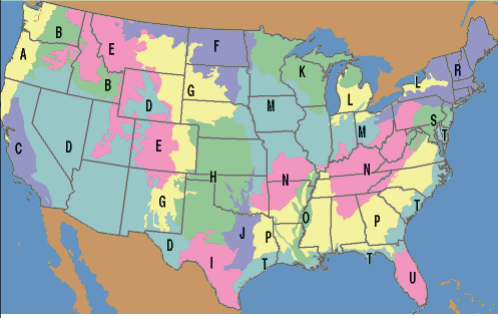
## Rangeland Protocol


- The Natural Resources Conservation Service (NRCS) Field Office Technical Guides publish guidelines for managing the controlled harvest of vegetation with grazing animals.
- Stocking rates and livestock distribution criteria are defined according to County and State in the NRCS “Prescribed Grazing Specification” code.

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

14

 <h2 style="text-align: center;">Rangeland Areas</h2>			
	<h3>Rangeland Credit Rates</h3> <p>(Metric Tons CO<sub>2</sub> Per Acre Per Year)</p>		
	Rangeland Area	Non-Degraded	Degraded
	Northwestern Wheat and Range Region (B)	0.12	0.20
	California Subtropical Fruit, Truck, and Specialty Crop Region (C)	0.16	0.16
	Rocky Mountain Range and Forest Region (E)	0.12	0.28
	Northern Great Plains Spring Wheat Region (F)	0.12	0.24
	Western Great Plains Range and Irrigated Region (G)	0.27	0.40
	Central Great Plains Winter Wheat and Range Region (H)	0.20	0.52
<small>Eligible rangeland project crediting rates are based on appropriate below-ground carbon sequestration rates according to Land Resource Region, as well as status of the land (degraded or non-degraded) prior to inception of project</small>			
7/16/2007	Iowa Farm Bureau, West Des Moines, IA	15	

 <h2 style="text-align: center;">Forestry Offsets</h2>	
<ul style="list-style-type: none"> <li>• <b>Eligible Projects</b> <ul style="list-style-type: none"> <li>– Planting and/or natural regeneration after Jan 1, 1990 on land not forested on Dec 31, 1989.</li> <li>– Working forest lands projects</li> </ul> </li> <li>• <b>Credits based on net annual increase in carbon stocks (CO<sub>2</sub> equivalents) during 2003-2010.</b></li> <li>• <b>Long-term commitment</b> <ul style="list-style-type: none"> <li>– Evidence that the carbon stocks in forest parcels will be subject to long-term maintenance in a manner deemed acceptable by CCX Offset Committee (easement, contract, etc.)</li> </ul> </li> <li>• <b>Sustainable Forestry (American Tree Farm System, CRP, etc.)</b></li> </ul>	
7/16/2007	Iowa Farm Bureau, West Des Moines, IA



## Forestry Offsets Cont'd

- XFOs will be issued based on annual increases in above-ground living biomass.
- Forestation projects are subject to verification by CCX approved verifiers.
- Small & medium forestry can use CCX tabled quantities.

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

17



## Long-term Commitment

- Projects in the U.S. and Canada can qualify if undertaken on privately owned land and placed in protective status via one of the following actions:
  - enrollment in the American Tree Farm System or other approved sustainable forestry management certification program
  - enrollment in a CRP contract for a minimum term of 15 years.

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

18



## CCX Credits Rates

<b>Appendix Table 9.3 (Corn Belt) Dense Planting (&gt;250 stems per acre) Forestation Project Carbon Accumulation Table (Metric tons CO2 per acre per year)</b>				
U.S. region and species*	Years since planting			
	0-4	5-10	11-15	16-20
Corn Belt mixed hardwoods	3.50	4.54	4.66	4.78
Corn Belt mixed softwoods	3.96	5.13	5.36	3.50
Northern Plains, mixed hardwoods	1.98	2.45	2.45	2.45
Central States Bottomland hardwoods	1.16	2.80	3.03	1.63
<b>Region definitions:</b> Corn Belt: IA, IL, IN, MO, OH; Northern Plains: KS, ND, NE, SD; Central States Bottomlands: IA, IL, IN, KS, MO, ND, NE, OH, SD;				

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

23



## Forestry Contract Worksheet

Documentation Submitted with XFO Contract	Direct Measurement (if applicable)	Table 9.3 Coefficient >250 stems/acre (if applicable)	Table 9.3B2 Coefficient Urban/suburban & Riparian buffers (if applicable)
Status of plot prior to 1990  Crop or grass land _____ Degraded forest _____ Map of Plot _____ Evidence of planting date _____ Forest Management Plan _____ Enrollment in ATFS _____ CRP Contract _____ If degraded forest lands prior to 1990 1995 map of plot _____ Other evidence of degraded status _____	If direct measurement, Model Used _____ Trees per acres _____ Basal area per acre _____ Total dry biomass _____ Height of dominant or co-dominant trees _____ Site index _____ Per Acre Above-ground biomass in 2003 _____ Above-ground biomass in 2010 _____ Average Annual Above-Ground Biomass _____ Calculated weight of Carbon in biomass _____ Average Annual CO2 (Factor 3.66667) _____	Tons CO2 <u>CO2 Factor</u> <u>Plot Total</u> 2003 _____ 2004 _____ 2005 _____ 2006 _____ 2007 _____ 2008 _____ 2009 _____ 2010 _____	Tree Type _____ Tree Count _____ Tree type: H _____ C _____ Growth Rare: S _____ M _____ F _____ DBH _____ Age _____ (DBH-1) <sup>3</sup> CO2 Factor (Per 100 trees) 2003 _____ 2004 _____ 2005 _____ 2006 _____ 2007 _____ 2008 _____ 2009 _____ 2010 _____
Additional Owners (if applicable) Name: _____ Address: _____ City, State, Zip _____ Share: _____ Name: _____ Address: _____ City, State, Zip _____ Share: _____			

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

31



## Methane Offsets

- Ag Methane destruction projects that were put into place after Jan 1, 1999.
  - Dairy
  - Swine
- Eligibility
  - Liquid slurry storage
  - Pit storage below animals (> 1 month)
  - Uncovered anaerobic lagoons

7/16/2007

Iowa Farm Bureau, West Des Moines, IA

32



## Baseline Credit Rates - Iowa

Liquid Slurry/Pit Storage (Metric Tons CO <sub>2</sub> e per head per year)								
Dairy Cow	Dairy Heifer	Feedlot Steer	Feedlot Heifers	Market Swine <60	Market Swine 60 – 120	Market Swine 120-180	Market Swine > 180	Breeding Swine
1.56	0.70	0.70	0.68	0.09	0.13	0.22	0.30	0.31
Anaerobic Lagoon (Metric Tons CO <sub>2</sub> e per head per year)								
4.42	1.97	1.98	1.92	0.24	0.38	0.63	0.84	0.88

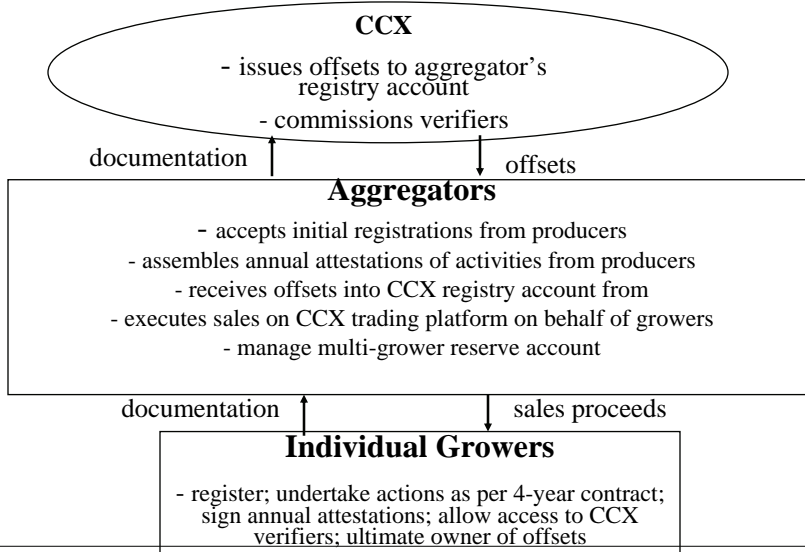
7/16/2007

Iowa Farm Bureau, West Des Moines, IA

35



# Mechanics of Ag Offset Aggregation in CCX®



7/16/2007

Iowa Farm Bureau, West Des Moines, IA

36

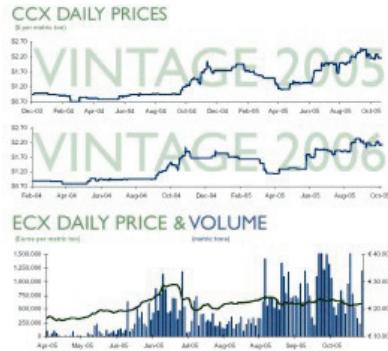


# Mechanics of Trading

## • CCX Registry



## • CCX Trading Floor



7/16/2007

Iowa Farm Bureau, West Des Moines, IA

37



## Contact Information

David Miller  
Director, Commodity Services  
Iowa Farm Bureau  
5400 University Ave  
West Des Moines, IA 50266

[www.iowafarmbureau.com/carbon](http://www.iowafarmbureau.com/carbon)

Ph: 515-225-5431

E-mail: [damiller@ifbf.org](mailto:damiller@ifbf.org)