

National Carbon Offset Coalition, Inc.

Carbon Credits . . . A Unique
Market-Based Approach With
Potential Benefits for Landowners



**Benefits and Challenges of Participating
in Carbon Sequestration**

NCOC Background

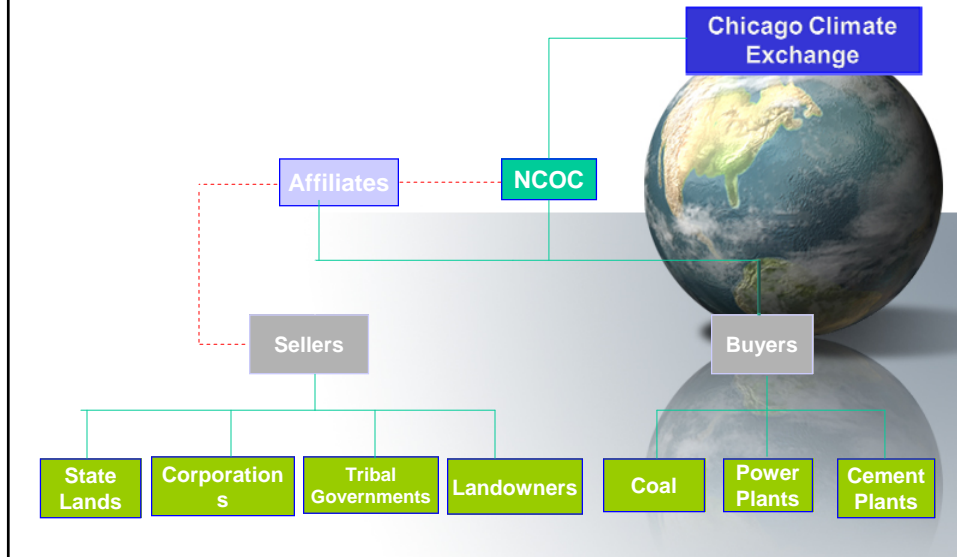


- Seven non-profit resource conservation organizations, based in Butte, Montana.
- Funded by both the State of Montana and the Department of Energy
- The program offers corporations a cost-effective way to achieve their carbon dioxide emission reduction goals.
- Carbon credit transfer is a new marketable commodity that is providing landowners and communities with a source of revenue.
- NCOC is an Aggregating Member of the Chicago Climate Exchange.
- Member of the Big Sky DOE Carbon Sequestration Partnership.
- NCOC is the only organization in all seven (7) partnerships funded for this research.

NCOC – Visit our website: www.ncoc.us – 406-491-4471



NCOC ORGANIZATIONAL STRUCTURE



NCOC's Focus



- Funded by DOE to make recommendations on carbon credit trading
- Proof of concept
- Establishing legitimacy of terrestrial offsets (range, forest, & crop)

What is Carbon Sequestration?

Capture and storage of CO₂ and other Greenhouse Gases that would otherwise be emitted to the atmosphere

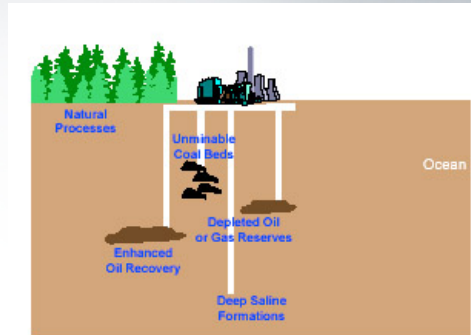


Capture can occur:

- at the point of emission
- when absorbed from air

Storage locations include:

- underground reservoirs
- dissolved in deep oceans
- converted to solid material
- trees, grasses, soils, or algae



NCOC – Visit our website: www.ncoc.us – 406-491-4471



What Terrestrial Practices Sequester Carbon?



- No-till or reduced tillage
- Winter cover crops
- Increased crop productivity
- Intensified crop rotations
(double crop)
- Conservation buffers



NCOC – Visit our website: www.ncoc.us – 406-491-4471



What Terrestrial Practices Sequester Carbon?



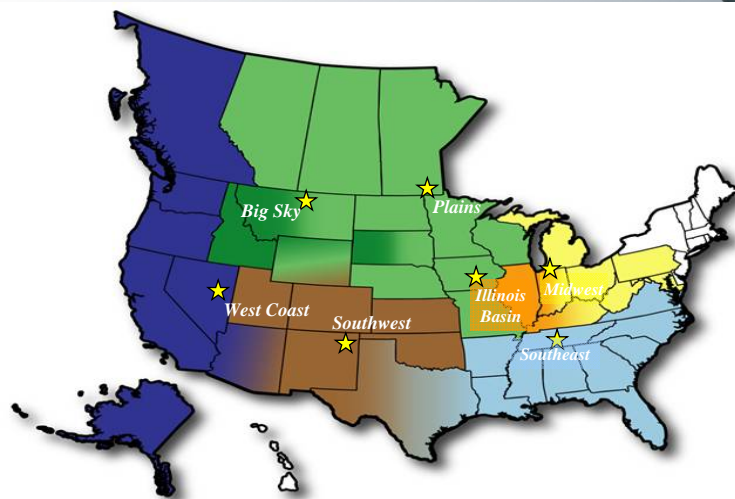
- Tree planting
- Grazing lands initiative
- Restoration of degraded soils
- Any practices that improve soil organic carbon



NCOC – Visit our website: www.ncoc.us – 406-491-4471



7 Regional Carbon Sequestration Partnerships



NCOC – Visit our website: www.ncoc.us – 406-491-4471

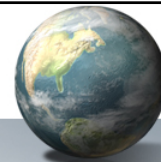


Big Sky Partnership Research --MMV



- Comparing tilled and direct seed systems on various crop rotations
- Examining spatial distribution and processes of soil carbon and soil properties
 - ✓ Laser induced breakdown (spectroscopy/infrared spectroscopy)
- Remote sensing

NCOC Market Agreements



NCOC has entered into an agreement
with Chicago Climate Exchange

NCOC – Visit our website: www.ncoc.us – 406-491-4471



Chicago Climate Members

Aerospace & Equipment	Square D/Schneider, Electric N.A.	Smurfit Stone
Rolls Royce	Environmental Services	Municipalities
Automotive	Atlantic County Utilities Authority,	City of Aspen, City of Berkeley, City of
Ford Motor Co.	Lancaster County Solid Waste Mgt	Boulder, City of Chicago, City of Oakland,
Beverage Manufacturing	Wasatch Integrated Waste Mgt	City of Portland
New Belgium Brewing Co.	Waste Management	Petrochemicals
Chemicals	Food/Agricultural Products	Petroflex Industria, E Comercio S.A.
Dow Corning, Dupont, Rhodia Energy	Agrium U.S. Inc., Cargill, Inc.	Pharmaceuticals
Brasil Ltda	Food Processing	Baxter International
Coal Mining	Meister Cheese Co. LLC, Premium	Public Universities
Jim Walter Resource, Inc., Pinnoak	Standard Farms	Michigan State University, University of
Resources LLC	Forest Products	Idaho, University of Iowa, University of
Counties	Abitibi Consolidated, Aracruz Cellulose	Minnesota, University of Oakland
King County, WA., Sacramento County CA.	Cenibra Nipo Brasileiro, International	Recreation
Diversified Manufacturing	Papers, Klabin S.A., Masisa S.A.,	Aspen Skiing Resort
Eastman Kodak	Mead Westvaco Corp., Stora Enso N.A.	Retail
Electric Power Generation	Suzano Papal E Cellulose, Temple	Safeway
American Electric Power, Associated	Inland, Inc.	Semiconductors
Electric Coop, Central Vermont Public	Furniture & Design	Freescale Semiconductors, Intel Corp.,
Service, Duquesne Light Co., Green	Knoll	STMicroelectronics,
Mountain Power, Manitoba Hydro,	Information & Technology	States
Puget Sound Energy, TECO Energy	IBM	State of New Mexico
Electronics	Manufacturing	Steel
Motorola, Inc., Sony Electronics, Inc.	Bayer Corp., Interface Inc., Ozinga Bros.	Roanoke Electric Steel



CCX Market Terms

- Vintage Credits
 - The amount of carbon sequestered in a particular year. It can then be used to offset emissions in that year.
- Third Party Verification
 - An audit conducted by an independent contractor.
 - All projects are subject to audit. A percentage will be visited by outside auditors.
- Pool
 - A group of projects that make up a traded unit on the Exchange.
- Reserve Pool
 - All projects put 20% of the carbon credits in a reserve pool. If, at the end of the market period, the project has not been lost or compromised, those are returned to the project owner.



Carbon Credits



- The quantity of carbon offered in a trade; for example, the amount demonstrated to be sequestered in soil or trees.
- Carbon sequestration units (CSU's). Equal to one metric ton of atmospheric CO₂ reduced or avoided from an agreed baseline amount. To create a CSU, the amount of CO₂ must be measured, verifiable, and registered.
- One ton of carbon equals 3.67 tons of co₂ equivalent (atmospheric CO₂).

Joining Forces

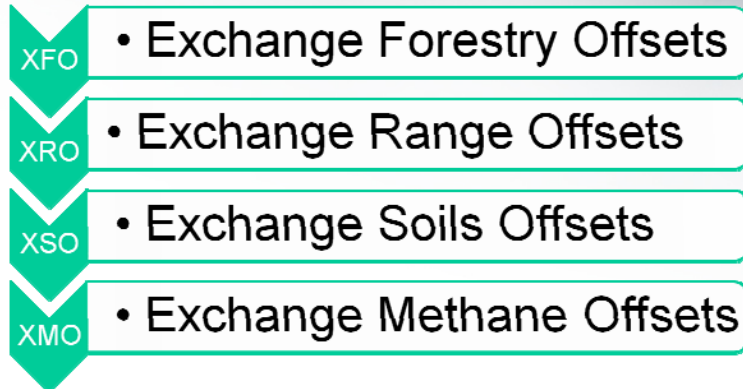


Beartooth Financial

CCX Portfolios



These are equal to 100 tons CO₂e



All eligible projects will be marketed to the above pools

Current Situation



NCOC Project Development Process



NCOC aggregates carbon sequestration projects for placement on the CCX through the following process:

- Project application by landowner
- Initial review by NCOC to determine project eligibility
- Sellers agreement and application to join the relevant offset pool signed by landowner
- Project added to the NCOC portfolio and submitted to the CCX
- Project subject to independent third-party verification
- NASD review
- Trade completed and credits transferred to buyer
- Ongoing management and monitoring and reporting

Benefits of Terrestrial Offsets



GHG Reductions Now



Local Conservation & Environmental Benefits



Revenue Source for Landowners, Tribal & State Governments

Carbon Sequestration Opportunities (CCX)



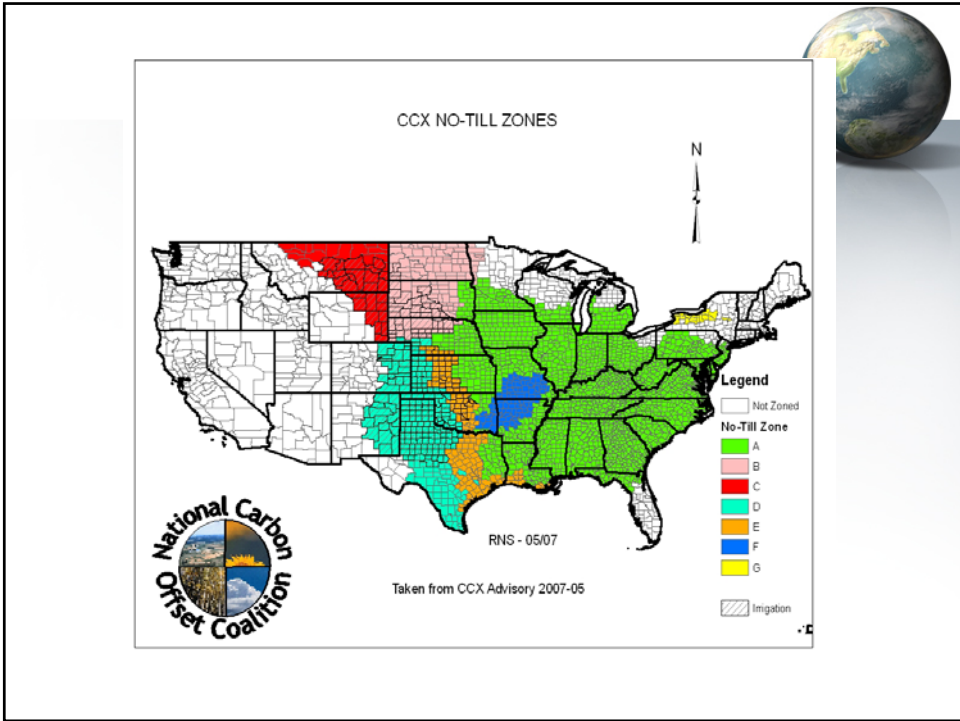
Conservation Practice	Potential Carbon Effect (tCO ₂ /ac/yr)
Conservation Tillage Cropland to Grassland	0.16 to 0.6 0.5 to 0.8
Rangeland Management	0.12 to 0.52
Windbreaks & Shelterbelts Energy Crops Riparian Forest Buffers	? ? ?
Afforestation Forest Management	1.2 to 2.6 As Measured

Conservation Tillage Info



- Project details needed
 - Ownership of carbon
 - County
 - Acres in project
 - Start date of continuous no-till
 - System description, prior management, purposes, duration
- Location – FSA or other maps
- FSA Crop Summary
- Marketing rights, including term
- 2007 Crop Year Deadline (April 1, 2008)





Sample Worksheet – Conservation Tillage, Zone C



Market Year	2007	2008	2009	2010
Annual CO ₂ Increase*	0.32	0.32	0.32	0.32
Acres in Project	1000	1000	1000	1000
Total tons CO ₂	320.0	320.0	320.0	320.0
<u>20% Reserve Pool</u>	<u>64.0</u>	<u>64.0</u>	<u>64.0</u>	<u>64.0</u>
Net CO₂ for CCX Pool	256.0	256.0	256.0	512.0

* Insert annual factor allowed by CCX as default

Registering No-Till with NCOC



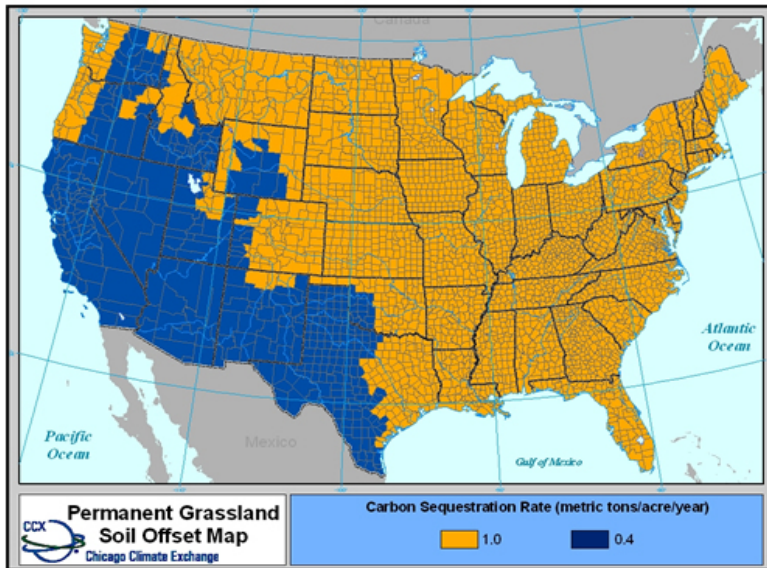
- Eligible for years 2007 to 2010 if registered by April 1, 2008.
- Must leave at least 2/3 of the soil surface undisturbed, with 2/3 of residue remaining
- Continuous cotton, soybeans, or pulse crops eligible only if cover crop is used
- No ridge till, histosol soils or fallow allowed
- Chemical fallow

Grass Planting (Permanent)



- Grass plantings (not harvested) after January 1, 1999 are eligible.
- Grass cover must be maintained through 2010.
- CCX has defined additional zones and allowable rates in U.S. and Canada
- Rates range from 0.4 to 1.0 tCO₂e/ac/yr
- CRP is eligible

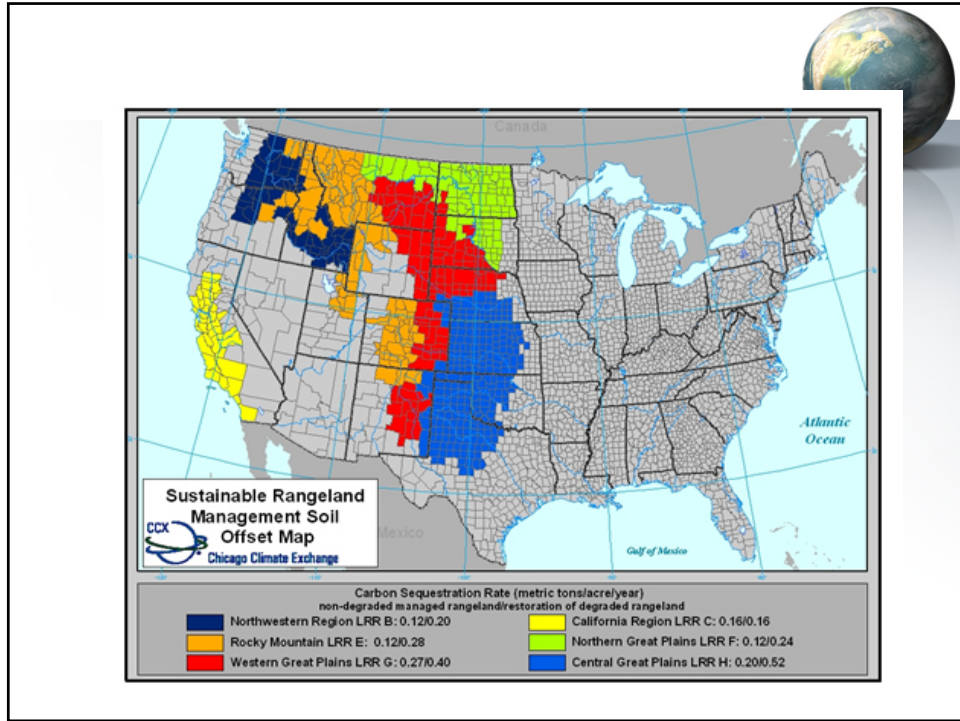




Rangeland Process

- Photographs of site (e.g. aerial, remote sensing)
- Ranch records of stocking rates and grazing rotation patterns
- Records from agricultural agents or other agencies performing a monitoring function.
- Rangeland Deadline (April 1, 2008)





Region	Area	Improved grazing on non-degraded rangeland	Restoration of degraded rangeland
B	Northwestern Wheat & Range	0.12	0.20
C	California Subtropical	0.16	0.16
E	Rocky Mountain Range & Forest	0.12	0.28
F	Northern Great Plains	0.12	0.24
G	Western Great Plains	0.27	0.40
H	Central Great Plains	0.20	0.52

Range Management



- Only in the West
- 6 Regions Identified
- Soil carbon sequestration rates
 - 0.12 to 0.20 tCO₂e/ac/yr on non-degraded rangeland
 - 0.16 to 0.52 tCO₂e/ac/yr on degraded rangeland

Forestry Projects



- Afforestation
- Reforestation
- Fire Rehab
- Management of Existing Stands
- Long-lived Wood Products
- Urban Forestry



Fees



- 10% NCOG
- \$.20 Registration (MT no-till excluded until 100,000 tons are met)
- .10/acre cropland (may be waived)
- Other practices pending

Key Policy Landowners Issues



- 1) Levels to Monitor
 - a) State (legislative & climate change advisory committee)
 - b) Regional Initiatives
 - c) Federal Legislation

Key Issues



- Established Offset Criteria
- Proposed Allocations of Terrestrial Offsets
- \$ Value of Offsets

Companies gear up for greenhouse gas limits

Congress hasn't yet come up with a plan for limiting greenhouse-gas emissions, but U.S. companies are wagering billions of dollars that it will. Clifford Chance, a London law and consulting firm, estimated that the value of credits traded in the global voluntary market would increase 16-fold, to \$400 million, this year and swell to \$3 trillion by 2010, even without legislation.

Source: *MSNBC* (May 29, 2007)



“If you’re not at the table, you’re probably on the menu. It’s time to get to the table.”

NCOC – Visit our website: www.ncoc.us – 406-491-4471



Thank You!

**National Carbon Offset Coalition
305 W. Mercury, Room 408
Butte, MT 59701**

www.ncoc.us

(406) 723-6262

