



**Carbon Credit Program
Forestry Offsets from
Tree Plantings & Reforestation**

Forestry Contract
Forestry Offset Enrollment Worksheet
CCX Forestry Offset Tables



Farmers Union
CARBON CREDIT PROGRAM
PO Box 2136 • 1415 12th Avenue S
Jamestown, ND 58402-2136



Farmers Union
CARBON CREDIT PROGRAM

PO Box 2136 • 1415 12th Avenue SE
Jamestown, ND 58402-2136

Contract No. _____

State _____

**2003-2010 APPLICATION FOR PARTICIPATION IN A FORESTRY OFFSET POOL
AND SALES CONTRACT FOR EXCHANGE FORESTRY OFFSETS (XFOs)**

SELLER _____ **PHONE** _____ **DATE** _____

ADDRESS _____ **CITY/STATE/ZIP** _____

I, _____, hereby apply for participation in a forestry carbon pool managed by North Dakota Farmers Union (NDFU) for registration of Exchange Forestry Offsets (XFOs) with the Chicago Climate Exchange (CCX) for the years 2003-2010 on property that I own or control.

I hereby agree that I hold full legal ownership and title to the Greenhouse Gas mitigation rights registered as CCX Offsets that are associated with the facilities and activities included in this project.

I also hereby attest that the project is in the United States, and involves forestation and forest enrichment practices as described by CCX and was initiated on unforested or degraded forest land on or after January 1, 1990. I hereby agree that the forest project has as a primary purpose the long-term storage of atmospheric carbon in accordance with CCX terms and provisions. I further agree to provide documentary evidence of the legal protected status of the forested land parcels registered with CCX. The quantity of XFOs to be issued to a CCX-registered forestry project shall be equivalent to the annual increase in sequestered carbon on eligible lands included in the project during the years 2003-2010. I agree to abide by the rules of the CCX as they pertain to XFOs and to the conditions for Pool participation as set forth in this agreement.

SIGNED _____

DATE _____

Purchaser agrees to buy and seller agrees to sell and deliver to purchaser free from liens and encumbrances at 1415 12th Avenue, SE, Jamestown, North Dakota 58401, the rights to the Exchange Forestry Offsets (XFOs) created during the years 2003-2010 through the use of CCX approved practices.

Please complete and attach the Exchange Forestry Offset Enrollment Worksheet and supporting documents as identified in the Terms and Conditions.

In particular, the seller warrants that the amount of carbon sequestered from which the XFOs arise is verified through Project Reports as described by the Chicago Climate Exchange, and agrees to abide by all of the rules of the Chicago Climate Exchange. The seller agrees to the terms of participation in the forestry carbon pool, recognizing that **20% of the accrued XFOs shall be held in reserve by the Purchaser until December 31, 2010**. In the event that the project fails to meet these requirements, all XFOs from such land shall be null and void and any payments for XFOs delivered prior to January 1, 2011, shall be repaid subject to interest and penalties.

The transfer price of the XFOs covered by this contract shall be the sale price as determined by trade through the Chicago Climate Exchange less a 10% service fee. Sale of XFOs covered by this contract shall be at the sole discretion of the Purchaser, however all XFOs shall be priced no later than June 30, 2011. Payment for XFOs covered by this contract shall be made on an annual or semi-annual basis. The parties to this contract hereby agree that the title to the XFOs shall be automatically delivered to the Purchaser on the first day of January following the year of which forestry sequestration or destruction occurred. By signature hereto, Seller irrevocably conveys title to the XFOs stated above to NDFU as of the first day of January following the year which sequestration took place. Seller further warrants compliance with the terms and conditions contained in the Agreement for the period from January 1, 2003 through January 1, 2011.

_____	Date	_____	Date	_____
Seller's Signature		Purchaser's Signature		
		North Dakota Farmers Union		

Terms and Conditions

CCX Offset Project Terms and Conditions: By registering a project with Chicago Climate Exchange (CCX), each project owner agrees to and acknowledges the following Terms and Conditions in relation to the Project and the Exchange Offsets issued by CCX;

1. The enrolled project meets all applicable eligibility rules of the Chicago Climate Exchange.
2. CCX will issue to the CCX Registry account of the project owner, or its designated aggregator, a quantity of Exchange Offsets that conforms to the applicable CCX Rules. Project owners will be notified of acceptance/rejection of their XFOs into the CCX Registry account by the designated aggregator at or before the time of the first payment due the Seller hereunder.
3. Each sale of Exchange Offsets executed through CCX shall represent a complete transfer of all legal rights associated with the mitigation of greenhouse gases that relate to the quantity and time periods associated with the Exchange Offsets that are established through fulfillment of the Terms of this contract.
4. The project owner or its CCX-registered aggregator may sell or retain the Exchange Offsets earned under the provisions of this agreement.
5. The project owner shall retain full legal ownership of all greenhouse gas mitigation rights that may accrue: (a) on lands or via activities not included in the CCX-registered project; (b) in excess of the quantity of Exchange Offsets issued by CCX; (c) before or after the years 2003 through 2010 for the CCX-registered project.
6. Neither CCX nor North Dakota Farmers Union makes any warranty as to the marketability or market value of CCX Exchange Offsets.
7. Each project owner, and, when applicable, its aggregator, is required to periodically submit a signed project report that confirms conformance with the terms herein. Representatives of CCX may conduct on-site inspection of registered projects and related documents. Each project owner agrees to provide access in such cases in a prompt and cooperative manner. All CCX offset projects and project reports and verification reports are subject to inspection and audit by the provider of regulatory services designated by CCX and by other independent experts as may be engaged by CCX.
8. CCX may request additional information and/or access to registered projects for the purpose of advancing understanding of greenhouse gas mitigation projects. Project owners may decline such access without penalty. In no cases shall research findings cause a reduction in the quantity of Exchange Offsets to be issued to a registered project.
9. Failure to conform to the provisions established herein may result in termination of enrollment in CCX and prohibition from all further participation in CCX.

CCX Eligibility Requirements: All CCX-eligible carbon sequestration projects that produce less than 12,500

metric tons CO₂ equivalent of Exchange Offsets per year must be registered through a CCX-registered aggregator. Projects that are represented in CCX by an Aggregator are referred to as “pooled projects.” The “pool” refers to the multiple projects represented by the Aggregator. Each aggregator is assigned a CCX Registry account which will hold all Offsets issued to projects it represents. Aggregators shall also be Authorized Traders in the CCX Trading Platform for such offsets. Aggregators shall be responsible for receiving from individual projects the CCX-required project reports, and for submitting to CCX summary reports of projects they represent. The terms of the business and legal relationships between project owners are left to the discretion of those parties.

Verifier: Is a technically expert entity that is approved by CCX to conduct verification of CCX Exchange Offset Projects.

Offset Issuance: CCX-eligible greenhouse gas mitigation projects can be recorded in the CCX Registry and will be issued during the years 2003, 2004, 2005, 2006, 2007, 2008, 2009, and 2010. All Offset project mitigation effectiveness will be quantified on the basis of metric tons of CO₂ equivalence. Each exchange Offset will represent one hundred metric tons of carbon dioxide and will be identified by annual vintage. CCX reserves the right to assess fees for the registration of Offset Projects in the CCX Registry

Vintage: The vintage of an instrument is defined as the first year the designated instrument may be used for compliance with the CCX emission reduction schedule, or, as applicable, purchase reduction schedule.

Trading Authority: North Dakota Farmers Union shall have sole authority to access the CCX Trading Platform and Registry account(s) holding the Offsets issued to projects it represents and to execute sales on the CCX electronic trading platform on behalf of project owners and distribute sales proceeds to project owners in accordance with the terms of this contract.

Forestation: Projects in the U.S., Canada, Brazil, and Mexico involving forestation (which includes afforestation or reforestation) and forest enrichment, via planting and/or natural regeneration initiated on or after January 1, 1990, on land not forested, or on forest land that had been degraded or unforested on December 31, 1989, may earn XFOs. The quantity of XFOs to be issued to a CCX-registered forestry project shall be based on the annual increase in Carbon Stocks on eligible sites included in the Project during each of the years 2003-2010.

Non-compliance: In the case of noncompliance with the Terms and Conditions contained in this CCX Exchange Forestry Offsets contract, the owner of the noncompliant project shall return a quantity of CCX Exchange Offsets and/or Exchange Allowances that is equal to the total quantity of XFOs that have been issued to the project during the years 2003 through 2010, or present payment in an amount equal to the cost of acquiring such replacement offsets or allowances. The owner shall also pay to the aggregator a penalty equal to twenty percent (20%) of the value of all offsets or allowances covered

under this Agreement as well as interest accruing on said amounts from the date of noncompliance as well as all costs incurred by aggregator in enforcing this provision inclusive of reasonable attorney fees. The owner of the noncompliant project may be prohibited from further participation in CCX.

Long term commitment: The project owner must present to CCX evidence that the Carbon Stocks in forest parcels included in a Project will be subject to long term maintenance in a manner deemed acceptable by the CCX Offsets committee. Projects in the U.S. and Canada can qualify if undertaken on privately-owned land and placed in protective status via: (a) establishment of a long-term conservation easement providing that the Project land is to be maintained as forest for the duration of the easement; or (b) transfer of ownership of land parcels to a land trust, qualifying non-governmental organization or governmental body, provided such transfer establishes legal protection that the Project land is maintained as forest; or (c) other means that the CCX Offsets Committee and the CCX Forestry Committee may determine to be acceptable.

Small forestation projects are defined for the purposes of CCX forest project quantification rules as projects owned by entities for which the minimum annual gross accumulation of Carbon Stocks is expected to be less than 2,000 metric tons of CO₂ equivalent per year.

Medium forestation projects are defined for the purposes of CCX forest project quantification rules as projects owned by entities for which the minimum annual gross accumulation of Carbon Stocks is expected to be more than 200 but less than 12,500 metric tons of CO₂ equivalent per year.

Large forestation projects are defined for the purposes of CCX forest project quantification rules as projects owned by entities for which the minimum annual gross accumulation of Carbon Stocks is expected to be more than 12,500 metric tons of CO₂ equivalent per year.

CCX forest carbon baseline is the quantity of stored carbon in the CCX-included carbon pools (expressed in metric tons CO₂ equivalent) in place on lands included in the CCX-registered project at the end of calendar year 2002.

Forest Carbon Reserve Pool: A quantity of Exchange Forestry Offsets equal to twenty percent (20%) of all XFOs generated by CCX-eligible forest carbon projects (as defined and quantified in conformance with CCX Rules) shall be held in a CCX Forest Carbon Reserve Pool. Such accounts shall be established for each medium and large project and for each aggregator of pooled projects. XFOs in the account shall remain the property of the project owner(s) (pool participants in the case of aggregated projects) and all XFOs that remain in the pool shall be released to the project owners in late 2010. In the event that a CCX-registered project experiences a net loss of stored carbon during 2003 through 2010, (e.g. due to events such as fire or tree removal), CCX shall promptly cancel XFOs held in the corresponding CCX Forest Carbon Reserve Pool in an amount equal to the net quantity of carbon (expressed in metric tons CO₂ equivalent) released from the CCX-

enrolled project. The maximum amount of carbon loss to be recognized by CCX shall be no more than the total quantity of XFOs issued to the project during its enrollment in CCX.

Project owners will be responsible for replacing the XFOs that are cancelled in instances of net loss of stored carbon. Such replacement instruments will be placed into the forest carbon reserve pool. Options available for the replacement of lost tons, and the associated replacement rates are as follows: (a) If previously issued XFOs are negated by net loss of stored carbon and are replaced with CCX-issued emission allowances or offsets, each previously issued offset must be replaced with one allowance or offset. (b) If previously issued offsets are negated by loss and are replaced with CCX XFOs to be generated by the affected project in later years (but as soon as practicable) as a result of carbon accumulation at the original project site, each cancelled XFO must be replaced with 1.2 later-vintage XFOs.



**Statement of Intent to Maintain Forest Cover and Manage
Forestry Offset Land in a Sustainable Forestry System**

I, _____, hereby attest that it is the intent of the owners of the land enrolled in the Chicago Climate Exchange Forestry Offset program through North Dakota Farmers Union/National Farmers Union contract number _____ to maintain the enrolled land in forest cover and to manage such lands in compliance with the principles and practices of sustainable forestry systems.

owner _____

date _____

Carbon Quantification Methods

As applicable in the provisions below, direct measurement of forest carbon must be conducted by a CCX-approved Verifier that shall apply a CCX-recognized Forest Carbon Direct Quantification Method. The cost of verification of such direct measurements will be borne by the Project Owner. The elected quantification method shall be employed for all years during the 2003-2010 period.

Small Forestation Projects shall be subject to inspection by verification entities engaged by CCX.

All information contained in the Project Registration Filing for Medium-sized Forestation Projects must be verified by a CCX-approved Verifier.

Project Registration Filings for Small and Medium-sized Forestation Projects must document the quantity of trees involved in the Project, acreage included, description of planted tree species and the tree ages, sizes and planting density at the time of Project registration.

Carbon accumulation in Small and Medium-sized Forestation Projects in the U.S. and Canada may be quantified using the CCX-approved direct measurement methods or through use of the CCX Reforestation Carbon Accumulation Tables provided in Appendix Table A. The coefficients in Appendix Table A shall be applied for reforestation and afforestation undertaken in the U.S. and Canada for Projects involving plantings in excess of 250 stems per acre. Tree classifications in Appendix Table C and the coefficients in Appendix Table D shall be applied for widely spaced tree planting Projects, including urban and suburban tree planting programs, undertaken in the U.S. and Canada.

For Large Forestation Projects the baseline Carbon Stocks and carbon accumulation must be quantified through direct measurement undertaken by a CCX-approved Verifier. Offset issuance is determined on the basis of net carbon accumulation, which shall reflect carbon lost from a Project site due to harvest, fire, pests or other events.

Owners of Projects that are quantified through direct measurement shall initially quantify the number of Offsets generated by the Project through use of the applicable Carbon Accumulation Coefficients provided in the Appendix (or other recognized and credible carbon accumulation reference values as may be recommended by CCX). Final Offset issuance quantities for 2003-2010 shall be based on direct measurement of carbon increments as determined by a measurement occurring during the third or fourth calendar quarter of 2003. CCX Projects that have been subject to direct measurement prior to 2003 may use those data to quantify annual increments in Carbon Stocks during the 2003 through 2010 period.

Quantification of Baselines and Carbon Accumulation for Small, Medium and Large CCX forestry projects

Project size (average annual MTCO ₂ increment)	Small	Medium	Large
Definition	U.S. and Canada projects that are less than 2,000 mtCO ₂ /yr	More than 2,000 mtCO ₂ /yr, less than 12,500 mtCO ₂ /yr	More than 12,500 mtons CO ₂ /yr
Baseline quantification	Not required if Appendix A coefficients are applied; direct measurement is optional. Project registration filings must detail acreage, tree counts, types and sizes.	Information contained in project registration filing must be verified by a CCX-approved verification entity.	Direct measurement by CCX-approved verification entities.
Periodic quantification of carbon increments	Appendix A coefficients or direct measurements	Appendix A coefficients annual or direct measurements in late 2009. Annualized gains over 2003-2009 are applied to 2010.	Initially Appendix A coefficients, direct measurements required in late 2009; annualized gains over 2003-2009 are applied to 2010.
Verification	Project and reports subject to inspection by entities engaged by CCX.	Independent verification of registration filing and annual project reports and direct carbon measurements (if latter method is employed)	Independent verification of registration filing, annual project reports and direct carbon measurements.

Appendix Table A

Appendix Table A Dense Planting (>250 stems per acre) Forestation Project Carbon Accumulation Table (Metric tons CO₂ per acre per year)¹

U.S. region and species*	Years since planting			
	0-5	5-10	10-15	15-20
SE Loblolly	1.51	1.86	6.99	6.17
SE Slash	1.51	1.75	6.52	5.83
SE longleaf pine	1.40	1.51	5.24	4.78
Delta loblolly	2.21	2.80	7.81	7.92
Delta slash pine	2.10	2.68	7.69	7.69
Southern plains loblolly	2.10	2.45	6.87	6.87
Appalachian loblolly	1.63	1.98	7.11	6.41
Appalachian shortleaf pine	1.51	1.75	6.52	5.71
Northeast white/Norway spruce	1.28	1.28	1.40	2.56
Northeast red pine	2.68	3.38	3.50	3.50
Lake States, white spruce	3.61	4.78	4.66	5.01
Lake States, red pine	2.10	2.45	2.56	4.31
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
Rocky Mountains, ponderosa pines	1.40	1.40	1.51	2.33
Pacific Coast Douglas fir	1.05	1.40	1.28	3.26
Pacific Coast ponderosa pine	1.63	0.70	0.82	0.93

* If the species and region combinations do not match your Project, apply the Carbon Accumulation Values for the species you have that are applicable to a climatically similar climate. Projects in Canada should apply the carbon values applicable in the closest U.S. region listed above unless undertaken more than 250 miles from the U.S. border.

Region definitions:

SE (southeast): AL, FL, GA, SC; Delta: AR, LA, MS; South Central: AL, AR, LA, MS, OK, TN, TX; Southern plains: OK, TX; Appalachian: KY, NC, VA, TN, WV; Northeast: CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT; Lake States: MI, MN, WI; Corn Belt: IA, IL, IN, MO, OH; Central States: IA, IL, IN, KS, MO, NE, SD; Northern Plains: KS, ND, NE, SD; Rocky Mountains: AZ, CO, ID, MT, NM, NV, UT, WY; Pacific Coast: CA, OR, WA

¹ Source: The values in Table A are 70% of the annualized carbon accumulation quantities for carbon in live vegetation that are reported in "Regional Estimates of Timber Volume and Forest Carbon for Managed Timberland" by Richard Birdsey, in "Forests and Global Change", Volume 2: Forest Management Opportunities For Mitigating Carbon Emissions, Sampson, R.N., and Hair, D., eds.

Appendix B

Methods for Quantifying Carbon Accumulation for Urban and Suburban Tree Planting Program

Step 1: Determine the number and species of qualifying live trees standing at the end of 2002 (or upon Project registration) on lands included in the CCX-registered Project. Qualifying trees are those planted after December 31, 1989 on sites not forested at that time.

Annual carbon sequestration values are calculated **per one hundred trees**.

Step 2: Reference Appendix Table C to determine how many trees in the Project (rounded to the nearest hundred) correspond to the tree types listed below (species: H = Hardwood, C = Conifer) and growth rates (S = Slow, M = Moderate, F = Fast).

Do not include trees with diameters less than 1 inch at breast height.

Step 3: Apply the annual carbon accumulation values provided in Appendix Table D to determine annual metric tons of CO₂.

For the purpose of calculating Tree Age in order to use Table D, zero-year trees are 1 inch in diameter at Breast Height (total diameter at Breast Height of all trunks for multi-trunk trees).

To calculate Tree Age for trees with a diameter greater than 1 inch, use the following formula:

(Tree diameter (in inches) – 1) multiplied by 3. Round the result to the nearest whole number.

Retain all worksheets, calculations, field assessments and other information on tree counts.

Calculation Example:

A city planted 10,000 two-inch diameter White Ash trees in 1996. Those trees were therefore age 3 in 1996, so they are age 10 during 2003. The city concludes that 90% of the trees survived through 2002 (9,000 remain alive).

The carbon sequestration calculation is as follows:

Tree type: White Ash

Tree count: 9,000

Tree types, growth rate: H, F

Carbon accumulated during 2003: $90 \times 2.25 = 202.5$ metric tons CO₂ (round up to 203 metric tons).

Appendix Table C

Tree types and growth rates applied to urban and suburban tree plantings

Type: H = Hardwood, C = Conifer Growth Rate: S = Slow, M = Moderate, F = Fast

Species	Type	Growth Rate	Species	Type	Growth Rate
Ailanthus, Ailanthus altissima	H	F	Maple, bigleaf, Acer macrophyllum	H	S
Alder, European, Alnus glutinosa	H	F	Maple, Norway, Acer platanoides	H	M
Ash, green, Fraxinus pennsylvanica	H	F	Maple, red, Acer rubrum	H	M
Ash, mountain, American, Sorbus americana	H	M	Maple, silver, Acer saccharinum	H	M
Ash, white, Fraxinus americana	H	F	Maple, sugar, Acer saccharum	H	S
Aspen, bigtooth, Populus grandidentata	H	M	Mulberry, red, Morus rubra	H	F
Aspen, quaking, Populus tremuloides	H	F	Oak, black, Quercus rubra	H	M
Baldcypress, Taxodium distichum	C	F	Oak, blue, Quercus douglasii	H	M
Basswood, American, Tilia americana	H	F	Oak, bur, Quercus macrocarpa	H	S
Beech, American, Fagus grandifolia	H	S	Oak, California black, Quercus kelloggii	H	S
Birch, paper (white), Betula papyrifera	H	M	Oak, California White, Quercus lobata	H	M
Birch, river, Betula nigra	H	M	Oak, canyon live, Quercus chrysolepsis	H	S
Birch, yellow, Betula alleghaniensis	H	S	Oak, chestnut, Quercus prinus	H	S
Boxelder, Acer negundo	H	F	Oak, Chinkapin, Quercus muehlenbergii	H	M
Buckeye, Ohio, Aesculus glabra	H	S	Oak, Laurel, Quercus laurifolia	H	F
Catalpa, northern, Catalpa speciosa	H	F	Oak, live, Quercus virginiana	H	F
Cedar-red, eastern, Juniperus virginiana	C	M	Oak, northern red, Quercus rubra	H	F
Cedar-white, northern, Thuja occidentalis	C	M	Oak, overcup, Quercus lyrata	H	S
Cherry, black, Prunus serotina	H	F	Oak, pin, Quercus palustris	H	F
Cherry, pin, Prunus pennsylvanica	H	M	Oak, scarlet, Quercus coccinea	H	F
Cottonwood, eastern, Populus deltoides	H	M	Oak, swamp white, Quercus bicolor	H	M
Crabapple, Malus spp.	H	M	Oak, water, Quercus nigra	H	M
Cucumbertree, Magnolia acuminata	H	F	Oak, white, Quercus alba	H	S
Dogwood, flowering, Cornus florida	H	S	Oak, willow, Quercus phellos	H	M
Elm, American, Ulmus americana	H	F	Pecan, Carya illinoensis	H	S
Elm, Chinese, Ulmus parvifolia	H	M	Pine, European black, Pinus nigra	C	S
Elm, rock, Ulmus thomasii	H	S	Pine, jack, Pinus banksiana	C	F
Elm, September, Ulmus serotina	H	F	Pine, loblolly, Pinus taeda	C	F
Elm, Siberian, Ulmus pumila	H	F	Pine, longleaf, Pinus palustris	C	F
Elm, slippery, Ulmus rubra	H	M	Pine, ponderosa, Pinus ponderosa	C	F
Fir, balsam, Abies balsamea	C	S	Pine, red, Pinus resinosa	C	F
Fir, Douglas, Pseudotsuga menziesii	C	F	Pine, Scotch, Pinus sylvestris	C	S
Ginkgo, Ginkgo biloba	H	S	Pine, shortleaf, Pinus echinata	C	F
Hackberry, Celtis occidentalis	H	F	Pine, slash, Pinus elliotii	C	F
Hawthorne, Crataegus spp.	H	M	Pine, Virginia, Pinus virginiana	C	M
Hemlock, eastern, Tsuga canadensis	C	M	Pine, white eastern, Pinus strobus	C	F
Hickory, bitternut, Carya cordiformis	H	S	Poplar, yellow, Liriodendron tulipifera	H	F
Hickory, mockernut, Carya tomentosa	H	M	Redbud, eastern, Cercis canadensis	H	M
Hickory, shagbark, Carya ovata	H	S	Sassafras, Sassafras albidum	H	M
Hickory, shellbark, Carya laciniosa	H	S	Spruce, black, Picea mariana	C	S
Hickory, pignut, Carya glabra	H	M	Spruce, blue, Picea pungens	C	M
Holly, American, Ilex opaca	H	S	Spruce, Norway, Picea abies	C	M
Honeylocust, Gleditsia triacanthos	H	F	Spruce, red, Picea rubens	C	S
Hophornbeam, eastern, Ostrya virginiana	H	S	Spruce, white, Picea glauca	C	M
Horsechestnut, common, Aesculus	H	F	Sugarberry, Celtis laevigata	H	F

Kentucky coffeetree, <i>Gymnocladus dioicus</i>	C	F	Sweetgum, <i>Liquidambar styraciflua</i>	H	F
Linden, little-leaf, <i>Tilia cordata</i>	H	F	Sycamore, <i>Platanus occidentalis</i>	H	F
Locust, black, <i>Robinia pseudoacacia</i>	H	F	Tamarack, <i>Larix laricina</i>	C	F
London plane tree <i>Platanus_X_acerifolia</i>	H	F	Walnut, black, <i>Juglans nigra</i>	H	F
Magnolia, southern, <i>Magnolia grandifolia</i>	H	M	Willow, black, <i>Salix nigra</i>	H	F

Type: H = Hardwood, C = Conifer Growth Rate: S = Slow, M = Moderate, F = Fast

Appendix Table D

Annual CCX carbon accumulation quantities for urban and suburban tree plantings (metric tons CO₂) per one hundred trees by tree type and age

Annual Sequestration Rates by Tree Type and Growth Rate <i>(metric tons CO₂ per one hundred trees)</i>							
Tree Age	Tree diameter (at 4.5 feet height)	Hardwood			Conifer		
		Slow	Moderate	Fast	Slow	Moderate	Fast
0	1 inch	0.15	0.22	0.31	0.08	0.12	0.16
1	1.33"	0.19	0.31	0.47	0.10	0.17	0.26
2	1.66"	0.23	0.41	0.63	0.13	0.23	0.36
3	2.0"	0.28	0.50	0.80	0.16	0.29	0.48
4	2.33"	0.33	0.61	0.99	0.19	0.36	0.61
5	2.66"	0.37	0.71	1.18	0.22	0.43	0.75
6	3.0"	0.43	0.83	1.38	0.26	0.51	0.89
7	3.33"	0.48	0.94	1.59	0.29	0.59	1.04
8	3.66"	0.54	1.06	1.81	0.33	0.68	1.19
9	4.0"	0.58	1.19	2.03	0.36	0.77	1.36
10	4.33"	0.64	1.31	2.25	0.41	0.86	1.54
11	4.66"	0.70	1.43	2.48	0.44	0.96	1.71
12	5.0"	0.76	1.57	2.72	0.49	1.06	1.90
13	5.33"	0.82	1.70	2.96	0.54	1.15	2.09
14	5.66"	0.87	1.84	3.21	0.57	1.26	2.28
15	6.0"	0.94	1.97	3.46	0.62	1.38	2.49
16	6.33"	1.00	2.11	3.72	0.66	1.48	2.70
17	6.66"	1.06	2.26	3.97	0.71	1.60	2.91
18	7.0"	1.13	2.40	4.23	0.77	1.71	3.14
19	7.33"	1.19	2.55	4.50	0.82	1.83	3.36
20	7.66"	1.26	2.70	4.78	0.86	1.95	3.59
21	8.0"	1.33	2.84	5.05	0.92	2.07	3.82
22	8.33"	1.40	3.01	5.33	0.97	2.20	4.07
23	8.66"	1.46	3.16	5.61	1.03	2.33	4.31
24	9.0"	1.53	3.31	5.90	1.07	2.46	4.56
25	9.33"	1.60	3.47	6.19	1.13	2.59	4.81
26	9.66"	1.67	3.64	6.48	1.19	2.73	5.07
27	10.0"	1.75	3.79	6.77	1.25	2.87	5.33
28	10.33"	1.82	3.95	7.08	1.31	3.01	5.59
29	10.66"	1.89	4.11	7.38	1.36	3.15	5.86

Chicago Climate Exchange Forestry Offset Project Questionnaire

This questionnaire will be used to assess general eligibility criteria for CCX forest offset projects. Basic information on CCX offsets can be downloaded from the [CCX offsets webpage](#).

Please complete and return this form to your account representative or to forestry@theccx.com

Organization Name:

Project Name:

Name of Contact Person:

Title:

Telephone:
(Include country code)

Email:

Fax:

Website:

General Eligibility Criteria

	YES	NO	
1. Does the project involve forest enrichment through planting or natural regeneration initiated after January 1, 1990 on land that was not forested or was deforested as of December 31, 1989?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are the project activities required by law?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Is the primary business of the organization forestation or forest preservation?	<input type="checkbox"/>	<input type="checkbox"/>	
4.a Do worldwide forest operations of the organization include direct emissions sources?	<input type="checkbox"/>	<input type="checkbox"/>	
4.b If the project owner has significant direct emissions, is the organization currently a member of CCX?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Can the project owner provide evidence for long-term commitment to maintaining forest carbon stocks from project?	<input type="checkbox"/>	<input type="checkbox"/>	
6.a Does the project possess a certification for sustainable management of its worldwide entity wide forest carbon stocks?	<input type="checkbox"/>	<input type="checkbox"/>	
6.b If Yes, Name of the certification agency	FSC <input type="checkbox"/>	SFI <input type="checkbox"/>	Other <input type="checkbox"/>
6.c If other specify name			

Project Details

1. Type of Forest Offset Project (click more than one if applicable)	a) Forestation	<input type="checkbox"/>
	b). Forest enrichment	<input type="checkbox"/>
	c) Forestation along with Avoided Deforestation/conservation of threatened forests (Eligible for regions specified regions in Brazil and Mexico)	<input type="checkbox"/>
	d) Urban and suburban tree planting	<input type="checkbox"/>
	e) Agro forestry	<input type="checkbox"/>

2.	Location(s) of the Project
3.	Total project area (hectares)
4.	Tree Species included in project (please specify percentage of acreage under each species in parenthesis)
5.a	Expected annual CO ₂ accumulation in above ground living biomass < 2,000 mt <input type="checkbox"/> 2,000 – 12,500 mt <input type="checkbox"/> >12,500 mt <input type="checkbox"/>
5.b	If above 12,500 mt, please provide initial estimate
6.a	Harvest Cycles in years (if any)
6.b	End use of the wood products

Carbon Quantification Method

1.	What kind of methodology will be employed to quantify annual growth in forest carbon stocks?	a. Publicly available growth models <input type="checkbox"/>	
		b. Proprietary growth models <input type="checkbox"/>	
		c. Direct infield sampling and measurement <input type="checkbox"/>	
		d. CCX carbon accumulation tables <input type="checkbox"/>	
		e. Other method <input type="checkbox"/>	
2.a	If using publicly available growth models, please provide model details	Name	
		Version	
		Source	
2.b	If using growth models, are they appropriately calibrated & validated for the region?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3.	Source for data inputs for carbon quantification method (choose more than one if applicable)	a. Sample plots <input type="checkbox"/>	
		b. Peer reviewed publications <input type="checkbox"/>	
		c. Model default values <input type="checkbox"/>	
		d. Other sources <input type="checkbox"/>	
4.	Are growth projections from carbon quantification method externally reviewed?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Ownership Questions

	YES	NO
1. Are the project submitters the owners of the forest land in the project proposal?	<input type="checkbox"/>	<input type="checkbox"/>
2. Does this project involve aggregation of smaller units of forest land?	<input type="checkbox"/>	<input type="checkbox"/>
3. If so, specify the name of the aggregator?		
4. Does the project submitter have rights to the carbon credits from this project?	<input type="checkbox"/>	<input type="checkbox"/>

Additional information

1.a	Has the project been subject to any external third party verification?	<input type="checkbox"/>	<input type="checkbox"/>
1.b	If yes, name of the independent third party verification agency		
2.	Has the geographical location of the project been subject to frequent catastrophic events including fire, hurricanes, ice storms etc. leading to significant loss of carbon stocks?	<input type="checkbox"/>	<input type="checkbox"/>



Farmers Union
CARBON CREDIT PROGRAM
 PO Box 2136 • 1415 12th Avenue S
 Jamestown, ND 58402-2136

Forestry Offset Enrollment Worksheet

Contract No. XFO _____ State _____

Aggregator No. _____ Worksheet No. _____

NAME	PHONE
ADDRESS	CITY/STATE/ZIP

Plot No.	Plot Latitude (DEGREES & MINUTES) N: _____	Plot Longitude (DEGREES & MINUTES) W: _____
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PLOT LOCATION		LEGAL DESCRIPTION	
State	Name of Survey	Township or Parish Name	Range No.
County	Abstract No.	Township No.	Section No.

Acres of Trees in Plot	Planting Date of Trees in Plot _____ Age of Trees in 2003 _____	CO2 Quantification Method to be used Direct Measurement _____ or CCX Table 9.3 _____
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Tree Region	Tree Species/Classification	Trees/Acre at planting	Trees/Acre at project registration
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DIRECT MEASUREMENT IF DIRECT MEASUREMENT: Model Used _____ Trees/Acre _____ Basal area/Acre _____ Total dry biomass _____ Height of dominant or co-dominant trees _____ Site Index _____ 2003 /Acre Above-Ground biomass _____ 2010 Above ground biomass _____ Avg Annual Above-Ground Biomass _____ Calculated weight of carbon in biomass _____ Avg Annual CO2 (factor 3.666676) _____	DOCUMENTATION SUBMITTED WITH XFO CONTRACT STATUS OF PLOT PRIOR TO 1990 Crop or Grassland _____ Degraded Forest _____ Map of Plot _____ Evidence of Planting Date _____ Forest Management Plan _____ Enrollment in ATFS _____ CPR Contract _____ IF DEGRADED FOREST LANDS PRIOR TO 1990 1995 Map of Plot _____ Other evidence of degraded status _____	TABLE 9.3 COEFFICIENT >250 STEMS/ACRE 2003 _____ 2004 _____ 2005 _____ 2006 _____ 2007 _____ 2008 _____ 2009 _____ 2010 _____
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ADDITIONAL OWNERS (IF APPLICABLE)		TABLE 9.3B2 COEFFICIENT URBANSUBURBAN AND RIPARIAN BUFFERS	CO2 FACTOR (PER 100 TREES)
NAME	SHARE	Tree Type _____ Tree Count _____ TREE TYPE : H _____ C _____ GROWTH RATE" S _____ M _____ F _____ DBH _____ Age _____ (DBH-1)#3	2003 _____
ADDRESS			2004 _____
CITY/STATE/ZIP			2005 _____
PHONE			2006 _____
NAME			2007 _____
ADDRESS			2008 _____
CITY/STATE/ZIP			2009 _____
PHONE			2010 _____
NAME			
ADDRESS			