



Carbon Farming

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J. David Aiken

Water & Agricultural Law Specialist

UNL Department of Agricultural Economics

daiken@unl.edu



what are carbon credits?

- example: coal power plant is required to reduce greenhouse gas (GHG) emissions
- regulated entity may be allowed to use **carbon credits** or **carbon offsets** to meet a portion of their emission reduction requirements
- carbon credits/offsets: verifiable permanent reduction of GHG emissions
 - e.g. decommission coal power plant & replace with renewable generation + electricity storage – can generate carbon credits where coal plant emissions are regulated
- EPA acid rain program: emission allocations represented actual emission reductions at “cleaner” power plants – apples to apples
 - ag carbon credits more apples to oranges

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what are ag carbon credits?

- farmers/ranchers get some payment for implementing **new** practices that increase soil sequestration
 - putting cropland into grassland or forests
 - forest restoration
 - going from full-till to reduced-till or no-till
 - reduced nitrogen fertilizer application rate
 - planting cover crops
 - capture methane from manure & generate electricity
 - preventing grassland conversion to cropland?

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ag carbon credits, con't

- most carbon capture opportunities per acre in forests (although wildfires a big threat)
- more in farming (cover crops, fuel saving, less tillage, manure management)
- less per acre in ranching
 - avoided grassland conversion to cropland
 - rangeland management & restoration
 - grazing optimization

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what are the different carbon markets?

- voluntary markets & compliance markets
- **voluntary** markets: “feel good” purchases of carbon credits to reduce one’s “carbon footprint”
 - e.g. to meet corporate sustainability goal, etc.
 - voluntary carbon credit certification
- **compliance** markets: where carbon credits can help reduce a business’s carbon footprint when required by law to do so
 - California; RGGI; EU: forest & dairy credits
 - much harder to get carbon credits certified/verified

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what is going on now?

- speculation & pilot projects
- speculators IMO are seeking to contract many many acres now in expectation that global efforts to reduce GHG emissions 50% by 2030 & to achieve net zero emissions by 2050 will heat up market for carbon offsets down the road
 - one estimate: 15x current voluntary carbon mkt volume
- pilot projects: firms contract relatively few acres to work out bugs regarding validating carbon sequestration in working ag lands to be ready to participate in carbon markets down the road
 - or license software platform to farmers, etc.

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will USDA have a carbon bank?

- USDA carbon bank: USDA will likely do pilot, if positive results, ask Congress to authorize more robust program
- USDA carbon bank would operate similarly to e.g. CRP
 - producers bid land in, lowest bids win
 - would get paid \$x/acre for specified practices
 - payments could go to **not new** soil sequestration practices, i.e. payments to maintain existing sequestration not just to start new practices
 - payments not tied to carbon markets
 - could let producers sell carbon credits
- Vilsack – designed for farmers not carbon markets

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what should farmers watch for?

- November 2021 Glasgow UN climate negotiations will tell the story as they unfold now, in 2022, 2023, etc.
 - they have a lot on their plate but big ambitions too
- how many countries will commit to net carbon neutral 2050? how many countries will actually follow through? China? USA?
- Growing Climate Solutions Act of 2021: if HR passes it & President signs it, could make ag carbon markets easier to navigate sometime down the road 😊
- USDA Climate Smart Farming program
- USDA carbon bank may be best/only option in the beginning
- Biden Clean Energy Standard: would ramp up US carbon markets if adopted but very controversial so

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Grassroots Carbon (GRC)

- 10-year contract, 1000 acres
- payments based on what GRC can sell stored carbon on carbon market
- in 2020, GRC received \$16.50/ton of carbon stored from buyers on carbon market
 - producer got 80% after measurement & verification costs subtracted.
- pasture annual carbon storage ranges from 0.5 to 4.0 ton/acre
- if leased pasture, carbon contract is with owner not tenant
☺ if tenant to receive any \$\$ must be in writing

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for more information

- www.buildgrassroots.com [GRC] only pasture group in ag carbon business that I have found to date
- https://unl.zoom.us/webinar/register/WN_G90giMV7Q26qQROA5Nx4ag
 - Thursday 8/12 webinar 12-1pm CDT 3 ag carbon companies: 2 crops 1 pasture cap.unl.edu
- <https://cap.unl.edu/carbon>
 - UNL Center for Ag Profitability carbon resources page

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