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Abstract

Carbon is certainly a hot topic in agriculture. Across the countryside, farmers, landowners, agricultural service providers, and many others are trying to understand what carbon is about and what it may mean to them. One of the more interesting topics around agricultural carbon concerns the relationship between the landowner and tenant farmers on absentee-owned land (i.e., land that is farmed by someone other than the person who owns it). This article provides a brief background on the agricultural carbon opportunity and explores some ideas about how to pursue the opportunity on absentee-owned farmland.

I. Agricultural Carbon Primer

Almost every human endeavor – eating, driving, turning on the lights, even breathing – generates greenhouse gases (GHG), which in turn have been linked to climate change.[1] Companies across many economic sectors have launched ambitious efforts to reduce their GHG emissions[2] and are actively looking for solutions. Companies are working in various ways to reduce their GHG contributions[3], including reducing their own emissions (Scope 1), reducing emissions indirectly caused by them through, for example, electricity consumption (Scope 2), and working with others within their supply chains to reduce their indirect emissions (Scope 3). If reductions are simply not possible (e.g., you can't fly an airplane without jet fuel), companies can purchase offset credits.[4] Companies looking for offset credits are focused almost exclusively on those

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[1] *See* Intergovernmental Panel on Climate Change, Climate Change 2021: The Physical Science Bias 4 (2021).

[2] *Ambitious Corporate Climate Action,* SCI. BASED TARGETS INITIATIVE, https://sciencebasedtargets.org/ (last visited Mar. 13, 2022).

[3] *Calculation Tools*, GREENHOUSE GAS PROTOCOL, https://ghgprotocol.org/calculationg-tools-faq (last visited Mar. 13, 2022).

[4] *What is a Carbon Offset?*, CARBON OFFSET GUIDE, https://www.offsetguide.org/understanding-carbon-offsets/what-is-a-carbon-offset/ (last visited Mar. 13, 2022).

approved by recognized carbon registries like Climate Action Reserve and Verra.[5]

Agriculture is uniquely positioned to make material contributions to help address climate change. U.S. agricultural is currently a net emitter, accounting for approximately 10% of US GHG emissions.[6] However, with a few simple changes at the field-level (e.g., planting cover crops, reducing tillage, improving nitrogen management), farms can transition from being net emitters to "sequesters" of GHG.[7] Importantly, certain farming practices – specifically cover crops and minimal tillage – can result in the "removal" of GHG from the atmosphere.[8] Few other options exist to remove GHG from the atmosphere, so agriculture could play a truly meaningful role in helping to address climate change.[9]

Against this background on the agricultural carbon opportunity, let's turn to the specific question of the relationship among the land, the landowner, and the farmer. Two things are important with respect to agricultural carbon:

- Additionality, which means that something additional must be done on the farm to cause the GHG profile to change in a way that more GHGs are removed, or abated, relative to the baseline condition.
- Permanence, which means that changes must remain over a long period of time.

A practical example helps to illustrate these concepts. Assume that a farmer went from conventional tillage practices with no cover crops to no-till and cover crops. The cover crop is an example of additionality because the farmer did something that he had not done before (e.g., planted a cover crop) and that practice

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[5] *Registries and Enforcement*, CARBON OFFSET GUIDE, https://www.offsetguide.org/understanding-carbon-offsets/carbon-offset-programs/registries-enforcement/ (last visited June 6, 2022).

[6] *Sources of Greenhouse Gas Emissions*, ENV'T PROT. AGENCY, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions (last visited Mar. 13, 2022).

[7] *Id.*

[8] CARBON CYCLE INST., CARBON FARMING: IMPROVING SOIL FERTILITY & WATER HOLDING CAPACITY THROUGH INCREASING SOIL CARBON 1, 2 (n.d.), available at https://www.carboncycle.org/wp-content/uploads/2018/09/carbon-farming-brochure-Sept2018-CCI-5.pdf

[9] *Id.* at 1.

changed the GHG profile (e.g., the cover crop removed CO_2 from the atmosphere through photosynthesis and stored some portion of it below the surface in its roots). By limiting the exposure of carbon stored in the root biomass to the atmosphere, the no-till practice helped to ensure that the removed carbon remained stored in the soil profile, and thus helps to establish permanence. In essence, the cover crop is pulling carbon from the atmosphere and the soil is storing it.[10]

II. Carbon Farming on Leased Land

Let's leverage this example to orient our minds around who does what to sequester carbon in agricultural soils. The farmer is planting the cover crop and implementing the tillage practices. But the land itself is storing the carbon, which may be released if the soil is disturbed in the future. If agricultural carbon is going to be successful, the agricultural community must ensure that there are ways to guarantee that the carbon remains stored. And as over 50% of farmland, and sometimes upwards of 80%, of farmland used to grow the major commodity crops in the US is absentee-owned, appropriate incentives must be provided for landowners and tenants alike.[11]

Farmers and landowners are very accustomed to working through commercial agreements together through the land leasing process. About 70% of the time, farmers lease land from non-operator owners on a cash rent basis (e.g., $X per acre-year).[12] Crop share, flexible cash, or free arrangements account for the remainder of leased acres. In essence, the farmer and the landowner reach a decision about who is going to do what (e.g., farmer will farm the land), who will be compensated how (e.g., farmer pays landowner a fixed cash amount or they decide to share in the revenues or profits), and what conditions govern the arrangement. These arrangements have been aided by standardized land leases like the ones available from the National Agricultural Law Center.[13]

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[10] Many farming practices may alter the GHG profile of a farm but cover crops and reduced/no-till currently have the greatest impact in terms of sequestering carbon in agricultural soils.

[11] *See* DANIEL BIGELOW ET AL., ECON. RSCH. SERV., U.S. DEP'T OF AGRIC., EIB-61, U.S. FARMLAND OWNERSHIP, TENURE, AND TRANSFER iii (2016).

[12] *Id.* at 28.

[13] *Agricultural Leases*, NAT'L AGRIC. L. CTR., https://nationalaglawcenter.org/research-by-topic/ag-leases/ (last visited Mar. 13, 2022).

Some important considerations come into focus when thinking about carbon farming on leased land:

- What is required for leased land to enter a carbon program?
- Who should earn money from the sale of any carbon credits or other payments associated with carbon farming?
- Who should pay the costs associated with the carbon farming practices?
- What happens if a different farmer assumes control of the leased land?

A. What Rights are Required to Enroll in a Carbon Program?

Carbon methodologies, like the Soil Enrichment Protocol published by the Climate Action Reserve, require the participation of the person who has "management control over agricultural management activities for one or more fields within the project area."[14] This is the farmer in common parlance. The Soil Enrichment Protocol expressly states that "[t]here is no requirement for direct participation of the landowner. . . ."[15] Tenant farmers therefore can participate in carbon programs on leased land if they have management rights over the farm.

B. How Should the Revenues and Costs of Carbon Farming Be Apportioned?

Carbon revenues and costs are no different than any other revenues and costs associated with farming. Farmers and landowners can split them however they desire. For example, a farmer and landowner might agree to assign all carbon revenues to the farmer as long as the farmer covers the costs of implementing carbon farming practices. At the other end of the spectrum, the farmer and landowner might agree that the landowner gets all the carbon revenue in exchange for the landowner reducing the rent and the farmer paying for the costs of implementing the practices. Many other potential arrangements exist, but it's fundamentally a commercial decision for the landowner and farmer to reach together.

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[14] CLIMATE ACTION RSRV, SOIL ENRICHMENT 7 (2020).
[15] *Id.*

C. What Happens If Someone Else Starts Farming the Land?

The best question comes last. Recall that carbon is stored in the soil, and that it may be released through tillage practices. Now imagine a situation where one tenant farmer is fully committed to carbon farming on a leased farm, but another tenant assumes control over this farm and decides to return to a full tillage regime. In this case, most of the carbon that was stored in the soil would be released to the atmosphere.

The broader agricultural carbon opportunity may provide unviable if farmers are "penalized" for implementing practices that result in the release of carbon when farming conditions require such intervention (e.g., tilling areas of a field that were heavily rutted during a wet harvest period). Nevertheless, mechanisms should be implemented to provide appropriate incentives to help maintain carbon stored in the soil. In the case of Indigo's carbon program, the farmer is paid out over time, as a form of deferred compensation, to ensure that he always has an incentive to maintain the carbon stored in the soil.

But what happens if the farmer loses the farm, and the subsequent tenant releases the stored carbon? The credits have been sold to third parties on the condition that the carbon will remain stored in the soil. How do we encourage a continuation of the carbon farming practices, or at least discourage the release of stored carbon, when a leased farm passes from one tenant to another?

Fortunately, this kind of situation has been addressed before in the Conservation Reserve Program (CRP).[16] Under CRP, farmers remove environmentally sensitive land from agricultural production and plant ecologically beneficial plant species in exchange for a yearly payment.[17] CRP contracts typically bind the land to the program for 10 to 15 years.[18] Under the regulations governing the CRP program, parties who wish to remove land enrolled in the program must "refund all or part of the payments made by CCC with respect to the CRP contract, plus interest, and must also pay

[16] *About the Conservation Reserve Program*, USDA, https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/ (last visited Mar. 13, 2022).
[17] *Id.*
[18] *Id.*

liquidated damages as provided for in the CRP contract, if directed to do so by CCC."[19] The regulations, however, further state that:

> "If a participant transfers all or part of the right and interest in, or right to occupancy of, land subject to a CRP contract and the new owner or operator becomes a successor to such contract … then such participant will not be required to refund previous payments received under the contract
>
> [or]
>
> No refunds of previous payments will be required if the person or entity to whom all or part of the right and interest in, or right of occupancy of, land subject to such contract reaches an agreement with CCC to modify the contract in a way that is consistent with the objectives of the program."[20]

In short, the CRP program does not impose any financial penalty if the land enrolled in the program remains in the program after a transition between owners, operators, or otherwise. USDA has rightfully recognized that the "land" is the ultimate counterparty to the contract and realized that the objectives remained satisfied if the land remains in the CRP program regardless of who owns or operates it. The CRP program is pointing the way toward a solution to the carbon farming on leased land problem.

But let's consider one other important element with respect to carbon farming: the baseline. Recall that a carbon credit is essentially a calculation of the relative GHG profile of a farm before/after a particular farming practice is implemented. The baseline approximates the GHG profile based on the historical farming practices on that field before the carbon farming practices are implemented. The baseline is usually determined based on 3 to 5 years of records for particular fields.

Now, let's return to the leased field that moved from one tenant farmer to another. Where is the baseline going to come from? If the first tenant doesn't share the baseline, or at least the data by which it was created, with the subsequent tenant, the subsequent tenant is effectively barred from earning carbon credits until he farms

[19] 7 C.F.R. § 1410.32 (2022).
[20] *Id.*

it long enough to establish the baseline himself (i.e., 3 to 5 years depending on crop rotation). This is surely a suboptimal outcome, especially if the farmer wishes to continue to carbon farm that field.

But what incentive does the initial tenant have to share the baseline data with the subsequent tenant? As you will see in our proposed path forward, the initial tenant and subsequent tenant could essentially exchange the baseline for a promise to continue the carbon farming practices. Several positive outcomes are realized through this approach:

- Carbon farming practices are maintained on the land, thus eliminating potential release of carbon stored in the soil.
- The initial tenant may receive any unvested carbon payments from the carbon project developer on the condition that the carbon farming practices are maintained on the field. The initial tenant could enter a commercial arrangement, like the CRP construct, via the land lease in which the subsequent tenant agrees to refund the carbon project developer if the carbon farming practices are terminated. This commercial arrangement would give the carbon project developer confidence to release unvested payments to the initial tenant.
- The subsequent farmer could receive the baseline, and underlying data, from the initial tenant and thus secure his ability to continue to earn carbon revenue under the previously established baseline.

Such a construct would provide aligned incentives between tenants as well as the landowner and the carbon program administrator. It would avoid potential value destruction – through release of previously stored carbon or simple delays associated with re-establishing a baseline – that may otherwise occur when different farmers assume control of leased farmland.

III. Potential Path Forward

So how to apply these lessons to ensure that the agricultural carbon opportunity is available on leased farmland? Here are a few practical perspectives:

- Farmland leases should include a provision that makes clear that the tenant farmer has management control over the agricultural activities on the farm, including the implementation of carbon farming practices and the right to

submit the necessary data to comply with agricultural carbon programs.

- Farmland leases should likewise include a provision that establishes the revenue and cost dynamics associated with carbon farming. Farmers and landowners need to be clear about who is responsible for what and how they will be compensated accordingly.
- Farmland leases should have a carbon farming "transition clause" that allows tenant farmers to agree between themselves to exchange baseline data on the farm for a promise to maintain carbon farming practices into the future.

Many farmers and landowners ask how to carbon farm on leased land. The ideas, outlined herein, and a potential farmland lease addendum, included as an exhibit below, is an effort to outline a path forward.[21]

IV. Exhibit: Farmland Lease Addendum

This Addendum supplements the rights and obligations associated with the land described in the Farmland Lease between *[Owner]* and *[Operator]* executed on *[Date]*) ("**Effective Date**") relative to the following land: *[Legal Description] (*"**Land**"*).* Owner and Operator are collectively referred to as Parties.

1. The Land is enrolled in the following agricultural carbon program: *[Name of Program]* ("**Carbon Program**") administered by *[Name of Carbon Program Administrator]* ("**Carbon Program Administrator**"). Owner confirms that Operator has management control over the Land to a degree sufficient for the Operator to participate in the Carbon Program.

2. Owner and Operator agree to share revenues and costs associated with the Carbon Program as follows:

	Revenue	Costs
Operator	_____%	_____%
Owner	_____%	_____%

[21] It is ultimately the responsibility of the farmland owner or manager to establish a lease with this tenant that is acceptable to both parties, and this article or exhibit is not intended to be final language or represent legal advice of any nature by the author. The exhibit is a basic template intended to communicate the ideas outlined in this article.

In the event that Owner has agreed to share in the Revenues or Costs, Operator agrees to account to Owner the Revenue and Costs associated with the Carbon Program by no later than [*Date*].

3. The following provisions are applicable if the Land was enrolled Carbon Program before the Effective Date:

A.	Has Operator received the data from [*Name of former tenant*] ("**Former Tenant**") necessary to establish by, or continue following, the Effective Date the baseline for the Land in the Carbon Program?	[Yes / No]
B.	Does Operator agree to maintain the carbon farming practices and to share the necessary data as required by the Carbon Program during the term of this Farmland Lease?	[Yes / No]
C.	Does Operator agree to reimburse the Carbon Program Administrator for any losses of carbon to the atmosphere if Operator discontinues carbon farming practices or fails to share the necessary data as required by the Carbon Program during the term of this Farmland Lease? If so, please specify the amount that Operator agrees to pay Carbon Program Administrator upon delivery of reasonable evidence demonstrating failure to maintain carbon farming practices and/or to share the necessary data as required by the Carbon Program.	[Yes / No] Amount: $_____