

Carbon Markets

June 27th, 2024, Tobacco, Beef, and More Field Day at Highland Rim


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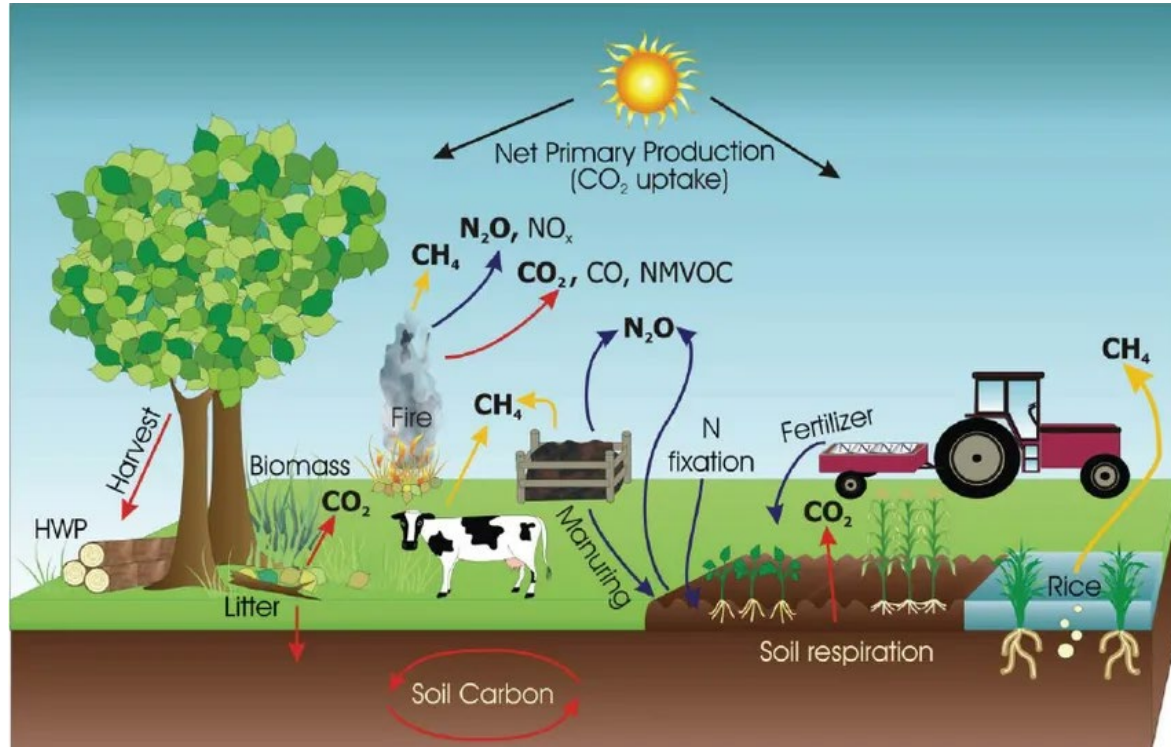
Overview

- Types of carbon markets
- Principles for responsible participation in voluntary carbon markets (VCMs)
- Carbon programs for beef producers
- Producer considerations
- Uncertainty in market direction



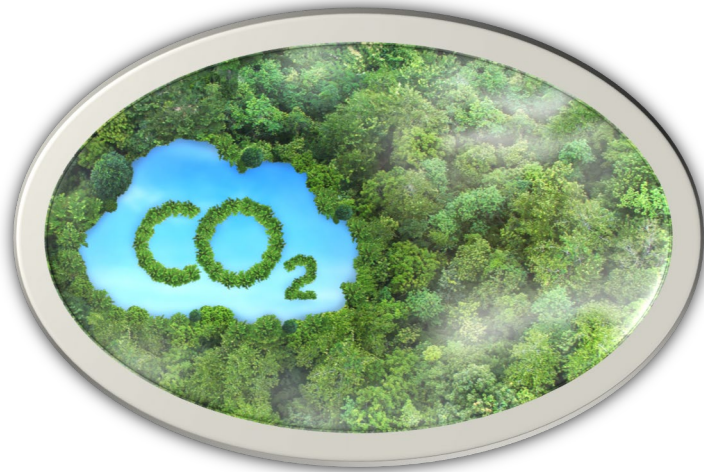
Agriculture and Carbon Markets

1. **COMPLIANCE MARKETS** – State/federal/international government's GHG regulations
2. **VOLUNTARY MARKETS** – Corporate / private transactions to meet internal targets



CARBON OFFSET VS. CARBON INSET

OFFSET

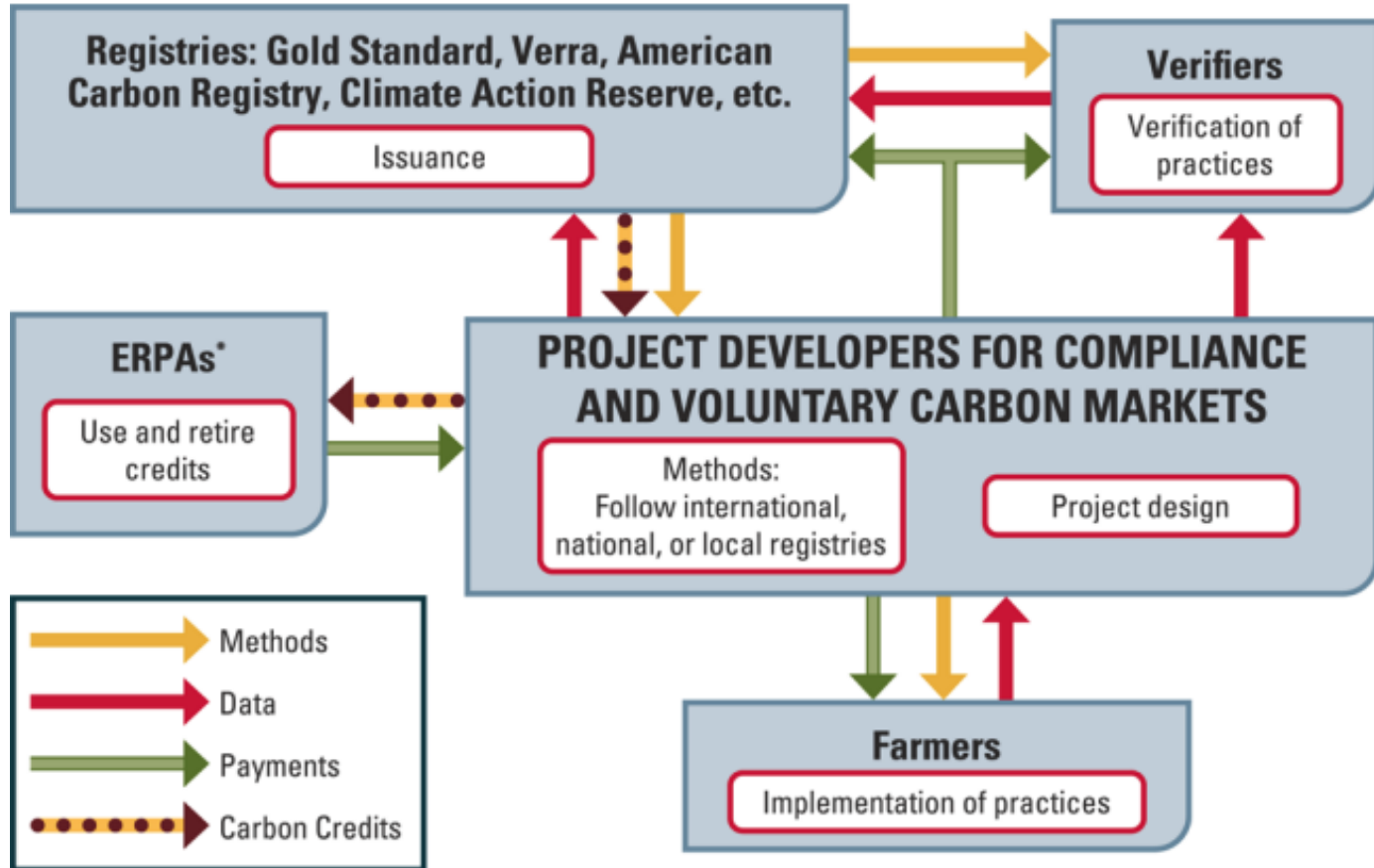


OR

INSET



Figure 1. Traditional Carbon Offset Generation



* ERPAs: Emission Reduction Purchase Agreements

Measurement, Reporting, and Verification

- Measurement of soil carbon is completed directly through soil testing and indirectly through technologies like modeling, benchmarking, remote sensing, and carbon flux.
- Reporting refers to compiling and sharing this information in standardized formats, making it accessible to stakeholders.
- Verification follows reporting, in which a third-party reviews the reported measurements to make sure they were accurate and used proper procedures.

Carbon Inset Examples

COMPANY	GHG GOALS
Cargill	Cut beef emissions from North American beef supply chain by 30% by 2030
Tyson	Net-Zero emissions by 2050 -- Sustainable beef production on 5 million acres of cattle grazing land by 2025
JBS	Net-Zero emissions by 2040 -- Strengthen and scale regenerative farming practices
Wal-Mart	Net-Zero emissions by 2040 -- Sustainably source fresh beef by improving grain sourcing and grazing management practices
McDonald's	Net-Zero emissions by 2050 -- Improve grazing techniques in the U.S.
YUM! Brands	Reduce emissions of beef, poultry, dairy, and packing 46% below 2019 levels
Restaurant Brands International (B.K)	Advance beef sustainability...work with ranchers and producers in our supply chain to scale regenerative agriculture

Scope 1, 2, and 3 Emissions

- Scope 1 – Emissions that are controlled directly by the farm or ranch.
 - Ex) Methane emitted from beef cattle.
- Scope 2 – Emissions that are caused indirectly from a farm or ranch.
 - Ex) Emissions produced from power company to operate electricity in a barn.
- Scope 3 – Emissions are not produced by the company or assets of the company but rather are produced indirectly up or downstream within the supply chain.
 - Ex) Emissions produced during the manufacturing of fertilizer.

Why are Companies Pursuing Carbon Insets?

The Washington Post
Democracy Dies in Darkness

Delta's carbon-neutral pledge is 'greenwashing,' California lawsuit says



By Andrew Jeong

May 31, 2023 at 5:20 a.m. EDT

Delta Air Lines should pay damages to customers for misrepresenting itself as a carbon-neutral airline in marketing campaigns and advertisements that encouraged consumers to pay higher prices, a class-action lawsuit says.

*** Delta spent \$137M to buy offsets to neutralize 27 million metric tons**

Bloomberg the Company & Its Products | Bloomberg Terminal Demo Request | [Bloomberg Anywhere](#)

Bloomberg

Faulty Credits Tarnish Billion-Dollar Carbon Offset Seller

South Pole, the world's leading purveyor of offsets, is facing allegations that it exaggerated climate claims around its forest-protection projects. The uncertainty could influence how legions of companies try to slash their emissions.

By [Ben Elgin](#), [Alastair Marsh](#) and [Max de Haldevang](#)

March 24, 2023 at 2:00 AM EDT Updated on March 24, 2023 at 3:44 PM EDT

Principles for Responsible Participation in VCMs

- Signed by: Janet Yellen Secretary of the Treasury; Tom Vilsack, Secretary of Agriculture; Jennifer Granholm, Secretary of Energy; John Podesta, Senior Advisor to the President for International Climate Policy; Lael Brainard, National Economic Advisor; Ali Zaidi, National Climate Advisor

“These principles will guide how the U.S. Government engages with VCM’s.”

Principles for Responsible Participation in VCMs (paraphrased)

- 1. Carbon credits should meet credible integrity standards.**
2. Credit generation should avoid environmental and social harm.
- 3. Corporate buyers should prioritize measurable emissions reductions within their supply chain.**
4. Credit users should ensure public transparency.
5. Public claims by credit users should be accurate and meet high integrity standards.
- 6. Market participants should contribute to improve market integrity.**
- 7. Policy makers and participants should facilitate efficient market participation and seek to lower transaction costs.**

Current Carbon Programs For Beef Operations



- Ecosystem Services Market Consortium
- Grassroots Carbon
- Regen Network
- Soil & Water Outcomes Fund
- Agoro
- Native HelpBuild™
- Tyson Climate-Smart Beef (*Brazen*™)

Source: Wright, L. and E. Harris. "Voluntary Carbon Markets Applicable to Grazing Operations: Review and Considerations for Farmers and Ranchers" Prepared for the National Cattlemen's Beef Association (NCBA) August 2021

Producer Considerations

- Do I want to participate?
- Do I have the necessary data?
- What programs are available in my county?
- Does participation in a program restrict participation in other or future programs?
- How much could I get paid? How much will it cost? Time?

Producer Considerations

- Land use (pasture, forest, cropland) and crop mix/production practices
- What are you being paid for?
 - Carbon
 - Production practices
 - Price premium
- Practices to be implemented and costs
- Length of contract
- Measurement / reporting / data sharing / validation
- Property or data access requirements
- Payment mechanism / payment timing
- Terminology, clauses, and definitions
- Failure to deliver

**Ensure that you can
comply with any
contract for the entire
life of the agreement.**

**Always
obtain legal
advice before
entering any
contract.**

Uncertainty in Direction

- Government's role
- Voluntary / compulsory / offsets / insets / restricted market access
- Stability of markets
- Confidence in carbon credit quality versus transaction costs

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THANK YOU



Grasslands Partnership

Grasslands Partnership Practice	Enrollment Stipend	Payment for Practice
Perennial Native Grass Pastures	\$800	
- big bluestem blend (BB-IG-LB)		\$754 per enrolled acre
- lowland switchgrass		\$940 per enrolled acre
- Prescribed burning NWSG pastures		\$40 per enrolled acre
- Temporary fencing (if approved by Extension personnel)		\$112 per enrolled acre
Legumes as Alternative Source of N	\$800	
- Interseeding legumes in existing tall fescue pasture		\$60 per enrolled acre
- Application of lime prior to seeding legumes		\$50 per enrolled acre
Improved Grazing Management	\$800	
- Improved grazing management practice		\$35 per enrolled acre
- Temporary fencing (% of \$2800 allowance, as determined by Extension personnel)		% of \$2,800
- Fencing (permanent/5-strand hi-tensile; length determined in consultation with Extension personnel)		\$6 per linear foot
- Water (with pad) (number determined in consultation with Extension personnel)		\$2,800
Perennial Grassland Buffers	\$800	
- Establishment and maintenance of buffer		\$710 per enrolled acre (buffer area only)
Silvopasture	\$800	
- Establishment and maintenance of silvopasture		\$580 per enrolled acre
- Temporary fencing (if approved by Extension personnel)		\$112 per enrolled acre
Novel Soil Amendments	\$800	
- Application of Biochar		\$920 per enrolled acre
- Application of Gypsum		\$52 per enrolled acre