



Martin-Gatton

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AN ECONOMIC PERSPECTIVE OF U.S. CARBON PROGRAMS

OUTLINE

- What is driving carbon markets?
- Structure of carbon markets
- Current carbon programs
- How much will I get paid?
- Concerns from an economist
- FAQs



WHAT IS DRIVING CARBON MARKETS

Two broad categories driving carbon markets:

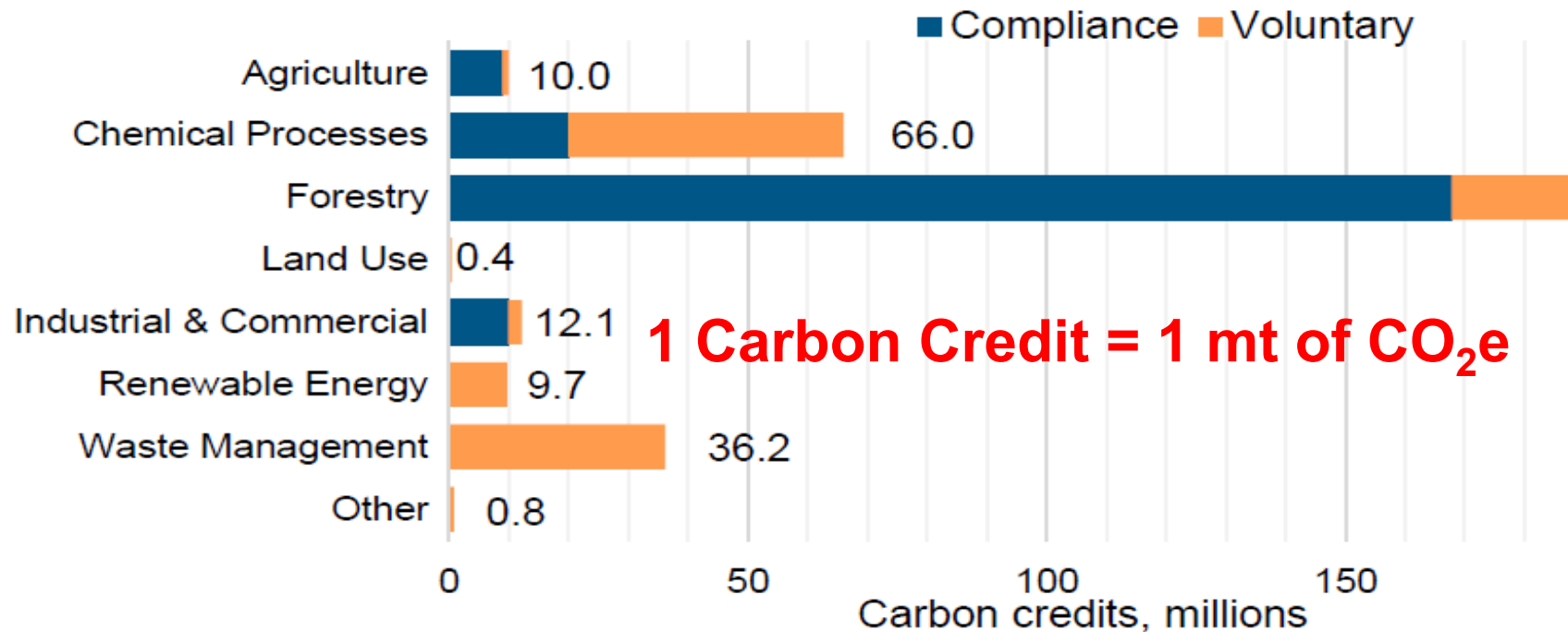
1.) State government's GHG regulations – **COMPLIANCE MARKETS**

Example: California's Cap and Trade Program

2.) Corporate Sustainability Reporting – **VOLUNTARY MARKETS**

WHAT IS DRIVING CARBON MARKETS

Carbon credits issued by scope for projects in the United States, 2013–2022



Typical Passenger Vehicle =
4.6 mt of CO₂e per year

Source: U.S. EPA

Source: USDA (2023). Report to Congress: A General Assessment of the Role of Agriculture and Forestry in U.S. Carbon Markets

Department of Agricultural Economics

Cooperative Extension Service

WHAT IS DRIVING CARBON MARKETS?

Forbes

Mar 24, 2021, 09:30am EDT | 1,446 views

A Fifth Of World's Largest Companies Committed To Net Zero Target

Bloomberg Green

Wells Fargo Targets Net-Zero Emissions After Rivals Set Goals

By Hannah Levitt
March 8, 2021, 2:50 PM EST

US Airlines Commit to Achieve Net-Zero, Help Industry Reach 2 Billion Gallons of Sustainable Aviation Fuel by 2030

APRIL 5, 2021 BY JENNIFER NASTU

Sep 30, 2020, 10:01am EDT | 1,758 views

Walmart Pledges Zero Emissions By 2040





We aim to be a **very different kind of energy company by 2030** as we **scale up investment in low-carbon**, focus our oil and gas production and make headway on **reducing emissions**. Our **new strategy** kickstarts a decade of delivery towards our **#bpNetZero ambition**

WHAT IS DRIVING CARBON MARKETS?




CHANGING TASTES




 RENTAL DETAILS
Tue, Feb 28, 7:00 PM
Thu, Mar 02, 6:00 AM

→

 PICK-UP & RETURN
Manhattan Regional Airport

→

 VEHICLE
Full Size

Add Extras

Equipment

Sirius XM®

\$ 5.99 / day (\$ 49.98 max)



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Greenhouse Gas Emissions Offset

\$ 1.25 / rental



Join your fellow customers in helping to save the environment!

Child Safety Seat

\$ 8.95 / day (\$ 60.00 max)



Travel with child safely and securely.

WHAT IS DRIVING CARBON MARKETS?



S&P 500[®] COMPANIES SUSTAINABILITY REPORTING



Source: Governance & Accountability Institute, Inc.

CORPORATE METRICS FOR REPORTING



Environmental

- Climate change
- Biodiversity
- Efficiency Energy and Water
- Pollution and waste
- Environmental management policy
- Environmental reporting disclosure



Social

- Health and Safety
- Human Capital Development
- Customer and products responsibility
- Labour Management
- Supply Chain

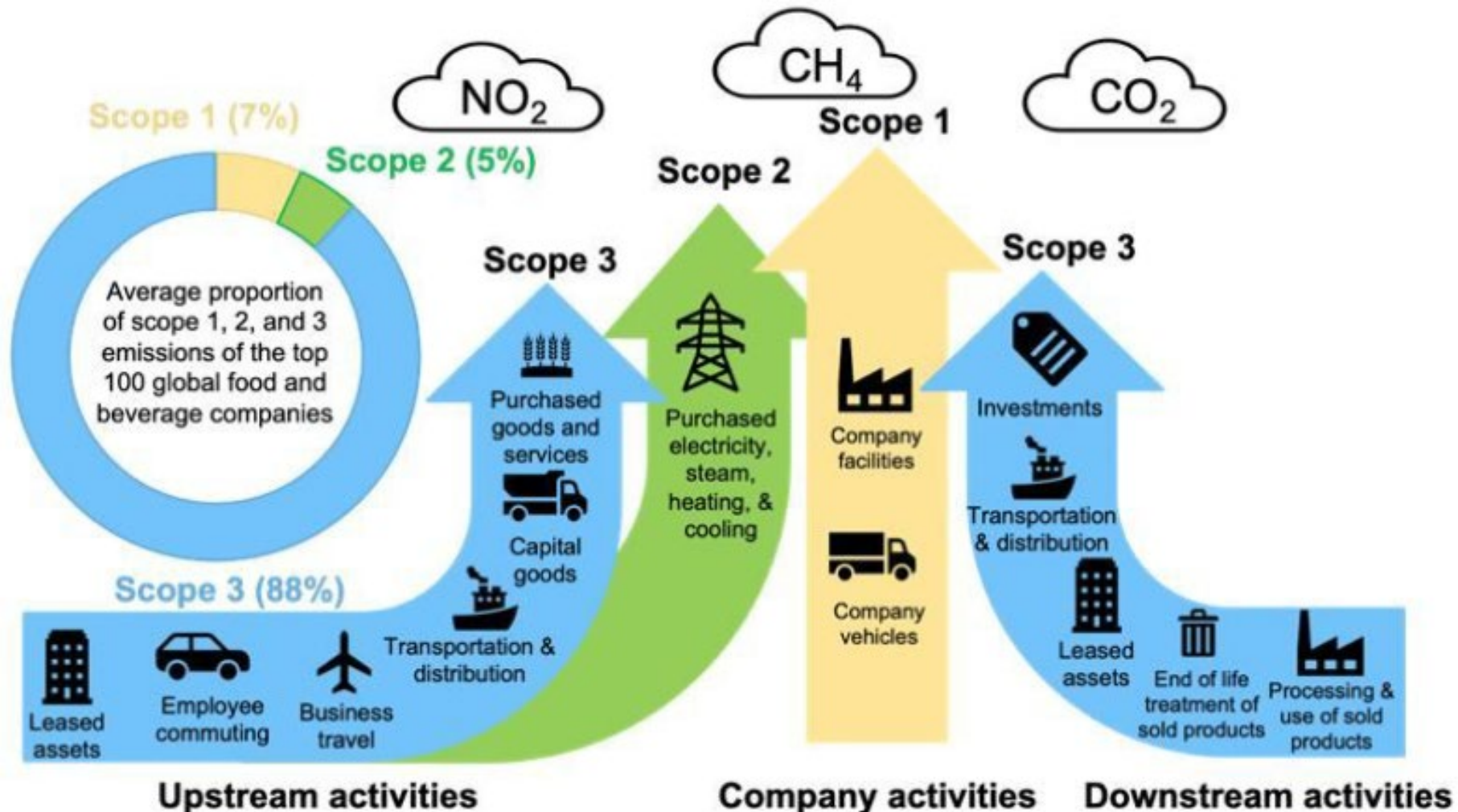


Governance

- Business ethics
- Corporate Governance
- Executive Compensation
- Corruption and Instability
- Board independence
- Data Privacy and Security
- Responsible Disclosures



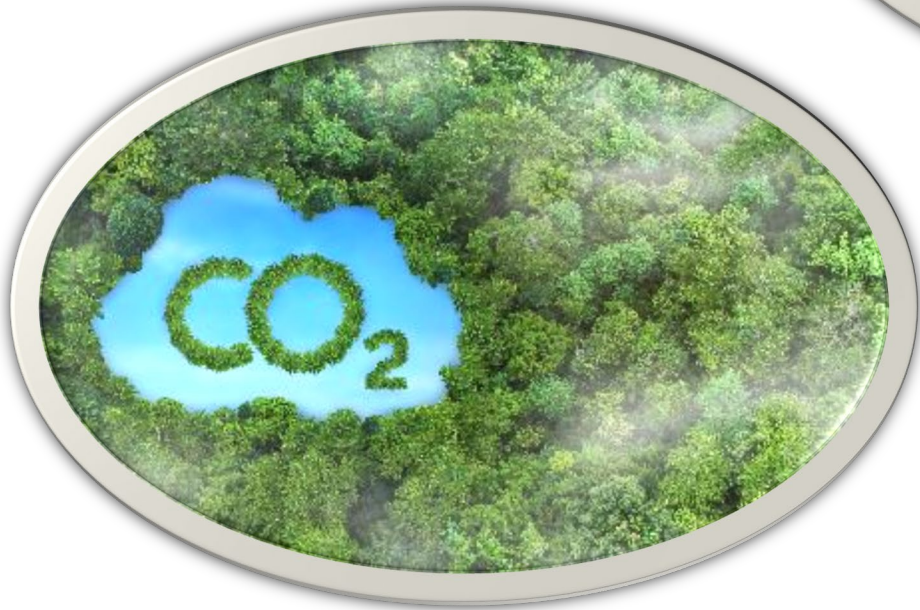
DISTRIBUTION OF EMISSIONS OF THE TOP 100 FOOD AND BEVERAGE COMPANIES



Source: Reavis et al., (2022). "Evaluating the landscape of greenhouse gas emissions and climate mitigation goals of the global food and beverage sector." *Frontiers in Sustainable Food Systems*. DOI: <http://doi.org/10.21203/rs.3.rs-611025/v1>

CARBON OFFSET VS. CARBON INSET

OFFSET



INSET

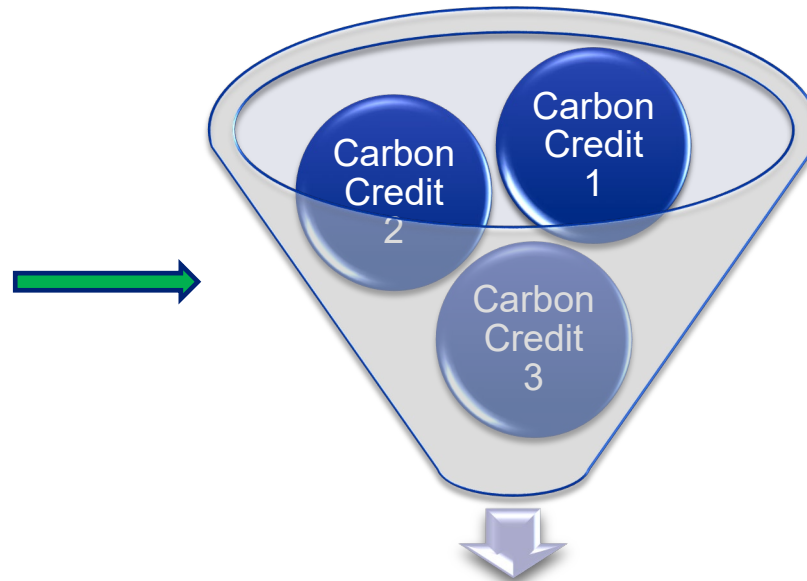


STRUCTURE OF CARBON MARKETS IN AGRICULTURE



Seller

Example: Shockley Farms



Project Developer

Example: Carbon Program X

**Companies
Pledging GHG
Reductions**

Buyer

Example: Fortune 500 Company

STRUCTURE OF CARBON MARKETS IN AGRICULTURE



Seller

Example: Shockley Farms



**Direct buyer
in the supply
chain**

Buyer

Example: McDonalds

KEY CHARACTERISTICS OF A CARBON MARKET



Additionality



Verification



American Carbon Registry

CURRENT CARBON PROGRAMS FOR ROW CROP PRODUCERS

- Bayer Carbon (ForGround)
- CIBO
- Ecosystem Services Market Consortium (ESMC)
- Indigo
- Gradable
- Nori
- Nutrien
- AgriCapture
- Locus AG CarbonNOW
- Truterra
- Soil and Water Outcomes Fund (SWOF)
- Cargill RegenConnect
- Corteva
- Agoro
- Farmers Edge
- ARVA Intelligence Corp.
- Kellogg's InGrained
- Perdue AgriBusiness

CURRENT PAYMENTS OF ROW CROP CARBON PROGRAMS

- Range in value, payment structure, contract length:
 - ~ \$20 - \$25 per mt CO₂eq
- Pay for sequestering carbon through the adoption of no-till and cover crops
- Pay for optimized nutrient management (limited number of programs)
- U.S. average estimates of 0.31 mt per year for no-till and 0.37 mt per year for cover crops (Thompson et al., 2021)

CURRENT PAYMENTS OF ROW CROP CARBON PROGRAMS

- Bayer Carbon Program pays for previous practices
 - Start of continuous practices (no-till and/or cover crops) have to be after Jan. 1, 2012
 - \$6/acre for reduced tillage, \$6/acre for cover crop, \$12/acre for both (but only up to 5 years of historical payments)
- May be able to couple with state and federal conservation programs (e.g. EQIP)....BUT NOT OTHER PROGRAMS THAT GENERATE GHG ASSETS

CONCERNS FROM AN ECONOMIST



CONCERNS FROM AN ECONOMIST



CONCERNS FROM AN ECONOMIST

- Reduce GHG emissions by 25% across the full value chain through “**advance sustainable sourcing of our agricultural ingredients at the farm level**”
 - *Coca-Cola*
- “We are working with partners in the industry to implement projects that focus on supporting growers in adopting practices that address water quality and soil health, **such as cover crops, reduced tillage, complex crop rotations, and nutrient management** to reduce soil erosion, nutrient run-off, and greenhouse gas emissions.”
 - *ADM (Scope 3 reduction of 25% by 2035)*
- “**Work only with growers that use sustainable practices by 2040**”
 - *Beam Suntory (Achieve net zero across entire value chain by 2040)*

CONCERNS FROM AN ECONOMIST

Regenerative Agriculture

Sustainable Practices

Regenerative Practices

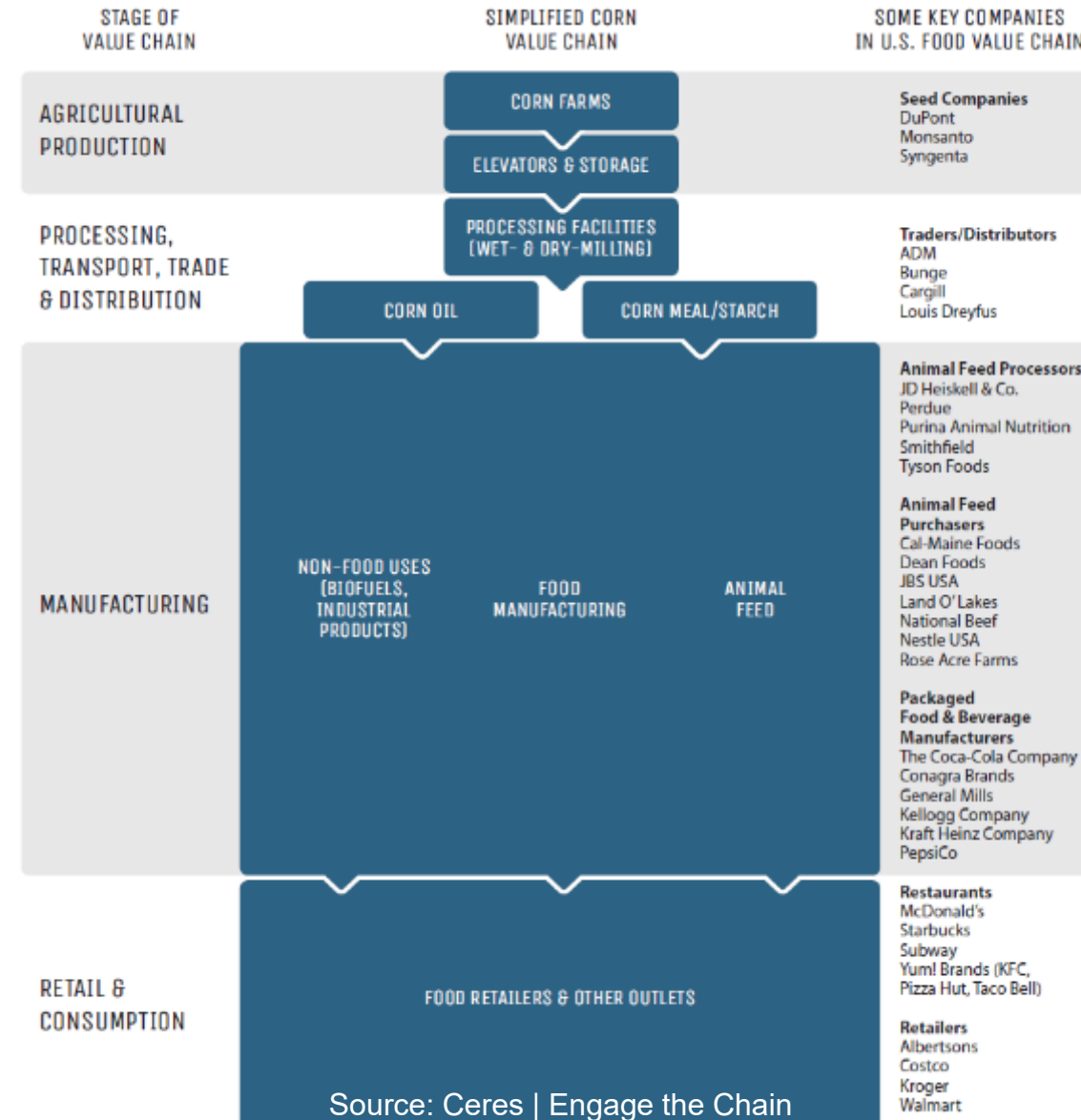
Climate-Smart Practices



CONCERNS FROM AN ECONOMIST



WHO PAYS?



CONCERNS FROM AN ECONOMIST

Voluntary or Voluntold Market?

Premiums?

CONCERNS FROM AN ECONOMIST



Tiffany Dowell Lashmet. "Understanding & Evaluating Carbon Contracts."

Available online: <https://agriflifeextension.tamu.edu/asset-external/understanding-evaluating-carbon-contracts/>

QUESTIONS FROM THE FIELD

- Will this all go away with an Administration change?
- Is this just all “feel good” crap?
- Can I shoot the drones down?
- Why am I not eligible? ... Sounds like it's not the right time for us!
 - Can I break out the plow and be eligible?
- What are the margins for the project developers? How much are they selling credits for?
- Will prices for a carbon credit increase in the future?
- Why should I give up ownership of MY carbon credits?
- Are carbon contracts tied my land? What happens if I sell?
- Will the government have their hands in carbon markets?

CARBON POLICIES

- Growing Climate Solutions Act
- Securities and Exchange Commission – “*The Enhancement and Standardization of Climate Related Disclosures for Investors*”
 - California SB 253 passed 9/11/2023
 - By 2026, companies operating in California with annual revenues > \$1B will have to disclose GHG emissions (Scope 1 & 2)
 - By 2027, will have to disclose GHG emissions across their entire supply chain (Scope 3)
- Federal Trade Commission – “*Guides for the use of Environmental Marketing Claims-260.5 Carbon Offsets.*”
 - Sellers should employ competent and reliable scientific and accounting methods to properly quantify claimed emission reductions and to ensure that they do not sell the same reduction more than one time.
 - It is deceptive to misrepresent, directly or by implication, that a carbon offset represents emission reductions that have already occurred or will occur in the immediate future. To avoid deception, marketers should clearly and prominently disclose if the carbon offset represents emission reductions that will not occur for two years or longer.
 - It is deceptive to claim, directly or by implication, that a carbon offset represents an emission reduction if the reduction, or the activity that caused the reduction, was required by law.

RECENT CONCERNS

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**
Department of Agricultural Economics
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[Bloomberg the Company & Its Products](#) | [Bloomberg Terminal Demo Request](#) | [Bloomberg Anywhere](#)

Bloomberg

Faulty Credits Ta Billion-Dollar Carbon Offset Seller

South Pole, the world's leading purveyor of carbon offsets, is facing allegations that it exaggerated claims around its forest-protection projects. That could influence how legions of companies calculate their emissions.

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

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

SUMMARY

- Markets continue to develop under voluntary corporate commitments with limited government intervention
- New carbon programs continue to launch
- Contract issues need to be addressed along with higher prices
- Need to solve the additionality problem
- Keep an eye on federal involvement including the Securities and Exchange Commission, Commodity Futures Trading Commission, and USDA
- Companies are quickly switching to carbon insets to reduce emissions in their supply chain due to risk of greenwashing in offset markets
- **Read the fine print, ask questions, and seek legal advice!**

THANK YOU!



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THANK YOU!

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