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Navigating Carbon Strategies: Understanding Offsets and Insets in Agriculture

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As corporations globally ramp up efforts to reduce their carbon emissions, two main strategies have emerged: carbon offsets and carbon insets. While both approaches aim to reduce corporate emissions, they hold distinct implications for the agricultural sector. A clear understanding of these differences can help farmers, ranchers, and landowners navigate the potential opportunities and risks tied to each approach.

CARBON OFFSETS: AN EXTERNAL APPROACH TO EMISSION REDUCTION

Carbon offsets represent a strategy in which companies invest in external projects aimed at reducing or sequestering carbon dioxide. These projects generate carbon credits, where one carbon credit equates to one metric ton of CO2 equivalent reduced or sequestered. These projects are often geographically and operationally removed from the corporations themselves. This separation means that the projects fall outside the direct supply chain of the investing corporation, making them more detached from the company's core operations.

In the context of agriculture, carbon offset projects are typically led by specialized project developers such as Indigo Ag, Nori, and Agoro. Table 1 outlines some project developers offering carbon offset projects in agriculture. These developers partner with farmers who agree to implement specific carbon-sequestering practices, such as no-till farming or the use of cover crops. The commitment to these practices is often through long-term contracts, with durations averaging around ten years. These contracts require farmers to adhere to stringent guidelines designed to ensure that the carbon sequestration is both permanent and verifiable.

A crucial aspect of carbon offset projects is the concept of additionality. For a carbon-sequestering activity to qualify, it must be additional—meaning that it would not have occurred without the financial incentives provided by the carbon project developers. This ensures that the carbon reductions are above and beyond what would have happened in the absence of the project. Once the carbon-sequestering activities are implemented, they are subject to monitoring, verification, and reporting processes through a standard registry, such as Verra. These registries provide the methodology to project developers for verification and play a pivotal role in ensuring transparency and credibility in the carbon offset market by tracking the creation and sale of carbon credits.

When carbon credits are generated from agricultural practices and sold to companies outside the agricultural supply chain, such as Microsoft, these credits are classified as carbon offsets. The purchasing company can then

use these credits to offset its own carbon emissions, often as part of a broader sustainability or corporate social responsibility initiative. However, while carbon offsets provide a mechanism for companies to claim emission reductions, they have faced criticism for potentially enabling companies to avoid making meaningful changes to their own operations.

Table 1: List of programs focusing on carbon offsetting and insetting strategies (Plastina, 2024)

Company Name	Carbon Offset Strategy	Carbon Inset Strategy
ADM's re:generations		✓
Agoro Carbon	✓	
Bayer Carbon	✓	
Carbon by Indigo	✓	✓
CarbonNow	✓	
Cargill's Regen Connect		✓
CIBO Carbon Credits	✓	✓
Corteva	✓	
ESCM's Eco-Harvest		✓
Nori	✓	
Nutrien	✓	
PepsiCo-PCM		✓
Soil and Water Outcomes Fund		✓
Truterra	✓	✓

CARBON INSETS: INTEGRATING SUSTAINABILITY INTO THE SUPPLY CHAIN

In contrast to carbon offsets, carbon insets focus on reducing emissions within a corporation's own supply chain. This strategy encourages more sustainable practices of those directly within the operations of the corporation's suppliers, including farmers, ranchers, and landowners. Through carbon insets, companies source agricultural products that are deemed "sustainably produced" or "climate-smart." These products are cultivated using practices that minimize the carbon footprint, such as using no-till or planting cover crops.

The primary advantage of carbon insets is that they create a cascading benefit throughout the entire supply chain. For example, when a food processing company sources raw materials from farmers who have implemented climate-smart practices, the carbon footprint of the final product is reduced. This reduction is then passed along to retailers and, ultimately, to consumers. Unlike carbon offsets, where a single entity owns or retires the carbon credit, carbon insets allow multiple stakeholders within the supply chain to share in the environmental benefits.

Typically, carbon insets involve short-term agreements, often spanning a single growing season or year. These agreements might include per-acre payments for agricultural products produced using sustainable practices. Alternatively, companies might offer a premium, or a smaller discount, for these products. For instance, ADM (Archer Daniels Midland) has introduced a program offering up to a $0.15 per bushel premium for deforestation-free soybeans (more information can be found here). Table 1 also outlines some companies offering carbon insetting incentives.

COMPARING CARBON OFFSETS AND CARBON INSETS: A PRACTICAL EXAMPLE

To better understand the differences between carbon offsets and carbon insets, consider Figure 1 as an example from the airline industry. Suppose an airline company has a budget of $200 million to invest in reducing its environmental impact. The airline faces a choice: it can either invest in a carbon offset project or engage in carbon insetting.

Figure 1: Example illustration from the airline industry of a carbon offset vs. carbon inset.

If the airline chooses to invest in a carbon offset project, it might allocate the $200 million to a project that prevents a portion of the Amazon rainforest from being harvested. This action would generate carbon credits, which are external to the airline's direct supply chain. The airline can then use these credits to offset its own emissions, but the impact is indirect, as it does not involve any changes to the airline's own operations or supply chain.

Alternatively, the airline could decide to invest the $200 million in sustainable aviation fuel. This fuel can be produced with a significantly lower carbon footprint than traditional jet fuel, and its use directly reduces the emissions associated with the airline's operations. Since sustainable aviation fuel is part of the airline's direct supply chain, this investment would be considered a carbon inset.

THE SHIFT TOWARD CARBON INSETS: ADDRESSING GREENWASHING AND MAXIMIZING IMPACT

Most recently, there has been a noticeable shift from companies moving away from carbon offsetting toward carbon insetting as a preferred strategy for mitigating their carbon footprint. This trend is driven by several factors, including growing concerns about greenwashing. Greenwashing is a practice where companies make misleading claims about the environmental benefits of their products or services to deceive consumers. Carbon offset projects have been particularly scrutinized for their potential role in greenwashing, leading to legal challenges and a loss of trust among consumers and stakeholders.

In contrast, carbon insetting offers a more transparent, albeit still controversial, approach to emission reduction. By focusing on sustainability within their own supply chains, companies have more control over the carbon footprint of the goods and services they provide. Additionally, carbon insetting allows for a more efficient allocation of resources, as the benefits of sustainable practices are realized throughout the supply chain, from farmers, ranchers, and landowners to consumers.

The importance of prioritizing carbon insetting has also been underscored by recent policy developments. Leaders from various U.S. Federal Departments have issued a joint policy statement outlining seven principles for responsible participation in voluntary carbon markets. One such principle states "Corporate buyers that use credits ("credit users") should prioritize measurable emissions reductions within their own value chains", which is a clear endorsement of the carbon insetting approach.

OPPORTUNITIES AND RISKS FOR FARMERS: NAVIGATING THE TRANSITION TO CARBON INSETS

As more companies, particularly in the food, beverage, and energy sectors, adopt carbon insetting strategies, farmers are likely to encounter both opportunities and risks. States that are renowned for no-till production systems and the widespread use of cover crops, are well-positioned to capitalize on the growing demand for sustainably produced agricultural products. These practices, which are central to the concepts of sustainability and climate-smart agriculture, have been implemented in areas across the U.S. for years, if not decades.

The transition to carbon insetting offers farmers the chance to monetize the conservation practices they have long employed, either through premium payments for their products or through direct financial incentives from companies seeking to reduce their supply chain emissions. However, this opportunity is not without challenges. Farmers must carefully navigate the production, marketing, and legal risks associated with these new arrangements. For instance, the adoption of new practices or the entry into new contracts might require additional investment in technology or infrastructure, as well as a deeper understanding of market dynamics and regulatory requirements.

Furthermore, as the market for carbon insetting continues to evolve, farmers will need to stay informed about emerging trends and best practices. This includes understanding the specific requirements of carbon insetting programs, such as the which practices qualify as climate-smart, the documentation needed to verify practices, and the potential legal implications of carbon insetting agreements.

In conclusion, the growing emphasis on carbon insetting represents a significant shift in how companies approach carbon emission reduction. For farmers, this shift presents both a promising opportunity to enhance their income through sustainable practices and a set of challenges that will require careful management. By staying informed and proactive, farmers can position themselves to benefit from the evolving landscape of corporate sustainability and carbon management strategies.

References

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