INSETTING **101**

A 3-part explainer series in celebration of Earth Week

Carbon Insetting: Unlocking its Promise & Potential →

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What is Insetting?

Insetting is a sustainability strategy for companies to reduce carbon emissions **within its own operations & supply chain.**

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Insetting strategies can be implemented by using **sustainable procurement practices**, or by investing into **climate-friendlier infrastructure.**

Examples:

- Purchasing ingredients from suppliers using regenerative agricultural practices that store carbon in the soil
- Investing in renewable energy grids
- Upgrading equipment and facilities to improve energy efficiency, reducing emissions associated with energy consumption
- Optimizing transportation routes to reduce fuel use

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This approach has strong appeal as a complement to offsetting, because it **targets the root causes of global emissions,** and may also **yield long-term value chain savings.**

INSETTING	OFFSETTING
Must take place within company's value chain	Linked to external projects outside of the company
Complicated execution, requiring more time & cost	A quicker way to achieve carbon neutrality
Most relevant for companies with the potential to become more sustainable	Most relevant for companies with unavoidable emissions
Can yield significant improvements to top & bottom lines	Limited commercial impact

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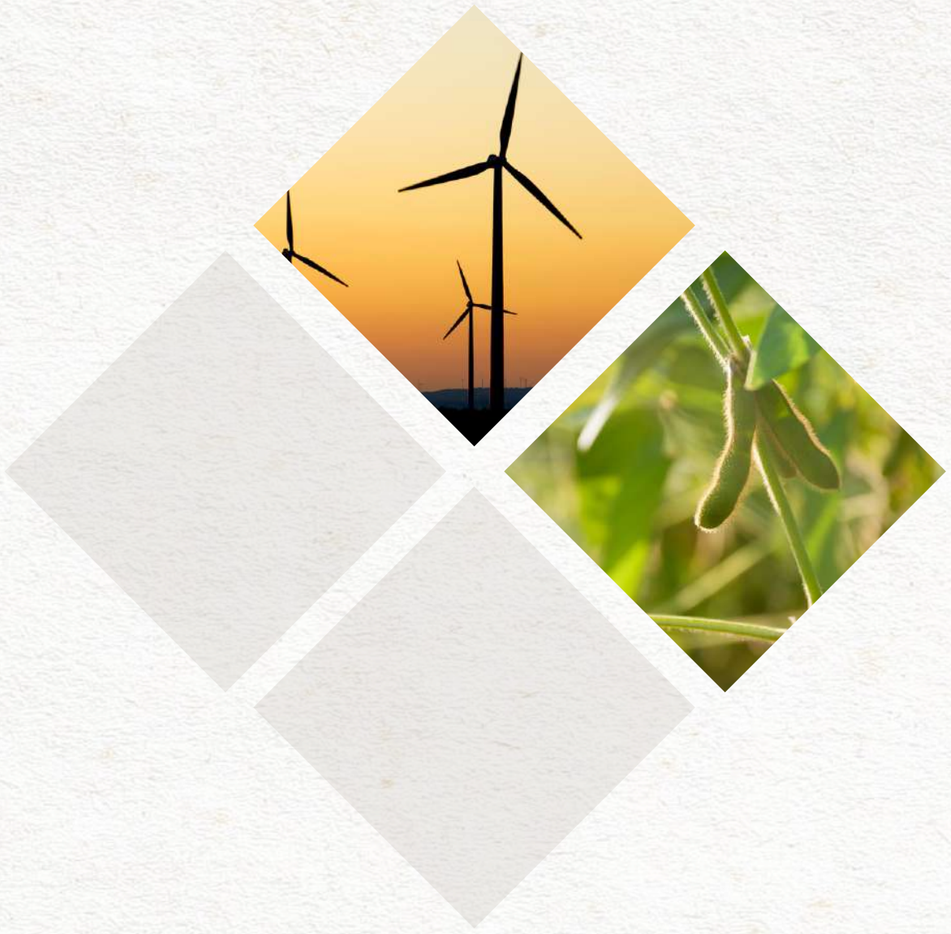

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Insetting Commitments in the Market

Insetting claims date back over a decade, but have surged in the last few years as offset-based net-zero strategies come under fire and policy pressures deepen.

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In recent years, a number of notable corporations have **retracted their offsetting commitments.**

The reasons cited for doing so included (1) Concerns about the integrity of carbon offsets and their claims, and (2) Criticisms of the distribution of financial benefits of the offset market


ZACKS

Shell (SHEL) Withdraws Its $100 Million Carbon Offset Plan

Zacks Equity Research
Fri, Sep 1, 2023 • 4 min read


December 9, 2022 |

Major Airlines Ditch Carbon Offsets, Focus to SAF

By Jennifer L

World's Fourth Biggest Iron Ore Producer Stops Buying Carbon Offsets

By ZeroHedge - Sep 24, 2023, 10:00 AM CDT

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In some cases, **insetting** has been cited as the change in strategy that will **take offsetting's place.**

A Change of Course: CEO Wael Sawan's Vision

CEO Wael Sawan's entrance marked a notable shift in Shell's approach toward achieving its climate goals. Sawan contends that the corporation can meet its emission targets without relying on carbon offsets. He's steering the focus toward a multifaceted approach that centers on reducing the company's operational emissions and fostering innovation in low-carbon energy technologies.

Source: Yahoo! Finance, 1 September 2023

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Other **significant insetting commitments have been made** by corporates separate from offsetting, especially within the **food & ag sector.**

Article • Sustainability

Nestlé's bid to cut Carbon Emissions in its Supply Chain

By Tom Chapman

March 22, 2024 • 3 mins

PepsiCo partnering with Walmart on regenerative ag

NEWS

Diageo to launch regenerative agriculture programmes

12 OCTOBER 2023

By Lauren Bowes

Johnnie Walker owner Diageo has announced two regenerative agriculture programmes for Scotch and Tequila as part of the brand's £1 billion (US$1.2bn) investment into carbon reduction.

Heineken sets out plans to be carbon neutral across value chain by 2040

By Rachel Arthur

19-Apr-2021 - Last updated on 19-Apr-2021 at 12:57 GMT

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Unilever takes tougher stance on supply-chain emissions

Company calls for "absolute" reductions across ingredients, agriculture and ice-cream refrigerators.

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But while insetting holds promise, **some key challenges remain that threaten its credibility.**

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A Recipe for Success: 3 Keys to Making Insetting Work →

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In this section, we'll look at some of the **key improvements** the market will have to make to ensure insetting's **efficacy & credibility.**

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Improving Oversight

Insetting claims aren’t immune to green washing. **Widely-accepted verifying bodies,** using **trusted methodologies** to **validate insetting claims** are still needed in the market.

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To be clear, industry guidelines do exist, such as those set by The Insetting Program Standard (IPS), and the Science-based Target Network (SBTN).

However, the use of these guidelines **does not require independent checks on the data and claims reported.**

In this sense, insets risk being even weaker than offsets, which are governed by bodies like Verra, using standardised methodologies designed in consultation with scientists and the public, and with independent auditing.

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Strengthening supply chain transparency & influence

Implementing an insetting strategy requires strong supply chain transparency and influence, which corporates do not always have.

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With **fragmented** supply chains, many **middlemen,** and **low technology adoption, top-down practice change** can be **challenging to actualize.**

Imagine for example that you're a company producing a chocolate bar. You'd need to buy cocoa, peanuts, milk, and a number of other ingredients, which may all come from completely different ingredient aggregators, who in turn work with smallholder farmers in countries far from your manufacturing site.

If they're not buying sufficient volumes of a supplier's crops, their ability to demand practice change from their suppliers weakens significantly.

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Sharing Costs Equitably

Similar to offsetting programmes, insetting strategies **do not guarantee equitable outcomes for producers & smallholders.** If not managed intentionally, **upstream suppliers may end up bear the brunt of insetting costs.**

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Buyers that buy **majority volumes** from suppliers may have enough power to demand practice change from them, **without compensating them financially for doing so.**

If the threat of loss of their livelihoods, suppliers may have no choice but to absorb the cost of transitioning to less carbon-intensive practices, in order to remain the competitive choice.

As part of a just transition, insetting managers and procurement departments must work in partnership, and invest in the capabilities of, their suppliers and stakeholders.

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So... What role does **technology and innovation hold** to **unlock these keys and opportunities?**

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Case Study: Decarbonising Rice Cultivation Through Insetting →

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Case Study

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Founded in 2023, Rize is an agri-tech startup formed through a joint venture between investors Temasek, Wavemaker Impact, Breakthrough Energy Ventures and GenZero to **decarbonise rice cultivation in Asia.**

Starting in Vietnam and Indonesia, Rize's mission is to transform rice into a sustainable, lower emission food source while enhancing the livelihoods of farmers.

To do so, Rize is building a tech platform to drive the adoption of sustainable cultivation techniques, with the goal of eliminating 0.5 gigatonnes of carbon emission units by 2040.

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The Impact of Rice: An Emissions- & Water-Intensive Staple Food Crop

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Rice is a a staple food crop for over **4 billion people**

Cultivated by **>150 million** smallholder farmers

33% of the world's irrigation water is used for rice

1/10 : Proportion of agricultural emissions attributable to rice alone = **0.8 Gt** CO_2e/yr

3rd largest crop by land

covering **~11%** of the world's arable hectares

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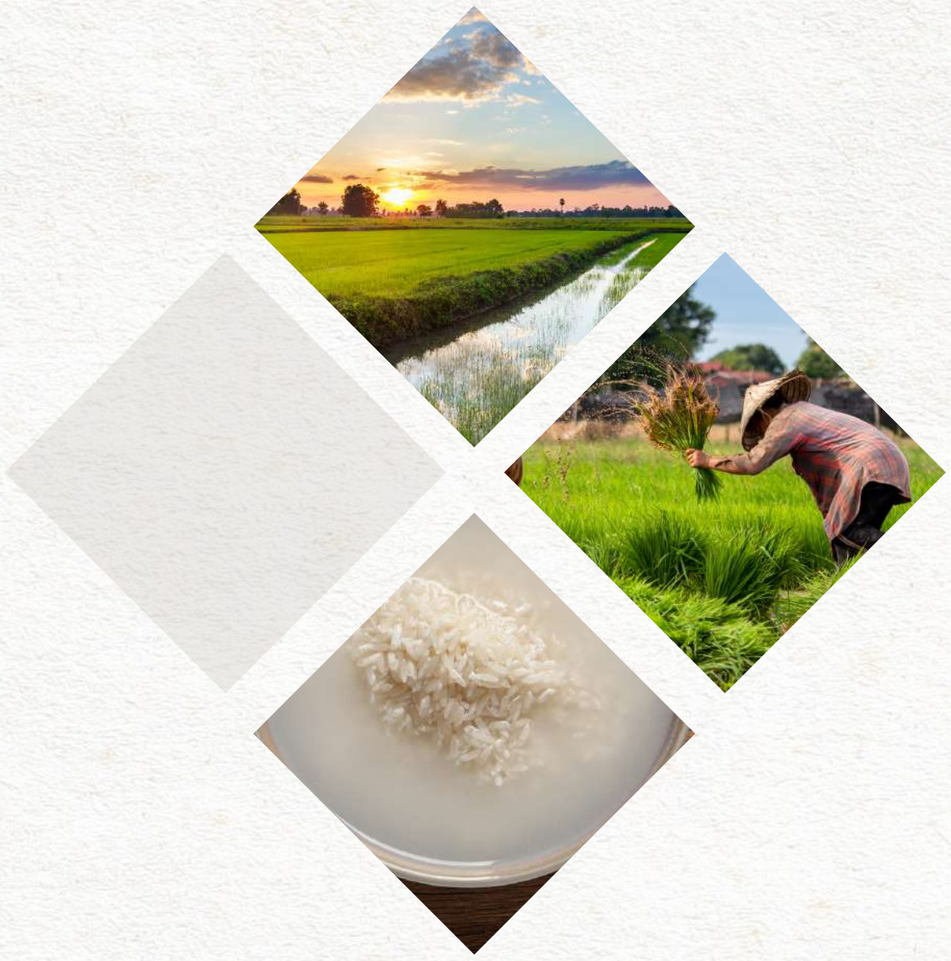

3

The Challenge for Farmers: Lacking Organised Credit to Implement Sustainable Practices

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RIZE

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Smallholder farmers typically incur **high borrowing costs** to finance inputs at the start of the rice growing season.

This vulnerability is further exacerbated by

- The increasing input cost
- Growing frequency of crop failures due to climate change
- Reliance on traditional, less efficient farming practices

While farmers are aware of newer ways to farm rice, many lack the resources – financial and operational – as well as knowledge to make the change happen successfully.

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The Solution: A Tech Platform that Reduces Emissions while Improving Farmer Income

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RIZE has built a platform that:

- Identifies the most effective carbon insetting strategies to reduce greenhouse gas emissions in rice cultivation
- Provides farmers with cheaper input financing to encourage the adoption of these sustainable cultivation techniques.
- Supports farmers in implementing new methods like Alternative Wetting and Drying (AWD), and biological
- nitrogen-fixing (BNF)

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Today, RIZE has successfully supported **2,500 hectares** of rice paddy farmers to **achieve the following outcomes:**

Reduce emissions by up to 40%

Reduce water inputs by up to 20%

Increase annual farmer incomes up to 30%

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Case Study: Enabling Inclusive and Climate-Smart Agriculture →

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Koltiva is a **technology company** with a **“boots on the ground”** team and a big ambition: to **improve supply chain traceability,** provide **incentives & benefits** for smallholder farmers **that adopt sustainable practices,** drive **access to price transparency & digital finance ,for the unbanked,** and to **facilitate the trade of climate-smart commodities.**

Going beyond traceability, the team combines professional services with a number of farmer applications and supply-chain oriented desktop software, to drive action at the heart of our agricultural systems: on the farm.

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Smallholders at Risk: Climate Change, its Effect on Agricultural Livelihoods

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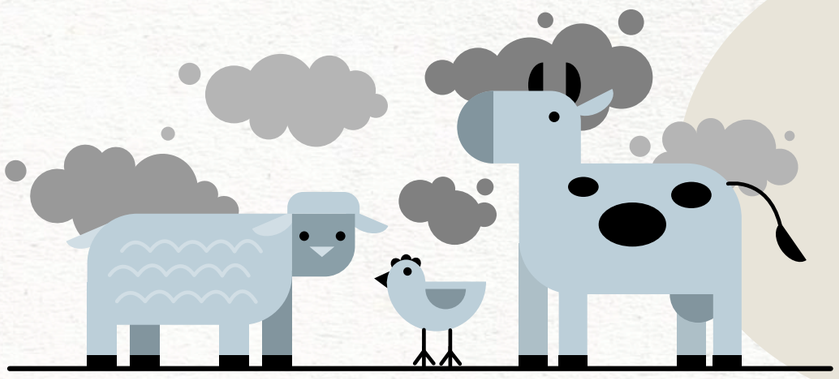
The **600 million** smallholders that feed the world are facing unprece-dented threats from climate change

23%
Projected agricultural yield losses

39% of them live below the poverty line

70% of the credit demand from smallholders is currently unmet



1/4 Of all global emissions come from agriculture

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The Challenge for Corporates: Policy Pressures & Obfuscated Supply Chains

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Corporates, on the other hand, are facing increasing policy pressures to shift their supply chains to become more sustainable, **such as the EUDR and CSRD.**

As discussed in part 2 of this series, corporates have to find ways to incentivise and support other upstream supply chain actors to adopt less emission-intensive practices. To ensure a just transition, these supply chain actors should also be compensated fairly for the costs of the transition.

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The Solution: And end-to-end, win-win solution for both smallholders and corporates

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KOLTIVA has developed a holistic suite of products and services to rise to the challenges of executing an insetting strategy successfully:

- KoltiSkills: Capacity building and training for smallholder producers, to improve on-farm sustainability & resilience and ground truth digital supply chain data
- KoltiTrace: Geo-tags crops from seed to harvest to allow MNCs and consumers to have supply chain transparency and perform emissions accounting
- KoltiPay: An e-payment platform that helps producers create bank accounts, access microloans and microinsurance
- KoltiTrade: For sourcing and delivery of fully traceable commodities, with fair premiums paid to responsible producers

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To date, KOLTIVA has worked in **61 countries** and registered **1.1M producers** to effect change across **52 crops & commodities**

Increased annual farmer incomes by 4x

>1.87M seed to table transactions tracked

Supporting over 8,000+ enterprises achieve traceable and resilient supply chains

Thanks for reading!

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