



**PRECISION AGRICULTURE & SCOPE 3**

# Part 3: The **New Model**

Scaling **Scope 3** Through  
Partnership

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# A Future-Proof Scope 3 Strategy Demands a shift from Experimentation To Execution

aligning measurement systems, supply chain partners, and verified data into a seamless loop.

To meet global climate and sustainability targets, Consumer Packaged Goods (CPG) companies must move beyond isolated, grant-based sustainability pilots and adopt scalable, institutionalized frameworks for Scope 3 emissions reduction.

**Precision agriculture** technologies have already demonstrated their potential to optimize field-level practices and reduce greenhouse gas (GHG) emissions, but without robust, systemic models that replicate this success across multiple geographies and commodity types, the impact remains limited.

***The real opportunity lies in building a unified ecosystem where precision agriculture, corporate ESG commitments, and supplier incentives operate in synchrony, creating repeatable, measurable, and reportable climate outcomes.***



# From Grant-Based Pilots to Commercial Platforms, Unlocking Scale

Transition Stage	Pilot Projects	Scaled Platforms
<b>Objective</b>	Prove feasibility and assess technical viability	Embed operational change across regions and commodities
<b>Coverage</b>	10–50 farms or test plots	Thousands of hectares and hundreds of suppliers
<b>Data Systems</b>	Often manual, fragmented, and experimental	Automated, standardized, and integrated with corporate tools
<b>Results</b>	Site-specific insights, mostly anecdotal	Verified regional and commodity-wide reporting
<b>Value</b>	Learning, adaptation, and proof of commercial viability	Quantified Scope 3 reduction and procurement alignment

*To transition from grant-based pilots to full-scale adoption, organizations must embed data integrity, local extension support, and procurement accountability into every stage of implementation, ensuring pilots are designed as commercial proofs of viability that can scale across supply chains.*

# Scalability Hinges On A Strong Foundation Built From Four Essential Components

## **Data Collection & Aggregation:**

↗ Capturing, standardizing, and harmonizing farm-level data, including soil carbon, telemetry, NDVI, and farm records, across diverse regions, production systems, and supply chain actors under a unified architecture.

## ↗ **Standardization:**

Creating shared templates, consistent emissions accounting frameworks, and streamlined protocols for MRV (Measurement, Reporting, and Verification) processes.

## ↗ **Regional Enablement:**

Deploying localized agronomic support, extension services, and data education programs to ensure farmer participation and protocol fidelity.

## ↗ **Interoperability:**

Ensuring that data flows freely and securely between on-farm systems, MRV platforms, corporate ESG dashboards, procurement software, and third-party verifiers.

*These four pillars form the backbone of any credible, scalable Scope 3 reduction program that delivers both field-level outcomes and enterprise-wide compliance.*

# Partnership Models

## Aligning Incentives Across the Value Chain

Model Type	Description	When to Use
<b>Managed Service</b>	CPG funds the full MRV implementation, including technology, agronomic training, and onboarding support.	Ideal for early-stage, smallholder-dominated regions where supplier capacity is limited.
<b>Co-Investment</b>	CPG and supplier jointly invest in soil testing infrastructure, telemetry, and training programs.	Suitable in regions with strong cooperatives, existing ag-tech familiarity, or infrastructure.
<b>Revenue-Share / Premium Model</b>	Verified low-carbon production earns price premiums from the CPG; farmers participate in outcome-based revenue models.	Best suited for differentiated commodities, mature markets, or brand-aligned value chains.

## Recommendation

- CPGs should adopt a phased, blended approach.
- Starting with full-service support for pilots,
- It should gradually evolve into shared-investment or premium-based models as supplier maturity increases and results become repeatable.

# Embedding Scope 3 Outcomes Into Contract Language Transforms Sustainability From A Side Initiative Into A Core Business Metric.

## Procurement As The Fulcrum For Change

Modern procurement functions serve as the critical link between corporate sustainability goals and farm-level implementation. Without embedding Scope 3 KPIs directly into procurement systems, progress on emissions reduction will remain limited to CSR-style projects.



Procurement Lever	Role	Impact
<b>Sustainability KPIs</b>	Define explicit emissions reduction targets (e.g., kg CO <sub>2</sub> e per ton) in supplier contracts and evaluation criteria.	Turns ESG commitments into operational, enforceable objectives.
<b>Verification Clauses</b>	Require periodic third-party verification, data sharing, and audit trails.	Establishes transparency and reduces reputational or compliance risk.
<b>Performance-Based Payments</b>	Structure bonuses, premiums, or milestone disbursements based on verified reduction metrics.	Directly incentivizes outcomes over intentions, driving adoption and trust.

# Making It Work for Farmers.

## Aligning Economic and Operational Incentives

For any Scope 3 strategy to succeed at scale, farmers must see direct, tangible benefits that improve their operational efficiency, profitability, and decision-making.

Precision agriculture must deliver value on the ground first, otherwise, data pipelines remain empty and emissions stay unmeasured.

### Why It Matters?

- **Cost Reduction:** Optimized input use, enabled through telemetry and precision tools, cuts fertilizer and water expenses without compromising yield.
- **Yield Stability:** Real-time field insights and agronomic decision support reduce crop failure risks and weather-related volatility.
- **Market Access:** Participation in verified, low-carbon supply chains opens access to sustainability-linked procurement, certifications, and premiums.
- **Ease of Use:** User-friendly dashboards, mobile access, and local language interfaces increase daily usability and long-term engagement.

# Real-World Outcomes, What Success Looks Like

Program	Geography	Outcomes
<b><i>Corn Emissions Pilot</i></b>	U.S. Midwest	12% reduction in N application, yield maintained, 0.45 t CO <sub>2</sub> e/ha reduction measured
<b><i>Climate Smart Sorghum</i></b>	U.S. Plains	1,700 fields assessed, 400+ growers onboarded, USDA grant-supported scaling
<b><i>VRT Wheat Program</i></b>	Canadian Prairies	15% drop in fertilizer, 220 kg CO <sub>2</sub> e/ha GHG reduction, yield variance within 2%

## Key Takeaways

- Verified impact is achievable across diverse crops and regions with precision ag.
- Success depends on both agronomic optimization and robust data capture.
- Yield stability can be maintained even while reducing input emissions.
- Public-private collaboration (e.g. USDA grants) accelerates scaling and adoption.



# Verifiable Data Captured From The Field Becomes A Multi-Use Asset, Not Just A Compliance Tool.

## **Sustainability Premiums:**

Verified reductions linked to commodity volume can earn price premiums through sustainability-linked sourcing.

## **Carbon Markets / Insetting:**

MRV-ready data qualifies for participation in insetting programs or external carbon credit standards.

## **Green Financing:**

Verified environmental performance enables access to sustainability-linked loans and blended finance structures.

## **Consumer Branding:**

Transparent, auditable data supports on-pack claims, digital traceability, and consumer trust.

***When verified emissions data is aligned with procurement and marketing, companies can capture value across financial, reputational, and operational dimensions.***

# Trust is not optional; it's the infrastructure that allows data to scale.

Governance Principle	Best Practice
<b>Ownership</b>	Farmers maintain rights over their raw data and decide who can access it.
<b>Informed Consent</b>	Clear opt-in processes and contract terms protect privacy and trust.
<b>Data Anonymization</b>	All shared datasets are scrubbed of personally identifiable information, in line with GDPR.
<b>Reciprocity</b>	Farmers receive meaningful insights and recommendations in exchange for sharing data.
<b>Auditability</b>	Third-party systems review all data flows for accuracy and regulatory alignment.

*Sustainable data systems depend on transparent governance, clear consent frameworks, and shared accountability among all actors in the value chain.*



# A 3-Year Roadmap for Scalable Implementation

Phase	Duration	Key Activities
<b>Phase 0: Alignment</b>	0–3 months	Define target crops, geographies, Scope 3 KPIs, and MRV protocol. Get alignment across sustainability, procurement, and finance.
<b>Phase 1: Pilot</b>	3–9 months	Launch small-scale deployments. Test data pipelines, incentives, and MRV integrity. Validate emission reduction impact.
<b>Phase 2: Scale</b>	9–18 months	Expand across priority supplier groups. Integrate data into procurement systems. Standardize reporting.
<b>Phase 3: Platformization</b>	18–36 months	Build regional hubs. Formalize commercial models. Link verified data to ESG claims and financing.

This roadmap ensures that sustainability commitments evolve into enterprise-wide action, with each stage adding depth, reach, and accountability.

**To go from pilot to platform, CPGs need a phased strategy that aligns internal teams, builds local capacity, and establishes scalable systems.**

# Implementation Checklist

## What CPGs Must Have in Place



Defined MRV framework with emissions factors and measurement criteria

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Procurement contracts embedding Scope 3 KPIs and verification rights

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Supplier onboarding process and support materials

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Farmer incentive model with economic, technical, and educational components

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ESG dashboard integration for automated data flow

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Independent third-party audit system for data integrity



A successful Scope 3 program needs to coordinate multiple moving parts across agronomy, data, procurement, and finance.  
**Having these in place transforms Scope 3 from an aspiration into an operating system for climate accountability.**



# The Value of Partnership with Corvian

*When CPGs partner with Corvian, they gain more than technology, they gain a trusted solution for climate accountability.*

- Deep agronomic expertise across geographies and cropping systems
- Decade-long experience integrating data across farms, suppliers, and corporate systems
- Global infrastructure for deployment, training, and ongoing support
- Proven success stories with top-tier agrifood clients and government climate programs

**Verified Scope 3 reduction requires more than data, it requires trusted delivery partners who understand the ground realities and regulatory expectations.**



# Why Corvian?

**50M**

**Acres of Data Processed**  
and 3B+ data points per minute ingested from field devices, satellites, and labs.

**36**

**AgTech Patents**  
Integrating weather, soil, and machine data into auditable carbon models.

**2**

**Physical Soil Labs**  
Testing for sustainable farm fertility coaching, Scope 3 and credit projects.

**100+**

**In-House Experts &**  
agronomists supporting field verification and sustainability reporting.

## Partnership-Ready Architecture

Built to integrate with client ERP, compliance, and sustainability systems (SAP, Salesforce, ESG portals).

## Conclusion, Turning Partnership into Progress

The time for estimation is over. Verified Scope 3 impact is now a regulatory expectation and investor demand.

Corvian brings over a decade of experience in digital agriculture and sustainability analytics. With a presence across North America and Brazil, the company delivers integrated data systems that are MRV-compliant and scale-ready.

Its platforms are built to serve both the agronomic needs of farmers and the reporting demands of corporate sustainability teams, making it a trusted bridge between the soil and the Scope 3 ledger.

**Let's move from ambition to action,  
field by field, ton by ton.**



# Closing the Loop, A Call to Action



**CPGs must evolve** from fragmented initiatives to enterprise-wide systems grounded in farm-level verification.



Precision agriculture, when paired with **trusted partners like Corvian**, enables actionable insights and credible reporting.



The key to lasting change is **aligning incentives**, from farmer ROI to investor confidence, within a clear measurement and reporting framework.



**With the right tools, partnerships, and governance**, every harvested acre can deliver on climate promises.

**The time for estimation is over. Verified Scope 3 impact is now a regulatory expectation and investor demand. The path to net zero runs through the farm. Let's make every acre count.**



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