



Integrating ESG Principles into Agricultural Risk Management

Sustainability • Compliance • Practical ESG Integration Checklist

Who We Are

Amaranth Brose is a Dutch consultancy led by Huseyin Iskender Karagul, specializing in enterprise risk advisory with a focus on ESG integration, sustainability strategy, and circular economy transformation. We help boards, CROs, and risk leaders embed ESG risks into core decision-making frameworks—moving beyond disclosure and into strategic execution. Our work bridges global risk governance with practical implementation—so that ESG becomes not just a signal, but a source of resilience.

ESG Risk Integration Checklist

1. Materiality Assessment

Map ESG priorities across your value chain.

- Identify ESG hotspots (soil health, water use, animal welfare, methane).
- Prioritise issues with greatest financial or reputational impact.
- Update the map as regulations and stakeholder expectations evolve.

2. Baseline Measurement

Establish metrics to track sustainability performance.

- Measure GHG emissions, energy, and water intensity.
- Collect farm-level data (fuel, fertiliser, manure).
- Use baselines to set data-driven improvement targets.

3. SMART Goals

Set Specific, Measurable, Achievable, Relevant, and Time-bound targets.

- Define quantitative reduction or efficiency goals (e.g. 30 % less pesticide use).
- Align goals to enterprise-risk appetite and strategy.
- Embed targets in farmer scorecards and management KPIs.

4. Technology Adoption

Deploy precision-ag and IoT tools to optimise resources and reporting.

- Use soil-moisture sensors or NDVI drones to cut irrigation and pesticide run-off.
- Automate data capture for ESG disclosures (scope 1-3).
- Pilot renewable-energy or methane-capture solutions on farm sites.

5. Stakeholder Engagement

Collaborate with suppliers and communities to co-create ESG goals.

- Work with suppliers for certified, low-impact inputs.
- Co-invest with local communities in water or biodiversity projects.
- Share progress transparently with regulators, NGOs, and investors.

6. Governance Alignment

Integrate ESG oversight into board agendas and decision-making.

- Assign a board-level ESG or sustainability committee.
- Tie executive compensation to ESG KPIs.
- Review ESG performance quarterly alongside financial risk.

Step #	Action	Description of the Action	Examples to Clarify the Action
1	Materiality Assessment	Map ESG priorities across your value chain.	A grain producer prioritizes soil health and water use; a livestock farm focuses on animal welfare and methane emissions.
2	Baseline Measurement	Establish metrics like GHG emissions, energy and water usage to track sustainability performance.	A vineyard tracks carbon emissions from fuel and fertilizer; a dairy farm monitors water intensity and methane emissions.
3	SMART Goals	Set Specific, Measurable, Achievable, Relevant, and Time-bound ESG targets.	A rice producer targets 30% pesticide reduction over five years; a fruit orchard aims to plant cover crops on 20% of land.
4	Technology Adoption	Deploy technologies like IoT and precision agriculture to optimize resource use and reporting.	Sensors optimize vineyard irrigation; drones monitor crop health to reduce pesticide use.
5	Stakeholder Engagement	Collaborate with suppliers and communities to co-create ESG goals and share responsibility for outcomes.	Work with suppliers for sustainable inputs; engage communities in water projects; partner with NGOs on biodiversity efforts.
6	Governance Alignment	Integrate ESG oversight into board agendas and decision-making processes.	Assign ESG oversight committees; tie executive compensation to ESG KPIs; require regular ESG performance reviews.

Table 1: Key ESG Integration Actions

Contact Information

For further inquiries about integrating ESG risks into your enterprise risk framework, please reach out to:

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