

Fault Lines and Green Lines: The Transition has to Work under Pressure

Alzbeta Klein, CEO and Director General, IFA, September 2026

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Last week, at New York Climate Week, IFA carried forward a central message: a shock to one essential input can have consequences far beyond its own market.

Take roughly 8 million tons of urea out of the world market, as this year's disruption did, and apply the loss to wheat. That could translate into a loss of around 75-100 million tons of grain, out of global production a little above 800 million tons.

That is the scale at stake when the systems behind farming are disrupted. It is also why food security can no longer be discussed apart from energy, fertilizers, shipping, and trade.

From London Climate Week to New York Climate Week, the question was not whether sustainability remains the destination. It was what made the transition operable, investable, and resilient when the conditions around it became less stable. With the presidency framing COP31 as an "Implementation COP," creating the conditions to turn ambition into action becomes all the more urgent.

Food security starts with inputs

About half the food the world eats depends on the Haber-Bosch process, which turns natural gas into nitrogen fertilizer. The inputs supplied by a single producer are estimated to help feed around 400 million people a day, close to 5 percent of the global population.

So when the energy supply is disrupted, the effects do not remain confined to the energy markets. They move quickly into fertilizer production, pricing, and trade. This year, prices first spiked and then fell as demand destruction set in and normal buyers were priced out. A shock like that may not show up in food prices right away, but it shapes procurement, planting decisions, fertilizer use, yields, and future affordability. The full impact of the Strait of Hormuz disruption on food production is still not widely recognized.

Policy has not caught up either. Food, feed, and fertilizer are exempt from sanctions, but the services required to trade them, such as the laboratories that test grain for safety, often are not. That gap has entangled humanitarian shipments in red tape, including efforts to let the World Food Program buy Black Sea grain and ship it to Africa.

Fertilizers, natural gas, transport, and shipping are not peripheral to food security. They are its operating infrastructure.

From targets to stress tests

For years, the sustainability conversation centered on ambition and targets. The questions are now harder and more practical. Can a transition plan still work if energy prices rise? Can it withstand a disrupted trade route? Can farmers afford it? Will investors finance it?

This is not a retreat from ambition. Climate ambition is now tested against energy security, food affordability, geopolitical exposure, and industrial competitiveness. Investors are asking less about whether a company has a narrative and a goal, and more about whether it understands its exposure to supply chain disruptions, farmer impacts, policy uncertainty, and long-term input dependence.

Stress tests also surface real trade-offs. Securing supply during a disruption can mean tolerating higher-carbon sourcing in the near term; resilience and decarbonization do not always move in the same direction. The strongest transition plans will be the ones designed to operate through instability, not only under ideal assumptions.

Technology needs markets, and there is proof of demand

Many of the technologies needed are already deployable: low-carbon ammonia, carbon capture, enhanced-efficiency fertilizers, biologicals, efficiency improvements in production and transport, and better soil and land management. The barrier is less the technology than the demand. Who pays the premium? Who signs the long-term contract? Who carries the first-mover risk? Who verifies the claim?

The assumption that no one will pay deserves a second look. Retail sales data suggest that products carrying a recognized climate badge sold about 10 percent more, on average, than equivalent products without one, with the effect concentrated in higher-value goods. On the farm side, growers of higher-value perennial crops such as macadamia and avocado, who need their plants to stay healthy for a decade or more, already invest in soil health. Those pockets of demand can build momentum before the rest of the industry scales.

Measurement is getting cheaper fast, too. IFA has seen this firsthand: its startup program, launched two years ago, now hosts around 80 startups, and at a hackathon in Ireland earlier this year, one team built a complete field-to-bread carbon footprint, covering every step, in 36 hours. The harder work is verification, comparability, and assurance, which is what actually makes a claim credible. That is the next frontier, and it will decide whether lower-carbon production can command recognition in procurement and investment decisions.

Resilience needs to be rewarded

Companies are already diversifying suppliers, building procurement flexibility, and mapping their exposure to chokepoints. Markets do not consistently reward this. A company can invest in more secure, lower-carbon, or more diversified supply and still see no consumer premium and no lower cost of capital.

If resilience is material to business performance, it should be material to capital allocation. Resilience-linked financing, insurance benefits, long-term offtake agreements, and investor metrics that reward reduced exposure to disruption can close that gap.

The same logic applies on the farm. Mineral fertilizers, enhanced-efficiency products, biologicals, regenerative practices, and precision agriculture are not competing models where one must replace another. The question is which combination delivers yield, resilience, affordability, emissions reduction, and economic value for the farmer in a given context.

And it applies across supply chains. Open, rules-based trade is a form of insurance: when one route or origin is disrupted, open markets let cargoes move and alternative suppliers emerge. The goal is not self-sufficiency at any cost. It is a system with enough options that a localized shock does not become a food-security crisis.

The road to COP31

None of this can be delivered in silos. Climate, agriculture, energy, trade, and finance decisions are still often made in separate ministries, even though a decision in one system quickly reshapes another. Food security itself needs a wider lens: not only how many calories the world produces, but the quality and nutritional value of the food that reaches people.

COP31 is the opportunity to make these connections visible, and to push for the conditions needed to deliver: policy certainty, financing that prices resilience, credible data and claims frameworks, and deeper collaboration across the food-energy-fertilizer value chain.

The fault lines are visible. The green lines are there too. The task now is to create the conditions for farmers and businesses to invest in a transition that can withstand disruption. That means connecting climate goals to the decisions that determine what gets produced, financed, traded, and grown. This is the message we have carried from London to New York, and one we will continue to bring to COP31.

Alzbeta Klein is CEO and Director General of the International Fertilizer Association. This article builds on insights from the IFA London Climate Action Week 2026 roundtable. The outcome report is available [here](#).