

Sponsored by



Inside the sustainable supply chain revolution

Supply chains are complex, many layered and hard to understand and control. But effective methods and technologies for making them sustainable are beginning to emerge

Copper, cobalt and lithium are crucial for the clean energy transition. But more than 70 per cent are under serious threat from climate disruption, according to recent research carried out by the global professional services company, PwC. The same is true for 90 per cent of the world's rice production.

That's why global companies need to factor climate and nature into their supply chain strategies and why taking action on climate change is becoming essential to future resilience and growth.

For these businesses, unsustainable practices, climate disruption and the breakdown of ecosystem services are a massive risk to operations, to reputations and to continued profitability. Governments are also imposing stricter regulations covering both environmental and social factors, and investors and customers are becoming more demanding too.

Companies that get ahead of the game can reap rewards by devising ways to make their supply chains more sustainable and more resilient against external shocks like extreme weather. This approach can also open new markets for discerning customers willing to pay higher prices for sustainably-sourced products.

None of this is easy, however. Modern supply chains are often long and hugely complex. Laptops and smartphones, for example, are constructed from components built on other components, by suppliers with their own complex supply chains, and all based on minerals sourced from mines around the world. For such a process to be sustainable, the company selling the final product needs to have oversight of their entire supply chain.

Few do. The challenge they face is to obtain better transparency, not just from their

immediate suppliers, but along the entire length of the supply chain.

That's why so many companies are looking to improve supply chain sustainability. Jeremy Howard, Director of Sustainable Supply Chains at PwC UK, says that a year ago only a handful of clients wanted this: now he gets about one new enquiry per week.

Many are reacting to new regulations. The EU's Carbon Border Adjustment Mechanism, for example, effectively places a price on certain greenhouse gases emitted in the production of selected imports, and means that companies must work with their suppliers to calculate the carbon intensity of those imports. The EU also has regulations excluding products made with forced labour, and is pushing companies to do due diligence on sustainability through the Corporate Sustainability Due Diligence Directive.

In 2023, the European Union also introduced the Regulation on Deforestation-Free Products, which requires anyone selling certain commodities in the EU – such as soy, palm oil and cocoa – to demonstrate that they “do not originate from recently deforested land”.

“That is a remarkable piece of legislation,” says Will Evison, Director of Climate and Nature Strategy at PwC. “It requires traceability back to the parcel of land where inputs are coming from.” Most commodity supply chains don't have anything of the kind. “It is a colossal challenge.”

Alongside regulation, are the physical realities of the world. Environmental problems like climate change and ecosystem degradation can affect supply chains, often reducing their resilience. In April, PwC outlined the scale of the problem in its Climate risks to nine key commodities report, and the need for companies to urgently adapt their supply chains in response.

Supply chain concerns stretch beyond the environment



YURI ARCURI/PEOPLEIMAGES.COM/ADOBE STOCK

The fact is that many companies have significant “nature-related dependencies”, says Evison. In a 2023 analysis, PwC found that in five industries all the economic value of companies’ operations was highly dependent on nature – and so could potentially be wiped out by ecosystem disruptions. In another 11 industries, at least 35 per cent of economic value was highly or moderately dependent on nature.

Regenerative farming

This threat can be mitigated if dependencies are well-managed. Many organisations and big food brands are trying to transition the agricultural parts of their supply chains towards regenerative practices. These include low-till agriculture, which causes less damage to soil structure and releases less greenhouse gas, and replaces toxic pesticides with natural pest management.

What makes a supply chain sustainable stretches beyond environmental concerns. Companies are also facing increasing pressure to address the human rights impacts of their global supply chains. PwC

works with companies to identify modern slavery risks and establish effective human rights related governance and due diligence processes. A notable example is the 2022 Commonwealth Games, where PwC conducted supplier reviews internationally to provide unprecedented insight into working conditions and labour practices, allowing the Games to monitor the working conditions for workers across their supply chains.

Most companies do not currently have enough data on their immediate “tier 1” suppliers to meet incoming regulations, and that’s before they tackle the trickier lower tiers that are not supplying them directly.

When it comes to decarbonisation, companies face a daunting task as Scope 3 emissions are both large and indirect, often making up 65 to 95 per cent of their total corporate footprint. “Uncertain estimates and poor data quality are causing many companies to focus much of their effort on measurement rather than implementing strategic reduction activities”, says Bryan Hartlin, Net Zero Transformation Lead for PwC’s Global Sustainability Impact Centre. “However, mature procurement and supply

chain teams are now thinking about the significant changes they need to make to their product or portfolio strategies, processes, people and technology to really drive decarbonisation.”

While perfect data might be difficult to obtain, useful actionable data is not. Leading companies are using this data to establish a baseline and to focus their efforts, including creating meaningful incentives for suppliers.

To transform on the scale needed to address regulatory, environmental and social concerns, companies are turning to technology to enable them to get insight and information about their supply chains.

“We want to make sure our supply chains are more traceable and that we know what the flow of our supply chain from raw materials looks like,” says Hannah Cool, Director of ESG Transformation at PwC UK.

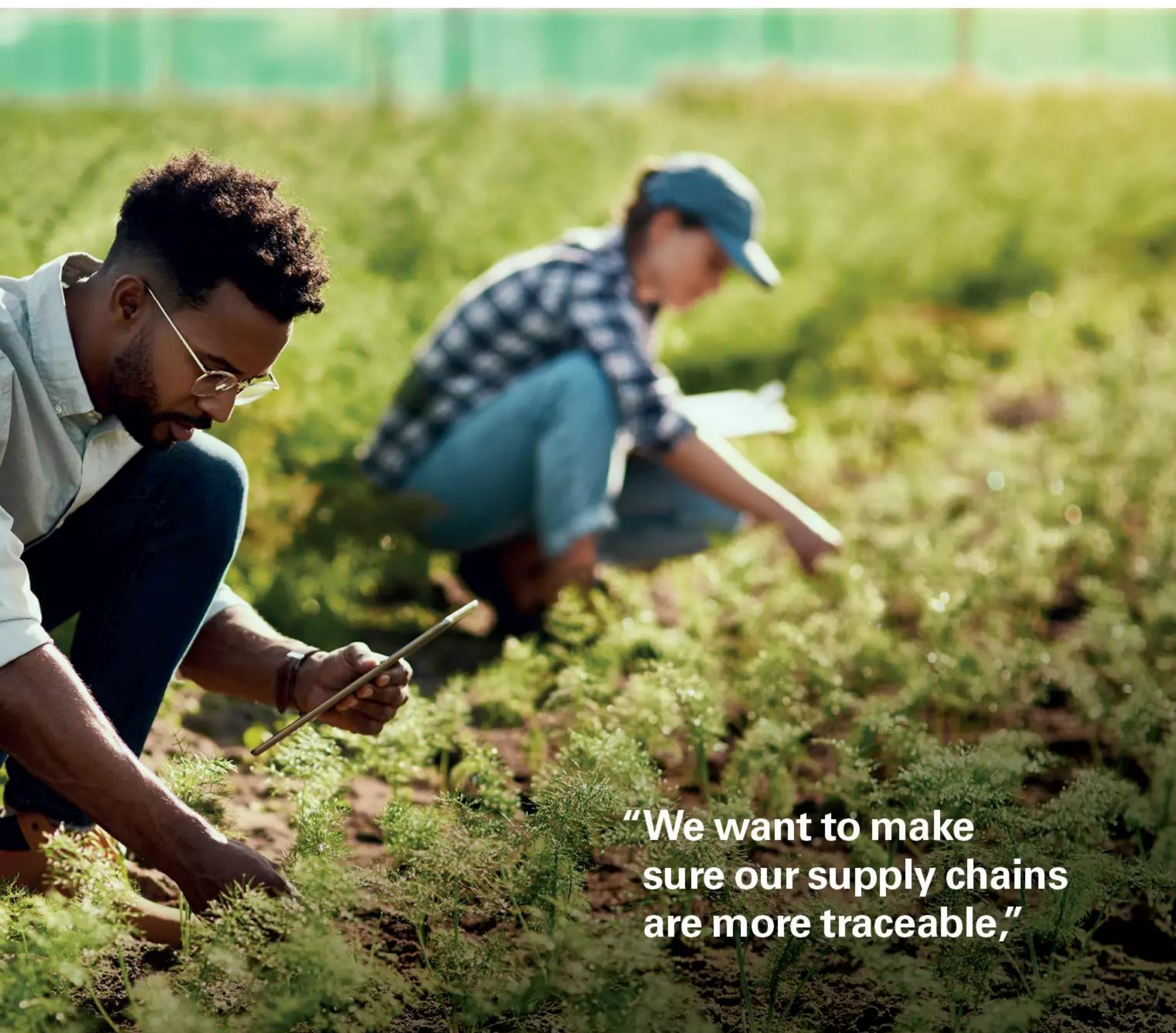
Technologies like cloud computing can help improve this transparency, as can access to third-party data sources. Some systems use AI to model linkages between companies based on publicly-available information. But “many small producers are not on public registers or online, so this can be only a start”, says Howard.

Nevertheless, once this information is gathered, it can be attached to products. “You can attach something as simple as a QR code to a shipment and you can then follow it through your supply chain,” he says.

To help companies with this, PwC works with external suppliers that use technology and satellite imagery to monitor sites like mines and farms, generating essential information about producers’ impacts and establishing the source of origin of commodities and materials.

There’s also the global challenge of obtaining information from small- and medium-sized enterprises (SMEs), which Cool calls “the backbone of the economy”. SMEs make up the majority of suppliers in many industries, but struggle to comply with complex reporting systems. It’s an issue where a common standard of critical metrics for monitoring the impact and risks of supply chains, enabled by technology, could make a big difference.

Building transparent supply chains is a challenge, but the prize is much more than meeting regulatory compliance. Sustainable supply chain practices are essential to build resilience, remain competitive and thrive in today’s complex and uncertain world.



“We want to make sure our supply chains are more traceable,”