

# Sustainable Supply Chain

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The global leaders promised to stay invested in sustainability across developed and developing nations at COP29. They unanimously agreed that the adoption of digital technologies is crucial.

**How do AI-Enabled Supply Chains accelerate this global sustainability journey?**

Rising environmental disasters and their unpredictability renders a somber atmosphere of risk amid businesses globally.

**Can AI and algorithmic insurance facilitate in pre-empting supplier's risk?**

With evolving regulations landscape, businesses are compelled to be more accountable and responsible.

**What are the key aspects businesses need to focus to align their supply chains with regulatory requirements?**

A collective stakeholders' management is equally important to manifest sustainability initiatives.

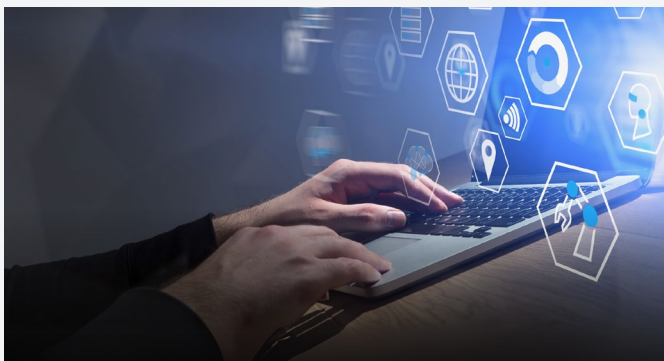
**How can business ensure a 'Just Transition' with supplier inclusion, diversity, and up-skilling?**

## Technology inclusion, enablement, and strategic implementation

will accelerate the sustainability transition, ensuring resiliency and transparency and serving business purposes.

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# EDITOR'S LETTER

Dear Readers,

Wish you a very Happy New Year, 2025!

A turbulent 2024 reinforces the grave importance of supply chain sustainability. As we embark on 2025, we carry forward more responsibilities to be resilient, accountable, technology-armoured, and environmentally conscious.

COP 29 has been one of the most vital events in 2024. Known as the 'climate finance COP', it launched a renewed global finance target (USD 300 bn.) by developed nations to accelerate energy transition in developing countries and globally. Multiple initiatives committed to advance and mobilize climate action targets influence global supply chains across industries – procurement, logistics, infrastructure, and human resources. And technology has become a crucial pillar to achieve the sustainability targets. Technologies such as Data, AI, Cloud, and Platforms necessitate responsible usage and promise to slash redundancy and ensure transparency and accountability.

To infer, technology is the cornerstone to steer 'Just Transition'. Not only technology adoption but technology skill building –up-skilling and reskilling- has been priorities for global organizations. Supply chain executives have a pivotal role to play by enabling supplier inclusion, diversity, and skill development in a shared supply chain nexus. With huge investments and work commitments, multiple compliances and regulations across technology, emission, and sustainability are impending. Requirements aligned with enhanced sustainability reporting, the EU Corporate Sustainability Reporting Directive (CSRD), and Corporate Sustainability Due Diligence Directive (CSDDD) will prepare companies to be more accountable and conduct due diligence across supply chains.

Environmental disasters have considerably been intense due to climate change. These threaten global supply chains and ecosystems, pressing the need for accurate and agile forecasting to address supply chain risks. Recent wildfires amounted to ~ USD 135 billion to USD 150 billion in damage and economic losses, impacting procurement, shipping and transport and leading to various sustainability concerns such as labour shortage, higher emissions, and wastages. In such situations, algorithms continuously monitoring and analysing vast datasets can act as vigilant auditors, pre-empting potential disruptions.

It is our pleasure to spotlight the inspiring journey of Ms. Ann Rosenberg, Senior Sustainability & Responsible AI Advisor, SustainableIT.org at COP29 in Baku, and her perspectives on advancing AI-Enabled Supply Chains, with responsible and transparent AI. We delve deeper into Just Transition and the implications of global reporting and due diligence. Further, interesting perspectives on algorithmic insurance explore pathways to address suppliers' risks amid such environmental volatility.

Thought leaders and corporate practitioners from global technology leaders share approaches from their inspiring experiences. Guidance from distinguished advisors highlights the influence of regulations and the role of digital technologies.

We start 2025 with our solidarity towards LA wildfire victims. Yet, we proceed with high hopes for building a sustainable future. Like in previous editions, we welcome the budding supply chain enthusiasts and convey our best wishes for their encouraging achievements.

I look forward to your perspectives and stories about supply chain sustainability in our upcoming editions.

Write to us at [ushasi.sengupta@iscea.com](mailto:ushasi.sengupta@iscea.com) and [globaldesk@iscea.com](mailto:globaldesk@iscea.com). Enjoy the read!

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# EDITORIAL COLUMN

## THE CLOCK IS TICKING: A GLOBAL CRISIS WITHOUT BORDERS

As the world continues to spin, the clock ticking grows louder. Climate change, once a distant concern, is now a ubiquitous reality, which is felt by every person on the planet—each day. From toxic air in Delhi to blistering heat waves in Europe; from floods in Brazil to a record-breaking typhoon in the Philippines, the impacts of climate change are no longer a prediction but a harsh daily experience. These extreme weather events, increasingly frequent and severe, are stark warnings that we are not just the spectators of the destruction of our planet; we are living through it, and there is significant headroom for our commitment to our planet.

We wrap up 2024 with the 29th Conference of the Parties (COP29) concluded in Baku, Azerbaijan, extending the deadline for critical climate finance negotiations by an additional 23 hours. A key element of the discussion was the \$300 billion per year commitment by developed countries—aimed at helping manage the global impact of climate change. While the new pledge is a significant improvement over the \$100 billion agreed upon during the 2015 Paris Agreement it raises concern. The full scale of the climate crisis is estimated to cost between \$1 trillion and \$1.3 trillion annually. Further, the devastation, already experienced in many parts of the world, is irreversible.

The challenge is not just financial. The reality is that developing countries are the most vulnerable ones. These nations, often with limited resources and infrastructure, are bearing the brunt of floods, droughts, wildfires, and rising sea levels. From Kenya's prolonged droughts to the floods in China and Bangladesh, these vulnerable communities are on the front lines of a war that was not of their making. Yet, their voices often go unheard in the corridors of power, where major decisions are made by those whose contributions to the crisis have been far greater.

But here's the truth that no one can escape: climate change does not care about borders. It does not respect political lines or national agendas. It is an equal-opportunity destroyer—whether it's the toxic smog in Delhi, the Sahara Desert experiencing unprecedented rainfall, or Dubai facing torrential rains in a region synonymous with dry heat. These events make the fact clear: we are all connected, and the effects of one region's climate catastrophe ripple out, touching all corners of the globe.

Organizations can play a pivotal role in safeguarding such environmental departure. Being the controllers of global supply chain sustainable practices – procurement, regenerative productions, impact measure and governance - can help gradually rein in environmental degradations.

While there is rising awareness the bitter truth is that we are running out of time. The world must act with urgency recognizing that the clock has been ticking. If we don't address climate change with the speed and scale it demands, we will all suffer—rich and poor, developed and developing. The time for incremental steps is over. It's time for bold, collective action before it's too late.

In the face of this crisis, we must remember that the planet is one, and so must our response.

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# Algorithmic Assurance:

Rewriting the Rules of Supplier Risk

Manuel Vexler

**S**upply chains, once predictable arteries of commerce, are now exposed and vulnerable. Geopolitical tremors, climate shocks, and cyberattacks ripple through intricate global networks, creating cascading risks that demand a sophisticated response. For ISCEA-certified professionals, navigating this turbulent landscape requires a new toolkit. Artificial intelligence (AI) and sustainability are no longer optional extras, but integral components of a resilient and ethical approach to supplier risk insurance. This article explores this transformative intersection, offering insights into supply-chain executives operating in an increasingly volatile world.

### **A Shifting Landscape: Redefining Insurance Risk in the Supply Chain**

The old certainties of supply-chain management are dissolving. Once a linear, predictable system, the modern supply chain is a complex, interconnected ecosystem vulnerable to a multitude of disruptions. Geopolitical instability, exemplified by the war in Ukraine and rising tensions in the South China Sea, has exposed the fragility of globalized production.

- Climate change, with its attendant extreme weather events and resource scarcity, adds another layer of unpredictability.
- Cyber threats, growing in sophistication and frequency, target the digital infrastructure underpinning global trade.

These converging forces create a dynamic risk environment that traditional supplier risk insurance, often reactive and reliant on historical and actuary data, struggles to comprehend.

### **Defining the Terms**

*Supplier risk insurance*, the financial product designed to mitigate these risks, is undergoing a fundamental shift, driven by the convergence of AI and sustainability.

*Artificial intelligence (AI)* refers to the simulation of human intelligence processes by machines, particularly computer systems. This includes learning, reasoning, and self-correction, enabling the analysis of vast datasets to identify patterns and predict outcomes.

*Sustainability* focuses on managing resources to meet current needs without compromising future generations, addressing *environmental, social, and governance (ESG)* factors like reducing emissions and promoting ethical labor practices.

### **The Need for Change**

Traditional supplier risk insurance often falls short in this new reality. Static policies based on historical data fail to capture the dynamic nature of modern risks. Insurers are recognizing this, increasingly seeking sophisticated tools to assess and mitigate evolving threats. The convergence of AI and sustainability offers a way forward, enabling a more initiative-taking, data-driven, and ethically conscious approach to managing supply-chain vulnerabilities.

For ISCEA professionals, understanding this shift is paramount. They are tasked with integrating sustainability into supply-chain practices, aligning with global efforts to reduce emissions and promote ethical sourcing.

## ARTICLES

### The Algorithmic Eye: AI's Impact on Supplier Risk

AI is revolutionizing supplier risk management by providing real-time insights and predictive capabilities previously unimaginable. Algorithms act as vigilant auditors, constantly monitoring the supply chain for potential disruptions. By analyzing vast datasets – from supplier performance metrics and market trends to geopolitical events and social media sentiment – AI can identify emerging risks and offer early warnings.

Natural language processing (NLP), a branch of AI focusing on the interaction between computers and humans through natural language, can monitor news and social media for early warning signs, such as negative sentiment towards a supplier or reports of environmental violations, strikes, and weather events, among others.

### Automation and Efficiency

AI automates previously laborious tasks, such as supplier evaluations, analyzing compliance data, financial stability, and performance metrics for efficient and accurate risk assessments. This continuous risk assessment, a hallmark of AI-driven systems, maintains supply-chain resilience in a volatile environment. AI can also automate the onboarding of new suppliers, reducing the time and resources required for due diligence and compliance checks. This not only improves efficiency but also reduces the potential for human error, leading to more reliable risk assessments.

### Predictive Power: Anticipating Disruptions Inform Insurers

Predictive analytics, a key component of AI that utilizes data and algorithms to identify the likelihood of future outcomes, allows companies to anticipate potential disruptions and optimize resource allocation. For example, IBM's Watson Supply Chain uses AI-powered analytics for real-time insights and predictive capabilities, improving risk identification and decision-making.

Another example is DHL's Resilience360 comprehensive supply chain risk management platform offering, Risk Prediction and Mitigation allowing companies to anticipate disruptions in their supply chains by providing insights into various risks, including environmental factors, geopolitical issues, and other human-caused disruptions.





These tools enable companies to shift from reactive to initiative-taking risk management, anticipating potential disruptions and implementing mitigation strategies before they impact operations.

### **Building Sustainable Resilience: ESG and the Future of Supply Chains**

Sustainability is no longer a “nice-to-have” but a “must-have” for resilient supply chains. ISCEA emphasizes the integration of sustainability into supply-chain practices, aligning with global efforts to reduce emissions, promote ethical sourcing, and ensure long-term viability. This diversification reduces reliance on single points of failure, mitigating the impact of disruptions affecting a specific region or company. Sustainable practices, such as reducing waste and optimizing transportation routes, can also lead to cost savings and improved operational efficiency and overall profitability.

### **ESG: A Central Focus**

ESG factors are now central to supplier risk assessments, with companies focusing on environmental impact, labor practices, and governance. AI enhances these efforts by automating ESG data collection and analysis, streamlining compliance checks, and strengthening brand reputation. By analyzing large ESG datasets, AI identifies suppliers meeting sustainability criteria and flags risks like environmental violations, labor disputes, or governance issues. This data-driven approach enables more informed supplier selection and effective risk mitigation, fostering a resilient supply chain.

Mandatory ESG disclosures, like the EU’s CSRD and California’s SB 253 and SB 261, are reshaping supply chains. CSRD’s “double materiality” assesses financial impacts alongside societal and environmental effects. California focuses on emissions and climate risks. AI now automates ESG data analysis, flagging supplier risks like environmental breaches or labor disputes. This data-driven approach allows firms to meet escalating regulatory demands and build more resilient, transparent supply chains.

### **Proactive ESG Risk Management**

Companies like Audi and Volkswagen use NLP to monitor supplier-related news and social media, enabling rapid response to emerging ESG risks. This proactive approach to ESG risk management is becoming increasingly important as stakeholders demand greater transparency and accountability. This real-time monitoring and analysis of ESG-related information enables companies to respond quickly to emerging risks and maintain ethical and sustainable supply-chain practices.



## ARTICLES

### The Power of Convergence: AI and Sustainability in Action

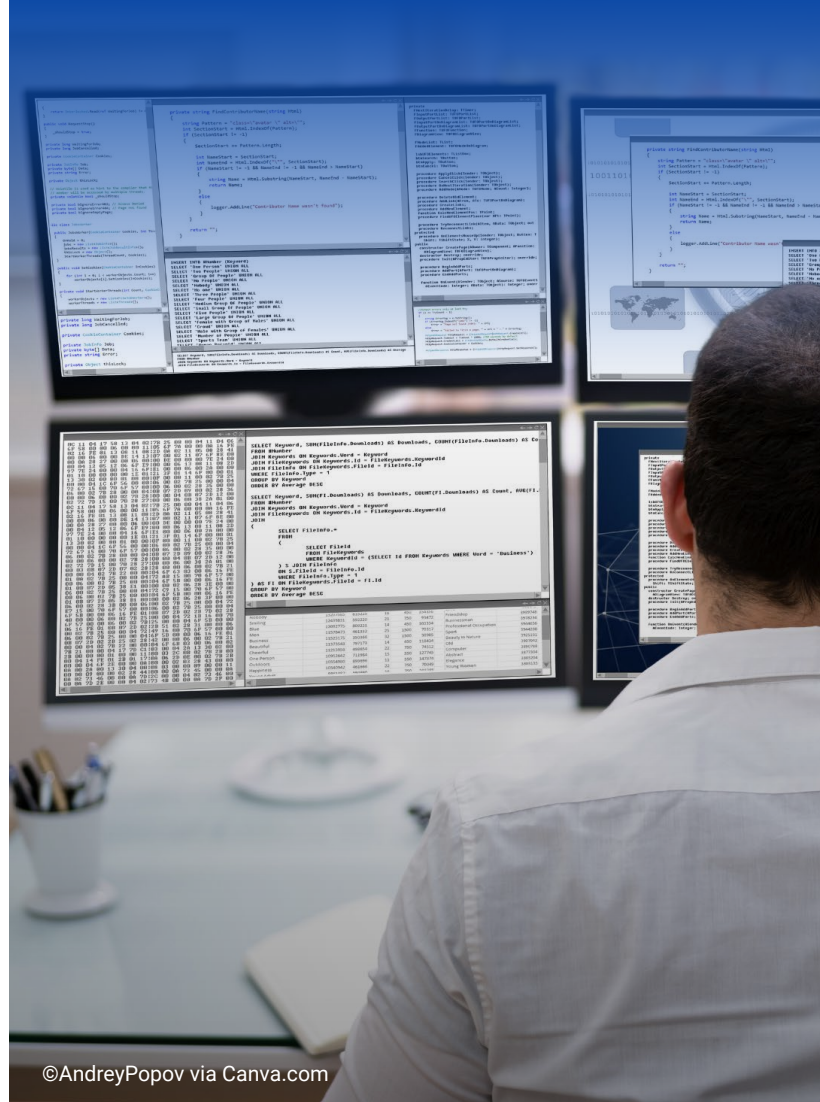
The true transformative power emerges when AI and sustainability converge. AI-driven tools enhance supply-chain visibility, mapping complex supplier networks and identifying potential risks at multiple tiers. This comprehensive view is essential for managing complex, global supply chains and ensuring compliance with evolving sustainability standards. AI can analyze data from various sources enabling companies to identify potential bottlenecks, assess the impact of disruptions at various tiers, and implement targeted risk mitigation strategies.

### Agile Responses and Alternative Sourcing

AI facilitates agile responses to disruptions, enabling companies to quickly identify and onboard alternative suppliers. Unilever a leading sustainability conglomerate, for example, uses AI to rapidly identify alternative supply sources, scanning websites for data on suppliers' financial stability and sustainability ratings. This ensures supply-chain continuity while upholding high sustainability standards. AI can analyze data on supplier capacity, lead times, and sustainability performance to identify alternative suppliers that can meet specific needs in the event of a disruption. This agility is crucial for minimizing the impact of unforeseen events and maintaining supply-chain continuity. By leveraging AI to identify and qualify alternative suppliers, companies can mitigate risks associated with single-source dependencies and build more resilient supply chains.

### Optimizing the Supplier Base

Koch Industries invested in Silo, a company which employs several AI models to assess a business's risk and detect anomalies during the



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funding process and to various components of the perishable supply chain, including underwriting, product taxonomy, document extraction and fraud detection.

### Navigating the Future: Challenges and Opportunities

While the benefits of integrating AI and sustainability are substantial, challenges and ethical considerations must be addressed. Data privacy and security are paramount concerns. Robust cybersecurity measures are essential to protect sensitive supplier information. As AI systems rely on vast amounts of data, ensuring data privacy and security is crucial for maintaining trust and complying with regulations such as EU's GDPR. Companies must implement robust data governance frameworks and cybersecurity



protocols to protect sensitive supplier information and prevent data breaches. This is particularly important given the increasing use of AI in handling sensitive supplier data.

### Skills and Training: Investing in Expertise

Successful AI implementation requires investment in training and skill development. Professionals need expertise to effectively utilize AI tools and interpret the insights they provide. ISCEA certified professionals must develop their skills in AI and data analytics to effectively leverage these technologies for supply-chain management. This includes understanding how to use AI tools, interpret data, and make informed decisions based on AI-generated insights. Continuous education and training are essential for supply-chain professionals to effectively leverage AI

and address the evolving challenges of risk management. This ongoing professional development is crucial for staying abreast of the latest advancements and best practices in AI and sustainability.

### Ethical Considerations: Navigating the Moral Maze

Ethical considerations are crucial. Supply-chain leaders must address potential biases in AI algorithms and ensure transparency in supplier relationships. AI algorithms can perpetuate existing biases if not carefully designed and monitored. Companies must ensure that their AI systems are fair and unbiased, and that they do not discriminate against certain suppliers based on factors such as location or size. Transparency in AI decision-making is also essential for building trust and accountability. Addressing potential biases in algorithms, ensuring transparency in decision-making, and promoting ethical data practices are crucial for responsible AI implementation. This ethical imperative extends to considering the potential for job displacement due to AI-driven automation and the environmental impact of AI's energy consumption.

### Emerging Trends: Shaping the Future of Supply Chains

Key trends are shaping the future of AI and sustainability in supply chains. The integration of AI with ESG goals enables businesses to monitor performance, optimize operations, and improve transparency. AI helps enhance transportation efficiency, reduce fuel consumption, and minimize waste. Predictive analytics improve forecasting, inventory management, and risk mitigation, while AI-powered digital twins enable real-time modeling to assess sustainability impacts and refine

operations. These advancements highlight the constructive collaboration between AI and sustainability, driving more resilient, efficient, and ethical supply chains.

In this landscape, ESG standards serve a crucial role, offering a guide for businesses to align their operations with sustainable practices. Several associations are at the forefront of establishing and promoting these standards. The AKFI Sustainability Association is one such organization, integrating ESG goals with digital innovation and assisting businesses in navigating the complexities of sustainable supply chain management. Other notable associations include the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), the International Integrated Reporting Council (IIRC), and the Carbon Disclosure Project (CDP).

These organizations not only establish ESG standards but also provide frameworks and tools for businesses to effectively meet these standards, thereby playing a vital role in shaping the future of sustainable, AI-powered supply chains.

**Conclusion: Embracing Algorithmic Assurance**

The integration of AI and sustainability in supplier risk insurance represents a change in thinking. It is not merely a technological advancement, but a fundamental change in how companies manage risk and build resilience. This new paradigm,

characterized by proactive risk management, enhanced visibility, data-driven insights, sustainable resilience, and tailored insurance solutions, demands a new level of expertise from supply-chain professionals.

Insurance companies should leverage AI for proactive risk management and integrate ESG factors into evaluations. AI-driven analytics enable real-time monitoring, predictive decision-making, and enhanced supply-chain resilience. Investing in staff training ensures effective AI utilization, while adopting robust data governance safeguards privacy. These steps foster efficiency, sustainability, and ethical operations in modern supply chains.

ISCEA-certified professionals are uniquely positioned to lead this transformation, leveraging their knowledge to navigate the complexities of this new landscape. By embracing algorithmic assurance, they can build supply chains that are not only efficient and resilient, but also ethically and environmentally responsible, ensuring long-term success in an increasingly interconnected and volatile world.



**Manuel Vexler**

Manuel is a seasoned technology and business executive with expertise in Industry Standards Associations, Sustainability, ESG, and Digital Transformation in support of SMEs and the Supply Chain. As an instructor at Cornell University, he nurtures leaders in sustainability and digital transformation. Presently, Manuel serves as the executive director of AKFI Association.

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# Welcome COP29



# From COP29 to COP30:

Advancing Global Sustainability with Responsible AI, Transparency, and AI-Enabled Supply Chains

# me to 9 Azerbaijan



**Ann Rosenberg**

**C**OP 29, now known as the ‘climate finance COP, launched a renewed global finance target (\$300 bn.) by developed nations to accelerate energy transition in developing countries and globally. This indeed emphasizes collaborations, partnerships, technology and innovation to ensure a just transition while imbuing two strategic pillars enhanced ambition and enabling actions.

The summit kick-started many new initiatives, activities and funding opportunities, to advance climate action and mobilize investment in line with the Paris Agreement goals. Transparent climate reporting was emphasized for building a stronger evidence base to strengthen climate policies and helping to identify financing needs and opportunities.

Other notable initiatives include solutions for energy (including hydrogen and hydropower), methane, industry infrastructure and partnership, mobility, gender equality and others. Key goals include empowering small-scale farmers, streamlining knowledge-sharing platforms, and enhancing investments in climate-smart food systems.

And, there has been an equivocal consensus that technology and innovation including green and inclusive digital transformation are necessary. Green IT, responsible AI, data, and platforms will enable businesses to align the targets of corporate sustainability and shareholders’ value. Additionally, technology-related initiatives at COP 29 reflect collectively on these priorities.

SustainableT.org joined global leaders at COP29 in Baku, championing sustainable technology and responsible AI to forge a resilient digital future.

# Corporate Sustainability and Shareholder Returns: Advancing Impact Maturity for Climate Action, Diversity and Inclusive Growth

Anders Rodenberg  
Chief Executive Officer, Denominator

Bhakti Gajjar  
Chief of Staff, DOVU

Lita Flores Garcia  
Director, Development, Ocean Climate F



The outcome of COP29 has implications for the global supply chain:

## 1. Sustainable Procurement :

Enabling climate-proofing SMEs will necessitate large organizations to collaborate with global SMEs and incorporate SMEs in the global supply chain. Further, small-scale farmers, regenerative agriculture, sustainable buildings, small-scale local technology and service providers, and global large organizations will together steep sustainable procurement. A part of the climate finance investments will also be circulated through SME and large private industry collaborations. At the Swedish Pavilion, panel was hosted by EQT Group on “Halftime to 2030: The Role of the Private Sector in Driving a Just Transition”.

“The dialogue was charged with urgency and the collaborative spirit needed to pivot towards sustainable practices.”

– Ann Rosenberg





## 2. Sustainable Logistics :

COP 29 released guidance on incorporating transport in NDCs. Also, the Climate Champions launched the '2030 Avoid and Shift Breakthrough', a goal that aspires to double the share of energy-efficient and fossil-free land transport for people and goods by 2030. The goal will indeed fuel sustainable logistics. However, investments and infrastructure, which are both climate-proof and low-carbon intensive, such as public transit, rail and infrastructure for walking and cycling are necessary to accelerate the implementation.

## 3. Infrastructure and Support :

The global supply chain will widen, thus spreading across developing and developed countries. Organizations must contribute to the resilience of climate-vulnerable resources, countries, and communities. Establishing the Santiago network at COP25 was a pivotal step in supporting climate-induced loss and damage. This network aims to bridge the gap between climate-vulnerable countries, and their urgent needs, to experts that can provide the solutions.

**Intense discussions at the UNOPS-led Santiago Network for Loss & Damage at Goals House reinforced our climate commitments with The Climate Pledge.**

– Ann Rosenberg



#### 4. Skill Development and Inclusive Supply Chain :

A recent Gartner survey, in 2024, highlights that of the supply chain workforce, ~40% are women. Often they are exposed to vulnerabilities, gender discrimination, and inequalities in compensation and benefits. On the other hand, amid the rapid adoption of sustainable and digital technologies, skill development is becoming crucial for enabling environment-friendly supply chain processes. Innovation and digital will pioneer enabling an equitable supply chain for diverse stakeholders. Experts who are steering the agenda for an equitable and sustainable future shed light on The Equity Lounge at COP29.

“For the fourth year running, the FQ Lounge was a hub of vibrant debate, weaving together gender equality and climate action. These discussions are not just necessary; they are transformative.”

– Ann Rosenberg

#### 5. Reporting and Scope 3 Emissions :

Transparency, implementation, and impact of climate actions at all levels have been pondered across the discussions. Sustainability reporting has been a concern over the years. Data, platforms, and AI are crucial enablers for measuring the impacts of sustainability initiatives. COP 29 launched the SAGE platform, a solution to activity data collection that will help structure crude emission data for GHG inventory and NDC reporting and analysis.

Further, there were multiple insightful discussions and exchanges celebrating leaders and global innovators who are pioneering the perusal of a sustainable future.



“From the dynamic UN Global Compact Brazil event at Hub Culture to strategic evenings at the Danish, Hedera, Goals House, and UN Global Compact Brazil Receptions, every interaction was an opportunity to forge pathways for action.

Each moment at COP29 Azerbaijan was a step forward in our global journey towards sustainability. Fueled by these discussions, I'm ready to accelerate change and lead the charge towards a sustainable future as we head to COP30 in Belem, Brazil, in 2025!

– Ann Rosenberg

The outcome of the global goals on adaptation and investment sets will drive the evolving features of a sustainable supply chain, embedded with digital technologies such as AI, platform, data, and cloud to COP30, encouraging experts, businesses, and SMEs to strive for a sustainable supply chain.

### Ann Rosenberg

Ann, a Senior Sustainability and Climate Advisor and Board Member, carries 25+ years of corporate experience in technology, sustainability, and responsible AI. With her purpose dedicated to sustainability, Ann co-founded and launched the UN Global Compact SDG Ambition together with the UN Global Compact, in 2020.

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# Importance of Due Diligence:

## OECD Guidelines, CSRD, and CSDDD

**Vali Marszalek & Joydeb Mandal**

**The expansion of cross-border supply chains: implications for the environment, human rights and corporate responsibility**

Cross-border supply chain expansion has dramatically changed the business landscape in the globalized era. Multinational corporations source raw materials, manufacture goods and distribute products across continents. Today, this expansion has been accompanied by undeniable economic benefits and greater efficiency, but it has also created serious questions about the environment, human rights,

and social responsibility. The changing regulatory environment, especially driven by the European Union (EU), is requiring businesses to reevaluate their international business practices. In this essay, I summarize the rise of cross-border supply chains, their implications for the environment and human rights, and the need for companies to engage in due diligence. The essay also delves into the EU's OECD-inspired strings on multinationals and the Corporate Sustainability Reporting Directive (CSRD) and Corporate Sustainability Due Diligence Directive (CSDDD) as key drivers to alter behavior.



## 1. | The Expansion of Cross-Border Supply Chains and Environmental and Human Rights Risks

Supply chains have gone global, resulting in a fundamental shift in the way companies work. And companies use materials and labor from various places around the globe to cut costs and maximize efficiency. Aggressive market expansion and cost reduction tactics (in workforce and production process) exploit the planet and people extensively.

### Environmental Impact

The most pressing issue around which cross-border supply chains revolve is their environmental impact. A large number of products around the world are transported to other countries, and the goods have a huge carbon footprint. The combustion of fossil fuels in air, sea and land traffic contributes to greenhouse gases and climate change. In addition, there are often few or non-stringent environmental regulations, meaning that the suppliers in developing countries pollute, deforest, or otherwise deplete resources. For instance, palm oil, rubber, and mineral

extraction destroy large areas of land. In regions with weak environmental regulations, companies may resort to unsustainable practices like illegal logging, over-mining, or water pollution, further driving biodiversity loss and ecological degradation. Many regions need more monitoring and enforcement of these and similar activities (Bringezu et al., 2017).

### Human Rights Violations

Cross-border supply chains have been associated with many human rights violations, in addition to environmental destruction. By outsourcing to suppliers in countries that lack strong labor protections, companies can lower production costs, but this often comes at the expense of workers facing exploitation and/or unsafe working environments and low pay. Examples include the garment sector, electronics and agriculture, where labour is consistently outsourced to low-cost nations.

Child labor is an example of one of the most outrageous violations of human rights in global supply chains. According to the International Labor Organization (ILO, 2020), millions of children worldwide are still engaged in hazardous work in sectors such as mining and agriculture, despite substantial international efforts to prevent this practice. Moreover, while investigations on forced labour practices such as human trafficking are in place forced labor is prevalent, with workers often being subject to coercion and abuse.

These global supply chains make it impossible for consumers and investors to trace the origins of the products they consume and the conditions under which they are produced. Consequently, the abuses of human rights accompanying these practices generally escape public scrutiny. More transparency is needed. (Nair, 2021).

## 2. | **The Need for Due Diligence: Minimizing Risk, Attracting Investors, and Retaining Talent**

With increasing scrutiny of corporate practices, it is crucial for companies to conduct comprehensive due diligence to ensure reduced exposure to environmental harm, and human rights and business ethics abuses. Due diligence is both a legal requirement under many laws of various jurisdictions as well as one of the most critical components of risk management and corporate strategy.

### **Minimizing Risk**

Supply chains are complex by their nature, and without adequate supervision, companies could become exposed to significant risk. Soaring environmental degradation and human rights abuses can tarnish a company's reputation, leading to consumer boycotts, loss of business, legal penalties, and more. For example, companies that source from suppliers with poor labor practice can be legally prosecuted or suffer reputational damage if the practices are exposed. In particular, international supply chains and companies are held accountable for their foreign suppliers' doings (Wettstein, 2012), which calls for special attention.

To address these risks, companies need to implement strong due diligence processes. They should assess their suppliers for environmental and social performance, adhere to local and international regulatory compliance, and establish monitoring and reporting mechanisms. Performing due diligence is critical in recognizing potential risks early and therefore provides the opportunity for companies to act accordingly before issues develop into crises (OECD, 2021).



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### Attracting Investors

In the current market, considering environmental, social and governance (ESG) issues in deciding on investments is becoming more common among investors. Organizations that cannot prove responsible supply chain habits may find it difficult to attract investment. Institutional Investors are

growing averse to risk, and should be looking out for companies which follow ESG standards. They are facing increasing pressure from regulators and stakeholders to ensure the alignment of their portfolios with sustainable and ethical practices (Vernimmen et al., 2020).

Conducting due diligence allows companies to show their dedication to sustainable and responsible sourcing. In the long term, this can increase access to capital and positive financial performance for investors. Furthermore, implementing ESG standards can provide a competitive edge in the market by attracting socially responsible consumers and investors (Eccles & Klimenko, 2019).

### Retaining Talent

And now employees – especially younger generations – pay more attention to the activities of the businesses for which they work. Workers today are more likely to choose organizations that are primarily focused on sustainability, human rights, and corporate responsibility. At the same time, companies that cannot showcase their commitment to proper conduct may struggle to recruit and keep the best talent (Aguinis & Glavas, 2012).

A thorough due diligence process can allow businesses to create a positive work environment by ensuring that their supply chains treat labor fairly and demonstrate diversity and inclusion. It can also help build employee trust and loyalty, which are vital for long-term success. Companies that assume responsibility for their supply chain impact will also generate a more committed and engaged workforce (Porter & Kramer, 2011).



### 3. | **The Role of the European Union: OECD Guidelines, CSRD, and CSDDD**

The European Union (EU) has led by implementing regulatory agendas intending to [re]encourage responsible business across its borders. The CSRD – a new standard for disclosures on sustainability for all large companies and listed SMEs – and a new legislation known as the Corporate Sustainability Due Diligence Directive (CSDDD) are also designed to tackle the difficulty of regulating cross-border supply chains and ensure that companies are held accountable for their environmental and social impact.

#### **OECD Guidelines and the CSRD**

OECD guidelines are a set of unique global standards that help companies implement a responsible approach in the supply chain. Businesses should not contribute to significant harmful environmental or social impacts and should practice responsible sourcing and labor practices (OECD, 2018). These principles are at the heart of the EU's much wider regulatory framework.

Adopted in 2022, the CSRD enhances the EU's commitment towards corporate sustainability by mandating companies to report on their ESG activities. The CSRD requires companies to disclose their environmental, social and governance practices, including those of their supply chains. This mandatory reporting will enhance transparency and accountability, allowing investors, consumers, and other stakeholders to evaluate a company's dedication to sustainability better (EU, 2021).

Furthermore, the aim of CSRD is to unify sustainability reports across the EU which is expected to provide more consistency in

ESG reporting, enhancing the comparability of corporate sustainability performance across jurisdictions.

#### **The CSDDD: Mandating Behavior Change**

The 2022 proposed CSDDD, however, takes a more proactive and affirmative approach, mandating that companies undertake due diligence of their supply chains to prevent human rights abuses and environmental harm. The directive will require companies to find, address, and prevent the risks of child labor, forced labor, environmental damage, and other human rights abuses in their supply chains.

The CSDDD will require companies to take action in response to any company adverse impact identified in their supply chains, including the termination of relationships with suppliers that do not adhere to specific ESG standards. The European Union strives to create a culture of accountability and ethical business conduct among businesses, compelling companies to proactively mitigate the risks linked with international supply chains by enforcing these rules (European Commission, 2022).

The CSDDD will also enable consumers, investors, and others to hold companies accountable for their practices. As manufacturers become increasingly transparent and responsible about their supply chain practices, the market at large is expected to adopt those same principles, changing the way supply chains are managed around the world.

#### **Conclusion**

Companies should be aware of their work environment and the implications for vulnerable populations that these supply chains make.



Their stakeholders -from investors to workforce- demand more from them nowadays thus why due diligence is a key aspect as they face less risk and are able to capture opportunities when they act on responsible practices.

For stakeholders throughout any industry – all EU firms, outside suppliers, and their respective consumers – the implications of these regulatory initiatives, whether in line with OECD guidelines, CSRD, and CSDDD, is a notable shift towards accountability and responsibility in global supply chains. Complying with these frameworks allows companies to decrease risks, show their dedication towards sustainable development, and play a role in creating a more ethical and sustainable world economy.



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Vali serves as the ESG director of Forvis Mazars and is responsible for providing a wide range of ESG and sustainability consulting services to clients in Croatia and the Adria region. As the Global Compact Network Croatia (GCNC) Board Chair, Vali steers the Network within the UN Global Compact as well as externally.

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# Steering a Just Transition in Supply Chains:

## Supplier Inclusion, Diversity, and Skill Development

Jay Kostas

### The Importance of Just Transition in Supply Chains

What is a Just Transition? - Just Transition is a set of principles and practices that ensure an equitable and just approach to maintaining a liveable planet.

The idea of a “just transition” started in the 1980s with US trade unions fighting to protect workers affected by new environmental regulations. Today, it means ensuring everyone - all communities, workers, and social groups - benefits from the shift to a net-zero future.

A Just Transition goes beyond environmental targets; it incorporates social justice into the sustainability equation. As industries shift to greener practices, workers and suppliers—particularly in developing regions—face significant challenges. Without proper support, these transitions risk creating inequalities, with small suppliers left behind as larger corporations advance.

The journey is not always straightforward. Most organisations struggle to start with breaking down the silos to align collaboration amongst different stakeholders, getting the right people engaged, and biggest task gaining internal buy-in required to meet the goal.



To add to the fuel, regulatory changes make these efforts harder to achieve. Should I focus on complying with mandatory compliance requirements or focus on the priorities.

For supply chain leaders, the mandate is clear: Ensure that every stakeholder, regardless of size or geographic location, benefits from the transition. Supplier inclusion and diversity are essential first steps, but skill development is the engine that drives real, lasting change. By equipping suppliers with the knowledge and tools they need, companies can ensure that the entire supply chain is prepared to meet future demands.

### Supplier Inclusion and Diversity: The Foundation

Building an inclusive supply chain starts with recognizing the value of diversity. Diverse suppliers bring fresh perspectives, drive innovation, and often offer more agile solutions. However, inclusion isn't just about ticking boxes; it's about creating opportunities for smaller and marginalized suppliers to participate meaningfully.

#### Key Practices:

- ▶ **Supplier Outreach:** Actively seek suppliers from underrepresented groups.
- ▶ **Transparent Processes:** Ensure that procurement processes are clear and accessible.
- ▶ **Mentorship Programs:** Partner larger suppliers with smaller ones to share best practices and insights.

#### Case Study: Unilever's Inclusive Procurement Program

Launched in 2020, Unilever has set ambitious goals for supplier inclusion, aiming to source from underrepresented groups worldwide. Their program includes mentoring smaller suppliers and integrating them into their global network. The result? A supply chain that's not only diverse but also resilient and innovative.

### Skill Development: The Engine of Sustainable Supply Chains

While inclusion and diversity lay the groundwork, skill development ensures long-term success. Investing in supplier training creates a ripple effect: it enhances capabilities, boosts efficiency, and drives innovation. Moreover, it helps suppliers meet the increasingly stringent sustainability and compliance standards that many companies—and regulators—demand.

#### Why Skill Development Matters:

- 1. Future-Proofing:** Suppliers equipped with the latest skills can adapt to changing market demands and sustainability regulations.
- 2. Enhanced Quality and Compliance:** Training ensures that suppliers meet quality standards and adhere to sustainability protocols.
- 3. Strengthened Relationships:** Companies that invest in their suppliers foster loyalty and long-term partnerships.

#### Key Areas for Skill Development:

- ▶ **Sustainability Practices:** Training on energy efficiency, waste reduction, and ethical sourcing.
- ▶ **Technology Adoption:** Workshops on using digital tools, AI, and blockchain for supply chain management.
- ▶ **Compliance and Standards:** Education on meeting international standards such as ISO 14001 or SA8000.



### Case Study: Nestlé's Farmer Training Initiatives

Nestlé has long recognized the value of skill development in its supply chain. Through its Farmer Connect program, the company provides training in sustainable agricultural practices to its coffee and cocoa suppliers.

David Rennie, EVP for Nestlé Coffee Brands "Climate change is putting coffee-growing areas under pressure," he said. "Building on the Nescafé Plan, we're accelerating our work to help tackle climate change and address social and economic challenges in the Nescafé value chains."

This initiative not only improves yields and quality but also empowers farmers to achieve better livelihoods. As a result, Nestlé benefits from a more reliable and sustainable supply chain, while suppliers gain the skills needed to thrive in a competitive market.

### Case Study: Cisco's Supplier Education Program

Cisco Systems offers a Supplier Education Program focusing on sustainability and compliance training. Suppliers receive access to resources and workshops on topics ranging from environmental management to ethical labour practices. This proactive approach has helped Cisco maintain a high-performing supply chain aligned with its corporate values.

### SingPost - Singapore's Supplier Development Initiative

Singapore has emerged as a global leader in supply chain innovation, and its Quest program exemplifies this forward-thinking approach. The Singapore Business Federation (SBF), in partnership with Singapore Post (SingPost), Ernst & Young LLP (EY) and OCBC Bank, has launched

a Queen Bee Enabled Sustainability Transition (QUEST) programme to enable SingPost's local small- and medium-sized enterprise (SME) suppliers on their sustainability journey. The programme is tailored to address the critical gap between the growing expectations of larger companies and the current lack of expertise amongst their suppliers to deliver credible and accurate carbon emissions data necessary for climate reporting.

Through this programme, SingPost, with their partners will engage with SMEs in its supply chain, facilitating an ecosystem of support that will provide know-how to participating suppliers on environmental, social and governance (ESG) requirements that both local and international companies are increasingly putting in place as a basis to procure products and services.

Suppliers will also learn how to measure their baseline greenhouse gas emissions and apply key decarbonisation strategies to reduce their carbon footprint.

#### Key Elements of the Quest Program:

- ▶ **Customized Training Modules:** Tailored to address the specific needs of various industries, ensuring relevance and practicality.
- ▶ **Mentorship and Networking:** Connects SMEs with larger corporations and industry experts, fostering collaboration and knowledge exchange.
- ▶ **Innovation Funding:** Offers financial support for suppliers looking to adopt new technologies or sustainable practices.

### Implementing Effective Skill Development Programs

For supply chain leaders looking to implement or enhance skill development programs, the process involves several key steps:

#### 1. Assess Supplier Needs:

Conduct regular assessments to identify skill gaps within your supplier network. This can be done through surveys, audits, or direct conversations.

#### 2. Develop Tailored Training Programs:

One-size-fits-all approaches rarely work. Tailor training programs to address specific needs, whether it's sustainable farming practices for agricultural suppliers or digital tools for logistics partners.

#### 3. Leverage Technology:

E-learning platforms and virtual workshops can make training accessible to suppliers worldwide. Consider investing in digital tools that enable remote learning and knowledge sharing.

#### 4. Foster Collaboration:

Encourage knowledge exchange between suppliers. Larger suppliers can mentor smaller ones, creating a collaborative environment where everyone benefits.

#### 5. Monitor and Measure Impact:

Set clear KPIs to track the effectiveness of training programs. Regularly review progress and make adjustments as needed.

### Overcoming Challenges

Implementing skill development programs can be a complex and challenging process. Despite the benefits, organizations often face obstacles that hinder successful implementation. Some common challenges include:

**Resistance to Change:** Some suppliers may be hesitant to adopt new practices or technologies. Overcome this by demonstrating the clear benefits and providing ongoing support.

**Resource Constraints:** Smaller suppliers may lack the resources to invest in training. Consider offering financial support or co-funding initiatives to make training more accessible.

**Cultural and Language Barriers:** In global supply chains, cultural and language differences can pose challenges. Ensure that training materials are culturally sensitive and available in multiple languages.

#### Case Study: Walmart's Women in Factories Program

Walmart's Women in Factories program that started in 2012, addresses both skill development and inclusion by providing training in leadership, communication, and technical skills to female factory workers. Walmart Foundation's Women's Economic Empowerment Initiative—was designed to build the capability of human resources departments to provide work and life skills for workers, while demonstrating the value of investing in women workers who can become the next generation of leaders

The program has reached over 100,000 women and has proven that investing in people not only improves supply chain performance but also drives social change.



### Conclusion: A Call to Action

The future of supply chains lies in their ability to adapt and evolve. A Just Transition isn't just about compliance or corporate responsibility—it's about building a resilient, inclusive network where every supplier has the skills and opportunities to thrive.

Supply chain executives have a pivotal role to play. By prioritizing supplier inclusion, diversity, and skill development, you're not just strengthening your supply chain—you're contributing to a more equitable and sustainable global economy.

Investing in suppliers isn't charity; it's smart business. Companies that empower their suppliers with the right skills will be better positioned to navigate future challenges, drive innovation, and achieve long-term success.

The path to a Just Transition starts with a commitment to people. Let's make sure no one is left behind.



### Jay Kostas

As the Head of Sustainability and the Head of Client Success at B2G consulting, Jay guides customers to lead their sustainability initiatives and supply chain sustainability programmes successfully. She is passionate about helping customers to succeed in a sustainable way. And customer experience is at the core of her engagements.

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**Subramaniam Apala Naidu, CSSCP**  
Chief Of Operation, COO  
STRAVIK  
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**Kouakou Alexandre Batoh, CSSCP**  
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