ECONOMIST IMPACT

Decarbonising Retail:

How lower supply chain greenhouse gas (GHG) emissions drive consumer demand, ensure regulatory compliance, and improve the bottom line

Supported by MAERSK

Contents

About the report

To uncover the opportunities and challenges relating to decarbonising supply chains in the Retail sector, Economist Impact conducted a research project based on a literature review, global survey (March 2023) and interview programme. The survey collected insights from senior executives (half of whom were C-suite executives) working in supply-chain management in E-tailers, Home improvement, Supermarkets & hypermarkets, with equal numbers based in North America (the US and Canada), Europe (France, Germany and the UK) and Asia Pacific (Australia, China, Japan and South Korea).

Executive summary

The 2023 report from the Intergovernmental Panel on Climate Change (IPCC) details actions needed to limit global warming and the consequences of inaction. For an industry responsible for roughly 25% of global greenhouse gas (GHG) emissions[1], the warning is clear – retail must change its ways.

The decarbonisation agenda is, among other things, driving changes in retail business models, prompting efforts to reduce GHG emissions, prepare for climate-related disruptions, and minimise industry waste.

Retailers face demands from consumers and regulators for lower GHG emissions products and business practices. As most retailers sell goods from their suppliers, they are only indirectly responsible for associated GHG emissions, known as Scope 3. However, with Scope 3 emissions accounting for 90-98% of retailers' greenhouse gas emissions[2], supply chains and suppliers are increasingly the focus for transformation.

As the global economy transitions to net zero GHG emissions, retailers must transform their supply chains. These changes will reduce GHG emissions and create more transparent, efficient and resilient supply chains, addressing challenges such as cost pressures in the process.

This report focuses on the key drivers for change, the likely challenges and potential solutions. We highlight the following key findings:

- **Consumers—and regulators—are increasingly demanding more sustainable products and processes:** Forty-four percent of retail executives see embedding practices for reducing greenhouse gas emissions as crucial to attracting and retaining customers. The carrot of potential new avenues for growth and market acquisition is reinforced by the stick of regulation. Over a third (35%) of executives feel regulatory pressure to adapt their supply chains, but 59% find it challenging to navigate the regulatory landscape.
- **Lack of management buy-in is holding back change for a significant minority:** Completely transforming supply chains with reduced greenhouse gas emissions at the core is a tall order. It requires carefully managed change throughout the business driven by strategic planning at the highest level. However, a lack of buy-in from upper management is a significant challenge for 31% of those surveyed. Senior management needs to re-evaluate organisational structures, resources, and responsibilities to integrate GHG emissions reduction practices.
- **Collaboration with supply chain partners is vital for retailers:** Internal alignment is essential but cooperating with suppliers to share expertise and set clear decarbonisation standards is equally crucial. Seventy-one percent of surveyed retailers partner with logistics providers for supply chain decarbonisation solutions, and 65%

---

1 https://www.worldretailcongress.com/congess-content/behind-the-curve-the-nascent-state-of-sustainability-in-retail
2 https://nrf.com/blog/retailers-set-science-based-targets-address-climate-change

are willing to pay a premium for lower greenhouse gas logistics services. However, 67% state that high speed to market affects the use of lower greenhouse gas logistics. Retailers and logistics providers should collaborate to find ways to integrate decarbonisation solutions without slowing down the supply chain.

- **Increased technology adoption can support decarbonisation efforts:** Analytic technologies like artificial intelligence (AI) that simplify and streamline processes can promote greenhouse gas reductions by ensuring retailers manage delivery in a more efficient way. Similarly, technologies like AI, blockchain and radio frequency identification (RFID) can provide transparent verification of GHG emissions practices for retailers through more streamlined supply chains and efficient product tracking. Eighty-five percent of retail executives see AI and blockchain as integral to their supply chains, and 83% see RFID similarly.
- **Embracing lower GHG emissions practices can help retailers reduce costs:** With increasing cost pressures a major challenge for 39% of retailers surveyed, climate mitigation initiatives can provide cost savings by reducing waste and streamlining supply chains. Forty-four percent of executives cite potential cost savings as a driver for GHG emission reduction.

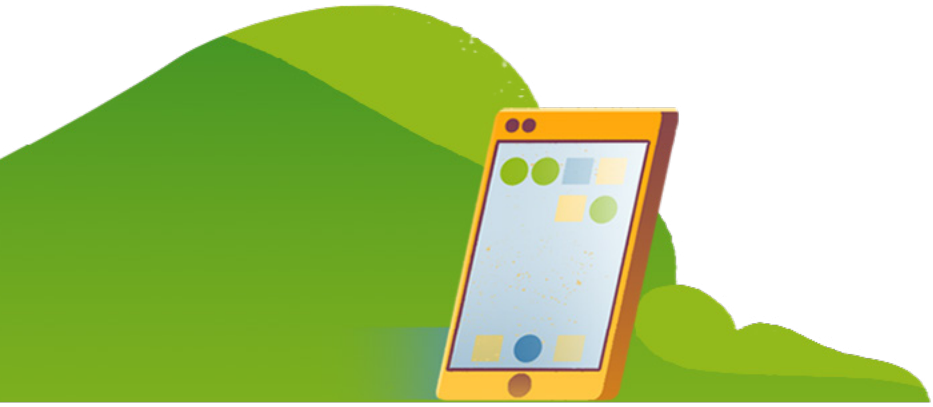
Driving decarbonisation

Retail contributes significantly to global greenhouse gas emissions, mainly through Scope 3 emissions from suppliers.[3] Though reducing GHG emissions is challenging, retailers face mounting demands for accountability from consumers and regulators. Shifting consumer preferences towards lower GHG emissions practices in tandem with new regulatory frameworks are driving industry change.

These forces are prompting new strategies to create lower GHG emissions supply chains. Retailers recognise these changes will also have positive effects, such as increased transparency, efficiency, and resilience, all of which can help reduce cost pressures. The top three drivers for embedding lower GHG emissions processes in retailers supply chains are increased customer acquisition, satisfaction and retention, potential cost savings and regulatory pressure.

This report outlines common challenges, potential solutions, and the benefits of decarbonising supply chains.

"The top three drivers for embedding lower GHG emissions processes in retailers supply chains are increased customer acquisition, satisfaction and retention, potential cost savings and regulatory pressure."



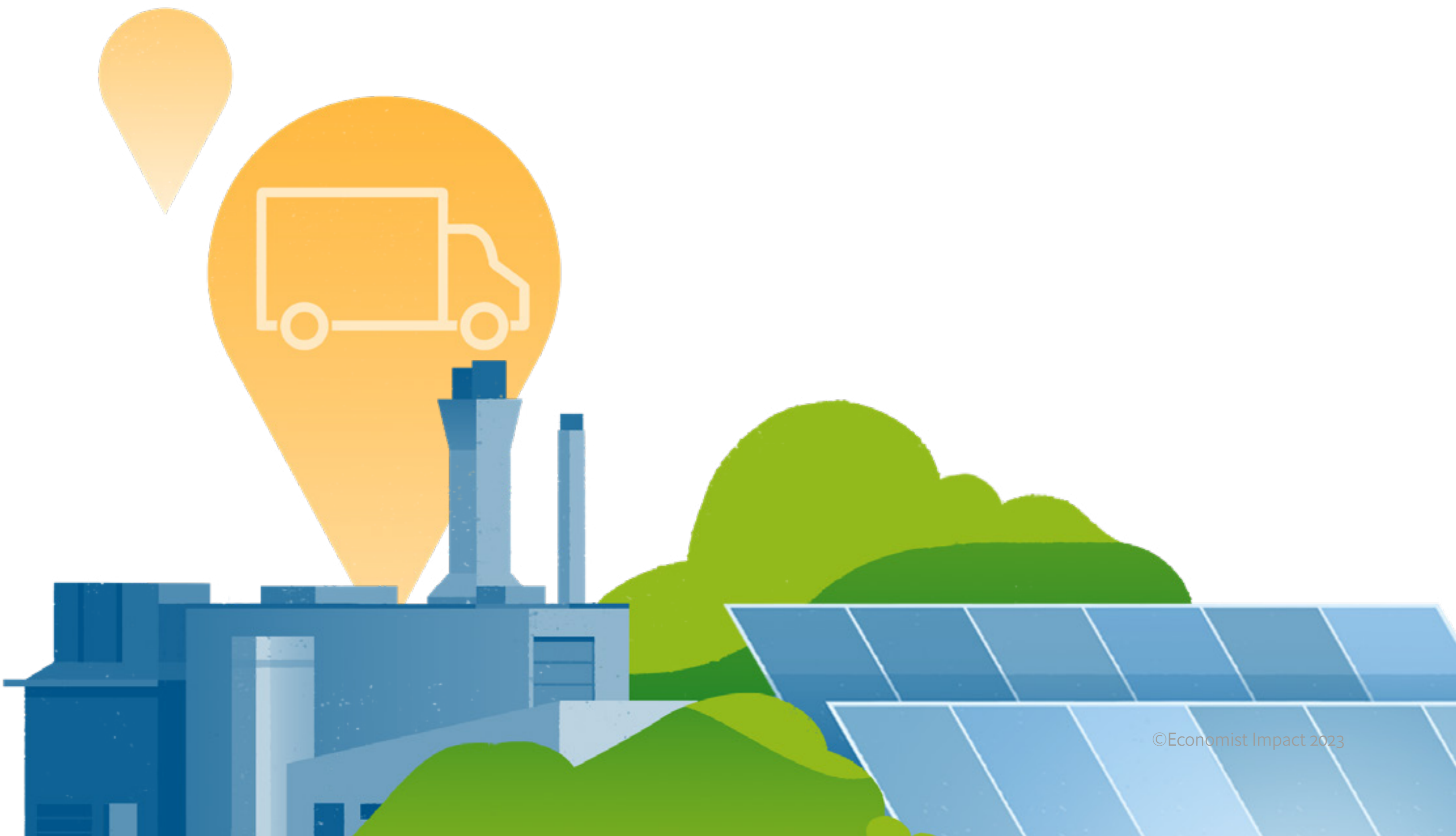
[3] https://www.worldretailcongress.com/congess-content/behind-the-curve-the-nascent-state-of-sustainability-in-retail

Setting a strategy

Supply chains are complex, and knowing where and how to make change is difficult. Adapting parts of the supply chain piecemeal can be costly and have unforeseen effects. Assessment and identification are the first steps.

Retailers need to conduct a gap assessment between their current and ideal procedures before leveraging technological and strategic innovations. Collaboration, both internal and external, is essential, as changes designed with partners are more effective than those imposed.

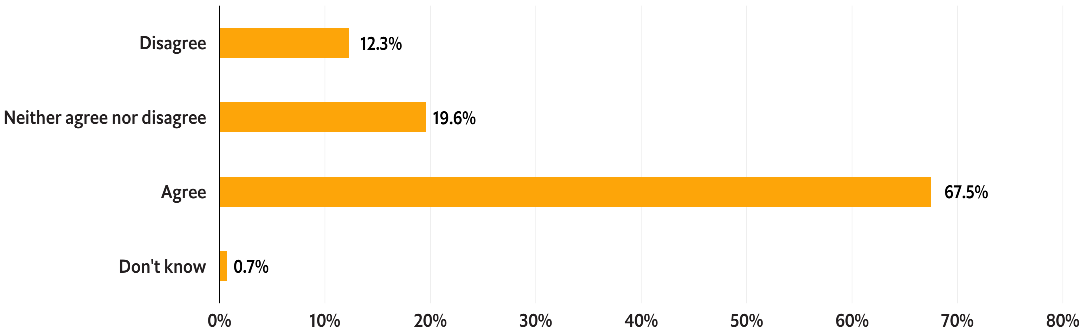
Retail supply chain executives must work with top management, consumers, regulators, suppliers and logistics service providers to embed solutions helping to decarbonise supply chains.



Getting management on-board

While senior management recognise the importance of reducing greenhouse gas emissions, they often prioritise short-term concerns, such as inflation and operational growth. Although 68% of retail respondents believe there is complete upper management and board-level buy-in for embedding lower GHG emissions practices into their organisation's supply chain, almost half (48%) see a lack of board/C-level involvement and commitment as a moderate internal challenge.

Figure 1: upper management buy-in to embed sustainable practices into the organisation's supply chain



Source: Economist Impact survey 2023

Incentive schemes for corporate leaders must focus on long-term decision-making and behaviour.

Responsibilities should be distributed throughout the management team and shared with senior leadership to ensure more sustainable initiatives progress. As Marjolein Buisman, assistant professor of retail analytics at WHU – Otto Beisheim School, explains: "If you have one person responsible for driving sustainability without backup from higher management, change is impossible." Senior management must integrate more sustainable practices across the business and promote them within the supply chain, requiring organisational restructures, more resources, and added responsibilities.

"If you have one person responsible for driving sustainability without backup from higher management, change is impossible."

Marjolein Buisman, assistant professor of retail analytics at WHU – Otto Beisheim School

Navigating ambiguous expectations

Retailers must meet regulatory and shareholder pressure to reduce greenhouse gas emissions across their supply chains. However, the landscape of standards and frameworks is dense and cluttered. Since the Global Standards for Sustainable Reporting (GRI) set the first sustainability reporting standards in 1997, over 600 different standards, industry initiatives, frameworks and guidelines have developed worldwide.[4] Unsurprisingly, 59% of retail respondents find it challenging to adapt to increasing ESG regulation and stakeholder expectations.

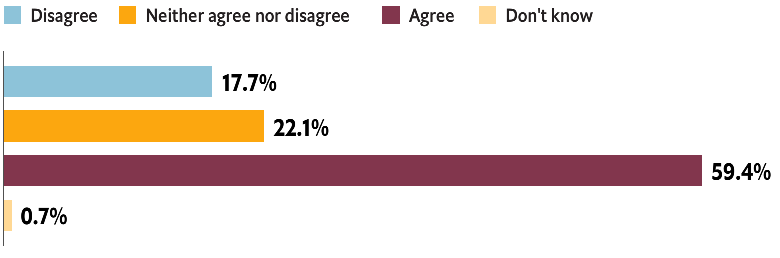
Selecting appropriate standards for specific industries and locations narrows the choices but remains daunting. Collaboration among standards setters to streamline frameworks is helping.

Managing data relevant to these standards is labour-intensive but critical, as it imposes uniform standards across the industry, ensuring all companies compete on an equal footing. As Alexander David, corporate social responsibility director at Lidl International, says: "Regulation can be seen as a challenge, but it ensures sustainability."

Retailers also face inconsistent expectations from consumers, balancing demand for more sustainable products and processes with low-cost, rapid delivery. To engage consumers in decarbonising supply chains, retailers must merge convenience, awareness, and innovation. Beyond detailing sustainability impacts, Ms Buisman suggests giving consumers options and explaining their impact. "Most people are actually willing to wait," she says. "You can still offer next-day or same-day delivery, but also alternative options, showing how environmentally friendly their choice is."

Retailers can also show consumers their role in reducing emissions post-purchase and incentivise reuse and recycling. For example, IKEA's buy-back scheme gives consumers store credit for up to 50% of their furniture's original value, based on its condition.[5]

Figure 2: Agreement levels on the challenges of adapting to increasing ESG regulations and sustainability expectations



Source: Economist Impact survey 2023

[4] www.brightest.io/sustainability-reporting-standards#:~:text=Today%20there%20are%20over%20600,%2Dheavy%2C%20and%20repetitive%20process.
[5] www.ikea.com/kr/en/this-is-ikea/sustainable-everyday/from-pre-loved-to-re-loved-were-giving-ikea-furniture-a-second-life-pub9e5d35e0

Collaborating across the supply chain

Collaboration with partners across the supply chain is necessary to reduce GHG emissions. This report focuses on working with suppliers to comply with sustainability reporting standards and with logistics companies to deliver lower GHG emissions solutions.

Setting the standard

Coordination on sustainability reporting and meeting common standards with suppliers is the foundation for change. Agreeing on targets for GHG emissions reduction, working practices, sourcing, and reporting frameworks clarifies where change is needed.

Reporting for common frameworks requires extensive resources, and a lack of alignment with suppliers compounds the issue. Strategically allocating sufficient resources and sharing expertise is vital.

Standardising expectations and processes improves reporting metrics and efficiency, reduces costs and enhances data quality. Starting regulatory alignment when on-boarding new suppliers ensures the supply chain retains a lower GHG footprint.

Philipp Wagnitz, sustainability director at Lidl International, says: "We committed to the science-based target initiative, meaning some of our suppliers need to commit to better management of greenhouse gas emissions. We offer knowledge exchange programmes because its {*sic*} complex and they need training to align our strategic direction."

Large retailers like Target set clear guidelines for partners. Their Standards of Vendor Engagement details how suppliers must provide a safe and healthy working environment together with an environmental management system to identify, characterise and catalogue all operational and production impacts on air emission, energy, water, and wastewater.[6]

Supplier statistics inform stakeholders of a retailer's sustainability, but it is challenging for retailers to obtain these measurements from suppliers. Ms. Buisman says: "In Europe and North America, people are too competitive to collaborate. They are afraid of sharing too much data with their competitors or with their upstream suppliers. I think that›s hindering collaboration."

"Coordination on sustainability reporting and meeting common standards with suppliers is the foundation for change."

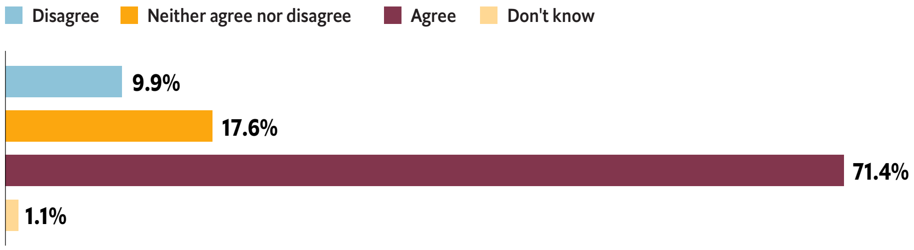
6 https://corporate.target.com/sustainability-governance/responsible-supply-chains/suppliers/standards-of-vendor-engagement

Working with logistics

Collaboration with logistics companies is essential, especially as e-commerce adoption increases. Partnering with logistics companies specialising in lower GHG emissions services helps reduce internal resource pressure while promoting decarbonisation.

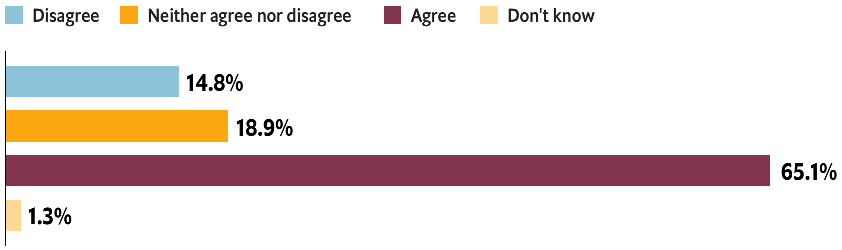
Almost three-quarters (71%) of surveyed retailers partner with logistics providers to integrate supply chain decarbonisation solutions, and 65% are willing to pay a premium for lower GHG emissions logistics services. However, challenges remain. More than a third (37%) identify limited availability of lower GHG emissions logistics solutions, and 67% state that high speed to market impacts lower GHG emissions logistics.

Figure 3 (a): Extent to which retail respondents are willing to partner with logistics suppliers to develop lower GHG emissions solutions



Source: Economist Impact survey 2023

Figure 3 (b): Extent to which retail respondents are willing to pay a premium for lower GHG emissions logistics services



Source: Economist Impact survey 2023

Retailers and logistics providers should collaborate to find ways to integrate decarbonisation solutions without slowing down the supply chain. Successful partnerships focus on transparency and delivering a seamless customer experience, using new technologies. Many logistics suppliers share GPS tracking, automated processes, and algorithms with retailers to pinpoint problem areas in real-time. They offer valuable application programming interface (API) integrations to make delivery management more efficient.

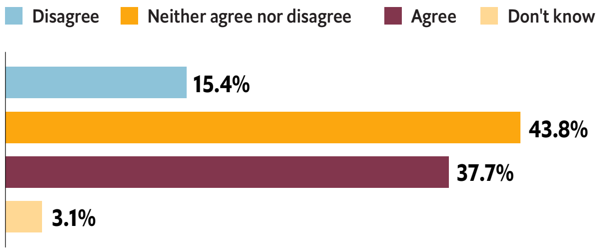
The delivery method is also changing to reduce GHG emissions and costs. Walmart partnered with DroneUp, a drone flight delivery solutions provider, to offer customers quick and lower GHG emissions product delivery, positioning Walmart as a leader in drone delivery.[7] Similarly, IKEA collaborates with logistics service provider KLOG to transport products via an intermodal train, lowering supply chain CO_2 emissions by approximately 5,100 tons per year while optimising delivery networks.[8]

[7] https://www.droneup.com/2021/11/22/walmart-droneup-announce-first-multi-site-drone-delivery-operation
[8] https://about.ikea.com/en/newsroom/2023/03/07/ikea-collaborates-with-partners-to-lower-carbon-emissions-on-non-stop-rail

Enabling the transition with technology

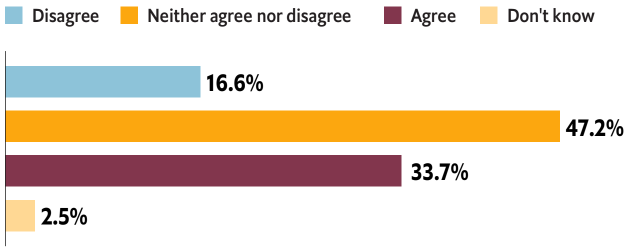
Despite the benefits of innovative technology, retailers often undervalue new digital tools due to uncertainty about their advantages. Technology is central to lowering GHG emissions, yet only 38% of retail respondents report investing heavily in their tech stack, and 34% say uncertainty about the benefits of new technologies is a significant challenge. Furthermore, 58% of retail executives say digitising supply chains' costs outweighs subsequent operational efficiencies.

Figure 4 (a): Extent to which retailers are investing heavily in the organisation's tech stack



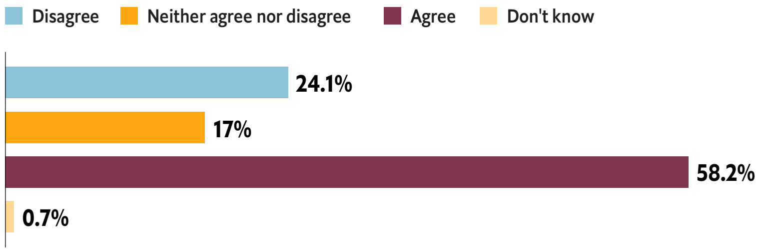
Source: Economist Impact survey 2023

Figure 4 (b): Extent to which retailers feel uncertain about the benefits of new technological solutions relating to sustainability



Source: Economist Impact survey 2023

Figure 4 (c): Extent to which the cost of digitising supply chains outweighs the potential benefits of operational efficiencies



Source: Economist Impact survey 2023

Breaking technology into functions can help retailers better understand their effectiveness. Analytic technologies like AI streamline delivery management to cut GHG emissions. Blockchain and RFID help track products across supply chains, providing transparency and verification of lower GHG emissions practices. High proportions of retail executives see these technologies as integral to their supply chains - 85% for AI and blockchain, and 83% for RFID.

Digital tools to analyse emissions data, reduce inventory overheads, and fulfil orders can leverage supply chain efficiencies and cut costs. The Internet-of-Things (IoT) helps identify the exact location of goods and tracks their condition. These benefits are recognised by 68% of respondents, who say capital investment in supply chain technology has a strong return on investment.

As part of Walmart's digital transformation, IoT is used at scale, managing over 7 million unique IoT data points across their US stores. This network sends almost 1.5 billion daily messages about temperature, operating functions, and energy use, enabling Walmart to improve food quality, lower energy consumption, and keep costs low for customers. [9]

"During times of higher inflation and interest rates, sustainability initiatives can reduce waste and streamline supply chains."

[9] https://corporate.walmart.com/news/2021/01/14/how-walmart-leverages-iot-to-keep-your-ice-cream-frozen

Towards a decarbonised supply chain

Sustainability affects every layer of an organisation and the entire value chain. Pressure from consumers and regulators drives change, but reducing GHG emissions also help reduce costs in the long run. During times of higher inflation and interest rates, sustainability initiatives can reduce waste and streamline supply chains.

Integrating decarbonisation initiatives within the retail supply chain is essential. To thrive in an evolving market and address growing concerns, retailers must take proactive measures. Key steps include:

1. **Navigate Regulatory Challenges**: Participate in and advocate for standardisation efforts. Engage in frameworks aligning with your industry and location while focusing on transparency and data accuracy.
2. **Commit to Leadership Support**: Ensure senior management actively champions and integrates sustainability within core values and operational strategies.
3. **Collaborate for Impact**: Partner with supply chain stakeholders, including suppliers and logistics providers, to establish common decarbonisation goals, share best practices, and work towards an efficient supply chain with lower GHG emissions and less waste.
4. **Invest in Innovative Technologies**: Embrace and invest in advanced technologies such as AI, blockchain, RFID, and IoT to streamline processes, enhance transparency, and reduce GHG emissions footprints.
5. **Educate and Involve Consumers**: Educate consumers about the environmental impact of their purchasing decisions and offer more resource-friendly alternatives. Provide transparency in product sourcing and delivery, incentivise decarbonisation practices, and empower consumers to participate in decarbonisation efforts. By offering consumers the choice of lower-emission transportation options, for example, retailers can drive change alongside presenting eco-friendly products.

ECONOMIST IMPACT

LONDON
The Adelphi
1-11 John Adam Street
London WC2N 6HT
United Kingdom
Tel: (44) 20 7830 7000
Email: london@economist.com

NEW YORK
750 Third Avenue
5th Floor
New York, NY 10017
United States
Tel: (1.212) 554 0600
Fax: (1.212) 586 1181/2
Email: americas@economist.com

HONG KONG
1301
12 Taikoo Wan Road
Taikoo Shing
Hong Kong
Tel: (852) 2585 3888
Fax: (852) 2802 7638
Email: asia@economist.com

GENEVA
Rue de l'Athénée 32
1206 Geneva
Switzerland
Tel: (41) 22 566 2470
Fax: (41) 22 346 93 47
Email: geneva@economist.com

DUBAI
Office 1301a
Aurora Tower
Dubai Media City
Dubai
Tel: (971) 4 433 4202
Fax: (971) 4 438 0224
Email: dubai@economist.com

SINGAPORE
8 Cross Street
#23-01 Manulife Tower
Singapore
048424
Tel: (65) 6534 5177
Fax: (65) 6534 5077
Email: asia@economist.com

SÃO PAULO
Rua Joaquim Floriano,
1052, Conjunto 81
Itaim Bibi, São Paulo,
SP, 04534-004
Brasil
Tel: +5511 3073-1186
Email: americas@economist.com

WASHINGTON DC
1920 L street NW Suite 500 Wash-
ington DC
20002
Email: americas@economist.com