OliverWyman | EuroCommerce Retail & Wholesale

NET ZERO GAME CHANGER

Tackling the hidden carbon footprint in European retail and wholesale value chains

CONTENTS

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FOREWORD

As the world grapples with the urgent need to address climate change, the role of the European retail and wholesale sector in reducing greenhouse gas emissions has become increasingly important. Sitting as it does at the nexus between production and consumption, the sector has the potential to inspire change in both segments.

At the same time, public and regulatory scrutiny is likely to intensify as the 2030 deadline approaches on the European Union's commitment to cut emissions 55% and the reporting requirements of the Corporate Sustainability Reporting Directive (CSRD) come into effect for large retailers and wholesalers.

This joint report aims to shed light on the carbon footprint of the sector in Europe and its value chains around the world. Besides providing insights into the status quo, it aims to set out a path towards a more sustainable future across four retail and wholesale subsectors: food and beverage and health and beauty, textile and apparel, consumer electronics, and home and do-it-yourself (DIY). This study presents a compelling vision of a future in which the sector can operate with minimal carbon dioxide equivalent (CO_2e) emissions. By outlining this aspirational goal, we aim to inspire and guide practitioners in the sector towards adopting low emission practices.

It is our hope that this study will not only serve as a useful resource for practitioners in the value chain but also provide policymakers with actionable insights. By targeting both audiences, we aim to foster collaboration and drive meaningful change. The challenges posed by climate change require a collective effort, and this study seeks to empower stakeholders across the full value chain with data and analysis that will allow them to take decisive action towards a more sustainable future.

This report is the result of a collaboration between EuroCommerce and Oliver Wyman, combining EuroCommerce's policy and sector knowledge with Oliver Wyman's business understanding, sustainability expertise, and analytical rigor.

We extend our gratitude to the contributors and experts who have dedicated their time and expertise to make this study possible. Their invaluable insights and commitment to sustainability have been instrumental in shaping this comprehensive analysis.

Together, let us embark on a journey towards a more sustainable tomorrow of responsible practices, innovative solutions, and a greener global economy.

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EXECUTIVE SUMMARY

The retail and wholesale sector is crucial in the quest to reach net zero

Companies in the European retail and wholesale sector are uniquely situated to connect hundreds of thousands of producers and manufacturers with millions of consumers to address together a significant chunk of the region's carbon footprint. Europe's retail[1] and wholesale sector emits annually 1.6 gigatonnes (Gt) of carbon dioxide equivalent (CO_2e) emissions, equal to one-third of the European total.

Only about 2% are Scope 1 and Scope 2 emissions that are produced by individual retailer and wholesaler operations and the energy they consume. The majority, about 98%, represents Scope 3 emissions that originate from the sector's vast supply chains, including for example the transportation of raw materials and product to market, as well as emissions created when consumers use products. Sitting at the nexus of this ecosystem, retail and wholesale are pivotal in facilitating the kind of lifestyle and business model changes that will help cut CO_2e emissions and put the planet on a more sustainable path.

Because of the sector's connection with the daily lives of consumers, the retail and wholesale sector is afforded an opportunity to help inform and educate them about the impact of choosing products with smaller carbon footprints. It can drive change by incentivising producers, manufacturers, and transport providers to adopt more sustainable practices, including in their sourcing of raw materials.

Significant progress has been made along these lines by many leading retailers and wholesalers on their own and in collaboration with other stakeholders along the value chain. The best practices that have started to emerge will offer valuable lessons for other companies and many stakeholders on effective strategies.

Still, the sector is likely to fall short of what is required, particularly with Scope 3 emissions. By 2030, the European Union aims to cut its net greenhouse gas (GHG) emissions 55% from 1990 levels. Yet, as of 2022, only a 33% reduction had been achieved. To meet the EU's target, the EU retail and wholesale sector must accelerate its decarbonisation efforts immediately.[2]

Europe's retail and wholesale value chain emits 1.6 Gt CO_2e. Yet, about 98% of it are Scope 3 emissions

1 In this report, the term "Europe" refers to EU countries as well as Albania, Iceland, Liechtenstein, Montenegro, North Macedonia, Norway, Serbia, Switzerland, and the United Kingdom

2 European Commission, "Progress made in cutting emissions"

Conquering Scope 3 emissions

From 2024 onward, the sector faces significant challenges as new climate-related legislation, including the Corporate Sustainability Reporting Directive (CSRD), take effect in the EU. CSRD mandates the disclosure of Scope 3 emissions produced by suppliers upstream and consumers downstream, a requirement that will likely reshape the sector over time.

The core principles of Scope 3 accountability are designed to enhance transparency and foster dialogue and collaboration between upstream suppliers and downstream users, so they can move toward the goal of decarbonisation. However, the essential frameworks necessary to tackle decarbonisation across the sector remain incomplete.

Advanced retail and wholesale companies have begun to implement sophisticated methods for quantifying Scope 3 emissions. However, given the relative newness of Scope 3 measurement, the sector finds itself applying a variety of methodologies and emission factors, undermining the comparability of products and diverting focus from reduction activities to measurement methodology.

In addition, we observe significant variations in how well sector operators understand and quantify Scope 3 emissions. While some leading companies demonstrate impressive proficiency in handling Scope 3 emissions, many others — especially small and medium-sized enterprises (SMEs) — find it challenging to effectively monitor theirs.

Our research indicates that differences between applied methodologies and calculation approaches could sometimes have a greater impact on selected decarbonisation initiatives than eliminating emissions. This inconsistency could jeopardise the sector's decarbonisation efforts. It highlights the need for further standardisation and efforts to ensure that disclosure data is both more comparable and reliable.

Currently, the emerging data practices resemble many of the approaches to product master data deployed decades ago, likely leading to similar problems and inefficiencies.

At the same time, there is a growing concern among executives that their companies are focusing more on measuring emissions than on implementing strategies to reduce them.

Carving out a path forward

Which emissions reduction efforts should the sector prioritise? In this study, we have developed a midterm plan for retailers and wholesalers, outlining a list of priorities to accelerate progress. Here are four key considerations:

1. The sector must resolve the transparency challenge and need for standardisation in quantification efforts so that carbon footprints of products and activities across the value chain can be compared and effectively reduced. Transparency and standardisation need to be consistently achieved by all stakeholders, enabling effective data sharing and management of emissions.
2. Retailers and wholesalers need to close the gaps between their current plans and their decarbonisation commitments, actively promoting and implementing improvements throughout the supply chain.
3. The European retail and wholesale sector could be leading the way by focusing on areas with the highest decarbonisation impact, such as value chain players with lower sustainability standards and activities like animal farming.
4. If the sector can ensure transparency and standardisation, it will empower consumers by providing them information about the carbon implications of their choices. Consumers will then be able to make more informed decisions that could lead eventually to reduced household carbon footprints.

Innovation leads to change

Building this kind of solid foundation today is of utmost importance — not only because there can be no decarbonisation without it, but also because timely action is crucial to avoiding the worst effects of climate change. The longer it takes, the more severe climate change's impact will be for companies. In this report, we examine both existing solutions and the need for new approaches.

Above all, this report is a call to action for collaboration on new climate initiatives across companies, countries, sectors, and value chains. Associations at both the EU and national level that bring together peers and companies throughout the sector and along the value chain can play an important role in bridging diverse perspectives and encouraging ongoing alignments.

The European retail and wholesale sector can make a significant contribution to achieving emission reduction targets. Although it has demonstrated its commitment to investing in our planet's future, the sector's success strongly depends on broader orchestration and mobilisation across stakeholder groups. This collective effort is essential to address the persistent emissions in the extensive and complex arms of its supply chain and from consumption of its products.

There is a growing concern among executives that their companies are focusing more on measuring emissions than on implementing strategies to reduce them

SECTOR STATUS QUO

The sector faces increasing regulatory and societal pressure due to its significant influence over value chains

01

1.1 GHG EMISSION FOOTPRINT

Today, the planet faces significant evidence of accelerating climate change — from the faster than expected melting of Greenland's ice and the boreal permafrost's abrupt thaw to spikes in the number and severity of droughts, wildfires, and deadly storms.

This has propelled threats from global warming into the top 10 risks faced by the global economy over the next decade in the last several Global Risks Reports from Marsh McLennan and the World Economic Forum. In 2024, the threat from climate change's role in extreme weather events is the No. 2 risk.

A growing consensus among business leaders, politicians, and consumers increasingly agrees with this assessment, elevating sustainability and decarbonisation into critical priorities worldwide. The time to act on greenhouse gas (GHG) emissions is now, as we inch ever closer to irreversible changes in our natural ecosystems from rising temperatures.

European ambition to reduce emissions

To address risks associated with unpredictable changes to our ecosystems, the EU has set an ambitious target to reduce its GHG emissions 55% for 2030 from 1990 levels. This aligns with the 1.5 degrees Celsius goal set in the 2015 Paris Agreement in which nearly 200 signatories pledged to reach net zero by 2050.

Under the European Green Deal, several pivotal policy initiatives have been launched to guide this climate transition. These include the EU Climate Law — which puts into law the Green Deal goals for the European economy to become climate-neutral by 2050 with an intermediate target of reducing GHG emissions at least 55% by 2030 versus 1990 levels. Also among the most significant are the EU Taxonomy, which defines environmentally sustainable economic activities; the CSRD (Corporate Sustainability Reporting Directive), which mandates the reporting of Scope 1, 2, and 3 emissions and establishes the need for transition plans; and the Carbon Border Adjustment Mechanism (CBAM), a tax on certain carbon-intensive imported products to ensure fair competition for European companies abiding by stricter emission regulations.

The regulatory requirements are pushing stakeholders to embark on a more climate-neutral path. In parallel, a growing number of companies have embraced sustainability, and more specifically climate, as a core principle, setting emission reduction targets and taking action to decarbonise their products and supply chains. By 2023, the number of companies and financial institutions that have established GHG reduction targets and received validation from the Science Based Targets initiative (SBTi) has doubled.[3]

3 Science Based Targets initiative

Prevailing gap between targets and implementation

Despite ambitious goals, global GHG emissions reached a new record in 2022, totalling 57.4 Gt CO_2e, which represents a 1.2% increase versus 2021. The EU managed to reduce its emissions during this period by 0.8%.[4]

These developments, however positive, are insufficient for reaching the stated targets within the desired timeframe. There is a substantial implementation gap between the level of decarbonisation that current measures should produce and the level needed to achieve the Paris Agreement targets on time. Recent analyses, including reports by the United Nations Environment Programme and CDP Europe, a nongovernmental emissions disclosure organisation, emphasise a significant discrepancy between the sizeable reductions prescribed for various industries in the Paris Agreement and the actual actions being undertaken by individual companies.

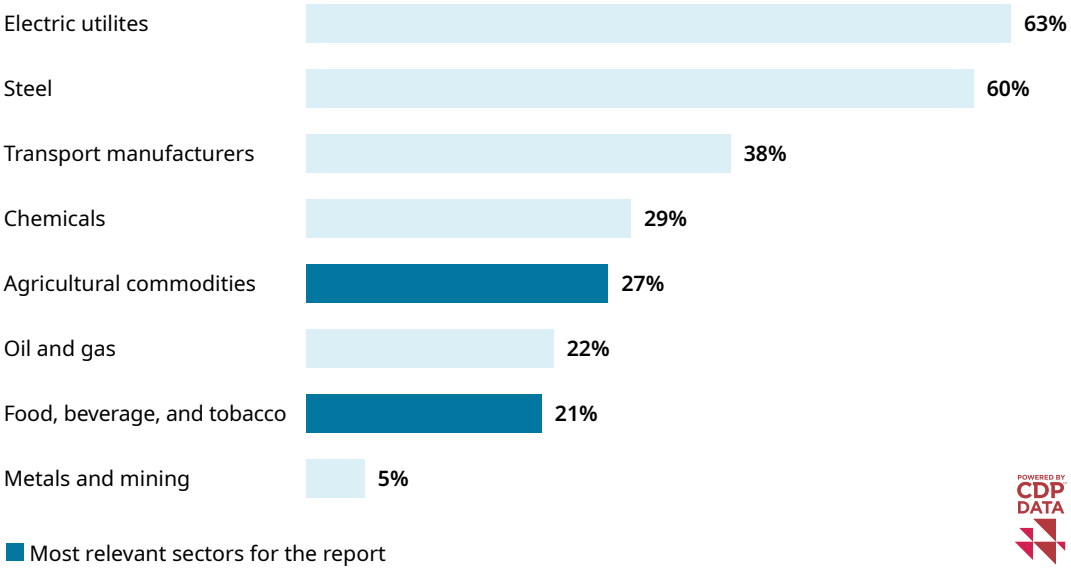
In 2024, the CDP-Oliver Wyman research team evaluated more than 1,600 company responses to 15 questions across five pivotal factors that assess progress on business model change towards a net zero transition:

1. **Capital expenditure** evaluates alignment of investments with green and transition goals.
2. **Product innovation** assesses development and scaling of low-carbon products, services, and technologies.
3. **Supplier decarbonisation effort** analyses proactive management of emissions in supply chains.
4. **Engagement with customers** evaluates efforts to incentivise customers to cut emissions related to a company's products and services.
5. **Steering the business** looks at restructuring of core business processes, such as budgeting and performance frameworks, that reinforces and achieves climate goals.

The Science Based Targets initiative (SBTi) is a collaboration between the CDP (formerly known as the Carbon Disclosure Project), the United Nations (UN) Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). The initiative was launched in 2015 with the aim of driving ambitious corporate climate action in the lead-up to the Paris Agreement. Its primary goal is to enable companies to set GHG emissions reduction targets that align with the decarbonisation levels necessary to keep global temperatures well below a 2 degree Celsius increase over pre-industrial levels, as specified in the Paris Agreement. The SBTi provides tools, standards, and guidance to support companies in setting and achieving their emissions targets. By the end of 2023, more than 4,000 companies and financial institutions had their emission reduction targets validated by the SBTi.

4 European Commission Joint Research Centre, "EDGAR Database: EU's emissions keep falling, as post-COVID rebound in world emissions continues", 2023

Exhibit 1: Percentage of companies with substantial green transition maturity level
2023 utilities



Source: Oliver Wyman and CDP, "Get the Money Moving: Meeting the European corporate transition challenge", 2024

Companies that scored 50% or higher on these 15 questions were recognised as making substantial progress. A score between 25% and 50% was seen as demonstrating partial progress, while those companies scoring below 25% were considered as having made limited progress. According to CDP data, only 21% of surveyed companies have demonstrated substantial progress towards closing the implementation gap between adopted reduction measures and those needed to reach targets. Another 27% made partial progress. The largest category included the 52% that showed limited progress. Among the segments performing poorly were agricultural commodities, and food, beverage, and tobacco; among the best performing, power generation and steel production.

Companies face numerous important challenges, including limited access to capital, insufficient supplier decarbonisation efforts, and a lack of low-carbon product and technology innovation.[5] This situation demands urgent global action.

The footprint of Europe's retail and wholesale sector

The retail and wholesale sector is a pivotal player within the European economy. It employs about 10% of Europe's workforce and comprises nearly 20% of all registered companies in the EU.[6, 7] This sector is very diverse and often operates within complex

5 United Nations Environment Programme, Emission Gap Report, 2023

6 Organisation for Economic Co-operation and Development, "COVID-19 and the Retail Sector: Impact and policy responses", 2020

7 EuroCommerce and McKinsey & Company, "Transforming the European Retail and Wholesale Sector", 2022

and extensive global supply chains, involving a vast network of suppliers and trading partners, many of which are based outside the region. It also serves millions of consumers across Europe with millions of products.

In 2022, 1.6 Gt CO_2e were linked to the retail and wholesale sector and its value chains, including all products bought and sold through the European retail and wholesale sector. Ninety-eight percent of these emissions are categorised as Scope 3, which are those generated by the value chain and typically outside the direct control of retailers and wholesalers.

The largest subsector is food and beverage and health and beauty. Together, these product categories account for two-thirds of the retail-wholesale footprint. The scope of this study is limited to retailers and wholesalers that serve retail operations. Thus, it excludes wholesalers with a purely business-to-business focus.

While many retailers and wholesalers have made significant progress in addressing Scope 1 and Scope 2 emissions, through initiatives like energy-efficient refrigeration and solar panels on store roofs, Scope 3 emissions present a persistent challenge. These emissions include 73% from upstream activities, predominately from purchased goods and services across all four subsectors. For example, in the food and beverages sector, around 39% of emissions stem from upstream agricultural activities.

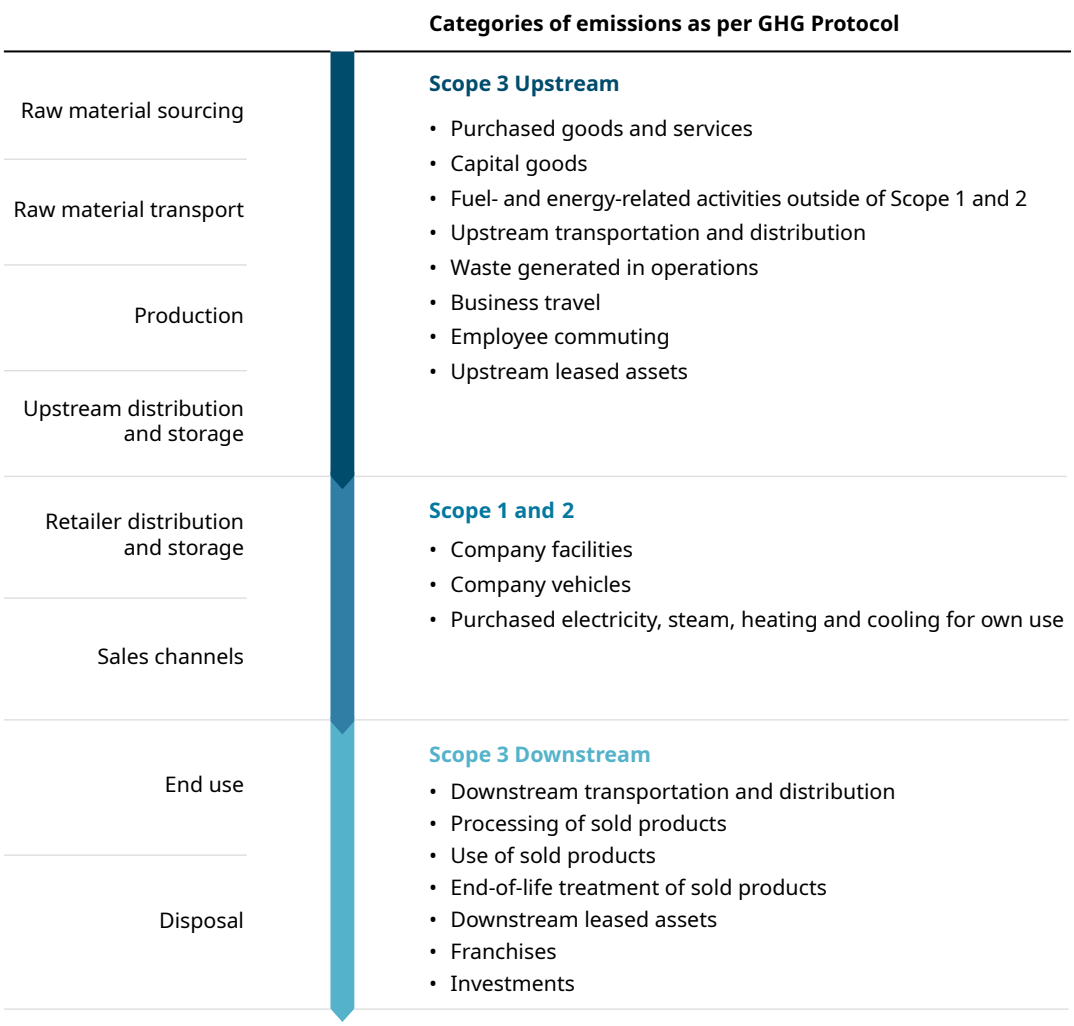
Exhibit 2: GHG emissions in the European retail and wholesale sector
2022

Source: Oliver Wyman analysis

The Greenhouse Gas Protocol (GHG Protocol) was launched in 1998 when World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) recognized the need for an international standard for business GHG accounting and reporting. GHG Protocol establishes comprehensive global standardized frameworks to measure and manage GHG emissions from private and public sector operations and value chains. It provides the world's most widely used GHG accounting standards, used as a foundation by all major reporting frameworks, including International Sustainability Standards Board (ISSB), Carbon Disclosure Project (CDP), and European Sustainability Reporting Standards (ESRS). GHG Protocol's Corporate Value Chain (Scope 3) Standard is used by organisations to assess and report on their Scope 3 emissions.

Definition of Scope 1, 2, and 3 based on GHG Protocol. The GHG Protocol provides the most widely used framework for businesses' carbon accounting, categorising a company's GHG emissions into three scopes. Scope 1 covers all direct emissions from the company's activities. Scope 2 accounts for indirect emissions from the generation of purchased energy. Scope 3 includes all other indirect emissions that occur within the company's upstream and downstream value chain.

Exhibit 3: Overview of GHG Protocol scopes and emission categories across the value chain

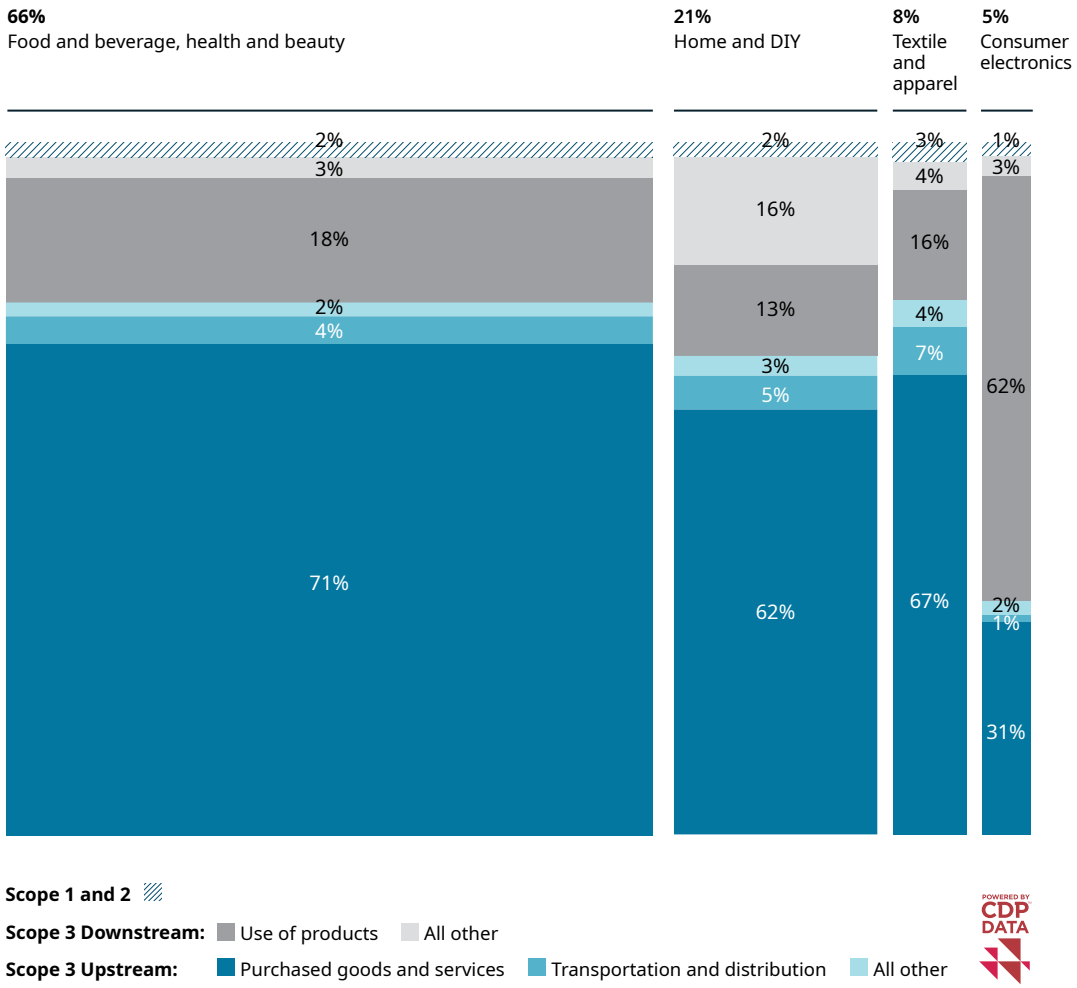


Source: Based on the definitions of the Greenhouse Gas Protocol

In the textile and apparel sector, 67% of upstream emissions from purchased goods can be attributed to activities like raw material extraction (16%) and processing (10%), material production (36%), and finished product assembly (5%). Meanwhile, downstream emissions (24%) are largely due to the use-phase and end-of-life treatment of sold products. This division is also particularly prominent in the consumer electronics sector, where 62% of emissions arise from high electricity consumption during the product use-phase.

Exhibit 4: Percentage breakdown of total emissions in European retail and wholesale sector for the four key subsectors

% of total sector and % of total subsector emissions, 2022



Source: Oliver Wyman analysis

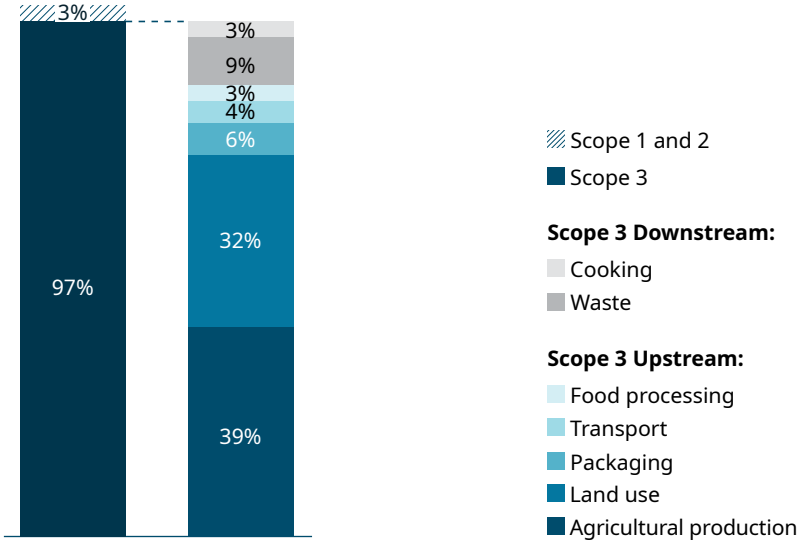
Scope 3 breakdown for selected sectors

This weight of Scope 3 emissions reflects the nature of retailing and wholesaling, serving as the linchpin that connects hundreds of thousands of producers and businesses with hundreds of millions of European consumers. Being in this unique position, the sector emerges as an interesting and important actor and potential catalyst in advancing sustainability across various stakeholders.

Sustainability reports from some of Europe's largest retailers and wholesalers show a 13% reduction in reported GHG emissions between 2020 and 2022, with reductions of 22% in Scope 1 and 2 emissions and 12% in Scope 3 emissions.[8] While these figures represent only some of the most progressive companies in the sector, they reflect a promising shift towards greater environmental responsibility and the pursuit of emission reduction targets within the sector.

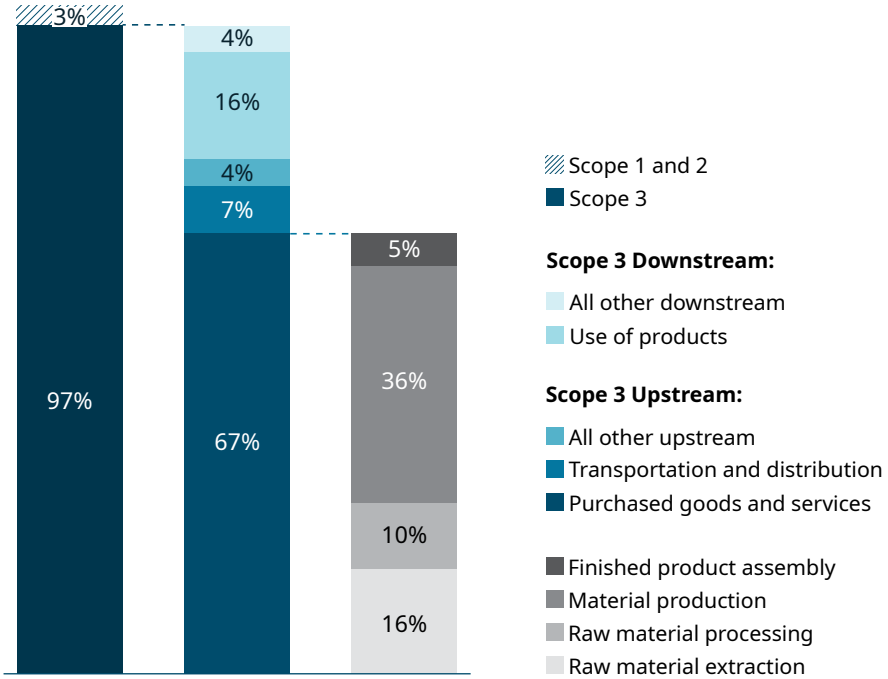
8 Based on sustainability reports of selected European retailers

Exhibit 5: Detailed breakdown of emissions in food and beverage sector
% of total emissions, 2021



Source: Hannah Ritchie, "How much of global greenhouse gas emissions come from food?", OurWorldInData.org, 2021

Exhibit 6: Detailed breakdown of emissions in textile and apparel sector
% of total emissions, 2023



Source: Apparel Impact Institute, "Taking Stock of Progress Against the Roadmap to Net Zero", 2023

Carbon reduction versus ESG

This report focuses on GHG emissions reduction. But companies also face pressure from stakeholders to enact environmental, social, and governance (ESG) policies and rules to protect nature.

Even though motivated by similar issues, these company initiatives sometimes end up conflicting with decarbonisation efforts. For instance, a shift from animal to plant-based proteins in food retail represents a significant decarbonisation lever. Yet, that might require converting land to agricultural use, which may affect biodiversity, forestation, or the economic wellbeing of some communities.

Methodology to calculate European retail and wholesale emissions. The calculated carbon impact of the retail and wholesale sector and its four subsectors — food and beverage and health and beauty, consumer electronics, home and DIY, and textile and apparel — was determined using emissions data from sources such as CDP, national statistics bureaus, company publications, and scientific reports. This includes the CO_2e emissions footprint of products sold and consumed within Europe through retailers and wholesalers, excluding products made in Europe but consumed abroad. Detailed methodology is provided in Appendix A.

Modelling approach

1	2	3
Total European GHG emissions	**European retail and wholesale sector emissions**	**Scope 1, 2, and 3 breakdown of the retail and wholesale sector**
Projecting total GHG emissions generated by products sold in Europe	Quantifying emissions attributed to the retail and wholesale sector in Europe	Breaking down emissions into Scope 1, 2, and 3 categories for the four subsectors

1.2 EVOLUTION OF CLIMATE REGULATION

Regulatory requirements are key to shaping the retail and wholesale sector's climate-related transformation. As companies work towards a lower-carbon business model, these regulations shape their decarbonisation priorities, with 2024 being a pivotal year for implementing the CSRD.

Exhibit 7: Overview of key regulations in Europe to support carbon emission reduction

2019 Green Deal

Policy framework towards a 2050 climate-neutral EU

2023 Corporate Sustainability Reporting Directive (CSRD)

Requirement for assured reporting on ESG impacts

2024 Corporate Sustainability Due Diligence Directive (CSDDD)

Requirement to perform value chain sustainability due diligence

2024 Green Claim Directive (under revision)

Requirement to validate any sustainability claims

2026 Digital Product Passport (DPP), part of Ecodesign for Sustainable Products Regulation (ESPR)

Requirement for data sharing along product lifecycle; selected categories only for now

Years of European climate efforts

The European Green Deal, adopted in 2020, is at the forefront of the EU's response to the climate crisis. This comprehensive policy framework aims to drive the EU towards a sustainable, climate-neutral economy by 2050. It calls for substantial investments across various sectors, including sustainable mobility, infrastructure, heavy industry, energy, agriculture and food systems, the circular economy, and others, to achieve its ambitious goals.

Progress has been made in emissions disclosure, yet many companies are still working towards full compliance with the CSRD, which entered into force in January 2023. This directive requires larger companies to disclose Scope 1, 2, and 3 GHG emissions, with these reports subject to audit by an accredited independent auditor. The CSRD also asks for details about transition plans, reduction targets, and decarbonisation strategies and levers to meet those targets.

EU regulatory initiatives are also establishing requirements for product design, packaging and packaging waste, product repairability, and end-of-life waste disposal, among other aspects. The Ecodesign for Sustainable Products Regulation (ESPR) will set design requirements for over 30 product groups, including textiles, consumer electronics, furniture, and plastic, to boost circularity and energy performance, thereby decreasing the carbon footprint of products and the overall supply chain.

Upcoming wave of new requirements

The European business community, including the retail and wholesale sector, is currently navigating a developing landscape of regulations at both national and EU levels. These regulations significantly affect the sector's approach to Scope 3 emissions, a major component of its carbon footprint. While these rules seek to enhance sustainability practices, they also add complexity and necessitate careful management of overlaps and inconsistencies to ensure compliance.

Corporate Sustainability Due Diligence Directive (CSDDD): The CSDDD extends beyond reporting requirements by mandating companies to perform due diligence. This includes identifying and addressing adverse impacts on human rights and the environment throughout their operations, subsidiaries, and supply chains. Notably, the CSDDD's scope reaches beyond EU borders, applying to both EU and non-EU companies engaged in commercial activities within the EU. These entities must conduct thorough due diligence on human rights and environmental impacts across their global operations.

Carbon Border Adjustment Mechanism (CBAM): CBAM is the EU's acknowledgment that its policies could disadvantage some industries in the region by making low-carbon production more expensive than comparable commodities made outside the EU, where emission reduction demands are lower. CBAM imposes a carbon tax on certain EU imports like steel and cement that have higher carbon content. This aims to discourage EU producers from relocating to countries with less stringent environmental regulations and to penalise non-EU producers who import high-carbon products into the EU, thus levelling the playing field for EU companies. The mechanism particularly affects retailers and wholesalers in the home and DIY category by increasing the price of materials imported from outside the EU, as well as the food and beverage sector through the impact on items like fertiliser. Beyond the cost increase, importers are also faced with administrative complexity. The scope of product categories covered by CBAM is set to expand through 2030.

Digital Product Passport (DPP): The DPP, part of the ESPR, will function as a comprehensive tool for collecting and sharing data across a product's entire lifecycle within the supply chain. It aims to enhance transparency, helping businesses and stakeholders, including consumers, make informed choices based on a product's sustainability, environmental impact, and recyclability. Initially, the DPP will apply to key products such as textiles, electronics, furniture, and plastics, with plans to eventually extend coverage to all products except food, pharmaceuticals, and livestock feed.

Green Claims Directive (GCD): The GCD, which is currently under negotiation, aims to prevent greenwashing by ensuring that environmental information about products is reliable, comparable, and verifiable to boost consumer confidence. The European Commission proposed to set criteria for substantiating environmental claims, mandate independent verification, and establish rules for labelling schemes. Yet, the final legislative text needs to be agreed between co-legislators.

Existing and upcoming regulatory requirements should be viewed not just as compliance obligations but, if designed well, they can offer opportunities for businesses to highlight their decarbonisation and sustainability achievements to customers. By leveraging this momentum, retailers and wholesalers can position themselves as sector leaders, strengthen consumer trust, and contribute to a more sustainable future.

1.3 FURTHER MULTIDIMENSIONAL PRESSURE TO DECARBONISE

Consumers care about ESG but remain price-sensitive

In recent years, customer awareness of sustainability has steadily increased, making it a more relevant factor in consumer purchasing decisions. Research, including New York University's Sustainable Market Share Index™ for US, indicates that consumer packaged goods marketed as sustainable are growing roughly twice as fast as those not marketed as sustainable.[9] A recent study by Oliver Wyman and German consumer electronics association gfu of the consumer and home electronics segment found that 65% of consumers consider sustainability a key factor in their purchasing decisions.[10] Notably, customers are also showing a greater willingness to pay more for products that offer higher energy efficiency and other ESG-friendly features, which mean lower electricity bills. Consumers are recognizing how it can pay off for them to do the right thing on ESG. Another study by Simon-Kucher found that consumers globally claim to be willing to pay up to a 25% premium for sustainable products.[11]

This finding highlights the importance of aligning sustainability attributes with tangible benefits that customers value, as it can positively influence their purchasing decisions. The trend towards sustainable consumption is particularly prevalent among the younger generation, including Generation Z and the younger Generation Alpha.[12] This ESG prioritisation will become increasingly important as these two cohorts gain purchasing power and begin to make up a bigger percentage of the consumer population.[13] One Gen Z survey by the Oliver Wyman Forum found that 31% would buy more sustainable products if there were clearer labels.[14]

While overall consumer demand for sustainable products is rising, demand for sustainable food products has been stifled by inflation and will likely not increase in the short-term. Sustainable products must be priced competitively relative to their alternatives to be successful.[15] Despite growing interest towards sustainable consumption, the green premium often exceeds what consumers are actually willing to pay, posing challenges for retailers and wholesalers. Still, the sector is likely to invest in the transition in anticipation for longer term return on investment.

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9 New York University Stern Center for Sustainable Business and Circana, Sustainable Market Share Index 2021 Report, 2022

10 gfu Consumer & Home Electronics

11 Simon-Kucher and Partners, "Global Sustainability Study 2021: Consumers are key players for a sustainable future", 2021

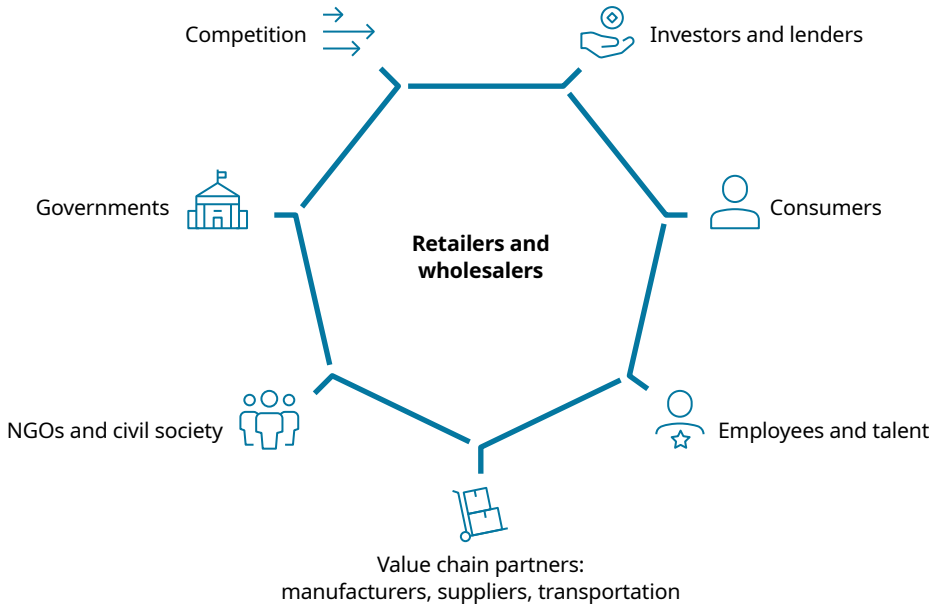
12 Generation Z usually defined as people born in 1997–2012, Generation Alpha born in mid 2010s to mid 2020s

13 Ana Kreacic and Simon Cooper, "How to help Gen Z turn climate anxiety into action", World Economic Forum, 2022

14 Oliver Wyman Forum and The News Movement, "A-Gen-Z Report: What business needs to know about the generation changing everything", 2023

15 gfu and Oliver Wyman, "The True Value of Green: Willingness to pay for sustainability in consumer and home electronics", 2022

Exhibit 8: Company stakeholders with focus on GHG emission reduction



Source: Oliver Wyman analysis

Sustainability matters for employee retention and hiring

Sustainability is becoming increasingly important to both current employees and job seekers. Companies that prioritise sustainability see significant benefits, with a staggering 96% of employees at such companies willing to recommend their workplace to others. Additionally, nearly two-thirds (63%) of the highly qualified candidates view sustainability as essential when considering potential employers.[16] This trend is expected to intensify as Gen Z becomes an increasingly important part of the workforce and as Generation Alpha begins to emerge. By choosing a sustainable employer, individuals that prioritize ESG can feel a sense of purpose and fulfilment in their work, knowing that they are contributing to a greater cause.

NGOs and civil society focus on sustainability

Since 15-year-old Swedish activist Greta Thunberg launched "Fridays for Future" in 2018, the movement has grown into a significant global youth initiative.

Concurrently, global nongovernmental organisations (NGOs) like Greenpeace and the WWF are playing an increasingly influential role and being given a seat at the table during major environmental meetings. This shift has intensified pressure on companies from both political and societal angles, as governments prioritise green policies and public awareness of global warming and societal injustices deepens.

16 Economist Intelligence Unit, "Green Politics in Europe: The success and the setbacks", 2023

Government activism on climate change and ESG

The increasing focus on climate change by governments is evident from the scale and discussions at recent UN-sponsored climate change summits, particularly COP28 in Dubai in 2023. With an unprecedented 85,000 attendees, COP28 was the largest such event to date, reflecting the global urgency and collective commitment to tackling climate change.

Since the landmark Paris Agreement at COP21 in 2015, these conferences have become key global platforms, attracting a diverse array of stakeholders, including national delegations, civil society groups, businesses, philanthropic organisations, and international bodies. Following the Paris Agreement, 193 parties have submitted Nationally Determined Contributions (NDCs), outlining their climate action plans to cut emissions and adapt to climate impacts.[17]

Keeping up with rivals accelerates ESG

An increasing number of retailers and suppliers are integrating sustainability into their operations. In Europe, over 170 companies in the sector have joined the SBTi, demonstrating a strong commitment to sustainability.[18] However, the SBTi is just one of many alliances promoting sustainable practices.

This growth of these sustainability-focused groups is creating peer pressure within the sector, enhancing stakeholders' ability to compare progress on ESG. While not all companies aim to lead in sustainability, none want to fall behind their competitors. This is driving a competitive environment where adopting sustainable practices is essential for maintaining market relevance and consumer trust.

Investors and lenders prioritise ESG but remain cautious

In 2006, an international group of institutional investors convened by the UN developed the six Principles for Responsible Investment (PRI) to promote environmental and social responsibility among the world's investors. Those were relatively early days for the use of ESG factors as investment priorities, but 18 years later, ESG criteria have become essential in the assessment of investment decisions.

Investors and lenders now widely recognise that sustainable practices can lead to long-term success and resilience. By incorporating sustainability into their business strategies, companies can mitigate risks, reduce waste, and optimise resource allocation. An Invesco 2021 survey indicates that 79% of surveyed investors declared that sustainability was an important factor in their investment decisions.[19] As per a recent report by Oliver Wyman and CDP, it was found that 87% of financial institutions have implemented strategies to assess whether their selected clients (in the case of banks) or investees (in the case of investors) are aligned with the 1.5 degrees Celsius target. However, the report also highlights that

17 United Nations Climate Change, 2022 NDC Synthesis Report, 2022

18 Science Based Targets initiative

19 Invesco Research, "What Investors Want: Our research on client perceptions of ESG investing and what we can do to improve their engagement", 2021

only 26% of financial institutions conduct this review for all clients or investees.[20]

"Greenlash" — Not everyone loves ESG

As Europe moves towards greater sustainability, it is important to acknowledge the critical voices emerging in response to rising standards and expectations on decarbonisation.
For instance, in spring 2024, farmers across Europe protested against rising sustainability requirements, which would impose significant burdens on them and expose them to competition from imports not subject to similar standards. Similarly, European companies across various sectors also face competition from less regulated markets.

At the same time, less affluent consumers expressed concern about the inequities created for them when ESG policies push up prices. Given global inflation, green premiums only exacerbate the rising cost of living pressures they face.

It is imperative to manage this transition carefully, addressing the concerns and challenges of different groups to ensure that the benefits of a sustainable Europe are shared by all.

20 Oliver Wyman and CDP, "Get the Money Moving: Meeting the European corporate transition challenge", 2024

COMPANY MATURITY

Many large players have begun the decarbonisation journey,
but it is essential for all businesses to participate

02

When analysing decarbonisation progress in the retail and wholesale value chain, it is important to consider the disparate resources available to companies. While the sector aims for net zero by 2050, the path will vary greatly among players, and supporting all companies in their progress is essential.

Of the five million EU-registered retail and wholesale enterprises, the majority operate in a single country. Only 8% of these businesses employ 10 or more people, and less than 1% are considered large-scale businesses.[21] While many of the bigger organisations have conducted comprehensive carbon footprint assessments and made measurable progress towards decarbonisation, most SMEs struggle to even measure their GHG emissions, let alone advance towards net zero.

In this section, we aim to evaluate companies' decarbonisation progress and assess the capabilities available. Our goal is to establish a framework that allows companies, both large and small, to benchmark their decarbonisation efforts effectively.

Large variance in capability levels

Where many smaller companies have yet to assess Scope 3 emissions, some of the larger organisations with advanced capabilities are already measuring them on a quarterly or even monthly basis. Thanks to investments in data collection and close collaboration with their supply chains, these larger organisations can analyse emissions using primary data from direct suppliers and occasionally from several tiers upstream. This allows them to effectively track the abatement levers they have implemented.

21 EuroCommerce and McKinsey & Company, "Transforming the European Retail and Wholesale Sector", 2022

Regulation has established a baseline for minimum standards in the sector, and mainly larger retailers and wholesalers have actively assessed their GHG emissions footprint. This effort helps them integrate these insights into their business strategies and day-to-day commercial decisions.

In spite of this, a significant number of even the largest retailers and wholesalers have made only modest progress in decarbonisation.

Determining precisely where companies stand in their decarbonisation efforts is crucial for identifying common needs, key challenges, and appropriate solutions. Those starting their decarbonisation journey can learn much from peers who are further along, but even the most advanced companies continue to face obstacles that hinder their progress.

Exhibit 9: Maturity staircase for grip on the size of emissions dimension, selected criteria

Grip on the size of emissions	At the beginning of...	Initial foundation for...	Advanced on... the decarbonisation journey towards net zero
Is there a solid understanding of the emission baseline of your business?	Emissions baseline has been established for Scope 1 and 2 (if any)	Emissions baseline has been established for Scope 1–3. Key sources of emissions are identified and quantified for own operations and the value chain	Detailed emissions baseline by source and across the business units, geographies, product lines, supply chain and tiers, downstream in logistics, product use and end of life
Are there in-house capabilities for emissions assessment?	All emission calculations are performed by external service providers (or not performed)	Scope 1 and 2 calculation methodology is developed and owned by an internal team, with service providers supporting the Scope 3 calculations	All emission calculation methodologies are owned by a dedicated in-house team, external experts engaged for methodology verification. Calculation methodologies are regularly revised, updated, and disclosed for full transparency
For what share of your product portfolio do you determine the emissions footprint?	Calculation done for <50% of product portfolio, mostly private label SKUs (if any)	Calculation done for >50% of product portfolio, mostly private label SKUs	Calculation done for most SKUs (>85%), both private label and branded products
How often are Scope 3 emissions assessed?	Scope 3 emissions assessment have been done as a one-off exercise (or not done yet)	Scope 3 emission assessment is an annual exercise	Continuous Scope 3 emission assessment process
Share of assessed companies	**41%**	**26%**	**33%**

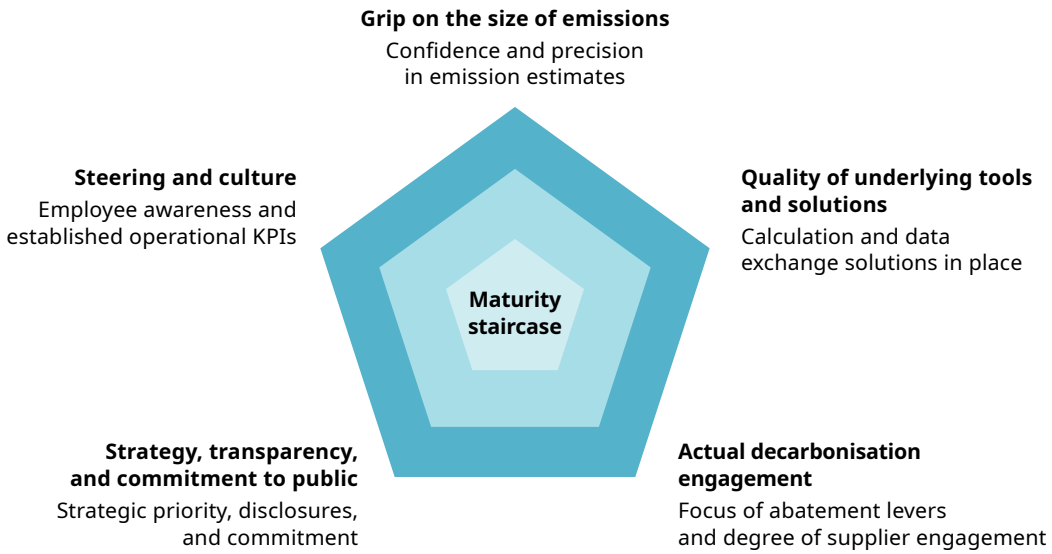
Source: Oliver Wyman analysis

Assess your companies' GHG emission maturity

The decarbonisation progress of retailers and wholesalers can be initially assessed using several easily measurable criteria across five dimensions: Steering and culture, strategy, transparency and commitment to public, grip on the size of emissions, quality of underlying tools and solutions, and actual decarbonisation engagement.

Steering and culture: Leading companies have integrated sustainability as a core element of their operating model. They establish comprehensive sustainability strategies with ambitious long-term targets and measurable key performance indicators (KPIs), which are meticulously monitored and linked to objectives and incentives at both operational and management tiers. Clear accountability and role definitions ensure that sustainability considerations are intrinsic to decision-making processes across all functions, from finance and procurement to sales and human resources. In contrast, many companies at the start of their climate journey treat sustainability as an "add-on" function, often isolated in siloes with limited integration across departments, and sustainability knowledge remains confined to experts rather than disseminated throughout the organisation.

Exhibit 10: Dimensions of the emissions management capability assessment

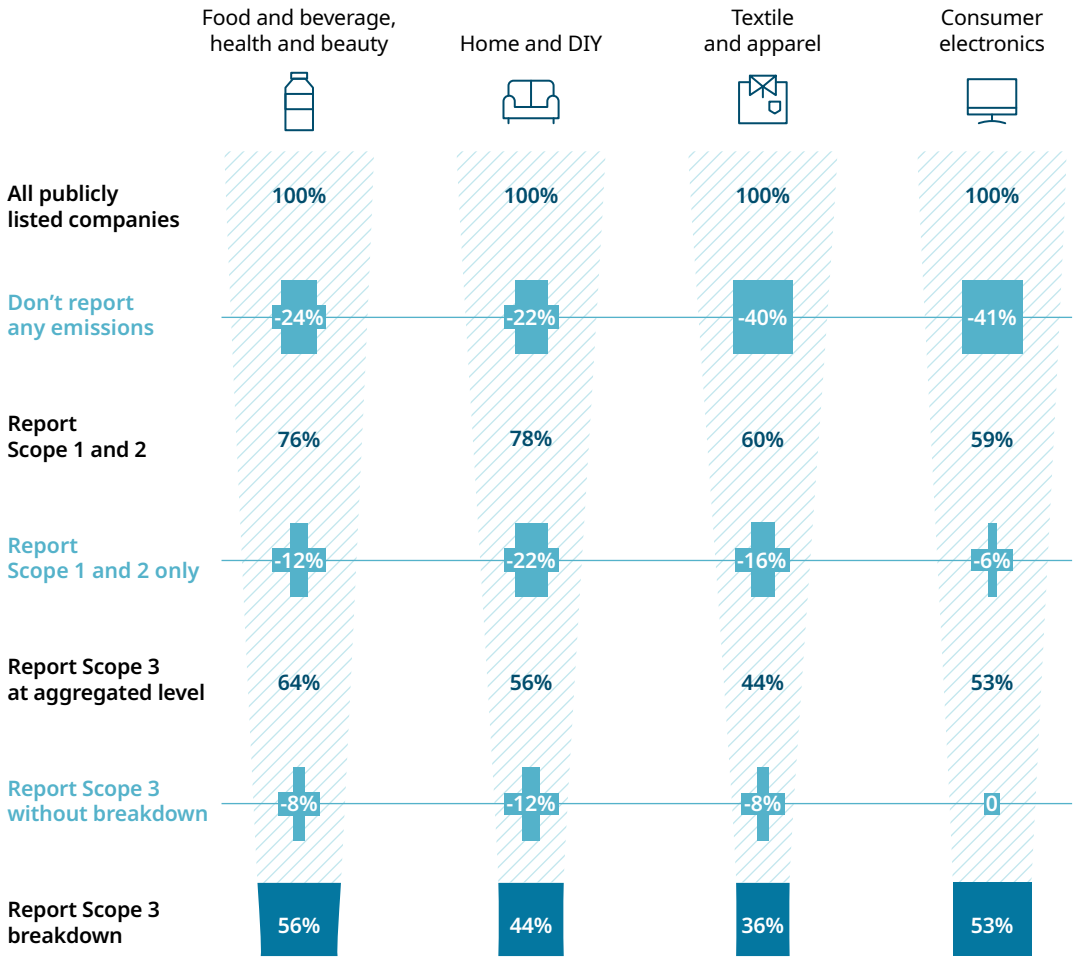


Source: Oliver Wyman analysis

Strategy, transparency, and commitment to public: Leading operators are often transparent about their emissions footprint, including Scope 3 breakdowns and explanations of their measurement and calculation methodologies. Typically, these companies also commit to verified targets, such as those verified by the SBTi. In contrast, many companies at "basic" maturity level have not committed to any targets and either do not publish any emissions data or only disclose Scope 1 and 2 emissions. Depending on the sector, about one-fifth to two-fifths of larger, publicly listed companies do not publish any emissions data at all, and 36% to 56% provide a Scope 3 breakdown by category.

Exhibit 11: Globally publicly listed retail and wholesale sector emission disclosures, by segment

% of publicly listed companies



Source: CarbonBenchmark and Oliver Wyman analysis

Grip on the size of emissions: Companies ultimately aim to consistently access high-quality, complete, and reliable Scope 3 data. Leading companies already measure their Scope 3 emissions quarterly or monthly, incorporating data from suppliers up to tiers 3–4 and beyond. They use primary emission data, significantly increasing accuracy, and consistently track these emissions for better comparison over time across categories and suppliers. Currently, standard companies may not measure their Scope 3 emissions at all or only do so annually, using secondary emission factors and typically including only tier 1 and some tier 2 suppliers.

Quality of underlying tools and solutions: The quality of tools used to manage emissions data varies widely, impacting factors such as ease of access to information, integration with other essential systems, and linkage to an organisation's master data. Moreover, the extent to which companies utilise this data for operational decision-making also varies significantly. Standard companies typically rely on offline software, such as Excel-based models, and often manually collect data or send multiple requests to suppliers. In contrast, leading companies have developed fully automated emission calculation systems. These systems are integrated with their enterprise resource planning (ERP) systems and linked to supplier interfaces, ensuring a seamless flow of information.

Actual decarbonisation engagement: Leading companies typically begin by managing their Scope 1 and 2 emissions before tackling the more challenging Scope 3 emissions, which require engaging with producers and manufacturers to provide knowledge, support, and sometimes setting targets to guide their decarbonisation efforts.

Retailers and wholesalers can use this framework to assess their current maturity, understand their positioning on the maturity staircase, and determine the next steps in their decarbonisation journey. For more detailed guidance, please see the GHG emission maturity self-assessment questionnaire in Appendix B.

TARGET STATE

The sector has an opportunity to be a positive force on the path to achieving net zero

03

The retail and wholesale sector is uniquely positioned between consumers and producers, and acts as a crucial platform and marketplace where numerous activities, decentralised stakeholders, and consumers converge. Positioned at the intersection of key sectors such as food and beverage, health and beauty, consumer electronics, and home and DIY, the sector, given its broad reach, has the potential to amplify the impact of any sustainability successes it achieves and help drive change.

Given its strategic role in the value chain, the sector is pivotal in supporting standardisation and enhancing transparency in emissions reporting and methodology across various subsectors.

However, the challenges are significant, stemming from:

1. The value chain's substantial carbon footprint, which constitutes about one-third of European CO_2e emissions, with Scope 3 emissions representing a notably high proportion (98%) of total emissions.
2. The vast size and scale of operations, dealing with hundreds of thousands of producers and suppliers, managing millions of stock keeping units (SKU), and serving millions of consumers.

Addressing these challenges and altering the sustainability trajectory involves a generational and transformational effort. With the EU's ambitious target to cut emissions 55% by 2030, the retail and wholesale sector's significant size and its linchpin position mean it can play a critical role in reaching these goals.

Exhibit 12: Retail and wholesale sector position as an interface to a decentralised stakeholder community

Midterm acceleration towards net zero

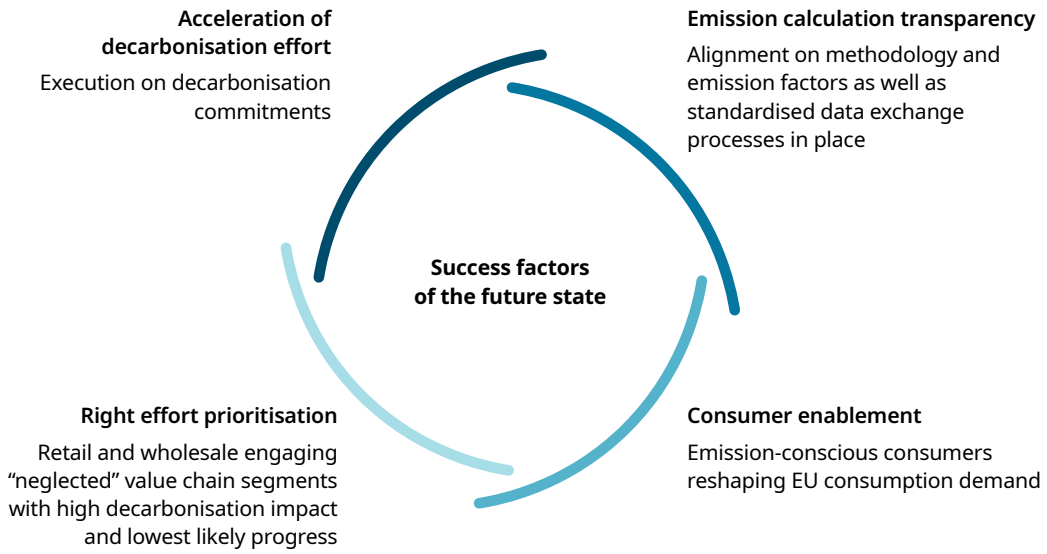
Measuring and managing the carbon footprint in the retail and wholesale sector is complex. The sector, everything from farm to fork and from raw material to disposal, deals with numerous emission sources, most of which are not managed under the same system.

Achieving accurate measurement would entail sector-wide agreement on key fundamentals. Stakeholders across the value chain would need to adopt uniform, robust measurement methodologies, emission factors, and data exchange protocols. Although increasing transparency requires significant investment in resources, effort, and capital, it also necessitates fostering dialogue among value chain partners.

In this scenario, the retail and wholesale sector would play a pivotal role by increasing transparency and maintaining consistent standards that meaningfully integrate various parts of the sector and track progress across the complexity and multitude of household goods. More broadly, with reliable data, the sector would have the potential to make a sizeable impact on regional and even global emissions by driving forward effective and innovative decarbonisation actions.

As a result, the sector would become an essential partner for regulators, producers, manufacturers, and consumers alike, by ensuring that a product manufactured in the same facility, transported using the same mode, stored in the same warehouse, and used and consumed in the same way by the end-consumer has a consistently calculated CO_2e emission, regardless of the company performing the calculation. Ultimately, a model developed in Europe could establish a foundation and standard that influences other parts of the world.

Exhibit 13: Success factors of the future state



Source: Oliver Wyman analysis

Acceleration of decarbonisation effort

Both the supply and demand sides would shift towards adopting more sustainable choices and consumption patterns. Advancements in new technologies and innovations could also help drive the decarbonisation of supply chains, products, and their usage, aligning with commitments from both the public and companies. The retail and wholesale sector would play a crucial role in this transition by fulfilling their emission reduction commitments across Scope 1, 2, and 3 emissions.

Right effort prioritization

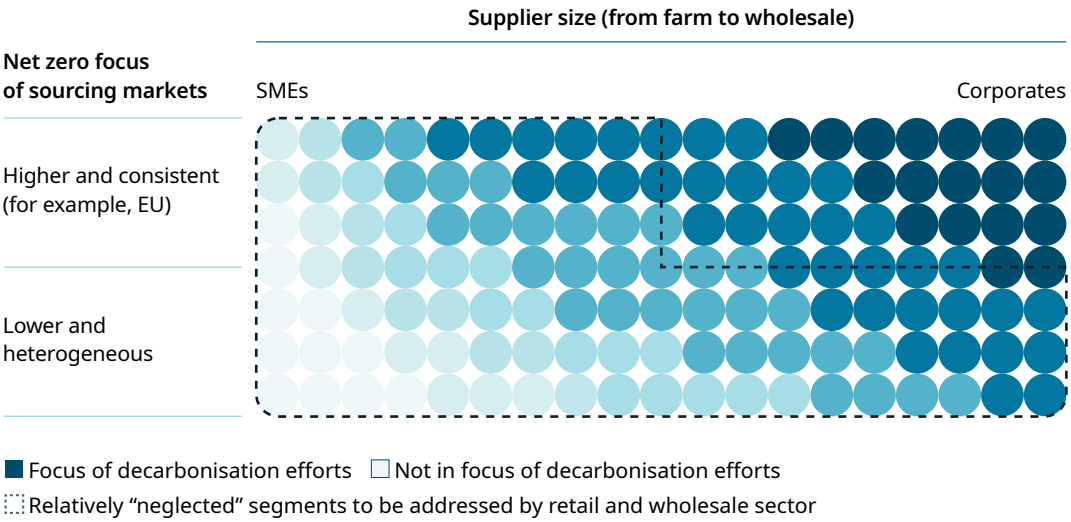
While fully addressing Scope 3 emissions may be challenging, retail and wholesale companies should prioritise areas that offer the greatest decarbonisation impact. Some parts of the Scope 3 footprint in the sector already show significant decarbonisation efforts and ambition net zero goals, particularly in large EU-based manufacturers and in sectors like transportation and energy where technology and regulatory support are driving sustainability. In these areas, the incremental impact of retail and wholesale efforts may be limited, but these companies can still support and encourage the transition.

However, other areas that contribute significantly to emissions are more challenging and show slower progress. For example, some retailers and wholesalers heavily depend on value chains outside the EU, where there is less focus on reducing carbon emissions. This is also true for value chains involving many SMEs with limited decarbonisation capabilities, as well as in sectors producing animal protein, which rely on innovative practices and shifts in consumption to cut emissions. In these sectors, retailers and wholesalers can have stronger influence through their retail brands and vertical integration, especially in categories like fresh produce and directly sourced products in apparel or home goods.

Retailers and wholesalers should focus their Scope 3 decarbonisation efforts on these areas where they have more control and influence, such as their own labels and categories with greater vertical control. Moving forward, by and beyond 2030, collective action will continue to enhance decarbonisation efforts, standards, and support, especially focusing on SME suppliers beyond the direct supply base and on global product categories facing significant emission challenges.

The significant discrepancies between current pledges and actual outcomes would be narrowed as companies ramp up their execution efforts. Retailers and wholesalers would also need to support the introduction and promotion of decarbonisation improvements made by themselves and their value chains in both upstream and downstream activities

Exhibit 14: Supplier pockets with most need for decarbonisation effort alignment



Source: Oliver Wyman analysis

Regulation plays a crucial role in steering the retail and wholesale sector's efforts to tackle decarbonisation. For instance, regulations would establish clearly defined boundaries for pre-competitive alignment, including a whitelist of encouraged and supported practices. These frameworks would provide clear guidance to businesses on how to invest in and adopt low-carbon technologies and practices on a large scale, thereby accelerating progress towards achieving net zero emissions.

Consumer enablement

Resolving the transparency challenge can significantly impact consumers and the shape of EU consumption demand. It allows manufacturers, wholesalers, and retailers to better inform consumers about the environmental implications of their choices, potentially leading to reduced household carbon footprints.

It is imperative to begin implementing these pillars immediately, acknowledging that their full establishment will take several years. We believe that these foundations must be firmly in place within the next five to 10 years to enable the sector to meet the ambitious 2050 net zero target. Progress will depend on prioritisation, financing, the feasibility of levers, cross-regional and cross-sectoral collaboration, and various factors beyond the sector's direct control. It will also require sector-wide alignment and concerted efforts.

SUCCESS FACTORS

Several prerequisites must be established in the coming years to accelerate decarbonisation

04

To act as a catalyst for change as outlined in chapter 3, the retail and wholesale sector must build on the significant strides already made. We have pinpointed eight success factors essential for reaching the sector's net zero ambition.

Foundation: Consistent emission tracking

While efforts have been made towards consistent emission tracking, including setting regulations, standards, and targets, more action is needed. The sector has begun to unite decarbonising the European economy, but further foundational work is necessary to enable effective decarbonisation.

Key elements include ensuring harmonised methodologies and emission factors across countries and subsectors (see Section 4.1 below), securing sufficient upstream and downstream emissions data for identifying and addressing emission drivers (see Section 4.2), and resolving regulatory gaps to provide clarity on upcoming legislation and rules (see Section 4.3).

Decarbonisation: Effective emission reduction

With data infrastructure and uniformity in place, companies can effectively monitor and implement decarbonisation measures. Once methodologies, data provisioning, and regulatory clarity are established, decarbonisation efforts should become more effective and traceable. Although many players are already making multifaceted decarbonisation efforts, these need to be scaled up and industrialised.

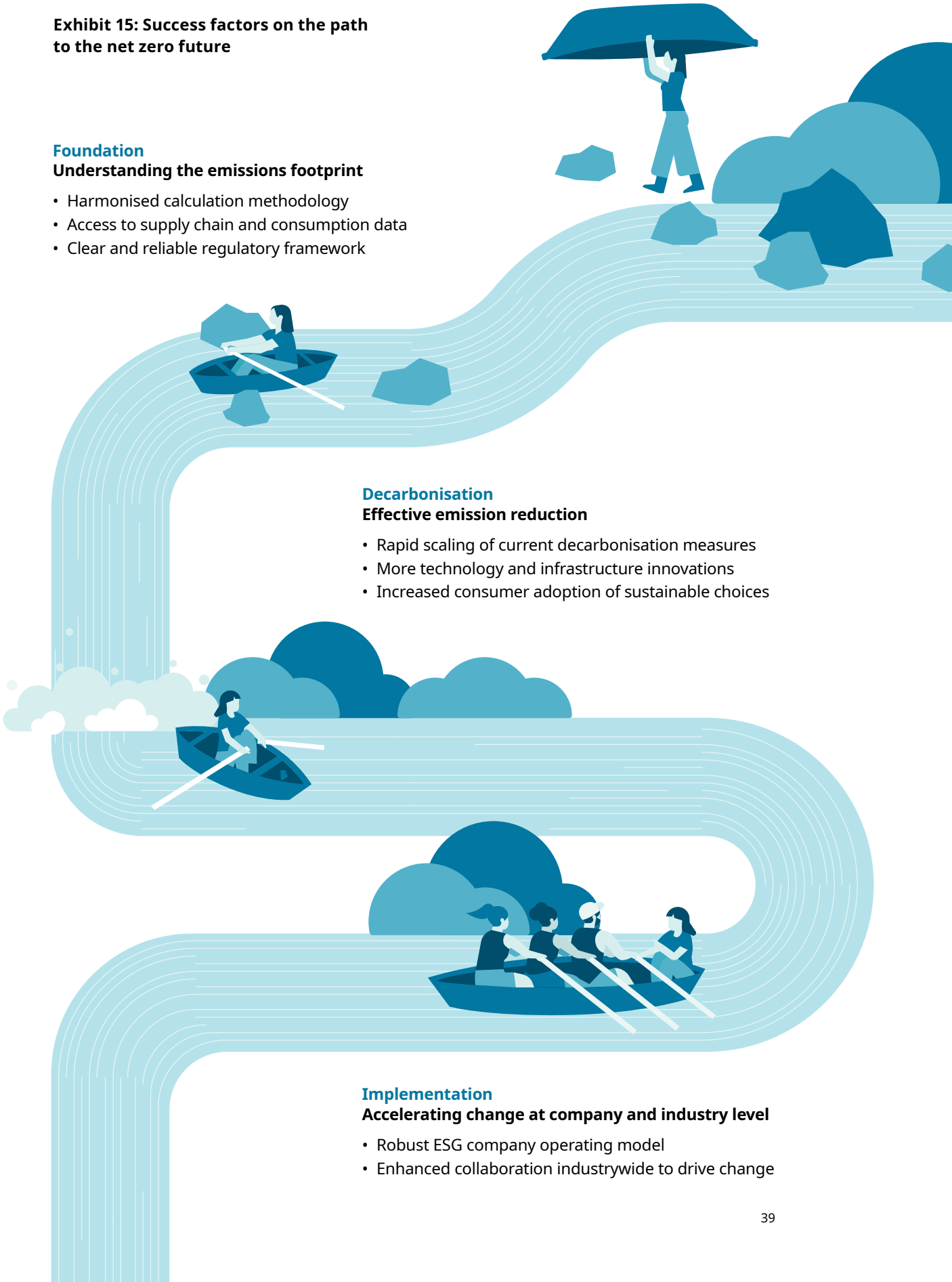
To further reduce and ultimately eliminate carbon footprint, three success factors are crucial: accelerating the scaling of existing decarbonisation solutions (see Section 4.4), enhancing technological advancement and the global rollout of green infrastructure (see Section 4.5), and evolving consumer demand towards sustainable choices (see Section 4.6).

Implementation: Accelerating change

Achieving net zero cannot be the pursuit of only a few pioneers — it requires the collective effort of all sector participants, akin to a crew in a boat rowing in unison towards widespread adoption of low-carbon products, technologies, and comprehensive decarbonisation. To achieve this, companies need to adopt an effective ESG operating model (discussed in Section 4.7) that aligns commercial and financial goals with sustainability and decarbonisation targets, and empowers teams across various functions to integrate sustainability into their decision-making processes. Furthermore, collaboration across companies, countries, sectors, and value chains is essential for success (see Section 4.8).

Achieving net zero cannot be the pursuit of only a few pioneers — it requires the collective effort of all sector participants

Exhibit 15: Success factors on the path to the net zero future



Foundation
Understanding the emissions footprint

- Harmonised calculation methodology
- Access to supply chain and consumption data
- Clear and reliable regulatory framework

Decarbonisation
Effective emission reduction

- Rapid scaling of current decarbonisation measures
- More technology and infrastructure innovations
- Increased consumer adoption of sustainable choices

Implementation
Accelerating change at company and industry level

- Robust ESG company operating model
- Enhanced collaboration industrywide to drive change

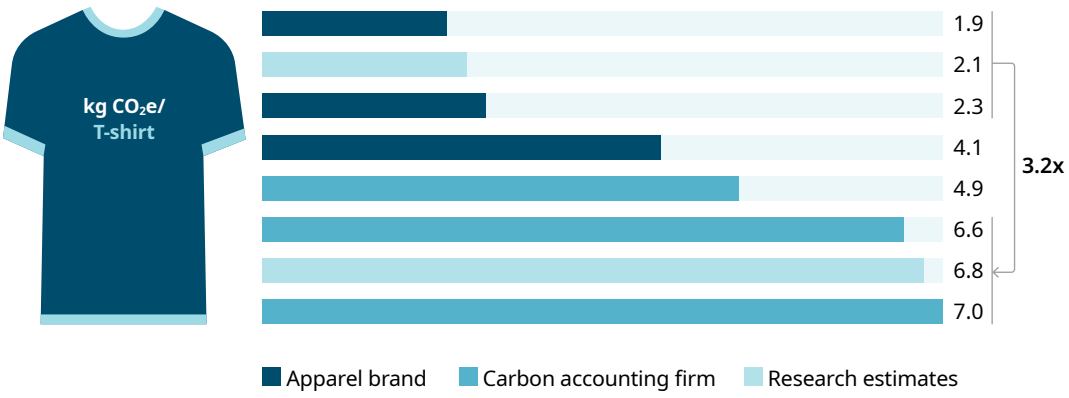
4.1 HARMONISED CALCULATION METHODOLOGY

The retail and wholesale sector faces a significant challenge in measuring and quantifying GHG emissions due to its diverse nature. This diversity complicates the establishment of a clear and consistent baseline for reducing emissions, which must be measurable, justified, and consistent.

In the absence of a sector standard, a multitude of approaches for calculating annual emissions have emerged, leading to methodology variations that are not always comparable across different producers, manufacturers, and retailers. Even the same company might adjust its own methodology over the years, to better include the available data or reflect new carbon emission insights. As a result, a portion of that company's emissions reductions might reflect the changes to methodology rather than actual decreases in emissions.

Additionally, while there has been exponential growth in measurement and reporting efforts among retailers and their supply chains, and numerous projects to develop customised interfaces and solutions, the uncertainty around methodologies is shifting focus away from genuine emission reductions and resulting in subpar measurement outcomes.

Exhibit 16: CO_2e emissions estimates for a cotton T-shirt
CO_2e/T-shirt



Note: Based on different methodologies and emission factors
Source: Retailer data and Oliver Wyman analysis

Same product, different footprint

The path towards carbon neutrality in the retail and wholesale sector reveals a complex reality: the environmental impact of everyday products is anything but simple.

This complexity extends across all products categories, from fresh produce and consumer electronics to even household staples like toilet paper.

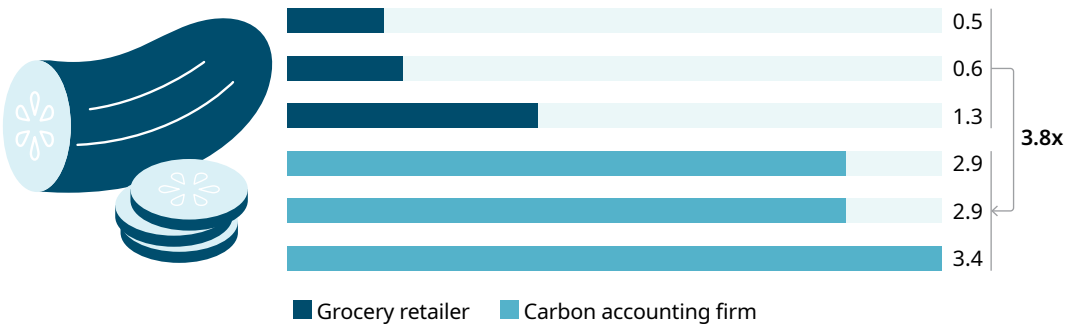
Example 1: Consider two cotton T-shirts from different retailers. While they may look similar, their carbon footprints can differ dramatically due to variables like agricultural practices, manufacturing operations, transportation methods, and even consumer usage like washing temperature and how long they wear the T-shirt. But even controlling for every possible variation, two relatively identical cotton T-shirts could show emissions disclosures as much as three or more times different, influenced solely by the methodologies and emission factors used in their calculation.

Example 2: A kilogram of cucumbers from the same region, grown using similar techniques, can have their emissions reported differently by as much as six times or more, depending on the emission factor databases applied. (See Exhibit 17).

The significant discrepancies in carbon footprints between similar products highlights the urgent need for standardised emissions calculation methods. It also serves as a cautionary note about the current state of emissions reporting, which can be highly variable and subject to manipulation. The choice of measurement methodology and emission factors can often overshadow the real-world impact of emission reductions, with a risk of creating counterproductive incentives for companies to adjust these parameters competitively rather than focusing on genuine reductions in their environmental impact.

Exhibit 17: CO_2e emissions estimates for 1 kilogram of cucumbers

kg CO_2e/kg



Note: Cucumbers sourced from Southern Europe and sold in Western Europe; based on different methodologies and emission factors
Source: Retailer data and Oliver Wyman analysis

Granular versus approximated

Emissions calculation methodologies vary widely across the spectrum. At one end, some companies use top-down methodologies that rely on secondary data to approximate their emissions. At the other end, more advanced organisations adopt bottom-up assessments that leverage primary data at the product level.

This meticulous approach allows leading retailers and wholesalers, especially those with their own and private-label products, to establish robust yet resource-intensive processes to access detailed carbon footprint information. Through close relationships with manufacturers and producers and tight control over product design and operations, these retailers and wholesalers gain better visibility into the emissions across their value chain. While this approach demands significant resources, it improves the capability of retailers and wholesalers to identify and implement emission-reduction levers, enhancing their decarbonisation efforts.

Conversely, retailers and wholesalers with less transparency in their supply chain often rely on estimates from secondary data. To refine these estimates, substantial investments in data collection and quality are necessary, as well as a comprehensive revision of sourcing processes and supplier relationships. This disparity in methodology leads to significant inconsistencies in emissions reporting, complicating accurate comparisons of carbon impacts even within the same product category.

Exhibit 18: Different emissions calculation approaches as per Greenhouse Gas Protocol

Method	Emission data types used	Data granularity required and emission estimate precision
Spend-based	Cradle-to-gate emission factors per value (for example, kg CO_2e/$); secondary data	
Average-data	Cradle-to-gate emission factors per unit (for example, kg CO_2e/kg); secondary data	
Hybrid	Tier 1 suppliers' Scope 1 and 2 primary emission data Tier 2+ suppliers' cradle-to-gate emission factors; secondary data	
Supplier-specific	Supplier-specific cradle-to-gate emissions per unit (for example, kg CO_2e/kg); primary data	

Source: Greenhouse Gas Protocol, Technical Guidance for Calculating Scope 3 Emissions

Primary versus secondary data. Primary data is firsthand information directly from original sources along the company or product value chain, such as energy and fuel consumption by suppliers or electricity used in a product's lifecycle.

Secondary data is sourced from third parties for unrelated purposes and used where primary data is unavailable. It may include sector averages from government studies or associations, financial data, or emissions estimates from third-party databases based on expenditure or product-specific activities.

Unlocking the potential by overcoming existing challenges

The lack of standard methodologies for counting emissions and the inconsistency in supplier measurements amplifies the magnitude of the climate challenge for retail and wholesale.

Manufacturers receive disparate requests to share emissions, energy, and fuel consumption data from various retailers and wholesalers for the same products. Conversely, retailers and wholesalers may receive significantly different data from suppliers for almost identical products within a category. This situation echoes the familiar challenges of managing master data, now applied to GHG emissions.

This emerging complexity in data interactions creates a critical, narrow window for companies to establish consensus before defaulting to entrenched, company-specific methods that could obstruct progress.

Disparity among emission factor databases

When primary data is not available, retailers and wholesalers often resort to third-party databases for emissions estimates.

With numerous public and private emission-factor databases currently available or emerging, choosing the right one poses a challenge. These databases vary widely, using different assumptions for identical products and offering varying levels of detail. For instance, one database may provide a general CO_2e emission factor per kilogram of rice, while another will provide specific data on certain types such as brown basmati rice from India.

This variability can lead to markedly different emissions outcomes for companies, creating a situation where carbon footprints cannot be reliably compared within the sector.

Simplification for SMEs

SMEs have limited resources, and therefore it is crucial that they are not overwhelmed by attempting to mirror every practice of larger companies.

Emission factor databases. An emission factor quantifies how much GHG is released by a specific activity and is expressed as kilograms of CO_2e per reference unit. These factors — derived from various sources like government databases or organisations such as the Intergovernmental Panel on Climate Change — offer average emission rates for specific open-source databases. Commercial databases are also available, along with research papers and sector-specific databases. Emission factors, typically determined from raw material production to the product leaving the company, vary due to different research methodologies, regional coverage, and timeframes assessed, impacting their relevance and accuracy. Additionally, the same material can have multiple emission factors depending on production processes and regional differences. Often, these figures from generic databases are market averages, potentially misrepresenting actual emissions from specific production processes.

SMEs need easy-to-implement emissions reduction initiatives. Simplifying methodologies and tools to suit SMEs' capabilities is essential. This ranges from easy-to-use web interfaces to standardised, streamlined ways to input producer and manufacturer emissions data. Most important, these solutions must come without the need for significant investment of resources and time by the SMEs.

In search of sector-specific guidance

Regulations like the CSRD and the GHG Protocol framework often require companies to make their own assumptions about emissions, reducing the comparability of data. For example, textile retailers reporting use-phase emissions need detailed data such as washing temperature and frequency, considering different electricity mixes.

Differences by sales channel

Emission disclosures vary by sales channels: Online retailers must account for delivery and return emissions, whereas brick-and-mortar stores do not consider consumer travel. This creates unique challenges for online marketplaces, with additional complexities without clear reporting guidelines.

CASE STUDY 1

MONDRA AND BRITISH RETAIL CONSORTIUM COALITION[22]

Mondra is a footprint calculation software that uses digital twins of private label products to track all associated emissions. The British Retail Consortium has partnered with Mondra to standardise emissions calculation methodologies in the UK grocery sector. This software's deployment across various retailers has facilitated a standardised approach, ensuring comparability of emissions calculations.

Key features of Mondra:

- Provides a digital end-to-end solution for automating emissions calculations for private label products and estimates for branded goods
- Uses jointly agreed definitions and methodologies that cover the entire value chain, including producers and manufacturers as well as retailers
- Offers data collection interfaces for capturing primary data directly from producers and manufacturers
- Helps suppliers integrate environmental performance into their product and category plans, supporting data-driven sustainability decisions
- Integrates with initiatives from Waste and Resource Action Programme (WRAP) and WWF in the UK to establish rules for product lifecycle assessments

22 Mondra and British Retail Consortium coalition

Success factors:

- Supported by the UK government and the British Retail Consortium, encouraging widespread adoption within the UK grocery retail sector
- High flexibility software that applies the same methodology and principles across any data set-up
- Acts as a sector-wide platform that brings together retailers, suppliers, associations, governments, NGOs, and other initiatives focused on methodology standardisation

Exhibit 19: Illustrative Mondra data capture along the value chain

Source: Fab News, "Food industry coalition paves the way for a united approach to product carbon footprinting and Scope 3 emissions", 2023, British Retail Consortium

Next steps needed

In the quest to standardise emissions calculation, various approaches are available for companies, sector associations, and policymakers:

European-level sector alignment:
With regulations necessitating this alignment being regional, supranational stakeholders could lead the creation of emissions calculation guidelines for the EU or Europe as a whole. Such European alignment — and ideally also an impulse for global convergence — would simplify compliance for international and pan-regional organisations and enable comparability across different geographies. However, it is essential to strike a balance between a general pan-European methodology and detailed sector-specific guidance.

National level or subsector alignment:
At the national level, initiatives to align methodologies within specific subsectors have emerged. Notable examples include

the UK grocery sector and the European textile and apparel subsector. These local initiatives are more straightforward to establish than continent-wide alignments and can serve as a foundation for broader efforts across other subsectors and regions. While broad alignment has its advantages, having emission factor databases that reflect local sourcing specifics is also valuable, rather than relying solely on cross-European averages.

Company or sector alliances: Collaborations between companies and consortiums along the value chain present another avenue for alignment. These alliances offer a more flexible approach to align methodologies, establish product category rules, and standardise data requests between retailers and suppliers. An example is the Supplier Leadership on Climate Transition coalition initiated by Mars Inc, McCormick, and PepsiCo. These collaborations allow sector leaders to become catalysts for change, promoting sector-wide adoption of standardised practices.

To improve emissions reporting accuracy and relevance, companies need more than sector-specific guidance. Initially, secondary data sources should support decarbonisation efforts, with a strategic shift towards primary data for comprehensive lifecycle assessments (LCA). These assessments are essential to track progress and distinguish carbon emissions of identical products from different production facilities.

Detailed attention is necessary for calculating Scope 3 emissions, including use-phase emissions, such as those produced from heating water for a washing machine and end-of-life emissions, such as those created by decomposing food waste in landfills. The current Product Category Rules (PCRs) are too broad for the retail and wholesale sector. Although regulations could encourage standardisation, the sector should proactively develop aligned methodologies instead of waiting for regulatory mandates.

A recent initiative that is aspiring this kind of global alignment on Scope 3 emissions was established by European DIY Retail Association (EDRA) and the Global Home Improvement Network (GHIN) — global trade bodies for home improvement retailers — together with Ricardo plc.

The sector is at a pivotal point where collaboration and proactive engagement can establish a harmonised approach to emissions calculation and reduction. By acting now, the sector can drive meaningful change and contribute to sustainability.

To improve emissions reporting accuracy and relevance, companies need more than sector-specific guidance

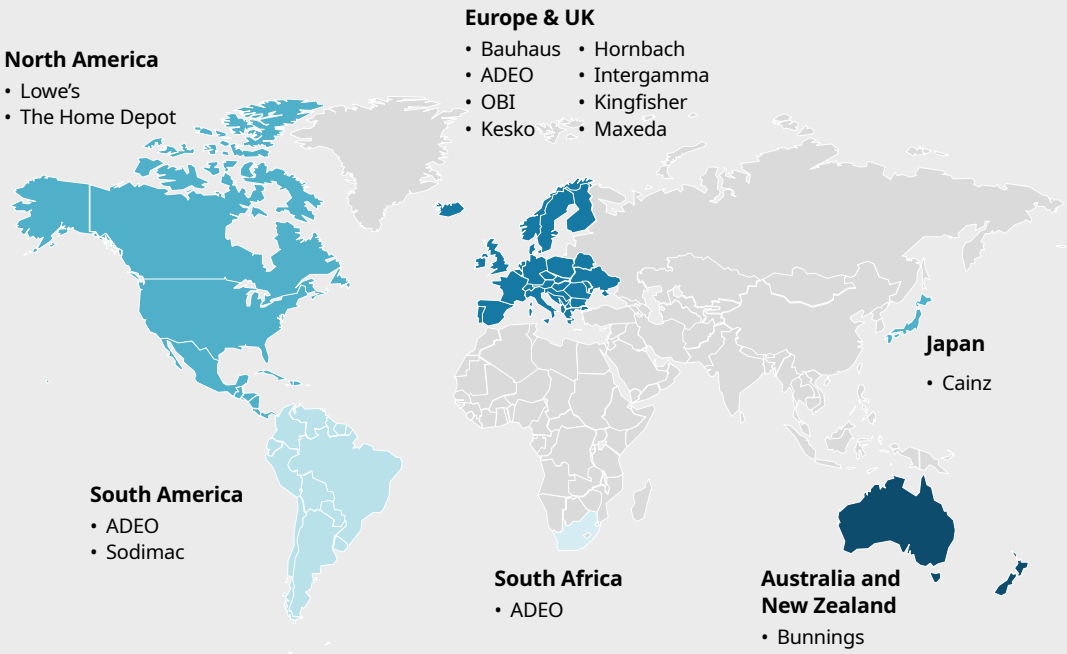
CASE STUDY 2

EDRA/GHIN

The project aims to address the challenges faced by the home improvement and DIY sector to decarbonise Scope 3 emissions by:

- Adopting an aligned GHG accounting framework with consistent methodologies for Scope 3 carbon accounting
- Enhancing collaboration on emissions data sharing between manufacturers and producers as well as suppliers
- Aligning on ambitious decarbonisation targets and corresponding actions that can be taken to reduce Scope 3 emissions

To foster collaboration with suppliers EDRA/GHIN will also be setting up a similar taskforce comprised of key industry producers and manufacturers to complement the retailer taskforce.



4.2 ACCESS TO SUPPLY CHAIN AND CONSUMPTION DATA

With 98% of the sector's emissions being Scope 3, the task of disclosing and eventually cutting emissions will be challenging. Scope 3 emissions from the supply chain and the use of products by consumers fall outside the direct operational control of retailers and wholesalers.

This complicates the acquisition of reliable primary emissions data from the hundreds of thousands of sources, including thousands of suppliers and tens of millions of consumers, especially without standardised data-sharing protocols. Emerging solutions in the sector, such as third-party platforms and collaborative data-sharing standards, are addressing these challenges.

Advancements require the establishment of common data-sharing standards and enforcement mechanisms to ensure compliance by all stakeholders — both upstream and downstream.

Transparency challenges inherent to the upstream value chain

The complexity of the multi-tier supplier model complicates data collection. For instance, producing a T-shirt often involves as many as six upstream supplier tiers, from cotton farming and yarn production, to final product manufacturing, packaging, and logistics.[23] Third-party platforms like Mondra and Manufacture 2030 are spearheading efforts to standardise data exchange along the value chain, involving retailers, producers, and manufacturers, simplifying the process.

Varying supplier maturity levels around emissions data sharing

Calculating upstream emissions presents a significant challenge not just for retailers and wholesalers but also for their suppliers. While large companies often have the necessary systems, capabilities, and resources to accurately track emissions, maintain data integrity, and perform regular updates, many smaller suppliers along the supply chain do not. Despite regulations primarily targeting larger companies, these suppliers must provide accurate data for these regulations to be effective.

In response to these challenges, retailers such as Ahold Delhaize have introduced open-source online platforms like climate hubs across their brands. These hubs aim to inform, support, and engage suppliers in decarbonisation efforts.

With 98% of the sector's emissions being Scope 3, the task of disclosing and eventually cutting emissions will be challenging

23 Supply Chain, H&M Group

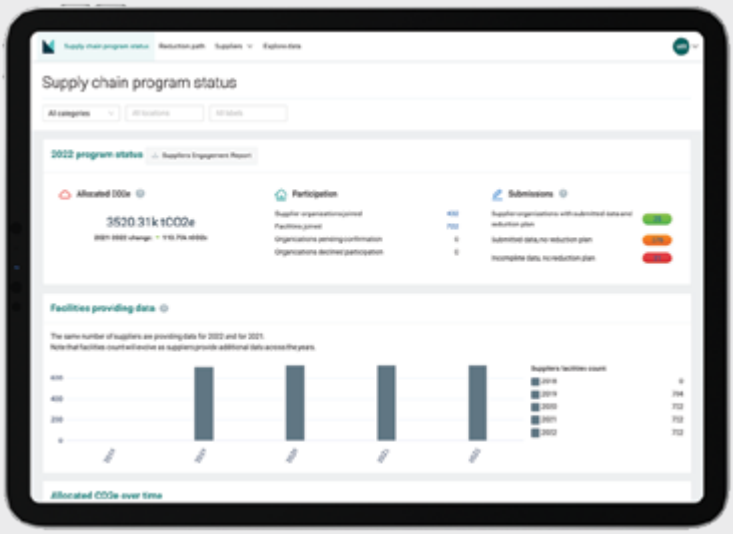
CASE STUDY 3
MANUFACTURE 2030

Manufacture 2030, a cloud-based software-as-a-service (SaaS) solution developed by 2degrees, leverages an online community of more than 35,000 sustainable businesses, including major players like Unilever, GSK, and Asda-Walmart. This digital platform launched in 2018 aims to unite retailers, brands, and their manufacturing supply chains to reduce costs, risks, and environmental impacts through cross-sector collaboration. It facilitates connections and transparency among companies and their suppliers, enhancing supply base capabilities.

Key features:

- A supplier interaction platform with an online dashboard for easy data access. It reduces the number of questionnaires manufacturers and producers are having to fill out to share data with retailers. Thus, it helps avoid duplication of emissions, waste, and water questionnaires requested from retailers
- Communication channels that allow supply chain owners and suppliers to collaborate on sustainability efforts, costs reduction, and risk mitigation
- Hubs for sharing best practices on environmental issues like energy and water use, and waste management
- Collaboration tools that support benchmarking and reporting, fostering peer-enhanced cooperation

Exhibit 20: Manufacture 2030 platform
Illustrative view on carbon footprint of a supply chain



Source: Manufacture 2030

The lack of common, standardised data sharing mechanisms

Retailer-specific initiatives highlight a significant challenge: suppliers face varying requirements from different retailers on how to submit environmental product data, including disparate calculation formulas, formats, templates, and tools. Given that suppliers often serve multiple retailers, this lack of standardisation strains their resources.

This inconsistency leads to inefficiencies; suppliers may need to prioritise which retailer's requirements to meet, resulting in some retailers not receiving the data they expect. This issue is largely due to inadequate legislative guidance on permissible data sharing methods and details.

Reluctance of suppliers to share emission data

Suppliers may resist sharing Scope 3 emissions data, fearing it could weaken their negotiation power. Transparency can enable retailers to analyse costs in-depth and sharing emissions data could lead to competitive benchmarking, where suppliers with higher emissions might lose business under pressure from initiatives like the CSRD. This competition is exacerbated by inconsistent methodology, with a risk of creating an uneven playing field.

Solving the upstream data challenges requires more common standards and greater collaboration

Addressing upstream data challenges hinges on establishing common standards for data collection and sharing. This involves consensus on methodologies and emission factors, alongside streamlining emissions tracking and reporting. Emission data should flow from the raw material source, such as farms, through processing and transportation, to retail, with each step adding to a traceable emissions footprint until the product's end of life. One way to achieve this would be via a commonly accepted software solution.

CASE STUDY 4

CLIMATE HUBS BY AHOLD DELHAIZE[24]

Ahold Delhaize has launched open-source online platforms like Albert Heijn's Climate Hub to educate, support, and engage suppliers in reducing GHG emissions.

Key features:

- Educates suppliers about the importance of decarbonisation and the retailer's commitments
- Provides step-by-step guidance for setting emissions reduction targets using the SBTi framework, which Albert Heijn required its suppliers to adopt in 2023

24 Albert Heijn, Climate Hub

- Offers guidance for assessing and reporting GHG emissions
- Features multinational and multilingual support

Exhibit 21: Albert Heijn climate hub provides carbon footprinting instructions

Carbon Footprinting

Welcome to the Carbon Footprint section. Here, you can find instruction videos, recommendations and tips to calculate your footprint. In general, we encourage you to follow the Greenhouse Gas Protocol to conduct your organizational carbon footprint calculations.

In order to calculate greenhouse gas emissions we advise to follow the following seven steps. Step 1 to 4 are required for calculations, while step 5–7 are useful next steps in developing your climate strategy.

Step 1: Determine scope and boundary
Step 2: Collect data for Scope 1–2 emissions
Step 3: Collect data for Scope 3 emissions
Step 4: Calculate emissions
Step 5: Develop decarbonisation roadmap
Step 6: Engage suppliers
Step 7: Engage employees

To get started with carbon footprinting, please have a look at the video tutorials and recommendations below.

Source: Albert Heijn, Carbon Footprint

Exhibit 22: Albert Heijn climate hub provides climate target-setting instructions

Climate Targetsetting

To limit global warming to a maximum of 1.5C, Albert Heijn requests all its suppliers to commit to the Science Based Targets initiative (SBTi) before June 30th 2023. The SBTi is a partnership between CDP, UN Global Compact, WWF and World Resources Institute. The partnership drives ambitious climate action in the private sector by enabling organizations to set science-based emissions reduction targets. Organizations can apply at SBTi for their climate targets to be validated and approved. Albert Heijn has set Science-Based Targets as well and wishes its suppliers to do the same.

Signing the SBTi commitment letter

Albert Heijn requests all its suppliers to commit to the SBTi before June 30th 2023. Please make sure to commit to both near-term (5–10 years) and Net-Zero (2050) targets.

Register here to start the SBTi commitment process. Please note that small and medium sized companies must use SBTi's streamlined route, available here.

Next steps after SBTi commitment

After signing and submitting the commitment letter, you will have 24 months to calculate your organizational carbon footprint (Scope 1–2 and Scope 3) and to develop and submit climate targets in line with the 1.5°C global warming scenario.

- Develop your targets in line with SBTi's science-based criteria
- Submit your target for validation
- Announce your target and inform stakeholders
- Disclose your emissions annually and monitor progress

Source: Albert Heijn, Climate Targetsetting

The success of the Global Trade Item Number (GTIN) developed by GS1, a non-profit that sets global supply chains standards, illustrates the potential for sector-wide alignment on data exchange standards. Such platforms can serve as benchmarks, offering guidelines that foster a unified approach to emissions data sharing.

Challenges with downstream emissions data

Obtaining accurate downstream emissions data from consumer product use is notably difficult. Companies often need to rely on varying calculation assumptions due to a lack of reliable data, leading to inconsistent quantification of Scope 3 downstream emissions. For example, calculating usage emissions for electronic devices involves assumptions about usage intensity, product lifetime, and energy mix, which may change over the product's life. Typically, emissions for the entire product life are estimated at the point of sale, with each retailer adopting slightly different methods.

Unified guidelines for emissions calculation are crucial. A standardised framework for assessing emissions from consumer purchases, product use, and end-of-life treatment would help overcome these challenges. Sector-wide adoption will require collaborative efforts among retailers, suppliers, sector associations, and regulatory bodies.

The European Commission's Digital Product Passport, set to roll out in 2026, presents a significant opportunity to enhance understanding of a product's lifecycle. It aims to improve supply chain visibility and transparency by facilitating the collection and sharing of product data throughout its lifecycle.

Companies often need to rely on varying calculation assumptions due to a lack of reliable data, leading to inconsistent quantification of Scope 3 downstream emissions

GS1 is a neutral, global collaboration platform that brings industry leaders, government, regulators, academia, and associations together to develop standards-based solutions to address the challenges of data exchange. GS1 standards, such as barcodes, radio-frequency identification (RFID), data synchronisation, and electronic business communication, play a crucial role in global trade. The Global Trade Item Number (GTIN) is a key GS1 standard, uniquely identifying products worldwide and serving as the base of the GS1 system.

GS1 also focuses on aiding companies in emissions accounting standardisation. GS1 Italy, for instance, has released methodological resources for measuring emissions and sharing this data along the value chain. Furthermore, GS1 Italy is developing a way to use barcodes to convey environmental information to consumers, such as product recyclability and the verification of green claims.

4.3 CLEAR AND RELIABLE REGULATORY FRAMEWORK

The EU's sustainability regulation portfolio is a critical step towards a greener economy but remains in its early stages, leading to varied practices due to interpretational uncertainties and incomplete guidelines. Gaps in regulations, such as optional reporting of indirect energy consumption during product use, lead to disparate company approaches and affect the comparability of results. Emissions from transporting shopping baskets to consumer homes are fully accounted for in online but remain voluntary to report for in-store purchases, omitting consumer travel emissions. Companies also lack guidance on accounting for beyond value chain mitigation. Therefore, clearer guidance will be increasingly essential.

Looking ahead, there is an urgent need for more detailed interpretation guidelines to fill significant regulatory gaps and clarify permissible pre-competitive collaboration across the sector offering safe environments to test partnerships without falling foul of competition rules (for example, regulatory sandboxes). The regulator should hereby — in close collaboration with the practitioners — provide an overarching, constructive framework. Sector bodies and company representatives can then use this framework to translate into specific guidelines. This proactive approach would encourage companies to invest ahead of future standards.

4.4 RAPID SCALING OF CURRENT DECARBONISATION MEASURES

At the same time as addressing foundational measurement challenges, companies must also move quickly to the essential task of eliminating emissions. While Scope 1 and 2 emissions are largely manageable, especially for bigger companies, monitoring and reducing Scope 3 emissions is far more complex, even for major companies, requiring substantial investment and fundamental business changes.

The retail and wholesale sector has made some progress, either by directly funding decarbonisation initiatives or by creating financing vehicles to enable such projects. However, despite engagement from many large players, there remains a substantial task ahead to motivate more stakeholders to implement solutions more quickly and invest on a larger scale.

Large costs of decarbonisation

Research identifies four decarbonisation levers for retailers and wholesalers:[25]

1. Net zero stores
2. Net zero fleets
3. Improved product circularity
4. Improved packaging circularity

Even under a conservative scenario, the sector would need to invest an estimated €135 billion by 2030 to eliminate 55% of Scope 1 and 2 emissions, with limited Scope 3 reductions.

An ambitious scenario suggests investing €335 billion to eliminate 80% to 90% of Scope 1 and 2 emissions while aggressively targeting Scope 3 emissions.[26] However, the sector faces significant pressure on margins, limiting its capacity to fund such extensive climate initiatives. Achieving these goals will require full participation of the entire value chain, increased consumer demand for low-carbon products, and enhanced support from public funding.

Need for co-financing solutions

The many-to-many relationships between the retail and wholesale sector and its producers and manufacturers often limits the efficiency of individual company decarbonisation efforts, despite a shared goal of reducing emissions. Coordinating these efforts and focusing investments on the most critical solutions could enhance the sustainability of returns for all involved.

By aligning the objectives of multiple retailers and wholesalers, co-financing schemes can help optimise the return on decarbonisation investments. An example within the fashion sector is the Fashion Climate Fund, a co-financing initiative designed to accelerate climate action and implement sustainability solutions across suppliers.

25 EuroCommerce and McKinsey & Company, "Transforming the European Retail and Wholesale Sector", 2022

CASE STUDY 5
FASHION CLIMATE FUND BY THE APPAREL IMPACT INSTITUTE[26]

This pooled fund of catalytic capital, created by leading fashion retailers, financial institutions, and climate philanthropists, aims to boost incentives for manufacturers in the fashion sector to undertake decarbonisation projects by providing easier access to affordable capital.

Key features:

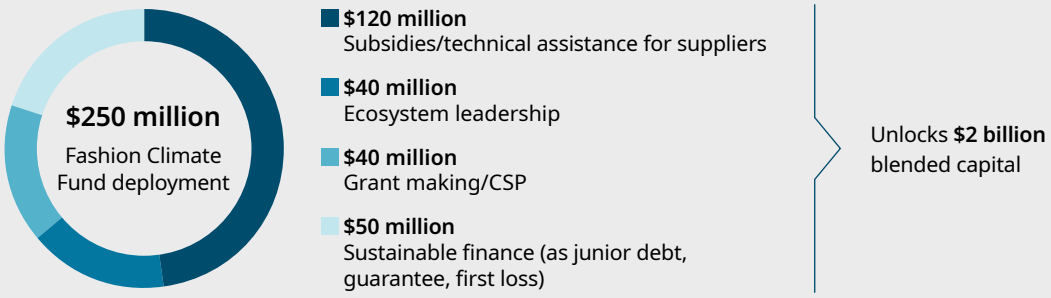
A collective investment fund with $250 million in donor funding, potentially unlocking $2 billion in financing options; focuses on four key activity areas:

- **Activate manufacturer base:** Provides subsidies to initiate suppliers' sustainability efforts and creates tailored roadmaps by connecting them with technical assistance to assess their specific needs
- **Build capacity:** Environmental initiatives across all tiers of the value chain are assessed and validated by expert advisory groups. Successful carbon-reduction strategies are integrated into suppliers' climate solutions portfolios, enhancing transparency for sector stakeholders
- **Validate ideas:** Promising projects are systematically advanced through stages of pre-seed, pilot, model, and scale with support from Climate Fund grants to hasten development and scaling
- **Increase affordability:** Seeks diverse capital sources to lower interest rates and overall financing cost

Intervention areas and levers:

- Materials: Focus on efficiency and the development of better, next-generation materials
- Energy: Promotion of clean energy sources
- Thermal heat innovations: Emphasis on dry processing and renewable thermal solutions

Exhibit 23: Fashion Climate Fund budget deployment



Source: The Fashion Climate Fund, Apparel Impact Institute

26 The Fashion Climate Fund, Apparel Impact Institute

ESG's important role in financing decisions

As this report highlights, despite some controversy, ESG factors are increasingly critical in global financing decisions, including in Europe. Banks and lenders are prioritising CO_2e reduction in their lending criteria, potentially limiting funding for high-emitting retailers and wholesalers. Many smaller retailers, wholesalers, and their suppliers may not fully grasp the extent to which ESG factors impact their access to and the cost of capital. Increased awareness through education programmes by retailers, associations, and governments could help these companies understand the importance of ESG criteria and prioritise decarbonisation efforts.

The need for full alignment of major subsidy programs

Public subsidies are critical in advancing decarbonisation, particularly in sectors like agriculture, which accounts for over 10% of Europe's total emissions and significantly impacts the Scope 3 footprint of the food and beverage retail and wholesale sector.[27, 28] Numerous solutions for reducing agricultural carbon emissions exist, including biofuel and electrical tractors, sustainable farming practices, and shifts to plant-based proteins.

The European Court of Auditors' 2021 special report highlighted that 26% of EU Common Agricultural Policy (CAP) funds — approximately €103.2 billion of around €400 billion from 2014 to 2020[29] — were allocated to climate change mitigation and adaptation. This establishes a solid basis for further decarbonising EU agriculture.

A gradual approach is necessary to redirect most sector and government funding towards initiatives that directly contribute to climate-related KPIs and targets. Effective government commitments to net zero require robust budget plans to be impactful.

Public subsidies are critical in advancing decarbonisation, particularly in sectors like agriculture, which accounts for over 10% of Europe's total emissions

27 Benjamin Sovacool, Morgan Bazilian, Steve Griffiths, Jinsoo Kim, Aoife Foley, and David Rooney, "Decarbonizing the Food and Beverages Industry: A critical and systematic review of developments, sociotechnical systems and policy options", Renewable and Sustainable Energy Reviews, 2021

28 Food & Drink Federation, "Roadmap to Net Zero: Overview for the UK food and drink sector"

29 European Court of Auditors, "Common Agricultural Policy and Climate: Half of EU climate spending but farm emissions are not decreasing", 2021

4.5 MORE TECHNOLOGY AND INFRASTRUCTURE INNOVATIONS

Many in the retail and wholesale sector have notably advanced their decarbonisation efforts, integrating recycled materials into product designs and using renewable energy or lower-carbon materials in production processes.

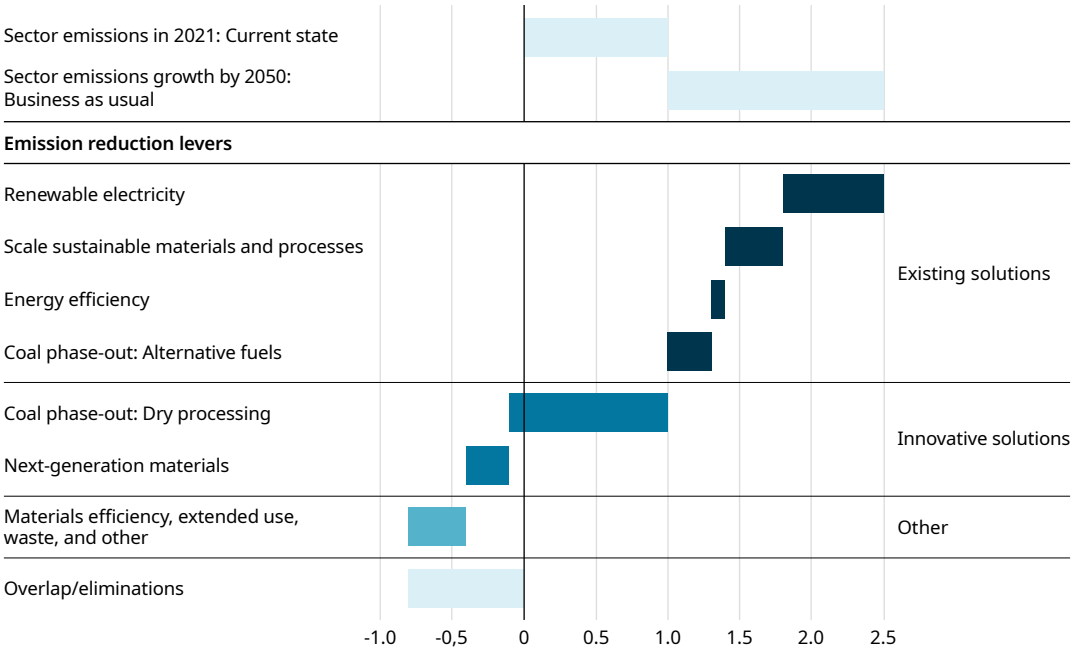
Yet, achieving net zero by 2050 demands more than current solutions. It requires the commercialisation of new low-carbon technologies and extensive green infrastructure, alongside an accelerated scaling of these innovations throughout the value chain.

Closing the innovation gap

There is a pronounced gap between ambitious net zero pledges and the maturity of green technologies, highlighting the urgent need for prompt investment. For instance, in the textile and apparel sector, existing technologies are expected to reduce only about 47% of CO_2e emissions by 2050, primarily through switching to lower-carbon fuels and more sustainable materials. Addressing the remaining 53% will require scaling groundbreaking solutions not yet broadly adopted, such as advanced materials.

Exhibit 24: Pathway to net zero in global fashion by 2050

CO_2e gigatonnes



Note: Existing solutions just sufficient to keep footprint at 2021 level, innovation needed to get to net zero
Source: Apparel Impact Institute, "Unlocking the Trillion-Dollar Fashion Decarbonisation Opportunity: Existing and innovative solutions", 2021

The sector and the global economy face a significant challenge. According to a study by the International Energy Association (IEA), approximately 75% of the emission reductions needed to reach net zero by 2070 will depend on technologies that are currently in the prototype or demonstration phase, or not yet commercially available.[30] All sectors, including retail and wholesale, require these technologies to reach mass market scale to effectively decarbonise value chains upstream and downstream.

Overcoming the scaling challenge

The retail and wholesale sector is no stranger to rapid rollout and scaling technologies — from enhancing checkout processes to streamlining supply chains and digitising customer interactions. Achieving a net zero future demands a similar multidimensional scaling effort within retailer operations and throughout the value chain.

This endeavour will necessitate sustained, significant investment and robust financing over an extended period. Such commitment is essential to develop efficient, cost-effective technologies and operational procedures — from new farming technologies to innovations enabling emission-free production facilities and new low-carbon emitting products. The challenge is especially acute when transitioning from pilot projects to commercial-scale solutions that must function across vast organisations and complex international supply chains involving countless sector participants.

Dependence on green infrastructure and energy

With 98% of its emissions being Scope 3, the sector's decarbonisation relies heavily on advances within its upstream supply chain, downstream consumers, other industries, and the availability of green energy and infrastructure. For example, textile retailers seeking to decarbonise their supply chains in Asia may face a shortage of green energy sources. This issue is compounded in regions where power purchase agreements are not permitted, limiting companies to sourcing electricity only from utilities.[31]

Similarly, the transition towards electric vehicles (EVs) for transportation relies on sufficient green energy supplies. Using coal-generated electricity would diminish the benefits of switching from internal combustion vehicles to EVs. Another challenge is the lack of universal access to EV charging infrastructure.

For downstream emissions, grid emission factors are crucial, especially for consumer electronics whose environmental impact depends on the electricity mix used during operation. The sustainability of these products varies significantly across different European countries, with potential emission disparities of up to seven or eight times due to variations in the electricity grid.

30 International Energy Agency, Clean Energy Innovation, 2020

31 Peipei Gao, "PPA Markets in Asia Pacific: A strategy playbook for corporate renewable energy leadership", AFRY, 2023

Exhibit 25: Country electricity grid average emission factors

kg CO_2e/kWh, 2023

Country	Emission factor
Germany	0.45
United Kingdom	0.25
France	0.06
Italy	0.36
Spain	0.18

Source: Carbon Footprint Ltd data

Driving decarbonisation forward

Retailers and wholesalers can facilitate the needed shift by supporting new technologies and fostering innovation along the supply chain. They can bolster decarbonisation by offering longer-term contracts to innovative suppliers, securing the financial stability needed to embrace new technologies. Additionally, integrating emission criteria into sourcing and procurement processes will further this effort. Companies can also shape research priorities for academia and NGOs by providing data and funding, exemplified by Amazon's Science Research Awards programme that supports sustainability research at academic institutions. Ultimately, retailers play a crucial role in ensuring that these innovations reach the market by scaling and incorporating them into their operations.

CASE STUDY 6

AMAZON RESEARCH AWARDS AND SUSTAINABILITY ACCELERATOR[32, 33]

Amazon.com Inc.'s research awards provide unrestricted funding to support research at academic institutions and NGOs, focusing on such key areas of interest to the company as sustainability, artificial intelligence for information security, and foundation model development. They are administered by Amazon Science, a division that oversees the company research and development.

Key features:

- Biannual calls for proposals across various research themes
- Grants ranging from $50,000 to $100,000 per recipient
- Access to training resources and hands-on sessions with Amazon scientists and engineers
- Publication of research findings on the Amazon Science website

32 Amazon Research Awards, Amazon Science

33 Amazon News, "Meet the start-ups Amazon is helping to tackle the world's biggest sustainability challenges", 2024

Recent climate-related research topics include:

- Using supply chain analytics to address Scope 3 emissions and the downstream impacts of investments in GHG mitigation, such as alternative materials and clean energy
- Integrating AI and machine learning with lifecycle assessment methodologies to enhance carbon abatement strategies across manufacturing, transportation, and agriculture
- Developing data-driven approaches for sustainable product design and manufacturing

Exhibit 26: Sustainability-related publications at Amazon Science website

Source: Amazon Research Awards, Amazon Science

In addition, Amazon supports selected startups through its Sustainability Accelerator. Since 2022, it has assisted more than 25 startups across the UK and Europe. The programme has provided more than US$1 million in grants and credits, increased total sales of participating businesses by 700% on average, and helped raise over €18.7 million. For 2024, startups are focused on scaling their business in one of three categories:

- Circular economy
- Energy in buildings
- Packaging

Benefits within the Accelerator include:

- A four-week programme with expert-led workshops, specialised mentorship, and access to a network of sustainability entrepreneurs
- The opportunity to trial technology in Amazon's European operations, with potential for future partnership and Europe-wide implementation
- Investment opportunities ranging from €50,000 to €2 million

The 2024 cohort includes 15 startups headquartered across 10 countries and together employing more than 600 people.

The collaborative path to green innovation

The push towards greener technologies and sustainable infrastructure demands a collective approach that the retail and wholesale sector alone cannot achieve. This transformation necessitates the concerted efforts of various stakeholders, including governments, policymakers, sector associations, and consumers.

Governments and policymakers can support this shift by providing financial incentives such as grants and subsidies. For example, the European Commission has approved a €2.9 billion aid scheme for France, offering a tax credit to companies investing in green technologies.[34]

Sector associations also play a pivotal role by enhancing their platforms to spotlight and promote technological innovations. This not only provides transparency but also guides companies in selecting and implementing promising innovations. Such collaborative platforms can foster the development of new solutions among retailers and wholesalers in a pre-competitive setting. For example, organisations like Perifem in France and HDE in Germany actively promote implementation of green technologies and initiatives through retail and wholesale value chains.

However, the success of these efforts hinges on customer demand and acceptance. Retailers and wholesalers, positioned at the intersection of production and consumption, are uniquely placed to guide customer choices and can drive significant change towards sustainability.

34 European Commission, "Commission approves €2.9 billion French State aid scheme for supporting investment in green industries to foster the transition towards a net-zero economy", press release, 2024

4.6 INCREASED CONSUMER ADOPTION OF SUSTAINABLE CHOICES

Consumer choices greatly influence the carbon intensity of products through their lifecycle, from production to disposal.

A 2023 study by Profundo and Madre Brava suggested that if six major food retailers shifted 50% to plant-based proteins, it could offset emissions equivalent to removing 25 million cars in the EU.[35] In consumer electronics, over 60% of a product's emissions come from its use phase.[36]

Changes in consumer habits, such as using cold water for washing or turning off unused devices, can reduce emissions more effectively than many supply chain modifications. The retail and wholesale sector's role is vital in informing consumers about their choices' impact. However, true progress requires a united effort from retailers, manufacturers, public institutions, NGOs, and consumer groups to ensure consistent and impactful messaging.

Often, customers lack the necessary information or knowledge to make sustainable choices. For example, some may not know that locally grown products like strawberries might have a higher emissions footprint due to factors like greenhouse heating. This information gap exists partly because producers and retailers struggle to convey the environmental impact of their products clearly and accurately, although initiatives are emerging.

Retailers and wholesalers face challenges, including the lack of precise data to provide accurate emissions information and explain the complexity of sustainability issues, which can be difficult for consumers to understand. For instance, while organic foods may have lower carbon emissions, they often require more farmland to produce the same amount of product. This can contradict some nature-related imperatives, such as preventing deforestation. This puts pressure on retailers and wholesalers when they try to explain the nuances of the argument.

Informing consumers on the impact of their purchasing decisions is crucial for fostering sustainable behaviour and promoting lower-emission products, which are key to accelerating the transition to net zero

35 Profundo, "Impacts of a Shift to Plant Proteins: Effects of reduced meat production on GHG emissions, land, and water use", 2023

36 Oliver Wyman and CDP, "Get the Money Moving: Meeting the European corporate transition challenge", 2024

Retailers like Albert Heijn in the Netherlands have tried to help consumers answer daily questions on how to live a less carbon-intensive life. For instance, the Dutch supermarket chain advances consumer awareness by sharing product-level emissions data and offering climate-conscious recipes to provide real-life applications of their newfound knowledge. As another example, Colruyt in Belgium is labelling products with "Eco-score" to communicate to customers the environmental impact of their choices.

While consumers remain price-sensitive, the cost of climate-friendlier alternatives must be competitive. In Germany, Aldi and Lidl have priced vegan meat alternatives competitively, despite higher costs, to stimulate demand and potentially offset lower margins with higher sales volumes.[37]

Making sustainable product choices should be straightforward for customers. They should easily access climate-optimised alternatives like attractively priced plant-based proteins or choices between new and refurbished products, all offering good value. Additionally, increasing visibility of the products' positive climate impact and attractive packaging can steer consumer preferences towards more sustainable options and the companies that offer them.

CASE STUDY 7

ALBERT HEIJN CARBON LABELS

Dutch supermarket chain Albert Heijn has introduced emission labels for 130 of its private-label products, disclosing their CO_2e footprint per kilogram. This initiative enhances consumer awareness of the environmental impacts of their purchasing choices, encouraging more sustainable decisions and acknowledging the efforts of retailers and manufacturers who have reduced their emissions.

Key features:

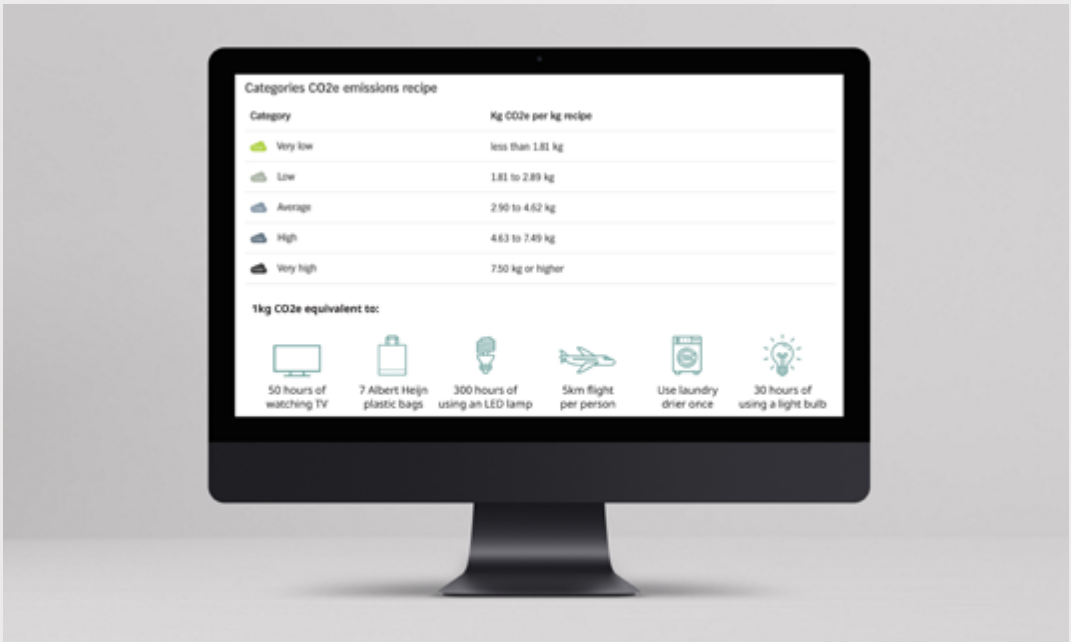
- Coverage of various product categories includes own label chicken, pork, eggs, salmon, and vegetarian products, with plans to expand to beef products
- The Allerhande food magazine app helps consumers by rating recipes based on their CO_2e footprint and gives tips for eco-friendlier cooking
- The chain provides comparisons of product or recipe emissions with everyday activities, like hours spent watching TV, to contextualise the data

37 Clair Siegfried, "German retailer Lidl slashes prices on vegan products", Fleischwirtschaft, 2023

Exhibit 27: Albert Heijn recipe CO_2e footprint

Source: Green Queen, "Albert Heijn introduces carbon labels to own-label products & magazine recipes"

Exhibit 28: Albert Heijn recipe footprint categories and comparison with common activities



Source: Green Queen, "Albert Heijn introduces carbon labels to own-label products & magazine recipes"

4.7 ROBUST ESG COMPANY OPERATING MODEL

To effectively drive decarbonisation across all business areas, companies must refine their operating models by integrating robust internal structures, carbon accounting, monitoring, and incentive. While some companies have overcome initial barriers, others still struggle with these challenges:

Siloed approach to ESG: Full integration of sustainability into all operational decision-making is essential for successful decarbonisation. This requires cross-departmental collaboration with carbon reduction targets in mind, spanning strategy, operations, legal, finance, procurement, merchandising, sales, and human resources. Yet, sustainability often remains isolated within specialised functions that are detached from operational decisions, limiting capacity and slowing progress.

Accountability and incentive gaps: Effective decarbonisation relies on clear goals and incentives embedded within operational business performance tracking. However, sustainability targets are often perceived as add-ons rather than core objectives.

Talent gaps: The demand for "green talents" is rising, evidenced by a higher hiring rate for people with green skills. Regulatory pressures are increasing the need for roles like sustainability managers, with significant growth in demand between 2021 and 2022 by 62% in Germany and 37.5% in France.[38] [39]

Long-term pledges: Commitments to achieving net zero by 2040 or 2050 must be fully integrated throughout organisations. Often, there is uncertainty over responsibility within the organisation and the breakdown of these pledges into actionable targets and milestones.

Lack of day-to-day visibility: Decarbonisation KPIs are typically calculated retroactively during annual reporting, not actively used for real-time operational decisions. Additionally, companies need to navigate trade-offs between the short-term financial impact of carbon-reducing initiatives with the mid- to long-term goal of setting up a more resilient, sustainable business. Unresolved target conflicts continue to hinder progress.

To advance, companies must adapt and transform their operating models to align commercial and financial goals with sustainability and decarbonisation objectives.

Defined roles and governance: An effective sustainability structure requires clear responsibilities and governance, with accountability anchored at the executive level and operational representatives to ensure consistent strategy execution. (See Exhibit 30.)

38 Green skills include various fields such as climate action planning, sustainability education, carbon accounting, and corporate sustainability

39 LinkedIn Economic Graph, Global Green Skills Report, 2023

Skills and competencies: Firms must nurture teams with necessary sustainability competencies:

- Deep technical and content expertise to translate regulatory requirements into organisation-specific actions
- Operational expertise to integrate these approaches into day-to-day tasks and decisions
- Project management skills to drive sustainability topics systematically and efficiently

Smaller organisations should consider external resources or leverage associations to gain these skills. Integrating sustainability training across all departments fosters a culture of environmental responsibility and strategic foresight.

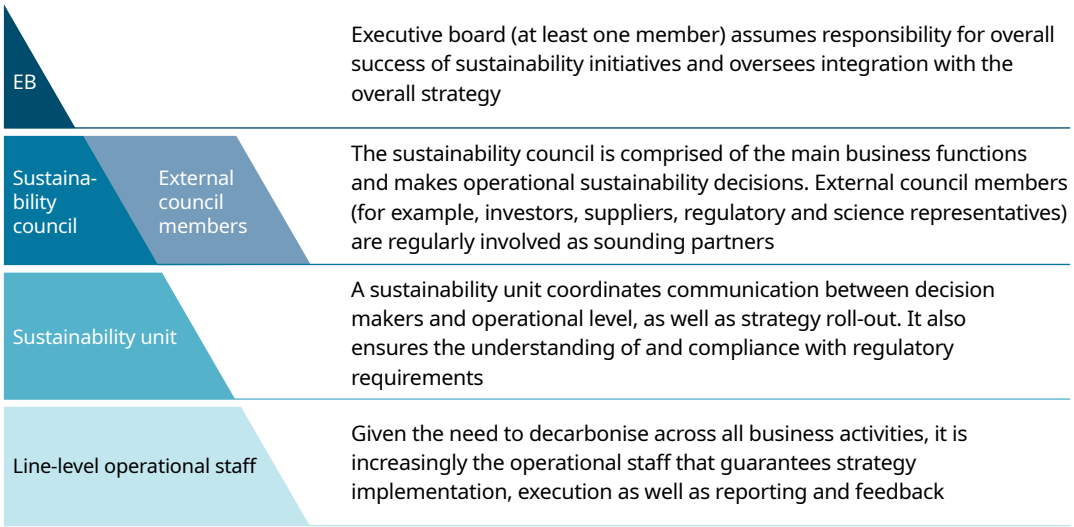
Aligned incentives: It is crucial for leadership to align incentives with sustainability and decarbonisation targets, cascading these goals across the organisation with performance-linked rewards.

Operational integration: Clear documentation and definition of business processes are essential to integrate sustainability effectively. Change management supported by dedicated project managers can facilitate this integration.

Data transparency and tools: Achieving transparency in carbon footprint and employing tools are vital for embedding sustainability metrics into business operations alongside financial KPIs.

While for many companies these dimensions seem out of reach and overly demanding, the realities of climate change and its anticipated impacts on the global economy do not give companies much choice but to make the transition. Thus, it is important to get started now and sketch out the journey towards a robust ESG operating model.

Exhibit 29: Successful ESG implementation requires anchoring the sustainability agenda across multiple levels of the organisation



Source: Oliver Wyman analysis

CASE STUDY 8
IKEA'S SUSTAINABILITY GOVERNANCE STRUCTURE

IKEA integrates sustainability into its core business strategy, led comprehensively from the top to ensure it permeates the entire organisation. This holistic approach is central to IKEA's vision and mission.

Governance structure for sustainability:

- **The Strategic Sustainability Council** is chaired by the group CEO and sets the overarching sustainability direction for the IKEA franchise system. It includes managing directors from IKEA Group companies and franchises.
- **The Inter IKEA Group Sustainability Management Team** is led by the chief sustainability officer and comprises sustainability managers from the three core businesses: retail concept, range, and supply. They develop sustainability ambitions, align initiatives across the company, and report on performance.
- **The Sustainability Working Group** is a group of experts from various business areas working to operationalise the sustainability strategy. They collaborate to share best practices and enhance sustainability knowledge throughout the IKEA value chain.

Exhibit 30: IKEA sustainability governance structure

Source: IKEA, Sustainability Governance

4.8 ENHANCED COLLABORATION INDUSTRYWIDE TO DRIVE CHANGE

Scope 3 decarbonisation hinges on parallel efforts by suppliers, but many smaller retailers lack the resources or expertise to address even their own Scope 1 and 2 emissions, let alone Scope 3. This necessitates support and knowledge sharing from more advanced peers, trade associations, and governments, making collaboration key — both horizontally and vertically — across product development, technology platforms, knowledge exchange, and financing.

Partnerships between retailers, wholesalers, producers, manufacturers, and logistics providers can lead to development of sustainable product lines and new, low-carbon technologies, with pre-competitive collaboration fostering joint research initiatives. As discussed in section 4.1, the BRC Mondra Coalition aims to build multi-partner collaboration that would eventually support development of new sourcing and production methods that reduce emissions. On a larger scale, the Consumer Goods Forum brings together global retailers, manufacturers, service providers, and other stakeholders. (See case study 9.)

Another example of this kind of collaboration is the German Retail Association's Climate Protection Offensive initiative, which raises SME awareness about decarbonisation levers and practical aspects of energy savings.

No doubt, coordinating a climate transition is daunting for all participants in the sector's multitude of value chains. While individually most companies may not have the means to pull it off, end-to-end collaboration becomes more of a reality with the formation of subsector coalitions and by working closely with associations and government.

A first step towards this heightened cooperation might be to establish an oversight body that could help these coalitions form and suggest agendas for them to tackle. Another step might be to convene regular carbon summit conferences just for the sector.

But what should be clear to retailers and wholesalers when they review the situation facing their value chains is the urgent need for the sector to accelerate its efforts towards a climate transition today.

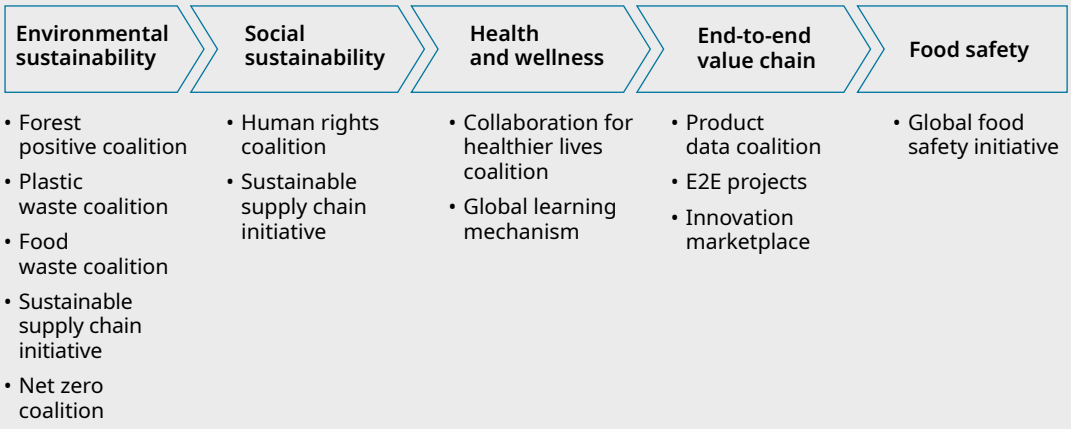
CASE STUDY 9
THE CONSUMER GOODS FORUM (CGF)

The CGF is a sector-led network comprising over 400 members from the retail and consumer goods sectors. This network facilitates topic-focused coalitions designed to synchronise sector actions and generate insights that support decarbonisation initiatives.

Key features:

- Coalitions of Action: Members collaborate pre-competitively to develop solutions and implement them at scale across various sustainability challenges
- Selected Scope 3 initiatives:
  - Product Data Coalition: Enhances data exchange between manufacturers, retailers, and consumers including Scope 3 supply chain data
  - Carbon Solutions Hub: A repository of case studies, tools, and learnings on decarbonisation
  - Race to Zero Playbook: Provides guidelines for developing and executing decarbonisation roadmaps and practical solutions
  - Climate, Nature, and Agriculture Ecosystem Map: Identifies sector assets like technological platforms and tools to facilitate the transition to regenerative agriculture

Exhibit 31: Overview of Consumer Goods Forum initiatives



Source: The Consumer Goods Forum website

CASE STUDY 10
CLIMATE PROTECTION INITIATIVE BY THE GERMAN RETAIL ASSOCIATION[40]

The German Retail Climate Protection Initiative (Klimaschutzoffensive), launched in 2017 by the HDE, is a comprehensive sector and information campaign aimed at achieving national climate protection goals. It helps retailers leverage the competitive advantages of climate protection measures, simplifies energy saving, and encourages consumers to make climate-friendly choices. The initiative primarily targets SME retailers who have limited capacity to focus on energy-saving measures or climate initiatives in addition to their daily operations.

Key areas of focus:

- Lighting
- Refrigeration
- Indoor climate (cooling and heating)
- Electricity sourcing and generation
- E-mobility
- Energy consumption optimisation

Key support formats:

- **Workshops:** Keynote speeches, expert sessions, and knowledge exchange
- **Tools:** Investment and funding eligibility assessment tool, energy usage assessment tool, and energy efficiency consultant registry
- **Information library:** Guides, research, and knowledge sharing on decarbonisation

40 Klimaschutzoffensive Des Handels, Handelsverband Deutschland e.V., HDE

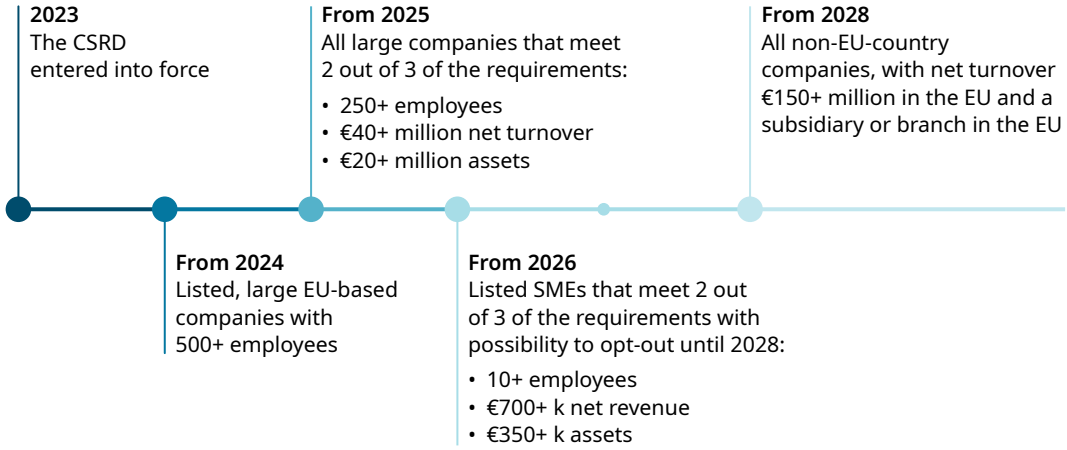
APPENDIX A: REGULATORY OVERVIEW

Timeline	Summary	Relevance for retail and wholesale sector	Limitations
Green Deal (Framework Strategy)			
Published in December 2019 Sets 2050 decarbonisation targets	Policy framework, roadmap, and action plan to transform the EU into a sustainable, climate-neutral, and environmentally friendly economy by 2050	Sets up overall ambition and activates funding to support future legislative changes	Requires further operationalisation within member states' legislation
Corporate Sustainability Reporting Directive (CSRD)			
2023 entered into force 2024–2026 staged roll-out	Requirement for large companies to publish regular reports on ESG double materiality[41] impacts and provide transition plans	EU-based retailers with more than 500 employees are subject to disclosure for 2024 financial year	Sector-specific standards might be published in 2026, but apply potentially only later
Carbon Border Adjustment Mechanism (CBAM)			
2023–2026 transition phase (reporting only) 2026 introduction of CBAM certificates	Requires quarterly reporting of emissions and eventually requires purchase of CBAM certificates to compensate for carbon leakage	Covers imports of products from selected categories, such as batteries, cement (home and DIY), or fertiliser (integrated food producers and retailers)	Concerns regarding unfair protectionism of local EU production
Corporate Sustainability Due Diligence Directive (CSDDD)			
Pending final publication in the EU official journal 2027–2029 staged roll-out	Requires companies to conduct due diligence across their operations and value chains to reduce the risk of adverse human rights and environmental impacts	Largest retailers (more than 5,000 employees and €1.5 billion in sales) impacted from 2027, rest to follow	Concerns regarding compliance burden, specifically regarding due diligence of SMEs in the value chain
Green Claims Directive (GCD)			
2023 presented to the EU Parliament and Member States, pending final approval	Specific rules and verification system for companies to make sustainability and environmental claims of products in business-to-consumer context	Affects every retailer with more than €2 million in sales — might be extended to include micro companies (under discussion) Retailers required to go through verification process of their sustainability claim	Depends on local enforcement Diluted guidelines potentially subject to interpretation
Directive on empowering consumers for the green transition			
Adopted and approved by EU Parliament and Council in 2024	Law to ban generic, misleading environmental claims and sustainability labels on products without proof and approved certification schemes	Revision of (existing) sustainability claims of products required by retailers in alignment with producers	Concerns of discouraging firms to communicate on their environmental and climate work

41 Hannah Ritchie,, "CO_2 Emissions Dataset: Our sources and methods", OurWorldInData.org, 2022

Timeline	Summary	Relevance for retail and wholesale sector	Limitations
Ecodesign for Sustainable Products Regulation (ESPR)			
Pending final publication in the EU official journal	Regulates Ecodesign criteria for 29 product groups to boost circularity, durability, reusability, upgradability, and repairability	Affects all major categories of consumer electronics	Concerns regarding compliance burden
Digital Product Passport (DPP)			
2026/7 first acts to come into force (batteries)	Introduces requirements and a tool for collecting and sharing product data throughout its entire lifecycle Currently unclear whether carbon accounting included — to be monitored closely	A range of relevant products, including textiles, electronics, furniture, plastics to be covered before 2030	Concerns regarding legislative and implementation challenges

Exhibit 32: CSRD implementation timeline

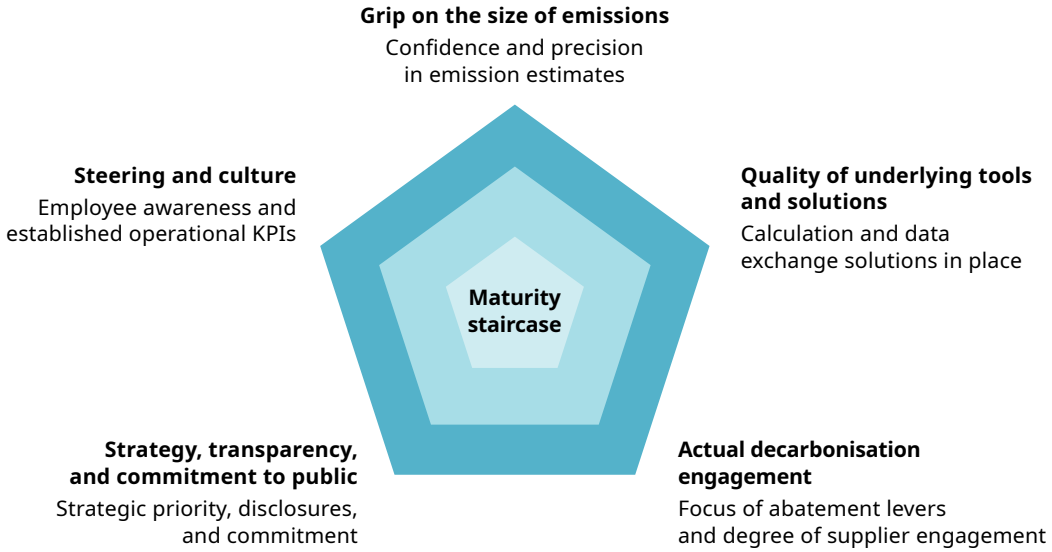


APPENDIX B: SELF-DIAGNOSTIC QUESTIONNAIRE

Decarbonisation readiness and maturity assessment

Given the scale of the retail and wholesale sector, there is a wide spectrum of progress in decarbonisation efforts. Some businesses have made significant strides, while others are just beginning their decarbonisation journey across five dimensions.

Exhibit 33: Dimensions of the company readiness and maturity assessment



Source: Oliver Wyman analysis

This appendix features a simple questionnaire to help companies assess their readiness to advance the decarbonisation agenda at the required pace. It provides an indicative assessment to be further detailed and solidified.

How to use this questionnaire

Sustainability practitioners within the organisation should assess readiness across the suggested areas and criteria. Input from various stakeholders may be necessary for a precise assessment.

After collecting responses, assign a score to the organisation's readiness level for each criterion:

- One point for "At the beginning of the decarbonisation journey towards net zero"
- Two points for "Initial foundation for decarbonisation journey towards net zero"
- Three points for "Advanced on the decarbonisation journey towards net zero"

Determine the company's overall readiness level based on the following table:

Dimension	At the beginning of...	Initial foundation for...	Advanced on... the decarbonisation journey towards net zero
Strategy, transparency, and commitment to public	8–13	14–18	19–24
Steering and culture	6–10	11–14	15–18
Grip on the size of emissions	8–13	14–18	19–24
Quality of underlying tools and solutions	5–8	9–11	12–15
Actual decarbonisation engagement	5–8	9–11	12–15

It is important to note that while progress across multiple dimensions may be correlated, companies often show different levels of maturity in each. For instance, a company may excel in "Strategy, transparency, and commitment to the public," but score lower in "Quality of underlying tools and solutions." This highlights the need for a comprehensive assessment covering all dimensions of decarbonisation maturity.

Exhibit 34: Organisation GHG emission management capability self-assessment questionnaire

Assessment category and criteria	At the beginning of... (score = 1)	Initial foundation for... (score = 2)	Advanced on... the decarbonisation journey towards net zero (score = 3)
Strategy, transparency, and commitment to public			
Do you have a carbon strategy (for example, net zero)?	High-level Scope 1 and 2 emission reduction strategy internally approved and documented (or no strategy in place)	Scope 1-3 emission reduction strategy internally approved and documented	Scope 1-3 emission reduction strategy is deeply connected with the corporate strategy, and is underpinned by scenario analysis
Is your emission reduction strategy broken down to underlying operational targets and budgets?	Targets in place only at the level of the entire organisation (or no targets)	Organisational-level targets cascaded down to high-level targets at business unit level and over time	The strategy is cascaded down to granular operational targets, combined with supplier performance indicators and reconciled with financial targets
Do you have a roadmap to reduce emissions?	Only high-level roadmap of emissions evolution, not underpinned by levers (or no roadmap)	A set of initiatives is defined to achieve carbon reduction targets beyond offsetting	Detailed roadmap with timelines, activities, and responsibilities to achieve the carbon reduction ambition is in place

Assessment category and criteria	At the beginning of... (score = 1)	Initial foundation for... (score = 2)	Advanced on... the decarbonisation journey towards net zero (score = 3)
Do you publicly disclose your emissions footprint?	Scope 1 and 2 emissions are disclosed in, for instance, the company's sustainability report (or no disclosure)	Scope 1-3 emissions are disclosed in the company's sustainability reports at least annually	Scope 3 breakdown by category, root cause, and business unit, value chain segment is disclosed in the company's sustainability report; detailed calculation methodology is published on the website
What is the ambition level of your publicly committed targets?	Scope 1-2 reduction targets aligned with +2.0°C trajectory (or no publicly committed targets)	Scope 1-3 targets, covering all material scopes aligned with +2.0°C trajectory	Scope 1-3 targets aligned with +1.5°C trajectory or more ambitious
Are the targets verified by a third party (for example, SBTi)?	No public verification or currently in first verification process (or no verification agenda set yet)	Scope 1-2 targets verified by a third party, Scope 3 targets applied for verification, pending approval	Scope 1-3 targets verified by a third party
Do public commitments include both short-term (2025-2030) and long-term (2040-2050) targets for Scope 3?	No publicly committed targets covering all scopes	Publicly announced Scope 1-3 short term reduction targets (2025-2030)	Publicly announced Scope 1-3 both short-term (2025-2030) and long-term reduction targets (2040-2050)
How do you report your emission reduction progress?	Public sustainability report contains historical emissions for the last two years (or no emission disclosure)	Annual public sustainability report contains historical emissions for the last five years and update on progress against strategy	Annual public sustainability report contains emission forecasts against strategy, as well as historical emissions for at least the last five years
Steering and culture			
How deeply embedded are your climate capabilities in your organisation?	Only top management and ESG accounting team hold some sustainability capabilities (or no explicit ESG capabilities)	A sustainability unit with strategic capabilities to support the organisation, set targets, develop and monitor the strategic sustainability agenda	Sustainability capabilities present and deeply embedded across all business units with dedicated functional focus (for instance, inside category management. or supply chain)
How do you ensure accountability for achieving your carbon targets in your organisation?	No clear responsibility or accountability for achieving carbon targets	Dedicated board and senior management responsibilities to deliver the carbon strategy and targets	Responsibility cascaded into operational business units, with cross-functional sustainability and climate accountability integrated into all business units

Assessment category and criteria	At the beginning of... (score = 1)	Initial foundation for... (score = 2)	Advanced on... the decarbonisation journey towards net zero (score = 3)
How robust and effective is your regular process review process to identify emission reduction opportunities?	No thorough review of processes has been conducted	All major processes have been reviewed to identify improvements to reduce emissions	There is an annual process review exercise by process owners and climate specialists to identify improvements and develop new and integrated processes to reduce carbon footprint
How are your staff and employees enabled to support and drive your sustainability agenda?	Occasional trainings for board level, senior management, and some employees (or no trainings)	Annual sustainability information and trainings for all employees	Regular (at least annual) sustainability trainings and education programmes aligned with corporate objectives for all employees, led by employees. Sustainability certifications available for relevant employees
Does progress along carbon targets impact employee rewards and incentives?	Incentives for senior management include progress on net zero objectives covering Scope 1 and 2 (or no incentives)	Incentives for senior management include progress on net zero objectives covering Scope 1-3	Carbon management across Scope 1-3 is included in relevant employee performance evaluations (monetary and non-monetary rewards)
Do you have an internal carbon pricing scheme in place?	There is no internal carbon pricing scheme in place	Shadow internal carbon pricing scheme is in place (business units do not need to pay the price)	Actual internal carbon pricing scheme is in place, potentially even contributions collected in an internal fund for ESG initiatives
Grip on the size of emissions			
Is there a solid understanding of the emission baseline of your business?	Emissions baseline has been established for Scope 1 and 2 (if any)	Emissions baseline has been established for Scope 1-3. Key sources of emissions are identified and quantified for own operations and the value chain	Detailed emissions baseline by source and across the business units, geographies, product lines, supply chain and tiers, downstream in logistics, product use and end of life
Are there in-house capabilities for emissions assessment?	All emission calculations are performed by external service providers (or not performed)	Scope 1 and 2 calculation methodology is developed and owned by an internal team, with service providers supporting the Scope 3 calculations	All emission calculation methodologies are owned by a dedicated in-house team, external experts engaged for methodology verification. Calculation methodologies are regularly revised, updated, and disclosed for full transparency

Assessment category and criteria	At the beginning of... (score = 1)	Initial foundation for... (score = 2)	Advanced on... the decarbonisation journey towards net zero (score = 3)
For what share of your product portfolio do you determine the emissions footprint?	Calculation done for <50% of product portfolio, mostly private label SKUs (if any)	Calculation done for >50% of product portfolio, mostly private label SKUs	Calculation done for most SKUs (>85%), both private label and branded products
How often are Scope 3 emissions assessed?	Scope 3 emissions assessment have been done as a one-off exercise (or not done yet)	Scope 3 emission assessment is an annual exercise	Continuous Scope 3 emission assessment process
With what level of granularity do you approach your Scope 3 calculations?	Scope 3 emissions are assessed on category-level without further breakdowns (or not assessed yet)	Emissions are assessed on category-level and for each supplier individually	>50% of emissions are calculated on product level
Is there documented mapping of the upstream supply chain beyond Tier 1 suppliers?	Full transparency regarding all Tier 1 suppliers and selected Tier 2 suppliers	All suppliers up to Tier 2 are tracked and mapped out in a dedicated software system	Most suppliers up to Tier 3 and some Tier 4 suppliers are mapped out in a dedicated software system (including sources of raw materials)
What approach do you use for your Scope 3 emission calculations?	Mostly (>80%) based on secondary data emission factors (for instance, HIGG, DEFRA, IEA) for value chain emissions (or no assessment done)	Usage of primary fuel and energy consumption data for some suppliers/ emission types	Usage of supplier-specific cradle-to-grave primary emission data for all key products covering >80% sales
Are you able to track your Scope 3 emission evolution over time and the impact of abatements?	Able to track emission evolution only for selected projects and emission types, where data can be retrieved easily, or collection has been specifically set up (if any projects have been implemented)	Emission data is collected consistently over time for selected suppliers and emission types only, with enough precision to allow tracking impacts of abatements	Emission data is collected consistently over time for all key suppliers and emission types, with enough precision to allow tracking impacts of abatements
Quality of underlying tools and solutions			
How do you collect the supplier emission data?	Self-built Excel-based data requests or questionnaires (such as CDP, Impact Buying) shared with suppliers (for instance at SKU level, with macros, or no supplier data collected). Mainly manual data filling process	Suppliers can feed data directly into systems and data-sharing platforms in a standardised format via supplier portal	Suppliers' activity data is automatically captured from supplier business systems via API from central data sharing platform platforms

Assessment category and criteria	At the beginning of... (score = 1)	Initial foundation for... (score = 2)	Advanced on... the decarbonisation journey towards net zero (score = 3)
To what degree are your Scope 3 emission calculations automated?	All calculations are done in Excel with no or limited automation (or no calculation done)	Emission calculation is mostly automated in a set of software solutions, with manual interventions needed to connect systems, provide inputs, and combine outputs for reporting	Emission calculation is fully automated using a tool landscape of interconnected, bespoke, in-house developed and procured software
Do you operate a carbon forecasting and data analytics system?	No forecasting of emissions in place	Emission analysis and forecasting is performed annually	Emission analysis and forecasting is performed continuously, and analysis methodology is regularly reviewed and improved
Do you have a certified carbon accounting system in place?	No certified carbon accounting performed	Usage of certified method but no integrated system that can also be audited, some data quality assurance protocols in place	Certified Internal Carbon Price system ensuring compliance with regulatory requirements (can be audited) and automated data quality assurance in place
How are emission data and insights embedded into operational decision making?	No tools in place to support operational decision making or trade off-decisions	Management and decision support tools available, but focused on reports and dashboards	Operational tools available and embedded in digital workflows for day-to-day decision making, supporting informed trade-off decisions ensuring effective and efficient decarbonisation progress
Actual decarbonisation engagement			
Are your decarbonisation actions fully synced with the emissions reduction roadmap?	Some activities have been launched according to the roadmap, but not yet on track (or detailed roadmap is not defined)	While many projects are on track to deliver expected decarbonisation impact, there is an emerging implementation gap versus company reduction targets	All key decarbonisation activities are on track to deliver impact according to the roadmap, or there is a clear action plan to bring them back on track
How adaptive are you to adjust your decarbonisation plan (for example, account for new insights, close emerging gap)?	Decarbonisation plan is not regularly revised to account for new insights or to address arising gaps (or no decarbonisation plan in place)	Decarbonisation plan is reviewed and challenged annually to account for the lessons learned from implemented initiatives, industry knowledge, and technology developments	Decarbonisation plan is reviewed and challenged quarterly to proactively adjust based on lessons learned from implemented initiatives, industry knowledge and technology developments

Assessment category and criteria	At the beginning of... (score = 1)	Initial foundation for... (score = 2)	Advanced on... the decarbonisation journey towards net zero (score = 3)
How are you engaging your suppliers in your decarbonisation agenda?	Information requests issued to suppliers to assess existing emission data, targets in place and implemented levers (or no supplier engagement)	Suppliers are consistently made aware of companies' decarbonisation efforts and are incentivised to join knowledge-sharing campaigns (such as knowledge platforms), trainings (such as webinars), supplier awards. Suppliers receive reports on their emissions versus other suppliers	Engagement in supplier enablement programs (for instance joint electricity sourcing, energy audits to reduce emissions) and close collaboration with suppliers to jointly identify and implement decarbonisation opportunities (for instance a library of initiatives), including green innovation, circularity, business model redesign, and so forth
Have you put in place financial levers to support the decarbonisation of value chain partners and steps up- and/ or downstream?	No monetary support of value chain decarbonisation	Suppliers are offered preferred terms for enhanced emission measurement and management efforts, for example long-term purchase commitments for greener products	Projects in place to finance supplier decarbonisation, including loans, venture funds, co-investment, and co-financing mechanisms

APPENDIX C: METHODOLOGY

To assess the consumption-based GHG emissions impact of the European retail and wholesale sector, a top-down approach was used, consisting of three steps: (1) a consumption-based view of European CO_2e emissions, (2) retail and wholesale sector emissions in Europe by the four subsectors, and (3) a breakdown of Scope 1–3 emissions per retail and wholesale subsector based on company reports.

Exhibit 35: Modelling approach

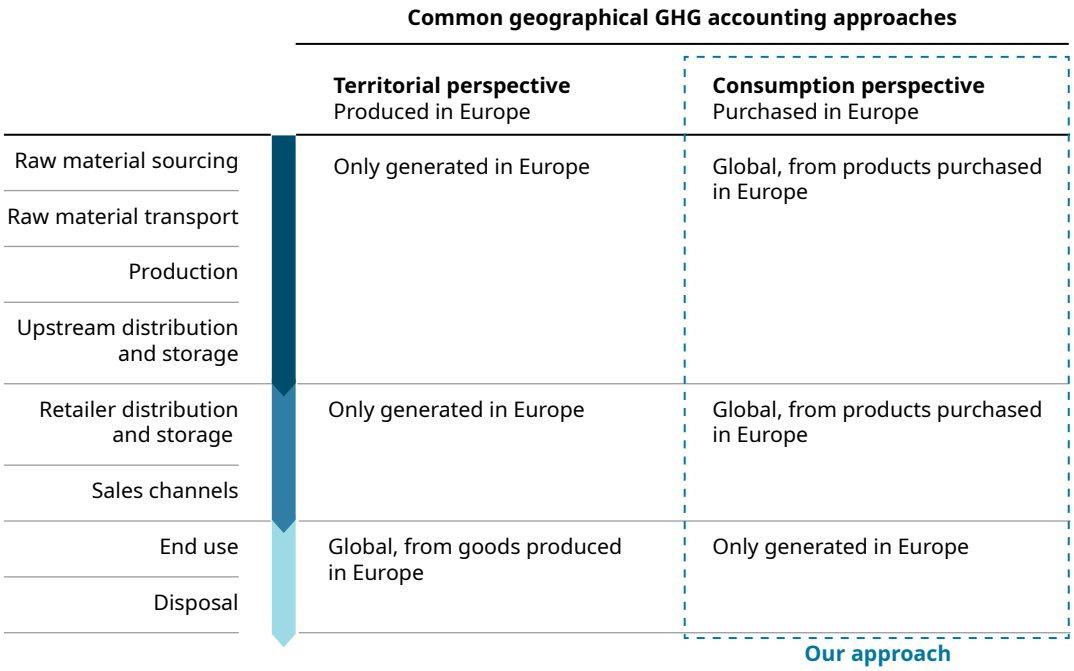
1. Consumption-based view on European CO_2e emissions

This study follows a consumption-based view to quantify European CO_2e emissions associated with the retail and wholesale sector. It includes emissions from all products sold via retail and wholesale channels in scope in Europe, encompassing all value chain steps and linked emissions, including those outside Europe. It excludes consumer products or inputs manufactured in Europe but exported and consumed outside the continent. Unlike traditional territorial footprint methods that only account for emissions within geographical borders, this approach also considers Scope 3 upstream emissions generated overseas. In contrast to this novel methodology, most approaches naturally look at the territorial footprint perspective which only accounts for emissions generated within the geographical borders (for example, produced in Europe, but shipped to non-European countries) rather than the emissions generated by the products consumed no matter where generated. And thus, neglecting a large portion of Scope 3 upstream emissions generated overseas.[42]

42 Hannah Ritchie, "CO_2 emissions dataset: our sources and methods", OurWorldInData.org, 2022

In this study, publicly available territorial-based CO_2e data for Europe from the European Environment Agency (EEA) was adjusted to reflect consumption-based emissions. Several analytical approaches were used to convert territorial emissions data inputs into the consumption-based view. These have included the mapping, consistency checking, and scaling of multiple official territorial emissions primary data sources.[43, 44, 45, 46, 47]

Exhibit 36: Consumption-based versus territorial-based emissions scope



Source: Greenhouse Gas Protocol

43 European Environment Agency, EEA greenhouse gases data viewer, 2024

44 OurWorldInData.org, "Territorial and consumption-based CO_2 emission"

45 Hannah Ritchie, "CO_2 Emissions Dataset: Our sources and methods", OurWorldInData.org, 2022

46 Eurostat, "Greenhouse Gas Emission Statistics — Carbon Footprints" — carbon footprints, Eurostat, 2024.

47 Richard Wood, Daniel D. Moran, João F.D. Rodrigues et al., "Variation in trends of consumption-based carbon accounts", Scientific Data, 2019.

2. Quantification of retail and wholesale sector GHG emissions in Europe

To estimate the total CO_2e footprint of Europe's retail and wholesale sector, emissions from the four subsectors — food and beverage and health and beauty, textile and apparel, consumer electronics, and home and DIY — were quantified and aggregated. This involved reviewing data from public and private sector reports and scientific publications. We used emissions data specific to each sector for benchmarking.[48, 49, 50, 51, 52, 53, 54, 55, 56, 57] Additional analyses, including revenue and emissions data from major home and DIY players in key European markets like the UK and France, helped scale up to the sector's total emissions.[58, 59]

3. Scope 1–3 emissions breakdown per retail and wholesale subsector

The contribution of each Scope 3 category within a subsector was determined by calculating weighted sector-average Scope 1–3 emissions. This included a detailed analysis of the 15 Scope 3 categories as defined by the GHG Protocol. Data for 1,600 companies was sourced from the self-reported CDP database, filtered to include only those that represent typical retailers or wholesalers and provided detailed Scope 3 emissions breakdowns. The study ultimately used data from 40 firms that met these criteria. For companies not covered by the CDP database, supplementary data was sourced from public sustainability reports, with each datapoint manually evaluated for emission disclosure gaps of methodological inconsistencies.[60]

Limitations

The reliance on publicly disclosed CO_2e emission estimates from large retail and wholesale companies might bias results towards those with advanced emission reduction measures. There's considerable flexibility in how companies categorise and calculate emissions particularly with optional categories like customer travel and indirect product consumption emissions. To manage this variability, expert adjustments were made, and multiple source triangulations were conducted to ensure robust estimates for this report.

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48 Apparel Impact Institute, "Taking Stock of Progress Against the Roadmap to Net Zero", 2023

49 European Environment Agency, "Greenhouse gas emissions in the upstream supply chain of EU-27 household consumption domains, million tonnes CO_2 equivalent", 2020

50 Nina Lövehagen, Jens Malmodin, Pernilla Bergmark, and Sepideh Matinfar, "Assessing embodied carbon emissions of communication user devices by combining approaches", Renewable and Sustainable Energy Reviews, 2023

51 Benjamin Sovacool, Morgan Bazilian, Steve Griffiths, Jinsoo Kim, Aoife Foley, and David Rooney, "Decarbonizing the food and beverages industry: A critical and systematic review of developments, sociotechnical systems, and policy options", Renewable and Sustainable Energy Reviews, 2021

52 Food & Drink Federation, "Roadmap to Net Zero: Overview for the UK food and drink sector"

53 Hannah Ritchie, "How much of global greenhouse gas emissions come from food?", OurWorldInData.org, 2021

54 Monica Crippa, Efisio Solazzo, D. Guizzardi, Fabio Monforti, Francesco Tubiello, and Adrian Leip, "Food systems are responsible for a third of global anthropogenic GHG emissions", Nature Food, 2021

55 Joseph Poore and Thomas Nemecek, "Reducing food's environmental impacts through producers and consumers", Science, 2018

56 Ciniro Costa Jr., Eva Wollenberg, Mauricio Benitez, Richard Newman, Nick Gardner, and Federico Bellone, "Roadmap for achieving net-zero emissions in global food systems by 2050", Scientific Reports, 2022

57 Sustainable Fashion Academy, The Scandinavian Textile Initiative For Climate Action

58 DIY & Hardware Store United Kingdom, Statista

59 Based on sustainability and annual reports of selected leading DIY retailers in the UK and France

60 Hannah Ritchie, "CO_2 emissions dataset: our sources and methods", OurWorldInData.org, 2022

APPENDIX D: GLOSSARY

Term	Description
Blended capital	A mix of public, private, or non-profit grants, equity, and debt
Carbon footprint	The amount of carbon dioxide released into the atmosphere due to the activities of a particular individual, organisation, or community
Carbon reduction	A set of actions aimed at reducing global emissions from typical operations, including energy efficiency improvements, behavioural changes, switching to cleaner fuels, and adopting renewable energy sources
CBAM	Carbon Border Adjustment Mechanism. A regulatory measure imposed by the EU to apply a carbon tariff on carbon-intensive products imported to the EU
CDP	Formerly Carbon Disclosure Project. An international non-profit organisation that assists companies and cities in disclosing their environmental impact. It also rates their output
Climate transition	The process of shifting from high-carbon business activities to low-carbon and sustainable ones
CSRD	Corporate Sustainability Reporting Directive. An EU directive that mandates companies to report on their social and environmental impacts
CO_2e	Carbon dioxide equivalent. A unit of measurement that standardises the climate effects of various greenhouse gases
Decarbonisation	The reduction or elimination of CO_2e emissions from a business process
Downstream value chain	In the context of emissions, this refers to the sequence of activities occurring beyond retailer operations on the consumer side. It includes the acquisition, processing, and usage of sold goods by consumers, as well as end-of-life treatment and disposal
EFRAG	European Financial Reporting Advisory Group. A private association serving as a technical advisor to the European Commission, notably involved in drafting the ESRS
Emission factor	A numerical value representing the amount of greenhouse gas emissions produced per unit of activity or output
ESG	Environmental, social, and governance. A framework that considers environmental, social, and corporate governance issues in making sustainable business decisions
ESRS	EU Sustainability Reporting Standards. A set of compliance and disclosure requirements developed by the European Commission to standardise sustainability reporting across the EU
ETS	Emission Trading System. A “cap and trade” system designed to control pollution by providing economic incentives for achieving reductions in the emissions of specific pollutants, such as GHG
Greenhouse gas emissions (GHG emissions)	The release of greenhouse gases into the atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. These emissions are the primary contributors to climate change
Greenhouse Gas Protocol (GHG Protocol)	Provides internationally recognised standards and guidance for measuring and reporting GHG emissions
ICP	Internal carbon price. A financial mechanism where a specific monetary value is assigned to GHG emissions. This pricing enables businesses to incorporate the cost of emissions into investment decisions and business operations

Term	Description
ISSB	International Sustainability Standards Board. A standard-setting body tasked with developing and establishing sustainability-related financial reporting standards globally
LCA	Lifecycle assessment. Measures the environmental impacts associated with all stages of a product, process, or service
Net zero	The state in which a company or economy adds no more CO_2e to the atmosphere than it removes over the same period. Achieving net zero involves significantly reducing emissions and balancing "residual" emissions with carbon removal projects
Net zero pathway	A plan to achieve net-zero carbon emissions by balancing, eliminating, or absorbing carbon emissions
PPA	Purchase power agreement. Long-term bilateral contracts between a supplier and buyer of electricity outlining the amount of electricity to be supplied, the negotiated price, risk allocation, required accounting, and penalties for non-compliance
Retail and wholesale sector	Retail involves the sale of goods to the public in small quantities for final use or consumption by end consumers, rather than for resale. Wholesale involves selling merchandise to retailers or other professional businesses. This study focuses on retailers and wholesalers that serve retail operations
SME	Small and medium-sized enterprises
SBTi	Science Based Targets initiative. A global initiative that assists companies in setting emission reduction targets aligned with climate science and Paris Agreement goals
Scope 1	Direct carbon emissions from sources that are owned or controlled by an organisation (based on the GHG Protocol)
Scope 2	Indirect carbon emissions associated with the purchase of electricity, steam, heat, or cooling (based on GHG Protocol)
Scope 3	All indirect carbon emissions that occur throughout a company's value chain (based on GHG Protocol)
Upstream value chain	In the context of emissions, this refers to the sequence of activities beyond retailer operations on the supplier side. It includes raw material production and sourcing, manufacturing, processing, and logistics
Value chain	A series of consecutive steps involved in creating a finished product, from initial design to delivery to the customer, and ultimately disposal and recycling

Oliver Wyman is a global leader in management consulting. With offices in more than 70 cities across 30 countries, Oliver Wyman combines deep industry knowledge with specialised expertise in strategy, operations, risk management, and organisation transformation. The firm has 7,000 professionals around the world who work with clients to optimize their business, improve their operations and risk profile, and accelerate their organisational performance to seize the most attractive opportunities.

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EuroCommerce is the principal European organisation representing the retail and wholesale sector. It embraces national associations in 27 countries and 5 million companies, including leading global players and a vast majority of small businesses. Over a billion times a day, retailers and wholesalers distribute goods and provide an essential service to millions of business and individual customers. The sector generates 1 in 7 jobs, offering a varied career to 26 million Europeans, many of them young people. It also supports millions of further jobs throughout the supply chain, from small local suppliers to international businesses. EuroCommerce is the recognised European social partner for the retail and wholesale sector.

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