

AN IBM CASE STUDY:

# OVERCOMING THE SUPPLY CHAIN SUSTAINABILITY CONUNDRUM



In partnership with Pets at Home and the British Retail Consortium





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# 1 EXECUTIVE SUMMARY



Scope 3 emissions identification and management will be central to all retail strategies to meet both the challenges and opportunities of delivering an ESG roadmap.

## We all have our part to play: the Retail Industry is the largest contributors to CO<sub>2</sub> emissions

Our UK retail industry is at the crux of a complex supply chain, and is responsible for c.215 million of tonnes CO<sub>2</sub>-equivalent each year [1].

Uncovering, assessing, and addressing the ESG (Environmental, Social & Governance) risks within today's upstream supply chains is critical to our global transformation towards a net zero economy. The Retail industry has a formative part to play by decoupling industry growth from global emissions growth.

## The BRC's Climate Action Roadmap sets out how retailers can drive change for the better

Retailers are facing a voluntary, yet soon to be mandatory call to ESG action which directly impacts and is of relevance to our industry.

Voluntary participation in scope 3 accounting and disclosure is increasing (such as ISSB, GRI, TCFD, SBTi). Further ESG requirements are also being considered under proposed mandatory regulations (such as US SEC, EU CSRD).

Helping our industry prepare for these regulations and develop new, sustainable business strategies to meet our responsibilities is the mandate of the BRC's Climate Action Roadmap.

## This IBM case study is a practical guide to the challenges & benefits of tackling scope 3

As part of the Climate Action Roadmap's Sustainable Sourcing Pathway (4), this report is a practical case study detailing the challenges behind both Scope 3 emissions visibility and control alongside potential benefits.

The study has been developed in partnership with both Pets at Home and the BRC Pathway 4 Members. The work undertaken in 2021 and 2022 builds on the method outlined in the earlier 'Monitor, Measure and Report supply chain Scope 3 emissions' guide.

[1] ONS Data download consumption emissions 1997-2017 [Accessed September 2020]



Delivering a successful scope 3 reduction programme is achieved by uncovering the upstream supply chain and deriving meaningful insights, prioritised by the maturity of your suppliers.

### Getting the best out of this guide

This case study provides both context and recommendations to help inform and promote upstream supply chain identification and management of the associated scope 3 emissions.

The report explores the cost of unsustainable supply chains to both businesses and the planet. We also illustrate the benefits of getting sustainability right, along with the key challenges faced by retailers when attempting to quantify and mitigate the ESG risks in their supply chains. We outline the key stages of this business change journey, along with transformation success factors for retailers to consider

We also discuss how the right use of technologies can support this process and deliver insights at scale.

### Methodology and approach

This case study covers a year's worth of investigation, analysis and recommendation working in collaboration with BRC members to address what is arguably the highest priority initiative for our industry.

It is intended to inform and help accelerate your own transformation and provide an approach to manage this change. The case study identified the need to focus on 3 key areas, underpinned by technology, to accelerate an ESG plan:



We then brought these focus areas to life using real supply chain data from Pets at Home.

Accurate insights and an ability to work in collaboration is essential and best started with a prioritised set of mature suppliers



### FOCUS AREA 1: SUPPLIER MATURITY ASSESSMENT

As upstream supply chain gatekeepers, Tier 1 suppliers must lead by example to drive sustainability improvements, whilst engaging their own suppliers to follow suit.

In this focus area, IBM identified priority Pets at Home suppliers for maturity assessment, key metrics to assess and how then to consolidate and compare findings.

### Key findings & recommendations

- By understanding upstream suppliers' ESG stance, it is possible to **make more informed procurement decisions** and ensure **resources are invested where they can make the greatest difference** to the sustainability of the products sourced.
- Having readily **accessible, trackable, and validated sustainability data is a key indicator of supplier ESG maturity**, in addition to other factors across process and governance.
- **Making participation a commercial imperative for suppliers often yields greater results** compared to voluntary initiatives.
- **Facilitating ESG education and knowledge exchanges** supports suppliers to better understand sustainability and the business impacts of addressing ESG risks.
- **Working with peers to collectively define supplier ESG standards and share non-commercial supply chain data** can help to reduce supplier audit fatigue and promote industry-wide change.
- When leveraging secondary data sources, it is pertinent to **understand which ratings are achieved through supplier self-disclosure only**, and which are **validated through independent auditing**.
- Retailers should **explore the use of technology** to facilitate **data collection** (from internal and external sources), **insights gathering** and analytics, providing **auditable data with provenance**, and **translation capabilities** to help overcome supplier language barriers.

*"One of our greatest challenges is engaging and building relationships with suppliers beyond tier 1."*

**Amy Whidburn**  
ESG Director Pets at Home & Sustainable Sourcing Pathway (4) Chair

Choosing the right product(s) to assess will form an initial supply chain model that can then be iterated upon to create an enterprise-wide view of scope 3 emissions



## FOCUS AREA 2: SUPPLY CHAIN MODELLING

The ability to determine the origin of products, methods of production, and the resulting ESG impacts is essential to de-risk supply, meet regulatory needs, shareholder expectations, external reporting pressures and growing end customer scrutiny.

We explored the common challenges faced in supply chain modelling, along with some of the technologies available to support the capture, processing, and analysis of supply chain data.

### Key findings & recommendations

- Whilst **proxy-data and hypothetical models of the supply chain** may help to produce a current emissions 'baseline', they **only take you so far**. Without access to accurate and authentic primary data sources, the ability to identify and substantiate ESG risks, make product-specific marketing claims, and report ESG performance improvements is hampered.
- **Selecting which products and suppliers to prioritise is crucial**. Focusing on tracing products and componentry which currently, and will continue to, constitute a significant volume or value of purchased goods is important. Some products such as own-brand goods, continuity lines and those with a simpler bill of materials are often the easiest starting points.
- **Being pragmatic with primary data capture is imperative**. Whilst relying purely on secondary, industry-average data is not recommended, Retailers should gauge the potential value to be gained from pursuing specific primary datapoints. Building an emissions inventory is a sequential, continuous process, which requires collaboration across business areas and the wider value chain.

- **By leveraging the right technologies and engaging suppliers effectively, tracing product and raw materials through the supply is possible**. Through the deployment of IoT technologies, AI and NLP engines, and more, we can now make use of previously inaccessible, unstructured, disparate data sources at scale to trace back to the Nth tier.

*“The challenge of identifying and obtaining sustainability data from today’s global, multi-tiered and often opaque distributed supply chains is no mean feat. Collaboration within and across industries and organisations will be key to achieving visibility.”*

**Simon Glass**  
IBM Supply Chain & Retail Consultant

Augmenting the supply chain mapping with specialist partner and ecosystem insights will create a richer model that can be used to operationalise the value of ESG across your business



## FOCUS AREA 3: SUPPLY CHAIN RISKS & INSIGHTS

Once supply chain transparency/traceability is achieved, operationalising ESG impact findings is key. With the ever-expanding array of potential partners, solutions and data sources available, the process can become overwhelming.

In this focus area, IBM explores how retailers can approach ESG impact assessments, and explains the common risks associated with Soy and Chicken supply chains.

### Key findings & recommendations

- **Understanding which reporting and regulatory requirements are material** to your business is a crucial first step. A thorough assessment of the currently available data, tools and expertise should then follow.
- **Data** pulled from disparate sources and systems needs to be **assessed (for authenticity and accuracy), collated and structured in a logical manner**, and so enable the automatic generation of (mandatory) reports and reduce manual workloads.
- Over time Retailers should **progress from heat-mapping current supply chain impacts, to predictive analytics and scenario modelling**. This supports a transition from reactive to proactive ESG risk management.
- **Insights are of no value unless they are operationalised**. By making the data accessible to business users, and factoring it into day-to-day decision making, meaningful changes can be realised.

- Work done to uncover carbon emissions can, and should be used to **accelerate the identification and management of wider environmental and social risk factors** in supply chains.
- **Reliance on certification data alone is insufficient** as it only goes part way towards proving the traceability and sustainability credentials of goods, particularly as some regulators view self-certification as unreliable.

*“By automating data capture, ingestion and report generation, we free-up Sustainability SMEs to lead projects and initiatives that deliver meaningful emissions reductions.”*

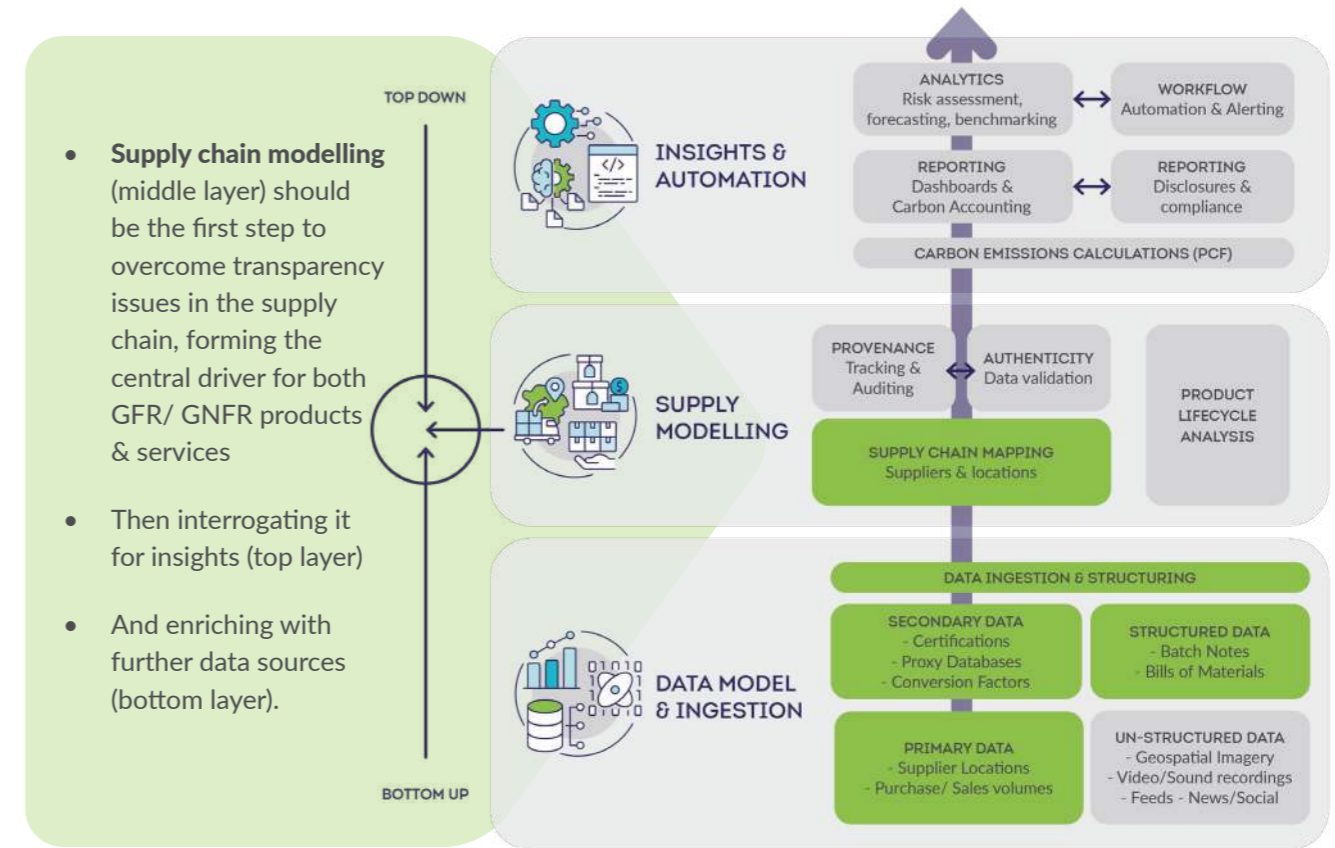
**Danny Bagge** –  
IBM Exec Sponsor & Lead Client Partner – Retail

Tackling these three focus areas to develop a comprehensive ESG plan is best achieved “middle first”

### You can't manage what you can't measure

The key to sourcing sustainably lies in the ability to identify sources of and monitor, measure and collate supply chain operational and ESG data. The data's all there, the challenge is getting to it.

Our Study assessed current industry approaches and concluded the best approach is to follow the 'Scope 3 Visibility and Management Framework' combining top-down (strategic) and bottom-up (operational) approaches to make supply chains more transparent in order to reduce cost and risk.



What we found was that retailers who invested in the middle layer first, uncovering their priority upstream supply chains, were able to generate the most meaningful insights, and then be more targeted with the data points and sources they pursued.

As such, the approach we took with Pets at Home was to focus on the key areas shown in green on the diagram, starting with the critical middle layer by mapping the supply chain. We used the most readily available primary and secondary data to build that mapping, and then generate some provisional insights.

The technologies leveraged to deliver these layers of capabilities will vary for each retailer depending on the nature of the goods sourced, procurement structures, existing IT systems and so on.





De-risking your supply and reducing cost is the compelling reason to act now. It also makes good business sense.

Emotionally we understand the need for sustainable supply. Moreover, our work with the BRC concluded mitigating supply risk, reducing supply cost, being compliant and protecting the Brand underpins the bottom line.

- WHY** Research shows the Retail industry as the UK's largest scope 3 emissions contributor. Beyond our responsibility towards net zero and supply chain ESG risk mitigation, sustainability just makes good business sense.
- WHAT** Retailers need to understand which ESG regulations and standards are material to their operations; the priorities for action and how success will be measured at commodity, supplier, product and component levels.
- WHO** Everyone; one weak link in the chain will undermine sustainability optimisation. Retailers need to engage, empower and encourage their ecosystem of supply chain partners, particularly those far upstream.
- HOW** Supply chain mapping and data transparency will leave nowhere for ESG risks and abuses to hide. The right blend of technology will enable retailers to monitor, measure and report; and then *crucially* to analyse, take informed decisions and act on primary ESG data sources.
- NOW** By acting with purpose the Retail industry can help arrest and reverse environmental decline and improve socio-economic conditions for billions across the globe. All this makes good business sense by using data to de-risk complex supply chains to reduce cost and protect the reputation of the Brand..

### Cost / Benefit Implications



ESG-related legislation and penalties are growing in scope and severity. Interested stakeholders (investors & consumers) are dissecting ESG credentials, making decisions with existential implications for organisation falling foul of such scrutiny.



Sustainability pioneers will harvest early adopter benefits (consumer loyalty, access to green investment finance and protecting their own supply chains).

To that end, in 2023 IBM proposes a *joint working group* with BRC members to build on this study's output to map, trace and impact assess the upstream supply chains of a common product commodity and share findings with the BRC community. By all contributing, we can start to tackle this industry challenge and leverage data to fast track our own ESG initiatives.

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# 2 THE CASE FOR CHANGE

## THE ECONOMIC, ECOLOGICAL AND ETHICAL MANDATE FOR CHANGE.

### Our Global Imperatives

Put simply, global supply chains cannot continue to operate at the current level of ecological and social exploitation. Failure to achieve the 2015 Paris Agreement's limitation target of a 1.5°C rise could lead to devastating environmental impact on the planet [1].

### Opportunities for UK Retail

Looking closer to home, meeting sustainable goals in our industry makes good business sense in terms of the *Quadruple Bottom Line*: Purpose, Planet, People and Profit.

Visibility and transparency are fundamental to de-risking critical supply routes, increasing resilience, and eliminating extraneous supply costs.

Demonstrable sustainable standards and practices drive new ESG-aware consumer relevance and open the door to securing favourable financing and investment decisions by meeting financial institutions' ESG-driven selection criteria.

Regulatory compliance avoids exposure to potential fines, penalties and reputational damage.

Strong sustainability credentials also helps to attract and retain the best talent, helping to create a working environment people want to be part of, providing a distinct competitive advantage.

### The willingness is there, but...

In the face of overwhelming ecological, economic and ethical reasons to change, recent IBM Institute for Business Value research[2] has found an "intent/action-gap" with 95% organisations committing to change but only 10% making significant progress in addressing critical ESG issues.

We explore the reasons behind the gap and discuss how to achieve practical transition over time, starting small and then scaling across the organisation, all while leveraging the right blend of technology to embed change.

The journey starts with understanding the ESG imperative and the existential cost of unsustainable supply both to our industry and the planet.

[1] United Nations Climate Change - Climate Plans Remain Insufficient: More Ambitious Action Needed Now | UNFCCC

[2] IBM Institute for Business Value (2023) New IBM Study Reveals Inadequate Data Hinders Progress Against Environmental, Social and Governance Goals



# THE CHALLENGES FOR RETAIL – BEING PART OF THE GLOBAL SOLUTION

## Retail is one of the largest contributors to CO<sub>2</sub> emissions

Atmospheric levels of CO<sub>2</sub> are higher than they have been at any time in the past 400,000 years [1].

We all have our part to play to safeguard the planet, and the UK Retail industry has a critical one, as it discharges c. 215 MtCO<sub>2</sub>e (million tonnes CO<sub>2</sub>-equivalent) into the atmosphere per year [2].

This places the sector among the most important contributors to greenhouse gas emissions, contributing approximately 80% more emissions each year than all road transport in the UK.

This proliferation of CO<sub>2</sub> not only pollutes but is economically and environmentally unsustainable.

## Resource consumption and Earth Overshoot Day

In 2022, Earth Overshoot Day occurred on the 28th July [3], by which humanity’s demand for ecological resources and services exceeded what Earth can regenerate in that given year. A sharp reversal in consumption is required to address this aggressive depletion problem.

This overuse of natural carbon reserves and the pollution of the planet means that four of nine planetary boundaries (as defined by the Stockholm Resilience Centre) have now been breached due to human activities [4].

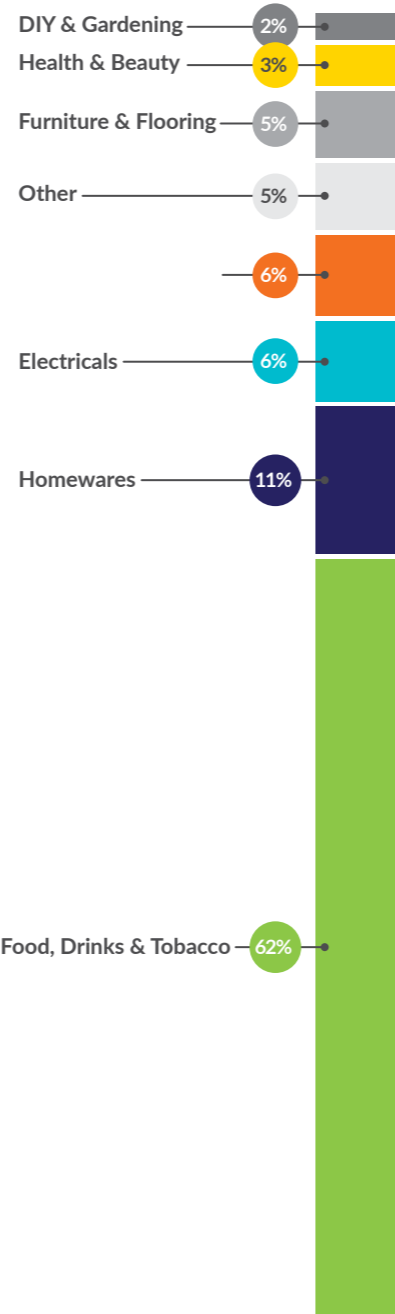
- Climate change
- Loss of biosphere integrity
- Land-system change
- Altered biogeochemical cycles (phosphorus and nitrogen).

The eventual result will be an unpracticable and in-humane planet.

[1] NASA- Graphic: The relentless rise of carbon dioxide – Climate Change: Vital Signs of the Planet (nasa.gov)  
 [2] ONS Data download consumption emissions 1997-2017 [Accessed September 2020]  
 [3] Earth Overshoot Day (2022) - About Earth Overshoot Day - #MoveTheDate of Earth Overshoot Day  
 [4] Stockholm Resilience Centre - Planetary Boundaries - an update - Stockholm Resilience Centre

## RETAIL EMISSIONS

By sector, based on goods sold



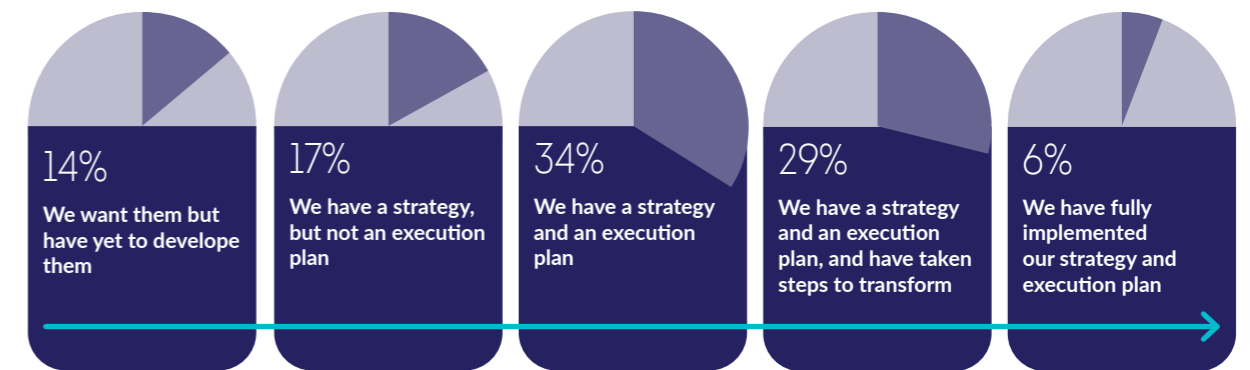
# THE CHALLENGES FOR RETAIL – FOR OUR OWN BUSINESSES

## Intent / action gap

The planetary scale of the change required is daunting. We have observed a clear “intent/ action” gap in the UK Retail industry, where business leaders recognise the imperative, aspire to make a change but have not, as yet, made significant steps forward.

## The strategy continuum

Most organisations are progressing toward an enterprisewide environmental sustainability strategy and execution plan.



Q: Which of the above statements best describes your organisation’s enterprisewide environmental sustainability strategy today?

MATURITY

## 86% vs. 35%

A recent study by IBM’s Institute for Business Value (IBV) and Oxford Economics surveyed 1,958 executives across a cross-section of industries from over 30 countries worldwide. Amongst other insights, they found that while 86% of companies had a sustainability strategy, only 35% have acted on it [1].

The need to overcome this inertia is important not only to the health of the planet, but also to the global economies and businesses within them. Research suggests that transitioning to a net zero economy produces strong net economic benefits, creating jobs across a wide range of occupational skill sets, industries and regions.

Across the UK there are already over 410,000 [2] jobs in low carbon businesses and their supply chains, with turnover estimated at £42.6 billion in 2019, [3] and the value of goods and services exported by UK low carbon businesses exceeding £7 billion [4].

[1] IBM Institute for Business Value (2022) - Sustainability as a transformation catalyst | IBM  
 [2] ONS (2021), Low Carbon and Renewable Energy Economy (LCREE) Survey direct and indirect estimates of employment, UK, 2014 to 2019 - Low Carbon and Renewable Energy Economy (LCREE) Survey direct and indirect estimates of employment, UK, 2014 to 2019 - Office for National Statistics (ons.gov.uk)  
 [3] ONS (2021), Low Carbon and Renewable Energy Economy (LCREE) Survey direct and indirect estimates of employment, UK, 2014 to 2019. Low Carbon and Renewable Energy Economy (LCREE) Survey direct and indirect estimates of employment, UK, 2014 to 2019 - Office for National Statistics (ons.gov.uk)  
 [4] ONS (2021), Low carbon and renewable energy economy, UK: 2019. Low carbon and renewable energy economy, UK - Office for National Statistics (ons.gov.uk)



# I THE COST OF INACTION

## Competitive & commercial advantage

Discussions from last year's scope 3 workshops series with the BRC's Sustainable Sourcing Pathway (4) members echoed findings from IBM's own research.

In challenging economic conditions, businesses which do not invest in sustainable transformation are increasingly vulnerable.

IBM Institute for Business Value researchers recently heard from global business leaders, who said that ESG had a greater impact on performance metrics including customer engagement, risk management and access to finance [1].

## Consequences of inaction

Those businesses failing to address the intent / action gap, leave themselves exposed to the following risks:



[1] IBM Institute for Business Value (2023) - The ESG data conundrum | IBM



# INCREASED RISK TO OPERATIONS, REVENUE AND BRAND

## The #1 case for change is the use of ESG insight to de-risk our supply chains, protect the brand and reduce cost

Retailers lacking visibility of their upstream supply chains are limited in their ability to identify, predict and react to threats to the continuity, security and efficiency of supply. Evidence is now also emerging of some insurers limiting coverage or investments in certain sectors based on ESG considerations.

## Emerging ESG legislation will expose organisations to punitive % of global revenue fines for non-conformance.

From a marketing and brand perspective, a number of UK retailers were suspected of breaching the UK Competition and Markets Authority's (CMA) Green Claims Code, negatively impacting both brand image and market valuation [1].

*"Unsustainable supply chains are not only bad for the planet - they are also bad for business."*

**Andrew Opie**  
The British Retail Consortium

[1] GOV.UK (2021) - Greenwashing: CMA puts businesses on notice

[2] Committee of Advertising Practice CAP-guidance-on-misleading-environmental-claims-and-social-responsibility.pdf

[3] GOV.UK (2023) - CMA to scrutinise 'green' claims in sales of household essentials

## Stamping down on "Greenwashing"

In early 2023, the Advertising Standards Agency announced significantly stricter standards for ESG responsibility claims in advertising, requiring statements to be substantiated with data and scientific evidence [2].

For example:

- Marketers must base environmental claims on the **full lifecycle** of the product, unless the marketing states otherwise, and must make clear the limits.
- Marketers should include accurate information about whether (and the degree to which) they are **actively reducing carbon emissions or are basing claims on offsetting**, to ensure that consumers do not wrongly assume that products, or their manufacture, generate no or few emissions.

## Misleading environmental claims and social responsibility

The CMA has also announced that it will focus on examining the accuracy of "green" claims made about household essentials such as food, drink, and toiletries to ensure shoppers are not being misled [3].





## UNNECESSARY SPENDING ON FINES, TAXES & LEVIES

### UK becomes first major economy to pass net zero emissions law

In 2019, the UK became the first major economy to pass sustainability targets (to reach net zero by 2050) into law [1], and a raft of other ESG legislation is following. Many organisations are already feeling the effects of the UK Plastic Packaging Tax, and with reformation of Extended Producer Responsibility (EPR) for Packaging set to impose a huge cost burden on businesses, many are seeking out alternative materials to minimise their liability.

Organisations need to be proactive in improving their sustainability efforts if they are to avoid falling foul of these emerging frameworks, regulations and the potential fines accompanying them.



## MISSING OUT ON "GREEN" INVESTMENTS

### Financial institutions are considering ESG factors in their investment propositions

Just as the expectations of consumers have shifted, investors are also demanding more from businesses looking to secure funding, with as many as 85% of investors considering ESG factors in their investment decisions in 2020.

Market research has shown that over 90% of banks and insurers and over 70% of fixed income investors monitor ESG performance as part of their decisioning process [2].

[1] - GOV.UK (2019) UK becomes first major economy to pass net zero emissions law

[2] - Gartner (2021) 85% of investors considered ESG factors in their investment propositions

[3] IBM Institute for Business Value (2022) In their own words: How CEOs are forging paths to sustainability | IBM

### In their own words: How CEOs are forging paths to sustainability {3}



More than 8 out of 10 CEOs (3,000 from 40+ countries and 28 industries) believe sustainability investments will drive better business results in the next 5 years.

IBM's Institute for Business Value



## FAILING TO APPEAL TO PURPOSE-DRIVEN CONSUMERS

### Consumers want it all - and they will pay a premium where green claims are substantiated

Another recent study performed by the IBV in association with the National Retail Federation (NRF), surveyed more than 19,000 respondents across 28 countries [1].

The study found that today consumers across different age groups are looking for brands and retailers to help them shop more sustainably. Purpose-driven consumers, those who prioritise brands that align with their values and lifestyles, now make up the largest consumer segment across all product categories. These environmentally-cognisant consumers who spend more, buy more, and are more impulsive shoppers, also act as strong brand ambassadors.

Overall, 50% of consumers surveyed said they were **willing to pay a premium for sustainable brands—an average of 70%**. Similarly, 60% of consumers say they're willing to pay a premium for brands that provide greater health and wellness benefits—an average of 74%.



## INCREASED EFFORT TO COMPLETE AUDITS

### 10% of investors source their ESG information from corporate disclosures, such as those completed via CDP [2]

As scrutiny from internal and external stakeholders increases, so does the need for organisations' sustainability teams to evidence and share accurate and timely ESG performance data.

Without appropriately skilled SMEs, defined processes, supporting tools, and accurate data, reporting can become an arduous process which diverts resources away from delivering sustainability projects and driving operational improvements.

[1] IBM Institute for Business Value (2022) Consumer study: Consumers want it all

[2] Gartner (2021) - 85% of investors considered ESG factors in their investment propositions



# 3 WHAT IS HOLDING BACK OUR INDUSTRY BECOMING MORE SUSTAINABLE ?

## OUR CHALLENGES DIFFER

### The challenges vary greatly even within our own industry

Decarbonising our economy will be the defining challenge of our age. Scope 3 emissions, those not under retailers' direct control but which are generated within their multi-tiered global supply chains are the most pressing aspect we face in both size and complexity

To successfully bridge the current intent / action gap, we must examine in more detail the barriers retailers are facing. Last year's Sustainable Sourcing Pathway (4) workshops provided the opportunity to do just that.

The key pain points surfaced during our investigations included:

1 LACK OF DIRECTION & PRIORITY	The strategy may be vague - the organisation doesn't know which of the Sustainability pillars (ESG) or emissions scopes/categories to start on. A 'hotch-potch' of initiatives are committed to.	The strategy may be very ambitious - with no clear roadmap for how the organisation will achieve it. Presents a risk of greenwashing	Sustainability targets, accountabilities and applicable performance management measures & KPIs have not been cascaded from 'high-level' strategy to operational business areas/teams.	The lack of currently available data (on As Is operations) makes formulating the Sustainability Business Case challenging.
2 LOGISTICAL DATA CHALLENGES	The true complexity of the end-to-end supply chains are not fully known. The organisation doesn't know who the suppliers are - and so doesn't know who to request data from... or how to get it (in the case of Nth level suppliers)	Lack of clarity around which data points are needed to complete ESG disclosures/ demonstrate compliance against emerging legislature. Means the organisation doesn't know what data to ask for	Challenges in getting data from Suppliers. Physically-lower-level suppliers may not have access to tech-may work with paper-based documents/voice! OR be unable to access/capture the raw data! Culturally-Suppliers are repeatedly asked to submit data by many buying organisations.	The desire to draw on the many existing disparate data sets - the Organisations internal applications (ERP/PLM), Supplier systems, external databases (e.g. Sedex, ecoVadis). Desire for a 'system-of-systems' to pull it all together.
3 SUPPLY CHAIN TRANSPARENCY & ENGAGEMENT				
4 DATA AGGREGATION & REPORTING	Unsure how to collate and structure the data (once obtained) in a logical way which facilitates efficient reporting & analytics	Need to be able to validate the data (authenticity & accuracy) so that data & resulting reports stand up to external auditing	Need to be able to segment the data based on various factors - by Supplier, product (SKU), product category, GEO, etc.	Need a straight-forward (ideally automated) way to generate reports which meet external standards (SDG, SASB, GRI, SBTI, etc.) and manage the disclosure process itself.
5 REPUTATIONAL RISK MANAGEMENT	Need a way to quickly roll- up the current operations data & highlight areas of non-conformance.	Need a mechanism to forecast/ identify potential risk areas - so the organisation can take rapid, targeted action.	Need Sustainability data to be transferred & stored securely - to prevent data leaks which could threaten brand image.	Need to have a unified approach to the processes & technologies used, in order to address multiple ESG pillars (e.g. Map the supply chain + determine the carbon emissions + human rights risks)



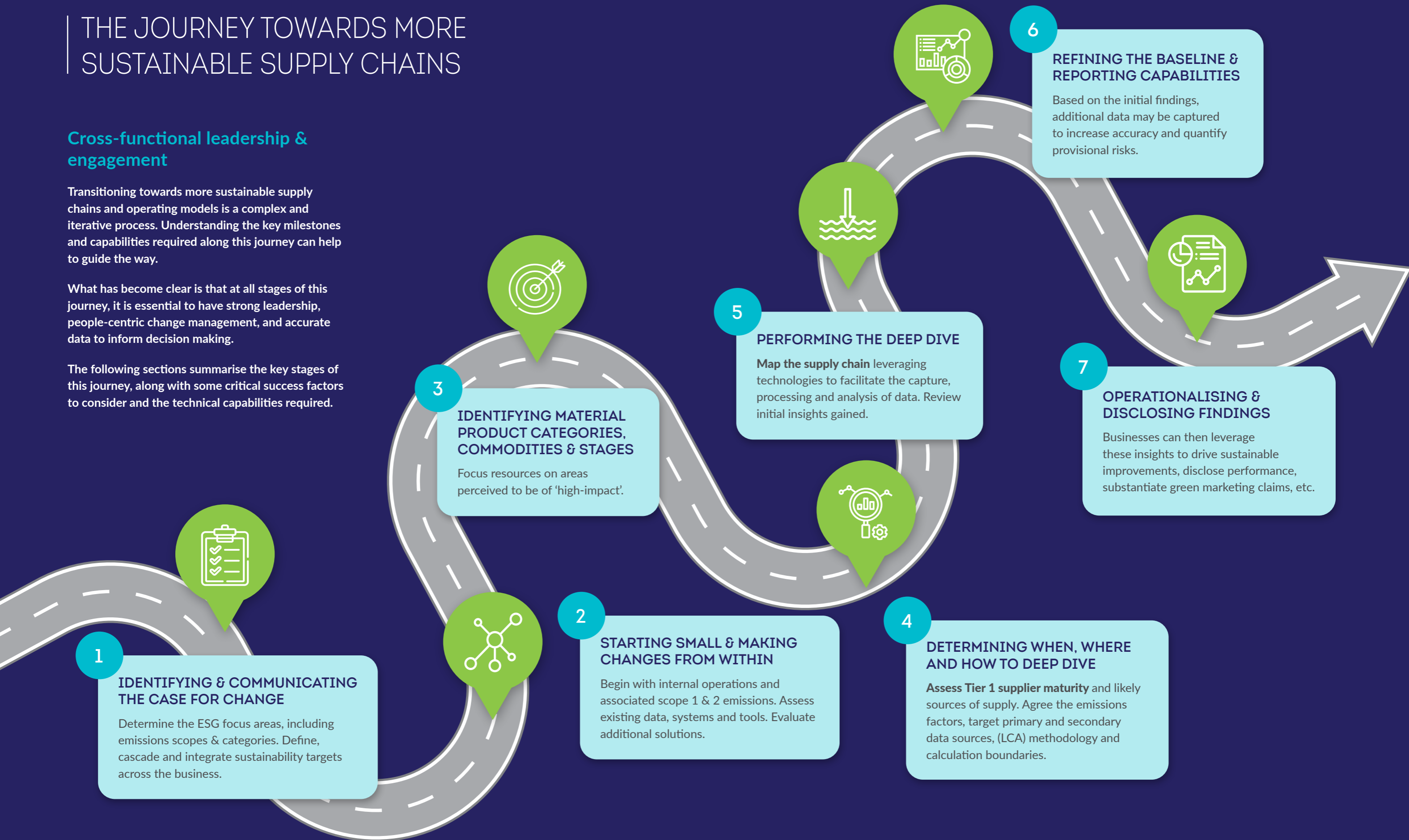
# THE JOURNEY TOWARDS MORE SUSTAINABLE SUPPLY CHAINS

## Cross-functional leadership & engagement

Transitioning towards more sustainable supply chains and operating models is a complex and iterative process. Understanding the key milestones and capabilities required along this journey can help to guide the way.

What has become clear is that at all stages of this journey, it is essential to have strong leadership, people-centric change management, and accurate data to inform decision making.

The following sections summarise the key stages of this journey, along with some critical success factors to consider and the technical capabilities required.



### 1 IDENTIFYING & COMMUNICATING THE CASE FOR CHANGE

Determine the ESG focus areas, including emissions scopes & categories. Define, cascade and integrate sustainability targets across the business.

### 2 STARTING SMALL & MAKING CHANGES FROM WITHIN

Begin with internal operations and associated scope 1 & 2 emissions. Assess existing data, systems and tools. Evaluate additional solutions.

### 3 IDENTIFYING MATERIAL PRODUCT CATEGORIES, COMMODITIES & STAGES

Focus resources on areas perceived to be of 'high-impact'.

### 5 PERFORMING THE DEEP DIVE

Map the supply chain leveraging technologies to facilitate the capture, processing and analysis of data. Review initial insights gained.

### 4 DETERMINING WHEN, WHERE AND HOW TO DEEP DIVE

Assess Tier 1 supplier maturity and likely sources of supply. Agree the emissions factors, target primary and secondary data sources, (LCA) methodology and calculation boundaries.

### 6 REFINING THE BASELINE & REPORTING CAPABILITIES

Based on the initial findings, additional data may be captured to increase accuracy and quantify provisional risks.

### 7 OPERATIONALISING & DISCLOSING FINDINGS

Businesses can then leverage these insights to drive sustainable improvements, disclose performance, substantiate green marketing claims, etc.



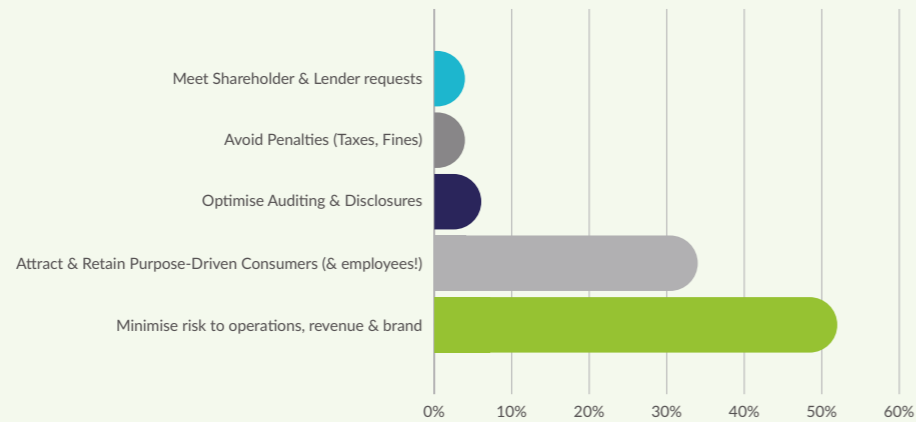


## 1. IDENTIFYING AND COMMUNICATING THE CASE FOR CHANGE

As with all initiatives, it is important to establish the compelling reason(s) to act at the outset as sustainability change drivers will vary for each organisation.

**Key Factors Driving Sustainability Action**

**BRC poll of members to identify the key factors driving sustainability action in their organisations (2022)**



Empowering internal sustainability change champions across all organisational levels and functions is vital for success. Sustainability should be at the heart of business operations rather than residing within a satellite function. Targets and timescales should be set, with milestones to prompt assessment and re-evaluation as needed.

*“Breaking out of the CSCO’s office to engage and hold the wider business accountable for sustainability performance is a critical success factor.”*

**Beatrice Elliott**  
IBM Sustainability & Retail Consultant

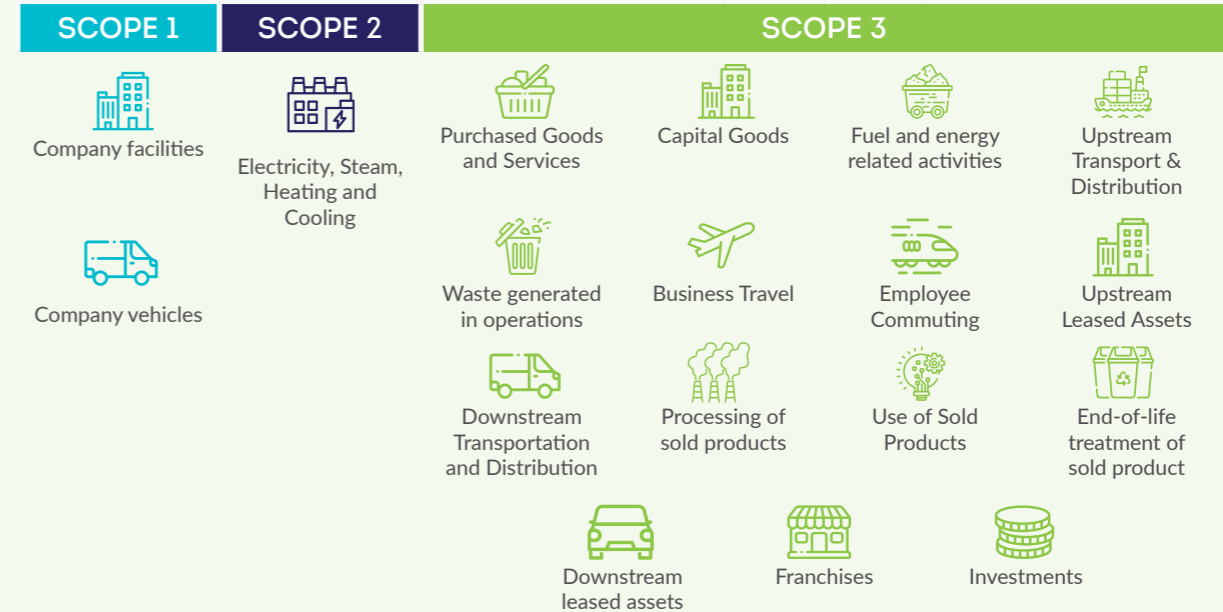
Determining ESG scope and priority is also important. Tackling ESG objectives in isolation should be avoided as interventions to improve sustainable operations, for example to reduce carbon emissions, may have inadvertent, adverse consequences on other ESG factors elsewhere in the supply chain.

Consideration should also be given to whom sustainability performance data will be made available, and how it will be used. Doing so may inform which frameworks, methodologies, standards and datapoints are pursued. For example, the data required to meet carbon reporting needs may differ from the data required to make product-specific green marketing claims.



## 2. STARTING SMALL & MAKING CHANGES FROM WITHIN

Before embarking on changes across the end-to-end product lifecycle, it makes sense to first focus on the ESG impacts resulting from the business’ internal operations. From a social angle, this may include addressing diversity, equity and inclusion within the organisation. From an emissions perspective this encompasses scopes 1 and 2 which are typically more straightforward to identify, assess and influence than the scope 3 categories.



Identifying and reducing the ESG impacts of internal operations requires collaboration with business areas beyond the head office, going from distribution centres to retail stores and beyond.

Starting with this “low hanging fruit” can show rapid ROI to stakeholders, before tackling more complex issues in the upstream supply chain. With this internal effort, **businesses can lead by example when extending sustainability conformance expectations to their supply chain partners.**

At this stage, it is also valuable to assess the currently available (primary and secondary) data, systems, and tools. Before introducing any additional technology to support sustainability initiatives, it is vital to understand the technical landscape which already exists within the business, identifying any solutions no longer fit for purpose. This avoids accruing “technical debt” where systems must be removed, redesigned and reintegrated later down the line.



### 3. IDENTIFYING MATERIAL PRODUCT CATEGORIES & COMPONENTRY

Once ready to explore the upstream supply chain, it is important to focus resources on identifying and prioritising specific product categories and componentry. Factors which may influence product selection include:

- Actions and insights of peers, research groups, industry bodies & regulators (e.g. In Apparel, cotton and animal products are commonly prioritised)
- The volume or value of goods traded (e.g. continuity lines may take precedence over seasonal lines)
- The complexity of the bill of materials (and volume of upstream suppliers)
- The degree of upstream supplier churn
- Regional risks factors for areas where goods are commonly or exclusively sourced
- Availability and market penetration of trusted certification schemes, which may help to provide some degree of assurance and visibility of upstream production

Whilst own-brand products are often a logical starting point for supplier assessment and supply tracing, retailers should note that the **draft European Supply Chain Act** requires EU companies to audit their suppliers along the entire global supply chain, including all direct and indirect business relationships [1].

Prioritised products and componentry will vary for each organisation, depending on the factors above, along with the organisation's specific sourcing and ESG priorities. Once determined, organisations may take prioritisation one stage further by focusing on specific production stages or tiers deemed to be high-risk. (e.g. in Apparel the dying stage is often highly scrutinised)

At the outset, without high degrees of vertical integration, visibility of the upstream supply chain is unlikely. Beyond Tier 1, the locations and processes of facilities may be largely unknown, potentially making materiality assessment difficult. The use of hypothetical supply chain modelling tools may help overcome this initial data gap.

In addition to hypothesising the upstream supply chain, businesses may initially leverage proxy data (in the form of secondary data or primary data averages) to determine materiality and probable risks. The aim should be to transition, as swiftly as is feasible, towards primary supply chain datapoints (where they communicate real values).

[1] European Commission (2022) Corporate sustainability due diligence



### 4. DETERMINING WHEN AND WHERE TO DEEP DIVE

Informed by which ESG pillars and sub-categories the organisation will prioritise, and the products or commodities of interest, a decision on when and where to deep dive must then be made.

Since deep-dive assessments require considerable resource investment, documentation of the business justification, current performance, and risk exposure is often required. It is also pertinent to consider the scope and timescales of the initial deep dive activities.

**The best approach is often to start small, learn and then iterate.**

In some instances organisations may consider first making adjustments to the products' componentry, or remodelling the supply chain, before conducting a deep dive assessment.

**Factors influencing this decision may include:**

- The existing supplier relationships, strategic alignment, and capability (to capture and share data, make sustainable improvements, etc.)
- The complexity and extent of vertical supply chain integration
- The (global) availability of the goods
- The volume / value of business conducted with the suppliers under consideration
- The procuring organisation's degree of influence over suppliers
- Applicable reporting standards or requirements already in place, either internal (bi-lateral between procurer and supplier) or external driven by local or international laws or policies
- ESG risk assessment (likelihood / impact) of products, components, or ingredients
- Level of external scrutiny: legislators, investors, and consumers
- The materiality of sustainable business practices of both parties



**Focus Area 1 in this Case Study explores how to conduct Supplier Maturity Assessments to accelerate Sustainability initiatives**





## 5. PERFORMING THE DEEP DIVE

Having determined when and where to deep dive, it is important to establish how the process will be conducted. If opting to conduct a detailed product lifecycle assessment (LCA) it is important to consider:

- Purpose & intended LCA outputs (e.g. to demonstrate product compliance)
- Calculation boundaries which will be applied (e.g. cradle-to-gate vs cradle-to-grave)
- Whether the business will conduct the LCA in-house or engage a partner
- Which technologies and data sources will be used
- Capabilities the business will leverage (e.g. sourcing scenario modelling)
- Which ESG impacts to assess against
- The potential to extrapolate the LCA findings across a wider set of products

Some businesses opt to generate LCAs in-house, which commands the overheads of specialist skills and solutions, whilst others outsource this activity to external partners.

LCA technologies vary from established software tools to an array of emerging services and solutions specialising in particular sectors and product categories.

The extent of LCA automation and the degree of support in capturing supply chain data varies between providers. Some offer “boots on the ground” to help educate suppliers and capture data, while others may simply assess the data you currently have and provide a gap report on what additional information is required to make certain ESG claims.

Another variable is the spectrum of ESG impacts assessed as part of an LCA. Some assessments focus predominantly on environmental impacts, in particular carbon emissions, whilst others may cover a wider range of environmental issues. The assessment of social impacts is generally less widespread.

For most LCAs an initial view of the supply chain, along with some primary and secondary data are required inputs.

The right technology can help prepare the initial supply chain view, by identifying supply change stages, the wider supply network and relationships. Technology can also facilitate supplier onboarding, and the capture of their primary data in its rawest forms, to demonstrate the traceability and provenance of goods.



Focus Area 2 in this Case Study explores how to trace the upstream supply chain



## 6. REFINING THE BASELINE

Following the initial deep dive, the ESG impact baseline can be refined through the use of primary data to increase accuracy and reflect any work undertaken to mitigate the impacts initially identified.

- Depending on the degree of supply chain penetration achieved in the initial assessment, the primary focus may be to increase the supply chain engagement to uncover further tiers and processes.
- If the availability and accuracy of data in this first round was poor, the immediate focus may be on improving the data quality through a combination of supplier incentivisation and education. Deployment of technologies can facilitate data capture (particularly in remote regions), while peer collaboration using data platforms and networks can capture information once for use by many.
- In some instances, the initial risks and insights gained may prompt immediate investigation to validate and address findings before further supply chain mapping is conducted.

Many organisations opt to produce **initial baselines** of emissions inventories using **activity-based methods, spend-based methods, or a combination of both.**

**Only a small proportion of emissions factors are based on supplier specific data** (factors provided by suppliers which typically combine measured emissions from supplier operations and estimated emissions from a supplier’s upstream value chain).

Not all primary data points will deliver equal value or insights, and so retailers should be strategic about which to pursue.

**Throughout 2023 IBM will be exploring this in more detail with our Sustainable Sourcing Pathway (4) member retailers.**

As the ESG impact baselines are refined with more accurate data, it may be necessary to resubmit them to the relevant frameworks and disclosure bodies.

## 7. OPERATIONALISING, REPORTING, AND PUBLICISING FINDINGS

- Once sufficient evidence has been gathered, sustainable businesses can then capitalise on these ESG performance insights to:
  - Make public-facing ESG claims to customers, stakeholders and investors without the risk of Greenwashing
  - Inform realistic targets and actionable metrics, aligned with external reporting & disclosure frameworks
  - Ensure the accuracy, timeliness, and authenticity of declarations to auditing, regulatory and disclosure bodies
  - Ensure accountability for KPIs is cascaded to and integrated across relevant business functions to avoid the “sustainability silo”
- Outputs might also be leveraged to inform changes to product assortments, design and sourcing & logistics factors, such as:
  - Category & product planning (product design, componentry, manufacturing processes, supply locations, etc.)
  - Supplier management (selection, negotiation and contracting)
  - Supply chain collaboration – current supply base
  - Supply chain remodelling – new supply base

Considering where and how this additional ESG data will be stored and exposed in a meaningful way to business users to inform day-to-day decision making is critically important.

A multitude of frameworks for measuring and reporting data and progress against goals has emerged to help organisations measure and demonstrate their progress towards the UN Sustainable Development Goals (SDGs). While this supports delivery, with limited levels of standardisation on both tools and approaches, it makes reporting both complex and constantly changing.



**Focus Area 3 in this Case Study explores how to Generate supply chain insights, substantiate risks and integrate findings into business operations**

## 8. A CONTINUOUS JOURNEY TOWARDS MORE SUSTAINABLE OPERATIONS

Organisations will cycle through the stages of this sustainability-catalysed journey multiple times as they refine their objectives, and ultimately increase the scope of products mapped and risk types assessed.

Ultimately, effective ESG management across transparent supply chains relies on a combination of strategic direction, eco-system collaboration, investment of appropriate resources and the application of the optimal suite of technologies.



*“Delivering sustainability through offerings such as product circularity, resale and rental require businesses to rethink their end-to-end operations and embrace new partnerships”*

**Beatrice Elliott**  
IBM Retail Sustainability Consultant



# 4

## THE ROLE OF TECHNOLOGY TO ACCELERATE CHANGE

### AUTOMATING YOUR CORE SUSTAINABILITY CAPABILITIES

#### Tailoring the approach

Each organisation will approach the Sustainability transformation journey in its own unique way depending on many factors including, but not limited to, the type of goods traded, the procurement models, and the technologies already in use. At each stage, the process can be made more efficient and insightful through the application of the right blend of technologies and data.

A logical approach to defining which technologies to apply (and when) has emerged through insights gained both from last year's scope 3 workshops with our BRC Sustainable Sourcing Pathway (4) members and work IBM are already doing with retail and CPG clients in the sustainability arena.

IBM have developed a framework which captures the key technical capabilities required to analyse, assess, and improve the sustainability of a retailer's upstream supply chains.

#### Key focus areas

The required capabilities fall into 3 key groups:



INSIGHTS & AUTOMATION



SUPPLY MODELLING

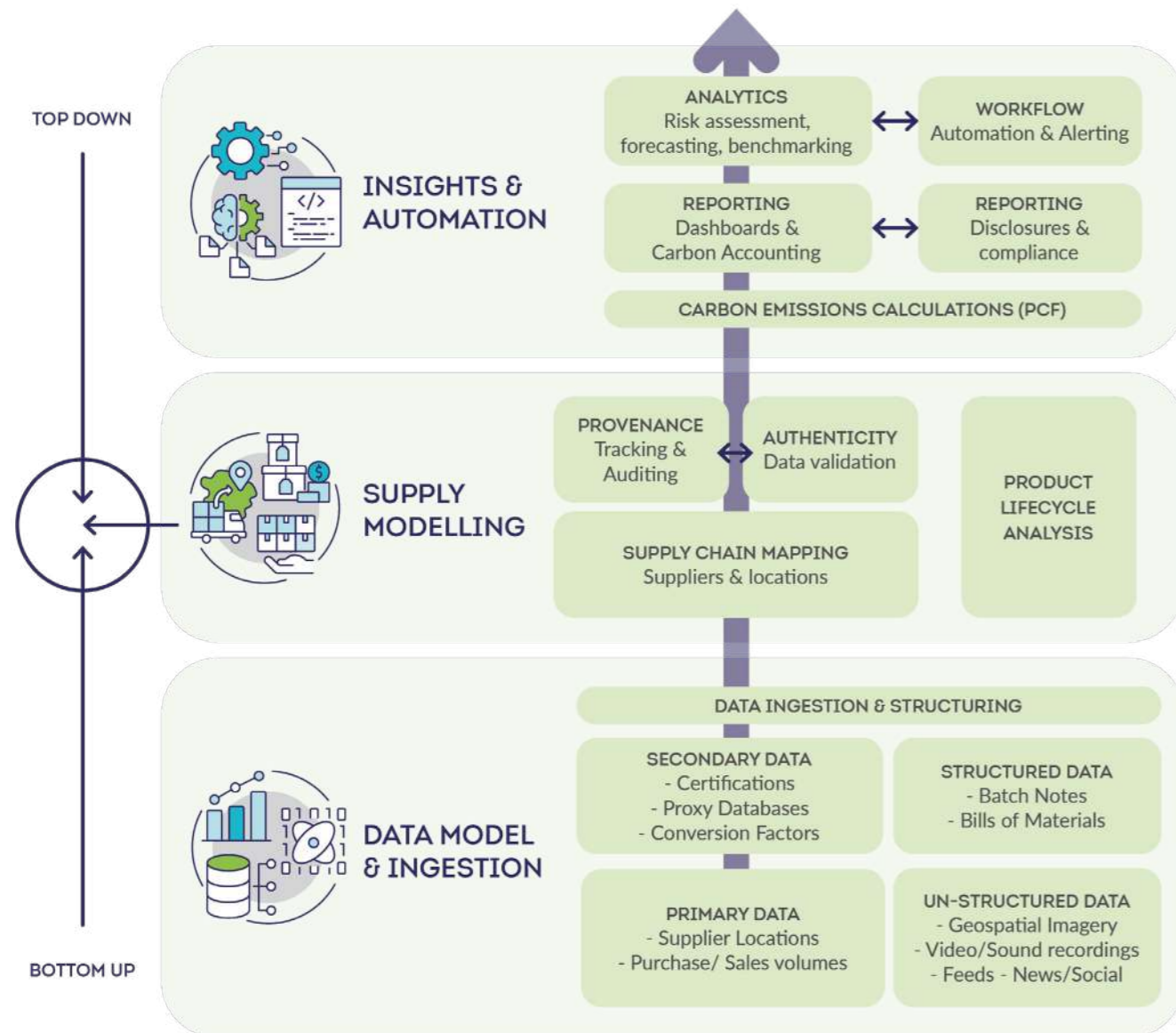


DATA MODELLING & INGESTION

Depending on which stage of the transformation journey each organisation is at, different combinations and depths of these capabilities will be needed.

# THE SCOPE 3 VISIBILITY & MANAGEMENT FRAMEWORK

Our case study highlighted that the “middle-first” approach is often the best method to uncovering, analysing and reporting ESG factors. Using both technology and process insight can identify the supply points across an extended supply chain, and then assess the CO<sub>2</sub> impact of each node to gain an accurate view of risks and costs.



This framework sets out the end-to-end capabilities required by retailers in order to sustainably manage their supply chains.

# NAVIGATING THE OPTIMAL PATH THROUGH THE FRAMEWORK

## Top-down looks like...

Investing most resources in Insights & Automation technology to gauge the current baseline, potentially with little visibility beyond Tier 1 suppliers, and using predominantly spend or volume based data. This “top-down” approach provides some insight, but working exclusively on an “assumed” supply chain may provide inaccurate results or inflate the potential risk factors beyond an actionable scale. Integrating new reporting and analytics tools, without a full assessment of existing supply chain data and systems, can lead to future technical debt where integration re-work may be required if systems are subsequently replaced.

Retailers in this camp stated that they quickly found that they “didn’t know what they didn’t know” when it came to their actual supply chain risks beyond Tier 1, and couldn’t reflect any sustainable improvements made in their reporting.

## Bottom-up looks like...

Investing early in Data Modelling & Ingestion technology also had constraints. Without a guiding direction to determine which suppliers, commodities, sourcing regions or risk factors to prioritise, identifying the appropriate data requirements and sources was almost impossible.

## The sweet spot is...

Most success was achieved by those working group members who explored Insights & Automation technologies and Data Modelling & Ingestion technologies “just enough” to establish a guiding principle, but then invested the most time and effort focusing on the middle layer, Supply Modelling, to validate that direction.

Promptly operating in the middle layer to map the supply chain was a critical success factor. Gaining high-level insights into potential ESG risk hotspots and “quick win” areas where targeted effort could yield significant results, coupled with an understanding of the data and systems currently available in the business, sets a solid foundation.

By identifying actual supply chain locations, facilities and processes, the primary data can be secured, and more accurate insights generated.

## Case study focus

Accurate mapping of the supply chain can be far from straightforward, and as a result the working group requested that IBM focus the Case Study in this area.

*“By making optimal use of existing legacy systems of record and integrating them with innovative specialised sustainability software technology, organisations can accelerate their journey to deliver ESG reporting and evidence regulatory compliance.”*

**Robin Crees**  
IBM Retail Technology Alliances & Partnerships Lead



# INSIGHTS & AUTOMATION

The upper layer is often the focus for auditing and disclosure but requires accurate data inputs to generate meaningful findings.

This layer includes the capabilities required to generate insights & facilitate automation of related business operations.



## Reporting

A common goal of sustainability initiatives is to capture and evidence ESG performance through a combination of internal and external reports. Various calculations, such as product carbon footprint estimation, may need to be applied to source data before reporting tools aggregate these values to produce reports which are aligned with ESG targets and frameworks.

## Analysis

Closely linked are the capabilities required to perform analysis on the ESG performance data to identify risks and to benchmark performance either against previous periods, parallel business units/ geos, or industry averages. In addition to “heat-mapping” supply chains for current risks, the ability to forecast potential risks and conduct scenario modelling can be extremely valuable as retailers aim to shift from reactive to proactive risk management.

Analysis is valuable when it is then made available to business users and integrated into business operations to drive meaningful changes. This may begin with the configuration of ESG threshold alerts but, as the organisation matures, these alerts may trigger pre-configured workflows, with manual or automated actions.

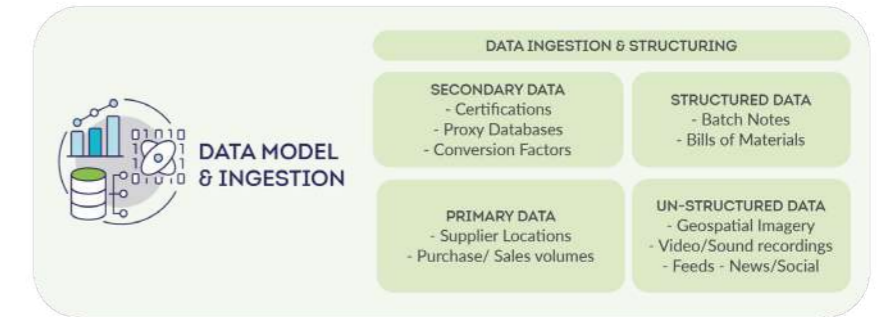
For example: if the carbon footprint for a purchase order exceeds “x” kg, then a manual approval could be triggered.

## ESG Due diligence

The data captured and insights produced must be accurate and stored securely to enable auditing and disclosure.

# DATA MODEL & INGESTION

The lower layer of the framework includes the capabilities required to model and ingest the various data sources and formats to create a detailed picture of the supply chain and it’s ESG impacts.



## Primary data

A key challenge is to identify and process data from numerous disparate sources. Often the most straightforward place to begin is with internally-held primary supply chain data, such as purchase order records, and Tier 1 supplier information. Identifying and collating this information from existing systems is a first step.

## Secondary data

Secondary data sources such as certification records and databases housing conversion factors and industry-average values can be used to augment the initially-available primary data. Identifying, assessing and obtaining data from these sources can support the generation of an initial emissions baseline.

## Data format

Primary and secondary data may exist in structured or unstructured formats. Structured data is often easier to access and process. Unstructured data can take many forms, from geospatial imagery to voice recordings, hand-written records, and content from social platforms. Capabilities such as natural language processing (NLP), dictation and translation can allow retailers to capture and process previously inaccessible unstructured data sources, which is especially valuable further upstream.

## Simplifying the process

Irrespective of data source or structure, it must be assessed for accuracy and then ingested and structured in a logical manner to facilitate subsequent analysis. As the volume and variety of datasets increases, it becomes increasingly important to systemise this process, rather than relying on manual data collection and aggregation. Incorporating ESG data capture into existing business processes is also important.

# I SUPPLY MODELLING

The middle layer of the framework is essential to map the supply chain and ultimately demonstrate the provenance and authenticity of goods to inform accurate carbon accounting. Our case study identified the Supply Model as the best place to start an ESG plan, enriched by the (lower) Data layer and as input into the (upper) Insights layer.



## E2E visibility

Central to identifying and managing ESG risk is gaining visibility of the upstream supply chain.

Identifying, engaging and mapping suppliers back to source is a considerable challenge for many retailers. However, by leveraging the appropriate technologies and partnerships, the process of determining the locations, facilities, and relationships between suppliers can be made easier.

## Lifecycle analysis

Leveraging either an actual or hypothetical mapping of the supply chain, product lifecycle analysis can be performed to determine the impacts associated with the various stages of product's lifespan to inform future decisions such as assortment planning, product design & composition, sourcing, manufacture, and more.

Where required, a product's "chain of custody" can be evidenced through the capture of relevant transactional documentation for every transformation event at each node of the supply chain. This can enable retailers to demonstrate provenance and traceability. Depending on the nature of goods or services traded and the potential commercial advantage to be gained, the importance of this capability will vary.

## Authenticity & accuracy

The authenticity of the source data and resulting findings can and should be assured through robust data validation.

# I HOW IBM CAN HELP

## ESG is a data problem

Ultimately the challenge of sourcing goods and services more sustainably relies on the collection, validation, and analysis of data on an epic scale. IBM has complex data and AI assets, underpinned with our deep commitment to sustainability to solve these challenges. As such, IBM has partnered with the BRC to support the Sustainable Sourcing Pathway (4).

IBM can support retailers across this transformation journey, by helping to shape the strategy, develop the initial business case, assess current performance, identify the right partners to collaborate with, and to implement and integrate the right blend of technologies to deliver improvements.

With our Global Sustainability Practice, our broad range of strategic partnerships, and having been ranked #1 for Sustainability Innovation in a recent HFS research study, IBM Consulting bring a wealth of knowledge in this space [1].



## Green Compass

IBM's Green Compass framework, leveraging our Garage methodology, helps companies to work towards sustainability and ESG compliance more holistically, beyond the lens of net zero.

The framework helps organisations to understand their sustainability requirements, define their ESG strategy, build out the additional necessary capabilities and transform their business models.

[1] HFS (2022) HFS Top 10: Sustainability Services



## SCOPE 3 VISIBILITY & MANAGEMENT WORKING WITH PETS AT HOME

### Our objective

Working with Pets at Home, IBM has leveraged the Scope 3 Visibility & Management framework in this case study to help them further understand their scope 3 emissions.

In this case study we have applied real data from Pets at Home to bring the methodology and approach to life.

The learning from the study are shared within this report for the benefit of the BRC community.



### Why Pets at Home?

As an early signatory of the Climate Roadmap, Pets at Home have been working closely with the BRC on sustainability for several years and are now acting as the lead sponsor for the BRC's Sustainable Sourcing Pathway (4). In this role, Pets at Home volunteered to share their own business data for analysis in the case study.

Pets at Home has an ambitious sustainability strategy called "Our Better World Pledge". It is an integral part of their overall strategy and purpose of the business to create a better world for pets and the people who love them. Pets at Home define sustainability in three dimensions achieving balance between financial, natural capital and human capital.

Pets at Home has received approval from the SBTi (Science Based Targets initiative) for their ambitious carbon targets, committing to a 42% reduction in scopes, 1, 2 and 3 emissions by 2030, and net zero across all scopes by 2040.

Pets at Home has also aligned their approach with the Task Force on Climate-related financial disclosure's as it's the TCFD's scenario planning. In addition, Pets at Home has aligned their strategy supporting several UN Sustainable Development goals (SDGs) including Responsible Consumption & Production, Climate Action and Life on Land.

# 5 OUR CASE STUDY



# I THE SCOPE OF OUR STUDY

## Understanding the environmental impact of pet food

Pets at Home provides a wide selection of products, services and advice to guide pet owners through their pet care journey.

Pets at Home has conducted a detailed scope 3 assessment as part of the process for setting science-based carbon reduction targets. This assessment identified that upstream goods and services accounted for the largest part of their scope 3 impact, as is the case with most retail-based businesses. Within that category pet food was highlighted as an important category to focus on.

Pet food's carbon footprint is impacted both by manufacturing processes and the range of different ingredients. For meat-based proteins the impact of animal feeds is also a consideration.

## Purchased Goods and Services

There are 15 different Scope 3 Emissions Categories. This case study focuses on Category 1: Purchased Goods and Services.



## The Chicken Supply Chain

Many pet feed recipes include animal proteins and, as one of the most extensively produced white meats, chicken is a particularly popular ingredient.

Globally, poultry meat leads production figures in the total meat market and “will continue to be the primary driver of meat production growth” [1] in the future. Farmed poultry today makes up 70% of all birds on the planet [2]. The ever-growing production of the poultry sector has not come without its faults, despite extensive legislation specifically in the United Kingdom, concerns remain in terms of safety and ESG impacts across the supply chain. Chicken farming poses many social risks, particularly in local communities, but what is key in today's current climate is the environmental impact this commodity can create.

## The Soy Supply Chain

Soy is a common ingredient in commercial chicken feed. As a commodity commonly produced in geographies such as Asia and South America, additional ESG risk factors may apply.

Soy is named (alongside palm oil, cattle, coffee, cocoa, timber & rubber and their derived products) by the European Parliament and the Council in new regulation on deforestation-free supply chains [3]. This law will ensure that specific goods traded on the EU market will no longer contribute to deforestation and forest degradation in the EU or elsewhere in the world.

The globally distributed, opaque nature of Soy supply chains also make them particularly challenging for downstream retailers to trace and in doing so, manage any associated environmental and social impacts.

[1] OECD 2021 - <https://www.oecd-ilibrary.org/sites/cf68bf79-en/index.html?itemId=/content/component/cf68bf79-en#section-d1e20736>  
 [2] Food Security Centre - 70% of all birds on earth are farmed poultry • Food Security Center  
 [3] European Union (2023) Breaking the chains - EU Regulation on deforestation-free commodities | EEAS





# I FOCUS AREA 1: CONTEXT

## Visibility beyond Tier 1

Supplier relationships must be at the core of successful ESG and sustainability initiatives.

It is critical to have effective and pervasive supplier visibility and transparency beyond just Tier 1. Upstream supply chain and manufacturing activities often represent the greatest source of emissions and ESG-related risk. To manage that risk and track progress against emissions commitments, a thorough assessment of suppliers' sustainability maturity will provide informative indication on how to collaborate with the supply ecosystem to identify, measure and reduce scope 3 emissions.

In this Focus Area IBM partnered with Pets at Home to produce a high-level supplier maturity assessment of two Tier 1 suppliers, leveraging our sustainability and ESG dimensions assessment methodology.

## Challenges encountered

Factors such as limited supplier participation (due mainly to language barriers), comparability across manufactured products, and the absence of externally available data, led our team to focus on documenting best practices for supplier maturity assessments and sustainable supplier collaboration.

### The key outputs from this Focus Area include:

- A practical (documented, repeatable, scalable) approach to assessment and scoring
- The key observations and lessons learned from our interaction with Pets at Home Suppliers
- Recommendations for Pets at Home and wider retailers



# I FOCUS AREA 1: APPROACH

## IBM's approach to assessing and scoring supplier sustainability maturity includes:

1. Identifying 'like-for-like' suppliers
2. Collecting relevant data
3. Building rating dimensions and a scoring matrix
4. Consolidating inputs and measuring against the matrix
5. Analysing key insights to inform recommendations



## Identifying suppliers

When selecting the suppliers to participate in the case study we considered the following key factors

- Supplier materiality (indicated by the volume/value of business with that supplier)
- Perceived supplier maturity (informed by audits, etc.)
- Product relevance
  - Best-selling product categories
  - Comparable products (to the other goods or suppliers being assessed) based on composition, form, manufacturing process, sources and branding (own-label/branded)

Assessments can be performed within and across supplier categories. Once the approach and matrix is established and tailored for your company, it can be scaled across the entire supplier ecosystem.

For this case study we selected two suppliers which Pets at Home deemed to be strategic partners. These both supplied own-brand extruded complete pet feeds with poultry protein sources. One supplier was in the UK, whilst the other was based in the EU.





# I FOCUS AREA 1 – APPROACH

## Collecting data & information

Accessing data is fundamental to a successful outcome, we would recommend the following:

- Leverage external data sets and certifications where possible
- Secure and digitise internal data
- Conduct interviews with key supplier stakeholders (quantitative/qualitative)
- Include internal corporate sustainability strategy, ESG targets, and supplier processes

To avoid supplier survey fatigue (because collecting and submitting ESG data and information can be challenging), wherever possible we recommend leveraging existing material such as:

- Supplier external datasets
- Supplier data requests
- Supplier interviews
- Retailer data requests
- Retailer interviews

The sample risk categories for identified for Pets at Home for the case study:



### ENVIRONMENTAL

GHG emissions, energy and water management



### SOCIAL

EHS, employee engagement, diversity, equity and inclusion (DEI), customer/animal welfare, access and affordability



### GOVERNANCE

Labour practices, business ethics, risk management and remediation

To build the matrix we looked at ESG dimensions across processes alongside an assessment of ESG strategies, data availability and accessibility. We defined the hierarchy of categories for which data was to be collected and identified the scale of measurement and scoring for performance/grading. Finally, we assigned appropriate weighting to each of the categories (tailored and aligned to Pets at Home’s core business and sustainability strategy).

Ratings dimensions and scoring matrices should break down supplier sustainability performance into different categories and criteria to help companies understand where they can support their suppliers. By assigning different weightings to attributes, retailers can better prioritise engagement and allocation of resources.

## Assessing against the matrix

To optimise the output of the ESG assessment, we recommend leveraging the insights to identify best practices across suppliers and to help develop action plans where opportunities to improve or collaborate are found.

The tracking of progress against such ESG change plans can then inform ongoing supplier performance management and procurement decision making. Ongoing reviews of the matrix’s cross-supplier performance data can also inform subsequent supplier ratings and comparisons.

## Overcoming challenges

Efforts to collect data from the identified suppliers presented challenges.

Suppliers were unable to provide the level of information and documentation in the timeframe available. One supplier did not have sufficient dedicated resource available to collect the data due to both significant commercial pressures at the time and team holidays. With the other supplier there was also a challenge with the documentation being in the local language.

However, considerable learnings were made from the process of engaging with suppliers and understanding the technologies that IBM could provide to support supplier engagement and data collection.

These learnings have been fed into the Pets at Home’s supplier engagement process as part of their carbon reduction initiatives.

Pets at Home are now embarking on some detailed lifecycle analysis (LCA) activity focused on a basket of typical pet food products to identify relative carbon intensities of different products and possible reduction pathways. This complements Pets at Home’s innovative range development including insect based and vegetarian dog foods.

## FOCUS AREA 1: RECOMMENDATIONS FOR RETAILERS

### Create and prioritise sustainability targets & KPIs

- Set overarching sustainability goals with relevant KPIs & governance
- Create roadmaps with year-on-year targets to achieve these goals.
- Prioritise sustainability goals and KPIs
- Include ESG compliance requirements in business policies and controls to ensure alignment across the procuring organisation(s)

### Integrate ESG metrics into supply chain/sourcing processes

- Integrate sustainability requirements into supplier onboarding processes. Ideally having a list of sustainability requirements for suppliers which unless met, mean the supplier cannot be onboarded
- Link sustainability performance to sourcing volume decisions and performance reviews (in the form of weighted scorecards)
- Data security and protection may be relevant depending on supplier type to ensure retailer proprietary data is protected

### Encourage involvement in initiatives

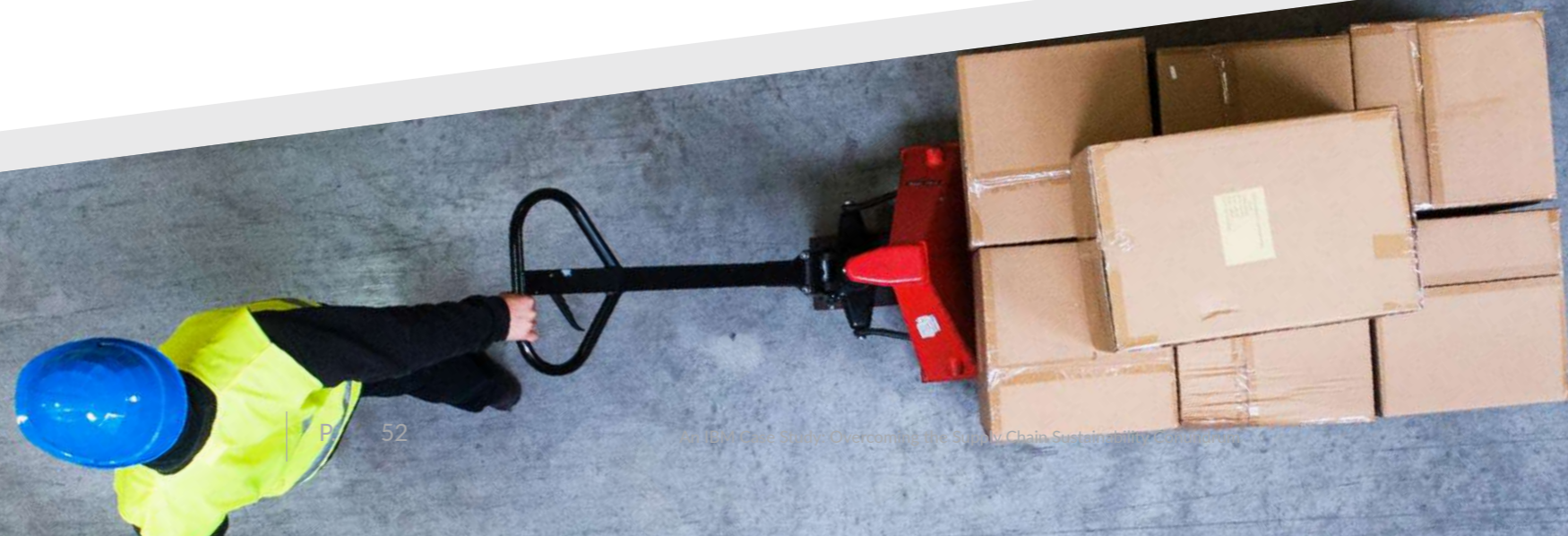
- Encourage participation in relevant industry groups and initiatives
- Reward performance by coinvesting in training, initiative memberships etc. (i.e. retailer pays a percentage of an association membership rate)

### Improve communication and engagement with suppliers

- Once goals, targets, and KPIs are set, retailers must actively share these with suppliers. Ideally by having a document that lists out all the ESG-related expectations the company has for their suppliers and any associated costs which is issued annually to suppliers.
- Evaluate sustainability during quarterly business reviews to assess performance against targets/KPIs
- Mandating 3rd party ESG reporting ensures ESG performance is being tracked, and may enable like for like comparisons
- Establishing ESG SLAs can help promote supplier alignment and their contribution to the achievement of the retailer's sustainability strategy
- Enabling education and knowledge exchanges can help suppliers better understand sustainability and business benefits from addressing ESG.
  - Host supplier summits to share the company's sustainability vision, agenda, and priorities with suppliers
  - Create supplier roundtables for suppliers to share learnings with each other
  - Create a responsible purchasing practices program

### Explore relevant technologies

- Technologies exist which can support the collection of data (within the organisation, from the supply chain and in various formats), providing auditable data with provenance, and translation capabilities to help overcome language barriers. Tools also exist to support supplier insights generation and analytics.





## I FOCUS AREA 2: CONTEXT

Without visibility of the actual supply chain, and access to accurate and authentic primary data, the ability to identify relevant ESG impacts, make product-specific marketing claims, and reflect ESG improvements in performance reporting is severely limited.

In this focus area, IBM explores the common challenges faced in achieving supply chain traceability, along with some of the technologies available to support the capture, processing, and analysis of supply chain data. This work relates to the middle and base layers of the scope 3 Visibility and Management Framework.

Supply chain transparency is imperative to efficient, profitable, and sustainable sourcing and trading.



*“In 2022 49% of consumers surveyed said they had paid a premium, an average of 59% more, for products branded as sustainable or socially responsible in the last 12 months [1] IBM’s Institute for Business Value[1].”*

IBM’s Institute for Business Value

[1] IBM Institute for Business Value (2022) IBM Global Consumer Study: Sustainability Actions Can Speak Louder Than Intent

## I FOCUS AREA 2: CALL FOR ACTION

### ESG Legislation

Organisations need to demonstrate their ability to accurately monitor, measure and report ESG data across the end-to-end supply chain. Thus achieving regulatory compliance and avoiding associated penalties and fines which can be significant.

### Protecting the Brand

Studies suggest that reputational and commercial damage in instances of ESG non-compliance or greenwashing exposure can have significant negative impacts on shareholder value, and those effects can be amplified even further through social media.

### Traceability

Improved access to investment capital, better business rates or additional revenue opportunities can be leveraged by organisations able to authenticate ethical-grade sourcing, production provenance or ESG credentials of goods. Supply chain traceability can also support longer-standing product safety and authenticity requirements.

### Commercial benefits

Focusing on supply chain traceability will also help improve the most fundamental criteria of time, quality, and cost. For example, by eliminating wasted time and materials via circular design, sustainability benefits can be achieved.



### Environmental

The increased prevalence of natural disasters, exacerbated by climate change, can impact the output volume, production processes, transportation and storage of goods. Factors like unregulated deforestation, habitat destruction, and unprecedented flooding threaten the wellbeing of people living in impacted areas, pushing them into poverty and forcing them to migrate.

### Biological

Pathogens and disease agents impacting humans, livestock and crops have (enabled by climate change) expanded into new geographies, impacting food production and wider supply chains.

### Geo-political & socio-economic

Conflict, economic disruption and government unrest can impact the cost, availability and movement of goods and labour. BREXIT and the war in Ukraine have significantly impacted food supply chains (e.g. fertiliser and sunflower oil), energy costs and the financial sentiment of businesses and consumers.

## FOCUS AREA 2: APPROACH TO MEETING THIS CALL TO ACTION

Supply chain modelling is an ongoing, iterative process that relies on the effective engagement of suppliers in each tier of the supply chain.

A theoretical mapping alone, or a reliance on certified goods is not sufficient. Mappings should be authenticated and correlated with the physical movement of goods or services through the end-to-end supply chain.

### Step 1: Supplier Engagement

Engaging suppliers is critical to tracing supply chains. Optimising supplier cooperation relies on several key factors:

#### Partnership

Strategic alignment with the procuring organisation's ESG initiatives and priorities; understanding of the retailers' intentions behind supply chain mapping and tracing; and the degree of the retailer's influence over the supplier's operations (wider contractual terms and conditions, including penalties)

#### Volume of trade

Importance or materiality (by volume/value) and depth of business relationship (proportion of the supplier's overall client base)

#### Geographical location

Supplier location(s) and languages; local/applicable ESG regulations and standards

### Step 2: Sourcing Data

Effective data management is critical to tracing supply chains. However, access to and the accuracy of sustainability data can represent significant operational challenges. Data is usually spread across multiple internal systems, along with multiple suppliers and their respective systems.

Suppliers need clear, consistent guidance of supply chain data requests.

#### Data capture

The ease with which data can be obtained, assessed and processed can vary according to supplier. Key questions to consider before any supply chain mapping include: confirming which data points to capture/request/source and why; and whether to use proxy or actual values. It should also be decided whether to use secondary data sources, and if so which, and for what information. Consideration should also be given to what calculation methods/boundaries have already been applied to the data.

#### Data fabric

Once the data has been captured, agreement must be reached on how it will be authenticated, structured and stored. How the data will be integrated into other systems should also be considered.

#### Data maturity

How data is captured and shared varies across the supply chain, becoming increasingly challenging with Nth tier suppliers. Capturing data at scale and in the optimal format will depend on the supplier's degree of record keeping automation (some primary suppliers may operate paper-based record systems) and available resources. Consideration should also be given to the clarity, format, frequency and plurality of data requests from other procuring organisations as it can culminate in audit fatigue.

As the maturity of an organisation's mapping and tracing grows, the approaches to data capture and processing will shift. Organisations commonly start by using proxy values from secondary sources, and then progress towards using actual values from primary sources.



### Step 3: Applying the right technologies

The following technologies were reviewed to facilitate the uncovering and assessing Pets at Home’s pet food supply chains.

#### Mondra [1]

Mondra’s solutions can help to achieve supply chain hyper-modelling and carbon foot-printing.



#### IBM’s Transparent Supply [2]

IBM’s Transparent Supply solution can facilitate the ingestion and processing of primary supply chain data to derive a goods-specific trace across multiple supply chain nodes, and enable analytics by company, location, product movement and condition.

- FoodTrust
- FashionTrust



#### IBM’s ETHICS

IBM’s Empirical Transparency of Human-Rights Issues in Commodity Supply-Chains (ETHICS) is a prototype solution which is currently being piloted to support the exploration beyond the entities which physically handle the traced goods, to uncover potential human rights risks hidden within ownership models, and the surrounding supply network, to demonstrate strong “due diligence” around social risk identification and mitigation.

[1] Mondra - Enabling a sustainable food system for the planet  
 [2] MCA – Sustainability Award Winner 2022: IBM Consulting with Fashion Trust - MCA



# FOCUS AREA 2: TECHNOLOGY CASE STUDY



## Overview

Mondra are the technology sponsors for the BRC's Climate Action Roadmap Pathway (1) which focuses on placing greenhouse gas data at the core of business decisions. Mondra offers solutions and services to support food and beverage retailers to initially hyper-model, and then impact assess their supply chains.

Mondra provides the ability to analyse supply chains at different levels using actual food and beverage product-level footprints, to identify environmental impact hotspots, and to lay the foundation for a data-driven decarbonisation programme to facilitate improvement across the entire supply chain. Mondra's technology provides retailers with the ability to generate AI-driven product footprinting at scale.

Mondra's technologies were not directly applied to the Pets at Home data as part of the case study.

## Key steps in the Mondra process

1. **Map the supply chain** by leveraging seed data from food compliance systems (the preferred but not exclusive source), Mondra's AI Hypermodelling technology generates a digital-twin of the product's unique supply chain back to source.
2. **Assess the baseline ecological impact** across the product lifecycle: having generated a digital twin of the supply chain, Mondra's solution overlays impact "hot-spotting" for a range of ecological factors including carbon emissions, biodiversity loss, water usage and water pollution. These impacts are then baselined, at a product or ingredient level, against industry average benchmarks. The quality of the source data can also be scored, by node, to identify areas for improvement.
3. **Improve the ecological impact baseline** with data-driven insights by applying scenario modelling and transitioning from proxy values to primary farm data.
4. **Showcase performance with assurance** to enable retailers to gain credible 3rd party certifications to showcase and market the sustainability of their supply chains. For example: Product ISO compliant LCI/Reference export, SBTi reporting ready (inc. FLAG), TCFD reporting ready export and ASA/CMA ready labelling (IGD).

## Where & how is the solution currently being used?

As part of the BRC Climate Action Roadmap, Mondra have been working with several UK food and beverage retailers to prove their WRAP, IGD, WWF and Defra-aligned approach:

- Support tracking of food and beverage scope 3 impacts for retailers and their suppliers
- Analysis of category, product and ingredient impacts, risks and opportunities
- Scenario modelling of potential product changes
- Tracking of product change implementations – to drive real collaborative reduction

By the end of 2023 Mondra will have tuned all food and beverage categories; from strawberries to steak, tikka masala to tequila. Ready to support 100% of the food system.

Today Mondra assesses carbon, water usage, water scarcity, eutrophication, land use and biodiversity impacts. The impact set is being increased in relation to supporting FLAG and working towards the EC's PEF standard.

## How can retailers use the system?

Mondra's technology solution enables scaled footprinting for food and beverage companies, and their suppliers. Collaborative reduction on a single platform, to a single transparent standard, is possible today.

Retailers and their suppliers can use the solution to understand their products' unique



supply chains' emission hotspots. Aggregated category views enable quick understanding of how certain ingredients drive emissions. This insight can be leveraged for disclosures, reporting, marketing claims, and to make changes to product composition/sourcing to reduce ecological impacts.



### Previous challenges & observations relevant to this case study

The poultry industry, like pork, is often vertically integrated. This provides benefits with regards to data availability as the primary processors often have high influence and insight into their raw material supply chain. Animal protein producers in this space are relatively unique with such a strong and direct tie to both the agriculture and consumer side of the food. The industries are also highly efficient in their processing, with careful attention paid towards reducing waste and maximising the economic and nutritional value derived from each bird.

It is this particular attention to waste and by-product quantification that enables a side-step from human foodstuffs into the parallel industry of pet food. Pet foods usefully use the lower value cuts of the animal, unlikely to be consumed by humans.

Most impacts are from the farm stage. With poultry, upward of 75% of the total farm stage carbon impacts can be from the animal feed alone[1]. Careful sourcing of the feed can dramatically change the impacts.

It can be difficult to link the data between different life-stages of bird rearing, for example from the hatchery chicks onto the final rearing stage.

For pet food, the primary challenge comes from reduced insight into the upstream supply chain.

### Key Recommendations

When embarking on a food-product supply chain modelling and ecological impact assessment, the retailer should start with an assessment of the completeness and quality of their data. A solution provider could help the retailer spot any potential shortfalls.

Engagement with suppliers should be undertaken as early as possible. Net zero will only be achieved when all supply chain partners work together collaboratively. Share your goals, share your reduction plan and get to work, together.

[1] Current Biology (2023) Environmental footprints of farmed chicken and salmon bridge the land and sea

## FOCUS AREA 2: TECHNOLOGY CASE STUDY - IBM TRANSPARENT SUPPLY



### Overview

To understand a specific product’s risks, it must first be broken down into a view of its constituent components and their individual value chains. Working solely on the basis of an assumed value chain may provide misleading or inaccurate results, or inflate the potential risk factors beyond an actionable scale.

IBM Transparent Supply helps to provide traceability of products and/or components to produce a supply chain “backbone”.

Using this solution, the objective of the case study with Pets at Home was to trace product and raw material through the supply chain to enable visibility of the upstream locations.

We engaged with suppliers to brief the Transparent Supply modelling approach, scope and data requirements, so as to build trust and confidence in how Pets at Home intended to use any data shared.

### Data requirements matrix

	Item Description	Item Code (SKU)	Facility Name	Facility Address	Bill of Materials	Goods Receipt	Requested Delivery Date	From Location (s)	To Location (s)	Unit of Measure	Quantity / Weight	Batch or Lot Number	Purchase Order Number
<b>Master Data</b>													
Product	X	X			X					X			
Facility			X	X									
<b>Purchase Order</b>													
Purchase Order	X	X	X	X			X	X	X				
<b>Logistics Data</b>													
Last Shipment to Retailer	X	X						X	X	X	X	X	X
Inbound	X	X				X		X	X	X	X	X	
Outbound	X	X				X		X	X	X	X	X	
<b>Production Data</b>													
Product Transformation	X	X	X	X				X	X	X	X	X	X

### Product & raw material selection

As outlined in earlier sections of this report, in order to better inform an organisation’s roadmap to a more sustainable supply chain, research should be undertaken to determine the most impactful product categories and so to identify those which should form the initial focus for tracking.

For this case study, Pets at Home selected an SKU from their dog pet food range. Upon analysing the ingredients from the bill of materials provided by Pets at Home, two ingredients were selected for further investigation including poultry, which constituted 51% of the ingredients.

### Supplier engagement

To initiate the process of identifying and communicating with suppliers, IBM facilitated a series of supplier stakeholder briefing and engagement sessions alongside Pets at Home. In these sessions a brief of the case study approach, scope and data requirements was delivered, to build trust and confidence in how Pets at Home intended to use any data shared.

### Sourcing data

To enable the trace of a product through the supply chain, data was collected from both Pets at Home and their suppliers.

A minimum set of initial data was required: master data (product, facilities, locations), inbound goods data (receiving); transformation data (production processing); outbound goods data (shipping); and purchase orders.

Commercially sensitive data was not required or requested.

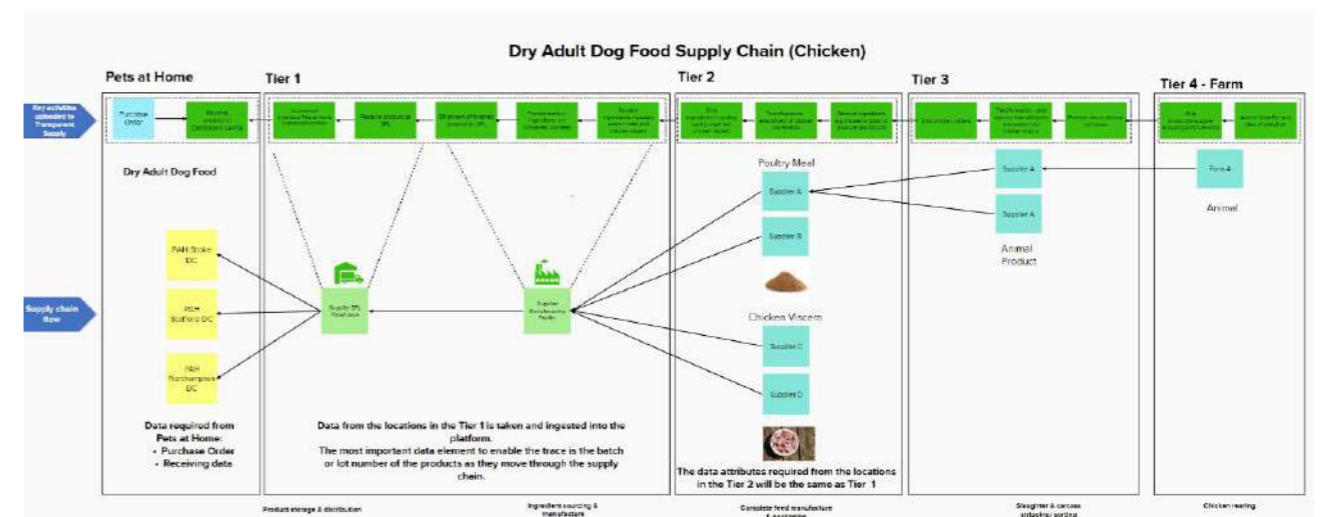
### Data set up & ingestion

The data requested was provided by Pets at Home and their suppliers in several different formats, but primarily as Excel and CSV files. Data can be uploaded into IBM Transparent Supply either manually (copying of data into the defined template) or automatically (making copying or reformatting unnecessary).

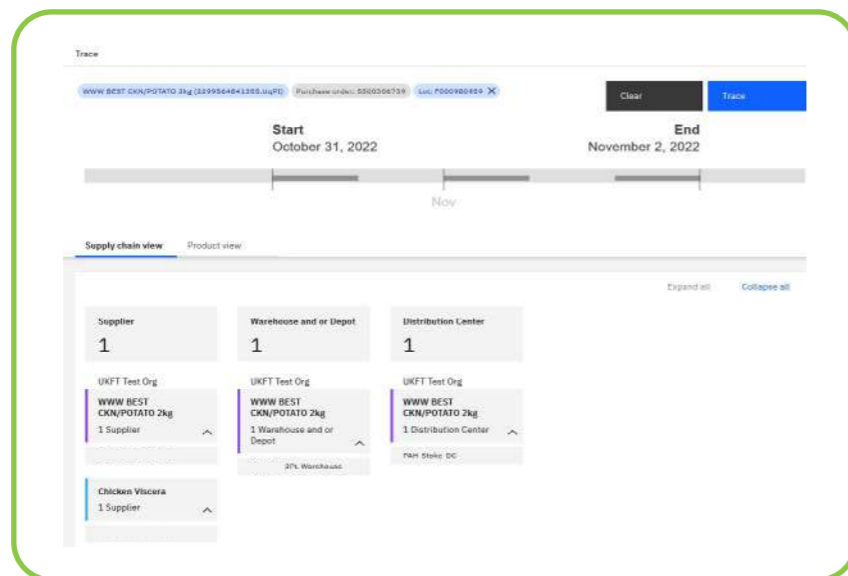
Product master data along with Pets at Home and Tier 1 supplier locations was set up on IBM Transparent Supply, including geocode locations for the relevant sites. It was proven that the data, in whatever format provided, could be ingested easily and quickly by the system. This enabled traceability by purchase order, through three locations back to the Tier 1 manufacturing operation. The screenshot below shows how the trace was completed for Tier 1.

### Mapping the supply chain

The study was able to map back to Tier 2 of the Pets at Home chicken supply chain. The further back in the supply chain that information is gathered, the more complex the picture becomes. The Tier 3 and Tier 4 columns represent placeholders for the next stage of this work.



### Traceability output example





# FOCUS AREA 2: TECHNOLOGY CASE STUDY – IBM ETHICS

## Empirical Transparency of Human-Rights Issues in Commodity Supply-Chains

### OVERVIEW

ETHICS is an IBM Service focused on the ‘S’ in ESG. It has the capability to surface possible human rights exposures, from deep within commodity supply chains, for further investigation and intervention.

Through its application, ETHICS can allow organisations to demonstrate strong due diligence around social risk identification and mitigation.

ETHICS is currently being piloted with existing IBM clients to explore typically opaque supply chains such as palm oil.

## LEVERAGING ETHICS

### Commodity selection

ETHICS is best leveraged to assess commodities:

- Which are material to an organisation in terms of volume and/or value
- With inherent supply chain opacity
- With supply chains believed to have a high probability of associated human rights abuses

### Data identification & processing

Only relevant, applicable and trusted internal and external data sources are leveraged by ETHICS, including NGO and regulator/government reports, news articles, and open source or licensed data. IBM subject matter experts also review the veracity and reliability of the data used. External data is reformatted and ingested into the ETHICS platform via an automated data pipeline.

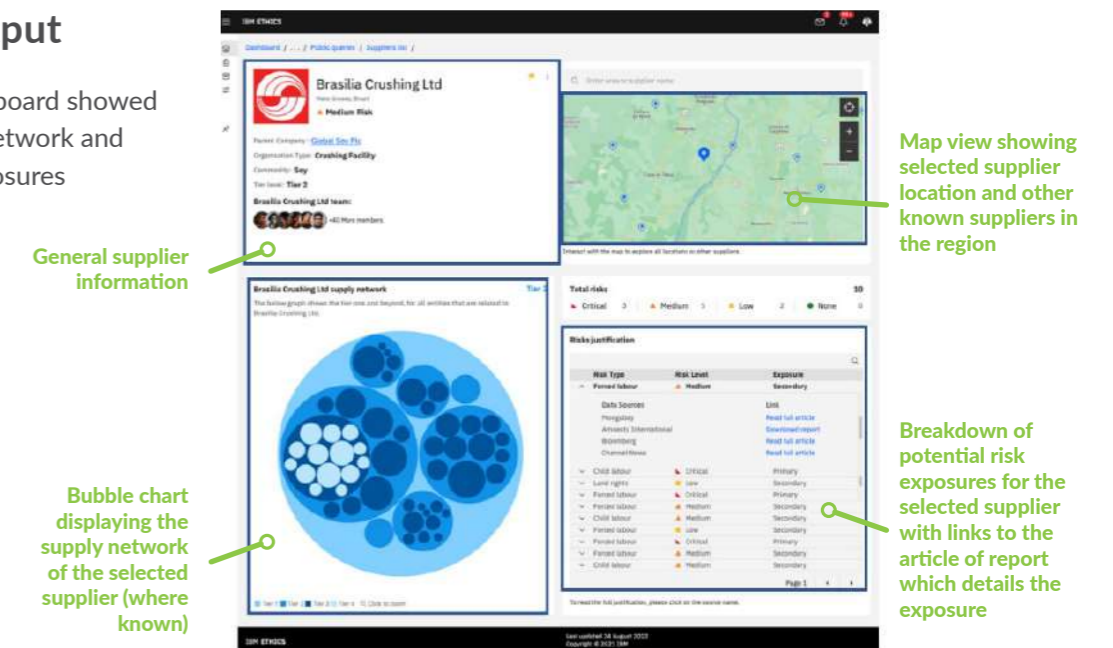
**Note:** An organisation’s own data such as the target product’s bill of materials and specifications can also be used to augment the ETHICS analysis.

### Leveraging the AI model

The AI Knowledge Model within ETHICS is then used to assess potential human rights exposures within the supply network. Users can review potential risks by respective classification (*critical (confirmed non-compliance), high, medium, low*).

## ETHICS output

The ETHICS dashboard showed supplier details, network and potential risk exposures



## Build an organic ‘network of networks’

- Using a top-down and **bottom-up** approach - from **facilities** to **owning companies**
- **Using various datasets:**
  - **Customer data**
  - **NGO data**
  - **Certification data**
  - **Proprietary data**

## Reason and infer

- **Join the dots** within the context of the supply base
- **Discover** new nodes or entities within the supply base
- **Attribute** exploitation to **individual facilities & owning companies**

## Identify risks

- Multiple types of **direct** and **indirect** risk
- The **relative risk severity**
- The **wider impact** on the supply network

## FOCUS AREA 2: RECOMMENDATIONS FOR RETAILERS

### Strategic direction and measuring success

Product traceability and visibility by location to support timely and accurate collection of ESG data across the supply chain is becoming an ever-increasing priority for organisations. Pressure is mounting in the form of increasing regulatory requirements such as EU Digital Product Passports (DPP) [1], along with mounting shareholder expectations, external reporting pressures and growing end customer scrutiny.

Organisations should clearly articulate their ESG aspirations, strategic direction, transformational plan & milestones, and the KPIs against which they will measure progress and success both internally and with suppliers.

### Supplier engagement

Without active and persistent engagement of supply chain partners, ESG supply chain mapping and reporting will be ineffective, potentially leaving an organisation exposed to the risk of regulatory compliance shortfalls or allegations of greenwashing.

### Traceability

Tracing products and raw materials through the supply chain is possible. Determining the product and raw material to be traced is the first step. This should be assessed using evaluation criteria right from the offset so that product selection is aligned with strategic business objectives.

#### Evaluation criteria may include:

- Continuity lines (rather than seasonal)
- Own brand (rather than branded)
- Existing lines (stock and purchase records are held by the retailer)
- Economically significant to retailer (purchased and sold in considerable volumes)
- Economically significant to suppliers (retailer represents a significant proportion of the supplier's business)
- Contains priority commodities (informed by the retailer's objectives)

### Technology

Efficiency in enabling the monitoring, measuring, collecting, analysing and reporting of ESG data is a critical success factor for sustainable supply chains. Both ESG-related and other important supply chain data requirements should be clearly understood at the outset of any supply chain mapping exercise.

Selecting the optimal blend of technology enablers, along with an agreed method to embed ongoing data collection into BAU activity should be at the heart of supply chain mapping and sustainability business objectives.

[1] – European Commission (2022) - New proposals to make sustainable products the norm (europa.eu)

## FOCUS AREA 3: CONTEXT

### Overview

Unfortunately, many ecological and socio-economic risks exist within today's complex, multi-tiered and often opaque global supply chains.

Whilst the BRC Sustainable Sourcing Pathway (4) is predominantly focused on GHG emissions, this section of the report also explores the interconnected relationship between ecological and social supply chain impacts.

What's more, consumers don't just care about carbon. A recent IBM IBV study [1] showed that information around child and forced labour, human rights, air pollution, and water consumption and treatment influenced their decisions to engage with an organisation.

### The transparency mismatch

ESG reporting rarely addresses all the issues consumers care about.



Most important ESG information for consumers



Most reported metrics by organisations

Health and safety	73%	1	50%	Percent of women in workforce
Child labour and forced compulsory labour	70%	2	46%	Scope 1 GHG emissions, absolute
Human rights	69%	3	45%	Percent of women in leadership (C-suite)
Air pollution	68%	4	41%	Scope 2 GHG emissions, absolute
Water consumption and treatment	66%	5	38%	Scope 1 GHG emissions intensity

Source: Consumer survey Q19: Importance of the following sustainability information to you when making decisions to engage with an organisation (1-5, 4&5= very important); Executive survey Q15: ESG metrics organisation is currently using

In this section of the case study, international chicken and soy supply chains and their associated risks have been explored, along with some of the technologies and partners which can facilitate this analysis.

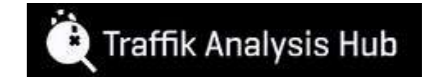
The analysis within this section of the case study is not specific to the Pets at Home supply base.

[1] IBM Institute for Business Value (2023) The ESG data conundrum | IBM





# I FOCUS AREA 3: CONTEXT



## Commodity-level analysis

Whilst on the journey towards achieving more sustainable supply chains, analysis focusing on specific commodities can help organisations to identify their material products and potential impacts.

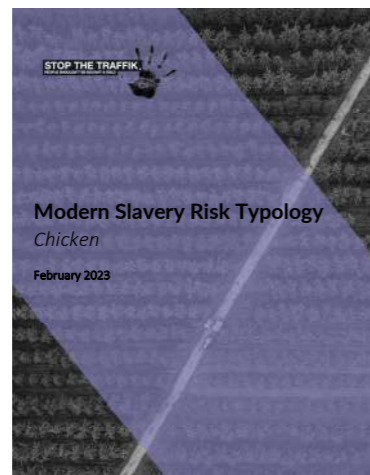
Commodity-level analysis may inform, or be performed as a result of, supply network mapping, and can be used to launch investigations or audits into the organisations who have an exposure to risk.

Organisations can then confirm or deny whether the exposure is a legitimate non-compliance, and work with their procurement departments and any non-compliant organisations to mitigate or eradicate the risk, which may involve switching to an alternative supplier if performance cannot be improved. Should an organisation opt to seek an alternative source of supply, the recommendation is to follow an ethical exit plan, which considers the rights and wellbeing of vulnerable people connected to the original supplier(s).

## STOP THE TRAFFIK Group

STOP THE TRAFFIK Group (STTG) [1] are an IBM ecosystem partner who advise businesses on how to identify and mitigate the potential human rights abuses and modern slavery issues. Through IBM's powerful ecosystem partnership with STOP THE TRAFFIK Group, users of the ETHICS service (outlined in focus area 2) can access their deep domain expertise and connect with their well-established network of local partners worldwide to address exposures, carry out further due diligence and build preventative measures with suppliers.

STTG have produced refreshed typology reports exploring the modern slavery risks associated with chicken and soy supply chains. The findings from these reports have been leveraged within Focus Area 3.



[1] – STOP THE TRAFFIK - People shouldn't be bought and sold

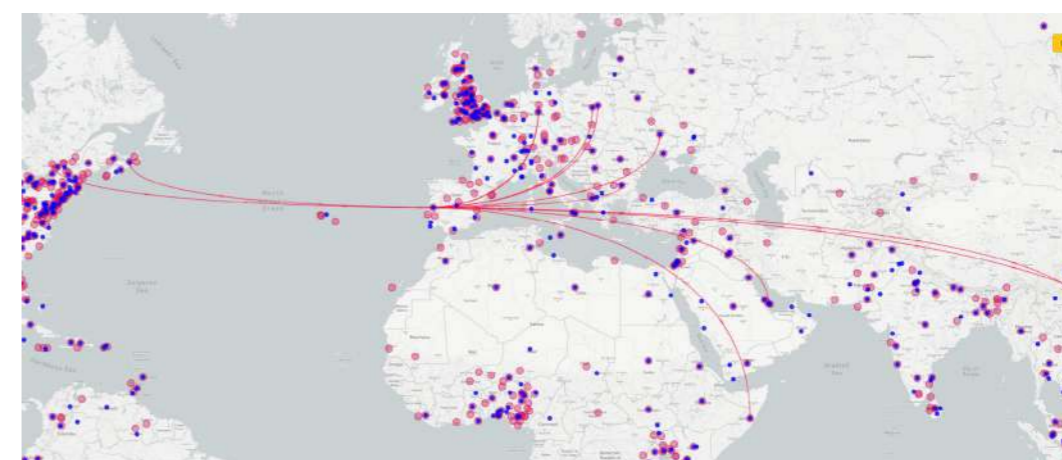
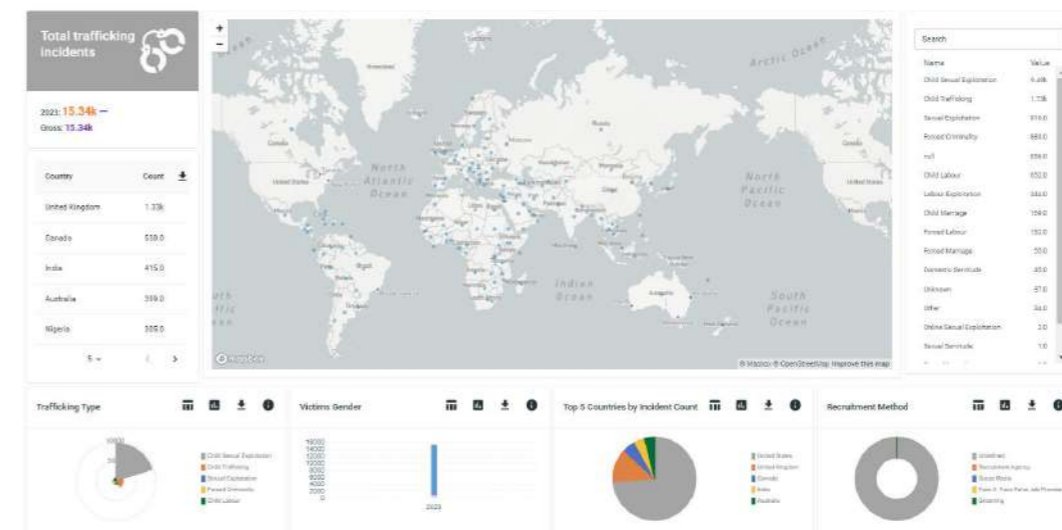
## Traffik Analysis Hub [1]

Traffik Analysis Hub (TAH) is a not-for-profit organisation based in the UK and part of STOP THE TRAFFIK Group. TAH is an impactful collaboration across multiple sectors, united by the common goal of preventing human trafficking. At its heart is a suite of technologies developed by IBM and owned and operated by TAH, specifically configured to serve the needs of all those with a stake in countering trafficking.

The TAH platform translates the largest, accessible collection of human trafficking survivor stories into a comprehensive and interactive database.

This platform also supports the joint analysis of large AI-generated data sets, providing partners with the ability to pool data assets to identify patterns and hotspots of trafficking incidents.

A sample of the customisable analytical tools and outputs are shown below.



[1] – Traffik Analysis Hub

# I FOCUS AREA 3: CONTEXT & APPROACH

## Context for this case study

In this section of the case study, the environmental and social risks associated with Chicken and Soy sourcing are explored. The following analysis is not specific to the Pets at Home supply chain.

For those retailers trading products in the UK containing Chicken or Soy, the findings of the in-depth commodity analysis may be of interest.

For retailers not trading these commodities, the approach and technologies leveraged may still be of interest as they may be applied to other product categories.

## Approach

As outlined in the earlier sections of this report, insights and risks may be explored at various stages of the journey, from high level research to inform an initial Case for Change, through early work on managing ESG risks associated with internal operations and performing supply chain deep-dives and ongoing improvement work.

The key is to generate insights at the right level of detail, at the right time, with the right data.

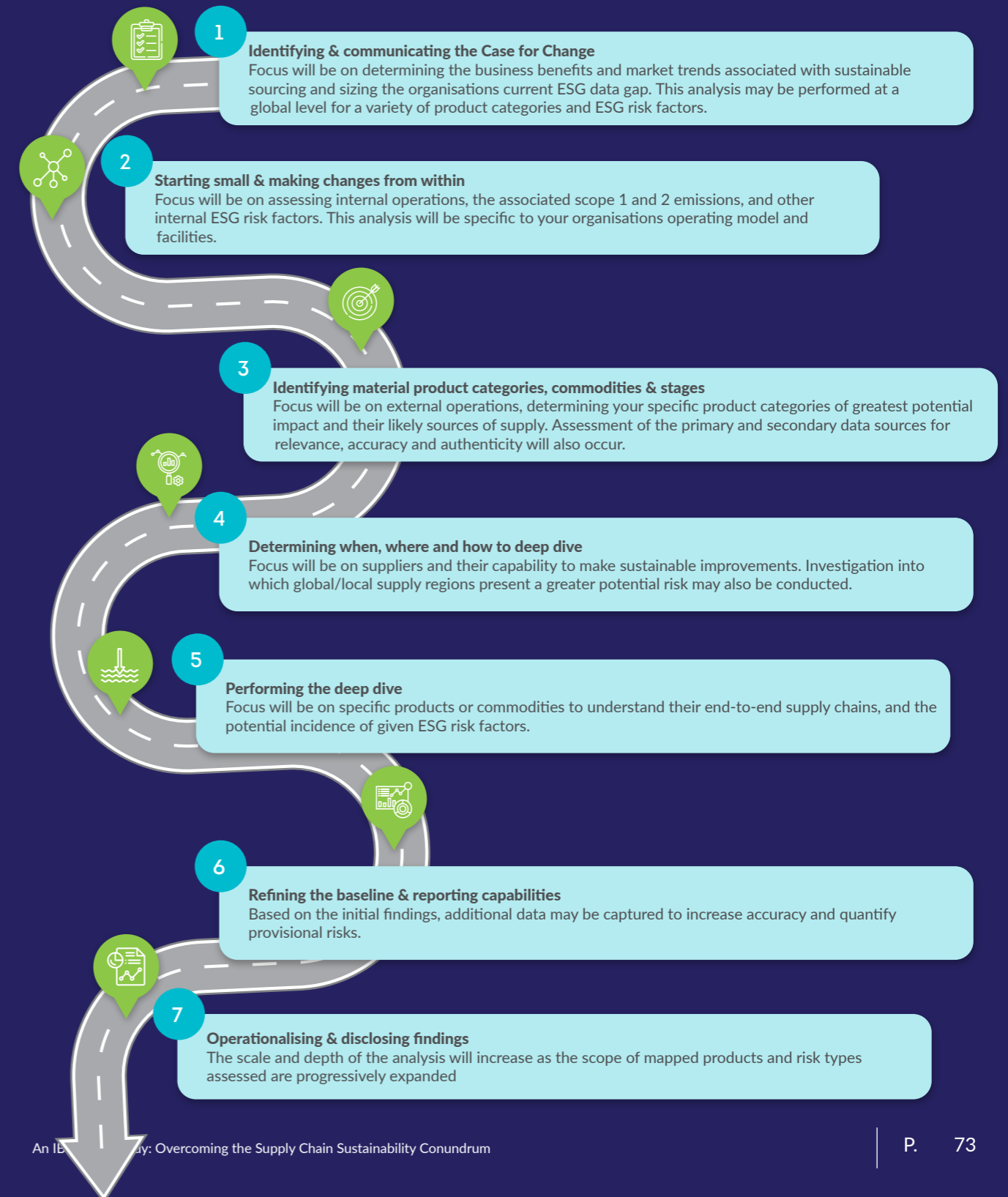
At each stage the intention behind the research will shift, along with the depth of analysis and areas of focus.



# I FOCUS AREA 3: APPROACH

## The journey towards more sustainable supply chains

At each stage of this journey, the requirement for insights varies:





## FOCUS AREA 3: ANALYSIS OF CHICKEN SUPPLY CHAINS

In this section of the case study, international supply chains and their associated risks have been explored. This analysis is not specific to the Pets at Home supply base.

### Introduction

Poultry is the most widely produced meat globally [1] and despite, or perhaps because of the increasing global demand for chicken there are considerable risks arising from the chicken supply chain: abuse of workers' rights; animal welfare issues; and environmental concerns such as greenhouse gas (GHG) emissions and ecological damage. Other chicken by-products (e.g. eggs for human consumption and down/feathers for clothing or home furnishings) means responsibility for the mitigation of production risks does not fall solely to those generating demand for chicken meat.

Although supply and demand for chicken meat are both truly global, the associated risks are more localised as demand is often met with supply from the same country/region. This report focuses on climate and social risks created by large-scale chicken production systems.

There is a huge trade-off associated with chicken farming: it is the most used meat in the UK, and it is extremely difficult to just cut production. However, changes are needed to mitigate the negative effects it is currently causing.

[1] – Our World In Data (2012) - Meat and Dairy Production

[2] – Food Security Centre (2020) - 70% of all birds on earth are farmed poultry

[3] National Farmers Union (NFU) (2021) - Sustainable soya sourcing for UK agriculture



### Risks from chicken production

**Animal welfare:** animal rights are a major risk within chicken farming supply chains and is the focus of much scrutiny in the UK which often centres around the treatment of broiler chickens (chickens raised specifically for meat and kept in highly restricted conditions). Many activists contest expansion plans for chicken farms on the grounds of animal welfare concerns.

**Workers' rights:** particularly in relation to working conditions (injury risk, overcrowded, cold or humid environments) and exploitation (poor and overpriced accommodation, low pay on zero-hours contracts, wage suppression and poor job security) due to high prevalence of overseas workers and subcontractors in the multi-layered UK chicken industry.

**Environmental and ecological:** biodiversity reduction in our ecosystem with farmed poultry representing around 70% of all birds on the planet [2]. Environmental destruction driven by more than half of the soya used to feed poultry in the UK not being from certified deforestation-free sources [3]. Chicken farming leads to land and air pollution. Nitrogen from chicken excrement can leach from the soil into groundwater, which can contaminate sources of drinking water and damage aquatic and marine ecosystems.



### Risks to chicken production

**Disease:** climate change is exacerbating disease in animal, and specifically bird populations with altered migration patterns, increased infection vectors and more hospitable conditions for viruses [1]. With high mortality rates, Bird Flu outbreaks can have considerable socio-economic impacts, reducing the affordability of chicken products and increasing household food insecurity levels[2].

**Climate change:** climate change can cause a depression in the growth rate of chickens and their efficiency of food utilisation [3]. To combat chicken heat stress farmers will need to improve temperature controls, creating higher energy demand, increased cost price and emissions. Climate change also introduces significant risk to chicken feed supply chains with crop yields being increasingly affected by drought, wildfires, flooding and storms.

**Biodiversity loss:** Chicken farming produces large amounts of ammonia which contains high levels of nitrogen that can promote the growth of invasive plant life species, reducing oxygen and light levels within water bodies which can damage animal and plant populations.

### Regulation & certification

The UK has some of the best food safety and animal welfare standards in the world [4], underpinned by a comprehensive system of laws and voluntary standards which contribute to high levels of food trust in the UK.

Although enhanced standards, such as free range and organic, may help to improve the treatment of chickens, only a small proportion of UK chicken consumption is certified to these standards [5].

### Improvement opportunities

Actions can be taken to help mitigate chicken supply chain risks including exploring alternative feedstocks for chicken (such as insects), increased liability for those involved in the supply chain and fundamental changes to the way we feed ourselves (alternative forms of plant-based protein).

[1] – Nature Immunology (2020) - Climate change: an enduring challenge for vector-borne disease prevention and control

[2] Kingston University London (2022) - Impact of bird flu is a potential risk to UK economy

[3] Journal of Thermal Biology (2021) - Climate change and heat stress: Impact on production, reproduction and growth performance of poultry and its mitigation

[4] Animal Protection Index (2020) - World Animal Protection | Animal Protection Index

[5] RSPCA (2022) - Copy of FAD Meat Chickens Information Sheet - Template 2022

## FOCUS AREA 3: CONCLUSIONS FROM ANALYSIS OF CHICKEN SUPPLY CHAINS

### Conclusions

Chicken meat consumption, including that for pet food, relies on a supply chain that is fraught with many risks.

While it is possible to reduce these risks for those consumers who are prepared to spend more for premium products, not all consumers can afford this choice. If such standards were to become legal limits, there would be a significant social equality issue as many consumers would be priced out of buying chicken, not just for their pets but also for themselves.

The UK's chicken supply is less risky than other regions, but the UK is one of the countries that can afford to explore alternative options, given the relatively affluent population. This could provide a market for new more expensive products.

Increasing engagement with agricultural workers and recruitment agencies to support the upholding of workers rights and preventing exploitation is another area of potential opportunity.





## FOCUS AREA 3: ANALYSIS OF SOY SUPPLY CHAINS

In this section of the case study, international supply chains and their associated risks have been explored. This analysis is not specific to the Pets at Home supply base.

### Introduction

Soy production has increased significantly in the 21st century [1] and has been linked to human rights abuses. Most of the UK's soy imports come from Brazil, Argentina, and Paraguay [2] where there have been numerous documented cases of indigenous groups being treated with malice and suffering negative social impacts due to the expansion of soy production. Soy production is also responsible for adverse environmental impacts including the generation of greenhouse gases and deforestation, as well as the use of agrochemicals which contribute to land erosion and chemical pollution.

### Scale of Soy Production

The largest producers of soybeans are the USA, Brazil, and Argentina. Statistics show that global production has more than doubled over the past 20 years, with the market now exceeding USD\$115 billion. By 2028 the market value is forecasted to exceed \$190 billion [3]. Approximately 90% of soya consumed in the EU is used in livestock feed, mostly as soya meal as this has a high protein content. The UK imported \$370M of soybeans in 2020.

### Sources of demand

Soy contains a high concentration of essential amino acids and is the main source of protein in our global food supply. Soybean oil is also used to produce biodiesel, an alternative fuel that policy makers are supporting to reduce carbon footprints.

Understanding the global, multi-tiered soybean supply chain is critical to identify the different types and causes of ESG-related risks at each point in the system

[1] - Our World in Data (accessed 2023) Soy  
 [2] EFCEA (2019) - UK-RT-on-Sustainable-Soya-APR-2019-final.pdf  
 [3] - (http://english.customs.gov.cn/statics/report/monthly.html)

Soybean supply has several inherent sustainability-related risks (environmental impact, climate, and social factors) alongside supply chain resilience issues and associated increased costs.



### Risks from soy production

**Workers' rights:** the UK is the second largest importer of soy in Europe, with Brazil being the primary source of origin which is where Greenpeace have documented cases of human rights abuses including armed raids, illegal detainment, harassment and community lands being divided by security fences [1].

Research suggests that a lack of transparency means UK supermarkets cannot guarantee that soya from deforested areas is not in their supply chain [2].

Slave labour is also reported to be used in soy production. Such illegal employment, coupled with poor and unsafe working conditions results in hazards and injuries.

**Environmental and ecological:** Soy is a high-intensity crop (energy, water, agrochemicals and soil fertility) generating greenhouse gases that contribute to climate change. This monoculture erodes land at alarming rates, necessitating the use of more agrochemicals to offset poorer soil quality.

Bolivia has the highest greenhouse gas emissions per capita in the world, 80% of which originate from deforestation driven by the clearing of forests for soy cultivation [3].



### Risks to soy production

**Environmental factors:** droughts pose significant risks to the soy supply chain. The pursuit of higher yields contributes to the cycle of deforestation, global warming, yield degradation and intensification [4].

These factors will increase uncertainty, risk and ultimately costs within the farming industry resulting in increased food insecurity and inequality.

**Climate change:** crop production suffers from droughts, flooding, or freezing conditions which damage crop yields.

This uncertainty and other climate change-related impacts are increasing costs for farmers, making it harder to make ends meet.

[1] Green Peace - https://storage.googleapis.com/planet4-international-stateless/2020/04/86b5fe06-greenpeace\_underfire\_artwork\_pages.pdf  
 [2] The Guardian - https://www.theguardian.com/environment/2019/oct/05/tesco-m-and-s-supermarkets-likely-to-have-soya-linked-to-deforestation-supply-chains  
 [3] Lee, C. (2021) - https://earth.org/soybean-products-and-its-environmental-impact/  
 [4] Animal Equality - Soy and Deforestation: Everything You Need to Know (animalequality.org)

## Soy supply transparency

There are several global and UK-based initiatives to help improve the transparency and sustainability of soy supply chains.

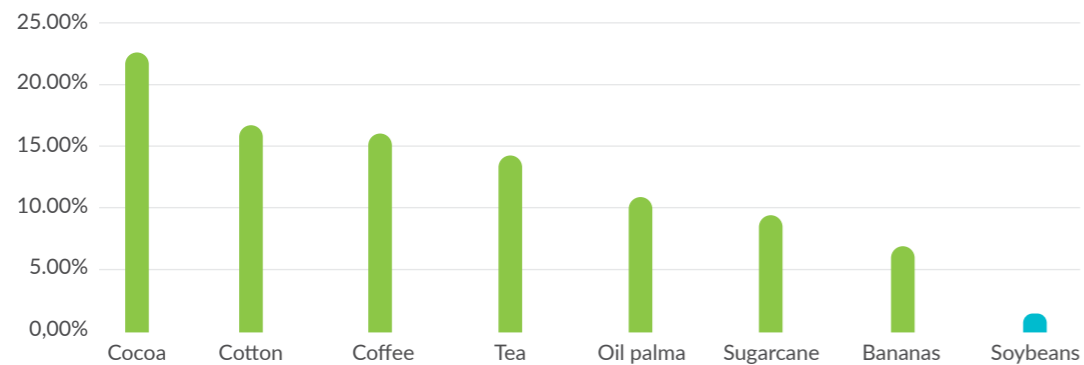
Certifications promote greater sustainability in the supply chain by emphasising compliance with legal obligations.

The UK Soy Manifesto (UKSM) is a government-backed food industry collaboration to ensure that all physical shipments of soy to the UK are deforestation and conversion free by 2025 [1].

Certifications promote greater sustainability in the supply chain by emphasising compliance with legal obligations ensuring that soy has been produced with zero deforestation and conversion of land thereby helping to mitigate the worst causes of unsustainable practices from climate, ecological and social perspectives.

However, analysts suggest that currently only 3% of the world's soy volume is certified, which is very low compared to other commodities [2].

## Certified commodities - share of global area



Although today's consumers are more aware of and take more responsibility for the environmental impacts of their purchases, the current proliferation of certification systems (both independent and industry-sponsored) makes it harder for a consumer to understand which certification systems are independent [3]. This in turn may damage the drive for greater coverage of soy production.

[1] UK Soil Manifesto - The Manifesto | The UK Soy Manifesto

[2] Planet Tracker - Increased soy certification would decrease deforestation risk - Planet Tracker (planet-tracker.org)

[3] Science Direct - <https://www.sciencedirect.com/science/article/pii/S0305750X20304083>



## Soy & Deforestation

The demand for soybeans has led to significant levels of both deforestation and habitat conversion in some of the world's most at risk locations, particularly in South America, the biggest soy producing region after the USA.

According to the WWF [1] much of this deforestation or habitat conversion is unnecessary. Research shows that there are more than 25 million hectares, an area larger than the size of the UK, of degraded or abandoned land that could be used to produce commodities like soy or beef, without the need for any more clearance of native vegetation [2].

## Mass Balance

Mass Balance is a sustainable, affordable sourcing method for soy.

Both certified and non-certified soybeans are integrated in the processing stages of supply chain, negating the need for segregation during production, fostering demand increases which enable soybean farmers to enjoy social and economic advantages including higher incomes and better working conditions.

Mass Balance promotes more ethical supply despite there not being 100% certified soybeans in a specific product [3].

[1] WWF - The Soy Story: UK retailers and soy-driven deforestation | WWF

[2] Science.org - <https://www.science.org/doi/10.1126/sciadv.aav7336>

[3] Rainforest Alliance 2020 - <https://www.rainforest-alliance.org/business/certification/what-is-mass-balance-sourcing/>



## Other mitigations

The use of technology alongside partnerships with trusted charities, non-governmental organisations or social enterprises can improve oversight of supply chains.

Blockchain technology can track a product throughout its lifespan, and the data gathered is tamper-proof data, authentic and reliable.

Technology enables proactive research and analysis to uncover risks.

## Conclusion

Soy production is fueled both by human and pet meat consumption. Sustainable standards and practices only cover a low proportion of soy production and are hampered by cross-sector certification [1].

Mitigation of risks could include diversification of supply chains, greater deployment of technology, or partnerships with charities and social enterprises to ensure adequate protection for workers' rights (STOP THE TRAFFIK Group, 2023) [2].

## Operational improvements

Supply Chain mapping (with an environmental focus) should be leveraged to facilitate sustainability improvements for other ESG pillars (particularly social), multiplying the beneficial impact of any improvements when not undertaken in isolation.

[1] FIBL - <https://digital.intracen.org/state-sustainable-markets-2021/state-of-sustainable-markets-2021/>

[2] Stop the Traffik - <https://www.stopthetraffic.org/landing-page/risk-typologies-supporting-guidance/>

## Risk mitigation

Reliance on certification data alone is insufficient as it only goes part way towards proving the traceability and sustainable performance of goods, particularly as some regulators view self-certification as unreliable.

Essentially, certification is a starting point but will not provide complete supply chain traceability and transparency which are needed to ultimately prove environmental & social standards are adhered to. Extending supply chain insights, by tapping into additional "actual" data sources (primary, secondary, structured, unstructured) will help improve risk identification, mitigation and compliance reporting.

## Growth opportunities

Independent certification enables a brand's goods' green claims to be recognised by consumers, creating opportunities for new revenue streams and higher margins as values-driven consumers are willing to pay more for sustainable and ethically produced commodities.

Supply chain ESG transparency, particularly in the upstream chain, increases the authenticity of sustainability credentials for goods and services.





# 6 CONCLUSION

## I THE ESG CHALLENGE ON A PAGE

ESG and Sustainable stewardship is a defining challenge for our age. Contributing value chain emissions of c. 215 MtCO<sub>2e</sub> (million tonnes CO<sub>2</sub>-equivalent) per year, the retail industry should be a significant force in the UK's drive to reduce our nation's carbon footprint.



Environmental, social and governance legislation is increasing in terms of breadth, scope and severity of penalty in cases of non-compliance. Organisations could be facing penalties of up to 10% of global turnover for making misleading environmental greenwashing claims [2].



Financial institutions are increasingly scrutinising ESG performance when making investment or credit term decisions. Over 90% of banks and insurers, and over 70% of fixed income investors are now monitoring ESG [3].



A growing proportion of consumers are making environmentally sustainable and socially responsible purchasing choices, with many paying an average of 59% more in doing so [4], despite the challenging economic climate.



Despite the growing change in ESG awareness and call for action, our world remains under threat of irreversible climate change, environmental damage and unchecked socio-economic hardship for communities around the globe.

Transparency and visibility of the supply chain are fundamental to enable retailers to monitor, measure, report and then act to reduce scope 3 emissions and other ESG-related factors. However, today's global supply chains are multi-tiered, complex, often-times opaque and subject to geo-political, environmental and socio-economic risks.



Ultimately the challenge of sourcing goods and services more sustainably relies on the collection, validation, and analysis of data on an epic scale. And the clock is ticking...

[1] ONS Data download consumption emissions 1997-2017 (Accessed September 2020)

[2] UK Parliament (2023) - Digital Markets, Competition and Consumers Bill - Parliamentary Bills

[3] Gartner (2021) - 85% of investors considered ESG factors in their investment propositions

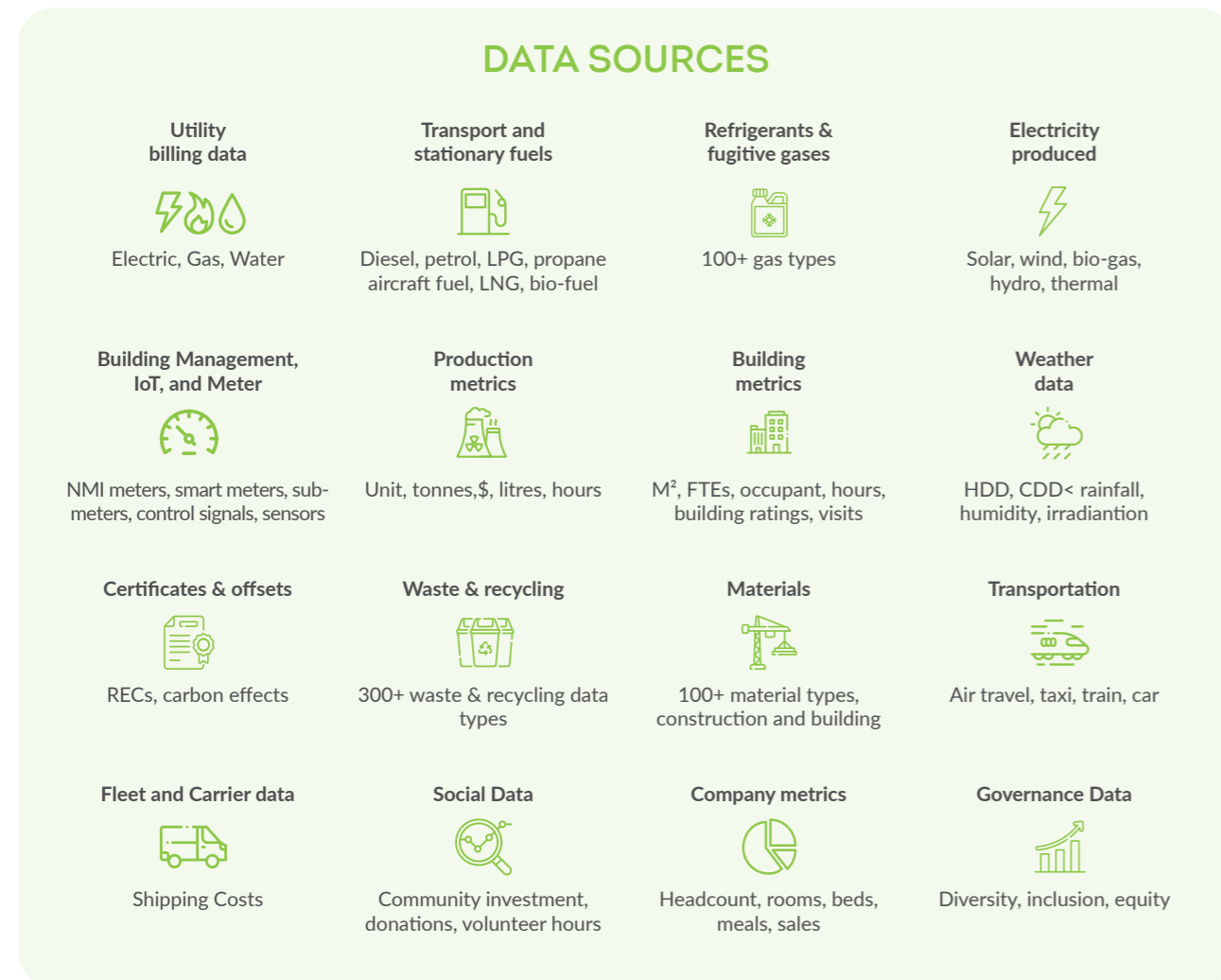
[4] IBM Institute for Business Value (2021) - 2022 sustainability consumer research: Sustainability and profitability



## Letting Technology do the heavy lifting

Ultimately, being able to monitor, measure, report and act on supply chain ESG risks is a complex data challenge. Accuracy of ESG compliance reporting relies on mining a complex range of sustainability data sources.

The answer is to scale, using diverse, rich and complex information across a global network of partners to meet your ESG objectives. Technology is the enabler to meet this challenge.



### Collaboration is key

For a long time, the supply chain has been considered a trade secret by many organisations.

However, there is a new threat to modern day supply chains - the threat of mass disruption posed by climate change.

The challenge of identifying and obtaining data across these distributed supply networks is no mean feat. Collaboration within and across industries and organisations will be key to achieving this.

### Key takeaway

If UK retailers are to drive significant reductions in their environmental and social impacts, the process can be made more efficient by following the proven 'supply modelling first' approach outlined within this report, which includes leveraging the appropriate partnerships and technologies.

**The man who moved a mountain was the one who began carrying away small stones**  
 - Chinese proverb

Despite mounting evidence that drastic action is needed right now to address both the climatic and socio-economic threats impacting our world today, there is a significant intention-action gap as many organisations just don't know how to progress their well-intentioned sustainability aspirations.

The answer to is simple: **take it one step at a time.** However, the scope and severity of the challenge can seem insurmountable. This case study seeks to illustrate the practical steps that retailers might take to progress their transformation journey to more sustainable supply chains.

Because put simply, global supply chains cannot continue to operate at the current level of ecological and social exploitation without catastrophic impact on the planet.



### Supply Insights & Risks

Environmental, socio-economic and supply chain resilience risks exist within today's complex, multi-tiered global supply chains. The case study found an increased risk factor in those supply chains with monopolistic market structures (such as chicken and soy), which are inherently opaque making it more difficult to trace ESG-related issues. Social risks were found to be more prevalent further upstream where work is carried out far from scrutiny.

To understand a product's risks, it must first be broken down into its constituent components and their individual value chains.

By deploying technologies such as IBM Transparent Supply, ETHICS and Traffik Analysis Hub this study showed that retailers can uncover previously unknown relationships within the supply chain and identify potential ESG-related exposures and impacts for the organisation and its extended value chain.

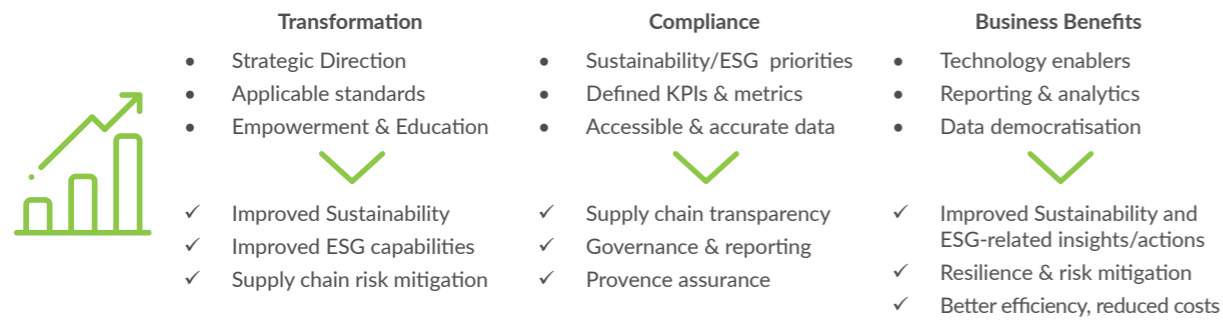


# EXECUTIVE SUMMARY

## Key considerations

### Supplier Maturity Assessment

No sustainability improvement program will be successful without active participation from a retailer's partners in the supply chain ecosystem. Understanding the scope of the challenge for ESG-compliance requires an assessment of a supplier's sustainability maturity. Retailers need to identify which metrics to assess against, how best to capture the data, and how to consolidate and compare findings so that shortfalls and risks may be addressed.



### Supply Chain Modelling

The ability to see where products are coming from, how they are produced, and the resulting ESG impacts is essential for Retailers to de-risk supply, meet regulatory needs, shareholder expectations, external reporting pressures and growing end customer scrutiny.



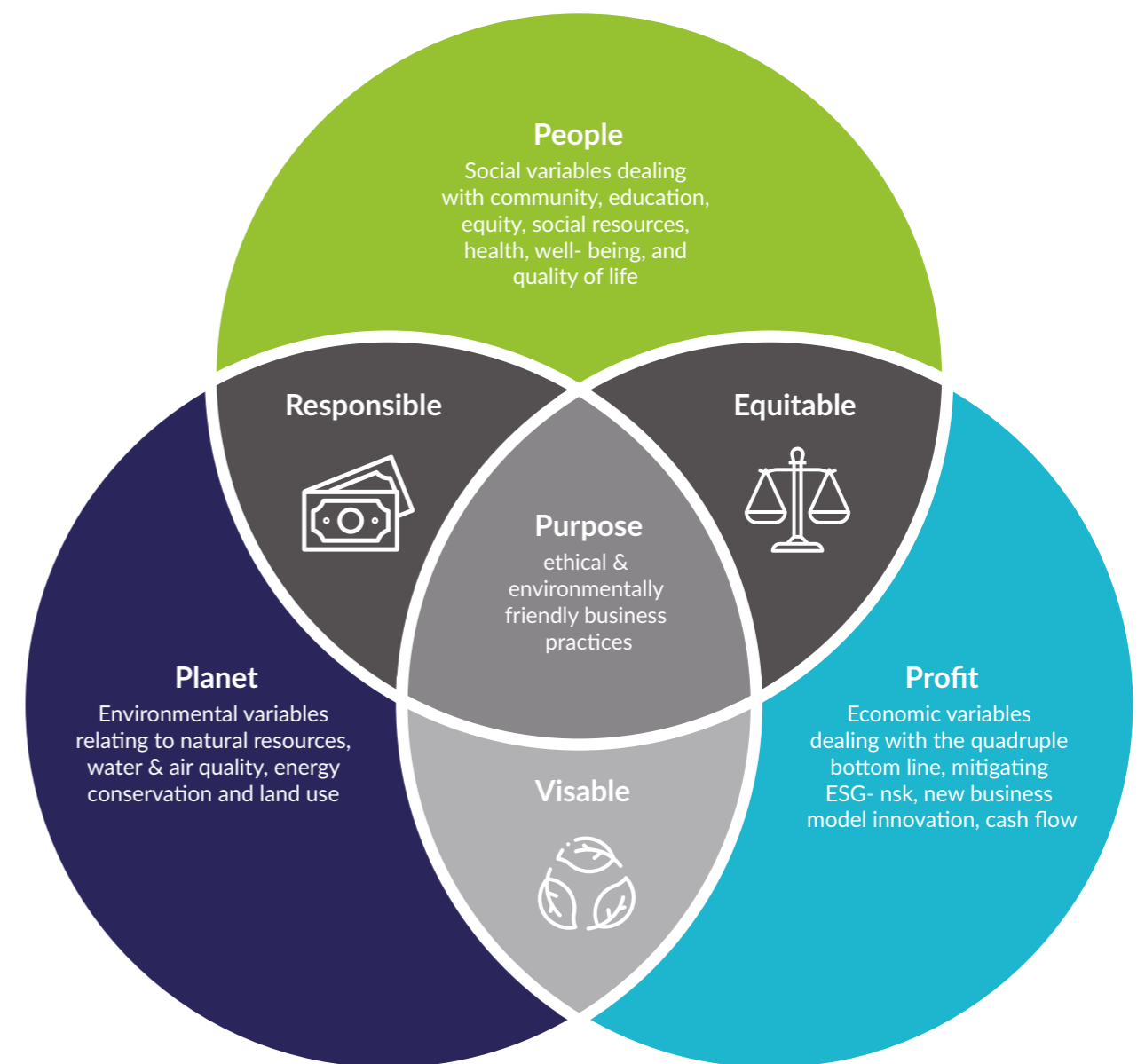
Transparency and visibility of the supply chain at scale is critical to identify, monitor, report and address genuine ESG-related risk factors, allowing retailers to take corrective, proactive measures to forestall instances of environmental or social abuses and avoid detrimental scrutiny from regulators, investors and consumers.

## The persuasive argument for change

In essence Sustainability is meeting the needs of customers following an ethical business model without exceeding the reserves of the planet or adversely impacting the needs of future generations.

Alongside this case study, wider IBM research has highlighted many beneficial opportunities that transitioning to more sustainable business practices can promote across the **Quadruple Bottom Line**: Purpose, People, Planet and Profit.

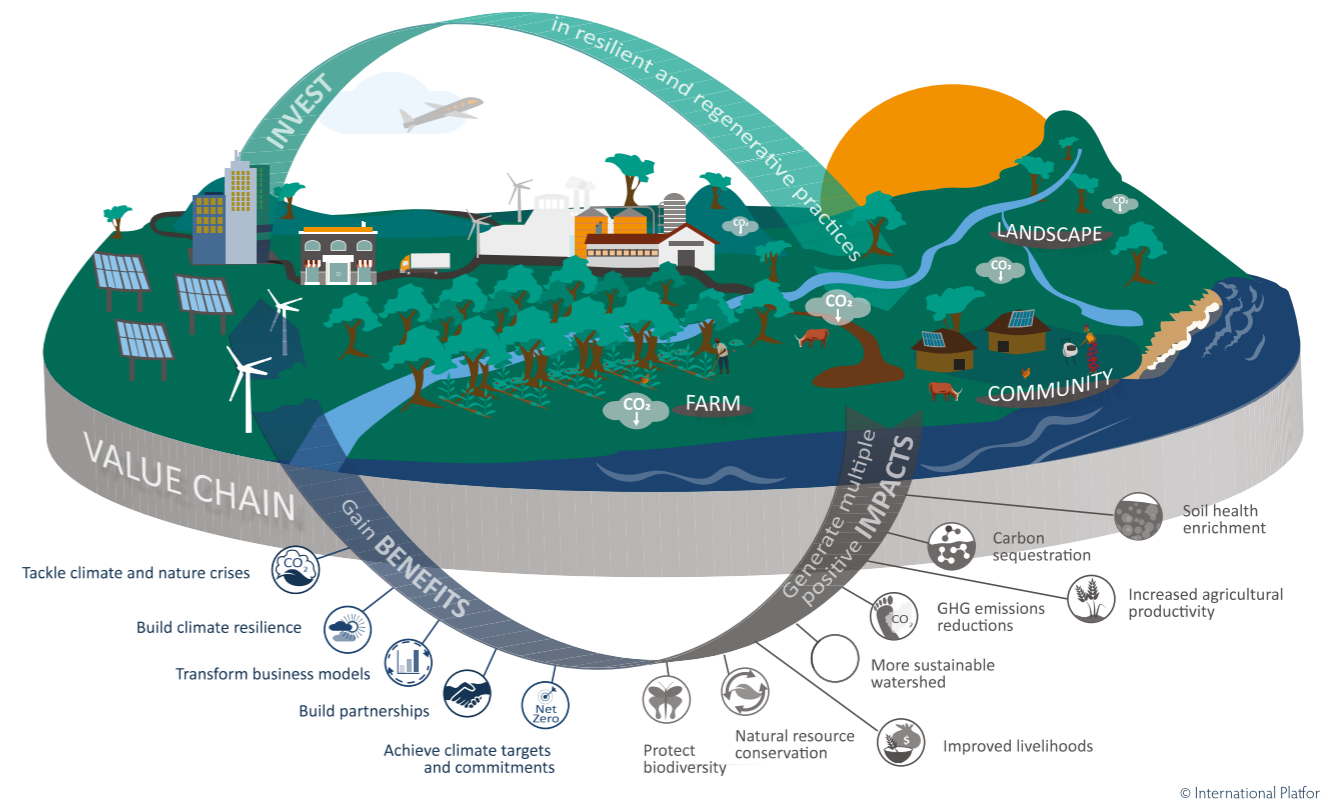
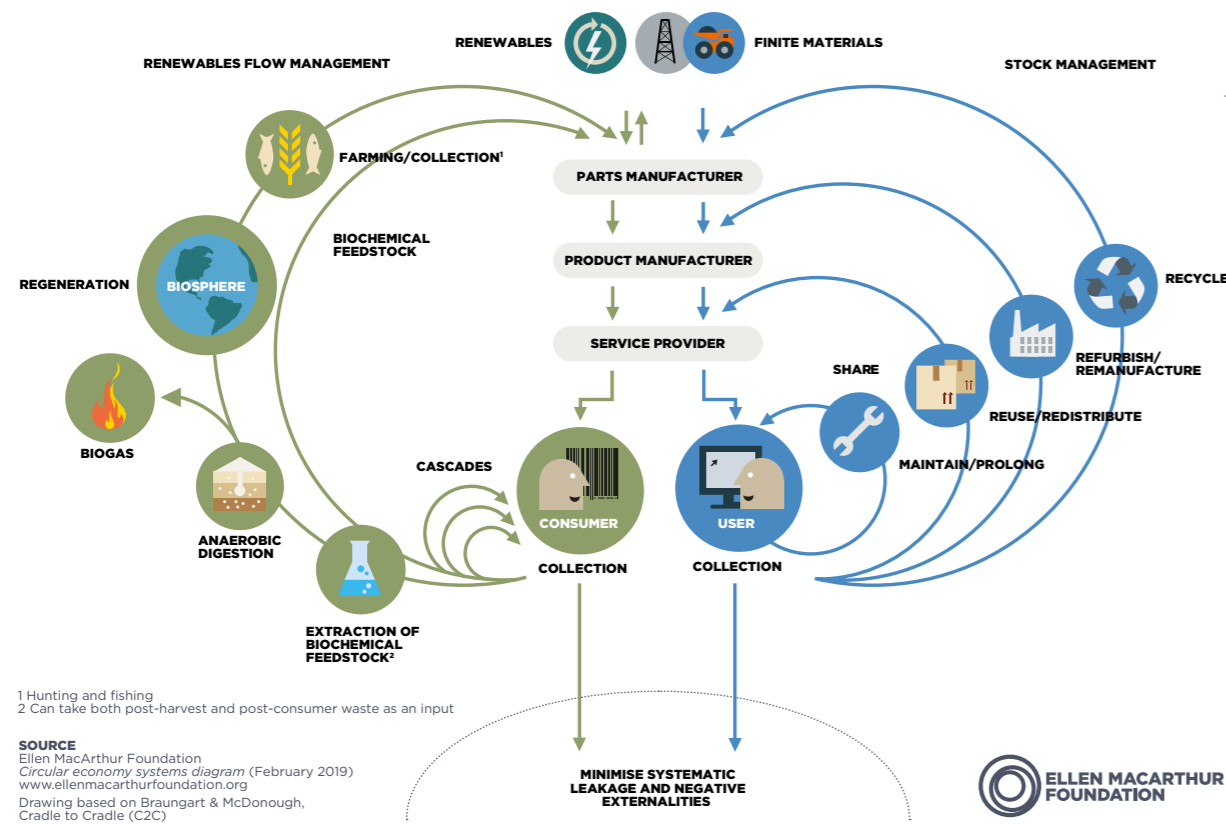
Retailers should embrace both established concepts and new initiatives within the sustainability arena





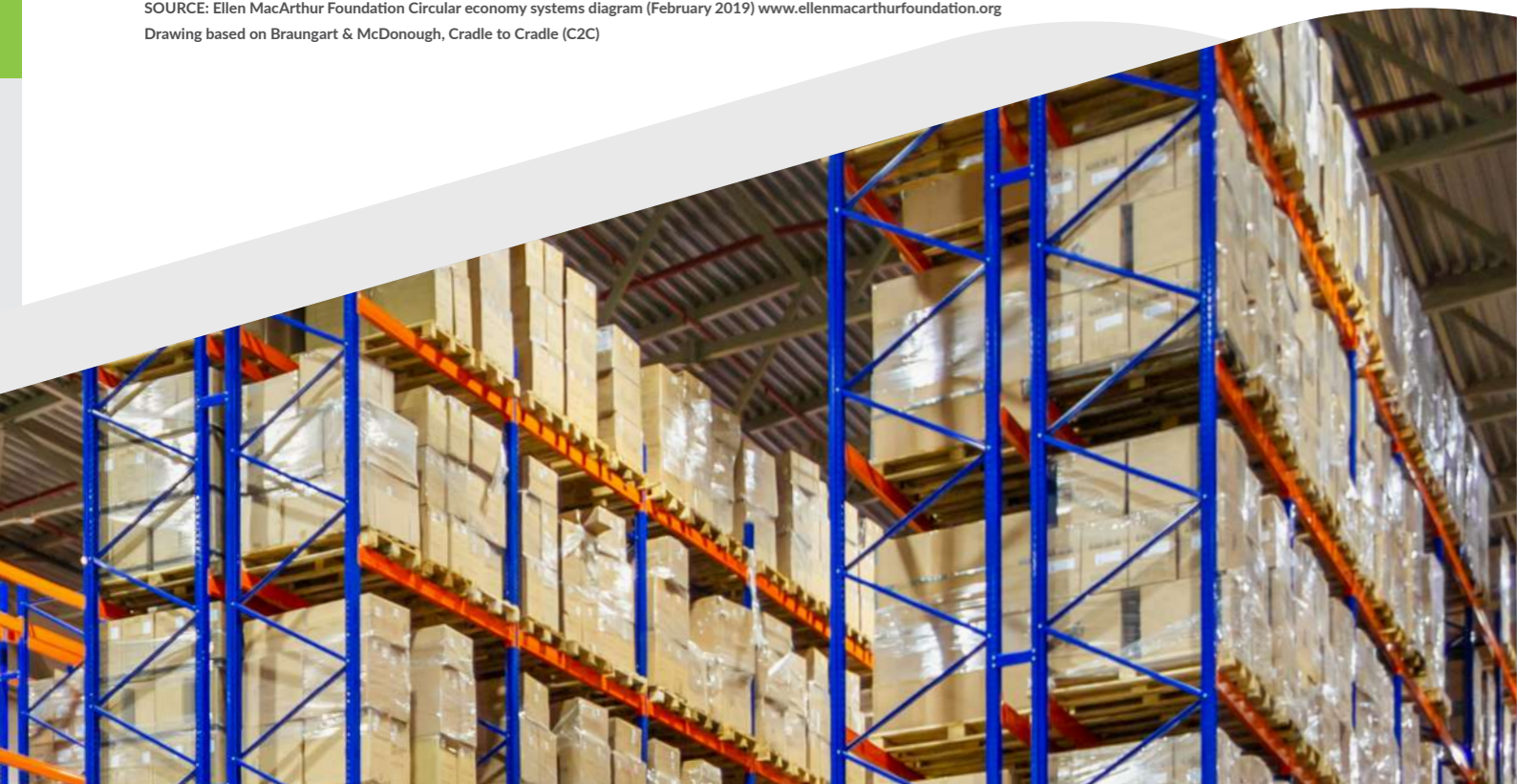
**Circularity:** reducing volumes of goods produced from virgin materials whilst simultaneously increasing the recovery and reprocessing of “waste” components. Designing products and packaging for maximum lifespan and recycling potential will help to offset the impact of raw materials shortages and rising costs.

**Insetting** is a way for companies to do some good as they transition to a more sustainable business model, reducing the harmful “footprint” of their operations across the communities in which they operate. However, this cannot be achieved by retailers acting alone which is why partner ecosystems become so important to facilitate and drive change.



SOURCE: Ellen MacArthur Foundation Circular economy systems diagram (February 2019) www.ellenmacarthurfoundation.org  
 Drawing based on Braungart & McDonough, Cradle to Cradle (C2C)

SOURCE: International Platform for Insetting https://www.insettingplatform.com/wp-content/uploads/2022/03/IPI-Insetting-Guide.pdf



## It really is a no-brainer

The need to break through the inertia of sustainable transformation is not only important to the health of the planet, but also global economies and businesses within them. Transitioning to a net zero economy produces strong net economic benefits, creating new revenue streams, competitive advantage for early adopters, prosperity and jobs across a wide range of occupational skill sets, industries and regions.

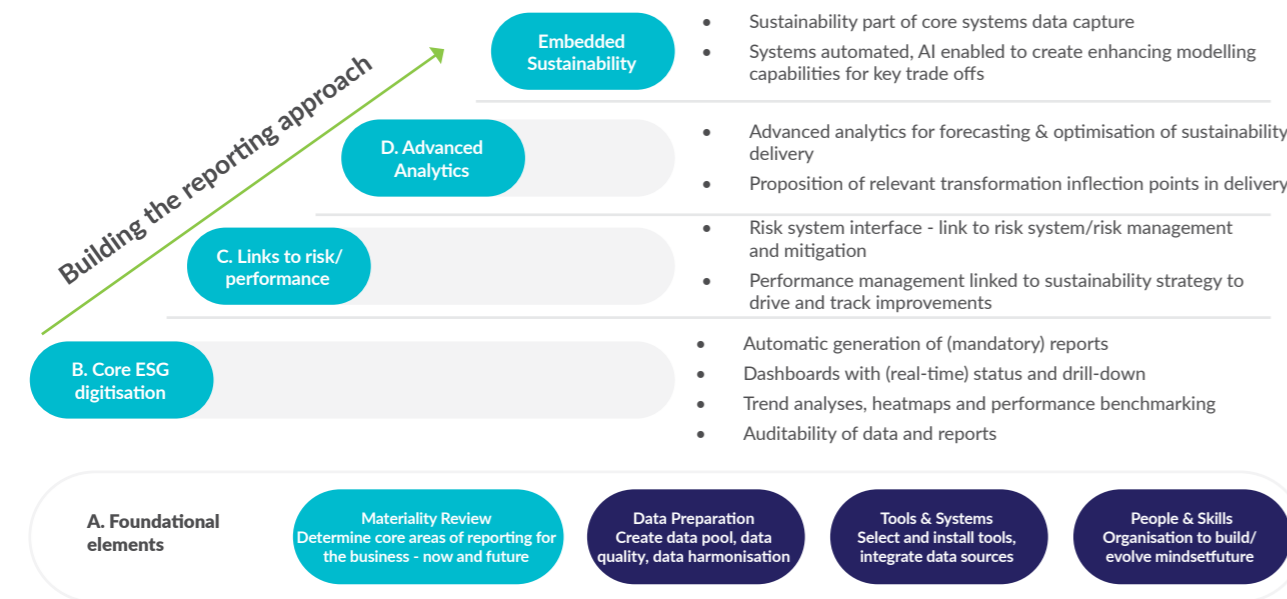
# STARTING THE JOURNEY TO SUSTAINABLE SUPPLY CHAIN EXCELLENCE

There's no avoiding the fact that environmental, socio-economic, geo-political, commercial and operational risks persist in today's complex supply chains. A broad range of ESG-related risks within the Chicken and Soy value chains were highlighted as part of this study.

The sustainability imperative should be inseparable from everyday supply chain operational considerations such as cost extraction, efficiency, resilience and security, as the data to analyse and improve all these factors will stem from the same sources.

Mapping the supply chain and harvesting ESG and operational data is an iterative process; the further visibility goes into the different supplier tiers, the more authentic and accurate ESG reporting will become. Retailers should develop a staged approach to delivery, starting with understanding the foundational elements of business/industry requirements. Start small and then scale.

## IBM's approach to scaling ESG reporting



Effective monitoring, measuring and reporting of ESG supply chain data promotes:

- Early ESG risk identification
- Mitigations, resolutions and due diligence
- Moving the ESG dial from Reaction → Proaction

# I REAL CHALLENGES, REAL SOLUTIONS

Testimonial from Amy Whidburn, ESG Director Pets at Home & Sponsor of the Sustainable Sourcing Pathway (4)



Embarking on this case study with our IBM colleagues, some common challenges voiced by the Sustainable Sourcing Pathway (4) members were top of mind:

- Identifying, engaging, and building relationships with suppliers beyond Tier 1
- Extending sustainability initiatives beyond individual projects or business areas, establishing an overarching sustainability strategy to drive business-wide change
- Determining how best to leverage the experience, insight and know-how of 3rd parties and consultants to generate the greatest return on investment

Working with IBM was an incredibly valuable and insightful process. IBM's Sustainability SMEs helped us to understand the maturity of our Tier 1 suppliers and highlight the importance of tackling the range of environmental and social impacts within our supply chains in a cohesive manner.

As part of this practical case study, IBM applied different technologies which demonstrated the potential to revolutionise the way Pets at Home approach supply chain mapping, enabling product traceability and highlighting of associated ESG impacts.

Another key output provided by IBM was the journey map (included in section 3 of this report) which summarises the key stages each retailer typically passes through as they transition towards more sustainable supply chains, and the critical success factors to consider in each phase.

Since participating in the Case Study, we have developed our supplier maturity curve to include our suppliers' scope 3 management, in addition to their scope 1 and 2. We are also looking into how we can integrate this sustainability journey further into our supplier performance scorecards. Something we will be exploring further with our suppliers is how capacity planning might be impacted by these sustainability requests.






We are excited to continue collaborating with IBM as we progress our sustainability work with suppliers and further uncover our upstream supply chain.

I would encourage other Sustainable Sourcing Pathway (4) members to capitalise on the valuable opportunity to work with the IBM team to see how they can make real progress towards more sustainable sourcing.



# CALL TO ACTION

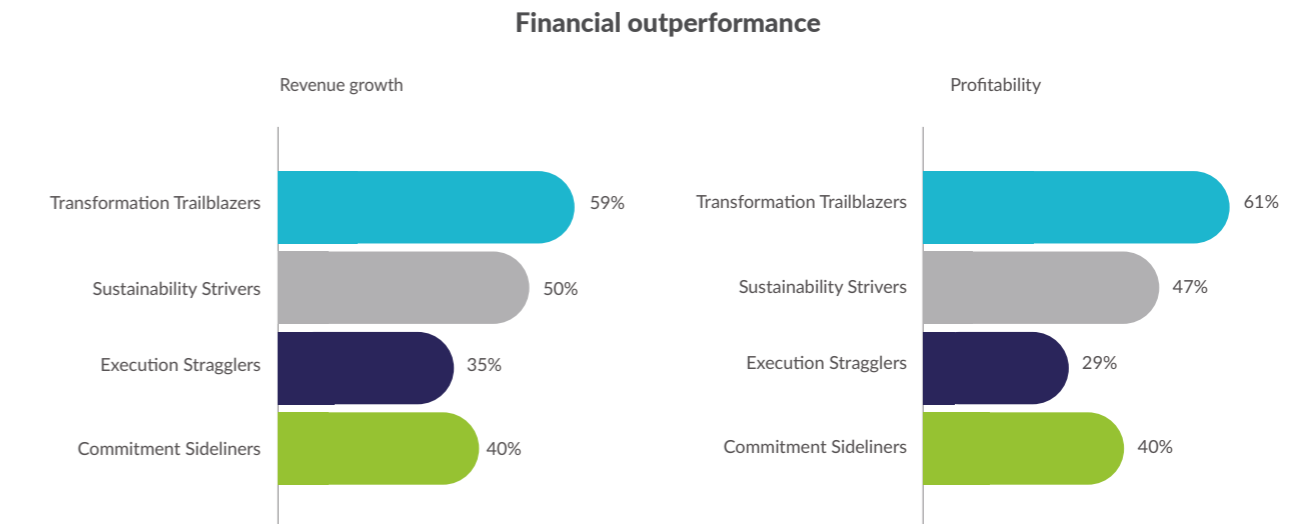
In future, leading enterprises will be those able to transparently & authentically demonstrate their ESG credentials across their entire end-to-end supply chain.

Non-compliant		Compliant
<ul style="list-style-type: none"> <li>Poor corporate profile</li> <li>Greenwashing accusations</li> <li>Adverse media coverage</li> <li>Share price impact</li> <li>Higher business costs/rates</li> </ul>	<b>Brand Profile</b> 	<ul style="list-style-type: none"> <li>Good corporate citizen</li> <li>Strong ESG credentials</li> <li>Sound investment opportunity</li> </ul>
<ul style="list-style-type: none"> <li>Censures, fines, business license restrictions</li> <li>Increased tax liabilities</li> <li>Increased costs, reduced profit</li> </ul>	<b>Regulations</b> 	<ul style="list-style-type: none"> <li>Accurate timely reporting</li> <li>Net zero progress</li> <li>Reduced wastage</li> <li>Supply chain costs extraction</li> </ul>
<ul style="list-style-type: none"> <li>Opaque ESG footprint</li> <li>Pollution, deforestation, higher emissions, adverse impact on communities</li> <li>Climate change contributor</li> </ul>	<b>ESG Footprint</b> 	<ul style="list-style-type: none"> <li>Sustainable, ethically &amp; environmentally sound</li> <li>Carbon neutral/negative</li> <li>Insetting initiatives</li> <li>Supporting communities</li> </ul>
<ul style="list-style-type: none"> <li>Interrupted supply</li> <li>Poor availability &amp; shortages</li> <li>Increased JIC inventory &amp; storage costs</li> </ul>	<b>Supply Chain</b> 	<ul style="list-style-type: none"> <li>Supply transparency</li> <li>Increased resilience</li> <li>Reduced risk</li> <li>Circular economy, less waste, efficiencies</li> </ul>
<ul style="list-style-type: none"> <li>Reduced market share</li> <li>Decreased earnings</li> </ul>	<b>Competitive Advantage</b> 	<ul style="list-style-type: none"> <li>Green revenue streams</li> <li>Retain &amp; attract ESG-conscious consumers</li> <li>Provenance &amp; margin</li> </ul>

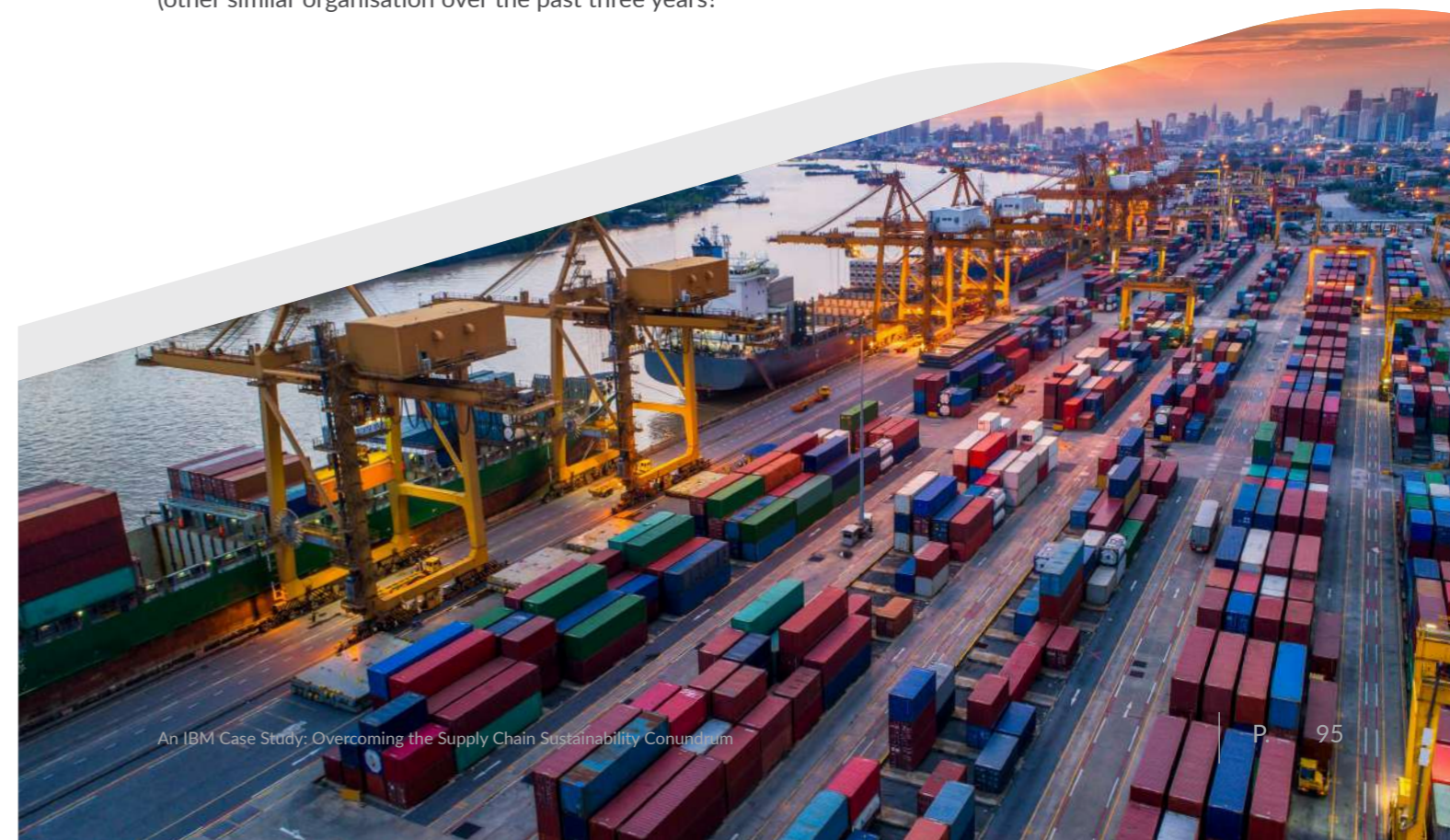
The consequences of non-compliance are clear. On which side of the equation would you want to find yourself?

As already highlighted, IBM believes that sustainability is a vital enabler of the Quadruple Bottom Line: Purpose, People, Planet and importantly Profit. Research undertaken by IBM's Institute for Business Value (Sustainability as a transformation catalyst) amongst C-Suite executives would support this point of view. When asked to compare revenue growth and profitability against their competitors, it was Transformation Trailblazers and Sustainability Strivers that outperformed.

[www.ibm.com/thought-leadership/institute-business-value/en-us/report/sustainability-transformation](http://www.ibm.com/thought-leadership/institute-business-value/en-us/report/sustainability-transformation)



Percentages show responses of 4 and 5 on a 5-point scale where 1-significantly underperformed and significantly outperformed. Source: O12 For each of the following measures, how does your organisation's performance compare with that of your comperors (other similar organisation over the past three years?)



# | NEXT STEPS

## A proven approach

The case study has shown the methodology to transform supply chain ESG and sustainability transparency works.

The key stages of the journey towards more sustainable supply chains and the critical success factors to consider are as follows:

1

### Identifying & communicating the Case for Change

Determine the ESG focus areas, including emissions scopes & categories. Define, cascade and integrate sustainability targets across the business.

2

### Determine the ESG Starting small & making changes from within

Begin with internal operations and associated scope 1 & 2 emissions. Assess existing data, systems and tools. Evaluate additional solutions.

3

### Identifying material product categories, commodities & stages

Focus resources on areas perceived to be of 'high-impact'. Assess Tier 1 supplier maturity and likely sources of supply.

4

### Determining when, where and how to deep dive

Agree the emissions factors, target primary and secondary data sources, (LCA) methodology and calculation boundaries. Some supply chains may be remodeled before performing a deep-dive assessment.

5

### Performing the deep dive

Map the supply chain leveraging technologies to facilitate the capture, processing and analysis of data. Review initial insights gained.

6

### Refining the baseline & reporting capabilities

Based on the initial findings, additional data may be captured to increase accuracy and quantify provisional risks.

7

### Operationalising & disclosing findings

Businesses can then leverage these insights to drive sustainable improvements, disclose performance, substantiate green marketing claims, etc.

### But we believe this is only the start.

IBM are inviting retailers to participate in future supply modelling case studies to help uncover their upstream ESG impacts.

IBM's Sustainability SMEs can provide guidance to retailers wherever they are on their sustainability journey, from identifying priority ESG initiatives, to determining material commodities, mapping supply chains, and operationalising the insights gained.

Working with our extensive ecosystem of solution providers, the IBM team can also recommend key technology enablers (based on an assessment of your existing IT landscape) to make the process of monitoring, measuring and reporting scope 3 and other ESG factors more accurate, efficient and automated.

To find out more, get in touch with the IBM team via Beatrice Elliott - [belliott@uk.ibm.com](mailto:belliott@uk.ibm.com)



# BRC CLIMATE ACTION ROADMAP

The retail sector has an ambitious goal to reach net zero by 2040, ten years ahead of the UK government's target. Almost 90 retailers have committed to our Climate Action Roadmap which supports members through the process to reach this goal. We work with partners including Mitsubishi Electric to provide the insights and guidance to help members on their journey.



[brc.org.uk/climate-roadmap](https://brc.org.uk/climate-roadmap)



[climate@brc.org.uk](mailto:climate@brc.org.uk)



020 7854 8900

## IBM

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