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CLIMATE POSITIVE ACTIONS

Carbon Emissions

"We're not just that one person...we're all in the same boat."

Grace Jones,
The Cornish Seal Sanctuary

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Introduction | Climate

THE CASE FOR CARBON REDUCTION

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We are in the process of crashing past 1.5°C of warming and entering a much more dangerous world. Increasing communities' and business resilience to climate change is going to be vital if we are to have any hope of accelerating the phase out of fossil fuels.

THE YEAR 2024 MARKED A GRIM MILESTONE: FOR THE FIRST TIME, GLOBAL AVERAGE TEMPERATURE EXCEEDED

1.5°C

above pre-industrial levels across an entire year.

The 2015 Paris Agreement and subsequent international climate negotiations have established this as the threshold that must not be breached. At the same time, governmental and corporate climate action is moving in the wrong direction. On the 20th January 2025, just after his second inauguration, President Trump signed the executive order “Putting America First in International Environmental Agreements,” which effectively marked the United States’ second withdrawal from the Paris Agreement. This came at a time of increasing roll-back of corporate net zero action.

The UN-founded Net Zero Banking Alliance has suffered a mass exodus of the largest US banks while the world’s largest fossil fuel corporations have abandoned renewable energy schemes, instead refocussing on oil and gas exploitation. The momentum behind decarbonisation is faltering precisely when it is needed most.

There are significant economic motivations to attempt to limit climate change. The World Economic Forum has assessed extreme weather events—including hurricanes, floods, and heatwaves—have caused an estimated $2.8 trillion in global economic losses over the past two decades. This translates to an average of $16 million lost per hour, highlighting the severe financial toll of climate-related disasters.

A more recent study by the Potsdam Institute for Climate Impact Research concludes that, even with immediate and substantial carbon dioxide emission reductions, the global economy is already committed to a 19% income reduction by 2050 due to climate change.

This translates to approximately $38 trillion in annual damages, a figure six times greater than the estimated costs of mitigation efforts to limit warming to 2°C.

House destroyed by the passage of a hurricane in Florida.

Beyond economic change, further increases in global warming increases the risks of triggering tipping elements in the climate system. These thresholds, once breached, could lead to cascading effects that accelerate global warming beyond human control.

There is significant evidence that the Greenland Ice Sheet and Western Antarctic Ice Sheet are becoming increasingly unstable. The Amazon rainforest, long considered a vital carbon sink, is showing signs of degradation, reducing its ability to absorb carbon dioxide with regions shifting into a source of carbon dioxide rather than a buffer against climate change. The Atlantic Meridional Overturning Circulation (AMOC) is slowing down as the result of increasing climate change.

A shutdown of AMOC would trigger catastrophic climate disruptions.

Europe would face extreme cold, while tropical regions experience intensified storms and droughts. Monsoons would weaken, threatening food security for hundreds of millions of people. Sea levels would rise along North America's east coast, accelerating coastal flooding and erosion.

The most optimistic scenario that the IPCC currently provides is long-term warming exceeding 1.5°C, with temperatures decreasing after 2050 with the deployment of gigaton-scale carbon dioxide removal.

Given that current concentrations of carbon dioxide are at levels unprecedented for 14 million years, the challenge is not merely to avoid further progress into the danger zone, but to navigate a safe return to stability. The metaphorical shore of safety represents the Holocene—a period of the past 11,000 years of relatively stable climate in which human civilisations emerged and thrived.

Overshooting beyond 1.5°C of warming can be likened to venturing onto a frozen lake beyond the point at which the ice can safely support weight. The first signs of danger appear as cracks. The literal cracks in the Earth's major ice sheets are early warning signals that the climate system is under stress. Once cracks form, they may persist long after the immediate risk has passed, and in some cases, represent the system crossing an irreversible threshold.

Proposed geoengineering and climate repair strategies such as stratospheric aerosol injection (SAI) or ice sheet reinforcement are attempts to reduce the risk of irreversible tipping points and in some instances 'buy time' for societies to undergo deep decarbonisation. However, there is currently great uncertainty as to the effectiveness of these and other geoengineering approaches along with profound concerns as to how deliberate interventions in the Earth system could be effectively governed.

Recovery may also be very difficult because as warming progresses beyond 1.5°C, the cascading consequences of climate change make it increasingly harder to address the drivers of climate change. Extreme weather events destroy infrastructure, disrupt supply chains and drive up food and energy prices, deepening economic inequality.

Climate-related displacement forces millions to migrate, straining resources and fuelling social tensions.

Governments face mounting pressure as disasters overwhelm public services, leading to political instability and authoritarian responses. Social and environmental disruption can increase radicalisation and polarisation. Competition over dwindling resources intensifies conflicts within and between nations.

Financial markets become increasingly volatile as climate risks destabilise industries, threatening global economic security. Such 'doom loops' have the potential to completely derail sustainability transitions. These are examples of 'derailment risk', the risk that societies are swamped with climate impacts to the extent that they can no longer effectively maintain efforts to rapidly decarbonise.

The primary objective of climate policy is to reduce risks, including derailment risk. This is not equivalent to attempts at maximising economic growth over the course of the rest of the century.

Throughout history, periods of crisis and instability have often paved the way for transformative change. While further climate change disruption carries the risk of derailment, it can also create opportunities to accelerate positive shifts. The same conditions that fuel doom loops can also enable virtuous cycles. For instance, the turmoil of the interwar years and the devastation of World War II led to groundbreaking advancements, including legal protections for human rights, universal welfare systems and decolonisation. More recently, the first Trump administration ignited a surge in climate activism. It remains to be seen what the social response will be to the new Trump administration's radical cuts to climate change science and policies.

For progress to emerge from today's climate crisis, deep-rooted inequalities must be addressed. Those least responsible for climate change disproportionately bear its costs, while the benefits and burdens of decarbonisation remain unequally distributed. This injustice is often framed as a moral issue, but it also has profound political implications.

When vulnerable communities feel abandoned, they may turn to nationalist and reactionary movements that oppose climate action—an outcome that threatens progress.

By ensuring that people are protected from climate impacts and experience the tangible benefits of climate action, support for a fossil fuel phaseout can be sustained even in difficult times. As climate shocks escalate, adaptation is crucial, not just to safeguard lives and livelihoods but also to strengthen mitigation efforts.

In a rapidly warming world, resilience building and decarbonisation must go hand in hand to break the cycle of crisis and prevent derailment.

NET ZERO ROADMAP: GUIDANCE FOR ORGANISATIONS

Chris Phillips
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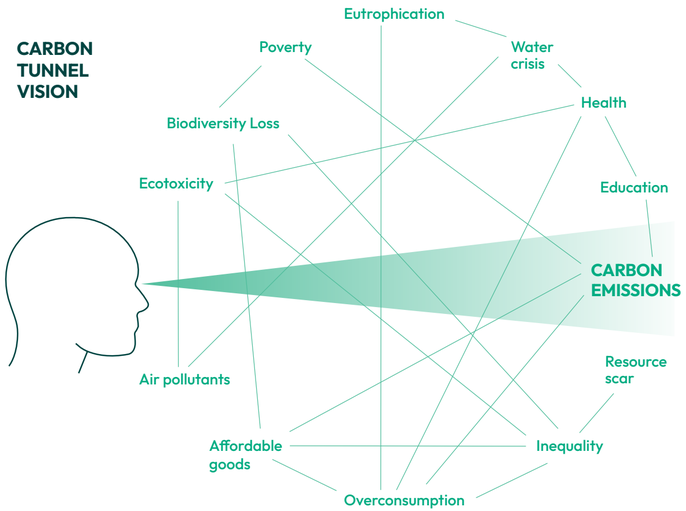
SO, WHAT IS NET ZERO?

Well, the term refers to the balance between the greenhouse gases emitted into the atmosphere and those removed from it. The UK Government has set a legally binding target to reach Net Zero by 2050. Across the UK, businesses account for up to 18%[1] of emissions and can play a crucial role in the transition to Net Zero. We need to reduce emissions, develop low-impact business models and invest in sustainable practices.

To begin developing and implementing a Net Zero roadmap we need a structured approach, ensuring compliance with any regulatory frameworks, and future-proofing operations against climate-related risks. We also need to consider best practice, practical steps we can take and solutions to help accelerate sustainability journeys.

[1] 2020 UK Climate Change Statistics Portal



As vital as Climate Change is, we should always be aware of “Carbon Tunnel Vision”. Carbon emissions and their management are only one part of the environmental puzzle.

We need to consider the wider impact on nature, ecology, biodiversity etc as part of our overall environmental impact.

UNDERSTANDING YOUR CARBON FOOTPRINT

Before setting a strategy, businesses must measure and understand their carbon footprint. This includes:

CH_4 N_2O CO_2 SF_6 HFCs PFCs

SCOPE 01 DIRECT EMISSIONS:

Scope 1 emissions come directly from sources that an organisation owns or controls and are usually from combustion (e.g. things we burn). These include:

Fuels: Emissions from burning fuel (gas, biomass) for heating, industrial processes or power generation

Company Vehicles: Emissions from business-owned or leased vehicles from the fuel burned or similar

Other Areas: Any other direct emissions from facilities or equipment under company control

SCOPE 02 INDIRECT EMISSIONS

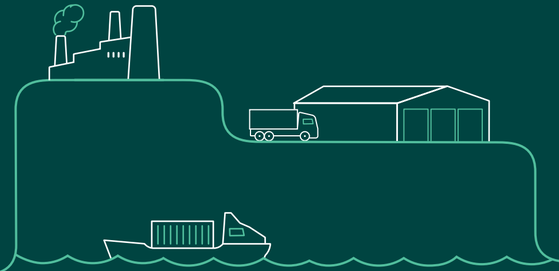
Scope 2 emissions come from the energy an organisation buys and uses. This mainly includes:

Heat, Steam, and Cooling: Essential for some businesses, especially in manufacturing and large office spaces

Electricity: Used to power operations

SCOPE 03 INDIRECT EMISSIONS ACROSS THE VALUE CHAIN

Scope 3 is probably the most complex area of emissions, and also the likely biggest source for most companies. It covers all other indirect emissions linked to an organisation's activities.



For further information around Scope 3, please see page 22

Scope 3 consists of 15 distinct categories:

- Purchased goods and services
- Capital goods
- Fuel- and energy-related activities (not included in Scope 1 or 2)
- Upstream transportation and distribution
- Waste generated in operations
- Business travel
- Employee commuting
- Upstream leased assets
- Downstream transportation and distribution
- Processing of sold products
- Use of sold products
- End-of-life treatment of sold products
- Downstream leased assets
- Investments
- Franchises

HOW TO CALCULATE YOUR CARBON FOOTPRINT:

1 **Identify Sources of Emissions:**
Based on Scopes 1, 2 and 3, identify the likely largest sources of emissions. It's rare for an organisation to calculate all of their emissions in their first few footprints. If needed, focus on the potential areas of biggest impact. (We cover this in more detail in the Scope 3 emissions and Data sections)

2 **Gather Data:**
Identify and gather the likely data required. This is explained in more detail in the Data section, and is likely to include energy/fuel records, purchases, travel details etc.

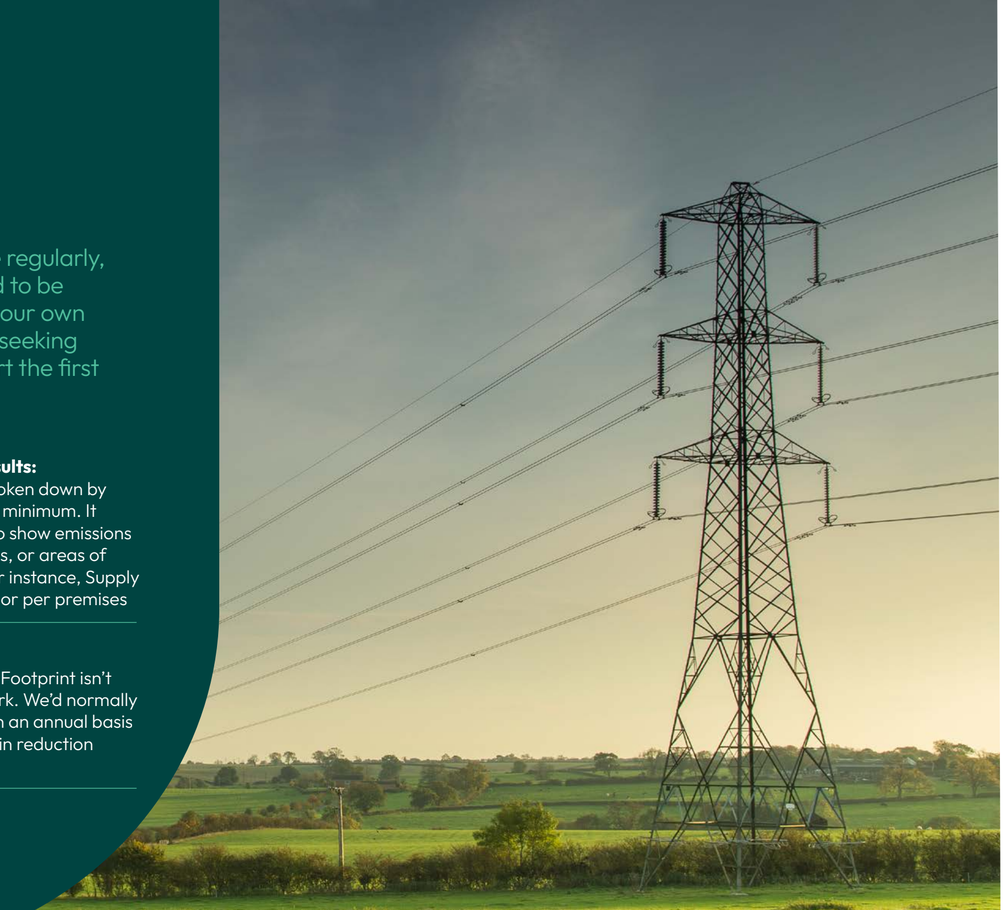
3 **Apply Emissions Factors**
Once we have the required data, we apply emissions factors to calculate the CO_2e (Carbon Dioxide Equivalent). E.g. If we used 10000 kWh of electricity from the UK grid, the emissions factor is 0.20705 (2024). So 10000 x 0.20705 = 2070.5kg CO_2e

Emissions factors change regularly, and sometimes they need to be tailored and individual to our own circumstances. It's worth seeking some professional support the first time you do this work

4 **Sum up your total results:**
Usually, results are broken down by Scopes 1, 2 and 3 as a minimum. It might be useful to also show emissions by different categories, or areas of your organisation. For instance, Supply Chain, Travel, Waste, or per premises

5 **Repeat:**
Calculating a Carbon Footprint isn't a one-off piece of work. We'd normally repeat the exercise on an annual basis to track our progress in reduction of emissions

[2] https://sciencebasedtargets.org/how-it-works



SETTING CLEAR TARGETS AND COMMITMENTS

Once we've calculated the Carbon Footprint, we should look to establish clear reduction targets. Ideally, these should be in line with Science Based Targets[2]. Recommended steps include:

Adopting Science-Based Targets:

- Companies should align with the Science-Based Targets where possible. This helps ensure targets are consistent with global climate science.

Establishing Short- and Long-term Goals:

- **Short-term:** Reduce emissions by at least 50% by 2030.
- **Long-term:** Achieve full Net Zero by 2050 through direct reduction measures and verified offsetting.

Integrating Targets into Business Strategy:

- Embedding Net Zero principles in our policies, procedures, budgets and investment decisions.
- Assigning responsibility to key departments and ensuring Board/MD/Executive-level oversight and buy-in.

Net Zero

DEVELOPING A DECARBONISATION PLAN

This should go hand-in-hand with target setting. There's little benefit to setting ambitious climate targets if we don't have a plan of how to achieve them.

We've seen some large organisations set strong targets and then realise later that they can't actually achieve them. We should strive to avoid this wherever possible.

A good Decarbonisation Plan would usually project a reduction in emissions, along with some of the following initiatives:

Energy Efficiency Improvements:

- Upgrading to energy-efficient lighting, heating, ventilation and air-conditioning systems
- Conducting regular energy audits and retrofitting old buildings for better insulation and efficiency
- Implementing smart energy-management systems to optimise consumption

Renewable Energy:

- Transitioning to on-site renewable energy sources (e.g., solar panels, wind turbines, biomass boilers)
- Procuring 100% renewable electricity through Power Purchase Agreements (PPAs) or Renewable Energy Guarantees of Origin (REGOs) (Your energy supplier will have this information)
- Exploring energy-storage solutions where possible to enhance grid resilience and reduce reliance on fossil fuels

Low-Carbon Transport Solutions:

- Electrifying company fleets and investing in electric vehicle (EV) charging infrastructure
- Incentivising employee public transport, car sharing and active travel (cycling, walking)
- Adopting sustainable logistics strategies, including route optimisation and low-emission delivery vehicles

Sustainable Procurement and Supply Chain Management:

- Engaging suppliers on sustainability and setting clear Net Zero requirements. Consider also supporting your suppliers along their own sustainability journey
- Sourcing low-carbon, recyclable and biodegradable materials
- Designing products and services with the Circular Economy in mind
- Reducing waste

ENGAGING STAKEHOLDERS AND EMPLOYEES

Any successful sustainability strategy requires engagement across the business and beyond:

Leadership:

- CEO/MD and Board commitment to driving Net Zero initiatives, along with Finance and Procurement buy-in around data and implementing new ideas
- Consider appointing a “Sustainability Lead” or similar – an individual with increased responsibility in the area of sustainability

Employee Training and Awareness:

- Conducting workshops on sustainable workplace practices, carbon literacy etc.
- Creating Green Teams to champion sustainability within departments

Customer and Investor Engagement:

- Transparent sustainability reporting to build trust
- Communicating Net Zero efforts through ESG Reporting

Supply Chain Management

- Working closely with your supply chain to understand the impact of the materials and purchases
- This may include a form of Insetting – Supporting your supply chain in their own decarbonisation efforts

REPORTING, MONITORING AND COMPLIANCE

For some organisations there may be a need to report on emissions on a regular basis. This may form part of legislation (PPN 06/21, SECR, CSRD) or a more informal practice (reporting to head office). For most organisations, this should be seen as an opportunity to monitor progress toward goals.

TO OFFSET OR NOT?

Offsetting remains a highly controversial topic, and we cover this later in our guidance.

Scope 3 - Emissions

UNDERSTANDING SCOPE 3 EMISSIONS

Chris Phillips
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WHY FOCUS ON SCOPE 3?

For most companies, Scope 3 emissions are the largest source of their carbon footprint. While Scope 1 and 2 emissions (such as direct fuel use and purchased electricity) are important, reducing them can be costly—think solar panel installations or converting an entire vehicle fleet. We absolutely need to focus on reducing our reliance on fossil fuels as quickly as possible, and alongside that, Scope 3 offers an opportunity for rapid change.

Scope 3 can usually include actions with little to no downside, such as improving procurement practices, encouraging sustainable travel and fostering an organisation-wide culture of sustainability. Implementing carbon literacy training and green policies can lead to significant reductions in emissions.

Global attention on Scope 3 emissions is growing, with increasing pressure from policymakers and larger businesses. Many organisations are now requiring their suppliers to measure and reduce emissions as part of their sustainability commitments. We're also seeing public-sector procurement focusing much more on both emissions and sustainability as a whole.

WHAT IS SCOPE 3?

Scope 3 emissions encompass all indirect emissions throughout a company's value chain. These emissions are linked to what a business does, how it operates and the impact of its employees. Scope 3 is divided into two main subcategories:

UPSTREAM:
Emissions generated before and during a company's operations, such as those from suppliers and raw materials.

DOWNSTREAM:
Emissions occurring after a product or service leaves the company, including distribution, product use and disposal.

UPSTREAM EMISSIONS:

Upstream Emissions are those that occur from the production of goods/services that an organisation purchases or uses. There are eight categories:

Purchased Goods and Services:
Emissions associated with the materials, products and services bought by the organisation

Business Travel:
Emissions from flights, trains, rental cars and accommodation when travelling for business purposes (excluding company vehicles as usually captured in Scope 1)

Fuel- and Energy-Related Activities:
Emissions from energy and fuel not classified in Scopes 1 and 2. E.g. Transmission and Distribution losses as energy is moved around the grid

Transport and Distribution:
Emissions from inbound transportation of goods/materials purchased by the organisation (e.g. transport of raw materials inbound)

Waste Generated in Operations:
Emissions from disposal and treatment of all waste produced by the organisation

Capital Goods:
Emissions from the production of assets purchased by the organisation such as buildings, equipment and vehicles

Employee Commuting:
Emissions from employees travelling to and from work.

Upstream Leased Assets:
Emissions from leased assets not included in Scopes 1 or 2.

DOWNSTREAM EMISSIONS:

Downstream Emissions are those from the use, end of life or disposal of a product or service. There are seven categories:

Transport and Distribution:
Emissions from outbound transportation, such as the transportation of sold products to customers or wholesalers

Processing of Sold Products:
Emissions from further processing of intermediate products sold to customers, e.g. turning textiles we sell into clothing

Use of Sold Products:
Emissions from the energy consumption of products during their use phase, e.g. energy from the use of an electrical product we sell

End-of-Life Treatment of Sold Products:
Emissions from disposal, recycling or treatment of products once they reach the end of their life

Downstream Leased Assets:
Emissions from leased assets under operation of another organisation (e.g. the use of a vehicle or building we lease out)

Franchises:
Emissions from franchise operations not included in Scopes 1 or 2

Investments:
Emissions related to financial investments made by the company (e.g. pension schemes)

In addition, we can also consider the impact of areas such as Work from Home, Water etc within Scope 3.

Scope 3 - Emissions

SO, WHERE SHOULD ORGANISATIONS FOCUS?

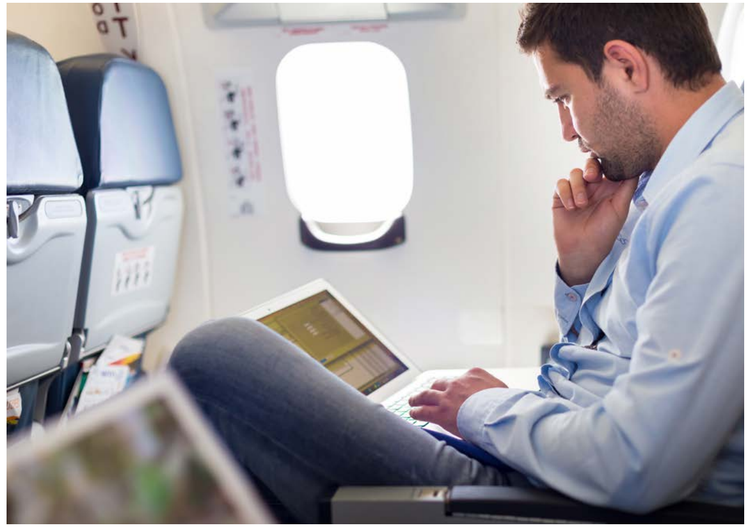
Well, simply put, we should focus on our largest areas of impact. Without fully measuring our entire carbon footprint this can sometimes be hard to identify, but we can usually make some educated assumptions.

For instance, if we're a manufacturer importing raw materials and transporting products around the planet, it's fairly likely that our supply chain (Purchased Goods and Services) and how we move our products/materials (Upstream/Downstream Transportation of Goods) would likely be large sources.

If we fly a lot across the organisation, or have a large number of staff driving to work, our travel is likely a significant contributor (Business Travel and Employee Commuting).

Similarly, if we're a service-based business purchasing lots of IT equipment (say a games producer or web developer), it's fairly likely that our supply chain again will have a significant impact.

In fact, supply-chain emissions are often one of the largest sources across organisations, and it's vital we include them in our calculations and decarbonisation plans. Addressing these emissions not only reduces environmental impact but also fosters leaner, more resilient business models. Sustainable procurement practices can drive efficiency, lower costs and improve long-term stability. Adding in supply-chain transparency can also support wider ESG areas such as modern slavery too.



So, overall, tackling Scope 3 emissions is vital to any organisation serious about reducing their environmental impact. The focus on Scope 3 is showing significant signs of increasing, and there's an opportunity for organisations to get ahead of the curve currently. This, however, may not last that long.

Scope 3 - Purchased Goods and Services

IN THIS SECTION WE DISCUSS THE FOLLOWING EMISSIONS CATEGORIES:

- Business Travel
- End-of-Life Treatment
- Waste Generated in Operations
- Transport and Distribution
- Employee Commuting
- Purchased Goods and Services

PURCHASED GOODS AND SERVICES

UNDERSTANDING THE IMPACT OF PURCHASED GOODS AND SERVICES

Purchased goods and services (or our supply chain) usually account for a significant portion of an organisation's carbon footprint. Sometimes it's due to the sheer volume purchased, sometimes the carbon intensity of what we buy, sometimes both. Whichever the cause, it's essential to identify and prioritise high-impact goods and services to effectively reduce emissions. This requires a robust and structured approach to data collection, supplier engagement and emissions measurement.

Scope 3 - Purchased Goods and Services

A HYBRID APPROACH: SPEND VS ACTIVITY

Combining these approaches allows for a more balanced and effective emissions assessment, ensuring both depth and breadth in the analysis.

To effectively assess emissions from purchased goods and services, we'd normally recommend starting with a hybrid approach. We cover this in more detail in the data section, but to begin with:

Activity-Based Focus: We aim to identify the most impactful materials or services based on their emissions. This is especially relevant for manufacturers who rely on key raw materials or essential components: the "ingredients that bake the cake." Conducting detailed emissions analyses for these high-impact materials can provide actionable insights. For instance, we'd look for weight of raw materials, length of cabling or similar ahead of the amount spent (£/$)

Spend-Based Approach: For less critical areas, use financial expenditure as a proxy to estimate emissions. This method ensures all purchases are considered, even if a detailed assessment isn't possible. Categorising spend into emissions intensity levels can help prioritise areas for more in-depth analysis. One of the challenges of a spend-based method is the accuracy – It doesn't usually take into account things like currency fluctuations, inflation etc and can only provide a guide

CONSIDERING TRANSPORT EMISSIONS

Although Upstream and Downstream transport and distribution are often reported separately, they should still be considered within the broader purchased goods and services category. Understanding how materials are transported, including distances and methods of transport, can improve emissions calculations and highlight opportunities for reduction. We also need to make sure we're not double counting (e.g. calculating separately and then also including in Purchased Goods and Services category)

Upstream Transport:
Emissions associated with the movement of raw materials and components from suppliers to manufacturing facilities

Downstream Transport:
Emissions linked to the delivery of finished goods to customers and distribution centres

By working with logistics providers and suppliers to optimise transport routes, consolidate shipments and transition to lower-emission transport modes, organisations can significantly reduce associated emissions.

LEVERAGING LIFE CYCLE ASSESSMENTS (LCAS) AND PRODUCT CARBON FOOTPRINTS (PCFS)

As we mature with our measurements, we may need a more precise understanding of emissions. Life Cycle Assessments (LCAs) and Product Carbon Footprints (PCFs) can provide valuable insights.

These tools help break down emissions at different stages of a product's life cycle, offering better detail and identifying potential areas for improvement.

Life Cycle Assessment (LCA): A comprehensive method for assessing the environmental impact of a product from raw material extraction to end-of-life disposal. This helps in understanding the full emissions profile of purchased goods and services as well as additional environmental considerations such as water, biodiversity impact etc.

Product Carbon Footprint (PCF): A narrower approach that quantifies the greenhouse gas emissions associated with a specific product or service. This can support procurement decisions by selecting lower-carbon alternatives

ENGAGING SUPPLIERS AND IMPROVING PROCUREMENT PRACTICES

Reducing purchased goods and services emissions requires close collaboration with suppliers. In fact, we're seeing a significant increase in this, particularly from larger organisations.

Whilst there are clear challenges around "buying power" when it comes to supply-chain emissions, we should consider:

Setting emissions-reduction targets within procurement policies: Establish clear expectations and goals for suppliers to align with our sustainability commitments/pledges

Requesting supplier-specific emissions data: Encourage and support suppliers to measure and report their own emissions

Prioritising suppliers with strong sustainability practices: Select suppliers that use renewable energy, low-carbon materials and sustainable manufacturing processes, and those who may have product-specific information (e.g. LCAs/PCFs)

Encouraging supplier innovation: Work with suppliers to explore new materials, processes and technologies that reduce emissions and enhance efficiency

Collaboration around circular economy initiatives: Promote the use of recycled materials, product take-back schemes, remanufacturing, leasing schemes and waste-minimisation strategies

Developing long-term partnerships with suppliers: Foster collaboration and knowledge-sharing to drive continuous emissions reductions across the supply chain

Providing incentives for low-carbon suppliers: Consider preferential contracts, joint sustainability initiatives or financial rewards for suppliers demonstrating strong environmental performance

POTENTIAL DATA REQUIREMENTS FOR CALCULATING SUPPLY-CHAIN EMISSIONS

Accurately calculating supply-chain emissions requires robust data collection and analysis. The key data points needed include:

Supplier Emissions Data: Direct emissions reports from suppliers, including Scope 1, 2, and 3 emissions where available

Spend Data: Financial records of procurement expenditure to estimate emissions for less critical areas

Life Cycle Assessment (LCA) or Product Carbon Footprint (PCF) Data: Where available, using detailed assessments from suppliers or industry databases. Whilst these remain fairly rare, the availability of this type of information is increasing significantly

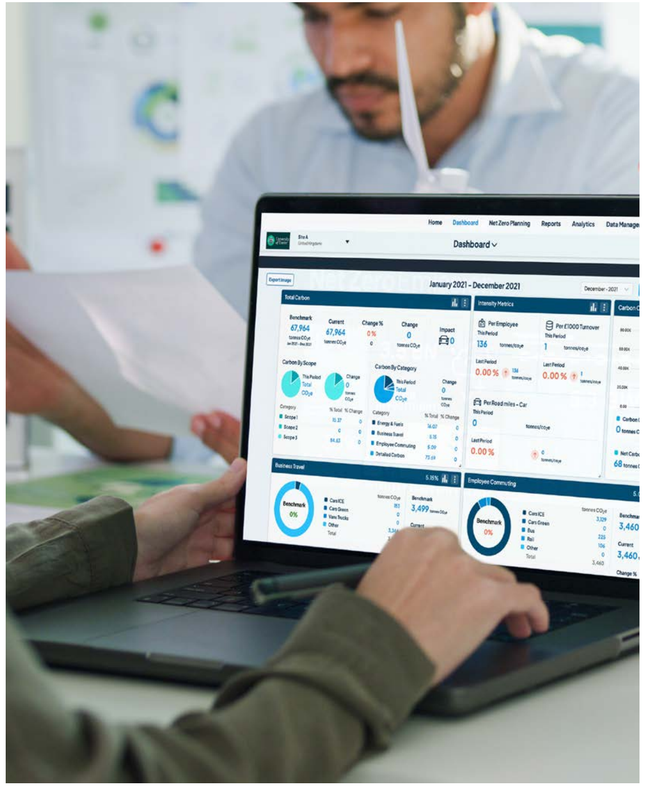
Activity Data: Physical units of purchased goods and services, such as weight, volume, length or quantity. Particularly important for manufacturers and/or significant purchases

Transport Data: Distance travelled, transport mode (air, sea, road, rail) and fuel type used for inbound and outbound logistics

Energy Use and Resource Consumption Data: Information on energy sources, water usage and waste generation associated with production processes

Packaging and End-of-Life Data: Details on packaging materials and disposal methods to account for emissions from waste and recycling

By systematically collecting and analysing these data points, organisations can develop a more accurate and comprehensive emissions profile for their supply chain. This is an approach that will likely continue over a number of years (possibly decades) so it's vital that we begin the process as soon as possible.



CONTINUOUS IMPROVEMENT AND MONITORING

Establishing ongoing monitoring and reporting mechanisms is also crucial to track progress in reducing emissions from purchased goods and services. Organisations should:

- Regularly update emissions calculations based on improved data and methodologies (usually part of an annual carbon-footprint exercise)
- Set benchmarks/targets and track performance over time
- Adjust procurement strategies in response to evolving industry best practices and regulatory changes

By applying these principles, organisations can make more informed decisions, prioritise emissions reduction efforts and work towards a lower-carbon supply chain.

Taking a structured, data-driven approach will not only reduce environmental impact but also contribute to cost efficiencies and improved resilience in supply chains.

Scope 3 - Transport of Goods

UPSTREAM & DOWNSTREAM TRANSPORT OF GOODS

UNDERSTANDING TRANSPORT & DISTRIBUTION

The way we transport goods—both locally and globally—has a big impact on carbon emissions. It's important to ask: why do we move goods in a certain way? And can we reduce emissions while keeping supply chains efficient?

Organisations often rely on complex logistics networks to ensure delivery of raw materials, goods etc. However, these networks can contribute significantly to emissions, and are often subject to disruption caused by climate change. We need to consider how transport strategies influence our carbon footprint and explore opportunities to reduce emissions while maintaining efficiency and customer satisfaction.

TRANSPARENCY

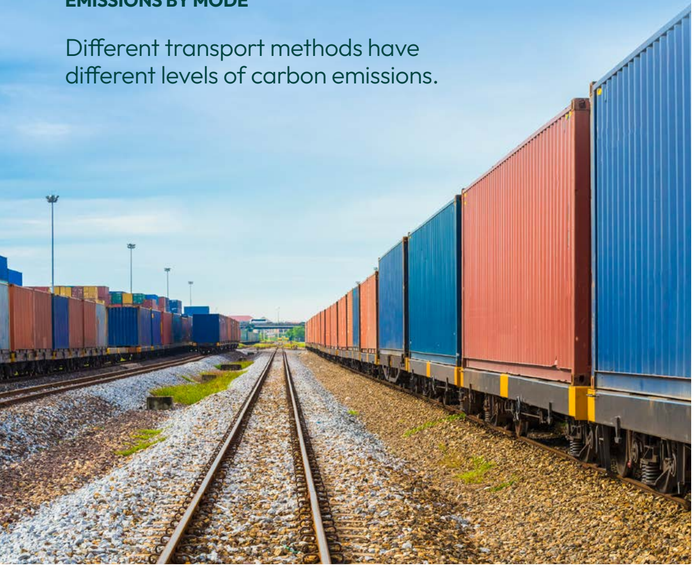
Do we know where our goods and materials truly come from?
Understanding the full journey—from raw materials to finished products—helps businesses make informed choices about reducing emissions. Greater transparency allows for better planning and greener decisions. This transparency also allows us to better understand our wider ESG impact. For instance do we know how much slavery is involved in the production of our raw materials?

By tracing the origins of goods and monitoring the transport process, we can identify efficiency improvement, pinpoint high-emission activities and seek alternative, lower-carbon options. Implementing digital tracking systems, working with responsible suppliers and monitoring emissions can help improve visibility and sustainability within the supply chain.

Scope 3 - Transport of Goods

TRANSPORT EMISSIONS BY MODE

Different transport methods have different levels of carbon emissions.



Choosing a lower emission option can significantly reduce a company's environmental impact:

Air Freight: Fast but highly polluting; best for urgent, lightweight items. Although it offers speed and reliability, the carbon footprint is significantly higher than other modes of transport. We also need to consider what is truly urgent. Often organisations use an "on demand" method due to historic practices or poor planning

Sea Freight: Much lower emissions than air but slower; suitable for bulk goods. It is often the best option for international shipments, though companies should consider alternative fuels and improved fuel-efficiency measures to further reduce emissions

Rail Transport: Efficient and lower carbon than road transport, ideal for long-distance movement within continents. Rail freight emits far fewer greenhouse gases per tonne-kilometre than road or air transport, making it a more sustainable option

Road Transport: Flexible and widely used but contributes heavily to emissions, especially over long distances. Advances in electric and hydrogen-powered trucks, as well as improved fuel efficiency in traditional vehicles, can help mitigate environmental impact

LIKELY DATA REQUIRED FOR EMISSIONS CALCULATIONS

To accurately calculate transport emissions, businesses should collect and analyse the following data:

Distance Travelled: The total kilometres covered by each transport mode

Method of Transport: How far goods have travelled by air, sea, rail or road, and the method (e.g. HGV vs. small van). We need to include each stage of the journey

Fuel Consumption: The amount of fuel used per trip, vehicle or mode of transport

Supplier-Specific Reports: Often the larger goods carriers will have specific data available based on individual account usage

STRATEGIES TO REDUCE EMISSIONS

Holding More Stock: Reducing "on demand" delivery can cut down on frequent transport needs. Warehousing goods closer to demand areas can minimise last-mile delivery emissions and improve supply-chain resilience. This comes with obvious cashflow and financial implications

Optimising Routes & Loads: Ensuring full loads and using smart logistics can decrease the number of journeys needed. Advanced route planning and real-time tracking technologies can help minimise unnecessary travel

Switching to Greener Transport Methods: Where possible, prioritising rail or sea over air and road can make a difference. Businesses can partner with logistics providers that offer sustainable transport solutions

Local Sourcing: Reducing long-distance supply chains by sourcing materials closer to production sites or consumers. This can also support local economies and reduce supply- chain vulnerabilities

Encouraging Collaboration Across the Supply Chain: Working with suppliers, logistics partners and customers to adopt shared sustainability goals and efficient practices can further drive reductions in emissions

BUSINESS TRAVEL AND EMPLOYEE COMMUTING

Travel, both for business and employee commuting, is a significant contributor to global greenhouse gas (GHG) emissions, particularly in rural areas.

Understanding and mitigating the impact of travel is crucial in achieving sustainability goals and reducing our carbon footprint. Addressing these areas can also positively impact organisational culture and employee wellbeing.

UNDERSTANDING OUR TRAVEL IMPACT

To effectively reduce emissions, we need to understand our current travel behaviours. This includes:

Employee commuting patterns: How do employees currently travel to work? What are the most common methods used? How far do employees travel and how often?

Business travel requirements: What is the necessity of travel for business purposes? What methods are most commonly used? How far are people travelling? Are there alternatives?

Awareness of alternatives: Are employees aware of and encouraged to use lower-carbon travel options, e.g. active travel such as cycling or walking, car shares, public transport?

LOW-CARBON TRAVEL POLICY

A structured travel policy is essential to minimising emissions. Key principles include:

How much do we need to travel? Travel should only be undertaken if essential and where virtual alternatives (video conferencing, remote collaboration tools) are not viable. It's common for businesses to travel excessively through habit rather than necessity

Choosing the least impactful method: Where travel is essential, prioritise lower-carbon options such as train travel over domestic flights, and public transport over single-occupancy car journeys

Encouraging remote work: Flexible working arrangements can reduce the need for commuting and business travel where possible. Obviously in some organisations this is impossible to achieve with all employees for a variety of reasons

INCENTIVISING LOW-CARBON METHODS

We can aim to support employees in adopting low-carbon commuting and business travel methods through:

Financial incentives
- Subsidising public transport costs
- Offering a “cycle-to-work” scheme to encourage cycling
- Providing incentives for carpooling and ride-sharing
- Paid commutes if employees use active travel methods

Recognition and rewards
- Acknowledging and rewarding employees who consistently use sustainable travel options through any existing (or new) company award schemes

Carbon budgets
- Allocating travel-related carbon budgets to teams and individuals to encourage mindful travel choices. This is becoming increasingly popular in organisations with a large travel carbon footprint, and allows reduction of travel budgets year on year

MONITORING AND REPORTING

Regular monitoring and reporting will help track progress and identify areas for improvement. This includes:

- Conducting annual employee travel and commuting surveys
- Tracking business travel emissions through expense claims and booking systems, or with travel agents if in use
- Reviewing policy effectiveness and updating incentives as needed

DATA REQUIRED FOR EMISSIONS CALCULATION

To accurately calculate emissions from business travel and employee commuting, the following data should be collected:

Commuting Data:
- Number of employees and their commuting frequency
- Mode of transport used (car, train, bus, cycling, walking etc.)
- Distance travelled per trip
- Fuel type and efficiency for personal vehicle use

Business Travel Data:
- Number and frequency of business trips
- Mode of travel (air, train, car rental, public transport etc.)
- Distance travelled per trip
- Class of travel for flights (economy, business, first-class)
- Accommodation details (hotel stays and their estimated energy consumption)

Other Considerations:
- Remote and flexible working impact – Whilst remote working can be encouraged, this can sometimes be passing emissions generated by our own business to our employees. For instance, the heat/light requirements of those working from home. This should be considered when embedding remote working options

Scope 3 - Waste

GUIDANCE ON MANAGING WASTE AND EMISSIONS

Effective waste and emissions management is important, particularly for manufacturing and product-based businesses.

By following some best practices, we can reduce environmental impact, improve efficiency, and potentially extend the life and create value from waste materials.

KEY CONSIDERATIONS FOR WASTE MANAGEMENT

1. Following the Waste Hierarchy.
The Waste Hierarchy prioritises:

Designing our systems, processes, products and services to minimise waste in the first place	**PREVENTION**
Identifying ways to use waste in its current form (e.g. reuse of existing packaging materials either by our own or other organisations)	**REUSE**
Ensuring materials are processed into new products (can be energy intensive)	**RECYCLE**
Extracting useful energy or materials	**RECOVERY**
As a last resort, ensuring responsible disposal	**DISPOSAL**

2. Design to Eliminate Waste
Can waste be prevented through better planning, lean manufacturing or improved supply-chain management? Reducing waste at the source is often the most effective strategy. Can we design our systems, processes, products and services to be waste free (or as close to it) as possible? Do we consider waste and circularity when designing new products and services?

3. Exploring Alternative Uses/Waste as a Resource
Before disposing of waste, consider whether it has another use. Can it be repurposed within the business or by another organisation? One company's waste may be valuable to another. For example, high-end laptops used by game designers could be repurposed for office staff such as accountants or solicitors. There are also financial benefits in this type of approach

4. Understanding Waste Treatment
Waste does not simply disappear once collected. Investigate how it is processed, whether it is recycled, incinerated, or sent to landfill, and ensure it is handled responsibly

MANAGING EMISSIONS

By taking action to design out and minimise our waste, we will in turn reduce the emissions associated with this area. We should consider tracking both the volume of waste created and the associated emissions on a regular basis (usually part of an annual carbon-footprint exercise)

DATA REQUIRED TO CALCULATE EMISSIONS

To effectively track and manage emissions associated with waste, businesses should collect the following data:

Waste Type: What type of waste are we generating? Plastics, metals, construction, office/kitchen etc

Volume of Waste: How much of each category of waste are we generating? Usually waste carriers will have access to this kind of information

Treatment of Waste: Once the waste has left our site what happens to it? How is it treated? Do we have a transparency around this?

Scope 3 - End of life

END OF LIFE

End-of-life treatment is a vital (and often overlooked) area of environmental impact.

Closely linked to waste, it encourages organisations to take responsibility for their products from manufacture to disposal, promoting sustainable practices such as extending product life, reusing materials and exploring alternative business models.

OWNERSHIP AND RESPONSIBILITY

Organisations must assess their level of ownership over their products' entire journey, from manufacture to disposal.

Consider:

- Once our product has left us, do we have any ownership whatsoever?
- How much of our product's journey, from raw materials through to end of life, do we own?
- How can we take more ownership?

Taking ownership and responsibility enables organisations to influence the end-of-life stage, ensuring responsible disposal and minimisation of emissions.

This can involve tracking product lifecycles, implementing return policies or leasing arrangements or working with suppliers to ensure sustainable sourcing and disposal.

ENCOURAGING EXTENDED PRODUCT LIFE

Prioritising the extension of product life over recycling can significantly reduce emissions and wider environmental impact. Recycling, while valuable, is energy-intensive and is not the sole solution.

Extending product life can be achieved by:

- Encouraging repairs and maintenance over replacement wherever possible
- Offering refurbishment services to restore used products to a near-new state
- Designing products with modular components to allow easy replacement of faulty or outdated parts
- Promoting product reuse within communities or organisations, including second-hand sales and donation initiatives, community libraries etc
- Educating customers and consumers on sustainable usage and care to prolong the product's lifespan

EXPLORING ALTERNATIVE BUSINESS MODELS

Adopting innovative business models can enhance control over product end-of-life processes and support sustainability goals. Examples include:

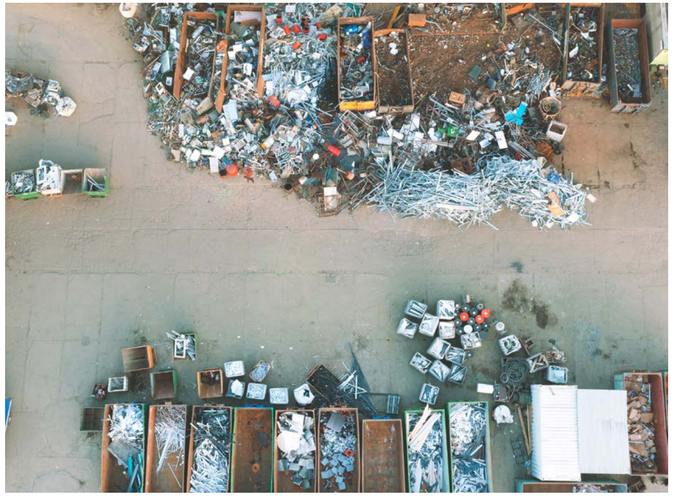
Leasing or renting models: Offering clothing, electronics or appliances on a lease basis ensures manufacturers retain control over the product lifecycle, meaning control over proper end-of-life disposal or refurbishment

Product-as-a-Service (PaaS): Instead of selling products outright, organisations can provide services using the products, such as shared mobility schemes or subscription-based home appliances

Take-back schemes: Implementing return policies for used products allows manufacturers to ensure proper disposal, recycling or repurposing

Deposit-refund systems: Providing incentives for customers to return products after use can encourage responsible recycling and reuse

These models ensure materials are reused or repurposed rather than discarded, reducing landfill/incineration waste and lowering emissions associated with new production.



UNDERSTANDING WASTE MANAGEMENT

Alongside these strategies, it is crucial to acknowledge that the notion of 'throwing away' is a misconception; waste is not eliminated but merely relocated. Recognising that there is no 'away' reinforces the importance of responsible disposal and resource management. Organisations should implement effective waste-management strategies to minimise their environmental impact.

Scope 3 -Data

DATA REQUIREMENTS AND QUALITY IN EMISSIONS MEASUREMENT

Measuring emissions accurately requires robust and reliable data.

However, collecting and managing this data can be labour-intensive and sometimes complex. The likelihood is that the required data won't be in one place, nor in the format required or easily accessible.

The first time we carry out data collection is usually the most painful, and we should look to continuously improve our processes to streamline this moving forward.

DATA SOURCES AND COLLECTION

Challenges in Data Collection:

- Data collection can be time-consuming and require input from multiple departments
- It is unlikely that all necessary data will be available in one place
- Data may be sourced from different locations, such as finance, expense claims, procurement and suppliers
- The larger the company, the more extensive and complex the data set
- Some data may not be standardised, requiring additional validation

Overcoming Challenges:

- Approach data collection methodically—if you can work with Excel spreadsheets, you can manage emissions data
- Break down the process into manageable steps, prioritising key data sources from likely key sources of emissions
- Engage with key stakeholders across departments to standardise data formats
- Implement data-management systems to centralise information and improve accessibility

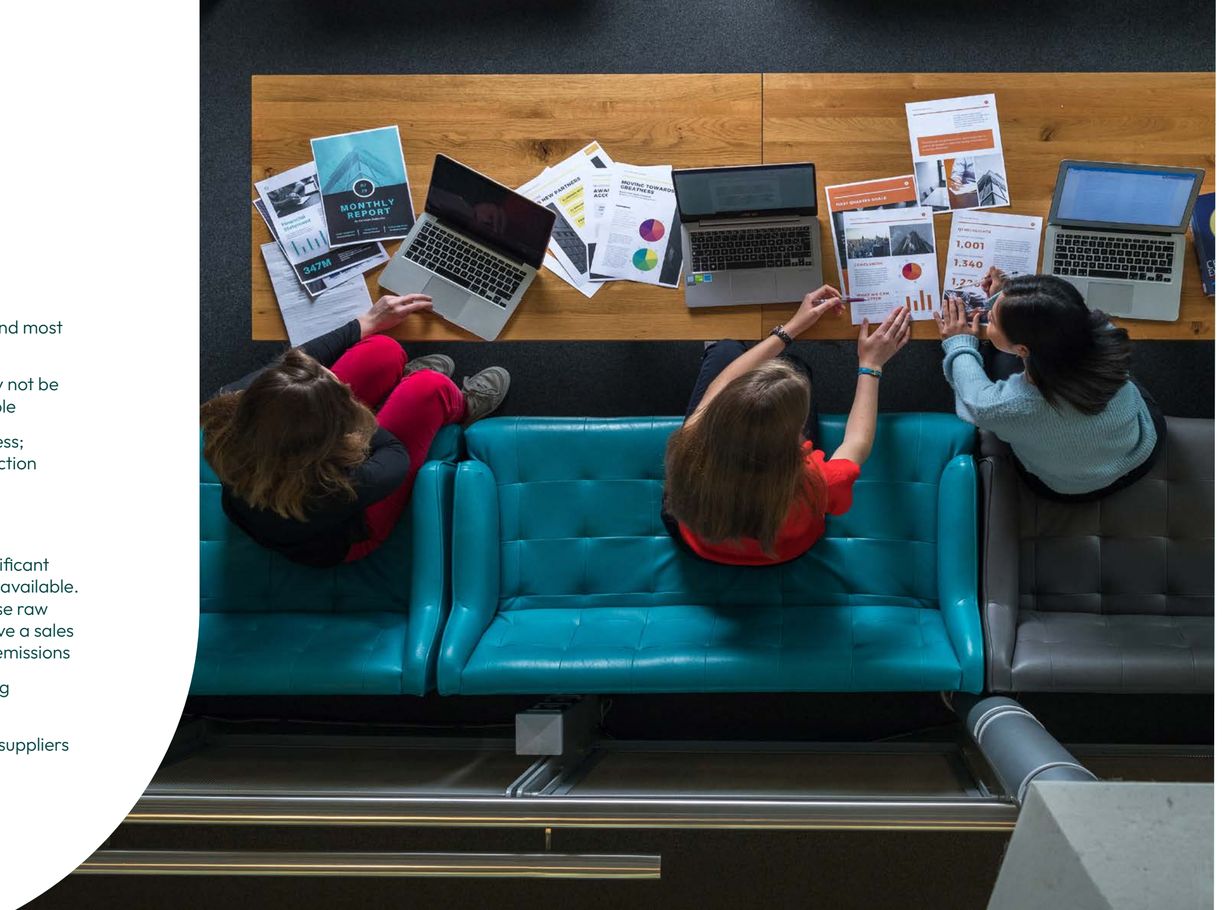
DATA QUALITY VS. AVAILABILITY

Striving for High-Quality Data:

- We should always aim for the best quality and most accurate data possible
- However, in many cases, the ideal data may not be practical, accessible or immediately available
- Incomplete data sets should not stop progress; instead, work towards improving data collection incrementally over a period of time

Prioritisation Approach:

- Focus first on areas with the likely most significant impact and obtain the highest-quality data available. As an example, for a manufacturer, prioritise raw materials and transport of goods. If you have a sales team on the road, focus on business travel emissions
- Improve data collection over time by refining processes and sources
- Develop partnerships and collaborate with suppliers to gain access to more accurate data



ACTIVITY DATA VS. SPEND DATA

Spend Data:

- Represents financial expenditure on a category (e.g., total spend on fuel, travel, raw materials)
- Easier to collect but less accurate due to price fluctuations and inflation
- Can be up to 400% less accurate than activity data
- Useful as an initial estimation tool before transitioning to activity-based data
- Where possible we should adopt a hybrid approach initially, using activity data for our most impactful areas and using spend data for those areas of lower emissions

Activity Data:

- Volume-based measurements provide more precise emissions calculations
- Examples include:

- Weight of raw materials purchased

- Distance travelled for goods transportation

- Miles travelled and method used for business travel and employee commuting

- Our long-term goal should be to transition towards collecting and using activity-based data for greater accuracy and control over emissions wherever possible. Realistically, organisations will adopt a hybrid approach for a prolonged period to get to this stage

Scope 3 -Data

PRIORITISING OUR EFFORTS

So, where should we focus our efforts?
Simply put, the areas of most significant impact:

- Start with activity-based data for the most significant impact areas. There's a temptation to use spend for every area because it's more simple, but starting as you mean to go on will put the organisation in a much stronger position long term
- When dealing with the supply chain, prioritise activity data for key categories such as raw materials
- Consider categorising data sources into primary (high-impact) and secondary (low-impact) areas, and allocating resource and focus accordingly
- Conduct periodic reviews to refine data prioritisation and collection methods based on new insights and experience

Examples of Priorities:

- Use weight, length and distance data for raw materials
- Track distance travelled and transport method for business travel and employee commuting
- Only use spend data where activity data is impractical (e.g., stationery or insurance, unless these are core business activities)
- Consider the reliability and accessibility of each data type and source, and plan how to improve these over time

TYPES OF DATA BY CATEGORY

Emissions data varies by individual categories. Some examples of the types of data required are:

- Raw Materials: Weight, volume, sourcing details and carbon footprint per unit if available
- Business Travel/Commuting: Distance travelled, transport method and frequency
- Goods Transport: Weight, distance, transport method and any reporting from shipping/logistics providers we use
- Energy Use: Consumption of electricity, fuel type and emission factors
- Waste Management: Volume of waste produced, recycling rates and disposal methods
- Other Expenditures: Where activity data is unavailable or the area is of lower impact, we can use spend data cautiously and improve accuracy over time

CONTINUOUS IMPROVEMENT

- Establish a plan to refine data-collection processes and improve year on year
- Identify data gaps and work with relevant teams to improve accuracy
- Conduct regular audits and reviews to validate data quality and identify areas for enhancement
- Encourage collaboration between departments and suppliers to ensure better data transparency
- Set long-term goals for data enhancement and integrate sustainability targets into overall business strategy – This way the data required becomes part of the overall strategy, not just something required for sustainability

BVCM

BEYOND VALUE CHAIN MITIGATION AND PERMACULTURE

– The next piece of the puzzle?

Eden Freeman-Payne
Emissions Analyst
Green Berry Consulting

Having done all we can to reduce our businesses emissions whilst engaging, encouraging and supporting key upstream and downstream partners (our supply chain) to do their bit, it may feel like decarbonisation is completely out of our hands.

Many organisations, if not all, will reach points where they feel there is nothing more they can do. Sometimes it seems like we're having to sit tight and wait for others to catch up. But knowing that as your supply chain makes progress, you will make progress too, what can we do whilst we are waiting? How can we avoid stagnation?

The SBTI (Science Based Targets Initiative) has highlighted the importance of steering clear from offsetting most of your business's emissions as this can delay real emissions reductions, letting low-carbon innovation go unimplemented whilst creating a 'licence to pollute' mentality.

Rather than waiting for legislation to come and put an end to the challenging parts of our system, are there ways we could stay ahead of the curve? Maybe that's the transformation we need but haven't quite accepted yet. Not a failure, but a strategic reinvention. Could the next step be feeding resources into innovation, activating progress towards visions in alignment with the future we all need?

Every pound, every dollar and every hour we spend today creates the world we live in tomorrow.
So what if we could step outside of our bubble and work to reduce, avoid or remove emissions that might not be a direct consequence of our current business activity? We could start taking accountability for indirect emissions (e.g. those associated with the original manufacturing and shipping of all that packaging) or emissions associated with our activity beyond the workplace (e.g. those associated with that new TV, that has components from over 30 countries, or that pineapple you picked up at Tesco in February). These are emissions associated with the products and services we use, but often they sit beyond our direct suppliers. Strangely, these are emissions we often reject responsibility for, claiming that's the job of the manufacturer, but supply equals demand and we can't forget that.

SBTI came up with the term Beyond Value Chain Mitigation (BVCM) - a term used to identify and emphasise the need for pioneering new horizons in sustainability. The term encompasses actions or investments made to reduce, avoid, capture and store greenhouse-gas emissions. In a perfect world, these new horizons should be self-sustaining, making more energy than they require to establish and maintain. Engaging with BVCM may not directly 'offset' an organisation's emissions, but instead help businesses participate in the wider transformation.

Before I continue, I want to reiterate the importance of reducing consumption. Reduction is the first and most important level in the hierarchy of emission mitigation, but currently our consumption continues to rise at an unprecedented rate.
We must all take responsibility by recognising our role in the system and understanding our power as citizens. We are all consumers, but we all have the potential to act responsibly.

SO WHAT ARE EXAMPLES OF BVCM?

Investing in carbon avoidance may look like investing in the renewable-energy transition, plant-based foods, low-carbon construction, circular economy, waste reduction and regenerative farming. If we wish to unlock new doors and achieve net zero we can all act as investors by sharing resources, supporting green growth and lobbying to support any legislative changes that may be required to enable green success.

In terms of emissions removal, many recommend we start with Nature Based Solutions (NBS), such as Reforestation, Regenerative Agriculture and Peatland Restoration.

Biodiversity restoration is vital (the UK is one of the most nature-depleted countries in the world), yet some carbon-removal strategies forget to address this. Biodiversity increases resilience and is a fundamental building block in a more sustainable world. Improved abundance and diversity will improve ecosystem services, creating stability and allowing for quicker adaptation and recovery in the case of an emergency.

Certified B Corporation

The B-Corp community are encouraged to engage with means of BVCM, creating sustainable initiatives and giving time and resources to environmental organisations, often charities.

Similarly, organisations in compliance with ISO 14001 may include paid voluntary work in their Environmental Management System. Many organisations engaging with the GreenFutures Solutions Project, after seeking support with carbon footprinting and reduction strategies, received a grant fund for biodiversity enhancement and many independently support local reforestation projects.

It is important we have a diverse portfolio of BVCM options to cope with the full scope of possible climate-change impacts we are predicted to face.

As mentioned, there are other methods of carbon removal (and storage), including geological, ocean-based and technological, such as direct air capture (DAC), alkalinity enhancement, enhanced weathering, carbon capture and storage (CCS).

These methods of mitigation remain for the most part unproven, and questions remain as to whether we can control the entirety of the earth's climate. We may be able to influence it, but who knows what the cascading consequences of attempting this might be. We should not rely on these or be relying on "overshoot" if we want to protect the future.
Many of these methods involve heavy use of chemicals and can have unpredictable and harmful ecological effects.

SO WHAT PRINCIPLES SHOULD BVCM FOLLOW IF THE OUTCOME IS TO BE A TRUE REPRESENTATION OF SUSTAINABILITY?

Whilst acknowledging the need for businesses to become 'triple bottom line' (people, planet, profit), giving nature and our communities a seat in the boardroom, we can go beyond this and try and fulfil a set of principles.

Permaculture, as an example, is designing for permanence. The 12 permaculture principles, when adhered to, can potentially help us create regenerative, just and equitable food systems, communities and businesses.

There are 12 permaculture principles that can guide businesses toward more sustainable practices creating a more just and equitable world for everyone. Let's start with the first principle: Observe and Interact. This principle emphasises the importance of understanding the environment and the community your business operates in.

By taking the time to observe and interact with the landscape, its inhabitants and their relationships, you can better integrate with the existing system and ensure your actions are in harmony with it. This is particularly relevant for those with raw materials and larger supply chains. This leads us to the second principle: Integrate Rather Than Segregate. Instead of separating yourself from the system, enhance it by leveraging the strengths of the existing components. Sustainable solutions come from mutually beneficial exchanges and collaboration, where all parts of the system work together. Exploiting resources for personal gain without considering the broader system can lead to negative consequences for your business and the environment.

Next, we have Use and Value Renewable Resources and Services. Renewable systems are self-sustaining when properly maintained, and they offer long-term benefits. Harnessing energy from renewable sources like wind, solar or hydro is a prime example of a resource you should make the most of.

Another principle is Obtain a Yield. There's nothing wrong with benefiting from the system, if it's done in a way that maintains balance. Symbiotic relationships—where all parties benefit—are key to this principle. As long as we're not depleting or harming the system, a yield is sustainable. Take only what it is safe to take.

Moving on, we should Design from Patterns to Details. This principle encourages starting with broad observations (patterns) and then refining the details based on those patterns. Nature's designs can be an excellent guide. By following the natural order, we avoid overcomplicating things and align our system with its purpose, ensuring it works efficiently without producing waste. Biomimicry is an excellent tool to use in this process.

That brings us to Produce No Waste. Every resource should be used in a way that nothing is wasted. This is about seeing value in everything, even things that may seem insignificant or unwanted at first. If you're producing harmful waste, it's time to rethink the processes that lead to it.

The next principle is to Use the Edges and Value the Marginal. The edges—whether they're physical boundaries, overlooked communities or unconventional ideas—often offer the most potential for creativity, productivity and innovation. These are the places and people where transformation occurs, yet they're often undervalued. Embracing them can bring fresh perspectives and opportunities.

Use and Value Diversity follows naturally from valuing the margins. A diverse system—whether it's in terms of plants, animals, people or ideas—prevents stagnation. It provides resilience and helps avoid the risks of monoculture, whether that's in a garden or a business mindset.

Creatively Use and Respond to Change is another key principle. Change is inevitable, and resisting it only adds pressure.

Being adaptable and creative in how you respond to change allows you to stay resilient and improve your system over time.

Use Small and Slow Solutions is a wise approach to change. By starting small, you reduce risk and make change more manageable. Small, incremental adjustments allow you to learn as you go, making it easier to modify your systems based on lessons learned along the way.

Finally, we have Apply Self-Regulation and Accept Feedback. The permaculture principle of self-regulation involves assessing how well your systems are working and accepting feedback to adjust and improve. Every system—whether natural or business-related—is part of a larger whole, and understanding your place within it helps create a more balanced and sustainable outcome.

By undertaking a much more holistic approach to our business, and understanding our true environmental impact (not just carbon),we can take positive steps to reduce that impact and become a more responsible business.

Business and Environment

IT'S TIME FOR BUSINESS TO MAKE THE ENVIRONMENT A PRIORITY

Professor Steffen Boehm
Professor of Organisation and Sustainability
University of Exeter Business School

There are many reasons why businesses need to make reducing their environmental impact a priority.

Consumers are increasingly interested in environmental issues. And if your customers care about something, then you as a business need to care about it too – otherwise, there is a mismatch.

Governments are introducing more and more environmental legislation requiring companies to lower their carbon emissions, manage their impact on water resources and reduce their plastics pollution, for example. If your business is not yet affected by this regulatory pressure, it soon will be.

Protecting the environment is key to making supply chains more resilient. Today's global supply chains are vulnerable to disruption, as witnessed by empty supermarket shelves during the pandemic or the Suez Canal blockage. Climate-induced extreme weather events across the world will increasingly disrupt supply chains and impact businesses.

There tends to be a strong correlation between reducing environmental impact and reducing costs in your business. For example, carbon emissions do not just have a negative impact on the atmosphere, they also have a negative impact on the bottom line, because wasting energy and resources costs money.

Lastly, humans tend to want to do the right thing. We all have a responsibility to protect the environment, and organisations are made up of people who mostly work to this moral and ethical code. So, what can businesses do next?

LOOK BEYOND CARBON

Climate change is probably the world's most pressing environmental issue, hence there is a huge focus on lowering carbon emissions.

This is a good thing. However, it can also be a problem if it's the only thing we're focusing on. Our environment comprises much more than just our atmosphere. We also need to be looking after our biodiversity, our land, our water resources and our oceans. There is a danger of "carbon fetishism".

Around 20 years ago, a group of leading researchers and scientists outlined the Planetary Boundaries framework – assessing how well we humans are living within certain safe planetary boundaries.

They discovered that climate change was just one of the aspects we need to focus on when we're thinking about maintaining a safe operating space for humans on our planet.

Businesses need to take into account their impact on water quality, biodiversity loss, air pollution, plastics pollution and toxins in the air and in the soil, for example – all of which go beyond simple measures of carbon but are equally important.

Take biodiversity. Britain is one of the most nature-depleted countries in the world. We need to do something about this, not just because it's our ethical and moral responsibility, but also because we need nature.

The quintessential example of this are the bees that, as key pollination species, put the food on our tables. Once the bees and other pollinators are gone, we will notice it on our plates.

Businesses need to know about these planetary boundaries and look beyond carbon to consider the full spectrum of their environmental impact.

MEASURE YOUR IMPACT

When it comes to measuring your environmental impact, there are a variety of frameworks already out there – businesses don't need to reinvent the wheel.

Seek professional support from universities or consultancies or explore the many carbon-footprint tools available.

There are also some broader frameworks, such as the Global Reporting Initiative (GRI) and the Science Based Targets Initiative. These global initiatives outline how to take a baseline of your organisation's environmental footprint.

Other frameworks include Life Cycle Assessments (LCAs). These measure the environmental footprint of a product or similar over its entire lifetime. LCAs don't just focus on carbon. An item of cotton clothing, for example, would have a carbon footprint, but it would also have a very high water footprint, which would be reflected in the LCA.

The most important first step is to assess what your impact is right now, establish a baseline and come up with a concrete plan for how you will reduce that impact.

UPSKILL YOUR TEAM

You can get help with measuring your impact from external consultants, but ideally, you should develop these skills in-house over time.

This is because measuring your environmental impact is not a one-off thing that is done and dusted once the consultant has handed over their report. You will need to continue measuring your impact throughout the years to come.

Developing the skills to do this within your organisation will help you better understand how environmental issues impact your business over long periods of time and then translate this information into corporate strategy – so that you can do something about it.

AVOID OFFSETTING

Once you know your carbon or environmental footprint and have that baseline, it's important to resist the kneejerk reaction of trying to solve the problem tomorrow.

This short-term thinking is what drives decision makers to buy offsets – whether they're carbon, biodiversity or water offsets. There are many problems with offsetting. First, offsetting gives us the impression that we can just buy ourselves out of the problem – paying someone else to do the dirty work for us.

The typical arrangement is to pay an intermediary to invest in 'good projects' – generally in low- to middle-income countries where those projects will be cheaper. You might invest in a methane-capture project at a Brazilian landfill site, for instance, or in afforestation, or installing renewable energy.

Carbon offsetting is a growing industry because many companies in rich countries either find it too hard to invest in cleaning up their own house or they don't want to do it. But there are a great deal of accountability and transparency problems within these global carbon-offsetting schemes, and corruption and false accounting are rife.

An even bigger problem is that carbon offsetting simply doesn't work. Offsets have been around for at least 25 years and global carbon emissions continue to rise at an alarming rate.

Offsets haven't fundamentally changed anything. In fact, I'd argue that they have made things worse, because they have given people, particularly in the rich industrialised world, permission to continue to pollute and then buy ourselves out of it.

If you need to improve your organisation's environmental footprint, there are much better alternatives available.

EXPLORE INSETTING

Insetting is an interesting alternative. Rather than paying someone to offset your emissions, insetting means dealing with the problem in-house – both within your organisation and within your supply chain.

Insetting is not just for big multinationals with operations and supply chains all around the world. Small, local companies can also work with their suppliers and their value chain to bring about positive change.

Where carbon markets are based on a competitive model, insetting is a much more cooperative approach. Insetting means working with other companies in your value chain – and sometimes even with your competitors – to help them reduce their emissions and effect broader change within your industry.

So, for instance, a Cornwall-based garment producer buying lots of cotton will be creating a huge environmental footprint elsewhere. Insetting means taking responsibility for that. In this situation, it would looks like knowing where the cotton comes from and understanding the environmental and social issues associated with production, and then working with suppliers to help them change their practices for the better.

Insetting helps your organisation target those important but harder-to-tackle Scope-3 emissions that many companies tend to avoid addressing and, in so doing, it helps bring about real, positive change.

CHOOSE PLACE-BASED APPROACHES

Another alternative is something called a place-based approach to environmental impact. When thinking about your organisation's environmental footprint, it's important to remember that your business is embedded in a place, in a community and in a particular ecosystem.

It therefore makes sense to invest time, energy and money into making that place the best you can. This might look like investing in local water-management systems, or local afforestation projects, or local biodiversity projects.

I love the place-based approach because it tackles a variety of environmental and ecological issues and, because it tends to involve local people, it also has social impact.

Place-based approaches help to improve your relationship with your consumers, and they are great for staff development. They give team members a buzz and are an effective way to attract younger talent who care about social and environmental issues.

There is a great deal that organisations can do to help protect our environment. Start by regularly measuring your impact and committing to concrete, positive action, like insetting and the place-based approaches outlined here. This is long-term, continuous work and the best time to start is right now.

“Businesses are facing increasing pressure around the environment. The best time to embed sustainability was yesterday, the second best time is today.”

Professor Steffen Boehm
Professor of Organisation and Sustainability
University of Exeter Business School

This toolkit underscores the urgent need for decisive climate action, particularly in achieving Net Zero emissions.

In this toolkit we've highlighted the critical economic, environmental and social consequences of inaction while outlining practical strategies for businesses to measure, reduce and mitigate their carbon footprint. From understanding Scope 3 emissions to integrating sustainable procurement and energy efficiency, organisations must take a structured approach to decarbonisation. While carbon offsetting has been a widely used tool, this report emphasises the importance of prioritising direct emission reductions and exploring more effective strategies such as circular economy principles, regenerative business practices and innovative carbon-capture technologies. As climate shocks escalate, resilience and adaptation will be key to ensuring both environmental and economic stability. By embedding sustainability into business strategy, companies can drive meaningful change and contribute to a more sustainable future.

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