WHITE PAPER

HOW ESG IMPACTS MANUFACTURING

ADDING VALUE THROUGH MANAGED SUSTAINABILITY

ESG PRO

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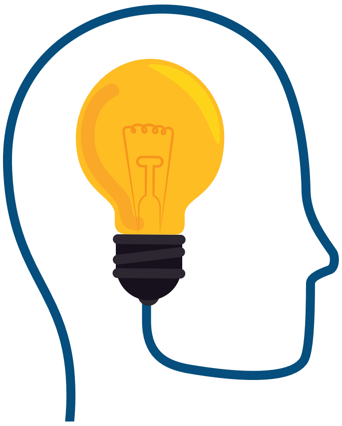


INTRODUCTION

WHY ESG IS A TOP PRIORITY

The manufacturing sector is feeling the brunt of the global push for sustainability. Of course it's the logical first thought when considering raw carbon emissions, but even in the clean-tech sector there's no escaping scrutiny.

That a firm's carbon footprint is a factor is indisputable, but what's really drawing attention is the embodied carbon of the products which any manufacturer produces, and the impact this has upon it's upstream supply chain.

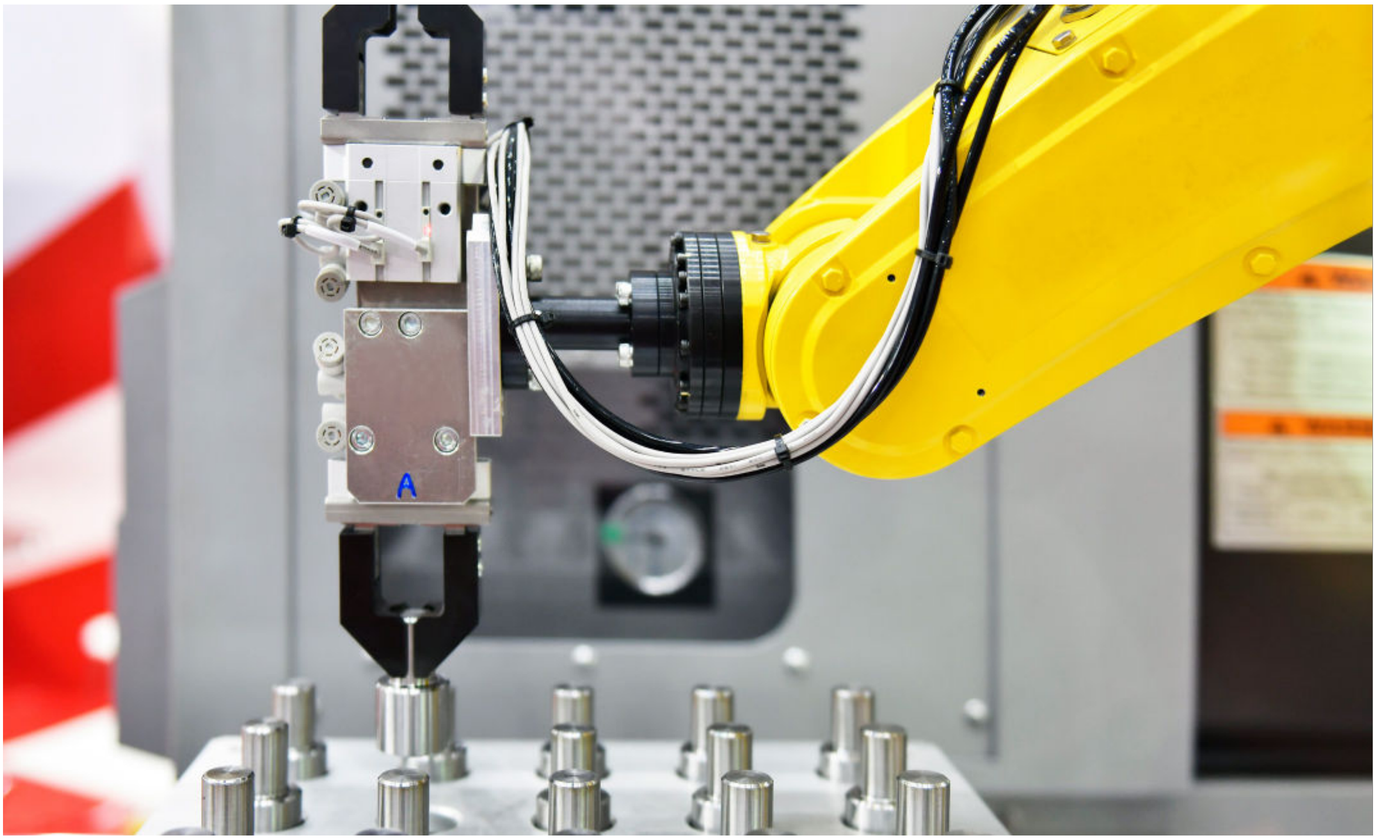
Making matters more complicated for the sector, individual manufacturers are having to complete Environmental Product Declarations (EPDs), as well as solicit the same from their supply chain.

Further complexity arises from requirements to produce Life Cycle Assessments (LCAs), which calculate the total environmental impact of a product's utilisation throughout its life, right through to its final destruction or re-use.

Concurrently, the entire sector is feeling the pain of the worst energy crisis in modern history, soaring inflation, and - in some cases - stagflation too.

In this white paper, we explore how a modern approach to environment, social, and governance topics can contribute to a leaner, more agile, and energy efficient, manufacturing business.

A well-conceived sustainability model puts people, planet, and profit as equals. This leverages the huge commercial advantages of ESG in order that boardrooms can better



manage risks and exploit opportunities. In doing so, the capacity to attract new clients and investment are achievable priorities, while the process also insulates the business from exposures to D&O (Directors and Officers) litigation.

Your ESG approach must be substantiated, quantifiable, and long-range. ESG reporting and the resultant rating is the ultimate "bird's eye view" of all that you are doing well, and it encompasses everything from your corporate social responsibility initiatives to your internal carbon reduction plans.

Read on, and gain insight into this topic of huge importance to the entire sector, no matter whether you're in heavy industry or modern technology.

Manufacturers are being fined for failing to report their emissions under climate change schemes

PERSPECTIVE

ESG, AND THE CHALLENGES FACING THE MANUFACTURING INDUSTRY

Given the energy conundrums of 2022, the UK's industrial manufacturing and automotive (IM&A) firms are focused on energy efficiency. However, they are also prioritising the health and safety aspects of their products, as well as their corporate goals for diversity and inclusion. From an ESG perspective, this bodes well.

We see financial considerations as the primary factor, and it's no surprise: the sector has long considered energy efficiency to be an important investment criterion. For many years, it has been standard practise to include the total cost of ownership (TCO), rather than just the initial investment, when evaluating the value of a new piece of machinery or the development of an innovative techniques.

The pandemic has prompted businesses to invest further in automation, both on the factory floor and in supporting processes which increase productivity and improve customer service. As the recovery builds pace, they are also leveraging the "green" equation by leveraging the financial incentives available to drive sustainable business growth.

Unwittingly or not, the sector is adopting to the principles of ESG. Energy consumption can only be tackled through measurement, and this leads to carbon reduction plans. For the larger operation, this is often a regulatory requirement (such as compliance with the Streamlined Energy and Carbon Reporting (SECR) regulation. And since waste, water usage, and effluents are part and parcel of one's carbon footprint, managing emissions has a wider positive impact on the environment that one might expect.

Similarly, supply chain management is key to reducing a carbon footprint, and yet this is also where manufacturers can mitigate reputational risks, and strengthen their business continuity plan. Such factors are integral to good governance and, again, the link between a well-run business and ESG becomes clearer.

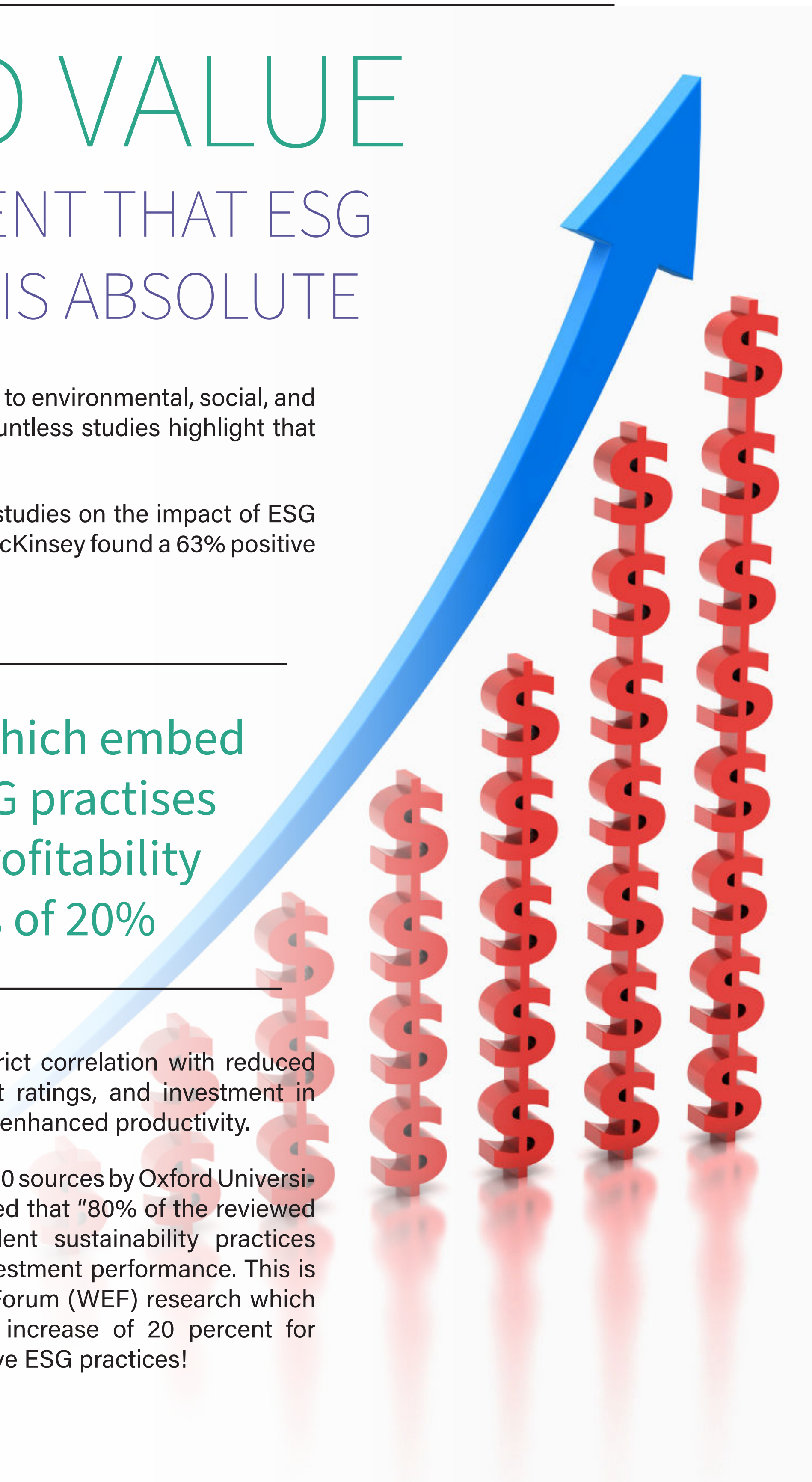
Demand from the value chain is unrelenting, irrespective of whether that is represented by consumers choosing a 'greener' option, or a commercial client stipulating carbon reduction measures.

The challenge for the sector is how it capitalises upon its efforts. For all of the good work, innovation, and investment, how many firms are "leaving their money on the table"? The advantage of ESG reporting is that it offers a single point of reporting for all that is positive about any business.

By formalising - and evidencing - the facts of a business, one can unlock access to "green" capital, typically reducing the cost of borrowing by 10 percent. Such savings alone are more than enough to offset any associated costs, let alone the value of the increased competitive positioning which results.

ADDED VALUE

THE ARGUMENT THAT ESG ADDS VALUE IS ABSOLUTE



When corporations pay attention to environmental, social, and governance (ESG) concerns, countless studies highlight that their returns are enhanced.

Analysing the results of >2,000 studies on the impact of ESG propositions on equity returns, McKinsey found a 63% positive return vs. a mere 8% negative[1].

Companies which embed effective ESG practises generate profitability increases of 20%

Stronger ESG ratings have a strict correlation with reduced downside risk and better credit ratings, and investment in ESG delivers reduced costs and enhanced productivity.

A 2015 metastudy of more than 200 sources by Oxford University and Arabesque Partners[3] noted that "80% of the reviewed studies demonstrate that prudent sustainability practices have a positive influence on investment performance. This is supported by World Economic Forum (WEF) research which shows an average profitability increase of 20 percent for companies which embed effective ESG practices!

GREENWASHING

DON'T RISK YOUR REPUTATION

There are dangers to any firms which dare to underestimate the emotive impact of ESG issues. At stake is near-certain damage to a company's reputation and profit margins.

In 2020, the Competition and Markets Authority (CMA) discovered that 40% of green claims made online from companies could be misleading, particularly the construction sector.

Imagine the impact of the press revealing modern slavery in your supply chain, and what of dumping of illegal waste? Such scenarios are all too real, made worse by the reality that it's so often not the prime contractor which commits the breach. The emphasis is very much upon you to be in total control of your supply chain.

Doubtless, you've invested in Corporate Social Responsibility (CSR), and your operations are above reproach, but public and commercial claims as to your corporate sustainability must be validated. The risk of greenwashing is very real.

'Green-fatigue' is real, and regulators are clamping down. Put bluntly, 'greenwashing' is an accounting fraud, in that there is often a discrepancy between reported and actual behaviour, and executives face personal culpability.

Sustainability delivers social and financial benefits, and it's tempting to make bold claims or to declare goals to keep pace with the competition. Green marketing is effective because buyers willingly pay a premium, according to McKinsey's buying habits research.

The problems arise through ambiguity as to what "sustainable" means. It's certainly more than purchasing carbon offsets or using green imagery on your website!

Some of the cautionary red flags of greenwashing include the use of terms such as "environmentally friendly" or "made from recycled materials" without specification, or describing packaging as "recyclable" despite only a small percentage of the total qualifying as such.

Pay attention to both your group's internal activities as well as those across your supply chain. Query claimed 'sustainable' product or service attributes, demand evidence, and examine worker conditions with equal thoroughness.

It is precisely because ESG reporting relies on evidence-based data that the risks due to greenwashing can be mitigated.

According to SpringerLink, "Environment, social, and governance (ESG) risk is the consideration of non-financial risks arising from the environment and sustainability, reputation, or brand, legal, technological, product or service quality, labour, ethical conduct, compliance, and strategic considerations."

To summarise, greenwashing is very much a key ESG risk, and requires careful risk management. The role of ESG reporting in this context is to ensure that the necessary action-plans are in place, together with appropriate stakeholder engagement to ensure any claim can be substantiated.

In summary, the evolving regulatory and legal landscape is significantly increasing the risk of enforcement and litigation. Activist shareholders and investor groups are all actively exploring legal and regulatory avenues which enable them to hold firms which greenwash to account.

Green marketing is effective because buyers willingly pay a premium, according to McKinsey's Buyer Habits Research

ESG FACTS

WHY ESG IS A MANUFACTURING SECTOR PRIORITY

12% of all UK GHG emissions are derived from the manufacturaing sector (UCL Institute for Sustainable Resources)

25% is the fall is direct CO_2 emissions in the manufacturing sector since 2009, while output has risen by 10% (HSBC)

68% the government's legally binding interim target for GHG emissions reduction by 2030 (UK Govt.)

£315m the budget of the 2018 UK industrial transformation fund for manufacturing firms to decarbonise (UK Govt.)

$14+ the price per tonne of "nature based" offsets — such as those from tree-planting schemes (Financial Times)


You need to measure the embodied carbon of each manufactured product.
How?

ESG REGULATION

PREPARE FOR THE UNAVOIDABLE

As of Summer 2022, the UK has no single ESG law or regulation. The UK's ESG regime consists of domestic and EU-derived laws and regulations, many of which are not ESG-focused but which have an influence.

The UK considers the directors of UK quoted companies already subject to the key themes of human rights and environmental management issues via their annual reporting obligations. Be warned, though: since April 2022, TCFD (Taskforce for Climate-related Financial Disclosures) is mandatory for all firms, public and private, with more than £500m turnover and more than 500 employees.

TCFD reporting can be complex, as its starting point both carbon accounting, and ESG reporting. It's then about reporting the financial risks and opportunities an organisation may encounter as a result of climate change.

Other than TCFD, the UK's ESG legal landscape is fragmented, with a wide range of laws and regulations with which all businesses (big and small) must comply. These include the UK Corporate Governance Code 2018 (the "UKCGC"), the directors' duties in the Companies Act 2006 (the "Companies Act"), the Listing Rules, the Disclosure Guidance and Transparency Rules (the "DTRs"), the UK Stewardship Code 2020 (the "UKSC"), the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008, the Climate Change Act 2008 (the "CCA 2008"), and the Bribery Act.

Globally, the European Commission CSDDD (Corporate Sustainability Due Diligence Directive) will force many strategic and operational changes, as will the EU CSRD. Add to this, the new EU sustainability reporting requirements will apply to all large companies, whether listed on stock markets or not. Non-EU companies with substantial activity in the EU (with a turnover over €150 million euros in the EU) will also have to comply. Listed SMEs will also be covered, but they will have more time to adapt to the new rules.

Closer to home, More than 30 companies have been fined by the Environment Agency for breaches of climate change schemes which exist to help deliver the UK target of net zero emissions by 2050.

Under the EU Emissions Trading System, firms running power plants and energy companies were fined after under-reporting their emissions for a specific year, while others failed to submit the necessary reports outlining their emissions for a specific year.

Under the Climate Change Agreements scheme, brewing and automotive companies are among those fined after failing to

sufficiently reduce their energy use and carbon dioxide emissions – having signed up for a voluntary agreement with the Environment Agency which entitled them to a discount on the Climate Change Levy for doing so.

Under the Energy Savings Opportunity Scheme, firms including those involved in insurance and the manufacture of machinery have been fined for failing to complete audits of the energy used by their business and failing to identify cost-effective energy saving measures.

While "manufacturing" covers a vast swathe of operations, let there be no doubt that as a whole it's truly under the spotlight and ESG - and all things sustainability - are of the highest importance.

Since April 2022, TCFD reporting is mandatory for almost all firms, public and private, with more than 500 employees.

STAKEHOLDERS

YOUR MATERIALITY ASSESSMENT IS CENTRAL TO SUSTAINABILITY SUCCESS

Materiality is the principle of defining the environmental, social, and governance topics which matter most to your stakeholders. Of your entire ESG reporting journey, few things can be considered to be of equal importance than how you incorporate and prioritise the views of your stakeholders.

New regulations such as mandatory climate reporting and the European Directive on non-financial reporting and the UK TCFD are prompting businesses of all sizes to re-consider the material topics on which to report.

The process begins by accepting that your stakeholders include those who are external to your own operations. You must think beyond your Executive, and consider your workforce, the entire supply chain, the community, and beyond.

No wonder the two most widely accepted ESG reporting frameworks, the GRI and SASB, demand rigorous materiality assessments. The process demonstrate the good governance of the reporting organisation, and you will discover there are many approaches to making the process as smooth and effective as possible. Above all, the process informs your Executive's strategic decision-making.

For manufacturers, the range of stakeholders extends beyond the obvious. One has to consider the entire supply chain of the product, and it's upstream life cycle. Who will be impacted by the use of the end product, and what might be its environmental impact?

When organisations consider how sustainability topics interrelate with their business strategy and then link sustainability with risk, they strengthen their operations. Materiality informs those concerned with risk, just as it informs your sustainability board.

The benefits of better informing your stakeholders are revealed not only through greatly improved employee, investor, and customer confidence, but extend also through to those concerned with regulatory oversight.

By placing stakeholder engagement at the beginning of your ESG and sustainability journey, you are more likely to derive the commercial benefits for which ESG is known. For many, the process stimulates innovation and efficiencies which were hitherto unrecognised.

CARBON

GHG MANAGEMENT ISSUES ACROSS THE MANUFACTURING SECTOR

When discussing carbon accounting, we are referring to the equivalent carbon generated by a collection of climate impacting greenhouse gasses (GHGs).

These emissions fall into three categories, or scopes, summarised in the figure overleaf. In the manufacturing sector, one expects to see the fifteen categories of Scope 3 emissions represent a staggering 90 percent of total emissions. This poses a problem for companies seeking to achieve carbon neutrality, since all emissions and their sources must be identified and measured.

Modern economies rely on energy-intensive businesses, yet they also emit greenhouse gases (GHG). Manufacturing emits 12% of the UK's GHGs. steel, cement, and chemical industries account for half of this. For example, the blast furnaces at Port Talbot and Scunthorpe account for 95% of steel's emissions.

However, if we examine the UK chemicals industry, we discover the relevance of GHG across the entire manufacturing sector, since almost all operations use chemicals. Over half of UK chemical companies employ fewer than five workers, and 97% are SMEs!

Many decarbonization prospects in the chemicals business require electrification, while high UK electricity tariffs hinder this and the 2022 energy crisis has created mayhem.

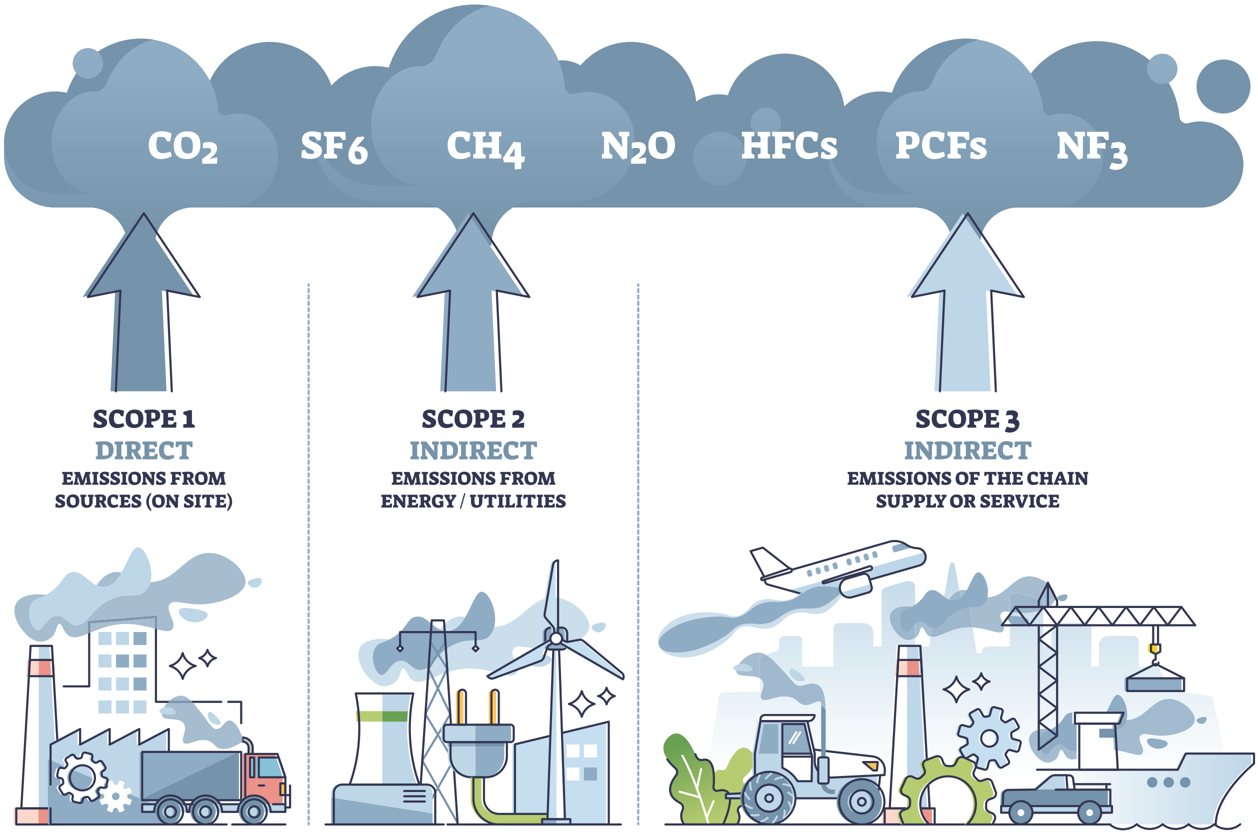
Turning our attention to petrochemicals, nitrogen fertilisers have the most emissions. Several chemical processes induce emissions in two ways: (a) as a fuel demand for energy (typically heat), or (b) as a chemical feedstock - when carbon is needed to produce a specific chemical reaction, fossil fuels are employed.

What's clear is that chemical production has the greatest direct emissions among UK industrial sectors, accounting for 18% of overall manufacturing emissions and 2.2% of total UK direct GHG emissions in 2019. Petrochemicals contributed almost half.

Managing the reduction of GHG emissions for manufacturers requires carbon offsetting, but this is hindered also by rising costs. Lack of viable, cost-effective alternatives to current emissions-intensive technologies makes switching difficult.

Current offset pricing may make UK industry uncompetitive in open markets. Carbon leakage (UK production moving to areas with more emissions-intensive processes) is

SCOPES OF EMISSIONS



a lose-lose situation.

Carbon discovery is key, and it starts with a focus on the supply chain and, specifically, the Purchased Goods and Services (PG&S) category of Scope 3 emissions.

What fails to be recognised is that most businesses outside of the true "heavy industries" can realise significant cost mitigation measures to the extent that becoming carbon neutral can even become self-funding.

A fully integrated PG&S study rationalises the supply chain and reveals the funding options for the purchasing of high-quality, verified, offsets.

The certainty is that the earlier the GHG topic is addressed, the more cost efficient the solution.

UK manufacturing must decarbonise by 70% by 2035, and 90% by 2040 to meet the government's Climate Change Committee's balanced Net Zero pathway

LEVERAGE CSR

INTEGRATING CSR AND SOCIAL VALUE

Contrary to the opinion of some commentators, ESG and CSR are entirely complimentary: ESG is a scoring and reporting mechanism with which to measure the impact of a Social Responsibility policy.

So close is the alignment, that a well founded CSR strategy, especially when accredited (audited), may equate to almost 30 percent of your ESG reporting process.

CSR is an invaluable methodology to build a strong organisational culture underpinned by shared social values and purpose. The contrast with ESG is that the latter is more focussed on creating opportunity and identifying business risks. Put simply, CSR is about values, and ESG is about value.

CSR is centred on the concept that the organisation has responsibilities to the community, environment, and society. Its goal is to demonstrate an organisation's charitable and ethical responsibilities. CSR obligations reflect a company's beliefs and culture, and each organisation chooses the CSR efforts which make the most sense for them.

While CSR aims to attempts to hold organisations accountable in terms of their societal responsibilities, it has always tended to lack the governance to measure impact.

ESG looks at the wider picture and its standards integrate environmental and social responsibility into corporate strategy and governance. The very essence of ESG is that it has measurable goals and impacts. In short, it's evidence-driven.

Unlike CSR, ESG is concerned with organisational strategy. We've seen how strong ESG metrics can influence people, with some studies reporting that 35% of people would pay 25% extra for sustainable products and services, and a staggering 76% of consumers are inclined to boycott companies which are unsustainable or have poor employment practices.

Investors want to know a company's social and environmental impact. Of all institutional asset owners, 95% are seeking sustainable investing methods.

Today's risk landscape is volatile. Risk is now more environmental and social than economic. Seven of the top ten likely hazards, and eight of the top ten impactful risks, are related to environment, social, and governance.

Failure to meet both ESG and CSR criteria can hurt a company's finances and reputation. Not fulfilling emission reduction goals can lead to downgrades and share price losses, while not improving pay and working conditions can lead to high attrition and productivity loss.

As the manufacturing industry becomes even more regulated, firms will need risk management and compliance tools to combine pertinent data, automate processes, and assure error-free reporting.

Your most important stakeholders demand quantitative, measurable action from businesses and the ecosystems in which they operate. A combined approach is key: corporate strategy and growth should be based on the proper auditing and certification of both ESG and CSR.

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ESG PRO

TOTAL SUSTAINABILITY MANAGEMENT AND GLOBAL PARTNERSHIPS

The mission of ESG PRO is to enable our clients across all sectors to demonstrate the exceptional change which adds value to both the organisation and to society.

ESG PRO is remarkable in its client-centric approach: we are small enough to care, and powerful enough to deliver. Supported by the 450 staff across our group, we are entirely results-driven.

Whether yours is a regional construction firm or a global brand, our teams are able to manage your entire ESG and Sustainability journey. We even advise governments seeking sustainable solutions for the management of the cultural and heritage impacts of tourism and travel.

We're global in scope, with clients spanning SE Asia, the Middle East, Europe, and the Americas. Our approach is unique too: we control costs by conducting the majority of our work remotely.

ESGPRO

GLOBAL EXPERTISE

- ESG reporting consultancy
- ESG ratings management
- Carbon reporting and management
- Carbon neutrality and verification
- CSR accreditation
- Social Value (TOMS) certification

REFERENCES

MAIN ARTICLES

1. Gunnar Friede et al., "ESG and financial performance: Aggregated evidence from more than 2000 empirical studies," Journal of Sustainable Finance & Investment, October 2015, Volume 5, Number 4, pp. 210–33; Deutsche Asset & Wealth Management Investment; McKinsey analysis.
2. "From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance," Arabesque Partners website, https://www.arabesque.com/research/From_the_stockholder_to_the_stakeholder_web.pdf, March 2015.
3. "From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance," Arabesque Partners website, https://www.arabesque.com/research/From_the_stockholder_to_the_stakeholder_web.pdf, March 2015.
4. Nagaj R, Žuromskaitė B. Tourism in the Era of Covid-19 and Its Impact on the Environment. Energies. 2021; 14(7):2000. https://doi.org/10.3390/en14072000

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