

GREENHOUSE GAS REPORTING GHG GUIDANCE

A GUIDE FOR SMES IN THE AEROSPACE
AND DEFENCE SECTORS



ESG

FOREWORD

SHAPING A SUSTAINABLE FUTURE

The imperative to address climate change has never been more urgent. Extreme weather events, rising temperatures, and environmental degradation serve as stark reminders of the challenges we face. As businesses, both large corporations and small enterprises, we hold a collective responsibility to reduce our carbon footprint and contribute to a more sustainable planet. Addressing these climate risks enhances the long-term resilience of these businesses.

Micro, small and medium enterprises (SMEs) play a pivotal role in this endeavour. Their ability to improve operations, innovate, and adapt is essential for progress. But before we can take meaningful steps, we must first understand where we stand. Measuring and reporting on greenhouse gas (GHG) emissions is the foundation upon which we will build our sustainable future.

I am pleased to welcome a GHG Reporting Guide specifically developed for SMEs in the aerospace and defence sectors. This guide provides practical insights, best practices, and step by step instructions for voluntary GHG reporting. By adopting transparent practices and aligning with sustainability goals, we can contribute to global reduction targets.

Each member of ADS - whether a large corporation or an agile SME - has a vital role to play. Our hope is that this guidance empowers SMEs on their journey toward Net Zero emissions. Let us embrace this opportunity to make a positive impact. Together, we can shape a better world for generations to come.



John Copley
ADS Group Chief Operating Officer

STAKEHOLDER OVERVIEW

It is recognised that the audience of this guidance will be varied, in relation to the size and type of company and the roles held within the company. The following table provides a concise description of each stakeholder's role and perspective, setting the stage for how they interact with and benefit from these guidelines. This overview ensures that readers can appreciate the diverse viewpoints and responsibilities that converge in the process of effective GHG reporting.

Table 1: Navigation stakeholder symbols



Table 2: Colour coding system for guidance

This guideline also features a colour-coded stakeholder relevance system at the start of each major section.

The bases of the above stakeholder graphics are marked with either yellow or green triangles to indicate applicability, helping readers to quickly identify the most pertinent sections for their role.



EXECUTIVE SUMMARY

SMEs operating in the aerospace and defence sectors have a vital role to play in shaping a sustainable and environmentally conscious future. As the global community grapples with the urgent challenges posed by climate change, organisations must proactively address their greenhouse gas (GHG) emissions. This document serves as a comprehensive guide, specifically tailored to the aerospace and defence sectors, outlining the essential steps for effective GHG reporting.

There are several factors underscoring the significance of GHG reporting, the most prominent of which are climate change and growing legal obligations. The escalating impact of climate change necessitates the monitoring and reduction of GHG emissions. SMEs in the aerospace and defence sectors must actively contribute to global efforts to mitigate against further environmental degradation. Governments worldwide are committed to achieving Net Zero emissions. Legal frameworks, such as the United Kingdom's Emissions Trading Scheme (UK ETS) and Streamlined Energy and Carbon Reporting (SECR), impose reporting requirements on organisations. Compliance is not only a legal obligation, but also a strategic imperative.

This guidance provides a comprehensive approach on how to navigate GHG reporting, broken down into manageable steps to support you on this journey.

HOW THIS GUIDANCE IS ORGANISED

There are different levels of complexity with GHG emissions reporting for an organisation, in particular with regard to indirect emissions associated with the supply chain, outside the organisation's boundaries. It is important for organisations to understand the context of greenhouse gas reporting and work out an approach that is appropriate for their business. Businesses who have committed to their vision of reaching Net Zero GHG's must determine the business operations, capabilities and projects that are required to support this goal, involving all parts of their business. GHG reporting is integral to this, and should be developed in line with each stage of business activity towards Net Zero GHG emissions.

The reporting methodology that is given prominence in this guidance is the Greenhouse Gas Protocol, which is internationally accepted. Standards are also referred to and a worked example is presented to give a practical understanding. Recommendations for external resources for developing capability in relation to GHG emissions reporting and reduction are included.

This guideline is structured to facilitate SMEs in comprehending and implementing GHG reporting. We start with an introduction to the significance of GHG reporting and its relevance to the aerospace and defence sectors. Following this, Part 1 delves into the rationale behind GHG reporting, discussing environmental, legal, and commercial aspects. Part 2, the crux of the guideline, guides you through the GHG reporting process, including data collection, calculation, and reporting strategies, supplemented with a worked example for clarity. We conclude with a summary and resources, providing a comprehensive path for your GHG reporting journey.

EXECUTIVE SUMMARY: CONTINUED

PART 1 - WHY GHG REPORTING FOR OUR ORGANISATION?

Understanding the Greenhouse Gas Protocol

The GHG Protocol provides internationally recognised standards for carbon-based reporting. SMEs should familiarise themselves with these guidelines to ensure accurate and consistent reporting of emissions across the aerospace value chain.

Common Reporting Standards

Consistency in reporting is crucial for benchmarking and comparison. Organisations should adopt common reporting standards to facilitate meaningful assessments of their environmental performance.

Interdepartmental Engagement

Finance, operations, procurement, and sustainability teams must jointly collect data, calculate emissions, and identify reduction opportunities. While technical departments traditionally address GHG emissions, the evolving landscape now demands engagement across the supply chain, to drive sustainable practices and achieve reduction targets.

Beyond Short-Term Savings: A Holistic Approach

Consider the long-term advantages of sustainability initiatives, such as reputation enhancement, risk reduction, and stakeholder engagement. Maintaining the trajectory toward Net Zero GHG emissions may require radical actions—ones that prioritise resilience and competitive advantage over short-term energy cost-effectiveness.

GHG Emissions and Wider Sustainability

SMEs must integrate emissions data into broader sustainability strategies to achieve a holistic approach. Understanding the relevant environmental, legal and commercial drivers to GHG reporting is important to align environmental goals with social responsibility and economic viability.



EXECUTIVE SUMMARY: CONTINUED

PART 2A - GHG REPORTING: APPROACH & METHODOLOGY

Approaching Net Zero GHG Emissions

Setting ambitious targets for Net Zero emissions is both aspirational and necessary. Organisations should develop clear roadmaps, invest in clean technologies, and explore innovative solutions to achieve this goal.

The GHG Reporting Process

From data collection to verification, the reporting process demands precision. SMEs should establish robust systems, engage with external experts if needed, and communicate transparently with stakeholders.



Setting Reduction Targets

SMEs must define realistic and measurable reduction targets. Tracking progress and refining strategies are essential for achieving these goals, along with collaboration with industry peers to accelerate progress. The Science Based Targets Initiative (SBTi) mobilises businesses to set ambitious emissions reduction targets aligned with climate science. SBTi promotes best practices, provides technical assistance, and independently validates targets.

This guide equips SMEs in the aerospace sector with the knowledge and tools necessary for effective GHG reporting. By embracing transparency, sustainability, and innovation, organisations can contribute significantly to a greener future while maintaining their competitive edge.



PART 2B - GHG REPORTING: WORKED EXAMPLE

A practical illustration of the GHG reporting process. Through a fictional SME, we demonstrate each step of the reporting process, bridging theory and practice.

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INTRODUCTION



PURPOSE

Introduce the guidelines and their role in guiding GHG reporting in the aerospace and defence sectors.

SUMMARY

This part contains the following information:

- The challenge of GHG reporting
- Importance of GHG reporting in the aerospace and defence sectors

WHO FOR?



SENIOR MANAGEMENT

Sets strategic context for GHG.



ENVIRONMENT/ SUSTAINABILITY OFFICERS

Provides foundational understanding of guidelines.



OPERATIONAL MANAGERS

Offers an overview of GHG reporting significance.



FINANCE TEAMS

Contextualises the guidelines within the organisational framework.

INTRODUCTION

PURPOSE OF GUIDANCE 'THE CHALLENGE OF A GENERATION'

Welcome to the GHG Guidance, designed specifically for SMEs in the aerospace and defence sectors. In an era where environmental sustainability is not just a global priority but a business imperative, understanding and reporting greenhouse gas (GHG) emissions is crucial. These guidelines serve as a roadmap for SMEs to navigate the complexities of GHG reporting, aligning their operations with environmental best practices and global standards. The purpose of this guidance is to support the UK aerospace and defence industries in voluntary reporting of greenhouse gas emissions (GHG). This is set within the context of the sustainability pillars developed by ADS for the industry.

Greenhouse gas emissions (GHG) reporting is an increasing requirement for companies of all sizes. This is driven not only by legislation, but also by commercial pressures, as companies at the helm of supply chains commit to GHG emissions reduction in the face of the global environmental threat and then require their suppliers to fall into line with their targets. The reporting of GHG emissions continues to develop, including the refinement of methodologies, available data and standardisation. As a result, it can be hard to navigate, in particular for Small and Medium Enterprises (SMEs) with limited resources of time and money to give to this activity.

The challenge we face in mitigating climate change is immense. The aerospace and defence sectors, being energy-intensive, play a pivotal role in this endeavour. For SMEs within these sectors, GHG reporting is more than compliance; it is a step towards meaningful environmental stewardship. As the world moves towards a low-carbon future, SMEs are uniquely positioned to influence and drive substantial change. Through accurate GHG reporting and targeted emissions reduction strategies, SMEs can contribute significantly to the sector's overall sustainability efforts, while also positioning themselves as responsible, forward-thinking entities in the global market.

THE ROLE OF THE AEROSPACE AND DEFENCE SECTORS

The aerospace and defence sectors, with their cutting-edge technologies and expansive reach, have an important role in global GHG emissions management. As a sector known for innovation and engineering excellence, our industries possess the potential not only to significantly reduce our carbon footprint but also to set sustainability benchmarks. This responsibility is paramount, considering each sector's impact on the environment through material usage, energy consumption, and extensive supply chains. Embracing sustainability can transform these challenges into opportunities for leadership in environmental stewardship.

INTRODUCTION

The aerospace and defence sectors are pivotal in reducing GHG emissions through several key approaches:

- **Innovating Energy-Efficient Technologies:** Developing fuel-efficient aircraft engines, lightweight materials, and advanced aerodynamics. These innovations not only reduce fuel consumption but also offer technology transferable to other sectors.
- **Adopting Alternative Fuels:** Utilising biofuels and synthetic fuels to lower GHG emissions compared to traditional aviation fuels.
- **Electrification of Aircraft:** Exploring electric and hybrid-electric systems for smaller aircraft to reduce short-haul flight emissions.
- **Enhancing Operational Efficiency:** Optimising airline flight operations to conserve fuel.
- **R&D Investment:** Committing to research in areas like propulsion, materials, and data analytics for emissions reduction.
- **Regulatory Compliance:** Adhering to stringent emission standards to foster innovation.
- **Sustainability in Defence:** Focusing on energy-efficient military operations and renewable energy use.
- **Global Collaboration:** Engaging in international initiatives for emissions reduction.

While the sector is making progress in reducing emissions, it is also important to note that the total emissions from aerospace and defence activities are still significant, and continued efforts and innovations are required to meet global emissions reduction targets.





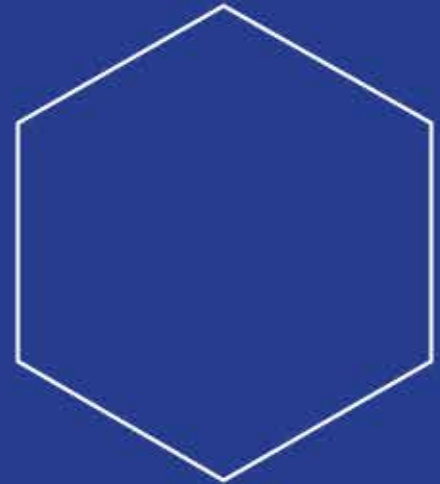
1. WHY GHG REPORTING FOR OUR ORGANISATION?

PURPOSE

To explain the drivers for GHG reporting: Environmental, Legal, Commercial, and Supply Chain Resilience.

SUMMARY

- The current environmental situation and its impact
- Legal drivers mandating GHG reporting
- Commercial advantages of proactive GHG reporting
- Long-term sustainability and resilience through GHG reporting
- Transition and evolution within the supply chain



WHO FOR?



SENIOR MANAGEMENT

Outlines business and environmental rationale for GHG reporting.



ENVIRONMENT/ SUSTAINABILITY OFFICERS

Highlights environmental and compliance imperatives.



OPERATIONAL MANAGERS

Demonstrates operational impact and relevance.



FINANCE TEAMS

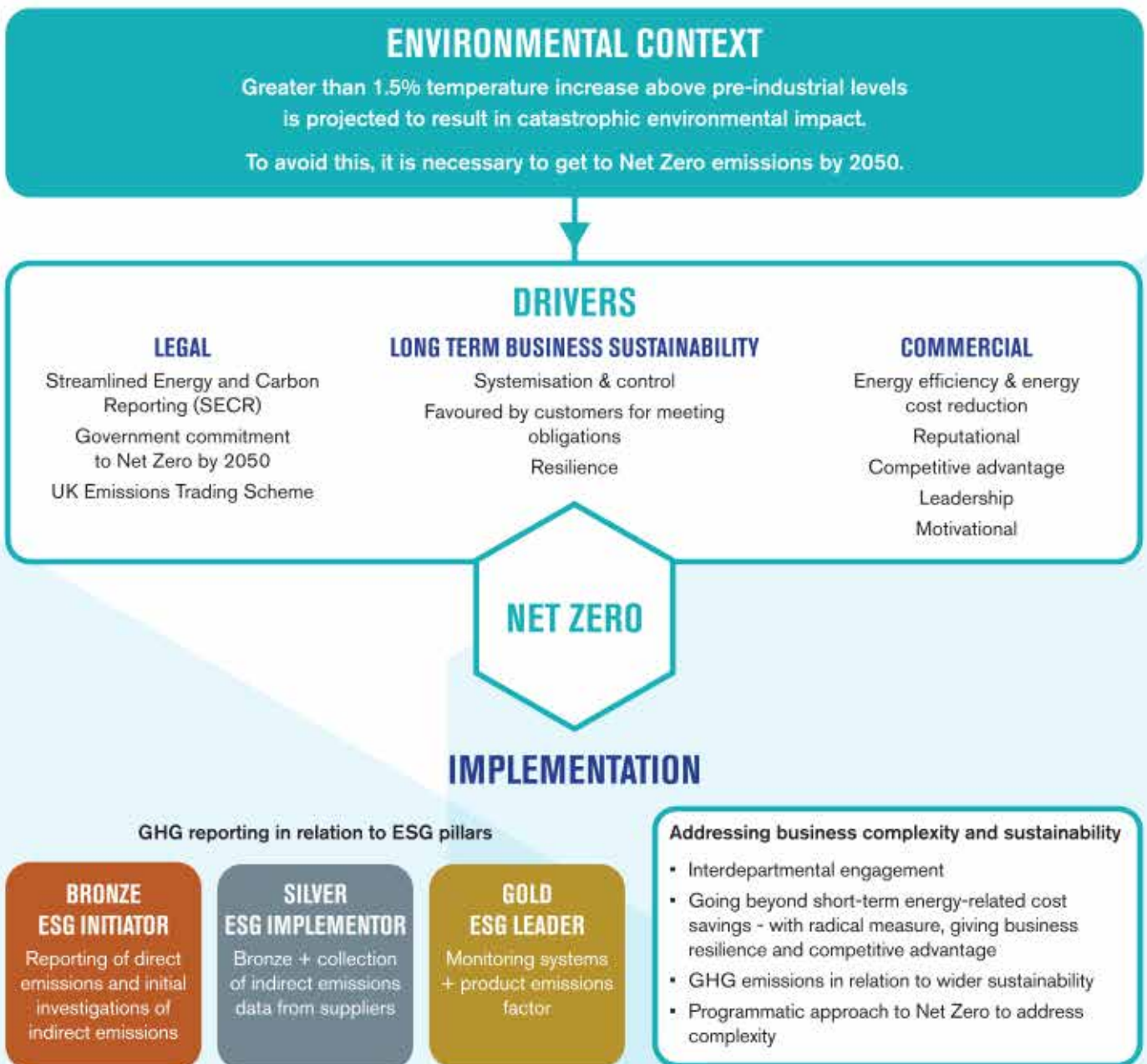
Connects reporting to broader business sustainability.

1. WHY GHG REPORTING FOR OUR ORGANISATION?

1.1 OVERVIEW

GHG reporting for companies is driven by the need to mitigate worsening environmental conditions, which are putting pressure on supply chains and driving up business costs. The move by companies towards Net Zero greenhouse gas emissions is driven by a combination of legal, commercial and long term business factors. The implementation of a pathway to Net Zero requires measurement and reporting on emissions and involvement of the whole organisation in putting in place measures to bring about the necessary emissions reduction. This context, drivers and approach to implementation are summarised in Figure 1.

Figure 1: Overview of contexts and drivers for GHG reporting

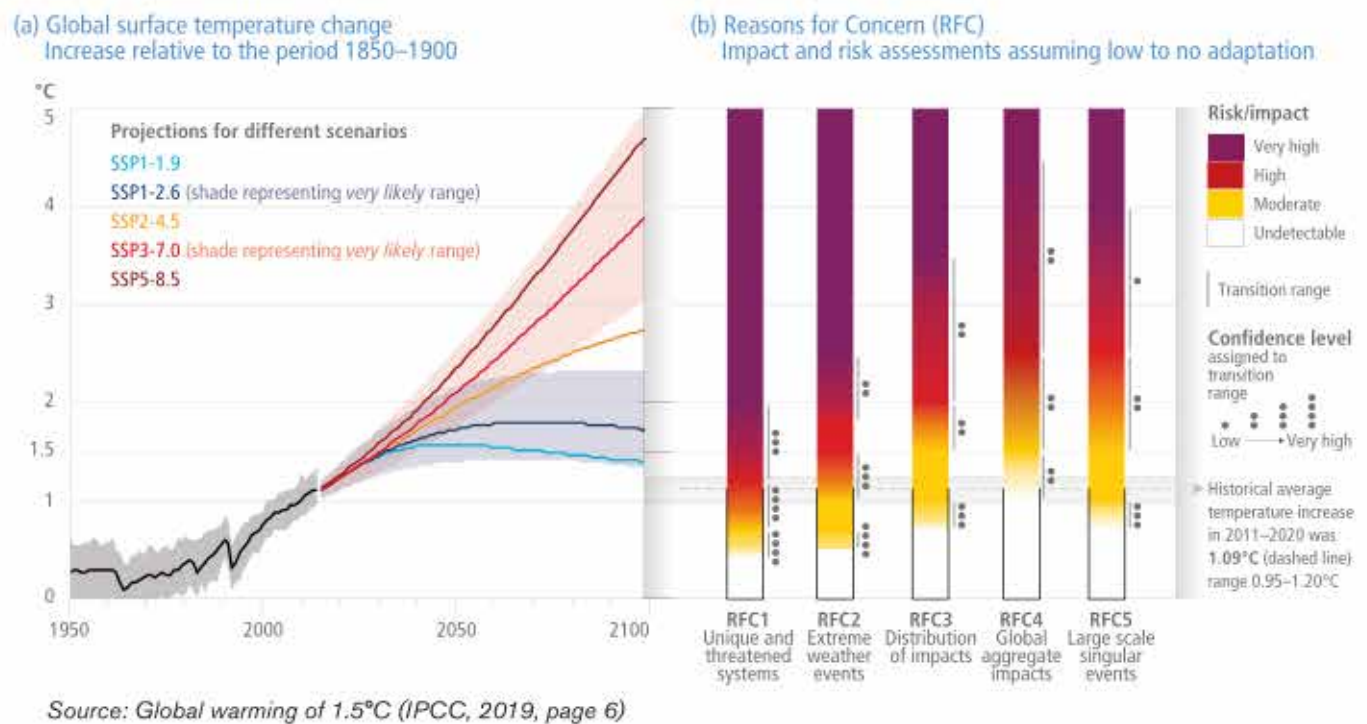


1. WHY GHG REPORTING FOR OUR ORGANISATION?

1.2 ENVIRONMENTAL SITUATION

The environmental backdrop and its impact on business is the main driver for GHG emissions reporting and the criticality of this is expressed clearly through the work of the Intergovernmental Panel on Climate Change (IPCC). Figure 2 shows a projection of the IPCC scenarios for global temperature change in accordance with varying human interventions.

Figure 2: IPCC scenarios for GHG emission mitigation and related temperature change



The IPCC has stated that global temperatures are to be limited to an increase of 1.5°C above pre-industrial levels, beyond which it is considered that there is a risk of irreversible impacts. This implies reaching Net Zero CO₂ emissions globally by around 2050. Figure 2 shows that the only scenario that achieves this is SSP1-1.9.

The IPCC scenario SSP1-1.9 is based on a shared socio-economic pathway (SSP) that describes a more sustainable and inclusive world, with a focus on human well-being and environmental protection. Under this scenario, the IPCC expects a long-term rise of 1.0°C to 1.8°C in global surface air temperature by the end of this century, compared to the pre-industrial period. This scenario is consistent with the Paris Agreement's goal of limiting global warming to well below 2°C, and preferably to 1.5°C. This scenario requires rapid and deep reductions in greenhouse gas emissions, as well as large-scale carbon dioxide removal and negative emissions.

1. WHY GHG REPORTING FOR OUR ORGANISATION?

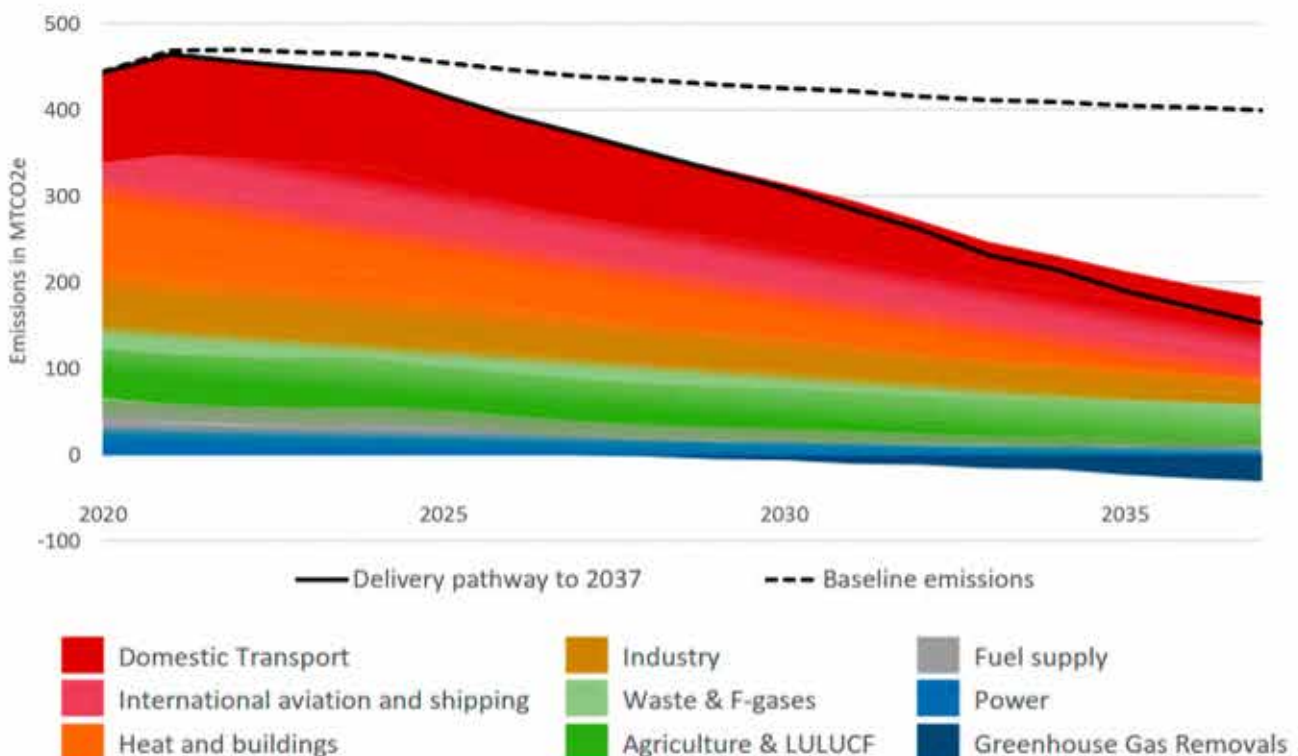
1.3 LEGAL DRIVERS

Legal drivers for GHG emissions reporting have been established in response to the environmental situation and are encapsulated in the Government commitment to Net Zero and related legal mechanisms. This is summarised below.

1.3.1 Government commitment to Net Zero

The Government has made a legal commitment to Net Zero for the UK's greenhouse gas emissions by 2050. This relates to the recommendation by the International Panel on Climate Change (IPCC) to keep global temperature rise within an increase of 1.5°C above pre-industrial levels. This means reducing emissions by as far as practically possible, with any remaining emissions to be balanced by removing an equivalent amount from the atmosphere, such as by planting trees or using carbon capture and storage technology. The UK was the first major economy in the world to pass this law in June 2019, and in April 2021 set a new target to reduce emissions by 78% by 2035 based on 1990 levels.

Figure 3: UK Government indicative delivery pathway to 2037 by sector



Extracted from UK Government Zero Strategy: Build Back Greener (October 2021)

1. WHY GHG REPORTING FOR OUR ORGANISATION?

The UK's Net Zero target is a key part of its policy to combat climate change and to achieve its climate ambition of becoming a global leader in green growth. This commitment is not currently backed up in full by regulatory instruments obliging organisations to fall in line with the targets, but it would be expected that these would be introduced if the Government is to honour its commitment.

In April 2022, the UK government launched a two-year plan and together with international initiatives, this is intended to drive the aviation industry towards Net Zero. This includes funding and strategic actions such as research in hydrogen technology, accelerating Sustainable Aviation Fuels (SAF) development, and exploring zero-emission flight technologies. In alignment with global efforts like France's 'France 2030' and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), these measures aim to decarbonise aviation by 2050.



1. WHY GHG REPORTING FOR OUR ORGANISATION?

1.3.2 United Kingdom emissions trading scheme (UK ETS)

The UK Emissions Trading Scheme (UK ETS) covers greenhouse gas emissions from power and heat generation, energy intensive industries and aviation, applying to regulated activities carried out at installations. It is the successor, in the UK, to the EU Emissions Trading Scheme (EU ETS). This is not applicable to SMEs unless the thermal input of combustion units for the organisation is greater than 20MW.

Regulated activities are listed in schedule 2 of The Greenhouse Gas Emissions Trading Scheme Order 2020. Some examples of the sectors and activities covered by the UK ETS are shown in Table 3.

Table 3: UK ETS sectors and example activities



POWER GENERATION

Examples:

- Gas
- Coal or oil-fired generation of electricity and/or heat



REGULATED ENERGY INTENSIVE INDUSTRY TYPE

Examples:

- Oil refineries
- Combustion of fuels on a site where combustion units with a total rated thermal input exceeding 20MW are operated
- Iron and steel production
- Cement, lime, glass and ceramics production
- Pulp and paper manufacturing
- Chemicals production



NON REGULATED INDUSTRY TYPE WITH THERMAL INPUT > 20MW

To determine the total rated thermal input of combustion units operated on a site, the rated thermal input of all combustion units on the site must be added together, except for combustion units with a rated thermal input below 3MW combustion and units that use only biomass as a fuel. If this is greater than 20MW then the industry is regulated under UK ETS.



AVIATION OPERATORS

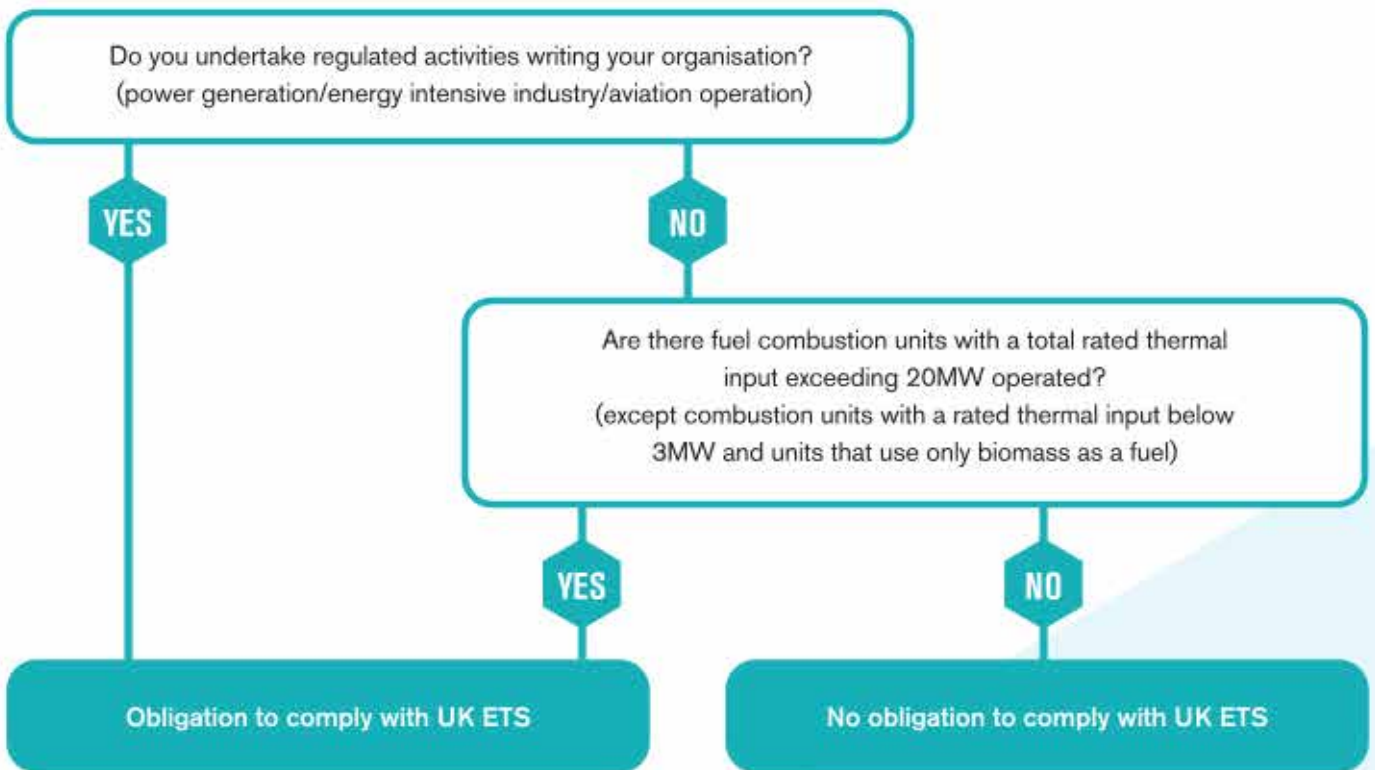
Applies to:

- Domestic and intra-EEA (European Economic Area) flights
- Operators not manufacturers

1. WHY GHG REPORTING FOR OUR ORGANISATION?

The focus of this ADS guidance is on the aerospace and defence sectors, but the aviation category above applies to operators and not manufacturers. It is not expected that the other categories listed above and in schedule 2 of The Greenhouse Gas Emissions Trading Scheme Order 2020 will apply to most ADS members. For large manufacturers not covered by the list of business types, it is possible that the 20MW fuel combustion threshold will be exceeded, resulting in obligation to comply with UK Emissions Trading Scheme (UK ETS).

Figure 4: UK ETS flow chart



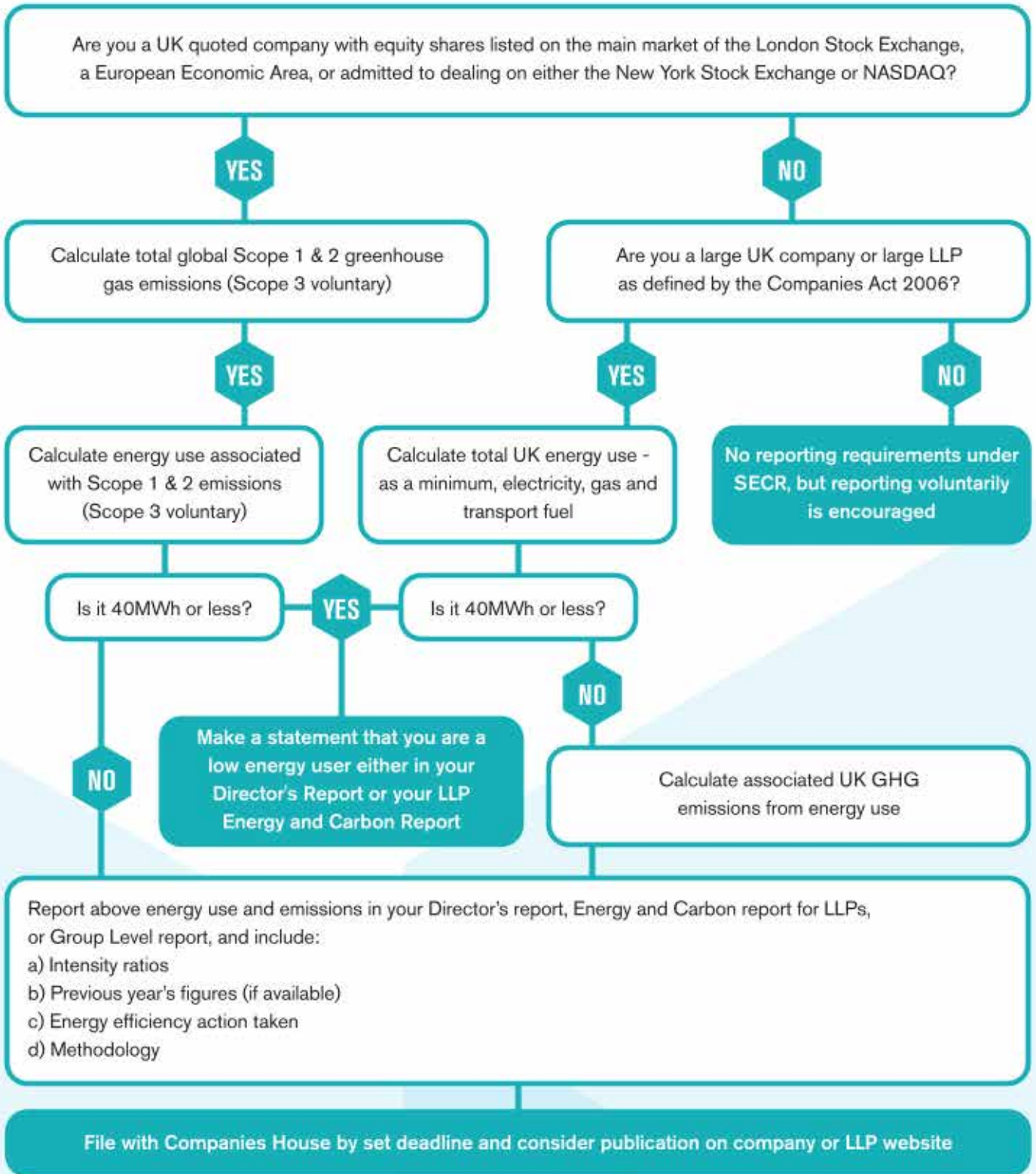
1.2.3 Streamlined Energy and Carbon Reporting (SECR)

Streamlined Energy and Carbon Reporting (SECR) is a compulsory sustainability framework in the UK, effective from 1 April 2019, for large organisations to report their energy usage and carbon dioxide emissions within their Directors' Report. Replacing the Carbon Reduction Commitment (CRC) Energy Efficiency scheme, SECR streamlines reporting processes, incentivises environmental performance enhancement, and facilitates the identification of improvement opportunities. Applicability extends to UK-incorporated companies listed on major stock exchanges, large unquoted companies, and large Limited Liability Partnerships, as defined by turnover, balance sheet totals, or employee numbers according to the Companies Act 2006. Companies using less than 40MWh annually are exempt from detailed disclosures unless nondisclosure would severely prejudice the organisation's interests or data is impractical to obtain, in which case justification is necessary. While the UK government provides detailed guidance for reporting, it also voluntarily invites companies outside SECR's scope to adopt similar reporting practices.

1. WHY GHG REPORTING FOR OUR ORGANISATION?

The decision process for SECR is summarised in Figure 5 below.

Figure 5: SECR flowchart



More detail on SECR is given in Appendix C.

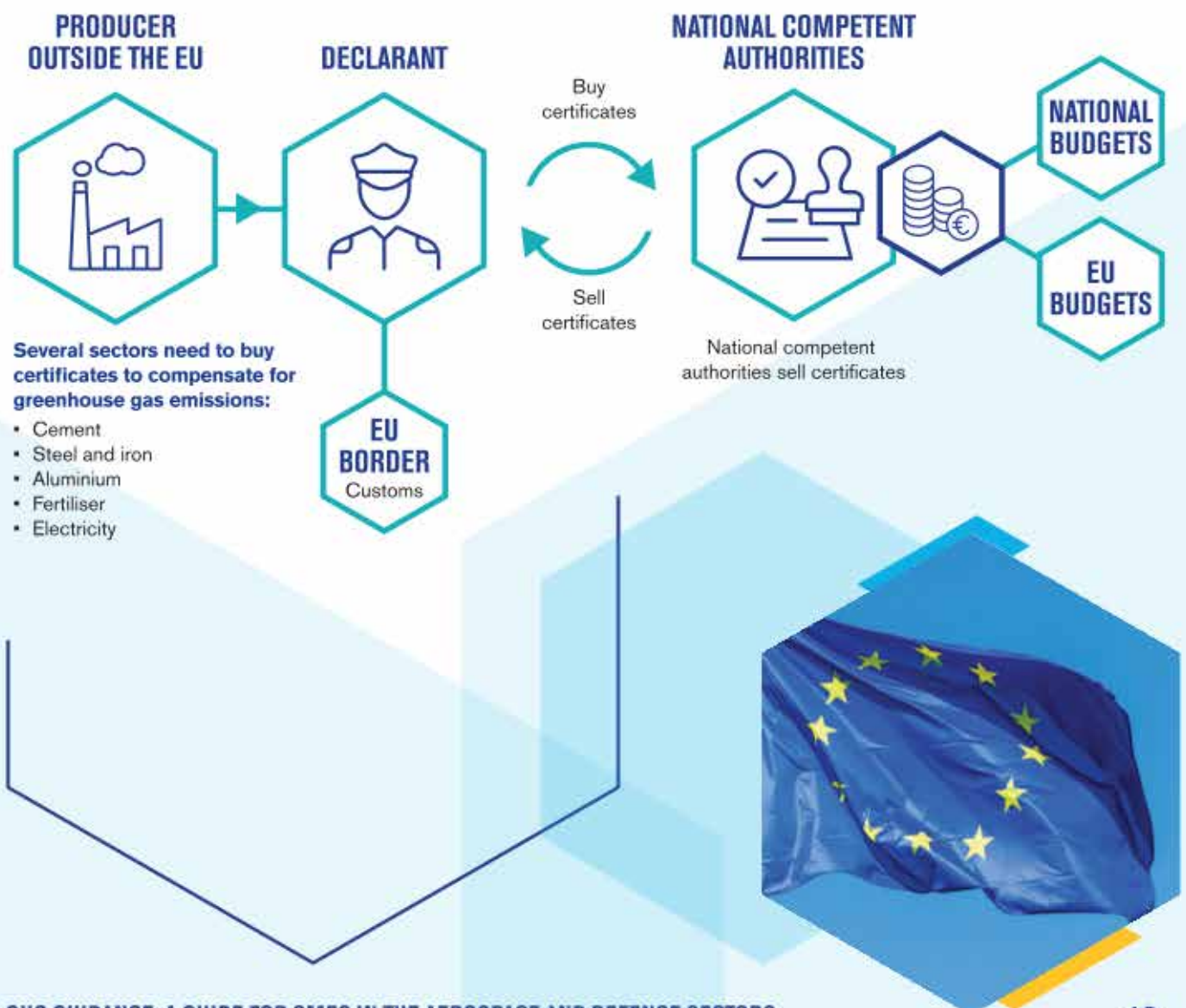
1. WHY GHG REPORTING FOR OUR ORGANISATION?

1.3.4 Cross Border Adjustment Mechanism (CBAM)

Introduction to CBAM, what it is, and where it started

The Cross Border Adjustment Mechanism (CBAM) represents a significant shift in the European Union's approach to managing CO₂ emissions and combating climate change. Originating from the EU's ambitious plan to become climate-neutral by 2050, as outlined in the European Green Deal in December 2019, CBAM is designed to prevent carbon leakage by imposing a carbon price on imports of certain goods into the EU. This innovative mechanism aims to ensure that ambitious climate efforts within the EU do not lead to a disadvantage in international markets, by levelling the playing field between EU producers subject to carbon pricing and producers in countries with less stringent emissions standards. Essentially, CBAM acts as a toll booth for CO₂ emissions at the EU border, scrutinising the carbon footprint of imported goods and adjusting their cost to reflect their environmental impact as highlighted in Figure 6 below.

Figure 6: An introduction to CBAM



1. WHY GHG REPORTING FOR OUR ORGANISATION?

Phases of CBAM and Implications for Non-EU Importers

As of 1 October 2023, CBAM entered its transitional phase, which is set to run until 31 December 2025. This period is crucial for laying the groundwork for the mechanism's full implementation, scheduled to commence on 1 January 2026. During the transitional phase, importers of goods falling within CBAM's scope - notably cement, iron and steel, aluminium, fertilisers, electricity, and hydrogen - are required to report the greenhouse gas (GHG) emissions embedded in their imports. However, financial adjustments, in the form of carbon tariffs, will not be applied until the transition concludes. For non-EU importers, particularly those in the UK aerospace industry, this phase necessitates a proactive approach to understanding and preparing for the upcoming reporting requirements. The emphasis is on ensuring that goods entering the EU market are competitively priced by accounting for the carbon costs associated with their production.

Overview of the Steps to Reporting

For SMEs in the UK aerospace and defence sectors navigating the CBAM reporting landscape, a structured approach is essential. The first step involves identifying whether the goods being exported to the EU fall under the categories covered by CBAM. Following this, businesses must register with the relevant EU authority designated for CBAM reporting. The subsequent phase requires the detailed collection of data on the GHG emissions associated with the production of the exported goods, i.e. Embodied product emissions. This data forms the basis for calculating the total CO₂ emissions associated with relevant product being imported across the EU border, which must then be accurately reported through the designated EU portal during the transitional phase. Verification by an accredited third party may be necessary to validate the emissions report. Although the purchase of CBAM certificates, corresponding to the CO₂ emissions of imports, will only become mandatory with the full implementation in 2026, understanding and preparing for these steps is crucial for SMEs aiming to ensure compliance and maintain market competitiveness in the EU. The next figure provides a consolidated process overview of the steps required to meet CBAM.

In summary, the introduction of the CBAM marks a significant milestone in the EU's environmental strategy, directly impacting UK SMEs in the aerospace industry. As CBAM transitions from its initial phase towards full implementation, understanding its framework and preparing for the forthcoming reporting and financial obligations become paramount. By following the outlined steps for reporting GHG emissions, UK SMEs can navigate the complexities of CBAM, ensuring their products remain competitive in the EU market while contributing to the global effort to mitigate climate change.

1. WHY GHG REPORTING FOR OUR ORGANISATION?

Figure 7: An overview of CBAM process steps for SMEs

1. Understand the Scope and Requirements	Identify if your imports are covered by CBAM
2. Register with the CBAM Authority	Register your business for CBAM reporting
3. Collect Data on Imported Goods	Gather data on the CO ₂ emissions of imports
4. Calculate CO ₂ emissions	Calculate your imports' total CO ₂ emissions
5. Submit the Emissions Report	Report emissions via the EU portal during the transitional phase
6. Verification	Get the emissions report verified by an accredited third party
7. Purchase CBAM Certificates (when required)	Buy certificates for the embodied emissions of your imports starting in 2026

1.4 POSITIONING FOR COMMERCIAL ADVANTAGE

Commercial incentives for companies to report on their greenhouse gas emissions, include:

- Improving energy efficiency and reducing energy costs.
- Enhancing reputation and brand value among customers, investors and stakeholders.
- Gaining competitive advantage and access to new markets and opportunities, including through improved scoring in tender processes, where the customer may place pressure on suppliers in order for it to meet its commitments.
- Demonstrating their leadership and commitment to the global climate action.
- Complying with the legal and regulatory requirements and avoiding penalties.
- Identifying and managing the risks and opportunities related to climate change.
- Engaging and motivating employees and suppliers to adopt sustainable practices.

1.5 LONG TERM BUSINESS SUSTAINABILITY DRIVERS - LONG TERM RESILIENCE

Reporting on greenhouse gas emissions and associated emissions reduction contributes to long term business sustainability in the following ways:

- Compliance with national and international obligations as well as the requirements of their customers and will be favoured over those that do not comply.
- Reduced dependency on the volatility of the energy market (especially fossil fuels), based on energy demand reduction as a way of reducing greenhouse gas emissions, will result in more effective business planning and resilience.
- Greater awareness and control of business activities, including identification of hotspots and anomalies that warrant attention.

1. WHY GHG REPORTING FOR OUR ORGANISATION?

1.6 A SUPPLY CHAIN IN TRANSITION

The level and quality of GHG emissions reporting is dependent on available data. Full greenhouse gas emissions reporting requires collecting data on the whole supply chain of products and services relating to a company's activity. This is explained more fully in Part 2A (GHG Reporting: Approach & Methodology).

At an early stage of Environmental, Social and Governance (ESG) for a company, the processes for extracting data from the supply chain are typically not in place. The extent of GHG reporting that would be expected at each ESG level is reflected in Figure 8 below.

Figure 8: Extent of GHG emissions reporting at each ESG level

ESG PILLAR PATHWAY





2A. GHG REPORTING: APPROACH & METHODOLOGY

PURPOSE

Provide a comprehensive guide to implementing GHG reporting in industrial SMEs.

SUMMARY

This part contains the following information:

- Detailed approach to GHG reporting based on the Greenhouse Gas Protocol.
- Key considerations when starting GHG reporting.
- Step-by-step process of GHG reporting and setting reduction targets.
- A worked example to illustrate practical implementation.
- Additional resources and references for further guidance.

WHO FOR?

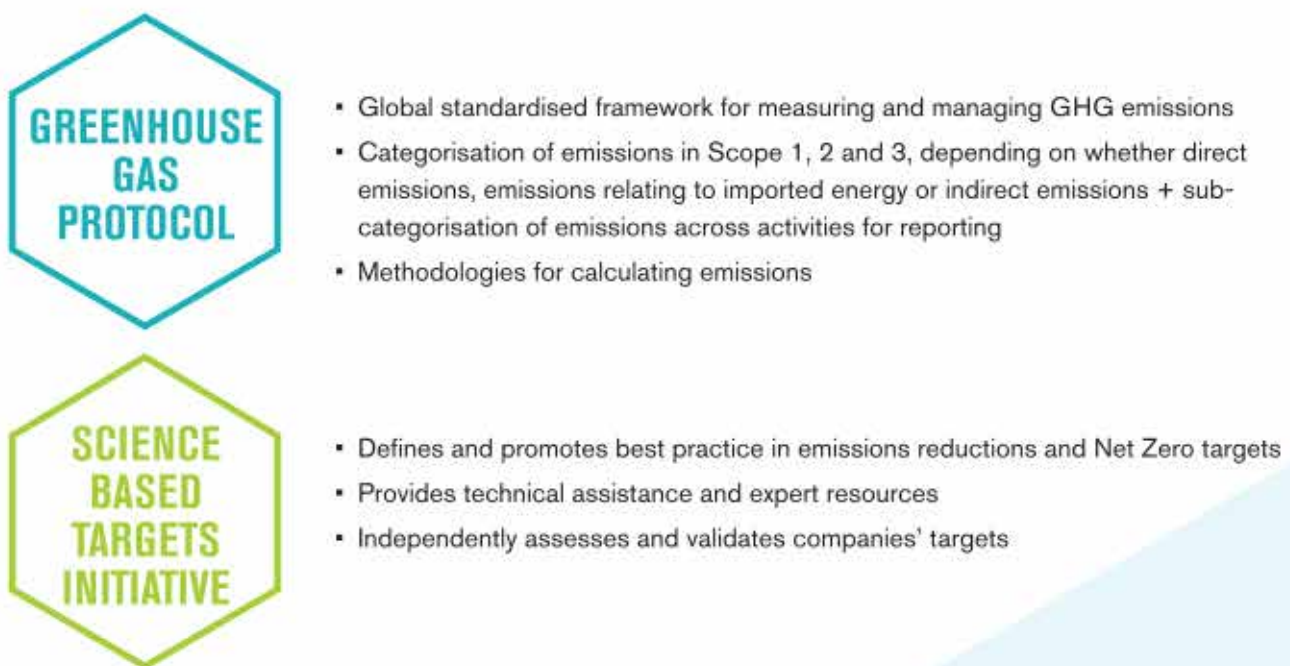


2A. GHG REPORTING: APPROACH & METHODOLOGY

2.1 OVERVIEW

GHG reporting is covered here in relation to the Greenhouse Protocol and the Science Based Targets Initiative, which are summarised in Figure 7 and explained in more detail in the subsequent sections (Section 2.2 and Section 2.6). These reporting approaches are supported by GHG standards, which are addressed in Section 2.3. A worked example is then presented in Section 2B to illustrate the approach to GHG reporting in practice.

Figure 9: Greenhouse Gas Protocol and Science Based Targets Initiative summaries



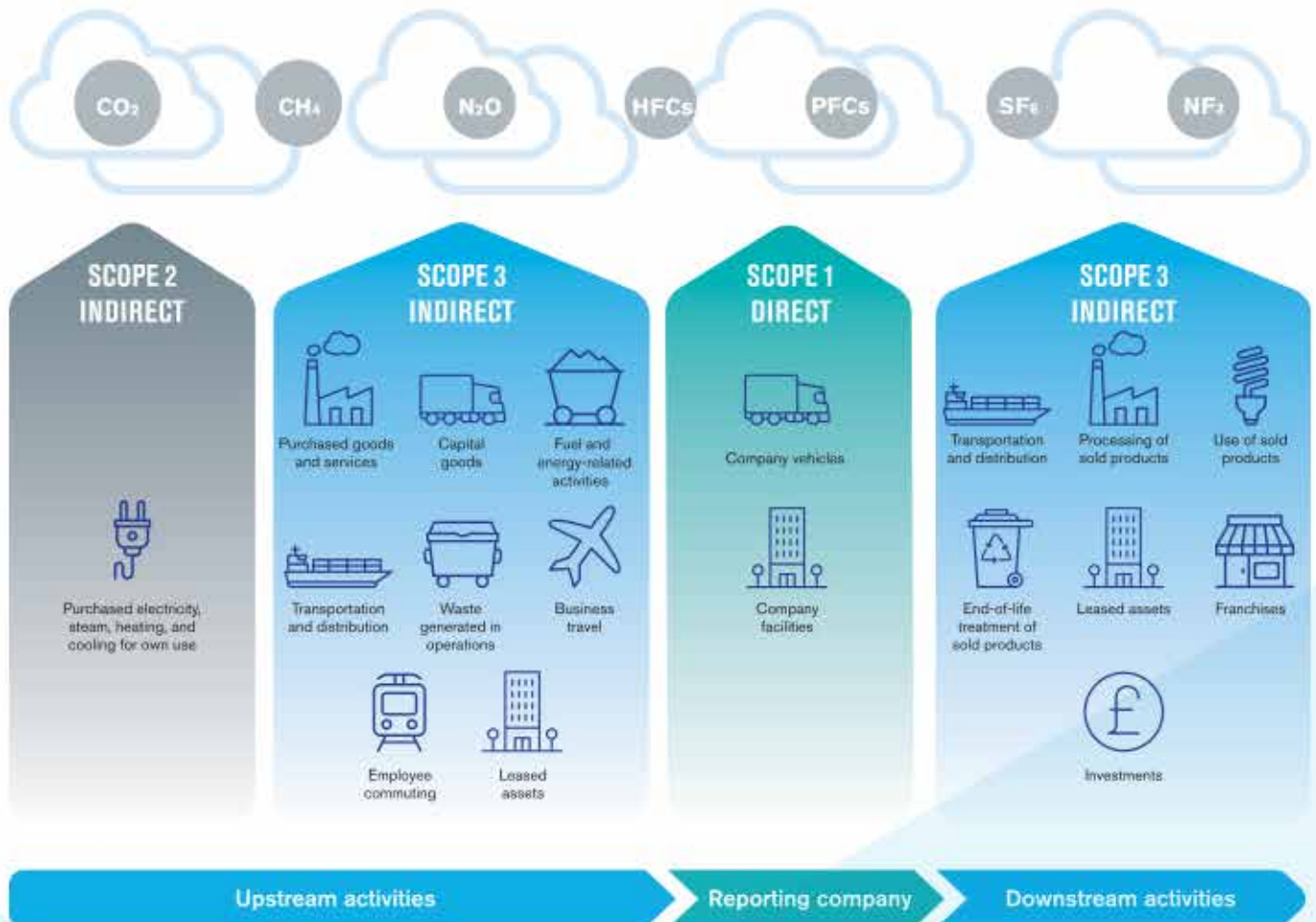
2.2 GREENHOUSE GAS PROTOCOL - THE STANDARDS FOR CARBON-BASED REPORTING

The Greenhouse Gas Protocol is a comprehensive and standardised framework for measuring and managing greenhouse gas emissions from various sources and sectors. It was developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) in 1998, and has since been adopted by many countries, cities, companies and organisations around the world. The Greenhouse Gas Protocol provides accounting and reporting standards, sector guidance, calculation tools and trainings for different levels of emissions management, such as corporate and product. It aims to help stakeholders to understand, quantify and reduce their greenhouse gas emissions and to contribute to global climate action.

2A. GHG REPORTING: APPROACH & METHODOLOGY

Reporting of greenhouse gases under the Greenhouse Gas Protocol is divided into the categories of Scope 1, 2 and 3 emissions as represented in Figure 10.

Figure 10: Greenhouse Gas Protocol emissions scopes and categorisation



Scope 1 Direct emissions from sources that an organisation owns or controls, such as fuel combustion in vehicles or boilers.

Scope 2 Indirect emissions from the generation of purchased electricity, heat or cooling consumed by the organisation.

Scope 3 Other indirect emissions that occur in the organisation's value chain, such as from the production and use of purchased goods and services, business travel, waste disposal, etc.

These scopes help organisations to measure and manage their greenhouse gas emissions and to report their progress towards reducing their environmental impact.

2A. GHG REPORTING: APPROACH & METHODOLOGY

There are multiple subcategories of emissions and different specific calculation methodologies for each subcategory. However, in general, the calculation of emissions for each subcategory may be represented by the following generic formula:

Figure 11: General emissions calculation formula



Please take a moment to familiarise yourself with the formula above, as it is used extensively in the worked example. Almost all emissions calculations follow the same principle - you buy/do/use a certain amount of something, then multiply that by the amount of emissions produced per unit of that activity; this calculates the total emissions. When looking at reducing emissions, it becomes clear that this is done via one of two ways; 1. Either decreasing the amount of something you do, or 2. Use a method with a lower emissions factor. Electricity is a good example of where you can reduce emissions by both, or either, using less and/or switching to a renewable resource.

NB: Reduction is always prioritised for responsible sustainability governance.



2A. GHG REPORTING: APPROACH & METHODOLOGY

2.3 COMMON GHG REPORTING STANDARDS

There are various standards that support GHG reporting, but there has not yet been universal adoption of them and the integration with existing standards compliance within organisations is still under development.

Several ISO (International Organisation for Standardisation) standards apply to greenhouse gas emissions reporting. These standards provide guidance on how organisations can measure and report their greenhouse gas emissions. Some of the key ISO standards related to this area are:

- 1. ISO 14064:** This standard comes in three parts:
 - ISO 14064-1: Specifies principles and requirements at the organisational level for quantification and reporting of greenhouse gas emissions and removals.
 - ISO 14064-2: Focuses on the quantification, monitoring, and reporting of greenhouse gas emission reductions or removal enhancements from projects.
 - ISO 14064-3: Provides guidance for the validation and verification of greenhouse gas assertions.
- 2. ISO 14065:** Provides principles and specifies requirements for bodies that undertake validation or verification of greenhouse gas assertions.
- 3. ISO 14067:** Focuses on the carbon footprint of products and provides requirements for the quantification and communication of the carbon footprint of a product, based on international standards.

These standards are widely used by organisations to ensure that their greenhouse gas emissions are measured, reported, and verified in a consistent, transparent, and credible way. They are also used by external bodies that provide validation and verification services.



2A. GHG REPORTING: APPROACH & METHODOLOGY

2.4 SOME CONSIDERATIONS WHEN STARTING GHG REPORTING

The concept of reporting GHG will be new for a number of organisations and managing this new process into a business can be challenging. Effective reporting requires stakeholder buy-in and changes to some processes and behaviours. Some items to consider before starting are listed below.

2.4.1 Interdepartmental engagement

It has been traditional for companies in the manufacturing sector to address their GHG emissions through their technical departments, for example engineering or facilities management. Nowadays with the expectation of addressing GHG emissions throughout the supply chain in the determination of full lifecycle impact, there is increased complexity and the need for other parts of the business to engage. For example, the procurement department will need to be able to discriminate between and select suppliers on the basis of their GHG emissions targeting and performance. With the need for increased and more specialist capability within organisations to process GHG emissions data and drive reduction, human resources have a role to play in recruitment and training in order to meet this need.

2.4.2 Going beyond short-term energy-related cost savings

It is also traditional for greenhouse gas emissions reduction measures to be assessed on the basis of short to medium term cost savings, based on the introduction of energy demand reduction or sustainable energy supply measures. It is typically the case that after the introduction of the measures with the most favourable return on investment, the trajectory to Net Zero GHG emissions is not maintained. In order to maintain this trajectory, more radical measures may be required that are not necessarily cost-effective in the short term on the basis of energy savings, but which will result in greater business resilience and competitive advantage, as referred to in Section 1.5.

2.4.3 GHG emissions in relation to wider sustainability

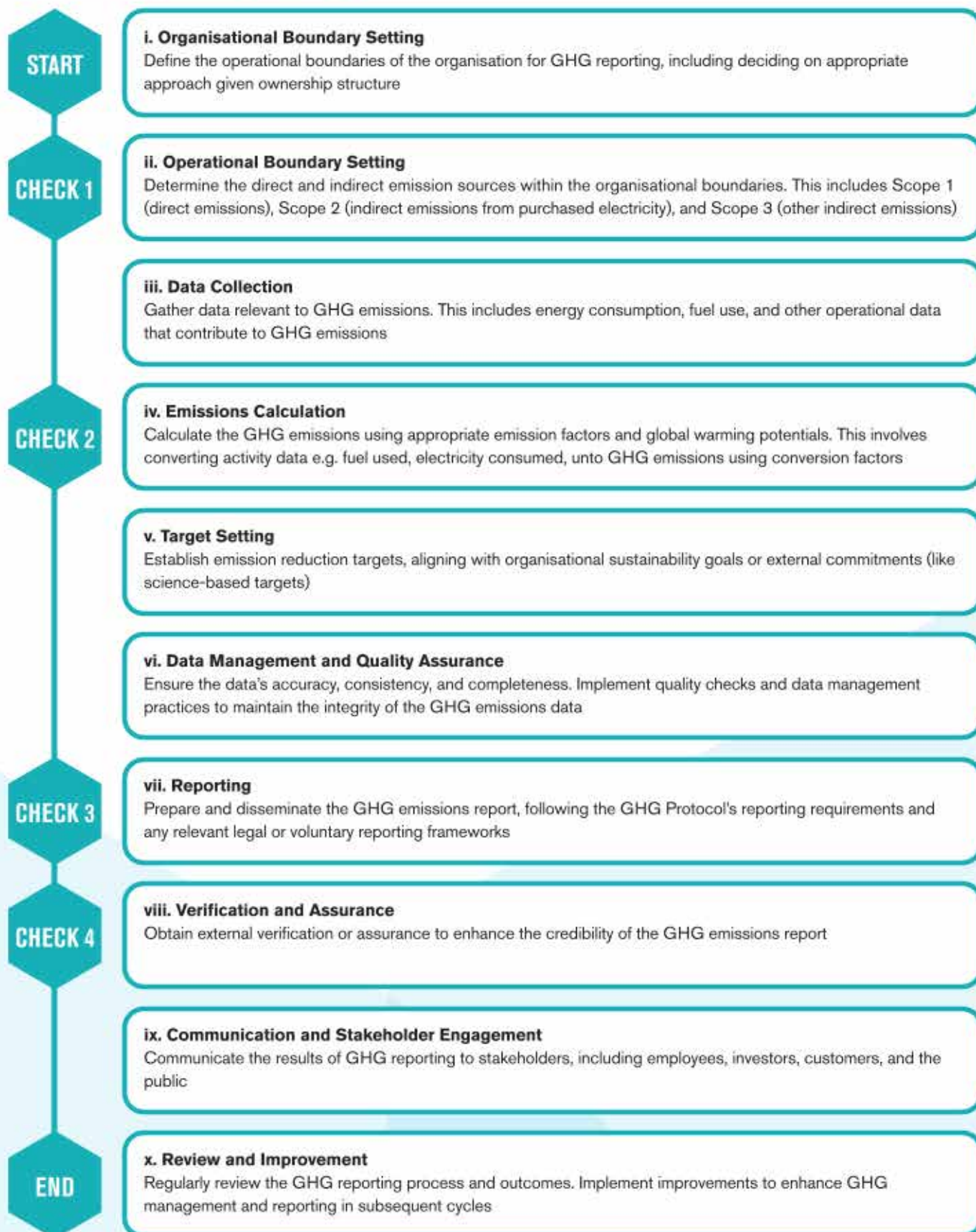
GHG emissions reduction is for mitigation of climate change and the associated impacts, but this is just one area of sustainability. There are other largely unrelated areas of sustainability to consider, such as local pollution, finite resource depletion and social sustainability. GHG emissions reduction does relate, however, to biodiversity conservation, which ultimately is its main aim. When considering emissions reduction measures, for example renewable energy generation, impact on biodiversity should be taken into account.

2.4.4 Programmatic approach to Net Zero GHG emissions

The complexity referred to above can be addressed through a programmatic approach towards Net Zero, setting a Net Zero vision and then working backwards to business operational practice, capabilities and finally projects that are consistent with the vision, involving all parts of the company and its supply chain.

2A. GHG REPORTING: APPROACH & METHODOLOGY

2.5 GHG REPORTING PROCESS



2A. GHG REPORTING: APPROACH & METHODOLOGY

2.5 GHG REPORTING PROCESS

Introduction to the GHG Reporting Process

This section aims to bring clarity and a working method for implementing the Greenhouse Gas (GHG) Reporting Process, laying out a clear path for SMEs in the Aerospace and Defence Sector to follow. It is designed to not just explain what each step involves and why it is important, but also to provide practical guidance on how your team can effectively implement each stage of the process. The aim is to make GHG reporting a manageable, integral part of your business strategy, enhancing both environmental stewardship and commercial viability. Following these steps will help ensure your organisation's reporting is robust, compliant, and valuable in driving sustainability efforts. The below follows the recommended GHG reporting process in Figure 10 on the previous page and provides a step-by-step guide for the reader to follow.

i. Organisational Boundary Setting

The first step in GHG reporting is defining your organisation's operational boundaries. This decision dictates the extent of your GHG reporting and is fundamental to ensuring comprehensive coverage of your emissions.

In an SME, this step typically involves senior management and sustainability officers collaboratively reviewing the company's structure to determine the scope of operations to include in the GHG report. Consider all aspects of your business, from headquarters and remote offices to manufacturing sites and storage facilities. Choose between an equity share approach (including emissions from all operations in which you have a financial interest) or a control approach (including emissions from operations you control). This decision should align with your business model and stakeholder expectations.

ii. Operational Boundary Setting

Operational boundary setting categorises emission sources within your organisational boundaries. It involves identifying direct emissions (Scope 1) and indirect emissions (Scope 2 and Scope 3).

The environmental officer, along with operational managers, should map out and categorise all emission sources. This includes everything from on-site fuel combustion to company vehicles (Scope 1), purchased electricity (Scope 2), and, if applicable, emissions from your value chain (Scope 3). Check 1 ensures the correct boundaries and factors are chosen, likely involving consultation with different department heads to ensure all relevant emission sources are identified.

2A. GHG REPORTING: APPROACH & METHODOLOGY

iii. Data Collection

Data collection is the gathering of specific, quantifiable information required for GHG emissions calculation. Accurate data is the cornerstone of reliable emissions reporting and is essential for identifying and prioritising reduction opportunities.

Operational managers, alongside finance and reporting teams, should establish and maintain a robust system for collecting relevant data. This includes tracking fuel usage, electricity consumption, business travel, and waste generation. Utilising automated data collection methods, where available, can improve accuracy. Regular training sessions for staff involved in data collection are important to maintain data quality.

iv. Emissions Calculation

Emissions calculation involves converting collected data into GHG emissions figures using established conversion factors. This step is crucial for understanding the scale of your emissions and identifying key areas for reduction.

Common data sources for emissions factors include:

- UK Government Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy emissions factors, published annually.
- Sector-specific guidelines and databases. Depending on the industry, there may be specific guidelines or databases that provide emission factors.

Using the Greenhouse Gas Protocol, calculate your emissions by applying the appropriate emission factors to your data. Check 2 is pivotal, ensuring accuracy in these calculations. Small errors can significantly impact your reporting, so involve your finance and sustainability teams in cross verifying the calculations.

v. Target Setting

Setting GHG reduction targets guides your organisation's sustainability strategy and demonstrates commitment to environmental stewardship. Targets should be ambitious yet achievable, aligning with your organisation's overall goals. Senior management, in collaboration with the sustainability officer, should set realistic yet challenging emission reduction targets. These targets can be aligned with national or international climate goals, providing a benchmark for your efforts. Regular review meetings should be scheduled to assess progress and adjust strategies as needed. More in-depth detail on target setting is discussed in Section 2.6 below.

2A. GHG REPORTING: APPROACH & METHODOLOGY

vi. Data Management and Quality Assurance

Quality assurance in data management ensures that the emissions data you report is accurate, consistent, and verifiable. Good data management practices underpin the credibility of your GHG reporting. Implement rigorous data management protocols. Regularly train staff involved in data handling to ensure they understand the importance of accuracy and consistency. Implementing a data management system can streamline this process, making it easier to collect, store, and analyse data.

vii. Reporting

Preparing and disseminating a GHG emissions report is essential for transparency and accountability. It communicates your environmental impact to stakeholders and demonstrates commitment to sustainability. The sustainability officer, in collaboration with the reporting team, should compile the GHG report. Check 3 ensures that the report is comprehensive and accurately reflects your GHG emissions. The report should be clear, concise, and include all necessary details like emission sources, calculation methods, and any reduction initiatives. Internal reviews are crucial before releasing the report, to ensure quality and completeness.

viii. Verification and Assurance

Obtaining external verification adds credibility to your GHG reporting. It assures stakeholders that your reporting is accurate and aligns with international standards. Engage a third-party verifier to review your GHG report. Check 4 involves this external verification, which not only validates your reporting process but also provides an opportunity to gain insights for further improvement. Ensure that the chosen verifier is accredited and has experience in GHG reporting.

ix. Communication and Stakeholder Engagement

Effectively communicating GHG reporting results to stakeholders is crucial. It enhances transparency, builds trust and can engage stakeholders in your sustainability journey. Develop a communication plan to share your GHG report with internal and external stakeholders. This could include presentations to staff, updates to investors, and publishing a summary on your website. Tailor the communication to different audiences to ensure it is accessible and meaningful.

x. Review and Improvement

Regularly reviewing and improving your GHG management and reporting process is key to enhancing its effectiveness and accuracy over time. Schedule periodic reviews of your GHG reporting process. Involve different departments to get a comprehensive view of the reporting's effectiveness and areas for improvement. Use these reviews to refine your data collection methods, improve calculation accuracy, and update your emission reduction strategies.

2A. GHG REPORTING: APPROACH & METHODOLOGY

2.6 SETTING REDUCTION TARGETS

The Science Based Targets initiative (SBTi) is a partnership between Carbon Disclosure Project (CPD), the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). It mobilises businesses to set ambitious emissions reduction targets in line with the latest climate science. The SBTi defines and promotes best practice in emissions reductions and Net Zero targets, provides technical assistance and expert resources, and independently assesses and validates companies' targets. The SBTi aims to help companies and financial institutions to lead the way to a zero-carbon economy, boost innovation and drive sustainable growth. Companies can sign up to SBTi via its website (sciencebasedtargets.org), with different levels of commitment allowable by SMEs as distinct from larger organisations. For a Small and Medium Enterprise of under 500 employees SBTi does not approve Scope 3 emissions.

The recommended main steps incorporated in the SBTi approach are:

1. Set the goal
2. Set the scope and boundaries
3. Gather data
4. Analyse
5. Report against key performance indicators (KPIs)
6. Review and adjust as required.

2.7 SUMMARY

Part 2A of the guidelines explores the process of GHG reporting, with a specific focus on implementation, for SMEs operating in the Aerospace and Defence Sector. It commences with a detailed exploration of the GHG reporting approach, grounded in the Greenhouse Gas Protocol standards which are important to understand as a foundation. The section offers SMEs a foundational understanding of the process, beginning with organisational and operational boundary setting to accurately define the scope of GHG emissions. Critical checkpoints are introduced to ensure the correct selection of boundaries and to validate the accuracy of emissions calculations.

The section then guides SMEs through the practical aspects of GHG reporting, from data collection and emissions calculation to setting reduction targets. Each step is elaborated with a focus on how SMEs can effectively implement these tasks within their organisational structures. The process culminates in a comprehensive GHG report, internally reviewed for quality and accuracy, and externally verified to enhance credibility. Part 2A not only instructs SMEs on the 'how-to' of GHG reporting but also emphasises the importance of regular review and improvement, ensuring that GHG reporting is an evolving process aligned with the organisation's sustainability goals.



2B. GHG REPORTING: WORKED EXAMPLE

INTRODUCTION

This section presents a practical worked example of the GHG reporting process, as outlined in Part 2A of the GHG reporting guidance. Through this example, we aim to bring the GHG reporting process to life for SMEs in the aerospace and defence sectors. We will walk through each step of the process using a fictional SME, demonstrating how the principles and practices of GHG reporting can be applied in a real-world context. This example is designed to complement the theoretical framework provided, offering a tangible illustration that SMEs can refer to when implementing their own GHG reporting. By the end of this section, you will understand how to translate the guidelines into actionable steps within your organisation.

WHO FOR?



2B GHG REPORTING: WORKED EXAMPLE

ORGANISATIONAL CONTEXT FOR THE WORKED EXAMPLE

Company Name: Aerobladetek Ltd.

Size and Operations: Aerobladetek Ltd. has a workforce of 100 employees. The company's operations are based in the UK, with a head office in Sheffield and a manufacturing plant in Leeds.

Products and Services: Aerobladetek specialises in advanced aerodynamic blade technology for aerospace applications. Its product line includes high-performance turbine blades and propellers, known for their efficiency and durability. The company prides itself on integrating cutting-edge materials and sustainable design practices.

Typical Customers: The primary clientele includes prominent aerospace manufacturers and suppliers, both within the UK and in European markets. Aerobladetek is also gradually expanding its reach to include clients in the renewable energy sector, supplying components for wind turbines.

Sustainability Focus: Committed to sustainability, Aerobladetek has made strides in reducing its environmental footprint. The owner is under pressure to be on a pathway to Net Zero GHG emissions from Aerobladetek's main customer, Aviator. He recognises the whole supply chain is moving towards Net Zero and wants to establish a resilient business before being forced to be reactive by potential incoming regulations. The company is particularly focused on minimising its GHG emissions, aligning with global environmental standards and responding to the growing demand for greener aerospace technologies.

Additional Information:

- Aerobladetek has recently initiated a 'Green Innovation' programme, aimed at researching and developing sustainable alternatives to traditional aerospace materials.
- The company operates its manufacturing processes while also relying on a network of local suppliers for some components and logistics services.
- Aerobladetek is exploring the feasibility of incorporating solar energy solutions at its Leeds plant to enhance energy efficiency and reduce dependence on non-renewable energy sources.

2B GHG REPORTING: WORKED EXAMPLE

Figure 12: Worked example business overview

AEROBLADETEK



STAFF

60 x Factory Production
25 x Product Engineering
10 x Purchasing & Distribution
5 x Management



FACTORY

Old and energy inefficient



ENERGY USAGE

High



WASTE

High

What change in practice needs to happen?

1. Reduce energy usage and greenhouse gas emissions from building services and manufacturing processes, through reducing consumption and renewable energy supply - but the Production Manager has run the factory the way it is for 20 years.
2. Start looking at design and operational practice that will result in less waste and therefore reduced emissions - but the Product Engineer has been doing this for a long time.



2B GHG REPORTING: WORKED EXAMPLE

i. Organisational Boundary Setting

In the first step of implementing GHG reporting for Aerobladetek Ltd., defining the organisational boundary is crucial. The included diagram illustrates Aerobladetek's two facilities in Leeds and Sheffield, as well as company vehicles, all falling under Scope 1 and 2 emissions due to their operational control. This step is vital as it sets the stage for the entire GHG reporting process, ensuring that all significant emission sources under the company's control are accounted for. Additionally, the diagram captures suppliers contributing to Scope 3 upstream emissions and subcontract processors and customers for downstream Scope 3. Establishing these boundaries accurately is fundamental to ensuring comprehensive GHG reporting, enabling Aerobladetek to identify and manage its complete environmental impact effectively.

Figure 13: Worked example organisational boundary setting



ii. Operational Boundary Setting

In Step 2 of Aerobladetek Ltd.'s GHG reporting process, we focus on setting operational boundaries, crucial for categorising the company's emissions into the appropriate scopes. Figure 14 is core to understanding the areas of emissions relevant to the company for reporting, and shows an amended Emissions Value Chain, specifically tailored for Aerobladetek. It aligns the company's organisational boundaries with the main GHG scopes, providing a clear visual representation of where emissions originate within Aerobladetek's operations.

The figure delineates Scope 1 emissions, including direct emissions from company-controlled resources like gas used for heating in facilities and diesel in company vehicles. Scope 2 covers indirect emissions, primarily from electricity usage at the Leeds and Sheffield sites. The inclusion of these categories reflects Aerobladetek's direct operational impact on the environment.

Scope 3 emissions, often the most extensive for companies, are split into upstream and downstream activities. The selected categories for reporting in this scope are strategically chosen based on Aerobladetek's business activities.

2B GHG REPORTING: WORKED EXAMPLE

Categories such as procurement of steel raw material and water, inbound transportation, operational waste, business travel, commuting, and outbound transportation are significant in terms of their environmental impact from within Aerobladetek's supply chain. These upstream activities involve emissions generated outside the company's direct control but are essential to its operation.

Additionally, downstream activities in Scope 3 include emissions from the use of sold products and financial investments. The inclusion of these activities is important, as they extend the company's responsibility and impact assessment beyond its immediate operations, acknowledging its role in the broader environmental context. The decision to report on these categories stems from a recognition of the comprehensive environmental footprint Aerobladetek's products and investments create. The determination of emissions from financial investments is complex and variable. Aerobladetek is working with its brokers to obtain emissions data relating to investments, and this data is expected to become more readily available over time. Where specific activity data is not available, spend-based metrics may be applied.

The rationale behind choosing these specific emission categories is grounded in Aerobladetek's commitment to an accurate and responsible portrayal of its environmental impact. By including a broad range of Scope 3 categories, the company acknowledges the interconnected nature of its operations with the wider world. This approach not only aligns with best practices in sustainability reporting but also reflects Aerobladetek's dedication to making meaningful, informed decisions to mitigate its environmental impact.

iii. Data Collection

In Step 3 of Aerobladetek Ltd.'s GHG reporting process, we focus on the meticulous task of data collection. This step is crucial as it forms the backbone of accurate GHG reporting. The section features a comprehensive table that systematically lists all 12 scope emissions identified in the previous step. These include both direct emissions (Scope 1 and 2) and a wide array of indirect emissions (Scope 3).

For each emission category, the table details the specific activity data sources and the amount used in calculations. This data encompasses a range of inputs, from fuel consumption for company vehicles to electricity usage in facilities and extends to more complex Scope 3 data such as procurement processes, business travel, and waste management. The thoroughness of this data collection phase ensures that Aerobladetek's GHG report will be grounded in reality, reflecting a true picture of its environmental impact.

Careful attention is given to sourcing reliable data, whether it be meter readings, purchase records, or estimations based on industry standards. This approach underlines the importance of robust data management in environmental reporting and sets the stage for accurate emissions calculations in the subsequent steps of the GHG reporting process.

iv. Emissions Calculation and Data Presentation

This important step involves quantifying Aerobladetek's GHG emissions. Precise calculation of emissions from various sources is fundamental to developing an accurate GHG report.

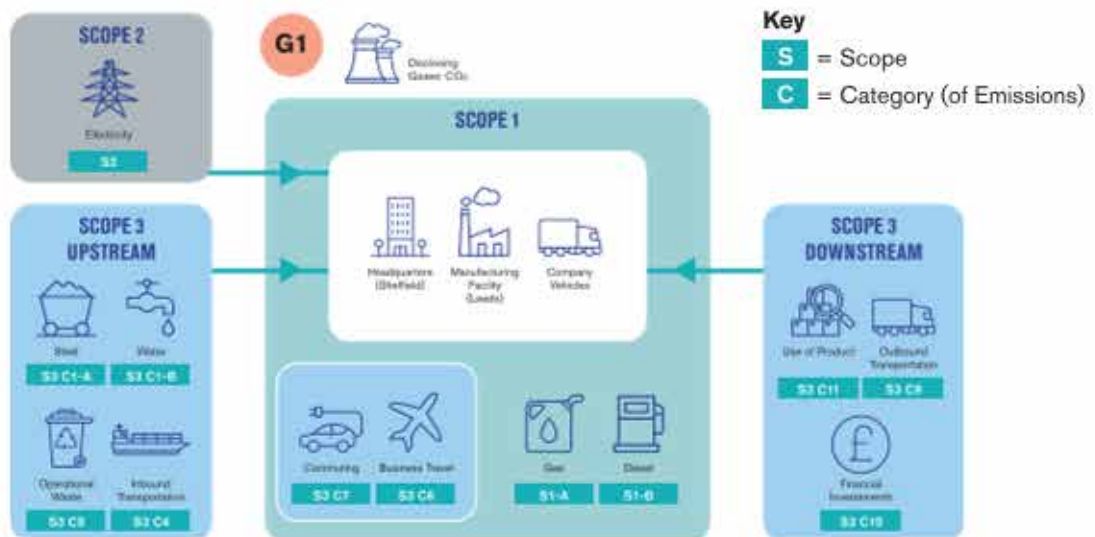
2B GHG REPORTING: WORKED EXAMPLE

Figure 14: Operational boundary setting compared to organisational boundary setting

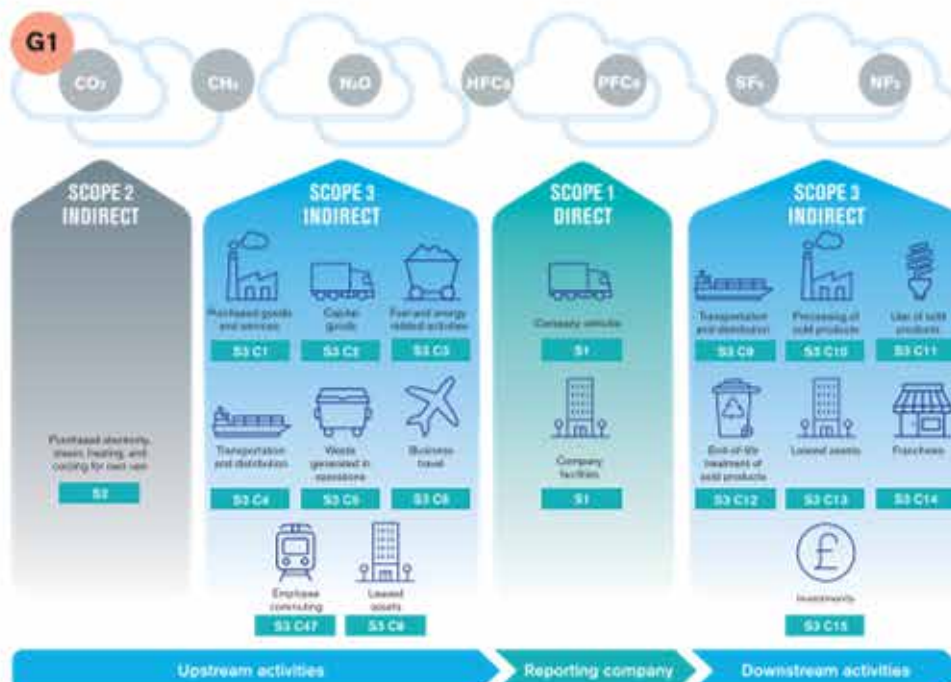
ORGANISATIONAL BOUNDARY



OPERATIONAL BOUNDARY















GHG SCOPES



2B GHG REPORTING: WORKED EXAMPLE

Table 4: Activity data for Aerobladetek Ltd in emissions reporting year

EMISSIONS CATEGORY		ACTIVITY DATA SOURCE	ACTIVITY AMOUNT
	Gas S1-A	Company gas bill (all facilities)	Aerobladetek checked their bill from the reporting year and identified 330,000 kWh of gas usage.
	Diesel S1-B	Company travel receipts for fuel spend	Aerobladetek operated 3 vehicles for the reporting year. Their vans operate on an approximate fuel usage of 8 miles per litre. The company spent £80,000 on fuel in the reporting year, therefore are estimating 10,000 litres of fuel used for company vehicles.
	Electricity S2	Company electricity bill (all facilities)	Aerobladetek again used their electricity bill and estimated usage of 2,000,000 kWh (2000 MWh).
	Steel S3 C1-A	Procurement records (company ERP)	Aerobladetek have 2 suppliers for steel. Each of them have detailed records on their ERP system. Steel purchase weight for both totalled 4000 tonnes for the reporting year.
	Water S3 C1-B	Company water bill	The company's two facility water bills reported a total usage of 20.44 Megalitres in the reporting year.
	Inbound Transportation S3 C4	Procurement records (company ERP)	The company had 8 providers for delivery of core materials to the business. A summary of the total usage is as follows: <ul style="list-style-type: none"> • 20,000 km using 3.5 tonnes vans • 500,000 km of shipping
	Operational Waste S3 C5	Procurement records (company ERP)	Data from suppliers on waste was broken down into: <ul style="list-style-type: none"> • 500 tonnes recycled • 100 tonnes to energy-from-waste plant
	Business Travel S3 C6	Procurement records (company ERP)	The procurement records showed 300,000 person km (see glossary) travelled.
	Commuting S3 C7	Staff Survey	Data on employee commuting from staff surveys showed 260,000 person km (see glossary) travelled.
	Outbound Transportation S3 C9	Procurement records (company ERP)	The company had 2 providers for delivery of products to customers. A summary of the total usage is as follows: <ul style="list-style-type: none"> • 20,000 km using 3.5 tonnes vans • 500,000 km of shipping
	Use of Product S3 C11	Sales records (company ERP system)	Estimated using individual per component data.
	Financial Investments S3 C15	Company accounting records	Obtained from brokers, based on investment activity.

2B GHG REPORTING: WORKED EXAMPLE

EXAMPLE CALCULATION

In this step, we calculate Aerobladetek's emissions from gas combustion, as an example.

Figure 15: Emissions calculation method as applied to worked example



With an activity data of 330,000 kWh and using the UK government's emissions factor for natural gas for the year 2023 (e.g. 0.184 kg CO₂e per kWh), the calculation is straightforward: 330,000 kWh × 0.184 kg CO₂e/kWh = 60,720 kg CO₂e. This represents the total emissions from gas combustion in Aerobladetek's operations.

Aerobladetek's emissions for each category are calculated similarly and compiled into a comprehensive table. For example, diesel consumption is calculated using 10,000 litres and the appropriate emissions factor. The table illustrates the emissions across all identified categories, from direct sources like gas and diesel to indirect sources such as operational waste and product use. This quantification is vital for understanding the overall impact and prioritising areas for reduction.





2B GHG REPORTING: WORKED EXAMPLE

Table 5: Aerobladetek Calculations for Reporting Year

EMISSIONS CATEGORY	ACTIVITY UNIT	QUANTITY ACTIVITY	EMISSIONS DATA SOURCE	EMISSIONS (KGC02e/UNIT)	EMISSIONS (KG C02e)	EMISSIONS (TONNES C02e)
 Gas S1-A	kWh	330,000	Gov. database	0.18	60,367	60
 Diesel S1-B	litres	10,000	Gov. database	2.56	25,600	26
 Electricity S2	kWh	2,000,000	Gov. database	0.21	414,149	414
 Steel S3 C1-A	tonnes	4,000	Ask supplier	1850	7,400,000	7,400
 Water S3 C1-B	megalitres	20	Water company	271	5,539.24	5.5
 Inbound Transportation (Vans) S3 C4	km	20,000	Gov. database	0.2535	5,069	5.1
 Inbound Transportation (Shipping) S3 C4	km	500,000	Gov. database	0.0030	1,519	1.5
 Business Travel S3 C6	person km	300,000	Transport provider	0	44,420	44
 Commuting S3 C7	person km	260,000	Gov. database and vehicle-specific data	0.221	57,460	57
 Outbound Transportation S3 C9	tonne km	15,000	Gov. database	0.19	2,887	2.9
 Recycled Waste S3 C5	tonnes	500	Gov. database	21.29	10,647	11
 Energy from Recycled Waste S3 C5	tonnes	100	Gov. database	21.28	2,128	2.1

2B GHG REPORTING: WORKED EXAMPLE

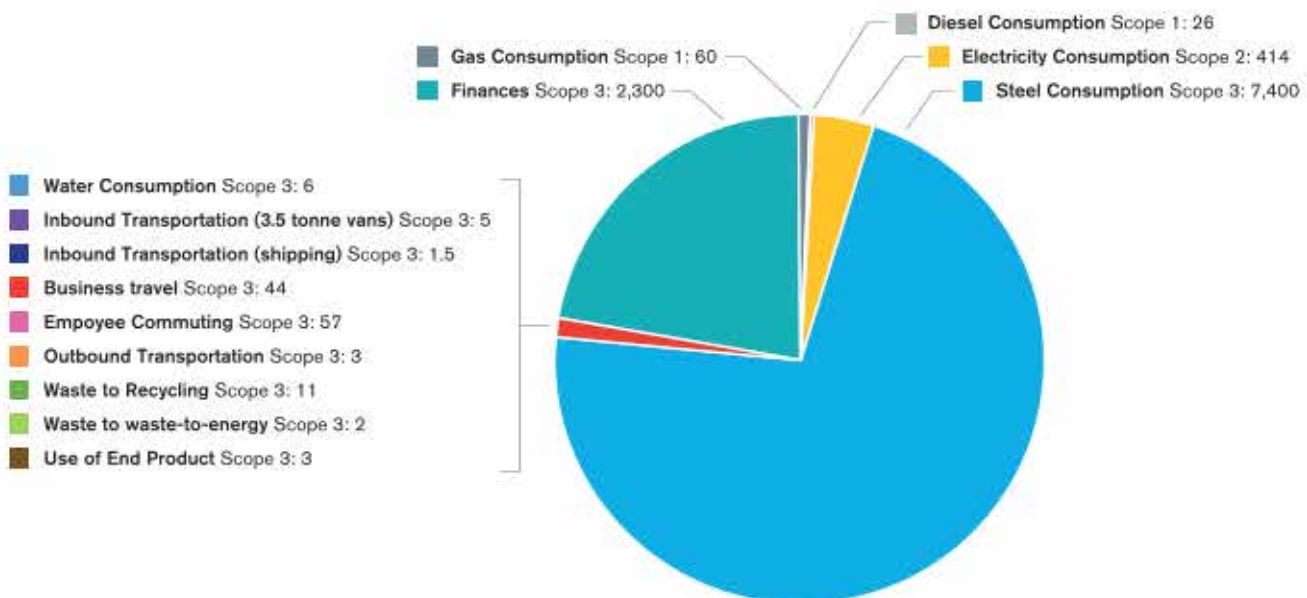
Table 5: Aerobladetek Calculations for Reporting Year - continued

EMISSIONS CATEGORY	ACTIVITY UNIT	QUANTITY ACTIVITY	EMISSIONS FACTOR DATA SOURCE	EMISSIONS FACTOR (KGC02e/UNIT)	EMISSIONS (KG C02e)	EMISSIONS (TONNES C02e)
 Use of Product S3 C11	component	1000	Activity allocation	2.5	2500	2.5
 Financial Investments S3 C15	-	Finance provider	-	2,300,000	2,300	-

Data Presentation

After calculating the emissions, it is essential to present the data effectively. Alongside the detailed table, we include visual aids like a pie chart showing emissions by category, providing an immediate visual interpretation of the data. Alternatively, a tree diagram breaks down the emissions within each category, offering deeper insights. These visuals not only aid in comprehension but also make the report more engaging and accessible to a broader audience, including stakeholders who may not be as familiar with technical data.

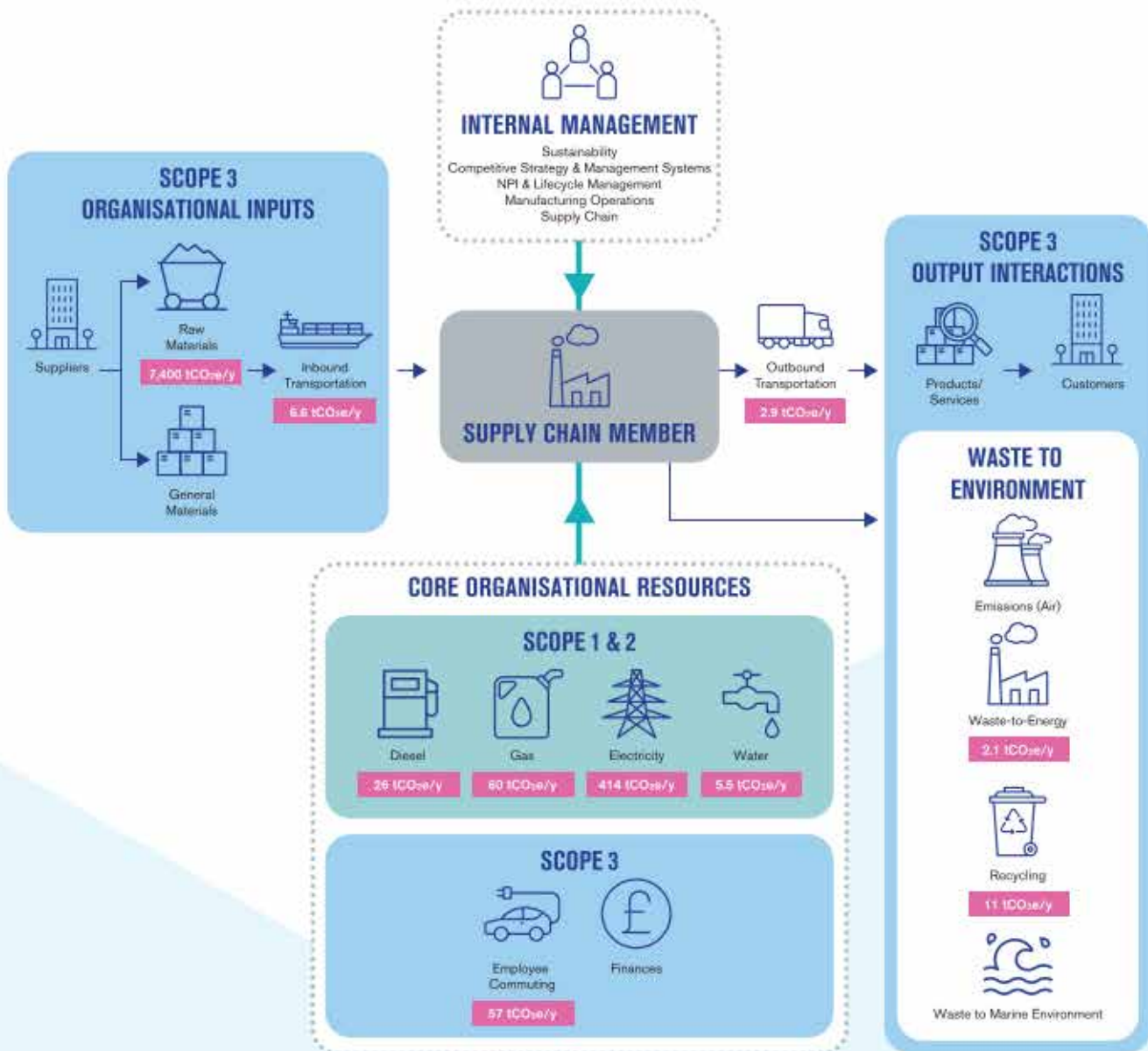
Figure 16: Aerobladetek CO₂ Emissions (tonnes CO₂e)



2B GHG REPORTING: WORKED EXAMPLE

This step in the GHG reporting process is critical for Aerobladetek to accurately quantify its emissions and lay the groundwork for subsequent steps in the reporting and improvement process. Additional ways of reporting this information, such as the process diagram used in the ADS ESG pillar, are also included for reference.

Figure 17: Modelling a Supply Chain Member



2B GHG REPORTING: WORKED EXAMPLE

v. Target Setting

In Step 5 of Aerobladetek Ltd.'s GHG reporting, the focus on establishing science-based emission reduction targets is crucial. Aerobladetek, aligning with its customer Aviator's commitment to the Science Based Targets Initiative (SBTi), aims to reduce Scope 1 and 2 emissions to zero by 2041. This ambitious goal underscores the importance of target setting, which is not just about selecting objectives but also about prioritising the right initiatives.

The process of setting these targets involves a thorough analysis of current emissions and a realistic projection of achievable reductions. It is essential to choose initiatives that offer significant impact and are feasible within the company's operational scope. For instance, transitioning to renewable energy sources or investing in energy-efficient technologies might be initial steps.

Crucially, this target-setting process requires active participation from all stakeholders involved in GHG reporting. Input from various departments, from operations to finance, ensures that the targets are comprehensive and integrated across the company's activities. This collaborative approach not only enhances the feasibility of achieving the targets but also fosters a culture of sustainability within the organisation.

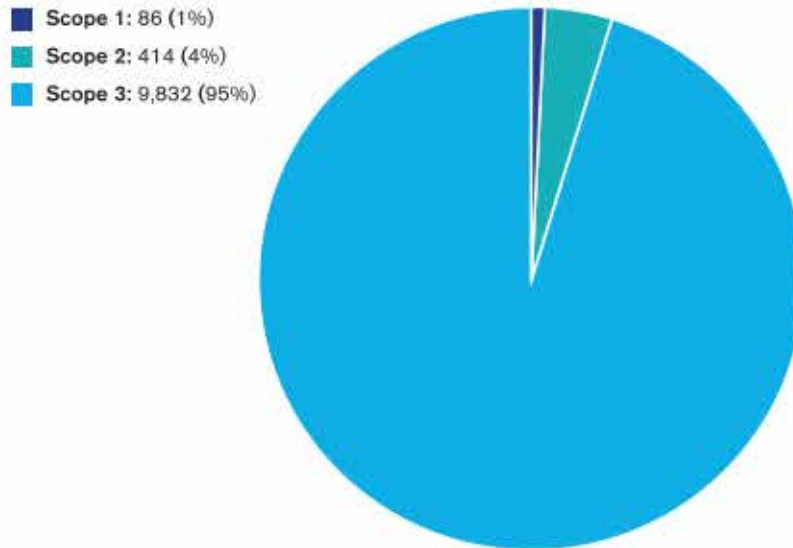
Aerobladetek case scenario:

- Aerobladetek does not undertake regulated activities within the organisation, so is not subject to UK ETS (See Figure 4).
- Aerobladetek is not subject to Streamlined Energy and Carbon Reporting (SECR). However, it has decided to use the SECR reporting approach on a voluntary basis through the use of the SECR template for emissions reporting {See Appendix B}.
- Aerobladetek's main customer Aviator has committed to the Science Based Targets Initiative (SBTi) and is expecting its suppliers to do the same so that it can ensure that its Scope 3 emissions will be on a trajectory to Net Zero, driving this through giving a score for SBTi commitment in their tender process.
- Aerobladetek has reviewed the options for SBTi and because it is an SME, it is not subject to the same requirements under the SBTi scheme as larger companies, in particular with regard to explicit commitment to reduce Scope 3 emissions.
- It has committed to reduction of Scope 1 and Scope 2 emissions by 46% in relation to a 2019 baseline by 2030 and has committed to measure and reduce its Scope 3 emissions. This has acted to increase its score when tendering for work with Aviator, thereby increasing business success.

2B GHG REPORTING: WORKED EXAMPLE

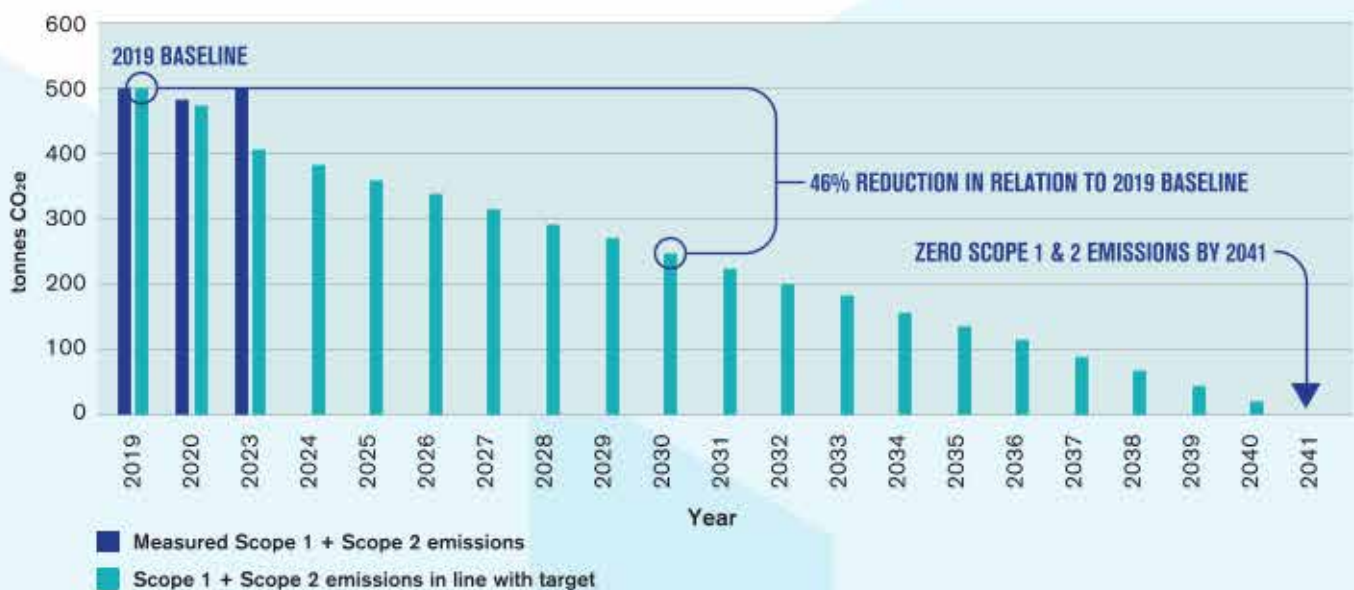
Figure 18 shows the split in emissions between Scopes 1, 2 and 3 that Aerobladetek has calculated. This is consistent with Scope 3 GHG emissions being typically greater than 90% of overall emissions.

Figure 18: Aerobladetek GHG emissions 2022 (tCO₂e/y) split between scopes



Aerobladetek plotted the trajectory to Net Zero in accordance with its SBTi GHG Scope 1 and 2 reduction commitments so that it can track its progress towards Net Zero in 2041, as shown in Figure 19. This graphical representation serves as a powerful communication tool, crystallising the company's commitment and the strategic milestones along the way.

Figure 19: Aerobladetek trajectory for Scope 1 and 2 GHG emissions reduction (tonnes CO₂e)



2B GHG REPORTING: WORKED EXAMPLE

This section of the GHG reporting guidelines highlights the strategic approach to emissions reduction, balancing ambition with practicality and ensuring that the targets are not only aspirational but also grounded in the reality of Aerobladetek's operational capabilities and market context.

vi. Data Management and Quality Assurance

In Step 6 of Aerobladetek Ltd.'s GHG reporting, we focus on Data Management and Quality Assurance. This step is crucial for ensuring the accuracy and reliability of the emissions data collected.

From the provided emissions categories, some areas likely to have high accuracy data include:

- **Scope 1 Gas for Heating and Diesel Consumption:** These are typically metered or can be accurately calculated based on purchase records.
- **Scope 2 Electricity Usage:** These are usually metered and provided by utility companies, ensuring high data accuracy.

Areas that might need improvement in data accuracy:













- **Scope 3 Categories:** These emissions are often estimated and depend on factors such as supplier data, industry averages, or calculation assumptions. Categories such as inbound and outbound transportation, operational waste, and the use of sold products are more challenging to measure accurately and might require more robust data collection and estimation methods.

Improving data quality in these areas involves enhancing data collection methods, possibly collaborating more closely with suppliers and customers, and using more refined estimation techniques where direct measurement is not feasible.



2B GHG REPORTING: WORKED EXAMPLE

Table 6: Data Management and Quality Assurance

EMISSIONS CATEGORY	ACTIVITY DATA SOURCE	MEASUREMENT METHOD/FREQUENCY	ACCURACY (G/Y/R)	VERIFICATION (Y/N)	COMMENT
 Gas S1-A	Company gas bill (all facilities)	Half-hourly data and monthly billing where half-hourly data not available	G	Y (one analyst and one reviewer for checking)	Complete set of data available.
 Diesel S1-B	Company travel receipts for fuel spend and mileage	Processing by accounts and analysed monthly	G	Y (accounts and analyst)	Act to ensure litres are measured for more accurate reporting.
 Electricity S2	Company electricity bill (all facilities)	Half-hourly data and monthly billing where half-hourly data not available	G	Y	Produce graphs of electricity consumption for comparison.
 Steel S3 C1-A	Procurement records (company ERP)	Include processing emissions as well as production emissions	Y	Y (in terms of check on delivery record)	Accuracy limited by availability of processing emissions data.
 Water S3 C1-B	Company water bill	In line with billing cycle	G	Y (accounts and analyst)	
 Inbound Transportation S3 C4	Procurement records (company ERP)	Processing by accounts and analysed monthly	Y	Y	Emissions data is generic, rather than taking fully into account variations in journey type.
 Operational Waste S3 C5	Procurement records (company ERP)	Processing by accounts and analysed monthly	Y	Y (in terms of confirming receipt of supplier data)	Supplier data uses generic emissions factors and needs to improve by allowing for waste treatment process variations.
 Business Travel S3 C6	Procurement records (company ERP)	Processing by accounts and analysed monthly	Y	Y (in terms of confirming receipt of supplier data)	Generic aviation emissions data is used, but needs to be improved by taking into account variations between flights.
 Commuting S3 C7	Staff survey	Processing by accounts and analysed monthly	R	Y (in terms of checking data from employees)	Not all employees have responded to the survey. The data quality is dependent on the diligence with which the employees record and communicate the data. Variations in driving approach that significantly affect emissions have not been taken into account.
 Outbound Transportation S3 C9	Procurement records (company ERP)	Processing by accounts and analysed monthly	Y	Y	Emissions data is generic, rather than taking fully into account variations in journey type.
 Use of Product S3 C11	Sales records (company ERP system)	Processing by accounts and analysed quarterly	R	Y (based on available data)	More work is needed to collect data on end use and allocate emissions appropriately to the component supplied by Aerobladetek, which is only a part of the entire aircraft.
 Financial Investments S3 C15	Company accounting records	Processing by accounts and analysed quarterly	R	Y (in terms of expenditure and applicability of spend-based metrics)	Very limited data available on the nature of investments and their impact and spend-based metrics have been applied. This is an area that needs to be worked on.

2B GHG REPORTING: WORKED EXAMPLE

vii. Reporting

A brief overview of a report is presented below for Aerobladetek. This is presented here to show a basic and simplified criteria of key inputs required in a report that should be made available to stakeholders. It is designed to show the key areas but is not as comprehensive as reporting requirements under the GHG corporate standards. Please refer to the GHG Protocol if you are generating reports that need to meet the criteria for these standards.

Figure 20: Simplified GHG report for Aerobladetek

Introduction	This GHG Emissions Report presents Aerobladetek Ltd.'s commitment to sustainability, detailing our environmental impact for the 2023/24 reporting year. As a leader in advanced aerodynamic blade technology, we're dedicated to transparently showcasing our progress and challenges in reducing greenhouse gas emissions.
Emissions Summary	In the past year, our total GHG emissions comprised 1% Scope 1, 4% Scope 2, and 95% Scope 3. See Figure 18. Major contributors were our manufacturing processes and company vehicle use. Our commitment to transparency and environmental responsibility drives us to reduce these impacts.
Data Collection & Calculations Method	We meticulously collected data from utility bills, fuel receipts, and supplier reports. Emissions were calculated using UK government factors, ensuring accuracy and consistency in our reporting.
Targets and Performance	Aligned with SBTi, we aim to achieve net-zero Scope 1 and 2 emissions by 2041. This year, we reduced our total emissions by 15%, a significant step towards our goal.
Key Initiatives and Achievements	We implemented an energy efficiency program in our facilities, significantly reducing electricity consumption. Investment in a fleet of electric vehicles also contributed to lowering our Scope 1 emissions.
Plans for the Next Reporting Period	Our focus will be on increasing renewable energy usage and enhancing supplier engagement to further reduce Scope 3 emissions.
Contact Details	For more information or to engage with us on our sustainability journey, please contact our Environmental Sustainability Team at sustainability@aerobladetek.co.uk .

2B GHG REPORTING: WORKED EXAMPLE

In Step 7 of Aerobladetek Ltd.'s GHG reporting, we focus on preparing the GHG Emissions Report. This step is important as it brings together all the data and insights gathered, showcasing Aerobladetek's commitment to environmental responsibility. Read the statement made about the report in the company's annual report.

"The Aerobladetek GHG Report is a comprehensive document, detailing our emissions across Scope 1, 2, and 3. It highlights the effectiveness of our initiatives, aligning our actions with our sustainability goals. The report not only serves as an internal tool for monitoring progress but also as a means of transparent communication with our stakeholders. It reflects our journey towards reducing our environmental footprint, emphasising both our achievements and areas for improvement. This report is a testament to our commitment to a sustainable future, and it plays a crucial role in guiding our next steps. It is a key component of our sustainability strategy, ensuring that we remain accountable and proactive in our environmental stewardship."

viii. Verification and Assurance

In this phase, Aerobladetek's GHG report undergoes third-party verification to ensure credibility and accuracy. The verification process, conducted by an independent auditor, evaluates the methodologies, data accuracy, and calculation processes used in the report. This step not only enhances the reliability of the report but also serves to boost stakeholder confidence in Aerobladetek's sustainability commitments.

Aerobladetek conducted a materiality assessment for its GHG reporting. They identified key emission sources: manufacturing, logistics, corporate travel, and office operations. Setting a 5% threshold, they determined manufacturing (70%), logistics (20%), and corporate travel (8%) as material due to their quantitative impact and stakeholder concerns, despite corporate travel being a lower emitter. Office operations (2%) were deemed non-material. This approach ensures Aerobladetek's GHG report focuses on the most significant emissions, balancing quantitative data with qualitative factors like stakeholder interest and reputational risk, leading to a credible and relevant environmental report.

ix. Communication and Stakeholder Engagement

Aerobladetek prioritises clear communication and engagement with stakeholders in its GHG reporting. They have developed a comprehensive plan that involves tailored presentations to staff, keeping them informed and involved. For external stakeholders, such as investors and clients, Aerobladetek provides detailed updates that highlight progress and future sustainability plans. Additionally, a user-friendly summary of the GHG report is published on the company's website, ensuring accessibility and transparency. This approach caters to the diverse needs of their stakeholders, fostering trust and encouraging collective participation in Aerobladetek's sustainability journey.

2B GHG REPORTING: WORKED EXAMPLE

x. Review and Improvement

The final step involves a thorough review of the entire GHG reporting process. Aerobladetek assesses the effectiveness of its sustainability initiatives and identifies areas for improvement. This step is vital for continuous environmental performance enhancement, ensuring that each reporting cycle builds on the learnings of the previous one, driving Aerobladetek towards its long-term sustainability goals.

Summary of worked example

This worked example from the GHG reporting guidance, featuring the fictional company Aerobladetek Ltd., helps illustrate the approach to GHG reporting for SMEs in the aerospace and defence sectors.

The following steps were addressed:

- Operational Boundary Setting - Categorising emissions into Scopes 1, 2, and 3.
- Data Collection - Gathering detailed activity data for all emission categories, including fuel and electricity usage, material procurement, and waste management.
- Emissions Calculation and Data Presentation - Calculating emissions for each category using specific factors and presenting the data in tables and visual aids for clarity.
- Target Setting - Setting science-based emission reduction targets, such as achieving net-zero Scope 1 and 2 emissions by 2041.
- Data Management and Quality Assurance - Ensuring the accuracy and reliability of data, especially for Scope 3 emissions, which are more challenging to measure.
- Reporting - Preparing a comprehensive GHG Emissions Report, highlighting the company's sustainability efforts and areas for improvement.
- Verification and Assurance - Undergoing third-party verification to enhance report credibility.
- Communication and Stakeholder Engagement - Engaging with internal and external stakeholders through tailored presentations and accessible report summaries.
- Review and Improvement - Continuously assessing and improving sustainability initiatives based on GHG reporting findings.

SUMMARY OF GUIDANCE

The ADS Corporate GHG Reporting Guidelines are tailored for SMEs in the aerospace and defence sectors, emphasising the importance of greenhouse gas (GHG) reporting as a critical component of environmental sustainability. The guidelines aim to assist UK aerospace and defence industry SMEs in voluntarily reporting GHG emissions, aligning with global environmental standards and ADS' sustainability pillars.

The aerospace and defence sectors play a vital role in GHG emissions management, leveraging its innovation and engineering capabilities to set sustainability benchmarks. Key strategies include developing energy-efficient technologies, adopting alternative fuels, exploring electrification of aircraft, and enhancing operational efficiency.

The guidance is structured to assist SMEs in understanding and implementing GHG reporting, covering environmental, legal, commercial, and long-term business sustainability drivers. It emphasises the increasing need for GHG reporting driven by legislative demands, commercial pressures, and a global commitment to environmental sustainability.

The reporting process outlined in the guidelines follows the internationally accepted Greenhouse Gas Protocol, which categorises emissions into Scope 1 (direct emissions), Scope 2 (indirect emissions from purchased energy), and Scope 3 (other indirect emissions). The guidelines provide a comprehensive approach, from setting organisational and operational boundaries, data collection, and emission calculation, to setting reduction targets, reporting, and continuous improvement.

GHG reporting is presented as more than compliance; it is an essential step towards environmental stewardship and sustainable business practice. The guidelines are designed to be accessible to various stakeholders within an organisation, such as senior management, environmental officers, operational managers, and finance teams, ensuring a collaborative approach to GHG reporting and emissions reduction.

In summary, these guidelines offer SMEs in the aerospace and defence sectors a detailed roadmap for effective GHG reporting, helping them align with the sector's overall sustainability efforts and position themselves as responsible entities in the global market.

RESOURCES

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International Organization for Standardization. (2018)ISO 14064-1:2018 - *Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*. Geneva: ISO1 [Accessed 26 Feb. 2024].

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APPENDIX A – GLOSSARY

There are many different terms used in the context of GHG emissions and wider sustainability, some of which overlap and some for which the literal meaning is not the intended meaning. This complexity can lead to confusion and hinder effective communication. To facilitate accurate understanding and proper application, we present glossary below.

TERM	DEFINITION
Greenhouse gas (GHG)	A greenhouse gas is a gas that absorbs radiation, originally from the sun, resulting in energy being trapped in the atmosphere and causing temperature increase, or 'global warming'. Greenhouse gases include carbon dioxide (CO ₂), methane, nitrous oxide, chlorofluorocarbon-12 (refrigerant), hydrofluorocarbon-23 (refrigerant), sulphur hexafluoride (electricity transmission) and nitrogen trifluoride (semiconductor manufacturing)
Carbon emissions	When people refer to 'carbon emissions' they almost always mean 'carbon dioxide emissions'. Carbon is a solid and has no impact on the climate in its elemental form. Carbon dioxide is a greenhouse gas.
Tonnes of carbon	When people refer to "tonnes of carbon", they generally mean "tonnes of carbon dioxide". Carbon has a relative molecular mass of 12, whereas carbon dioxide has a relative molecular mass of 44 and so there can be an error of almost a factor of four if the term is misused or misinterpreted. When referring to the greenhouse gas carbon dioxide, "tonnes of carbon dioxide" should be used and not "tonnes of carbon", to avoid ambiguity and inaccuracy.
Tonnes of carbon dioxide	When tonnes of carbon dioxide are reported, this generally means very little on its own to the vast majority of people, including those who work in the energy or environmental sector. To be a helpful term, it should generally be accompanied by reference to percentage change compared to a previous or subsequent period, or given some equivalence to a system people can relate to, for example emissions from a certain number of cars. It might also be helpful to relate to the volume of a tonne of CO ₂ as being approximately the same as that of a sphere of around 10m diameter or a hot air balloon.
Carbon dioxide equivalent (CO ₂ e)	Carbon dioxide equivalent (CO ₂ e) is the greenhouse gas emissions from a system represented in terms of the equivalent amount of CO ₂ with the same global warming impact. In the case of methane a factor of 25 is applied to the mass of methane emitted to give the equivalent mass of carbon dioxide. This relates to the global warming potential of methane over a period of 100 years, with it becoming a less potent greenhouse gas over time.
Carbon footprint	Carbon footprint refers to the carbon dioxide equivalent emissions of an organisation, individual or activity over a defined period (generally a year).
Carbon offset	A carbon offset is an activity commissioned by an organisation external to its operations that results in the reduction of greenhouse gases in the atmosphere, for example the planting of trees in a rainforest in another country.
Carbon neutral	An organisation is carbon neutral if the balance between its carbon dioxide emissions and carbon offsets is zero. An organisation can be carbon neutral without reducing its own emissions, if the offset amount is at least as large as its operational emissions. Carbon neutrality has long term limitations, given constraints on offsetting opportunities as a greater number of organisations attempt to offset.

APPENDICES

TERM	DEFINITION
Net Zero	An organisation reaches Net Zero when it reduces the greenhouse gas emissions associated with its operations as close to zero as practicably possible, with only a very small amount of residual emissions being offset. Net Zero is generally defined in relation to the Greenhouse Gas Protocol, which is an accepted international framework for measuring greenhouse gas emissions. The Greenhouse Gas Protocol categorises greenhouse gas emissions into Scope 1, Scope 2 and Scope 3. Scope 1 emissions are those released directly from within the boundary of the organisation, e.g. from the combustion of gas. Scope 2 emissions are those associated with import of energy to within the organisational boundaries (generally relating to emissions associated with electricity generation and supply). Scope 3 emissions are indirect emissions, including those associated with the upstream and downstream supply chain and employee commuting.
Carbon credits	Carbon credits are a measure of greenhouse gas emissions reduction assigned to an organisation and are tradeable on the market.
Renewable energy	Renewable energy is energy generation that does not result in the depletion of finite resources in its operation. This may be considered clear enough in the case of wind energy and solar energy. Heat pumps are sometimes categorised as renewable energy, given they extract heat from the environment (air, ground or water). However, they require electricity input for their operation and, if obtained from the electricity network, this will currently have fossil fuel generation contributing to it, with related greenhouse gas emissions that have to be quantified when reporting on emissions.
Green electricity	Green electricity is electricity supplied from renewable sources. This is not necessarily on a direct physical basis, but on an allocation basis, in that renewably generated electricity will be matched with a green electricity consumer and certification provided as a guarantee of origin.
Embodied energy/ emissions	Embodied emissions are greenhouse gas emissions resulting from the production and transportation of a product to the point of use or measurement.
Science-based targets	Science-based targets show how much organisations need to reduce their greenhouse gas emissions by and over what time, with targets being set in relation to the science of climate change and with the aim of mitigating the effects of climate change.
Biodiversity	Biodiversity refers to a wide range of species of organisms and natural habitats, particularly in relation to maintaining a healthy ecosystem.
Sustainability	Sustainability refers to maintaining an equilibrium of the environment through not depleting its assets.
Person km	Unit of measurement representing the transport of one passenger by a defined mode of transport (e.g. air, rail, road etc.) over one kilometre.

APPENDIX B – SECR DETAILS

Streamlined Energy and Carbon Reporting (SECR) is a sustainability reporting framework that is mandatory for large organisations in the United Kingdom (UK). It requires them to report publicly on their UK energy use and carbon emissions within their Directors' Report. SECR also encourages them to disclose the actions they have taken to improve their energy efficiency and reduce their environmental impact. SECR was introduced by the UK government on 1 April 2019, replacing the Carbon Reduction Commitment (CRC) Energy Efficiency scheme. SECR aims to simplify the reporting requirements for companies and help them to monitor their environmental performance and identify areas for improvement.

Government guidance states that the following types of organisation are subject to SECR:

- All UK incorporated companies listed on
 - the main market of the London Stock Exchange
 - a European Economic Area market
- all UK incorporated companies whose shares are dealing on the New York Stock Exchange or NASDAQ
- Unquoted large companies incorporated in the UK, which are required to prepare a Directors' Report under Part 15 of the Companies Act 2006
- Large Limited Liability Partnerships ('large' is defined as per the existing framework for annual accounts and reports, based on sections 465 and 466 of the Companies Act 2006).

The government encourages all companies not subject to SECR to report similarly, although this remains voluntary (GOV.UK, 2022).

Under changes made by the 2018 Regulations, unquoted companies incorporated in the UK which are required to prepare a Directors' Report under Part 15 of the Companies Act 2006, and which are categorised as 'large' are required to prepare and file energy and carbon information in their Directors' Reports and therefore will also be subject to SECR.

The definition of 'large' is the same as applies in the existing framework for annual accounts and reports, based on sections 465 and 466 of the Companies Act 2006, with the qualifying conditions being met by a company (or limited liability partnership) in a year being:

- Turnover £36 million or more
- Balance sheet total £18 million or more

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Exclusions

Companies consuming less than 40MWh in the reporting period are excluded from making detailed disclosures of energy and carbon information.

The SECR legislation allows the following cases for exclusion of data:

1. When the directors or members of the organisation consider the disclosure of the energy and carbon information would be seriously prejudicial to the interests of the organisation;
2. Where the energy and carbon information is not practical to obtain.

Both the above would need to be explained and justified rigorously.

The government provides guidance on how to measure and report greenhouse gas emissions, including the use of key performance indicators and emission factors.

The government also encourages all other companies not subject to SECR to report similarly, although this remains voluntary.

An example template for SECR reporting is given in Table 7.

Table 7: SECR Reporting Template

	Current reporting year 2021-2022		Comparison reporting year 2022-2023	
	UK and offshore [mandatory]	Global (excluding UK and offshore) [mandatory]	UK and offshore [mandatory]	Global (excluding UK and offshore) [mandatory]
Emissions from activities for which the company own or control including combustion of fuel & operation of facilities (Scope 1) / tCO _{2e} [mandatory]				
Emissions from purchase of electricity, heat, steam and cooling purchased for own use (Scope 2, location-based) / tCO _{2e} [mandatory]				
Total gross Scope 1 & Scope 2 emissions / tCO _{2e} - [mandatory]				
Energy consumption used to calculate above emissions: /kWh [mandatory]				

APPENDICES

Table 7: SECR Reporting Template continued

	Current reporting year 2021-2022		Comparison reporting year 2022-2023	
	UK and offshore [mandatory]	Global (excluding UK and offshore) [mandatory]	UK and offshore [mandatory]	Global (excluding UK and offshore) [mandatory]
Intensity ratio: tCO ₂ e (gross Scope 1 + 2) / e.g. £100,000 revenue [mandatory]				
Methodology [mandatory]				
Emissions from purchase of electricity, heat, steam and cooling purchased for own use (Scope 2, market-based) / tCO ₂ e [optional]				
Emissions from extraction and production of purchased materials and fuels for which the company does not own or control (Scope 3) / tCO ₂ e [optional]				
Emissions from use of sold products and services for which the company does not own or control (Scope 3) / tCO ₂ e [optional]				
Emissions from employee business travel for which the company does not own or control (Scope 3) / tCO ₂ e [optional]				
Emissions from employees commuting to and from work for which the company does not own or control (Scope 3) / tCO ₂ e [optional]				
Emissions from leased assets, franchises, and outsourced activities (Scope 3) / tCO ₂ e [optional]				

APPENDICES

Table 7: SECR Reporting Template continued

	Current reporting year 2021-2022		Comparison reporting year 2022-2023	
	UK and offshore [mandatory]	Global (excluding UK and offshore) [mandatory]	UK and offshore [mandatory]	Global (excluding UK and offshore) [mandatory]
Emissions from disposal of waste generated in operations for which the company does not own or control (Scope 3) / tCO _{2e} [optional]				
Emissions from disposal of waste generated in production of purchased materials and fuels for which the company does not own or control (Scope 3) / tCO _{2e} [optional]				
Emissions from disposal of sold products at the end of their life for which the company does not own or control (Scope 3) / tCO _{2e} [optional]				
Total gross Scope 3 emissions / tCO _{2e} [optional]				
Total gross Scope 1, Scope 2 [location / market] & Scope 3 emissions / tCO _{2e} [optional]				
Carbon offsets / tCO _{2e} [optional]				
Domestic Carbon Units (e.g. Woodland Carbon Code, Peatland Carbon Code / tCO _{2e}) [optional] ⁴¹				
Total annual net emissions / tCO _{2e} [optional]				
Additional intensity ratio: tCO _{2e} net figure / e.g. £100,000 revenue [optional] Third Party verification [optional]				

RAISING THE SUPPLY CHAIN CAPABILITY OF UK SMES; BOOSTING GROWTH, QUALITY AND DELIVERY PERFORMANCE

The Supply Chain Solutions (SCS) Framework is a simple access, cross sector programme led by industry through a partnership delivery model, facilitated by ADS on a not-for-profit basis, in partnership with the Regional Aerospace Alliances (RAA) and Devolved Administrations (DA).

The framework provides a comprehensive set of services to support all companies in their development needs.

The framework enables suppliers to improve their competitive performance, highlight opportunities to invest in innovation and digitalisation, as well as helping them understand how to progress towards their sustainability goals.

The ESG pathway and tools including this guide were developed and prepared through a collaborative effort of a wide range of ESG professionals and members of the aerospace and defence supply chain sector.

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Find out more about the SCS Framework: scsframework.org.uk

