The Journey to Carbon Verification:

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May 2025

Webinar Series Overview: The Journey to Carbon Verification

- **Part 1, 23/05/2025, Carbon Quantification, Mitigation and Reporting:**
  - Introduction, overview and context
  - Drivers
  - Options for standards and methodologies to use

- **Part 2, 27/06/2025, Getting Started on your GHG Reporting:**
  - Defining your organisational and reporting boundaries
  - Selecting and using appropriate standards and methodologies
  - Using Conversion Factors
  - Establishing baselines
  - Calculating your Scope 1, 2 and 3 GHG Emissions
  - Preparing a GHG Inventory
  - Determining Materiality

- **Part 3, 11/07/2025, GHG Mitigation, Reporting, Removals and Offsets:**
  - Planning for reductions
  - Options for removals and offset – pros and cons
  - Preparing your GHG Report and other documentation requirements
  - Verification options and case studies

OUR PURPOSE

IS TO HELP CUSTOMERS DELIVER PRODUCTS THE WORLD CAN **TRUST**

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ISO 14064-1, PAS 2060 / ISO 14068-1, PAS 2080, ISO 20121, ISO 26000, ISO 9001, ISO 14001,ISO 45001, ISO 27001, ISO 50001 etc

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NQA UK – CARBON & SUSTAINABILITY TEAM

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OVERVIEW OF NQA'S ESG SERVICES

Our ESG Solutions:

ENVIRONMENTAL
13. Climate Action

- ISO 14064-1 Verification (GHG Quantification and Reporting)
- PAS 2080 Certification (Carbon Management in Buildings and Infrastructure)
- PAS 2060 / ISO14068-1 Verification (Carbon Neutrality)
- ISO 20121 – Sustainable Events
- ISO 14001 - Environmental
- ISO 50001 - Energy
- EcoCampus

SOCIAL
3. Good Health and Wellbeing

- ISO 45001 – H&S
- ISO 45003 – Mental Health
- ISO 44001 – Collaborative Working
- ISO 37001 – Anti-bribery
- ISO 26000 – Social Responsibility

GOVERNANCE
9. Industry, Innovation and Infrastructure

- ISO 9001 – Quality
- ISO 22301 – BCMS
- ISO 27001 / 27701 / 27017 / 27018 – Info Sec
- ISO 55001 – Asset Management
- ISO 44001 – Collaborative Working
- ISO 41001 – Facilities Management
- Industry specifics
  - Aerospace
  - Medical
  - Food
- SSIP

PART 1: LEARNING OBJECTIVES

1. Gain an overview of the context for carbon quantification, mitigation and reporting

2. Gain an overview of the drivers for carbon quantification, mitigation and reporting

3. Understand the options you have for using standards and other methodologies for carbon quantification, mitigation and reporting

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CONTEXT AND INTRODUCTION

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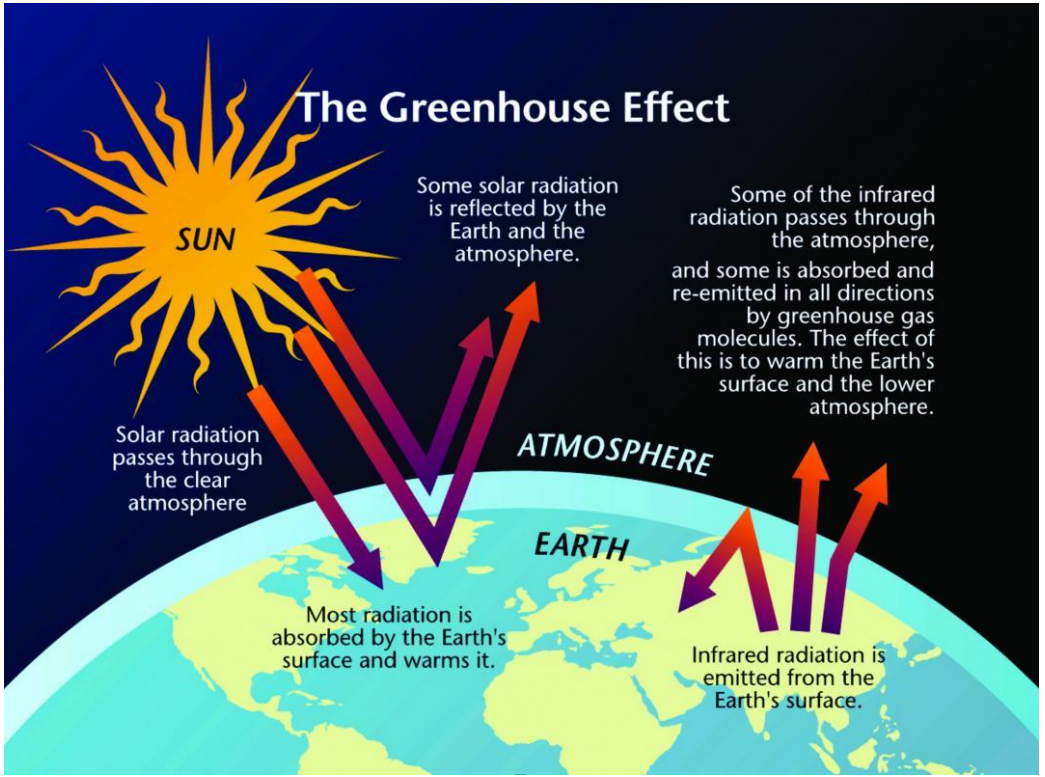
WHAT DO WE MEAN BY GREENHOUSE GASES?

Greenhouse gases (also known as GHGs) are gases in the earth's atmosphere that trap heat. During the day, the sun shines through the atmosphere, warming the earth's surface. At night the earth's surface cools, releasing heat back into the air. But some of the heat is trapped by the GHGs in the atmosphere.

GHGs are both naturally occurring and occurring as a result of human activities.



WHAT DO WE MEAN BY GREENHOUSE GASES?

The Seven Kyoto Protocol GHGs.

Greenhouse gas	Formula	Main origin	GWP_{100}	Global
Carbon dioxide	CO2	Fossil fuels	1	73%
Methane	CH4	Farming	25	20%
Nitrous oxide	N2O	Agriculture	298	4%
Hydrofluorocarbons	HFCs	Cooling systems	14800	0.75%
Perfluorocarbons	PFCs	Cooling systems	7390	0.75%
Sulphur hexafluoride	SF6	Electrical systems	22800	0.75%
Nitrogen trifluoride	NF3	Displays production	17200	0.75%

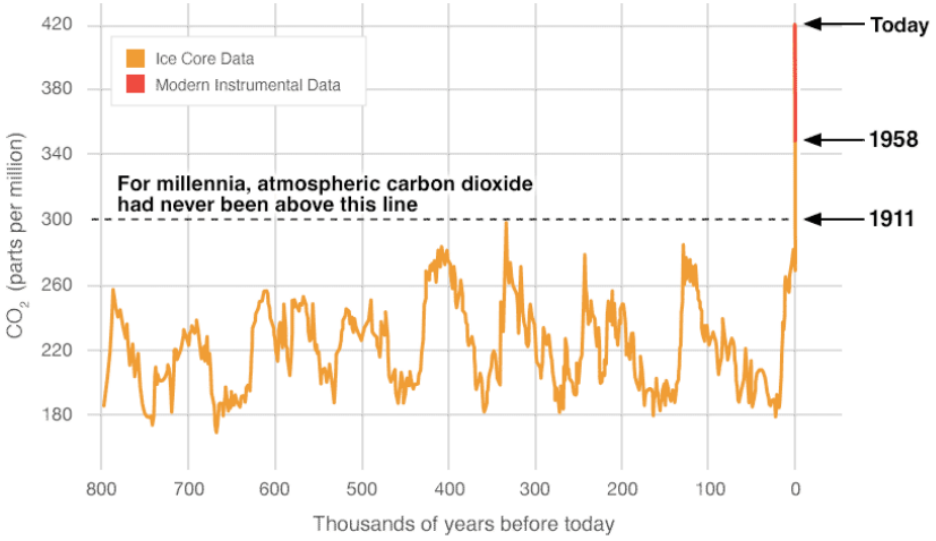
Showing:

- Main source / origin
- Their Global Warming Potential:
  - GWP allows comparisons of the global warming 'potency' of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period
  - This enables all GHG reporting to be produced in tCO_2e
- The global % of each: CO_2 is the most prevalent

GREENHOUSE GASES – HUMAN IMPACT

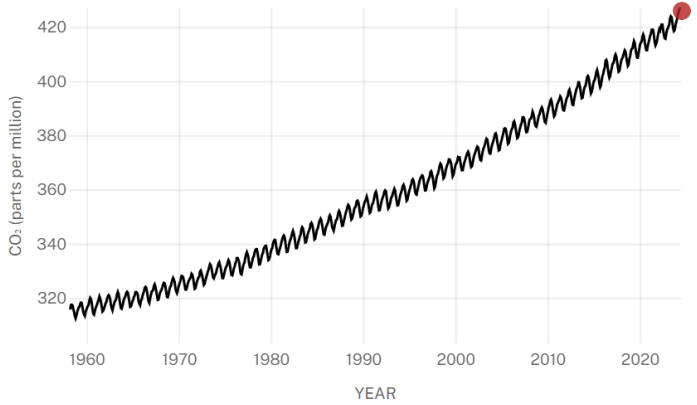
PROXY (INDIRECT) MEASUREMENTS

Data source: Reconstruction from ice cores.
Credit: NOAA



DIRECT MEASUREMENTS: 1958-PRESENT

Data source: NOAA, measured at the Mauna Loa Observatory



Carbon Dioxide

LATEST MEASUREMENT: June 2024

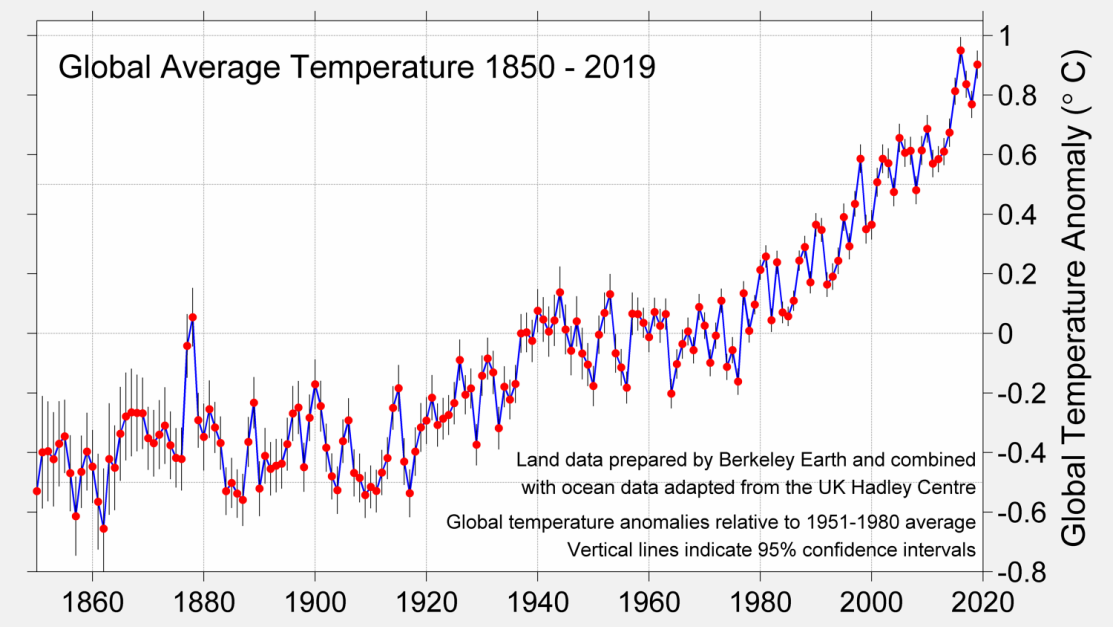
427 ppm

Source: https://climate.nasa.gov/vital-signs/carbon-dioxide

GREENHOUSE GASES – HUMAN IMPACT

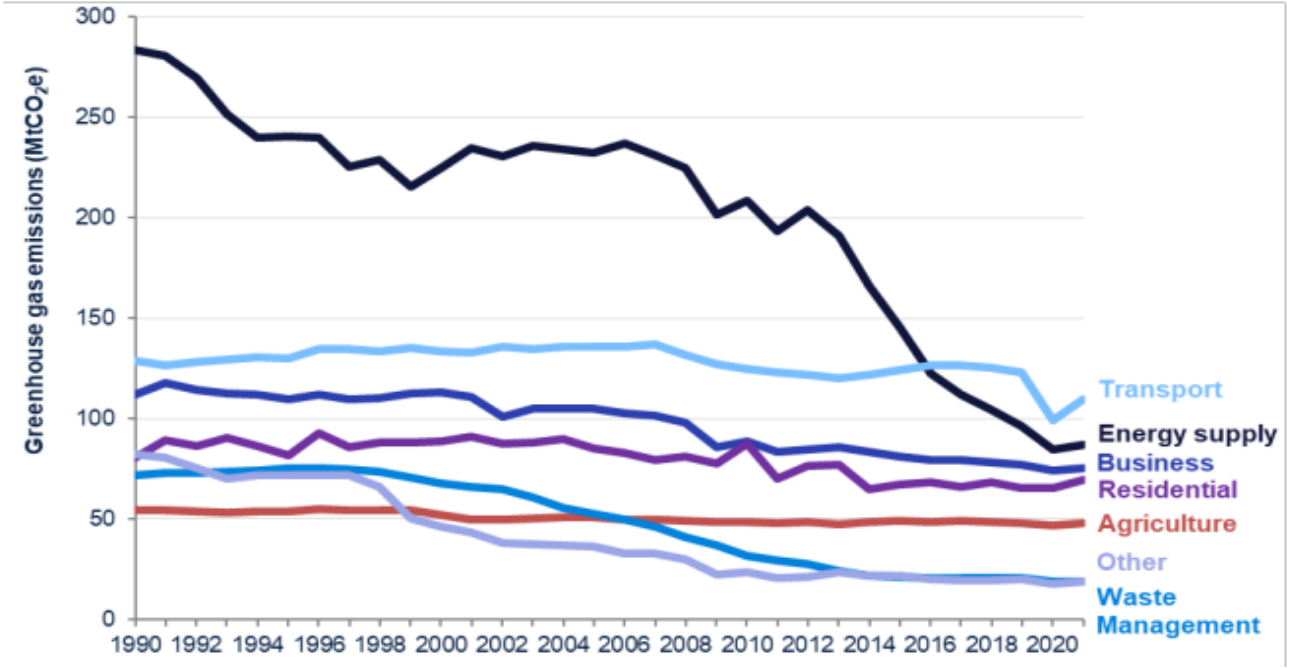
The ‘Paris Agreement’: United Nations Framework Convention on Climate Change.

The overarching goal is to hold ‘the increase in the global average temperature to well below 2degC above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5degC above pre-industrial levels.’



GREENHOUSE GASES – HUMAN IMPACT

Figure 6: Territorial UK greenhouse gas emissions by NC sector, 1990-2021 ($MtCO_2e$)



WHY IS GHG REPORTING IMPORTANT?

- Scientists agree that the most critical issue facing our planet is climate change
- The UK Government has committed to reach ‘Net Zero’ within national boundaries (not using international offsets) by 2050 :
  - To limit global temperature increase, in keeping with Science Based Targets
  - As laid out in the UK Government Net Zero Strategy, 2021
  - As revised to the Carbon Budget Delivery Plan, 2023
- For most UK companies and organisations, decarbonisation is currently being driven via:
  - To a lesser extent, various regulatory and policy changes, as laid out in the CBDP
  - To a greater extent, supply chain pressures and stakeholder expectations
- This is leading many companies to make public commitments to be Net Zero

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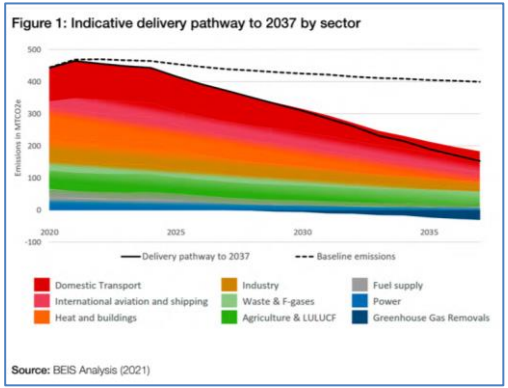
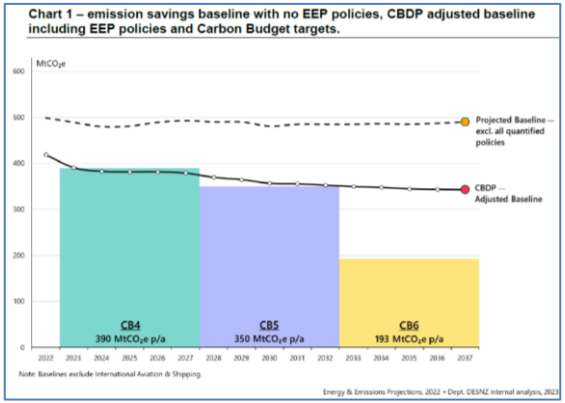
WHY IS GHG REPORTING IMPORTANT?

- Progress in the UK:
  - So far, so good: Carbon Budgets 1, 2 and 3 (2008 to 2022) have all been reported as achieved / exceeded
  - From the projected baselines the UK Government's Energy and Emissions Projections (EEP) indicate that:
    - *Current* EEP Policies alone are projected to deliver the GHG emission savings needed as follows:
      - Carbon Budget 4, 2023 – 2027, expected to be achieved with 7 $MtCO_2e$ headroom (>100%)
      - Carbon Budget 5, 2028 – 2032, current projections indicate a 9 $MtCO_2e$ shortfall (~3%)
      - Carbon Budget 6, 2033 – 2037, current projections indicate a 199 $MtCO_2e$ shortfall (~60**%),** and relies significantly for the first time on GHG ***removals***, as well as mitigations





WHY IS GHG REPORTING IMPORTANT?

- If you can't measure any of this as accurately as possible, then you probably can't manage it……

- There are various issues with the methodologies used to quantity GHG emissions, including:
  - In the UK, we have one of the best set of carbon conversion factors in the world. This is not always the case in other countries
  - The GHG Protocol Corporate Accounting and Reporting Standards do not yet provide for accounting for GHG removals – remains at pilot stage
  - Offsetting: carbon neutrality delivered via the Voluntary Carbon Market, including additionality
  - Double counting of indirect supply chain GHG emissions (Scope 3s)
  - Carbon leakage
  - 'Inventive / creative' carbon accounting

This necessitates the need for the adoption of standardised, international (ISO) approaches to GHG quantification and reporting

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DRIVERS

DRIVERS

The drivers for companies and organisations to quantify, report and manage their GHG Emissions can be summarised as follows:

- Improved competitive advantage
- Regulatory compliance
- Reduced risks, including through supply chains
- Environmental improvement and long-term business sustainability

DRIVERS: COMPETITIVE ADVANTAGE

Improved Competitive Advantage:

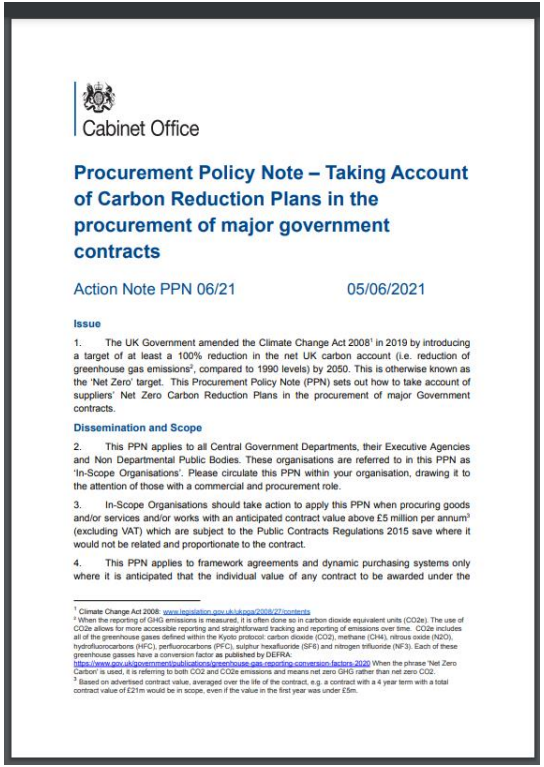
- Many large organisations are actively encouraging / requiring their supply chains to quantify and report on GHG emissions, often through tenders and questionnaires. This could be due to their internal commitments and the need for supply chain information for their own GHG data

- GHG reporting is becoming and will continue to be a major factor in contract awards, for example PPN 06/21 and PAS 2080

DRIVERS: COMPETITIVE ADVANTAGE

- **Example:**

  - PPN 06/21: Taking Account of Carbon Reduction Plans in the Procurement of Major Government Contracts
    - When procuring goods and/or services and/or works with an anticipated contract value above £5 million per annum
    - This is a first step, we can except the £5M threshold to reduce over time
    - Will require a Carbon Management Plan which commits to, describes, quantifies and evaluates how the supplier will achieve Net Zero by 2050
    - Requires quantification and reporting of Scope 1, 2 and applicable 3 GHG emissions
    - Requires a date at which Net Zero will be achieved
    - Requires details of Carbon Reduction Targets and Initiatives, including staged targets towards Net Zero
    - Applies to, for example, NHS and MOD contracts



Cabinet Office

Procurement Policy Note – Taking Account of Carbon Reduction Plans in the procurement of major government contracts

Action Note PPN 06/21 05/06/2021

Issue

1. The UK Government amended the Climate Change Act 2008[1] in 2019 by introducing a target of at least a 100% reduction in the net UK carbon account (i.e. reduction of greenhouse gas emissions[2], compared to 1990 levels) by 2050. This is otherwise known as the 'Net Zero' target. This Procurement Policy Note (PPN) sets out how to take account of suppliers' Net Zero Carbon Reduction Plans in the procurement of major Government contracts.

Dissemination and Scope

2. This PPN applies to all Central Government Departments, their Executive Agencies and Non Departmental Public Bodies. These organisations are referred to in this PPN as 'In-Scope Organisations'. Please circulate this PPN within your organisation, drawing it to the attention of those with a commercial and procurement role.

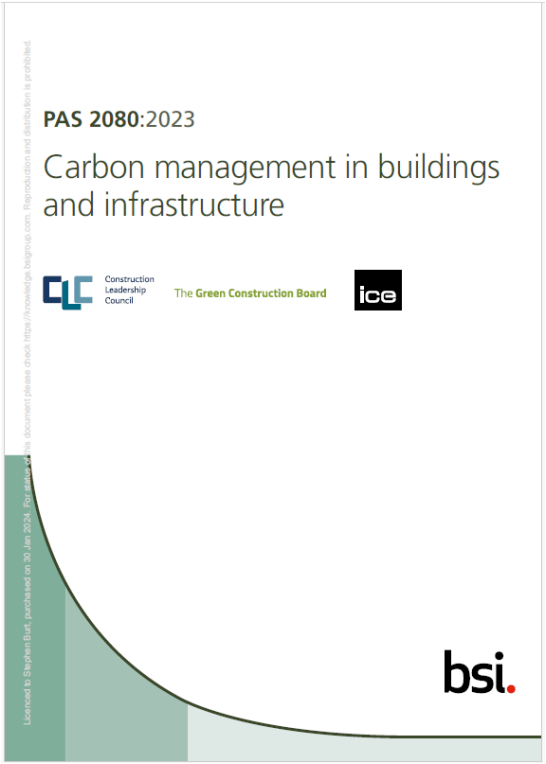
3. In-Scope Organisations should take action to apply this PPN when procuring goods and/or services and/or works with an anticipated contract value above £5 million per annum[3] (excluding VAT) which are subject to the Public Contracts Regulations 2015 save where it would not be related and proportionate to the contract.

4. This PPN applies to framework agreements and dynamic purchasing systems only where it is anticipated that the individual value of any contract to be awarded under the

[1] Climate Change Act 2008: www.legislation.gov.uk/ukpga/2008/27/contents
[2] When the reporting of GHG emissions is measured, it is often done so in carbon dioxide equivalent units (CO2e). The use of CO2e allows for more accessible reporting and straightforward tracking and reporting of emissions over time. CO2e includes all of the greenhouse gases defined within the Kyoto protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). Each of these greenhouse gasses have a conversion factor as published by DEFRA: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020 When the phrase 'Net Zero Carbon' is used, it is referring to both CO2 and CO2e emissions and means net zero GHG rather than net zero CO2.
[3] Based on advertised contract value, averaged over the life of the contract, e.g. a contract with a 4 year term with a total contract value of £21m would be in scope, even if the value in the first year was under £5m.

DRIVERS: COMPETITIVE ADVANTAGE

- **Example:**
  - PAS 2080
    - National Highways:
      - ‘We will ask our contractors and their sub-contractors to implement their own PAS 2080 accredited carbon management systems by the end of 2025’.



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DRIVERS: COMPETITIVE ADVANTAGE

- **Example:**

  - Supplier questionnaires
  - A representative example from a multinational aerospace, defence and transportation company:

Field Label
Scope 1&2 emissions
A.1 Do you track your company's Scope 1 and Scope 2 greenhouse gas (GHG) emissions ?
A.2 If yes, is it in accordance with any international GHG Reporting Guidance?
A.3 If yes, is it in accordance with the International Aerospace Environmental Group (IAEG) GHG Reporting Guidance for the Aerospace Industry ?
A.4 Can you provide your company's Scope 1 and 2 GHG emissions in Carbon Dioxide equivalents (CO2e) in metric tonnes for the most recent available data?
A.5 Do you know the reporting year for Scope 1&2 GHG emissions ?
A.6 Does the data provided in A.4 are Scope 1&2 GHG emissions from the most recent available reporting year ?
Scope 3 emissions
A.7 Do you track your company's Scope 3 GHG emissions?
A.8 If yes, what are the Scope 3 GHG emissions categories that are tracked by your company ?
A.9 If yes, is it in accordance with any international GHG Reporting Guidance?
A.10 If yes, is it in accordance with the International Aerospace Environmental Group (IAEG) GHG Reporting Guidance for the Aerospace Industry ?
A.11 Can you provide your company's Scope 3 GHG emissions in Carbon Dioxide equivalents (CO2e) in metric tonnes for the most recent available data?
A.12 Do you know the reporting year for Scope 3 emissions ?
A.13 Does the data provided in A.11 are Scope 3 GHG emissions from the most recent available reporting year ?
GHG emissions verification
A.14 Have these GHG assessments from Scope 1,2&3 emissions been verified ?
A.15 If yes, please specify the level of verification
GHG emissions allocation
A.16 Please, allocate your GHG Emissions to [redacted] according to the goods or services you have sold in Carbon Dioxide equivalents (CO2e) in metric tonnes for the most recent available reporting year.
A.17 Describe the methodology used to allocate the emissions of products and services sold to [redacted]

DRIVERS: COMPETITIVE ADVANTAGE

- **Example:**

  - Supplier questionnaires
  - A representative example from a multinational aerospace, defence and transportation company:

Field Label
GHG emissions reduction strategy and action plan
B.1 Do you have Scope 1& 2 carbon footprint reduction strategy for your company ?
B.2 If yes, what are the targets of the reduction strategy of your Scope 1 & 2 carbon emissions ?
B.3 Do you have Scope 3 carbon footprint reduction strategy for your products ?
B.4 If yes, what are the targets of the reduction strategy of your Scope 3 products carbon emissions ?
B.5 Does those carbon emissions reductions initiatives are in line with the Paris Agreement and/or Science Based Targets ?
B.6 Do you have any commitments to reduce the carbon emissions related to the products and/or services for that you would like to share with us ?
B.7 Do you have any action plan to reduce the carbon emissions related to the products and/or services for that you would like to share with us ?

DRIVERS: REGULATORY COMPLIANCE

Regulatory Compliance:

- The UK's drive towards net zero has and will continue to result in a more challenging regulatory environment for companies, for example:
  - Energy Savings and Opportunities Scheme (ESOS) Regs 2014
  - Streamlined Energy and Carbon Reporting (SECR)
  - UK Emissions Trading Scheme (UK ETS)
  - Climate Change Agreements (CCA)
  - EU Corporate Sustainability Reporting Directive (CSRD)
  - EU / UK Carbon Border Adjustment Mechanism (CBAM)

DRIVERS: RISK REDUCTION

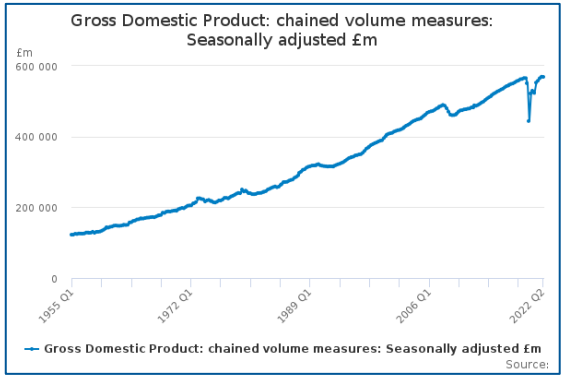
Reduced Risks (including through supply chains):

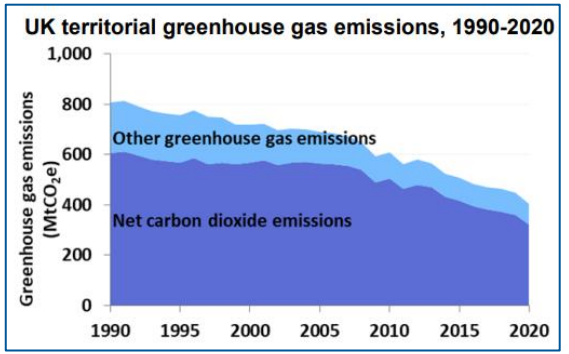
- Examples where GHG reporting impacts upon risk management include:
  - Financial investments / investors
  - Insurers
  - Avoidance of negative publicity /reputational risks: ‘Greenwashing’

DRIVERS: ENVIRONMENTAL IMPROVEMENT / LONG-TERM BUSINESS SUSTAINABILITY

Environmental Improvement and Long-Term Business Sustainability:

- These drivers will only increase, through supply chain pressures, increased consumer awareness, investor considerations, Government regulations, and of course the increased frequency of climate related emergencies including supply chain disruption
- It is possible to reduce carbon and remain competitive
  - The UK has already reduced its GHG emissions by 42% between 1990 and 2020, whilst growing the economy by two thirds





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OPTIONS FOR STANDARDS AND METHODOLOGIES TO USE

STANDARDS AND METHODOLOGIES: OPTIONS

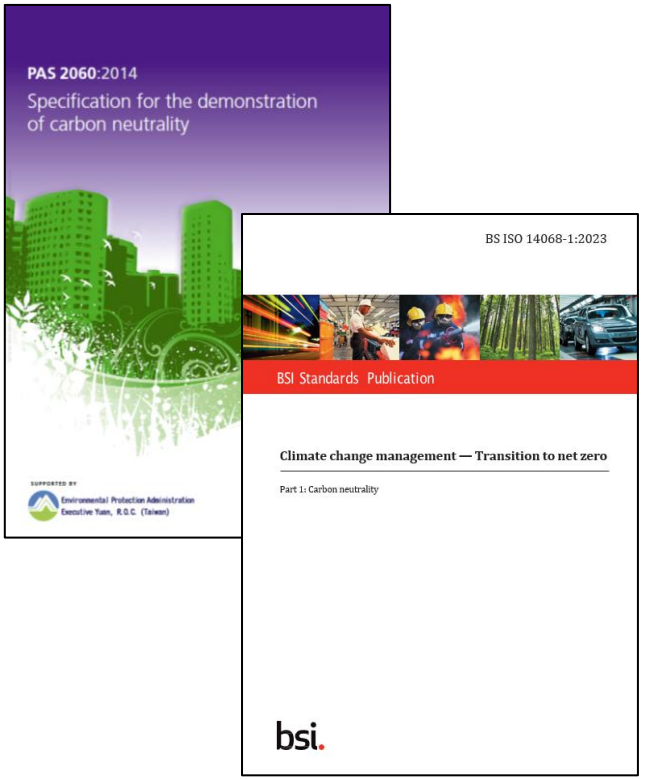
There are various sources of *standards & specifications* for quantifying, mitigating and reporting GHG emissions, depending on your needs:

- ISO 14064-1:specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals
  - Internationally recognised, highest tier of standards (ISO)
  - Provides a framework for quantifying (not calculating) and reporting GHG emissions and removals
  - Intended to be used at organisational level
  - Includes optional GHG mitigation framework
  - Allows for external, third party, Verification via Verification Bodies such as NQA, providing for credibility and assurance

STANDARDS AND METHODOLOGIES: OPTIONS

There are various sources of *standards / specifications* for quantifying, mitigating and reporting GHG emissions, depending on your needs:

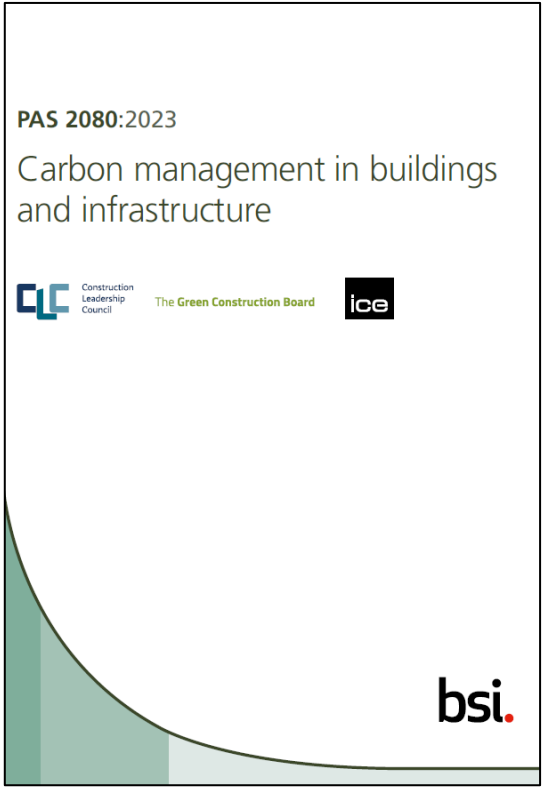
- ISO 14068-1 / PAS 2060: specifications for demonstrating carbon neutrality
  - Internationally recognised, highest tier of standards (ISO)
  - Provides a framework for quantifying (not calculating), reducing, removing, offsetting and reporting GHG emissions
  - ISO 14064-1 is a recognised basis as a step towards this
  - Allows for external, third party, Verification via Verification Bodies such as NQA, providing for credibility and assurance



STANDARDS AND METHODOLOGIES: OPTIONS

There are various sources of *standards / specifications* for quantifying, mitigating and reporting GHG emissions, depending on your needs:

- PAS 2080: carbon management in buildings and infrastructure
  - Developed in the UK, but internationally recognised
  - Provides a framework for managing (not calculating), carbon in buildings and infrastructure
  - Intended for application in the construction industry
  - Allows for external, third party, Verification via Verification Bodies such as NQA, providing for credibility and assurance



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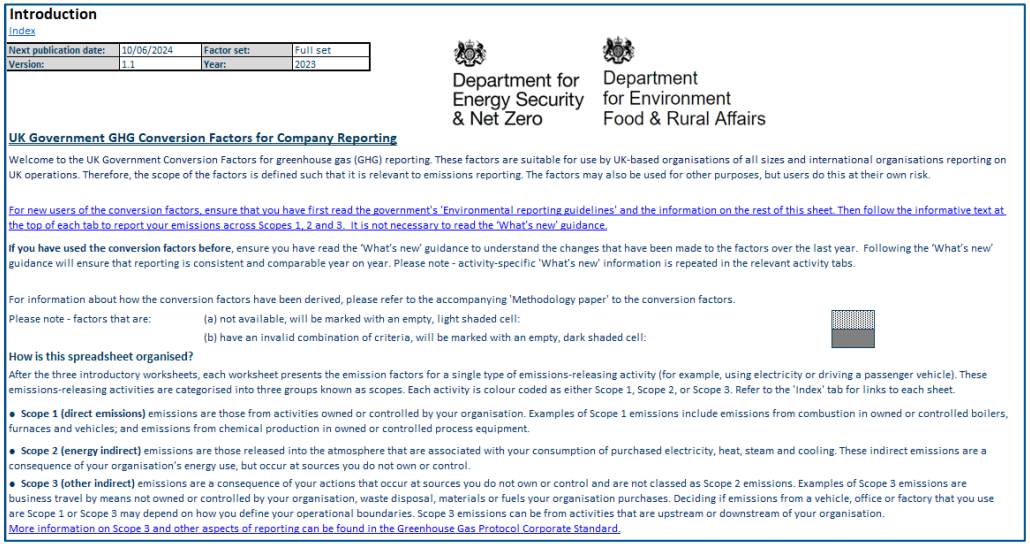
STANDARDS AND METHODOLOGIES: OPTIONS

There are various sources of methodologies for calculating and quantifying GHG emissions, depending on your needs:

- UK Government (DESNZ) Carbon Conversion Factors and UK Environmental Reporting Guidelines
  - Provides comprehensive carbon conversion factors for each year, updated annually, and covering Scope 1, 2 and 3 activities
  - https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023



Introduction

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Next publication date:	10/06/2024	Factor set:	Full set
Version:	1.1	Year:	2023

Department for Energy Security & Net Zero

Department for Environment Food & Rural Affairs

UK Government GHG Conversion Factors for Company Reporting

Welcome to the UK Government Conversion Factors for greenhouse gas (GHG) reporting. These factors are suitable for use by UK-based organisations of all sizes and international organisations reporting on UK operations. Therefore, the scope of the factors is defined such that it is relevant to emissions reporting. The factors may also be used for other purposes, but users do this at their own risk.

For new users of the conversion factors, ensure that you have first read the government's 'Environmental reporting guidelines' and the information on the rest of this sheet. Then follow the informative text at the top of each tab to report your emissions across Scopes 1, 2 and 3. It is not necessary to read the 'What's new' guidance.

If you have used the conversion factors before, ensure you have read the 'What's new' guidance to understand the changes that have been made to the factors over the last year. Following the 'What's new' guidance will ensure that reporting is consistent and comparable year on year. Please note - activity-specific 'What's new' information is repeated in the relevant activity tabs.

For information about how the conversion factors have been derived, please refer to the accompanying 'Methodology paper' to the conversion factors.

Please note - factors that are: (a) not available, will be marked with an empty, light shaded cell:

(b) have an invalid combination of criteria, will be marked with an empty, dark shaded cell:

How is this spreadsheet organised?

After the three introductory worksheets, each worksheet presents the emission factors for a single type of emissions-releasing activity (for example, using electricity or driving a passenger vehicle). These emissions-releasing activities are categorised into three groups known as scopes. Each activity is colour coded as either Scope 1, Scope 2, or Scope 3. Refer to the 'Index' tab for links to each sheet.

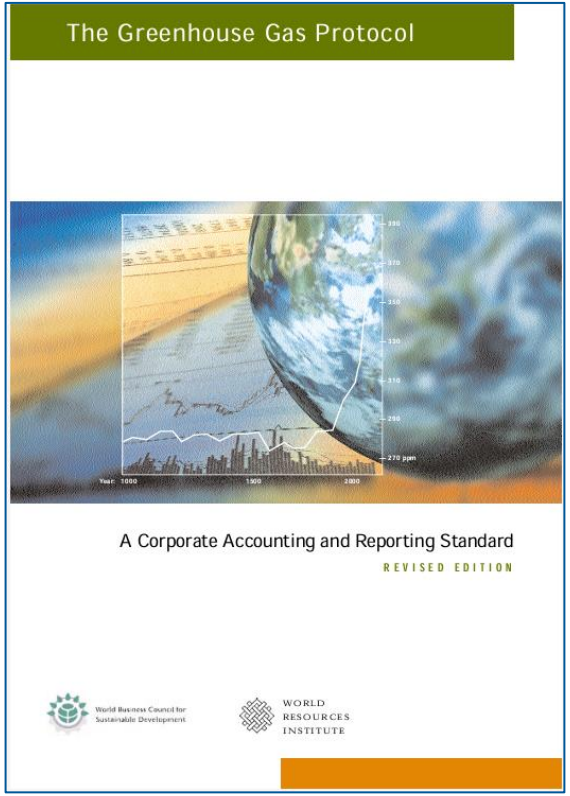
- **Scope 1 (direct emissions)** emissions are those from activities owned or controlled by your organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces and vehicles; and emissions from chemical production in owned or controlled process equipment.
- **Scope 2 (energy indirect)** emissions are those released into the atmosphere that are associated with your consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of your organisation's energy use, but occur at sources you do not own or control.
- **Scope 3 (other indirect)** emissions are a consequence of your actions that occur at sources you do not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by your organisation, waste disposal, materials or fuels your organisation purchases. Deciding if emissions from a vehicle, office or factory that you use are Scope 1 or Scope 3 may depend on how you define your operational boundaries. Scope 3 emissions can be from activities that are upstream or downstream of your organisation.

More information on Scope 3 and other aspects of reporting can be found in the Greenhouse Gas Protocol Corporate Standard.

STANDARDS AND METHODOLOGIES: OPTIONS

There are various sources of methodologies for calculating and quantifying GHG emissions, depending on your needs:

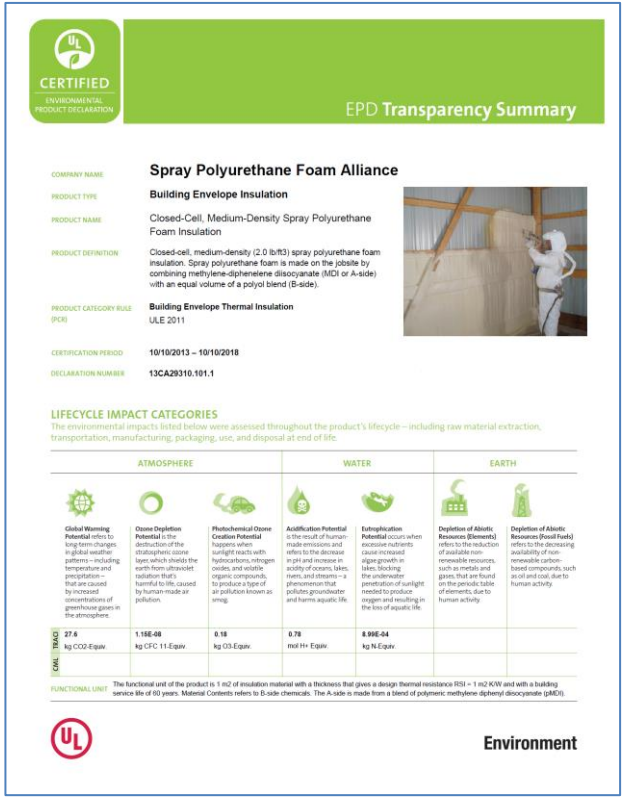
- GHG Protocol: Corporate Accounting and Reporting Standard
  - Provides comprehensive guidance on calculating Scope 1, 2 and 3 activities
  - Does not provide conversion factors
  - https://ghgprotocol.org/



STANDARDS AND METHODOLOGIES: OPTIONS

There are various sources of methodologies for calculating and quantifying GHG emissions, depending on your needs:

- Other sources, for example:
  - Environmental Product Declarations (EPDs) are verified and registered documents of a product's life cycle analysis
  - The Inventory of Carbon and Energy (the ICE database): an embodied carbon database for construction materials: https://www.ice.org.uk/
  - Often when faced with difficult to covert activities, there may be peer reviewed scientific papers available which can help



CERTIFIED
ENVIRONMENTAL PRODUCT DECLARATION

EPD Transparency Summary

COMPANY NAME: Spray Polyurethane Foam Alliance

PRODUCT TYPE: Building Envelope Insulation

PRODUCT NAME: Closed-Cell, Medium-Density Spray Polyurethane Foam Insulation

PRODUCT DEFINITION: Closed-cell, medium-density (2.0 lb/ft3) spray polyurethane foam insulation. Spray polyurethane foam is made on the jobsite by combining methylene-diphenelene diisocyanate (MDI or A-side) with an equal volume of a polyol blend (B-side).

PRODUCT CATEGORY RULE (PCR): Building Envelope Thermal Insulation
ULE 2011

CERTIFICATION PERIOD: 10/10/2013 – 10/10/2018

DECLARATION NUMBER: 13CA29310.101.1

LIFECYCLE IMPACT CATEGORIES

The environmental impacts listed below were assessed throughout the product's lifecycle – including raw material extraction, transportation, manufacturing, packaging, use, and disposal at end of life.

	ATMOSPHERE			WATER		EARTH	
	Global Warming Potential refers to long-term changes in global weather patterns – including temperature and precipitation – that are caused by increased concentrations of greenhouse gases in the atmosphere.	Ozone Depletion Potential is the destruction of the stratospheric ozone layer, which shields the earth from ultraviolet radiation that's harmful to life, caused by human-made air pollution.	Photochemical Ozone Creation Potential happens when sunlight reacts with hydrocarbons, nitrogen oxides, and volatile organic compounds, to produce a type of air pollution known as smog.	Acidification Potential is the result of human-made emissions and refers to the decrease in pH and increase in acidity of oceans, lakes, rivers, and streams – a phenomenon that pollutes groundwater and harms aquatic life.	Eutrophication Potential occurs when excessive nutrients cause increased algae growth in lakes, blocking the underwater penetration of sunlight needed to produce oxygen and resulting in the loss of aquatic life.	Depletion of Abiotic Resources (Elements) refers to the reduction of available non-renewable resources, such as metals and gases, that are found on the periodic table of elements, due to human activity.	Depletion of Abiotic Resources (Fossil Fuels) refers to the decreasing availability of non-renewable carbon-based compounds, such as oil and coal, due to human activity.
CML - TRACI	27.6 kg CO2-Equiv.	1.15E-08 kg CFC 11-Equiv.	0.18 kg O3-Equiv.	0.78 mol H+ Equiv.	8.99E-04 kg N-Equiv.		

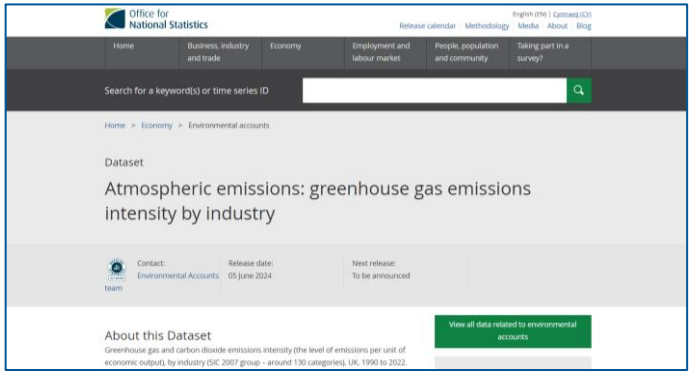
FUNCTIONAL UNIT: The functional unit of the product is 1 m2 of insulation material with a thickness that gives a design thermal resistance RSI = 1 m2·K/W and with a building service life of 60 years. Material Contents refers to B-side chemicals. The A-side is made from a blend of polymeric methylene diphenyl diisocyanate (pMDI).

Environment

STANDARDS AND METHODOLOGIES: OPTIONS

There are various sources of methodologies for calculating and quantifying GHG emissions, depending on your needs:

- Other sources, for example:
  - DEFRA Conversion factors by SIC code: GHG emission intensity by SIC - CO2e/£ - enabling a spend based approach https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1085190/Table_13_2019.ods
  - Office for National Statistics: GHG emission intensity by economic sector CO2e/£ - enabling a spend based approach https://www.ons.gov.uk/economy/environmentalaccounts/datasets/ukenvironmentalaccountsatmosphericemissionsgreenhousegasemissionsintensitybyeconomicsectorunitedkingdom



		GHG (kgCO2e per £)	CO2 (kgCO2 per £)
01	Products of agriculture, hunting and related services	1.974	0.459
02	Products of forestry, logging and related services	0.279	0.139
03	Fish and other fishing products; aquaculture products; support services to fishing	0.523	0.390
05	Coal and lignite	1.117	0.349
06	Crude petroleum and natural gas	0.660	0.511
08	Other mining and quarrying products	0.534	0.407
09	Mining support services	0.345	0.236
10.1	Preserved meat and meat products	0.772	0.316
10.2 -3	Processed and preserved fish, crustaceans, molluscs, fruit and vegetables	0.721	0.390
10.4	Vegetable and animal oils and fats	0.976	0.437
10.5	Dairy products	0.962	0.394
10.6	Grain mill products, starches and starch products	0.755	0.441
10.7	Bakery and farinaceous products	0.451	0.251
10.8	Other food products	0.661	0.295
10.9	Prepared animal feeds	0.912	0.391
11.01-6	Alcoholic beverages	0.707	0.343
11.07	Soft drinks	0.332	0.188
12	Tobacco products	0.203	0.096
13	Textiles	0.771	0.556
14	Wearing apparel	0.791	0.582
15	Leather and related products	0.734	0.481
16	Wood and of products of wood and cork, except furniture; articles of straw and plaiting materials	0.475	0.394
17	Paper and paper products	0.707	0.531
18	Printing and recording services	0.382	0.287
19	Coke and refined petroleum products	1.930	1.140
20.3	Paints, varnishes and similar coatings, printing ink and mastics	1.331	0.873
20.4	Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	0.719	0.484
	Other chemical products	1.381	0.903

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NEXT TIME

PART 2, 22/08/2024, GETTING STARTED ON YOUR CARBON REPORTING

- **Part 2, 22/08/2024, Getting Started on your GHG Reporting:**
  - Defining your organisational and reporting boundaries
  - Selecting and using appropriate standards and methodologies
  - Using Conversion Factors
  - Establishing baselines
  - Calculating your Scope 1, 2 and 3 GHG Emissions
  - Preparing a GHG Inventory
  - Determining Materiality

- **Part 3, 13/09/2024, GHG Mitigation, Reporting, Offsetting and Removals:**
  - Planning for reductions
  - Options for offsetting and removals
  - Preparing your GHG Report and other documentation requirements
  - Verification options and case studies

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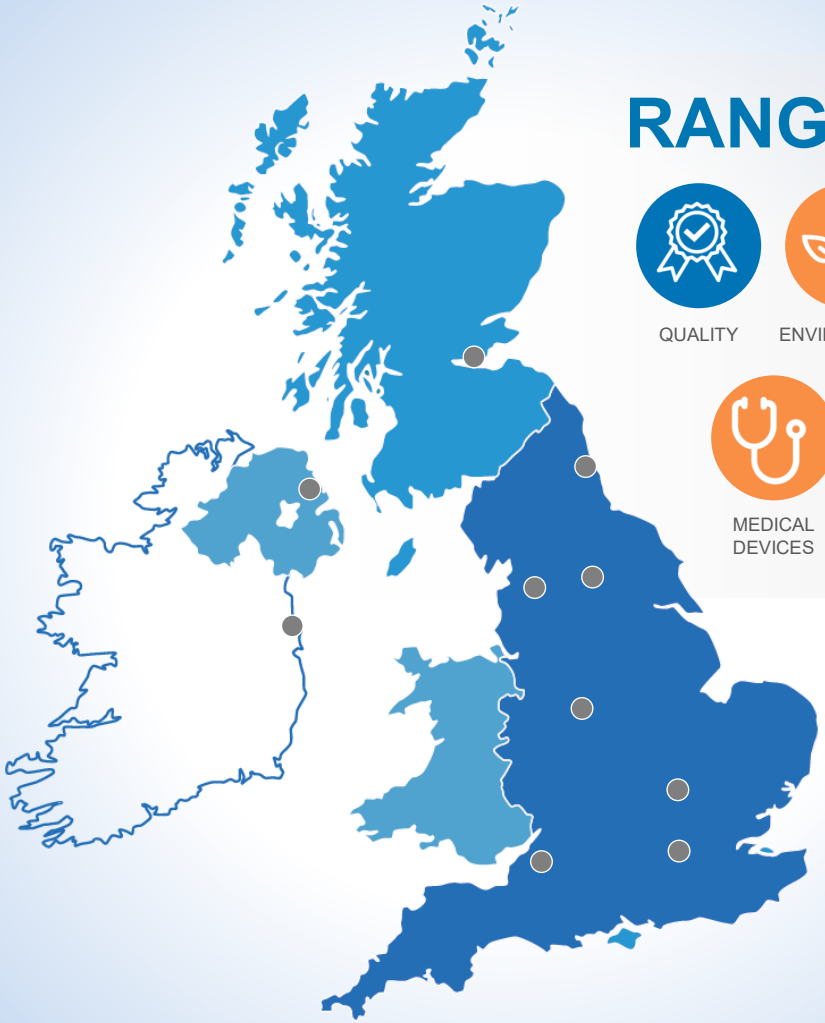

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