

GREENHOUSE GAS MANAGEMENT & REPORTING

WHAT'S HAPPENING

Climate change is a significant issue of the 21st century and is recognized as a leading threat to global security. The Intergovernmental Panel on Climate Change (IPCC) recognizes the consequences of increased levels of greenhouse gases (GHG) within our atmosphere as a result of man's activities.



In 1997, 37 countries committed to reduce their GHG emissions under the Kyoto Protocol.

Since then, international institutions have launched numerous initiatives regarding climate change, in particular to encourage the reduction of fossil fuel-based energy consumption and to promote the use

of renewable energy sources. Legislative frameworks are evolving in several countries to drive further governmental and corporate action to reduce GHG emissions. These factors lead to increasing

obligations for companies, and to an increased burden and substantial costs for the aerospace value chain, due to the complexity and variability of the information and requirements needed.

WHAT ARE GREENHOUSE GASES?



Greenhouse gases are gases in the atmosphere such as water vapor, carbon dioxide, methane and nitrous oxide that can absorb infrared radiation, trapping heat in the atmosphere. The greenhouse effect means that emissions of greenhouse gases due to human activity attributes to global warming.

GLOBAL WARMING?

Global warming is the long-term heating of Earth's surface observed since the pre-industrial period (*between 1850 and 1900*) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere.



V S

CLIMATE CHANGE?

Climate change is the long-term change in the average weather patterns that have come to define Earth's local, regional and global climates. These changes have a broad range of observed effects that are synonymous with the term.



THE GREENHOUSE GAS PROTOCOL

The Greenhouse Gas Protocol (GHG Protocol) is a multi-stakeholder partnership of businesses, non-governmental organizations (NGOs), governments, and others convened by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Launched in 1998, the mission of the GHG Protocol is to develop internationally accepted greenhouse gas (GHG) accounting and reporting standards and tools, and to promote their adoption in order to achieve a low emissions economy worldwide.



GREENHOUSE
GAS PROTOCOL



IAEG's GHG Reporting Guidance

for the Aerospace Industry has the acknowledgement of the GHG Protocol, and we are currently seeking the same for the Purchased Goods and Services guidance.

SCOPE 1

Direct emissions from owned or controlled sources

CATEGORIES

- Company facilities
- Company vehicles

SCOPE 2

Indirect emissions from the generation of purchased energy

CATEGORIES

- Purchased electricity
- Steam
- Heating & cooling for own use

SCOPE 3

All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions

CATEGORIES

- Purchased goods/services
- Capital goods
- Fuel/energy related activities
- Transportation/distribution
- Waste generated in operations
- Business travel
- Employee commuting
- Leased assets
- Processing of sold products
- Use of sold products
- End-of-life treatment of sold products
- Franchises
- Investments

GHG PROTOCOL OVERVIEW

SCOPES AND EMISSIONS ACROSS THE VALUE CHAIN

CO₂

CH₄

N₂O

HFC_s

PFC_s

SF₆

NF₃

SCOPE 1
DIRECT

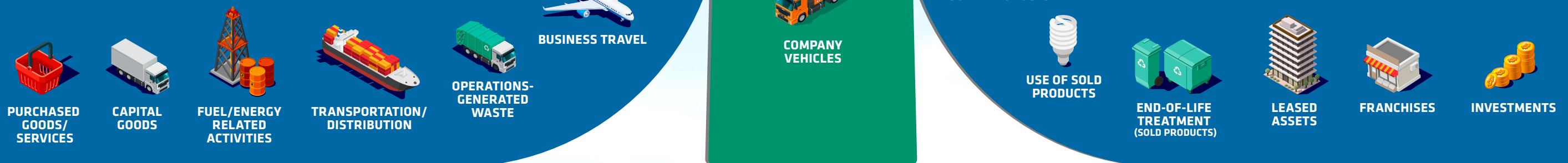
SCOPE 3
INDIRECT

SCOPE 3
INDIRECT

SCOPE 2
INDIRECT

GREENHOUSE GAS PROTOCOL

POTENTIALLY RELEVANT SCOPE 3 EMISSIONS FOR THE A&D INDUSTRY



UPSTREAM ACTIVITIES

REPORTING COMPANY

DOWNSTREAM ACTIVITIES

GHG PROTOCOL OVERVIEW

SCOPES AND EMISSIONS ACROSS THE VALUE CHAIN

CO₂

CH₄

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HFC_s

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NF₃

SCOPE 1
DIRECT

SCOPE 3
INDIRECT

SCOPE 2
INDIRECT

SCOPE 3
INDIRECT

GREENHOUSE GAS PROTOCOL

POTENTIALLY RELEVANT SCOPE 3 EMISSIONS FOR THE A&D INDUSTRY



Within the Aerospace and Defence industry, Scope 3 GHG emissions represent the significant majority of our footprint, particularly when considering use of sold products



UPSTREAM ACTIVITIES

REPORTING COMPANY

DOWNSTREAM ACTIVITIES

WHAT DOES GHG PROTOCOL MEAN TO A&D COMPANIES?

WHY YOU SHOULD CARE (RISKS):



Access to credit



Employee retention



General market (stakeholder) interest



Legal obligations in certain regions



Financial market requests



Loss of credibility and reputation

GHG REPORTING OBLIGATIONS

(CLICK FOR MORE INFORMATION)

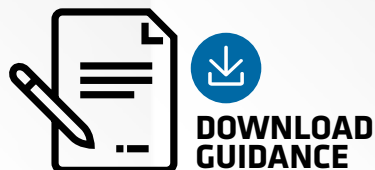


TOOLS AND RESOURCES

GHG REPORTING GUIDANCE FOR THE AEROSPACE INDUSTRY

A Supplement to the GHG Protocol Corporate Accounting and Reporting Standard

This guidance is a voluntary consensus guide for aerospace companies and is a supplement to GHG Protocol's Corporate Standard. It provides industry-relevant clarification and direction for GHG accounting and reporting to promote consistency and accuracy in GHG emissions reporting to facilitate transparency within the industry and value chain and enable relevant benchmarks and comparisons.



AEROSPACE INDUSTRY TOOL FOR CALCULATING SCOPE 3 GREENHOUSE GAS EMISSIONS OF PURCHASED GOODS & SERVICES AND CAPITAL GOODS

These emission groups were determined as being the most relevant and the larger of the scope 3 categories for the Aerospace industry

Purchased Goods and Services examples:

- System assemblies
- Standard parts
- Structure parts
- Office consumables
- Raw materials
- IT and financial services

Capital goods examples:

- Production equipment
- Vehicles
- Buildings
- Furniture and IT equipment

Spend Vs Mass Methodology:

- The tool requires procurement data inputs in Mass (Kg) and/or Spend (\$ or Euro) dependant on the input
- Mass based data is more accurate, but a hybrid approach—utilising both data types can be used
- Some data points will only have a financial input, for example, \$ spent on consultancy services
- A decision tree is included in the tool to help users select the method most appropriate for them (*see next page for detail*)



SCOPE 3 PURCHASED GOODS & SERVICES AND CAPITAL GOODS CALCULATION TOOL

22.7356 16.6054
91.0631 91.7835 4.6929 91.6308

Category	Subcategory	Level	Approach	Quantity	Unit	Proxy EF	Value	EF unit	Related Emissions (MTCO ₂ e)
Assembly and structural components	Metal-based structural product, unknown material and/or mass	2	Spend-based	0.00	kg	Metal (Structural Product)	470.20	kgCO ₂ e / USD	
	Aluminum extrusion profile - Casting	3	Mass-based	0.00	kg	Aluminum extrusion profile + Casting (low impact)	3.80	kgCO ₂ e / kg	
	Aluminum extrusion profile - Cold rolling	3	Mass-based	0.00	kg	Aluminum extrusion profile + Cold rolling (low impact metal)	2.58	kgCO ₂ e / kg	
	Aluminum extrusion profile - Hot rolling	3	Mass-based	0.00	kg	Aluminum extrusion profile + Hot rolling (low impact metal)	2.81	kgCO ₂ e / kg	
	Aluminum extrusion profile - Metal drilling	3	Mass-based	0.00	kg	Aluminum extrusion profile + Metal drilling (low impact metal)	2.51	kgCO ₂ e / kg	
	Aluminum extrusion profile - Metal sheet stamping	3	Mass-based	0.00	kg	Aluminum extrusion profile + Metal sheet stamping (20% loss)	2.60	kgCO ₂ e / kg	
	Aluminum extrusion profile - Unspecified process	3	Mass-based	0.00	kg	Processed Aluminum extrusion profile	3.80	kgCO ₂ e / kg	
	Aluminum sheet - Casting	3	Mass-based	0.00	kg	Aluminum sheet + Casting (low impact)	4.90	kgCO ₂ e / kg	
	Aluminum sheet - Cold rolling	3	Mass-based	0.00	kg	Aluminum sheet + Cold rolling (low impact metal)	3.44	kgCO ₂ e / kg	
	Aluminum sheet - Hot rolling	3	Mass-based	0.00	kg	Aluminum sheet + Hot rolling (low impact metal)	3.51	kgCO ₂ e / kg	
	Aluminum sheet - Metal drilling	3	Mass-based	0.00	kg	Aluminum sheet + Metal drilling (low impact metal)	3.30	kgCO ₂ e / kg	
	Aluminum sheet - Metal sheet stamping	3	Mass-based	0.00	kg	Aluminum sheet + Metal sheet stamping (20% loss)	3.37	kgCO ₂ e / kg	
	Aluminum sheet - Unspecified process	3	Mass-based	0.00	kg	Processed Aluminum sheet	4.90	kgCO ₂ e / kg	
	Brass - Casting	3	Mass-based	0.00	kg	Brass (Cu/Zn30) + Casting (low impact)	1.34	kgCO ₂ e / kg	
	Brass - Cold rolling	3	Mass-based	0.00	kg	Brass (Cu/Zn30) + Cold rolling (low impact metal)	0.87	kgCO ₂ e / kg	
	Brass - Hot rolling	3	Mass-based	0.00	kg	Brass (Cu/Zn30) + Hot rolling (low impact metal)	0.85	kgCO ₂ e / kg	
	Brass - Metal drilling	3	Mass-based	0.00	kg	Brass (Cu/Zn30) + Metal drilling (low impact metal)	0.69	kgCO ₂ e / kg	
	Brass - Metal sheet stamping	3	Mass-based	0.00	kg	Brass (Cu/Zn30) + Metal sheet stamping (20% loss)	0.66	kgCO ₂ e / kg	
	Brass - Unspecified process	3	Mass-based	0.00	kg	Processed Brass (Cu/Zn30)	1.34	kgCO ₂ e / kg	
	Copper - Casting	3	Mass-based	0.00	kg	Copper (99.99% from electrolysis) + Casting (low impact)	4.48	kgCO ₂ e / kg	
	Copper - Cold rolling	3	Mass-based	0.00	kg	Copper (99.99% from electrolysis) + Cold rolling (low impact metal)	4.18	kgCO ₂ e / kg	
	Copper - Hot rolling	3	Mass-based	0.00	kg	Copper (99.99% from electrolysis) + Hot rolling (low impact metal)	4.27	kgCO ₂ e / kg	
	Copper - Metal drilling	3	Mass-based	0.00	kg	Copper (99.99% from electrolysis) + Metal drilling (low impact metal)	4.07	kgCO ₂ e / kg	
	Copper - Metal sheet stamping	3	Mass-based	0.00	kg	Copper (99.99% from electrolysis) + Metal sheet stamping (20% loss)	4.40	kgCO ₂ e / kg	
	Copper - Unspecified process	3	Mass-based	0.00	kg	Processed Copper (99.99% from electrolysis)	5.84	kgCO ₂ e / kg	
	Lead - Casting	3	Mass-based	0.00	kg	Lead + Casting (low impact)	2.70	kgCO ₂ e / kg	
	Lead - Cold rolling	3	Mass-based	0.00	kg	Lead + Cold rolling (low impact metal)	1.75	kgCO ₂ e / kg	
	Lead - Hot rolling	3	Mass-based	0.00	kg	Lead + Hot rolling (low impact metal)	1.70	kgCO ₂ e / kg	
	Lead - Metal drilling	3	Mass-based	0.00	kg	Lead + Metal drilling (low impact metal)	1.77	kgCO ₂ e / kg	
	Lead - Metal sheet stamping	3	Mass-based	0.00	kg	Lead + Metal sheet stamping (20% loss)	1.72	kgCO ₂ e / kg	
	Lead - Unspecified process	3	Mass-based	0.00	kg	Processed Lead	2.70	kgCO ₂ e / kg	
	Nickel - Casting	3	Mass-based	0.00	kg	Monel (nickel alloy) + Casting (high impact)	19.11	kgCO ₂ e / kg	
	Nickel - Cold rolling	3	Mass-based	0.00	kg	Monel (nickel alloy) + Cold rolling (high impact metal)	17.71	kgCO ₂ e / kg	
	Nickel - Hot rolling	3	Mass-based	0.00	kg	Monel (nickel alloy) + Hot rolling (high impact metal)	17.88	kgCO ₂ e / kg	
	Nickel - Metal drilling	3	Mass-based	0.00	kg	Monel (nickel alloy) + Metal drilling (high impact metal)	16.60	kgCO ₂ e / kg	
	Nickel - Metal sheet stamping	3	Mass-based	0.00	kg	Monel (nickel alloy) + Metal sheet stamping (20% loss)	17.67	kgCO ₂ e / kg	
	Nickel - Unspecified process	3	Mass-based	0.00	kg	Processed Monel (nickel alloy)	19.11	kgCO ₂ e / kg	
	Stainless Steel - Steel part forming (5% loss, GLO)	3	Mass-based	0.00	kg	Stainless Steel + Steel part forming (5% loss, GLO)	0.90	kgCO ₂ e / kg	
	Stainless Steel - Steel sheet scrounging (debutling), GLO	3	Mass-based	0.00	kg	Stainless Steel + Steel sheet scrounging (debutling), GLO	0.04	kgCO ₂ e / kg	
	Processed Stainless Steel	3	Mass-based	0.00	kg	Processed Stainless Steel	0.10	kgCO ₂ e / kg	
	Steel - Steel part forming (5% loss, GLO)	3	Mass-based	0.00	kg	Steel + Steel part forming (5% loss, GLO)	1.61	kgCO ₂ e / kg	
	Steel - Steel sheet scrounging (debutling), GLO	3	Mass-based	0.00	kg	Steel + Steel sheet scrounging (debutling), GLO	1.34	kgCO ₂ e / kg	
	Steel - Galvanization steel sheet, GLO	3	Mass-based	0.00	kg	Steel + Galvanization steel sheet, GLO	1.70	kgCO ₂ e / kg	
	Processed Steel	3	Mass-based	0.00	kg	Processed Steel	1.70	kgCO ₂ e / kg	
	Titanium - Casting (high impact)	3	Mass-based	0.00	kg	Titanium + Casting (high impact)	24.42	kgCO ₂ e / kg	
	Titanium - Cold rolling (high impact metal)	3	Mass-based	0.00	kg	Titanium + Cold rolling (high impact metal)	16.84	kgCO ₂ e / kg	
	Titanium - Hot rolling (high impact metal)	3	Mass-based	0.00	kg	Titanium + Hot rolling (high impact metal)	17.31	kgCO ₂ e / kg	
	Titanium - Metal drilling (high impact metal)	3	Mass-based	0.00	kg	Titanium + Metal drilling (high impact metal)	24.00	kgCO ₂ e / kg	
	Titanium - Metal sheet stamping (20% loss)	3	Mass-based	0.00	kg	Titanium + Metal sheet stamping (20% loss)	19.83	kgCO ₂ e / kg	
	Processed Titanium	3	Mass-based	0.00	kg	Processed Titanium	26.60	kgCO ₂ e / kg	
	Zamak zinc alloy (ZnAlMgCu) - Casting (high impact)	3	Mass-based	0.00	kg	Zamak zinc alloy (ZnAlMgCu) + Casting (high impact)	7.11	kgCO ₂ e / kg	
	Zamak zinc alloy (ZnAlMgCu) - Cold rolling (high impact metal)	3	Mass-based	0.00	kg	Zamak zinc alloy (ZnAlMgCu) + Cold rolling (high impact metal)	3.51	kgCO ₂ e / kg	
	Zamak zinc alloy (ZnAlMgCu) - Hot rolling (high impact metal)	3	Mass-based	0.00	kg	Zamak zinc alloy (ZnAlMgCu) + Hot rolling (high impact metal)	3.71	kgCO ₂ e / kg	
	Zamak zinc alloy (ZnAlMgCu) - Metal drilling (high impact metal)	3	Mass-based	0.00	kg	Zamak zinc alloy (ZnAlMgCu) + Metal drilling (high impact metal)	4.66	kgCO ₂ e / kg	
	Zamak zinc alloy (ZnAlMgCu) - Metal sheet stamping (20% loss)	3	Mass-based	0.00	kg	Zamak zinc alloy (ZnAlMgCu) + Metal sheet stamping (20% loss)	3.87	kgCO ₂ e / kg	
	Processed Zamak zinc alloy (ZnAlMgCu)	3	Mass-based	0.00	kg	Processed Zamak zinc alloy (ZnAlMgCu)	7.11	kgCO ₂ e / kg	
Metal and/or mass components for aircraft	Other Aircraft Parts	2	Spend-based	0.00	USD	Other Aircraft Parts	48.26	kgCO ₂ e / USD	
Components for spacecraft and missiles	Guided Missiles And Space Vehicles	1	Spend-based	0.00	USD	Guided Missiles And Space Vehicles	89.29	kgCO ₂ e / USD	
Injection	Carbon fiber (CF, from PAN, high strengths, long fibers) + Pultrusion	3	Mass-based	0.00	kg	Carbon fiber (CF, from PAN, high strengths, long fibers) + Pultrusion	41.11	kgCO ₂ e / kg	
	Carbon fiber (CF, from PAN, high strengths, long fibers) + Thermocompression	3	Mass-based	0.00	kg	Carbon fiber (CF, from PAN, high strengths, long fibers) + Thermocompression	42.06	kgCO ₂ e / kg	
	Processed Carbon fiber (CF, from PAN, high strengths, long fibers)	3	Mass-based	0.00	kg	Processed Carbon fiber (CF, from PAN, high strengths, long fibers)	42.06	kgCO ₂ e / kg	
	Carbon fiber (CF, from PAN, short fibers) + Pultrusion	3	Mass-based	0.00	kg	Carbon fiber (CF, from PAN, short fibers) + Pultrusion	18.72	kgCO ₂ e / kg	
	Carbon fiber (CF, from PAN, short fibers) + Thermocompression	3	Mass-based	0.00	kg	Carbon fiber (CF, from PAN, short fibers) + Thermocompression	19.69	kgCO ₂ e / kg	
	Processed Carbon fiber (CF, from PAN, short fibers)	3	Mass-based	0.00	kg	Processed Carbon fiber (CF, from PAN, short fibers)	19.69	kgCO ₂ e / kg	
	Glass fibers (high strength) + Pultrusion	3	Mass-based	0.00	kg	Glass fibers (high strength) + Pultrusion	3.78	kgCO ₂ e / kg	
	Glass fibers (high strength) + Thermocompression	3	Mass-based	0.00	kg	Glass fibers (high strength) + Thermocompression	3.75	kgCO ₂ e / kg	
	Processed Glass fibers (high strength)	3	Mass-based	0.00	kg	Processed Glass fibers (high strength)	3.75	kgCO ₂ e / kg	
	Glass fibers (low strength) + Pultrusion	3	Mass-based	0.00	kg	Glass fibers (low strength) + Pultrusion	3.50	kgCO ₂ e / kg	
	Glass fibers (low strength) + Thermocompression	3	Mass-based	0.00	kg	Glass fibers (low strength) + Thermocompression	4.51	kgCO ₂ e / kg	

EMISSION FACTORS SELECTION

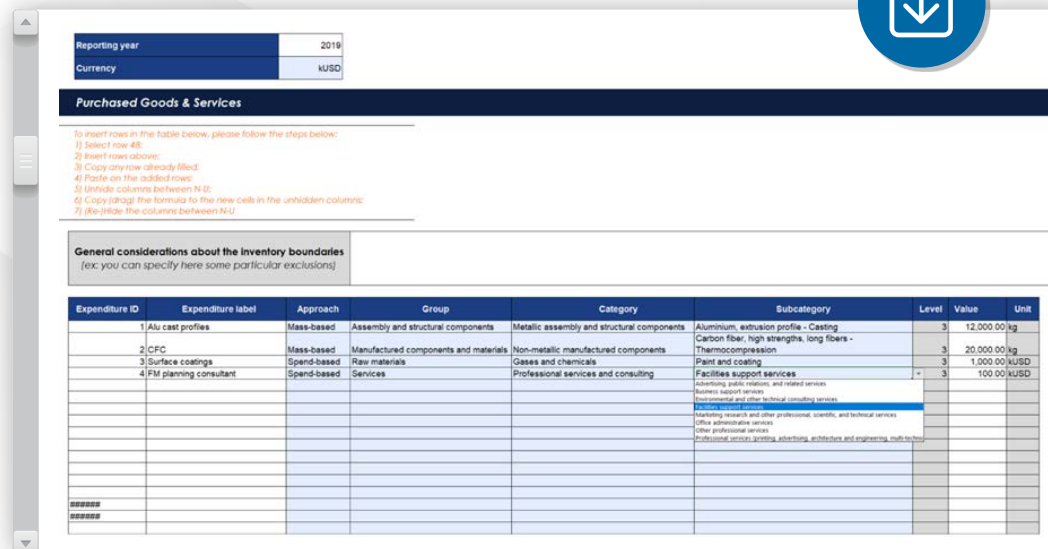
- Where possible, the tool aims to use public sources of information for the emission factors
- Cradle-to-gate emission factors are used where available
- Geographic scope is the US, Europe, Japan, Brazil or China
- Example of data bases include those such as DOD, BASE impacts, EIO-LCA
- The factors and tools are updated frequently to ensure accuracy, the first version was published in 2020 and is being updated in 2022 with revised factors and new categories



SCOPE 3 PURCHASED GOODS & SERVICES AND CAPITAL GOODS CALCULATION TOOL

TOOL INPUTS

- Users select product or service types from pre-populated drop down lists
- Up to three levels of categorisation so conversion factors used can be specific to the product or service
- Users then simply add the quantity of the mass or spend, based on the method they have selected or what is available
- Tool then auto calculates the emissions with the specific purchases



Reporting year: 2019
Currency: USD

Purchased Goods & Services

1) Insert rows in the table below, please follow the steps below:
2) Select row 4B
3) Copy row 4B
4) Paste on the added row
5) Unhide columns between N1:
6) Copy (drag) the formula to the new cells in the unhidden columns:
7) (Re)hide the columns between N1

General considerations about the inventory boundaries
(ex: you can specify here some particular exclusions)

Expenditure ID	Expenditure label	Approach	Group	Category	Subcategory	Level	Value	Unit
1	Alu cast profiles	Mass-based	Assembly and structural components	Metallic assembly and structural components	Aluminium, extrusion profile - Casting	3	12,000.00	kg
2	CFC	Mass-based	Manufactured components and materials	Non-metallic manufactured components	Carbon fiber, high strength, long fibers - Thermocompression	3	20,000.00	kg
3	Surface coatings	Spend-based	Raw materials	Gases and chemicals	Paint and coating	3	1,000.00	KUSD
4	FM planning consultant	Spend-based	Services	Professional services and consulting	Facilities support services	3	100.00	KUSD

TOOL OUTPUTS

- Exports visually engaging charts and graphs to support business interpretation of the results
- Provides detail on tonnage of CO2 and percentage split between categories
- Highlights distribution of GHG emissions by decreasing significance
- Provides actionable outputs to track performance/trends, enabling targeted action within supply chain
- Supports users in responding to increasing stakeholder requirements—such as CDP, DJSI and SBTi



FUTURE DEVELOPMENTS



Updates to the conversion factor and addition of new product types are being developed



The group is seeking WRI GHG Protocol accreditation as previously done with other guidance documents

SCOPE 3 CATEGORY 11

USE OF SOLD PRODUCTS

Scope 3, Category 11, “Use of Sold Products” is one of the most relevant Scope 3 emissions categories for many aerospace companies. It represents the projection of the future lifetime emissions from the use of goods and services sold by the reporting company in the reporting year.

IAEG developed an industry-specific methodology and guidance materials to promote consistency of reporting approaches within the industry.

The first issue of the guidance focuses on civil aviation applications (commercial aviation and business jets) and is meant to complement the GHG Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard, and the GHG Protocol’s Technical Guidance for Calculating Scope 3 Emissions—Category 11 Use of Sold Products, as well as the relevant sections of the ISO 14064-1 standard and ISO/TR 14069 guidance, where appropriate.

EMISSION TYPES

DIRECT USE PHASE EMISSIONS

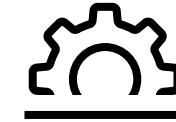
Emissions from products that directly consume energy (fuels or electricity) during use.

Examples: emissions associated with fuel or electricity consumed by aircraft & engines, and emissions associated with energy (via engine offtakes) directly consumed by systems on board of the aircraft.

INDIRECT USE PHASE EMISSIONS

Emissions from products that indirectly consume energy (fuels or electricity) during use.

Examples: emissions associated with the use of aircraft interiors, landing gear and other systems. Their weight contributes to the overall fuel burn of the aircraft, and therefore results in indirect emissions for those systems (aircraft interiors, landing gears etc).



OVERALL PROCESS

Determine organizational boundaries



For products or integrated systems at least partially attributable to activities within the organizational boundaries

Calculate whole aircraft lifetime emissions



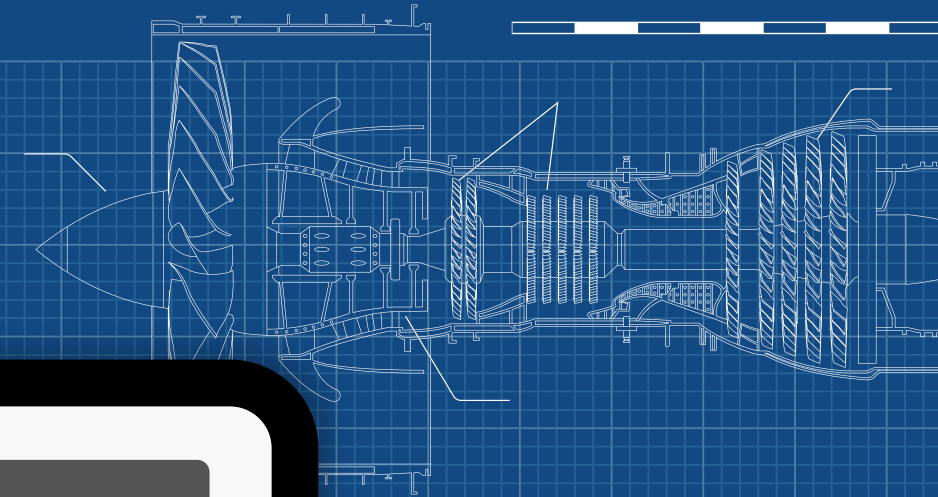
Allocate whole aircraft lifetime emissions to relevant products in question based on product lifetime and an allocation method



Report the portion of emissions defined by organizational boundaries

The guidance also provides equations to calculate an intensity metric expressed in gCO₂e per Revenue Passenger Kilometer (**RPK**) or Revenue Tonne Kilometer (**RTK**) in order to show improvements in product performance over time

SCOPE 3 CATEGORY 11



GUIDELINE INCLUDES



Formula for the computation of GHG emissions and intensity metric



Fossil jet-A/A1, Jet-B, fossil Aviation Gasoline (AvGas) emission factors



Incorporation of Sustainable Aviation Fuel (SAF) or alternative energy (hydrogen, ammonia, electricity)



Allocation methodology for sold intermediate products



Generic aircraft utilisation data per aircraft category (excluding business jets)



Practical examples to illustrate the application of the guidance

PILOT PHASE EARLY 2023

IAEG launches a pilot phase to gather further feedback from aerospace companies before public release of the guidance. Examples of applications of the guidance:

- Aircraft
- Engine
- Component with direct energy use (Environmental Control System, Electrical systems, Hydraulic systems, Auxiliary Power Units)
- Component without direct energy use (systems, aerostructures, cabin)
- Specific parts (mechanical parts)
- Standard parts (mechanical and electrical parts)



PLEASE CONTACT
claire.bodlener-constans@airbus.com
if you are interested in participating in this pilot phase.

A WAY FORWARD

The Paris agreement signed on 12 December 2015 by 196 parties, and the subsequent Conference of the Parties (COP) summits on Climate change call for action plans that must limit Global Warming below 2, preferably 1.5 degrees C above pre-industrial levels. For our

sector, the International Civil Aviation Organization (ICAO) General Assembly of 7 October 2022 has adopted a collective worldwide Long Term Aspirational Goal (LTAG) to reduce to zero the net carbon emissions of Aviation in 2050. The States, the Air transport sector, and

the Aerospace Industry are all committed to succeed ... and take actions! Governments have started to take legal steps towards a mandatory reporting of greenhouse gas emissions by the industrial sectors, and towards mandatory commitments to reduce them.

Aerospace & Defence (A&D) companies, as part of their own ESG journey or stimulated by the financial markets, are on the move: for reporting their emissions and for setting up reduction plans. Some A&D companies are pursuing their zero-carbon transformation by setting emissions reduction targets grounded in climate science through the Science Based Targets initiative (SBTi).



IAEG is willing to support Aerospace companies of all size with tools and guidance documents on a voluntary basis to help our industry move towards our Net-Zero future!



RESOURCES

**GHG Reporting Guidance for the Aerospace Industry—
A Supplement to the GHG Protocol Corporate Accounting and Reporting Standard**

<https://www.iaeg.com/binaries/content/assets/iaeg/iaeg-ghg-reporting-guidance-v3.pdf>

Calculation tool for purchased goods and services and capital goods

<https://www.iaeg.com/binaries/content/assets/iaeg/pgs-and-cg-ghg-calculations-tool.xlsx>

Methodology for calculating emissions from purchased goods and services and capital goods

<https://www.iaeg.com/binaries/content/assets/iaeg/pgs-cg-userguide.docx>

User guide for supporting calculation tool for purchased goods and services and capital goods

<https://www.iaeg.com/binaries/content/assets/iaeg/pgs-cg-methodology.docx>

Webinar on use of the calculation tool

<https://www.iaeg.com/binaries/content/assets/iaeg/wg3-s3-pgs-cg-webinar.pptx>



LEADING EDGE
SOLUTIONS
ACROSS THE
VALUE CHAIN



RESPONSIBLE &
SUSTAINABLE
AEROSPACE
INDUSTRY

A RECOGNIZED GLOBAL BODY FOR AEROSPACE & DEFENSE

46 MEMBER COMPANIES

70% OF GLOBAL AEROSPACE & DEFENSE INDUSTRY ARE IAEG MEMBERS

\$488B COMBINED ANNUAL 2020 REVENUES FOR IAEG (FULL) MEMBERS

\$697B TOTAL GLOBAL AEROSPACE INDUSTRY 2020 REVENUES

IAEG Full Members

Airbus SAS
ATR
BAE Systems
Boeing
Bombardier
Dassault Aviation
De Havilland Aircraft of Canada Limited
Embraer
GE Aviation
GKN Aerospace

Gulfstream
Honda Aircraft Company, LLC
Honeywell
Howmet Aerospace
Huntsman Advanced Materials
Israel Aerospace Industry
L3Harris Technologies, Inc.
Leonardo Company
Lockheed Martin
Meggitt PLC

Northrop Grumman
Raytheon Technologies
Rolls-Royce
SAAB AB
SAFRAN
Spirit AeroSystems
Textron Inc.
Thales
3M Deutschland GmbH

IAEG Liaison Members

Airbus Canada
Airbus Defence and Space GmbH
Airbus Helicopters (Salamander)
Assent Compliance Inc.
Dassault Systemes Enovia
DXC Technology
Granta Design Ltd
Haley & Aldrich
Hangsterfer's Laboratories, Inc.

National Quality Assurance
Nobilus
Ramboll Environment & Health
Risk & Policy Analysts Ltd
SAFECHM Europe GmbH
Souriau SAS
Tetra Tech
Yordas Group



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