GHG Reporting Guidance for the Aerospace Industry

A Supplement to the GHG Protocol Corporate Accounting and Reporting Standard

International Aerospace Environmental Group – Working Group 3

Publication Date: June 2014
Version: 1

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A. INTENT

The purpose of this document is to provide voluntary supplemental guidance for accounting and reporting greenhouse gas (GHG) emissions across the aerospace industry to encourage voluntary reporting of corporate GHG emissions by aerospace companies. This industry specific guidance document was developed by the International Aerospace Environmental Group – Working Group 3 and is a supplement to the voluntary GHG Protocol Corporate Accounting and Reporting Standard (The Corporate Standard), managed jointly by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

B. INTRODUCTION

The complexity and variability of information and requirements has led to an increased burden and substantial costs for the aerospace value chain. The International Aerospace Environmental Group (IAEG), a non-profit corporation comprised of a global group of aerospace companies[i], was established to help develop understanding amongst the aerospace industry of environmental requirements faced by the world's chain. IAEG has set up a dedicated Work Group (WG) to address the issue of greenhouse gas accounting and reporting by developing a voluntary consensus standard to be used by aerospace companies.

This document, known as GHG Reporting Guidance for the Aerospace Industry has been approved by IAEG Board of Directors and has been developed through partnership with World Resources Institute in order to ensure alignment with The Corporate Standard.

The term "shall" is used in this document to indicate what is required in order for a GHG inventory to be in conformance with the GHG Reporting Guidance for the Aerospace Industry; it does not convey a statutory requirement. The term "should" is used to indicate a recommendation, but not a requirement.

Measurement of GHGs is the first step in making emission reductions. It enables the identification of the most carbon intensive activities, as well as the determination of drivers for potential reductions. WG3's objective is to promote the harmonisation of practices within the aerospace sector by: setting up a common framework of rules and methodologies; using common databases; having consistent vocabulary; and, issuing relevant recommendations. Reporting on the environmental performance of the sector will also be eased and made consistent.

This document is designed to work in conjunction with The Corporate Standard by offering supplemental guidance that is specific to the aerospace industry. It lists all of the requirements and guidance to follow in order to conform to this sector specific

method for GHG emissions accounting and reporting. Please note that this document is not intended to replace or supplant any laws or regulations.

C. APPLICABILITY

This supplemental, voluntary GHG guidance document applies to all aerospace companies worldwide as defined herein, including: the aerospace business' operations, as well as joint ventures, subsidiaries or other business arrangements where, by contract, the business maintains control. **Companies shall consolidate GHG emissions for the identified scopes noted above, using the Operational Control approach as defined in The Corporate Standard.**[ii] [*Control: The ability of a company to direct the policies of another operation. Within the realm of GHG reporting, control is defined as either operational control (the organization or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation) or financial control (the organization has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities)]*[iii]

D. GUIDANCE

Aerospace businesses will report GHG emissions consistent with The Corporate Standard and this supplemental guidance. In the event that this guidance document conflicts with a mandatory, regulatory required GHG reporting methodology, the aerospace business will report in adherence to the mandatory, regulatory requirements.

All Scope 1, all Scope 2 and Scope 3 "business travel" category emissions shall be included in the GHG emissions inventory reporting. See section D8 for the specific types of business travel that shall be included.

Unless otherwise stated, reporters shall utilize the operational control approach to define their organization boundary. The accounting and reporting requirements apply to all operations within the organization boundary. This requirement applies to both wholly owned and leased facilities. It also applies to majority owned, operationally controlled joint ventures and subsidiaries of the company.

Chart 1 illustrates the reporting boundary to be used by aerospace industry companies and suppliers. **In short, companies shall report GHG emissions for all leased buildings for which the company directly pays the utility bills. In the event that the utility bills are a part of the rent and not independently available, an estimation of GHG emissions shall be derived consistent with the guidance identified in The Corporate Standard. Where utility data is directly available, the company shall report them.**

If a company subleases out part of or a whole site or operation, and the sublessee is not within the company's operational control, the company is not required to report GHG emissions. If a company subleases out a part of or a whole site or operation, and the sublessee is within the company's operational control, the company is required to report 100% of the sublessee's GHG emissions.

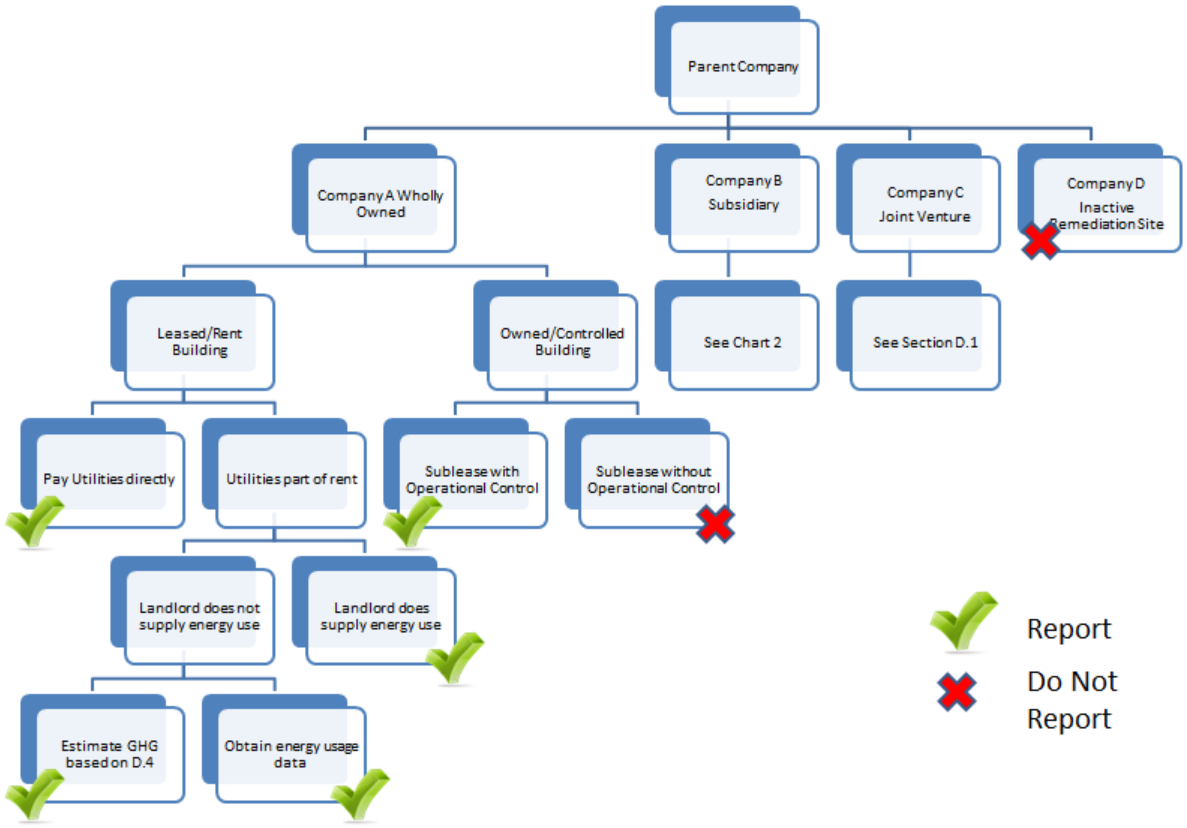

Chart 1- Reporting Guidance

D.1 - Joint Ventures

As defined in The Corporate Standard, "under the operational control approach, a company accounts for 100% of emissions from operations over which it or one of its subsidiaries has operational control"[iv]. Operational control means that a company has the authority to introduce and implement its operating policies.

Reporting of emissions for Joint Ventures shall be done using the same operational control approach, where any Joint Venture (JV) that the company has operational control of, shall be included in that company's corporate inventory.

Companies shall report 100% of the emissions from each JV where operational control is exhibited.

For JVs for which the company does not have operational control, the company is not required to report, but can encourage that JV to measure and report their own emissions.

D.2 - Subsidiaries

Following the operational control approach, subsidiaries under the aerospace business' operational control shall report 100% of the subsidiaries' GHG emissions. The operational control is not necessarily linked to the equity share. Indeed only two solutions exist under this approach:

1) The parent company has operational control of its subsidiary:
   ➔ **100%** of the GHG emitted by the subsidiary has to be accounted for and reported by the parent company.

2) The parent company does not have operational control of its subsidiary:
   ➔ The parent company accounts for and reports **none** of the GHG emitted by the subsidiary.

Chart 2 has been established to better understand how to account for and report GHG emissions emitted by subsidiaries.

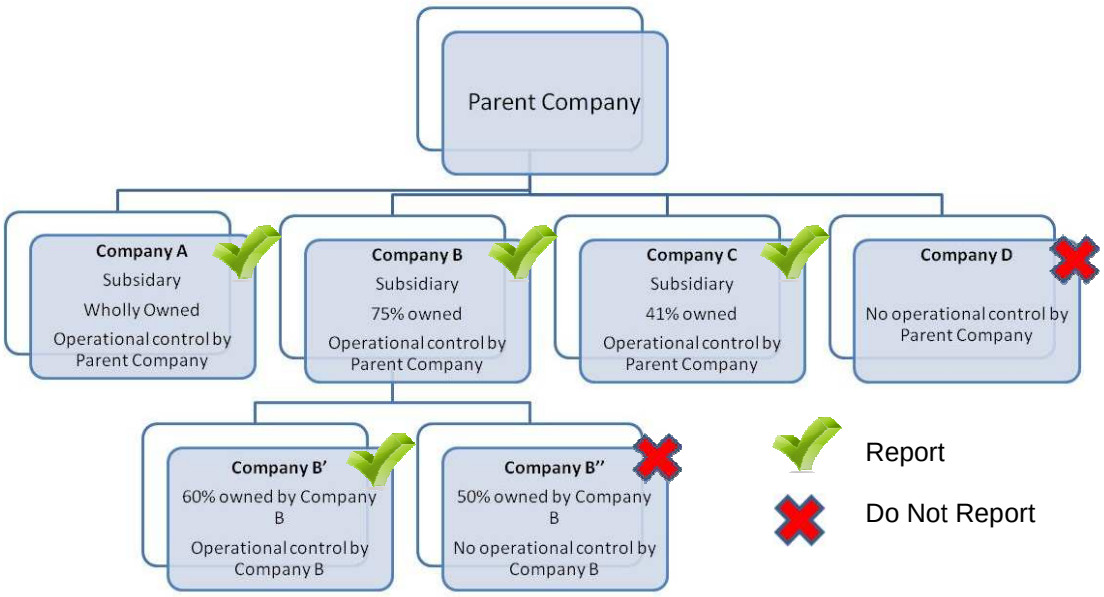

Chart 2 - Subsidiary Reporting

D.3 – Remediation Sites

Owned facilities that are not occupied by employees and where environmental remediation activities are underway in compliance with national, state, local, judicial or international regulations are considered *outside the operational control* of the company and therefore, not subject to GHG reporting requirements.

Where remediation activities are underway at a site or facility where the company has active business operations other than remediation activity, the site or facility is considered *within operational control* and therefore, subject to greenhouse gas reporting requirements.

D.4 – Relevance Thresholds

It is recommended that aerospace companies strive to report their entire emissions inventory. If necessary the following recommendations may be used to inform the relevance threshold for reporting such that the combined impact of non-reported emissions is not significant.

We encourage aerospace businesses to include in their inventory the GHG emissions of a facility when it meets one or more of the following thresholds:

- Number of FTEs[v] or Employees[vi]:
    - Industrial activities: 50 or more, or
    - Other facilities such as Warehouses, Offices: 100 or more
- Square feet/meters: 50,000 square feet or 4,600 square meters or more, or
- Annual spend (USD$) on energy[vii]: $100,000 USD or more.

Where a facility is determined to be below the noted thresholds and excluded from a company's reported GHG emissions, the company shall identify, in as much detail as possible, those facilities and disclose this information and the reason for exclusion in the company's report.

D.5 – Fuel Type Definitions

For purposes of reporting, fuel types shall be aligned with the most recent version of CDP's (formally known as the Carbon Disclosure Project's) Fuel Definitions[viii], with the exception of biofuel which is defined as fuel composed of or produced from biological raw materials[ix].

D.6 – Emission Factors

There are a variety of emission factor guidelines available for reporting for Scope 1 and Scope 2 emissions, including voluntary and regulatory. **The company shall document the source of the emission factors they used.** The following sources are acceptable:

- Factors defined by government law or agencies, as applicable (for example U.S. Environmental Protection Agency (US EPA) eGRID, United Kingdom (UK) DEFRA, France Base Carbone®)
    - Note: Aerospace companies are encouraged to use local or regional government factors instead of national factors where available
- Voluntary factors, including:
    - GHG Protocol calculation tools (i.e., Cross Sector Tools etc.)
    - IPCC
    - CDP cross sector tool
    - International Energy Agency
    - United Nations Environment Programme (UNEP)
    - US DOE Federal Energy Management Program's (FEMP) Annual GHG and Sustainability Data Report

D.7 – Base Year Adjustments

The aerospace company shall establish a base year, with an effort to achieve downward trends of GHG emissions. The company shall develop and maintain a written process by which they adjust base year GHG emissions to account for, at a minimum:

- Mergers, acquisitions, and divestitures
- Improved accuracy of GHG emissions data (e.g., actual data becomes available where estimated data was only previously available, updated emissions factors)
- Changes in GHG emissions calculation methodology(ies)

Companies shall recalculate and disclose the reasons for adjustment of their base year GHG emissions in a manner consistent with The Corporate Standard.

D.8 - Scope 3 Business Travel

A GHG inventory shall include business travel emissions from airfare, rental car, bus, and rail travel, if applicable. The calculation methodology shall be based on WRI Scope 3 Calculation Guidance, category 6 – business travel.

Other calculation resources include:

- GHG Protocol Calculation Tool, "Mobile Combustion GHG Emissions Calculation Tool. Version 2.0. June 2009," developed by World Resources Institute, available at http://www.ghgprotocol.org/calculation-tools/all-tools
- U.S. EPA Climate Leaders GHG Inventory Protocol, "Optional Emissions from Commuting, Business Travel and Product Transport," available at: http://www.epa.gov/stateply/documents/resources/commute_travel_product.pdf
- For UK organizations, the Department for Transport provides guidance and a calculation tool for work-related travel at: http://www2.dft.gov.uk/pgr/sustainable/greenhousegasemissions/
- US DOE Federal Energy Management Program's (FEMP) Annual GHG and Sustainability Data Report

D.9 - Uncertainty

If the level of uncertainty is reported, it is recommended to use the GHG Protocol Guidance on Uncertainty Assessment in GHG Inventories and Calculating Statistical Parameter Uncertainty[x]. If another tool is used, the calculation methodology and expert judgment/assumption should be documented.

There are varieties of uncertainty range resources available, including voluntary and regulatory. The following sources are acceptable:

- Factors defined by government law or agencies, as applicable
  - E.g. Australian National Greenhouse and Energy Reporting (Measurement) Determination 2008, European Union (EU) ETS The Monitoring and Reporting Regulation –Guidance on Uncertainty Assessment, IPCC, etc., guidelines.
  - Note: Aerospace companies are encouraged to use local or regional government uncertainty factors instead of national factors where available
- Voluntary factors, including:
  - GHG Protocol Guidance on Uncertainty Assessment in GHG Inventories and Calculating Statistical Parameter Uncertainty (most recent version)
  - Note: Documentation should be maintained for expert elicitation

D.10 - Renewable Energy Certificates and Carbon Offsets[xi]

Aerospace companies that purchase renewable energy certificates (RECs) and/or carbon offsets should disclose the following information in their GHG inventory report.

D.10.a - Carbon Offsets

Required:

- The quantity of offsets purchased and retired (Metric Tonnes)
- Verification standard(s)
- Volume(s) of offsets purchased that are in the Voluntary and Regulated Markets

Optional but encouraged:

- Corporate goals related to offset purchases
- Type/Category and location of the carbon offset project(s)
- The relative change in quantity purchased in the reporting year compared to the previous year

D.10.b - Renewable Energy Certificates (REC)

Required:

- The quantity of RECs purchased and retired (MWh)
- Applicable third-party verification

Optional but encouraged:

- Corporate goals related to REC/green power purchases
- Source of RECs
- The relative change in quantity purchased in the reporting year compared to the previous year

E. CONCLUSION

There is an increased need to mitigate the anthropogenic contribution to global warming throughout the aerospace value chain. Measurement of GHGs is the first step in this process. It enables the identification of the most carbon intensive categories, as well as the determination of drivers for potential reductions. While this supplemental guidance provides more specificity within GHG accounting and reporting, aerospace companies are encouraged to expand their capabilities for GHG accounting and reporting especially in the areas of scope 3 emissions.

This document is designed to work in conjunction with The GHG Protocol Corporate Accounting and Reporting Standard by offering supplemental guidance that is specific to the aerospace industry. It lists all of the requirements and guidance to follow when establishing a sector specific GHG emissions reporting and management system for the aerospace value chain.

Therefore, this guidance document is intended to act as the next step in the aerospace industry's demonstration of its strong commitment to reduce its environmental footprint.

ENDNOTES

[i] IAEG defines an aerospace company as “an entity principally engaged in carrying out the design, development, manufacture, or support of civil or military aerospace original equipment, systems, or structures” and includes any product supplier to such an entity. IAEG defines aerospace as relating to aircraft, rockets, missiles, space vehicles, etc., that fly or operate in the atmosphere and space beyond.
[ii] Greenhouse Gas Reporting Protocol Corporate Standard, Page 16
[iii] Greenhouse Gas Reporting Protocol Corporate Standard, Page 97
[iv] Greenhouse Gas Reporting Protocol Corporate Standard, Page 20
[v] Fulltime Equivalent (FTE): is a calculation that includes fulltime, part time employees and directly supervised contractors. The ratio of the total number of paid hours during a period (part time, full time, contracted) by the number of working hours in that period Mondays through Fridays. The ratio units are FTE units or equivalent employees working full-time. In other words, one FTE is equivalent to one employee working full-time. (For example: You have three employees and they work 50 hours, 40 hours, and 10 hours per week – totaling 100 hours. Assuming the employer defines a full time work period of 40 hours and a full-time employee works 40 hours per week, your full time equivalent calculation is 100 hours divided by 40 hours, or 2.5 FTE).
[vi] In countries where the term “employee” is specifically defined by regulation, the legal definition of the term is to be used.
[vii] Annual Spend on Energy: annual spend on energy for Scope 1 sources and annual spend on Scope 2 purchased electricity, heat or steam.
[viii] See: https://www.cdp.net/Documents/Guidance/2014/cdp-fuel-definitions-2014.pdf
[ix] Note: Distillate Fuel Oil (#1, 2, and 4) is also known as light fuel, light fuel oil, and distillate fuel or in France as domestic fuel. Fuel Oil (#5 and 6) is also known as heavy fuel oil or residual fuel oil. Motor Gasoline is also known as petrol.
[x] See: http://www.ghgprotocol.org/files/ghgp/tools/ghg-uncertainty.pdf
[xi] This section will be replaced with a reference to WRI’s Scope 2 Standard upon its official release