

Chunjiang (Stella) Huang
 The Boeing Company
 800 N. 6th St, Renton, WA 98055

04.29.2021

To whom it may concern,

The purpose of this letter is to clarify matters set out in the assurance report. It is not an assurance report and is not a substitute for the assurance report.

This letter and the verifier's assurance report, including the opinion(s), are addressed to you and are solely for your benefit in accordance with the terms of the contract. We consent to the release of this letter by you to CDP in order to satisfy the terms of CDP disclosure requirements but without accepting or assuming any responsibility or liability on our part to CDP or to any other party who may have access to this letter or our assurance report.

In accordance with our engagement contract with you dated February 9, 2021 (the "contract") and for the avoidance of doubt, we confirm that our Verification Report – 2020 GHG Emissions Inventory – The Boeing Company to you dated April 28, 2021 (the "assurance report") incorporated the following matters:

1. Boundaries of the reporting company covered by the assurance report and any known exclusions. ^{*1}

- The Boeing Company's Scope 1, 2, and 3 (business travel only) greenhouse gas (GHG) emissions inventory for its global locations under its operational control, without known exclusion.

2. Emissions data verified - broken down by Scope 1, Scope 2 and Scope 3 categories with figures given; option to include other relevant data that has been verified with figures.

<i>Boeing Global Operational Control</i>	
Scope 1 Emissions	560,000 (MtCO ₂ e)
Scope 2 Emissions (location based)	800,000 (MtCO ₂ e)
Scope 2 Emissions (market based)	625,000 (MtCO ₂ e)
Scope 3 Emissions (Business travel only)	92,000 (MtCO ₂ e)
Renewable Energy Certificate Purchased	392,000 MWh

^{*1} Optional field

3. Period covered (e.g. '12 months to DD MM YY')

1 January 2020 to 31 December 2020

4. Verification standard used

ISO 14064-3:2006 – Greenhouse Gases Part 3: Specification with Guidance for the Validation and Verification of Greenhouse Gas assertions.

5. Assurance opinion (incl. level of assurance and any qualifications)

Limited Assurance

Based on the verification process conducted by DNV, we provide a Limited Assurance of the GHG Assertions for The Boeing Company. DNV found no evidence that the assertion:

- is not materially correct;
- is not a fair representation of the GHG emissions information; and
- is not prepared in accordance with the World Business Council for Sustainable Development (WBCSD) / World Resources Institute (WRI) Greenhouse Gas Protocol (GHG Protocol)

6. Verification provider and accreditations (if relevant)

The Verification provider is DNV.

DNV was not involved in the preparation of any part of Boeing's data or report. We adopt a balanced approach towards all stakeholders when performing our evaluation.

7. Lead verifier name and relevant accreditations/professional membership (if relevant)

Shruthi Poonacha Bachamanda, Lead Verifier, Qualified ISO GHG Verifier

8. This letter should be prepared on the verifier's letterhead or include the signature of the lead verifier (or authorized signatory/ organization responsible for issuing the assurance report / statement) in the box below.



Signature Lead Verifier
(Shruthi Poonacha Bachamanda)



Independent Reviewer
(Weidong Yang)



David Tellez
Region Americas Sales & Delivery (P-A)

Approver
(David Tellez)

GHG INVENTORY VERIFICATION REPORT

2020 GHG EMISSIONS INVENTORY – The Boeing Company

VERIFICATION FOR CARBON DISCLOSURE PROJECT (CDP)

SUBMITTED BY: DNV GL BUSINESS ASSURANCE USA, INC.

Date of first issue: 05/05/2021		Project No.: PRJN-233492-2021-AST-USA	
Approved by David Tellez		Organizational unit: DNV GL Business Assurance USA, Inc.	
Client: The Boeing Company		Client ref.: Chunjiang (Stella) Huang	
Summary:			
<p>DNV GL Business Assurance USA, Inc. has carried out an independent verification of The Boeing Company's Scope 1, 2, and 3 (business travel only) greenhouse gas (GHG) emissions inventory for its global locations under its operational control for calendar year 2020, without known exclusion. DNV GL's verification was performed according to ISO 14064-3:2006 – Greenhouse Gases Part 3: Specification with Guidance for the Validation and Verification of Greenhouse Gas assertions.</p> <p>The assertions are stated in the Verification Opinion (Page 12). Based on the processes and procedures conducted with a limited assurance, there is no evidence that these GHG assertions are not materially correct and are not a fair representation of GHG data and information, and have not been prepared in accordance with the calculation methodologies contained in the World Resources Institute and the World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol.</p>			
Work carried out by: Shruthi Poonacha Bachamanda		<input checked="" type="checkbox"/> No distribution without permission from the client or responsible organisational unit <input type="checkbox"/> free distribution within DNV after 3 years <input type="checkbox"/> Strictly confidential <input type="checkbox"/> Unrestricted distribution	
Work reviewed by: Weidong Yang			
Date of this revision: 04/28/2021	Rev. No.: 1		
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INTRODUCTION

THE BOEING COMPANY

The Boeing Company (Boeing) together with its subsidiaries, is the world's largest aerospace firm and a leading manufacturer of commercial jetliners and defense, space and security systems. A top U.S. exporter, the company supports airlines as well as U.S. and allied government customers in 150 countries. Boeing has facilities with operational control across 42 countries. With corporate offices in Chicago IL, Boeing employs more than 140,000 people across the United States and in more than 65 countries with the primary operations located in the US.

Boeing retained DNV GL Business Assurance USA, Inc. (DNV GL) to verify its greenhouse gas (GHG) emissions inventory for its global operations for the 2020 calendar year. Boeing is responding to the 2021 CDP Climate Change Investor Questionnaire and reporting its global corporate GHG emissions on their sustainability report. The GHG inventory compiled by Boeing and the GHG inventory verification performed by DNV GL is a component of Boeing's long-term GHG management strategy. This is the seventh annual verification conducted by DNV GL for Boeing.

The main point of contact for GHG Emissions Inventory is Chunjiang (Stella) Huang, located in Renton, WA. This verification was conducted from April 1, 2021 through April 30, 2021. A remote site visit took place at the Boeing Defense, Space & Security (BDS)'s facility in Philadelphia on April 20, 2021.

Boeing includes four business units:

- Commercial airplanes,
- Boeing Capital Corporation,
- Defense Space and security, and
- Global services (Business service for global defense, space and commercial customers).

Boeing has operational control over totally 1,720 buildings and 86,000,000 sqft by area. This includes business, factory, warehouse, laboratory, utility miscellaneous and others.

ENVIRONMENTAL INITIATIVES

Boeing is focused on being an environmental and operational leader in the aerospace industry and has been submitting reports on its GHG Management and GHG Inventory to the CDP since 2008. The work commissioned this year is part of Boeing's effort of continual improvement, and commitment to its customers, communities, and the environment in which it operates.

Boeing has a GHG emissions target to reduce its GHG emissions Scope 1 and Scope 2 for the identified sites by 25% compared to its GHG emissions in baseline year 2017 by the year 2025.

Boeing has achieved its earlier target of 0% increase in GHG emissions in 2017 compared to the GHG emissions in baseline year (2012). Boeing was part of the Climate Leaders Program

established by the U.S. Environmental Protection Agency (EPA) in 2008, which provided guidance on development of the GHG inventory.

Boeing has been awarded the Energy Star partner of the year – sustained excellence award for 2021. Boeing has been recognized by Energy Star for eleven consecutive years.

VERIFICATION OBJECTIVES

The purpose of the verification is to have an independent third party assess the emissions data reported. In particular, the organization’s management systems, monitoring plan, and compliance with WRI/WBCSD Greenhouse Gas Protocol including associated updates and clarifications criteria. Verification is an option for all organizations that intend to report with the Carbon Disclosure Project (CDP) and is seen as useful to provide assurance to stakeholders of the quality of the data reported. The purpose of third-party verification is to provide confidence to users (state regulatory agencies, tribal authorities, investors, suppliers, customers, local governments, CDP, the public, etc.) that the reported emissions represent a faithful, true, and fair account of your emissions—free of material misstatements and conforming to WRI/WBCSD reporting guidelines. The verification process further promotes completeness, consistency, comparability, accuracy, and transparency of emissions data reported to CDP.

VERIFICATION SCOPE AND CRITERIA

The verification scope is defined as an independent and objective review of the emissions data reported for Boeing’s global organizational level 2020 Scope 1, 2 (market based and location based), Scope 3 GHG emissions, as well as GHG saving from Renewable Energy Credits (RECs). The scope 3 Category covered in this verification is business travel.

Assurance level: limited

Verification Criteria/Reporting Protocol

- The World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) GHG Protocol

Verification Protocol

- ISO 14064-3:2006 – Greenhouse Gases Part 3: Specification with Guidance for the Validation and Verification of Greenhouse Gas assertions.

MATERIALITY

The WBCSD/WRI Corporate Accounting and Reporting Standard GHG Protocol sets the materiality threshold at five percent (for both understatements and overstatements) of a Member’s Direct (Scope 1) and Indirect (Scope 2) emissions.

VERIFICATION TEAM

Role	Name
Verifier	Shruthi Poonacha Bachamanda

Technical Reviewer	Weidong Yang
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VERIFICATION PLANNING AND RISK ASSESSMENT

The verification activities and the risk assessment methodologies employed are incorporated in the sampling plan.

VERIFICATION ACTIVITIES AND FINDINGS

The verification team reviewed the emission data report and supporting evidence, focused on the systems and processes in place to collect and compile data, as well as calculation methodology and emissions calculation spreadsheet. The emission factors across all the scopes, which are provided in BoeingGHGInventory-4-21-2021 spreadsheet, were checked using Boeing GHG emissions calculation software. Based on the set of data and documentation that was provided, the verifier conducted a risk analysis and prepared a sampling plan, and site visit agenda.

The remote site visit was conducted in Philadelphia on April 20th, 2021. Based on the sampling plan the verifier reviewed source documentation and data check methodology detailed in table 1 below:

Table 1: Emissions sources and Data Check Methodology

Emissions Sources, by Risk Category	Documents requested	Data Check method used
High Risk		
<p>Scope 1 <u>Stationary Combustion.</u> The below facilities were categorized under High Risk and Medium Risk based on review of the used amount of Natural Gas:</p> <p>Natural Gas BCA - Everett BCA - Auburn BDS - St. Louis, MO BDS - Philadelphia</p>	<p>Document Request: Utility Bills Fuel type and Fuel consumption data Fuel purchase receipts (where not monitored by meters) Fuel Monitoring data Calculation methodology Calculation worksheet Data transfer methodology</p>	<p>Site Visit Teleconference with Xing Wang and Ragan Kothe using ENGIE Insight: trace data in the emissions data report to its origin.</p> <p>Document Review: - Data collection process - Transfer /transcription of data to calculation spreadsheet - Methods used and Formulas inscribed in the calculation spreadsheets.</p>

<p>Scope 1 <u>Mobile Combustion.</u> Five facilities were categorized under High Risk based on review of the consumed amount of fuel (Propane and Motor Gasoline).</p> <p>Jet Fuel BCA - Everett BCA - North Boeing Field BCA - Boeing South Carolina F&AM - Chicago HQ BDS - St. Louis, MO</p>	<p>Document Request: Fuel type and Fuel consumption data Fuel purchase receipts (where not monitored by meters) Fuel Monitoring data Calculation spreadsheet Data collected on Miles travelled and fuel economy Calculation methodology Calculation worksheet Data transfer methodology</p>	<p>Document Review: - Data collection process - Transfer /transcription of data to calculation spreadsheet - Methods used and Formulas inscribed in the calculation spreadsheets.</p>
<p>Scope 1 SF6 BCA - South Park BDS - Development Center</p>	<p>Document Request: Leak Logs</p>	<p>Document Review: Boeing works with a third party HazTrack to identify any chemicals that contains GHG. HazTrack uses the SDS on file for each incoming raw material or product to identify if the materials contain GHG.</p>

<p>Scope 2 <u>Electricity Consumption</u> The below facilities were categorized under High Risk and Medium risk based on review of the amount of Electricity consumed. BDS - St. Louis, MO BCA - Everett BCA - Boeing South Carolina BCA - Auburn BDS - Philadelphia BCA - Frederickson BAA - Fishermans Bend BCA - Portland</p>	<p>Document Request: Utility Bills Calculation methodology Calculation worksheet Data transfer methodology</p>	<p>Teleconference: Teleconference with Xing Wang on April 14 and 15, 2021 Teleconference with Ragan W. Kothe on April 16th, 2021 trace data in the emissions data report to its origin. Document Review: - Data collection process - Transfer /transcription of data to calculation spreadsheet - Methods used and Formulas inscribed in the calculation spreadsheets.</p>
<p>Renewable Energy Credits BCA - Boeing South Carolina Corporate/ET&T - Arizona Data C BCA - Renton BCA - Auburn</p>	<p>Document Request Power purchase agreements (PPEs) REC Certificates</p>	<p>Teleconference: Teleconference with Chunjiang (Stella) Huang. Review of PPEs and REC Certificates and review of the REC split across the Boeing facilities.</p>
<p>Low Risk</p>		
<p>All other sources Boeing Scope 1 fugitive emissions and refrigerants, and emissions calculated for all sites.</p>	<p>Documents Requested: Calculation methodology Calculation worksheet Data transfer methodology</p>	<p>Desk review: - Cross verification of summary values with data report - Review of methodology with the GHG Protocol - Verification of calculation and data spreadsheet.</p>

Scope 3 Business Travel	Documents Requested Calculation methodology Calculation worksheet Data transfer methodology	Desk review: - Cross verification of summary values with data report - Review of methodology with the GHG Protocol - Verification of calculation and data spreadsheet.
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IDENTIFICATION OF EMISSION SOURCES

All the seven Kyoto gases CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃ have been reported for the facilities where Boeing has operational control. For each facility the emission sources listed are:

- Scope 1: Stationary combustion, mobile combustion and fugitive including refrigerants
- Scope 2: Purchased electricity
- Scope 3: Business Travel

SITE VISIT

The remote site visit was conducted in Philadelphia on April 20th, 2021. During the site-visit, and various telephone conversations, DNV GL spoke with the Boeing staff as detailed below in Table 2:

Table 2: Site visit meetings and telephone discussions

Name	Title	Functional Responsibility	Discussions
Chunjiang (Stella) Huang	Environmental Engineer	Global Enterprise Sustainability	Overview of data management, inventory collection and review processes, Scope 1, Scope 2 (location based and market based) and Scope 3 optional emissions review of data and methodology. Review of attestations for RECs used in 2020.
Miriam Baril, PE	Site Focal	Boeing BDS-Philadelphia	Input to Enablon for Boeing BDS-Philadelphia facility

Brandon Kahn	Utilities Focal	Boeing BDS-Philadelphia	Sampling of invoices for electricity and natural Gas from Engie Insight system
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The remote site assessment was conducted in Philadelphia manufacturing facility using Webex.

Technology Name	Webex
Name of site personnel supporting remote audit meetings	Miriam Baril, PE, Environmental Engineer Boeing - Philadelphia
List of equipment viewed during remote assessment	Natural Gas meter, electricity meters, diesel generators, propane tanks, Jet fuel, diesel fuel storage, turbines using Jet fuel, Jet fuel storage, Gasoline fuel pumps, Gasoline pump, Chiller north side.
Document review during remote assessment	Propane receipts, diesel receipts, refrigerant usage and Jet fuel logs
Effectiveness of the remote assessment	All the required equipment and documentation were viewed. There were no issues with connection.
Any technical issues faced during the remote audit	No technical issues

VERIFICATION CONCLUSION:

ASSESSMENT OF GHG INFORMATION AND MANAGEMENT SYSTEMS

The management and reporting of GHG data and results for Boeing in 2020 were managed by Chunjiang (Stella) Huang, who is the Enterprise EHS Environmental responsible person for Boeing. She has established a system of reporting whereby designated staff at each facility submits GHG-related information directly to her. Data collection and management for the 2020 inventory was executed using a software called Enablon and a number of data collection methods (including direct measurement and estimations). The Enablon software has inbuilt templates for collecting GHG emission source data from individual sites. The questionnaires include questions on the various fuels and refrigerants used. The majority of significant emissions resulted from Scope 2 (Purchased electricity) and followed by Scope 1 (Natural Gas combustion). Data from these emission sources are derived from transactional records (purchase orders, contracts, invoices, etc.), which is stored in Engie system (to which multiple layers of QA / QC are applied). Data integrity and validity is considered of high quality.

EVALUATION OF COMPLIANCE WITH THE GHG PROGRAM REQUIREMENTS

DNV GL through the verification confirms that the Boeing emissions report is in compliance with WRI/WBSCD Protocol requirements. The organizational boundaries are determined correctly, and no evidence that all emissions sources are not identified and included in the inventory. There was no evidence that the emissions estimate was not accurate. Any errors identified were corrected

by Boeing during the verification process. Over 70% of Scope 1&2 emissions come from Scope 2 Purchased Electricity and Scope 1 natural gas combustion. All electricity and natural gas invoices are provided through the Engie Insight Utility Expense & Data Management System, a software tool used by Boeing for data collection and processing of electricity and natural gas bills. This software enables an auditable system of monthly utility invoices across the majority of the Boeing property assets. Boeing also provided spreadsheets with calculations on the correct use of emissions factors, accurate calculations, and correct GHG inventory reporting.

VERIFICATION OPINION

The Boeing Company

Global Operational Control

<i>o</i>	<i>Scope 1 Emissions</i>	<i>560,000 (MtCO_{2e})</i>
<i>o</i>	<i>Scope 2 Emissions (location based)</i>	<i>800,000 (MtCO_{2e})</i>
<i>o</i>	<i>Scope 2 Emissions (market based)</i>	<i>625,000 (MtCO_{2e})</i>
<i>o</i>	<i>Scope 3 Emissions (Business travel only)</i>	<i>92,000 (MtCO_{2e})</i>
<i>o</i>	<i>Renewable Energy Certificate Purchased</i>	<i>392,000 MWh</i>

Based on the processes and procedures conducted with a limited assurance, there is no evidence that these GHG assertions are not materially correct and are not a fair representation of GHG data and information, and have not been prepared in accordance with the calculation methodologies contained in the World Resources Institute and the World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol.

LIST OF CLARIFICATIONS AND OBSERVATIONS

Sl. No	List of clarifications and Observations	Response	DNV GL comments
#1	Electricity St. Louis The electricity usage for account - 54500-06319 for the months of February, September and October does not match the usage amount reported to corporate GHG Inventory.	The electricity usage is not material and is lower than .1% difference for the St. Louis site	Closed
#2	Philadelphia Annapolis, El Segundo and St Louis Invoices not accessible in Engie. Need to be submitted by site focal	Invoices submitted for: Annapolis, El Segundo and St Louis ELS Raytheon Meter data ELS SCE June 2020 ELS SCE Feb 2020 ELS SCE Nov 2020 Utility 19_exl	Reviewed the received invoices and supporting spreadsheets. Closed.
#3	Invoice breakdown for the Jet Fuel (M) purchased – 2020	Invoice breakdown submitted.	Invoice breakdown matches the log and total matched the usage reported to corporate. Closed
#4	How is the jet fuel amount (M) usage calculated? Please	- As discussed, Jet Fuel usage in aircraft is based on what is distributed from the fuel truck into the aircraft. Attached is the monthly breakdown of that usage.	The supporting documents and description of the procedure provides clarity on

	<p>provide supporting log for the Jet Fuel usage</p>	<p>The Sheet1 tab lists the individual fuel receipts, and the Jet A Usage tab totals them up to get the 127,881 gallons from 2020. The process goes as follows:</p> <ul style="list-style-type: none"> o Jet fuel delivered to Tank 79 o Boeing fuel truck fills up from Tank 79 o Boeing fuel truck deposits fuel from truck into aircraft o After depositing, a fuel receipt is generated by the fuel truck. The total of these fuel receipts add up to the total used in 2020 (127,881). There are no electronic copies of these receipts. o I then subtract out the total gallons for a fully fueled delivered aircraft, which this year was 33,202 gallons, giving the total mobile usage of 94, 679 gallons. 	<p>the jet fuel usage calculation.</p> <p>Closed.</p>
<p>#5</p>	<p>Propane purchase amount is reported as is. Please provide receipts supporting the propane purchased in 2020.</p>	<p>Because of the timing of invoicing getting messed up in late 2019, the number we reported is actually slightly different from what was delivered in 2020. We reported 5944.9 gallons, and it should have been 5,784.7 gallons. Please see the invoices and the calculation spreadsheet attached to show what was actually delivered in 2020.</p>	<p>The propane amount is updated to 5,784.7 gallons in the GHG Inventory.</p> <p>Closed.</p>