

Independent Limited Assurance Report to Vertex Pharmaceuticals Incorporated

ERM Certification & Verification Services Incorporated (“ERM CVS”) was engaged Vertex Pharmaceuticals Incorporated (“Vertex”) to provide limited assurance in relation to the selected information set out below and presented in the Vertex 2023 Corporate Responsibility Report (the “Report”).

Engagement summary	
Scope of our assurance engagement	<p>Limited assurance on whether the following specified indicators on environmental and safety data are fairly presented in Vertex’s 2023 Corporate Responsibility Report in accordance with the Reporting Criteria:</p> <p><u>Environmental Indicators</u> Greenhouse gas emissions:</p> <ul style="list-style-type: none"> • Total Scope 1 GHG emissions [MTCO_{2e}] • Total Scope 2 GHG emissions (location-based) [MTCO_{2e}] • Total Scope 2 GHG emissions (market-based) [MTCO_{2e}] • Total GHG Emissions (Scope 1 and Scope 2 (market-based)) [MTCO_{2e}] <p>Waste:</p> <ul style="list-style-type: none"> • Non-hazardous waste [tons] • Non-hazardous waste diverted from landfill (through recycling or composting) [tons] • Non-hazardous waste recycled or composted [%] • Waste diverted from landfill [%] • Hazardous waste [tons] • Laboratory and manufacturing waste recycled (waste generated from laboratory and manufacturing operations sent for recycling) [tons] <p><u>Safety Indicators</u></p> <ul style="list-style-type: none"> • Total Recordable Incident Rate (TRIR) (number of injuries/illnesses per 200,000 hours) • Days Away, Restricted or Transferred (DART) (number of cases per 200,000 hours)
Reporting period	1st January 2023 to 31st December 2023
Reporting criteria	<ul style="list-style-type: none"> • Vertex’s Basis of Reporting: Environmental and Safety Data as published in the ‘Responsibility’ section of Vertex’s website • WBCSD/WRI GHG Protocol (2004, as updated January 2015) as relevant for the Scope 1 and 2 • OSHA Injury and Illness Recordkeeping and Reporting definitions.
Assurance standard and level of assurance	<p>We performed a limited assurance engagement, in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised) ‘Assurance Engagements other than Audits or Reviews of Historical Financial Information’ issued by the International Auditing and Assurance Standards Board.</p> <p>The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement and consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.</p>
Respective responsibilities	<p>Vertex is responsible for preparing the Report and for the collection and presentation of the information within it, and for the designing, implementing, and maintaining of internal controls relevant to the preparation and presentation of the Selected Information.</p> <p>ERM CVS’ responsibility is to provide a conclusion to Vertex on the agreed scope based on our engagement terms with Vertex, the assurance activities performed and exercising our professional judgement.</p>

Our conclusion

Based on our activities, as described below, nothing has come to our attention to indicate that the 2023 data and information for the disclosures listed under ‘Scope’ above are not fairly presented in the Report, in all material respects, in accordance with the reporting criteria.

Our assurance activities

Considering the level of assurance and our assessment of the risk of material misstatement of the selected information a multi-disciplinary team of sustainability and assurance specialists performed a range of procedures that included, but was not restricted to, the following:

- Assessing the appropriateness of the reporting criteria for the Report;
- Conducting interviews with relevant staff to understand and evaluate the management systems and processes (including internal review and control processes) used for collecting and reporting the selected disclosures;
- Reviewing a sample at the corporate level of qualitative and quantitative evidence supporting the reported information;
- Conducting an analytical review of the year-end data submitted by all locations included in the consolidated 2023 group data for the selected disclosures which included testing the completeness and mathematical accuracy of conversions and calculations, and consolidation in line with the stated reporting boundary;
- Virtual visits to two Vertex facilities/production sites in the UK (Milton Park, UK) and USA (San Diego, Merryfield) to review source data and local reporting systems and controls;
- An in-person visit to Vertex's HQ in Boston, MA to conduct interviews with environmental, safety data owners and for review of data consolidation, waste calculation processes, outcomes of Vertex's own internal QA/QC procedures;
- Evaluating the conversion and emission factors and assumptions used;
- Reviewing the presentation of information relevant to the scope of our work in the Report to ensure consistency with our findings.

The limitations of our engagement

The reliability of the assured information is subject to inherent uncertainties, given the available methods for determining, calculating, or estimating the underlying information. It is important to understand our assurance conclusions in this context.

Our independence, integrity and quality control

ERM CVS is an independent certification and verification body accredited by UKAS to ISO 17021:2015. Accordingly, we maintain a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements. Our quality management system is at least as demanding as the relevant sections of ISQM-1 and ISQM-2 (2022).

ERM CVS applies a Code of Conduct and related policies to ensure that its employees maintain integrity, objectivity, professional competence, and high ethical standards in their work. Our processes are designed and implemented to ensure that the work we undertake is objective, impartial and free from bias and conflict of interest. Our certified management system covers independence and ethical requirements that are at least as demanding as the relevant sections of the IESBA Code relating to assurance engagements.

ERM CVS has extensive experience in conducting assurance on environmental, social, ethical and health and safety information, systems, and processes, and provides no consultancy related services to Vertex in any respect.



Andrea Duque
Partner, Corporate Assurance
Malvern, PA

April 4, 2024

On behalf of:

ERM Certification & Verification Services Incorporated

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Basis of Reporting: Environmental and Safety Data

1. Overview
2. Reporting Criteria
3. Revision History

1. Overview

This Basis of Reporting document provides detail on the scope of reporting and the reporting criteria against which Vertex Pharmaceuticals, Inc prepares and reports environmental data for the annual Corporate Responsibility report, the corporate website, and other public disclosures. Reported figures includes estimates where actual data is unavailable. Estimates are based on historical data, spend data or other proxies.

We aim to update this document on a periodic basis alongside our annual Corporate Responsibility Report to reflect any changes in methodology. This document was last updated March 2024.

Vertex reports the following environmental and safety metrics:

- Greenhouse Gas (GHG) Emissions
 - Scope 1
 - Combustion of Fuels (including natural gas, diesel, propane gas, liquified petroleum gas, and gasoline)
 - Transportation of materials, products, and employees (internal fleet and vehicles/ shuttles)
 - Fugitive and Process Emissions
 - Scope 2
 - Generation of Purchased Electricity
 - Scope 3
 - Category 1: Purchased Goods and Services
 - Category 2: Capital Goods
 - Category 3: Fuel and Energy Activities
 - Category 4: Upstream Transportation and Distribution
 - Category 5: Waste Operations
 - Category 6: Business Travel
 - Category 7: Employee Commuting
 - Category 9: Downstream Transportation and Distribution
 - Category 12: End of Life
 - Category 13: Downstream Leased Assets

- Waste:
 - Total Waste
 - Total Hazardous Waste
 - Total Non-hazardous Waste
 - Nonhazardous Waste Diverted from Landfill
 - % Nonhazardous waste Recycled or Composted
 - Laboratory and Manufacturing Waste Recycled
 - % Total Waste Diverted from Landfill
- Total Water Consumption
- % Square Feet of Buildings Operated That are Green Certified
- % Energy from Renewable Resources
- % Vertex-Operated Facilities with Water Stewardship Assessments Completed
- Safety
 - Total Recordable Incident Rate (TRIR)
 - Days Away, Restricted or Transferred (DART)

The reported metrics cover the previous calendar year (January 1st – December 31st).

Acquisitions, as aligned with the reporting boundary, are included as soon as the data becomes available but no later than 12 months after acquisition, unless otherwise stated. Divestments are removed from the data from date of divestment and retrospectively where a full business is divested. In alignment with the GHG Protocol, organic site closures are not retrospectively removed from the data.

The measuring and reporting of environmental performance data involves a degree of estimation and the use of assumptions. Significant is defined as greater than 5% of company emissions. Historic data is restated where material changes are made due to data improvements (e.g., refined estimation or calculation methodologies). Narrative is provided in the Corporate Responsibility report to explain adjustments to prior year numbers.

2. Reporting Criteria

2.1 Scope and Scope2 GHG Emissions:

2.1.1 *Scope 1 and Scope 2 GHG Emissions Inventory:* Environmental data is collected and calculated at our operationally controlled sites using the Persefoni Climate Management and Accounting Platform. This includes stationary fuel combustions (natural gas usage, biogas usage, diesel usage, and propane gas usage); mobile fuel combustions (internal fleet), fugitive emissions (refrigerant usage and process gas usage) and purchased electricity. In cases of office facilities where Vertex is a partial occupant, emissions factors are used in the calculations based on the square footage occupied.

2.1.2 *Scope 1 GHG Emissions Factors and Global Warming Potential (GWP):*

- Fuel Emissions Factors associated to emissions factors for natural gas and other fuels, used for generators and US vehicles, are taken from Environmental Protection Agency (EPA) *Emissions Factors for Greenhouse Gas Inventories* for the current year. Fuel Emissions Factors associated to emissions factors for biogas and other fuels used for generators at United Kingdom are taken from *UK Government GHG Conversion Factors for the Company Reporting* for the current year.
- Natural gas emission factors for international Commercial Offices are taken from country specific emission factor set or the *International Energy Agency (IEA) Emission Factors* database for the current year when any country specific set is not available. Natural Gas Intensities for commercial offices associated with each individual location are taken from the most current US Energy Information Administration Commercial Buildings Energy Consumption Survey. Fuel Emissions Factors associated to fuels used for sales fleet in America are taken from Environmental Protection Agency (EPA) *Emissions Factors for Greenhouse Gas Inventories* for the current year. Fuel Emissions Factors associated to emissions factors to fuel used for international sales fleet, outside from America, are taken from *UK Government GHG Conversion Factors for the Company Reporting* for the current year.
- GWP values used for fugitive emissions calculations are taken from *IPCC Fifth Assessment Report, 2014 (AR5)*.

2.1.2 *Scope 2 GHG Emissions Factors (Location-Based and Market-Based):*

- Scope 2 Location-Based GHG Emissions: Electricity emissions factors for our Research and Development (R&D), and manufacturing sites are taken from *EPA e-Grid Subregions* and *UK Government GHG Conversion Factors for the Company Reporting*. Electricity emissions factors for all international Commercial Offices are taken from country specific emission factor set for the current year or the *International Energy Agency (IEA) Emission Factors* database for the current year when any country specific set is not available. Electricity intensities for all commercial offices are taken from the most current US Energy Information Administration Commercial Buildings Energy Consumption Survey.

- Scope 2 Market-Based GHG Emissions: Electricity emission factors for our Research and Development (R&D), and manufacturing sites are taken from Renewable Energy Certificates (RECs), Renewable Energy Guarantees of Origin (REGOs), Power Purchase Agreements (PPAs), or from renewable energy supplier is applied when available. If data is not available, Location-Based EPA e-GRID emissions factors is used as the source of current year for US sites and UK Government GHG Conversion Factors for the Company Reporting as the source of current year for UK sites. International Commercial Offices apply location-based IEA factors instead of residual mix factors and electricity intensities from the most current US Energy Information Administration Commercial Buildings Energy Consumption Survey.

2.2 Scope 3 GHG Emissions:

2.2.1 *Scope 3 GHG Emissions Inventory*: Supply Chain and environmental data is collected and calculated at our operationally controlled regions from Scope 3 categories that are considered relevant and material for our operations using the Persefoni Climate Management and Accounting Platform.

2.2.2 *Scope 3 GHG Emissions Factors and Global Warming Potential (GWP)*: The following emission factors set and GWP are used to calculate Scope 3 GHG Emissions:

- Exiobase- Monetary 3.8.2
- UK DEFRA Conversion Factors
- US EPA - EEIO Factors 2.0.1-411 AR5
- US EPA Emission Factor Hub
- Australian National Greenhouse Accounts (NGA) Factors
- Canada NIR- Generation Factor
- US EPA- eGRID Sub Region

2.3 Waste Metrics:

2.3.1 Waste metrics represent waste associated with our operations. This includes small scale renovations but excludes expansions and new building construction. All waste metrics for all our sites are calculated by the EHSS team. Emissions associated to waste operations are calculated using the Persefoni Climate Management and Accounting Platform.

2.3.2 Hazardous waste is defined by the country, region, or state where the Vertex facility is located.

2.3.3 Waste diverted from landfill includes both hazardous and non-hazardous waste via recycling, composting, fuel blending and incineration for repurposing or energy recovery. Waste data is a combination of actual data and some estimates.

2.4 Safety Metrics:

2.4.1 Safety Metrics are obtained in accordance with OSHA 29 CFR Part 1904, "*Recording and Reporting Occupational Injuries and Illness*" Safety information is collected globally, and injury metrics are calculated by the occupational health team.

2.4.2 TRIR is defined as the percentage of employees injured per year (assuming 2000-hours work year).

2.4.3 DART is defined as the number of Days Away, Restricted, or Transferred as a result of injuries or illnesses on the job (assuming 2000-hours work year). Lost Workday Rate is defined as the number of lost workdays per 100 full-time employees in any given time frame.

2.5 Water Consumption:

2.5.1 Water Consumption metrics represent water associated with all facilities where we have operational control, including our research and development sites in the United States (MA, CA, RI) and the U.K. (Oxford), and our manufacturing site in Boston, MA. These facilities account for approximately 91% of Vertex's operations based on square footage. All water metrics are calculated by the EHSS team.

2.6 Assurance and Verification:

2.6.1 GHG Scope 1 and Scope 2 emissions, Waste metrics (excluding Scope 3 waste emissions), and Safety metrics is audited externally by a third-party firm annually. The data is reported in our annual Corporate Responsibility report and to CDP Climate Change.

3.0 Revision History

Name of Author	Version/Date	Description of Revisions
J. Isaac	2.0/31MAR2024	<p>Section 1.0:</p> <ul style="list-style-type: none"> • Scope 1 updated to include additional subcategories added to GHG footprint. • Scope 3 updated to remove category 8. Upstream leased assets are not applicable for GHG footprint. Related assets are reporting under Scope 1 and Scope 2 emissions. • Removed Employees Commuting from Key Performance Indicators • Added % Energy from Renewable Resources as new Key Performance Indicator • Moved Waste and Safety overview to Section 2.0 for clarity. <p>Section 2.0:</p> <ul style="list-style-type: none"> • Re-ordered section for clarity and to include reporting criteria for Scope 1, 2, and 3 GHG emissions. • Added Waste and Safety sections removed from section 1. • Added water reporting criteria.
J. Isaac	1.0 / 01JUN2023	New Document