

Greenhouse Gas Reporting Methodology 2024

AstraZeneca 



Introduction

Standards

AstraZeneca reports greenhouse gas (GHG) emissions in accordance with the World Resource Institute / World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (2015) and Corporate Value Chain (Scope 3), Accounting and Reporting Standard (2011).

AstraZeneca's GHG accounting and reporting follows the GHG Protocol Principles, which are used to guide decision making regarding emissions reporting:

- Relevance
- Completeness
- Consistency
- Transparency
- Accuracy

Emissions are reported in carbon dioxide equivalents (tCO₂e), which standardises the climate effects of different GHGs by using global warming potential (GWP) values. GWPs represent the different efficiencies for absorbing long-wave radiation and the atmospheric lifetime of the gas and are measured versus carbon dioxide (CO₂). AstraZeneca uses the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) GWP values on a 100-year period (GWP100) excluding feedback loops, as agreed by the United Nations Framework Convention on Climate Change (UNFCCC).

Boundary

AstraZeneca GHG inventory is determined using a financial control approach and emissions are allocated into the following categories:

- Scope 1
- Scope 2
- Scope 3
- Outside of Scopes

Emissions reporting are reported on a calendar year basis (1 January to 31 December).

Baseline

AstraZeneca Scope 1 and 2 performance is tracked relative to a 2015 baseline year. Scope 3 performance is tracked relative to a 2019 baseline year. The baseline years are representative of normal operating conditions and the difference in baseline years between emission scopes is due to availability of data.

Recalculations to baseline GHG data occurs to ensure that real changes to emissions are captured rather than a result of AstraZeneca structural (e.g. acquisitions and divestments) or methodology changes (e.g. error correction or calculation adjustments). Recalculation will be considered dependent upon significance to GHG emissions with updates disclosed. An internal procedure sets out the thresholds and process for recalculation and adjustments are logged and communicated to our assurance partners as part of annual reporting.

Identifying and calculating GHG emissions

AstraZeneca utilises a range of calculation methods for emissions reporting due to the complex nature of our business and value chain. Primary data is considered to be data provided by suppliers or value chain partners related to specific activities, such as activity data or supplier-specific emissions. Secondary data is not from specific activities and includes industry-average data, for example proxy data or environmentally-extended economic input-output (EEE-IO) models. As part of continuous improvement, AstraZeneca will increase the proportion of primary activity data used in GHG reporting, as methods to do so become available.

Emission factors used for calculating emissions are often lagged by one year. This is because a wide range of sources are used within AstraZeneca's GHG reporting with different update schedules. To maintain consistency and allow for targets to be set internally without being impacted by emission factor changes, updates are applied at the start of each reporting year. Emission factors are applied in a consistent way across reporting years.

Reported values represent best available data at time of reporting. Where data is unavailable, estimates are applied.

Intensity reporting

AstraZeneca also reports on intensity of Scope 1 and 2 (Market-based) and Scope 3 per million of Total Revenue. Our reporting currency is US dollars. Following the rebaselining of emissions to include the Alexion acquisition, the intensity metric incorporates Alexion's Revenue from the baseline year.

Assurance

Bureau Veritas has provided limited independent assurance for the sustainability information contained within the Sustainability Data Annex 2024 and Annual Report and Form 20-F 2024. Assurance is in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) and ISAE 3410 Assurance Engagements on Greenhouse Gas (GHG) Statements.

Scope 1

Definition: Scope 1 emissions are direct greenhouse gas (GHG) emissions that occur from sources that are controlled or owned by AstraZeneca.

This includes GHGs from direct fuel combustion, process and engineering fugitive emissions (for example, refrigerant gases and solvents) at sites and from fuel use in AstraZeneca's commercial fleet (leased vehicles). All AstraZeneca owned sites are in the Scope 1 reporting boundary, together with leased assets that trigger inclusion based upon area, full time employees (FTEs), lease length, and data availability.

Data is collected from across AstraZeneca through the centralised Health, Safety and Environmental reporting system which contains inbuilt emission calculations.

Emission calculations

Direct fuel combustion emissions are calculated using fuel usage data across AstraZeneca sites. Emissions from natural gas, liquefied petroleum gas (LPG), bioenergy (non-CO₂) including biomethane, biogas, biomass, HVO100, along with backup fuel (gas oil and heavy fuel oil) consumption are calculated using UK Government Greenhouse Gas Conversion Factors (hereafter UK Government conversion factors).

Biomethane

AstraZeneca purchases biomethane certificates for some fossil gas usage in the UK, US & Europe. We aim for these certificates to be sourced from the area of gas consumption and annual matching of generation to ensure relevance and impact. In the UK, Renewable Gas Guarantees of Origin are retired through the Green Gas Certification Scheme, while in the US, Renewable Thermal Certificates are tracked via the Midwest Renewable Energy Tracking System. A small number of certificates are also acquired directly through suppliers in Europe.

The reported Scope 1 emissions are calculated following the Greenhouse Gas Protocol's guidance on biogenic fuels, with AstraZeneca accounting for non-CO₂ greenhouse gases in our scope 1 emissions. Additional details can be found in the 'Outside of Scope' section of this document.

In 2024, 134,695 MWh of biomethane certificates have been purchased globally and accounted in our Scope 1 GHG reporting with a CO₂ factor of zero. Accounting for this quantity of gas with fossil fuel CO₂ factors equate to 24,595 tCO₂e, we account for all non-CO₂ emissions.

Fugitive emissions

We calculate fugitive emissions from both process and engineering activities using IPCC Fifth Assessment GWP. Process fugitive emissions are F-Gases released during the manufacture of our inhaler products that require propellants, emission rates per device manufactured are known from lifecycle assessment studies. Engineering fugitive emissions are based on top-ups of F-Gas containing equipment. Equipment is typically associated with heating, ventilation and air conditioning systems, chiller systems, or heat pumps. Conservatively, 100% of the F-Gas is assumed to have been released to the atmosphere. For corporate reporting, GWP100s are used as per reporting requirements.

Total consumed and emitted amounts of solvent are reported by AstraZeneca sites across three solvents categories (non-halogenated, halogenated dichloromethane and halogenated other). Data can be ascertained through emission monitoring or estimated on the basis of mass balance. The classification of a solvent (or Volatile Organic Compound) is based on EU regulations.

Fleet

Direct emissions from AstraZeneca's commercial fleet are calculated using a hybrid approach due to different data sources and reporting requirements used internationally. All markets (countries) report vehicle numbers, vehicle type (e.g. internal combustion engine (ICE), ICE hybrid, ICE plug-in hybrid, battery electric vehicle (BEV)), business distance driven and utilise one of three GHG calculation methods:

1. Fuel consumption data, for instance litres purchased, where emissions are calculated using UK Government conversion factors (fuels).
2. Average fleet fuel consumption factors sourced from vehicle manufacture specifications, are multiplied by distance travelled to estimate fuel usage. Emissions are calculated using UK Government conversion factors (fuels).
3. Fleet average GHG intensity factors (grams CO₂e per km) source from vehicle manufacture specifications that are provided by the third-party leasing company on a quarterly basis. Emissions are calculated by multiplying the intensity factor by the distance travelled.

Some fuel consumption and distance is excluded as it is attributed to personal (non-business) use. Emissions associated with electric vehicles are captured within Scope 2 reporting.

Scope 2

Definition: Scope 2 emissions are indirect GHG emissions that are generated from the purchased energy consumed by AstraZeneca that is electricity, imported steam, imported or district heat and cooling systems.

All AstraZeneca owned sites are in the Scope 2 reporting boundary, together with leased assets that trigger inclusion based upon area, FTEs, lease length, and data availability as well as electricity use for charging electric vehicles (battery and plug-in hybrid) in our Commercial leased fleet.

Energy usage data is collected from across AstraZeneca through the centralised Health, Safety and Environmental reporting system which contains inbuilt emission calculations.

AstraZeneca reports both market-based and location-based Scope 2 emissions in line with the GHG Protocol Scope 2 Guidance, which requires dual external reporting. Market-based factors are more specific to the site and local energy market, taking account of the residual energy mix a site is sourcing power from and any certified renewable power purchased by a site. Location-based factors are the grid average emissions factor for the country (or sub-region in the US) where a site is located.

Emission calculations

AstraZeneca currently purchases renewable electricity globally in line with The Climate Group's RE100 initiative's criteria, in every market that it is possible to. This enables AstraZeneca to report near zero market-based Scope 2 emissions associated with the purchased renewable electricity. To calculate location-based emissions, a range of emission factors are used:

- International Energy Association (IEA)
- US Emissions and Generation Resource Integrated Database (eGRID)
- UK Government conversion factors

On-site renewable generation

Electricity generated on-site from solar photovoltaics is reported as zero emissions within both market and location-based reporting approaches, subject to confirmation that either energy attribute certificates (EACs) are not created, or EACs are instantly retired by or on behalf of the AstraZeneca facility.

Additional energy sources

Alongside Scope 2 emissions resulting from electricity usage, AstraZeneca also utilises both imported steam and district heating and cooling. The sites that consume these energy sources work with suppliers to obtain emission factors specific to the suppliers' fuel mixes. These specific factors are used where available, otherwise UK Government emission factors are applied as a default.

Fleet

Scope 2 emissions associated with electric vehicles from AstraZeneca's commercial fleet are calculated by first multiplying distance travelled by country-specific fleet average energy intensity (kilowatt-hours per km driven). Emissions are then calculated using country-specific emission factors using the same approach as the AstraZeneca sites.

Some fuel consumption and distance is excluded as it is attributed to personal (non-business) use.

Scope 3

Definition: Scope 3 emissions are all indirect GHG emissions (not included in Scope 2) that occur in the value chain of AstraZeneca, including both upstream and downstream emissions.

Category 1 and 2: Purchased goods and services and capital goods

AstraZeneca uses a range of methodologies to calculate emissions associated with purchased goods and services and capital goods. A methodology hierarchy is applied enabling highest quality data to be used where available.

1	Life Cycle Assessment (LCA) and manufacturing data
2	Supplier provided emissions data
3	Spend based estimation

Life Cycle Assessment (LCA) and manufacturing data

AstraZeneca has an active product sustainability workstream which includes LCAs of current and future products. The LCA programme determines the type and magnitude of environmental impacts across our product value chains and is in line with ISO standards 14040 and 14044. Emissions are calculated for AstraZeneca products by multiplying product manufacturing data (standard manufacturing unit at the lowest tangible level, for instance single tablet or capsule) by emission factors calculated from product LCAs for the following lifecycle stages:

- API Manufacture
- Product Formulation
- Medical Device
- Packaging

These stages cover the ‘cradle to gate’ product footprint. For AstraZeneca products which are not covered by an LCA, proxy LCA data has been used based on product classification and modality.

Data is considered primary when emissions are calculated from product LCAs and secondary if proxy LCA data is applied.

Supplier provided emissions data

AstraZeneca encourages suppliers to submit climate targets and GHG emissions data to CDP Climate Survey as this enables supplier-specific emissions to be utilised in AstraZeneca’s Scope 3 reporting. AstraZeneca applies strict quality criteria before supplier data is integrated into corporate reporting. Criteria applied:

1. Supplier Scope 1 and 2 GHG emission data is externally verified.
2. Relevant supplier Scope 3 GHG emissions categories 1-8 (all ‘upstream’ categories).

As data is reported one year in arrears by suppliers into CDP, integration into Scope 3 is achieved through creating supplier-specific spend-intensity factors (kgCO₂e per USD). These are calculated by dividing total emissions by total revenue in the following calculation:

$$\frac{\text{Supplier Scope 1 + Scope 2 + Scope 3 (categories 1-8) [kg CO}_2\text{e]}}{\text{Supplier Total Revenue (USD)}}$$

To generate absolute emissions associated with AstraZeneca, our total spend with this supplier is multiplied by the supplier spend-intensity factor.

Emissions calculated using this method is considered to be primary data.

Spend-based estimation

Remaining indirect emissions that are not covered by the aforementioned methodologies are calculated using the Comprehensive Environmental Data Archive (CEDA) Version 2024, which is a multi-regional economic input-output database with a baseline year of 2022. CEDA provides information about embodied lifecycle emissions per unit spent on items used in close to 400 sectors of the economy. Emissions are calculated using AstraZeneca’s expenditure information on items

and services, which are predominantly categorised in a procurement database. CEDA’s spend-based emissions factors (purchaser price) are applied to each procurement category to calculate GHG emissions. These spend-based emission factors are applied at a supplier country level enabling regional differences to be accounted for. For operational expenditure associated with Alexion, AstraZeneca’s Rare Disease Unit, default US cost-based emission factors are applied.

Some AstraZeneca expenditure is excluded as it is not directly attributable to a purchase such as inventory adjustments. Additionally some spend is excluded for having no specifically attributable emissions, such as tax, duties, employee remuneration, sponsorship etc.

Certain spend data is removed from Category 1 and 2 calculations if it is associated with other GHG categories, for example logistics and business travel.

Emissions calculated using industry average spend-based emission factors is considered to be secondary data.

Category 3: Fuel and energy related activities (not included in Scope 1 or 2)

This category includes emissions from three distinct activities.

Upstream emissions of purchased fuels

Stationary combustion

UK Government Well-to-Tank (WTT) emission conversion factors are used to calculate upstream emissions per fuel type.

Mobile combustion

AstraZeneca's commercial fleet, kilometres driven is multiplied by UK Government (WTT) conversion factors for an average car. The direct emissions associated with AstraZeneca's commercial fleet are captured within Scope 1 reporting.

Upstream emissions from purchased electricity, heat, steam and cooling

Electricity (including electric fleet charging)

IEA generation emission factors and UK Government conversion factors were used to create generation WTT and transmission and distribution WTT specific to each country.

Imported steam and district heating and cooling

Supplier-specific emission factors are used where available, otherwise UK Government conversion factors (generation WTT) per activity/fuel type are applied.

Transmission and Distribution (T&D) losses

Electricity

Calculated using IEA T&D emission factors. For AstraZeneca sites within the United States, regional eGrid T&D emission factors are used.

Imported steam and district heating and cooling

Supplier-specific emissions factors are used where available, otherwise UK Government T&D conversion factors are applied.

All emissions data is considered to be primary data in this category.

Category 4: Upstream transportation and distribution

This includes all primary and secondary distribution freight services purchased by AstraZeneca.

AstraZeneca collects activity data from freight forwarders across air, sea and rail. The unit of measure is tonne-kilometre (tkm) and is calculated using gross weight and port to port distance (reflecting the freight mode). Emissions are then calculated using UK Government conversion factors specific to freight mode.

Both direct emissions and WTT are included. Air freight emissions include the non-CO₂ climate impacts known as radiative forcing for example water vapours, contrails, NO_x.

Activity data is also used for a proportion of EU road freight. Tonne-kilometre is calculated using number of pallets and an assumed weight per pallet to estimate total weight and reported distance. Emissions are calculated using UK Government conversion factors, with two different vehicle types applied ('van – average' and 'articulated refrigerated >33t with average laden').

A small proportion of freight emission data is provided directly by suppliers for AstraZeneca's Rare Disease Unit, Alexion.

Remaining emissions are calculated using the same economic input-output method used for Scope 3 Category 1 and 2. The CEDA 2024 database is mapped against AstraZeneca procurement categories and emissions calculated. Some AstraZeneca spend is excluded as they are not directly attributable to

purchases. Additionally some spend is excluded for having no specifically attributable emissions.

Emissions calculated from activity/supplier data are considered to be primary data with secondary data emissions calculated using the spend-based approach.

Category 5: Waste generated in operations

Routine, final finished product (commercial returns) and construction waste data is collected from across AstraZeneca through the centralised Health, Safety and Environmental reporting system. It contains inbuilt emission calculations, based upon waste disposal route, for example recycling, incineration with and without energy recovery. Emissions are calculated using emission factors from 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2 and UK Government conversion factors for waste disposal.

AstraZeneca's manufacturing site in Sweden uses a supplier specific hazardous incineration emission factor based on chimney measurements at the incineration site.

Emissions are calculated from all AstraZeneca sites where waste data is available and is considered to be primary data.

Category 6: Business travel

Air travel activity data is collected via AstraZeneca's travel booking agent. Emission calculations are based on flight distance and cabin class and account for direct and WTT emissions. Emissions are calculated using 2022 UK Government conversion factors, reflecting pre-pandemic travel level. These factors account for the non-CO₂ climate impacts from radiative forcing, such as water vapours, contrails, NO_x, hence a 1.9 multiplier is applied.

For AstraZeneca chartered flights, CO₂ emissions are calculated for the entire aircraft using average fuel burn volumes for the specific aircraft model provided by Eurocontrol small emitters tool (as suggested in UK Government conversion factors methodology document). Non CO₂ (methane, nitrous oxide and

radiative forcing) and WTT emissions are calculated using methodology outlined in UK Government conversion factors.

Hotel-stay activity data is collected via AstraZeneca's travel booking agent. Emissions are calculated by multiplying number of room nights by a country-specific emission factor for the footprint per occupied room. Emission factors applied are derived from the Cornell Hotel Sustainability Benchmarking Index. The median of full service non-resort category is applied where possible, if unavailable for a country, the median all hotel factor is used. For those countries not represented in the data set, an average factor is applied.

Grey fleet activity data is collected through the centralised Health, Safety and Environmental reporting system. Grey fleet is defined as vehicles owned by employees and driven by employees for business purposes. The direct and indirect (WTT) emissions are calculated by multiplying distance travelled (km) by UK Government conversion factors. For AstraZeneca's Rare Disease Unit, Alexion, grey fleet exists in the US and emissions are calculated by converting fuel purchase costs (USD) into litres using monthly gasoline prices (all grades) produced by the U.S. Energy Information Administration. Direct and indirect (WTT) emissions are calculated by multiplying fuel volume with UK Government conversion factors.

Car rental activity data is collected via AstraZeneca's travel booking agent. Information on the distance travelled is unavailable, therefore an estimate of (160km per day) is applied. Emissions are calculated by multiplying estimated distance by UK Government conversion factors (vehicle classifications).

Remaining emissions are calculated using the same economic input-out method used for Scope 3 Category 1 and 2. The CEDA 2024 database is mapped against AstraZeneca spend categories and emissions calculated. Some AstraZeneca spend is excluded by utilising our General Ledger accounts to

identify expenses that are not directly attributable to invoices, for example accruals, inventory adjustments, intercompany transfers, prepayments etc.

AstraZeneca is unable to calculate emissions for car rentals, hotels or air travel booked outside of our booking platform. As this is anticipated to only occur in exceptional circumstances, this impact is expected to be small.

Emissions calculated from activity/supplier data is considered to be primary data with secondary data emissions calculated using the spend-based approach.

Category 7: Employee commuting

No employee commuting data is available for AstraZeneca employees. Emissions from commuting are calculated based on full time equivalents (FTEs) at each AstraZeneca site using a global emission factor. This factor was derived from country-specific commuting model developed by an external consultancy in 2020. Assumptions are applied to account for employees working within different functions i.e. Operations (manufacturing) and R&D employees would typically be working on-site for a greater proportion of their time than enabling functions employees. Additionally, commercial employees may have a company car and commutes are captured within Scope 1 reporting.

In addition to commuting emissions, AstraZeneca calculates emissions associated with homeworking. Homeworking emissions are calculated using kWh/month/FTE. Estimated energy usage accounts for gas use, air conditioning, desk electricity and lighting electricity and is based on 240 working days a year and 160 working hours a month. Emissions have then been calculated using country specific emission factors (UK Government conversion factors and IEA) multiplied by the number of employees per country. Assumptions have been applied to account for a mix of homeworking and commuting.

Emissions in this category are considered to be from secondary data.

Category 8: Upstream leased assets

Emissions from leased AstraZeneca sites outside of the Scope 1 and Scope 2 reporting boundary are reported within this category.

For sites where energy data is available, emissions are calculated using the same methodology outlined in Scope 1, Scope 2 and Scope 3 Category 3.

For sites where AstraZeneca has no access to energy data, emissions are calculated by creating energy intensities from Scope 1 and 2 AstraZeneca sites. Total gas and electricity consumption for AstraZeneca sites is divided by floor area (split by usage type for example office, manufacturing, etc.) to create AstraZeneca-specific energy intensities for each building use type and energy source. The office energy intensity benchmark is calculated from sites that only have office function. These energy intensities are applied to AstraZeneca upstream leased sites based on their building composition to estimate electricity and gas usage. IEA and UK Government conversion factors are applied (including direct and upstream emissions) to convert energy data into emissions. It is assumed that only natural gas and electricity are consumed by the properties. F-Gas emissions are not estimated for upstream leased assets due to the high uncertainty and the low materiality for the uses that are normally under this category, that is, shared commercial offices.

Emissions calculated using site energy data are considered to be primary data and emissions calculated from energy intensity benchmarks are considered as secondary data.

Category 9: Downstream transportation and distribution

For AstraZeneca, downstream distribution relates to customer storage of products, for example at a hospital or pharmacy, and patient travel to collect medicines or be administered medicines. All other emissions associated with transporting and distributing products is captured within category 4 (upstream).

Emissions are calculated by multiplying manufacturing data (stock keeping unit, an individual pack) by emission factors from the Coalition for Sustainable Pharmaceuticals and Medical Devices (CSPM) Care Pathways 2015 report. For oncology and rare disease medicines, it is assumed patients are treated in hospital and so the emission factor used is for self-travel for elective care. For all other medicines the emission factor is self-travel to GP consultations. Assumptions are applied to account for multiple medicines being collected at the same time, along with other goods/ services being purchased during the same trip.

AstraZeneca estimates 15,000 tCO₂e as a conservative estimate for the impact of refrigerated storage of medicines by customers. There is high uncertainty with emissions in this category and we continue to improve and enhance the methodology.

This emissions source is excluded from the boundary of AstraZeneca's verified near-term and net-zero science-based targets.

Emissions in this category are considered to be from secondary data.

Category 10: Processing of sold products

Assessed and not relevant as no further processing of sold products takes place for any of AstraZeneca's products.

Category 11: Use of sold products

Emissions from the patient use of sold inhalation devices containing propellants that are GHGs (F-Gases) is quantified in this category. The emissions associated with the use of other sold products that do not include F-Gas-based propellants (e.g. dry powder inhalers) are assessed as part of product lifecycle assessments and to date have been found to be immaterial.

Production volumes for the inhalation medicine devices containing F-Gases are collected via an internal production database and multiplied by the nominal propellant volumes for each device type, substantiated by third party environmental life-cycle assessment of this product portfolio. GWP emission factors derived from IPCC AR5 are multiplied by the propellant volumes to calculate total GHG emissions from the use of inhalers. It is assumed that the entire charged volume of propellant is discharged to atmosphere during use of the product. Emissions are reported based on manufacture date as a simplified way of avoiding making low-confidence assumptions regarding shelf-life and patient use behaviours – this method also supports forward looking forecasting of emissions using production forecasts.

Emission data is considered to be primary data for this category.

Category 12: End-of-life treatment of sold products

For AstraZeneca products, emissions are calculated by multiplying standard manufacturing units with emission factors from product LCAs for the 'end of life' stage. If products are not covered by an LCA, proxy LCA data was used based on product classification and modality.

For Alexion products, fill/finish and packaging component weights per product are multiplied by production data to provide total weights of material placed on the market.

Emissions are calculated by multiplying the total material weights by UK Government conversion factors.

Emission data is considered to be primary data for this category where product LCA data or material weights are used. Emissions calculated from proxy LCA data are considered as secondary data.

Category 13: Downstream leased assets

AstraZeneca infrequently assumes the role of landlord. Nevertheless, such circumstances may arise, for instance, during partial asset divestment or transitional periods. It is incorporated as a reportable category within AstraZeneca's Scope 3 emissions.

Emissions are calculated by creating energy intensities from Scope 1 and 2 AstraZeneca sites. Total gas and electricity consumption for AstraZeneca sites is divided by floor area (split by usage type e.g. office, manufacturing, etc.) to create AstraZeneca-specific energy intensities for each building type. The office energy intensity benchmark is calculated from sites that only have office function. These energy intensities are applied to AstraZeneca downstream leased sites based on their building composition to estimate electricity and gas usage. IEA and UK Government conversion factors are applied (including

direct and upstream emissions) to convert energy data into emissions. It is assumed that only natural gas and electricity are consumed by the assets.

Emissions in this category are considered to be from secondary data.

Category 14: Franchises

Assessed and not relevant as AstraZeneca does not have any franchises.

Category 15: Investments

Assessed and not material.

Outside of scopes

Definition: Biogenic CO₂ associated with fuels determined to be net zero since the fuel source itself absorbs an equivalent amount of CO₂ during the growth phase as the amount of CO₂ released through combustion.

'Outside of scopes' refers to emissions associated with bioenergy sources across several sites, associated with biogas, biomethane, and biomass (imported steam from off-site straw combustion). Emissions are calculated by multiplying fuel consumption with UK Government conversion factors.

AstraZeneca Brazil's commercial vehicle fleet utilises bioethanol as a fuel.

The non-CO₂ direct GHG emissions of bioenergy sources, for instance the small amounts of methane (CH₄) and nitrogen oxide (N₂O) are reported within Scope 1. The upstream GHG emissions (WTT) associated with extraction, refining and transportation of the bioenergy source reported within Scope 3 Category 3 using UK Government conversion factors.

Data and methodology adjustments

Regular review of the data is carried out to ensure accuracy, consistency and reflect major business change, which has led to changes to reported figures in data in previous years. Key changes include:

Scope 3

Category 1: Purchased goods and services;
Category 2: Capital goods; Category 4: Upstream transportation and distribution; Category 6: Business Travel

A change in the source of procurement spend data and classification of spend, impacted emissions that are calculated from it (secondary data). In addition, the 2024 version of Comprehensive Environmental Data Archive (CEDA) emission factors were applied to 2023 data, which reflect decarbonisation that occurred between 2018 and 2022.

Category 6: Business travel

Air travel data that originated outside of our primary travel provider was identified, this data has been incorporated back to the 2019 baseline year. In addition, aircraft emissions from AstraZeneca chartered flights are accounted. Change has been applied to historic data.

Category 8: Upstream leased assets

Improvement in data associated with AstraZeneca leased assets as primary data has replaced previous estimates. Additionally several buildings have been excluded as previously were double counted. Changes have been applied to relevant historic data.

Category 11: Use of sold products

Improvement in data associated with inhaler manufacturing volumes, prior period manufacture volumes (2022 and 2023) revised to align with current reporting methodology.