



bp Basis of Reporting 2023



March 2024

Reporting criteria summary for selected metrics in our 2023 corporate reporting

The purpose of this document is to outline the approach and scope used for data collection and forms the basis, where relevant, for assurance of selected sustainability performance data, as published in:

- [bp Annual Report and Form 20-F 2023](#)
- [bp Sustainability Report 2023](#)
- [bp ESG datasheet 2023](#)
- [bp.com/sustainability](#)

The indicators included cover our activities during the period 1 January to 31 December 2023. Metrics are calculated using a cut of data from after the end of the reporting period.

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★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

1. Safety

1.1 Recordable injury frequency (RIF) – workforce

Definition The total number of recordable work-related injuries to bp employees and bp contractors for every 200,000 hours worked by the bp workforce. bp's definition of recordable injury aligns with the Occupational Safety and Health Administration (OSHA) definition under criteria 1904.7.

Scope Reporting period 1 January to 31 December 2023.
The metric covers the bp workforce – bp employees and bp contractors (individuals under a contractual relationship to supply bp with goods and/or services). It includes reported recordable work-related injuries occurring within bp's operational HSSE reporting boundary. That boundary includes bp's own operated facilities and joint ventures where bp is the operator. In some cases, we may also provide information about some joint venture activities where bp is not the operator. In 2023 no non-operated joint venture information was included for RIF.

Exclusions to this may exist where entities have requested to deviate from reporting requirements specified in bp's operating management system (OMS)★. These exclusion requests are mainly related to a transitional period in relation to portfolio changes. For example, in 2023 data from the recently acquired Archaea Energy and TravelCenters of America was not included in bp's reported figures. Requests shall be based on a risk assessment, justified and documented, and subsequently endorsed up to entity SVP level.

Units Recordable injuries per 200,000 workforce hours worked.

Method IRIS is bp's global application for recording, reporting and learning from health and safety incidents. Injury incidents can be recorded in IRIS by any bp employee and any bp contractor with IRIS access. Entities are responsible for establishing and communicating the requirements and process for reporting incidents per the requirements in OMS.

Site-level IRIS incident managers are accountable for confirming the completeness and accuracy of the incident record. IRIS determines the classification of an incident using the data submitted in the incident record.

RIF is calculated in IRIS as the total number of recordable injuries divided by the number of workforce hours worked, multiplied by 200,000. Entities are responsible for submitting hours worked into IRIS and may use estimations and/or calculations where appropriate. These methodologies can vary by entity.

OSHA adopted 200,000 hours as the basis for frequency unitization as it approximately equates to the hours worked by 100 people in a year.

Where OSHA does not provide guidance on classifying specific incidents, internal recommendations are available to assist with incident classification.

Source Recordable injuries are recorded in IRIS by entities across the bp group. Workforce hours worked are submitted into IRIS by entities across bp group based on HR and contractor data. Recordable injuries and workforce hours worked are the basis of recordable injury frequency reporting.

1.2 Fatalities – workforce

Definition A workforce fatality is any death of an employee or contractor as a result of a work-related incident, where work-related refers to an event or exposure in the bp work environment. bp's definition of a fatality aligns with the Occupational Safety and Health Administration (OSHA) definition under criteria 1904.7.

Scope Reporting period 1 January to 31 December 2023.
The metric covers bp workforce – bp employees and bp contractors (individuals under a contractual relationship to supply bp with goods and/or services). It includes reported fatalities occurring within bp's operational HSSE reporting boundary. That boundary includes bp's own operated facilities and joint ventures where bp is the operator. In some cases, we may also provide information about some of our joint venture activities where we are not the operator. In 2023 no non-operated joint venture information was included for fatalities.
Exclusions to this may exist where entities have requested to deviate from reporting requirements specified in bp's operating management system (OMS). These exclusion requests are mainly related to a transitional period in relation to portfolio changes. For example, in 2023 data from the recently acquired Archaea Energy and TravelCenters of America was not included in bp's reported figures. Requests shall be based on a risk assessment, justified and documented, and subsequently endorsed up to entity SVP level.

Units Number of work-related workforce fatalities.

Method IRIS is bp's global application for recording, reporting and learning from health and safety incidents. Fatality incidents can be recorded in IRIS by any bp employee and any bp contractor with IRIS access. Entities are responsible for establishing and communicating the requirements and process for reporting incidents per the requirements in OMS.

Site-level IRIS incident managers are accountable for confirming the completeness and accuracy of the incident record. IRIS determines the classification of an incident using the data submitted in the incident record.

Where OSHA does not provide guidance on classifying specific incidents, internal recommendations are available to assist with incident classification.

Source Fatalities are recorded in IRIS by entities across the bp group and are the basis of workforce fatality reporting.

★ See the glossary in the bp Sustainability Report 2023 [pages 59-61](#)

1. Safety

1.3 Process safety events (tier 1 and tier 2)

Definition bp's definitions of tier 1 and tier 2 process safety events (PSEs) align with the American Petroleum Institute (API) guide RP-754 Process Safety Performance Indicators for the Refining and Petrochemical Industries (third edition, August 2021) and The International Association of Oil & Gas Producers (IOGP) Report 456 – Process safety – recommended practice on key performance indicators. The API guide RP-754 and IOGP Report 456 are closely aligned.

In summary, a PSE is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials, from a process, with one or more consequences.

Tier 1 PSEs are the most severe, with consequences including one or more of:

- Hazardous release over defined thresholds (as defined in API RP-754).
- Workforce day away from work case (DAFWC – incident that results in an injury where a person is unable to work for a day shift or more).
- Fatality.
- Third-party hospital admission or fatality.
- Officially declared community evacuation or community shelter-in place.
- Fire/explosion.
- Pressure relief device (PRD) discharge to atmosphere or material release when meeting defined thresholds and conditions.

Tier 2 PSE consequences include:

- Hazardous release within defined thresholds (as defined in API RP-754).
- Workforce recordable injury.
- Less severe fire/explosion or PRD discharge or release of material when meeting defined thresholds (as defined in API RP-754) and conditions (which may vary depending on the material released, magnitude of damage and nature of the incident).

Scope Reporting period 1 January to 31 December 2023.

The metric includes reported PSEs occurring within bp's operational HSE reporting boundary. That boundary includes bp's own operated facilities and joint ventures where bp is the operator. In some cases, we may also provide information about some joint venture activities where bp is not the operator. In 2023 an incident at a non-operated joint venture (NOJV) was included in bp's reported tier 2 PSEs. This exception to the reporting scope was due to specific local licensing conditions – a bp entity was listed as the environmental license holder for the NOJV. No other NOJV PSEs were reported by bp in 2023.

Exclusions to this may exist where entities have requested to deviate from reporting requirements specified in bp's operating management system (OMS)★. These exclusion requests are mainly related to a transitional period in relation to portfolio changes. For example, in 2023 data from the recently acquired Archaea Energy and TravelCenters of America was not included in bp's reported figures. Requests shall be based on a risk assessment, justified and documented, and subsequently endorsed up to entity SVP level.

Units Number of tier 1 and tier 2 PSEs.

Method IRIS is bp's global application for recording, reporting and learning from health and safety incidents. PSEs can be recorded in IRIS by any bp employee and any bp contractor with IRIS access. Entities are responsible for establishing and communicating the requirements and process for reporting incidents per the requirements in OMS.

Site-level IRIS incident managers are accountable for confirming the completeness and accuracy of the incident record. IRIS determines the classification of an incident using the data submitted in the incident record.

Source PSEs are recorded in IRIS by entities across the bp group and are the basis of PSE tier 1 and tier 2 reporting.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

2. Net zero operations★ (aim 1)

Aim 1 is to be net zero across our entire operations on an absolute basis by 2050 or sooner. This aim relates to our operated Scope 1 and Scope 2 greenhouse gas (GHG) emissions.

2.1 Operational control boundary Scope 1 (direct) GHG emissions (MtCO₂e)

Definition Total (100%) Scope 1 (direct) GHG emissions from source activities operated by bp or otherwise within bp's operational control boundary. bp's reported GHG emissions include methane (CH₄) and carbon dioxide (CO₂). Other GHGs are not included as they are not material to our operations.

CH₄ emissions are converted to CO₂ equivalent using the 100-year global warming potential (GWP) recommended by the Fifth Assessment Report (AR5) of the Inter-governmental Panel on Climate Change (IPCC).

In addition, this metric is reported with four supporting metrics following the same scope and method outlined below, including the geographical breakdown required for UK Streamlined Energy and Carbon Reporting (SECR):

- I. Carbon dioxide emissions (MtCO₂e).
- II. Methane emissions (Mt).
- III. UK and offshore Scope 1 emissions (MtCO₂e).
- IV. Global (excluding UK and offshore) Scope 1 emissions (MtCO₂e).

Scope

Reporting period 1 January to 31 December 2023.

The scope of GHG data reported covers bp's operational control boundary.

bp operated comprises:

- bp operated assets (which includes unmanned assets such as wellheads and pipelines where bp workforce are not present on a day-to-day basis, where these are operated by bp).
- Company owned and operated retail sites.
- Vessels for which bp holds the International Safety Management Document of Compliance (DOC).
- Road vehicles, aircraft and rail transportation that are dedicated to bp's business use (this includes vehicles contractually dedicated or leased to exclusive business use for bp operated entities).
- Contractor drilling activities conducted on behalf of businesses under bp operational control.
- Pending handover of field or asset operations, sites and assets where, following divestment, bp no longer has an equity interest but maintains day-to-day operations pursuant to a contractual arrangement.
- Leased offices over 50,000 ft² (reporting units may estimate data if not available from office lessor).

Read more in the *bp Annual Report 2023* [page 51](#)

Units

MtCO₂e.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)



2. Net zero operations (aim 1)

Method bp's operating management system (OMS)★ provides a single framework for managing bp's operating activities and includes standards, procedures and guidance which set out bp's requirements for the GHG and energy data submission, approval, and review processes.

Data is required to be submitted into the bp group reporting tool, OneCSR in accordance with OMS requirements, broadly based on the GHG Protocol Corporate Standard and the Ipeca Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011. The responsibility for quantifying and submitting GHG emissions for reporting is assigned to individual bp facilities and business departments, which are termed reporting units (RUs).

OMS also sets out the methodologies used for calculation of GHG data. Where regulatory methodologies apply to the RUs' emissions sources, the RU may apply the calculation methodology required by the relevant regulator. Applicable regulatory requirements may include EU Emissions Trading System and US EPA methane regulations. Where regulatory methodologies do not cover certain emission sources, the methodologies laid out in OMS may be used and are primarily based on the API Compendium of GHG Emissions Methodologies for the Oil and Gas Industry 2021 and industry recognized references, such as the IPCC guidelines, US EPA publications and UK EEMS.

Sources of CO₂ primarily fall into these main categories:

- Fuel combustion
- Flares
- Processes

CO₂ emissions for fuel combustion and flaring are quantified based on the fuel consumption and fuel properties for major sources.

Sources of CH₄ primarily fall into these main categories:

- 'Losses' from the extraction (e.g. production), transport, handling and processing of fossil fuels, primarily natural gas and crude oil.
- Incomplete combustion of hydrocarbons.
- Chemical reaction processes.

CH₄ emissions are primarily quantified using emission factors from the sources noted above.

Method cont. These methodologies include the option to use estimates to calculate emissions based on a hierarchy of preference for environmental performance data calculations, with a bias towards direct measurement, as noted in OMS:

- Continuous direct measurement of emissions
- Continuous parameter monitoring systems
- Periodic measurement of emissions
- Equipment manufacturer emissions factors
- Published emission factors

RUs submit a quarterly breakdown of CO₂ and CH₄ data directly into OneCSR. They are required to account for all significant variances from the previous year and identify the sustainable emission reductions for the reporting period, where applicable.

The RUs follow a formal GHG data submission sign-off process in OneCSR confirming the data has been reported in accordance with OMS requirements. Once submitted, the GHG data is reviewed at corporate level by subject matter experts.

To facilitate publication of data – including in the *bp Annual Report and Form 20-F 2023* and the *bp Sustainability Report 2023*, we use a cut-off date of 31 January to allow for verification and internal and external limited assurance prior to reporting. After this date, subject to bp verification, published values are only changed in line with our restatement policy.

If errors in input data or calculations that underpin emissions covered by aim 1 including the 2019 baseline year are identified after year end reporting, those numbers are restated for the relevant year or years in the next reporting period, in line with thresholds set out in our reporting policies. The 2019 baseline figure is not restated to reflect acquisitions or divestments in subsequent years. We apply the same approach to both organic and inorganic investment.

Source OneCSR, the bp group reporting tool.

Direct GHG emissions data are submitted into OneCSR by the RUs, reviewed at corporate level by subject matter experts and the metric is independently assured for use in external reporting.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)



2. Net zero operations (aim 1)

2.2 Operational control boundary Scope 2 (indirect) emissions (MtCO₂e)

Definition Total (100%) Scope 2 (indirect) GHG emissions from source activities that are operated by bp or otherwise within bp's operational control boundary. Scope 2 (indirect) emissions are those associated with the consumption of purchased electricity, heat, steam and cooling.

Scope 2 GHG emissions are reported on the basis of carbon dioxide (CO₂) and methane (CH₄).

bp reports Scope 2 (indirect) emissions using both a location-based approach and market-based approach.

In addition, these metrics are reported with four supporting metrics following the same scope and method providing the geographical breakdown required for UK Streamlined Energy and Carbon Reporting (SECR):

- I. UK and offshore Scope 2 emissions Market based.
- II. Global (excluding UK and offshore) Scope 2 emissions Market based.
- III. UK and offshore Scope 2 emissions Location based.
- IV. Global (excluding UK and offshore) Scope 2 emissions Location based.

Scope Reporting period 1 January to 31 December 2023.

- bp operated assets (which include unmanned assets such as wellheads and pipelines where bp workforce are not present on a day-to-day basis, where these are operated by bp).
- Company owned and operated retail sites.
- Vessels for which bp holds the International Safety Management Document of Compliance (DOC).
- Road vehicles, aircraft and rail transportation that are dedicated to bp's business use (this includes vehicles contractually dedicated or leased to exclusive business use for bp operated entities).
- Contractor drilling activities conducted on behalf of businesses under bp operational control.
- Pending handover of field or asset operations, sites and assets where following divestment, bp no longer has an equity interest but maintains day-to-day operations pursuant to a contractual arrangement.
- Leased offices over 50,000 ft² (reporting units may estimate data if not available from office lessor).

Read more in the *bp Annual Report 2023* [page 51](#)

Units MtCO₂e.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

Method

bp's operating management system (OMS)★ provides a single framework for managing bp's operating activities and includes standards, procedures and guidance which set out bp's requirements for the GHG and energy data submission, approval, and review processes.

Data is required to be submitted into the bp group reporting tool, OneCSR in accordance with OMS requirements, broadly based on the GHG Protocol Corporate Standard and the Ipieca Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011.

The responsibility for quantifying and submitting market-based Scope 2 GHG emissions and energy data to be used for reporting is assigned to individual bp facilities and business departments, which are termed reporting units (RUs).

OMS also sets out the methodologies we use for calculation of GHG data. These methodologies include the option to use estimates to calculate emissions based on a hierarchy of preference for environmental performance data calculations.

Where activity data is not available for certain sites estimates may be used based on existing data from comparable operations/sites. Our approach to estimation can vary by site depending on its location and activities.

RUs submit a quarterly breakdown of market-based GHG emissions and imported energy use data directly into OneCSR, and are required to account for all significant variances from the previous year and to identify the sustainable emission reductions for the reporting period, where applicable. The approach to the criteria which all contractual instruments must meet for the Scope 2 market-based method broadly aligns with Chapter 7 in the GHG Protocol Scope 2 Guidance.

Purchased instruments for market-base Scope 2 are:

- RECs (US)
- GoOs (Europe)
- REGOs (UK)
- RECs (Australia and New Zealand)

Location-based emissions are calculated in OneCSR using imported electricity data provided by RUs with the most recently available DEFRA and International Energy Agency (IEA) emission factors applied (without manipulation or edits) to the current reporting year. As steam is imported directly from known sources, the location and market-based calculations for steam emissions are comparable. We do not currently import heat at our sites.

The RUs follow a formal GHG data submission sign-off process in OneCSR to confirm the data have been reported in accordance with OMS requirements. Once submitted, the GHG data is reviewed at corporate level by subject matter experts.

To facilitate publication of data – including in the *bp Annual Report and Form 20-F 2023* and the *bp Sustainability Report 2023*, we use a cut-off date of 31 January to allow for verification and internal and external limited assurance prior to reporting.



2. Net zero operations (aim 1)

Method cont.	After this date, subject to bp verification, published values are only changed in line with our restatement policy. If errors in input data or calculations that underpin emissions covered by aim 1 including the 2019 baseline year are identified after year end reporting, those numbers are restated for the relevant year or years in the next reporting period, in line with thresholds set out in our reporting policies. The 2019 baseline figure is not restated to reflect acquisitions or divestments in subsequent years. We apply the same approach to both organic and inorganic investment.
Source	OneCSR, the bp group reporting tool. Scope 2 (indirect) GHG emissions and imported energy use data are submitted into OneCSR by the RUs, reviewed at corporate level by subject matter experts and the metric is independently assured for use in external reporting.

2.3 Total sustainable emissions reductions (SERs)★ (MtCO₂e)

Definition	Sustainable GHG emissions reductions (SERs) from activities that are within the bp operational control boundary. SERs result from actions or interventions that have led to ongoing reductions in Scope 1 (direct) and/or Scope 2 (indirect) GHG emissions (carbon dioxide CO ₂ and methane CH ₄) such that GHG emissions would have been higher in the reporting year if the intervention had not taken place. SERs must meet three criteria: a specific intervention (for example an engineering change for plant reliability or safety) that has reduced GHG emissions; the reductions must be quantifiable; and the reduction is expected to be ongoing. Reductions are reportable for a 12 month period from the start of the intervention/action.
Scope	SERs reported are from reductions that meet these three criteria in the period 1 January to 31 December 2023. SERs reported include Scope 1 (direct) CO ₂ emission reductions, direct CH ₄ emission reductions and Scope 2 (indirect) GHG emissions reductions. The scope of GHG data reported covers bp's operational control boundary. bp operated comprises: <ul style="list-style-type: none"> • bp operated assets (which include unmanned assets such as wellheads and pipelines where bp workforce are not present on a day-to-day basis, where these are operated by bp). • Company owned and operated retail sites. • Vessels for which bp holds the International Safety Management Document of Compliance (DOC). • Road vehicles, aircraft and rail transportation that are dedicated to bp's business use (this includes vehicles contractually dedicated or leased to exclusive business use for bp operated entities).

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

Scope cont.	<ul style="list-style-type: none"> • Contractor drilling activities conducted on behalf of businesses under bp operational control. • Pending handover of field or asset operations, sites and assets where following divestment, bp no longer has an equity interest but maintains day-to-day operations pursuant to a contractual arrangement. • Leased offices over 50,000 ft² (reporting units may estimate data if not available from office lessor).
Units	MtCO ₂ e.
Method	bp's operating management system (OMS)★ provides a single framework for managing bp's operating activities and includes standards, procedures and guidance which set out bp's requirements for the GHG and energy data submission, approval, and review processes. The responsibility for calculating and submitting SERs lies with individual bp facilities and business departments, which are termed reporting units (RUs). RUs submit a quarterly breakdown of SERs directly into the bp group reporting tool, OneCSR. The RUs follow a formal GHG data submission sign-off process in OneCSR confirming SERs have been reported in accordance with OMS requirements. Where an intervention has taken place, the RU assesses how much higher the emissions would have been during the current reporting period if the project or intervention had not happened. This is applicable for reductions of Scope 1 (direct) CO ₂ and CH ₄ emissions and Scope 2 (indirect) GHG emissions. Details on SERs, including the methodology and calculations, are provided to subject matter experts at corporate level who review the information and confirm that the reduction meets the criteria to qualify as a SER, as noted in the definition above. To facilitate publication of data – including in the <i>bp Annual Report and Form 20-F 2023</i> and the <i>bp Sustainability Report 2023</i> , we use a cut-off date of 31 January to allow for verification and internal and external limited assurance prior to reporting. After this date, subject to bp verification, published values are only changed in line with our restatement policy. If errors in input data or calculations that underpin emissions covered by aim 1 including the 2019 baseline year are identified after year end reporting, those numbers are restated for the relevant year or years in the next reporting period, in line with thresholds set out in our reporting policies. The 2019 baseline figure is not restated to reflect acquisitions or divestments in subsequent years. We apply the same approach to both organic and inorganic investment.
Source	OneCSR, the bp group reporting tool. Data on SERs is submitted into OneCSR, by RUs, reviewed at corporate level by subject matter experts and independently assured for use in external reporting.

3. Net zero production★ (aim 2)

Aim 2 is to be net zero on an absolute basis across the carbon in our upstream★ oil and gas production by 2050 or sooner. This aim is associated with emissions from the carbon in our upstream oil and gas production★. This is our Scope 3 aim and is based on bp’s net share of production^a.

3.1 Emissions from the carbon in our upstream oil and gas production (MtCO₂)

Definition Calculated carbon dioxide (CO₂) emissions from the assumed stoichiometric combustion of upstream production of crude oil, natural gas and natural gas liquids (NGL), based on bp’s net share of production, excluding bp’s share of Rosneft production^a.

These emissions are equivalent to the GHG Protocol, Scope 3, category 11, within the selected boundary of bp’s net share of upstream production of oil and gas.

The CO₂ emissions from the carbon in upstream oil and gas production is calculated as follows:

$$\text{Carbon in Upstream Production} = \sum_i (\text{Mass of CO}_2 \text{ Emissions})_i$$

Where:

i corresponds to the production phase (i.e., crude oil, natural gas or NGL). The mass of CO₂ emissions is calculated as follows:

$$\text{Mass of CO}_2 \text{ Emissions} = \text{Produced Volume} \times \text{Density} \times \frac{\text{Cwt\%}}{100} \times \frac{44}{12}$$

Where:

Produced volume is the volume of bp’s net share of production of crude oil, or natural gas or NGL, as reported in the bp’s stock exchange announcement February 2024 and *bp Annual Report and Form 20-F 2023*.

Density is the density of crude oil, or natural gas or NGL, based on global average factors described in the Energy Institute Statistical Review of World Energy (72nd edition).

Definition cont. Cwt% is the carbon content of crude oil, or natural gas or NGL, based on assumed stoichiometric descriptions for gas and NGL, and on crude oil data from the Oil Production Greenhouse Gas Emissions Estimator (OPGEE), v2.0c, published May 2022.

44/12 is the ratio of molecular weight of CO₂ (44) to atomic weight of carbon (12).

Scope Reporting period 1 January to 31 December 2023.

Based on bp’s net share of production volumes of crude oil, natural gas and NGLs, excluding bp’s share of Rosneft production^a.

Units MtCO₂.

Method The calculation is performed by the bp strategy, sustainability & ventures (SS&V) carbon ambition team and is subject to independent third-party assurance for use in external reporting.

If errors in input data or calculations that underpin aim 2 are identified after year end reporting, which lead to a difference exceeding the thresholds described in our aim 2 accounting policy, those numbers are restated for the relevant year or years in the next reporting period. The restatement policy also applies to the 2019 baseline year. The 2019 baseline figure is not restated to reflect acquisitions or divestments in subsequent years. We apply the same approach to both organic and inorganic investment.

Source The bp net share of production volumes (as defined in the *bp Annual Report and Form 20-F 2023* and stock exchange announcement) are the same as in the stock exchange announcement and data published in the *bp Annual Report and Form 20-F 2023*.

^a Excluding bp’s share of production in Rosneft. On 27 February 2022, bp announced that it intends to exit its 19.75% shareholding in Rosneft Oil Company (Rosneft). bp ceased equity accounting for Rosneft from this date.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

4. Net zero sales★ (aim 3)

Aim 3 is to reduce to net zero the carbon intensity of the energy products★ we sell by 2050 or sooner. This is a lifecycle carbon intensity approach, per unit of energy. It covers sales of energy products and potentially, in future, certain other products, for example, associated with land carbon projects.

This aim relates to the rate of GHG emissions estimated on a lifecycle basis from the use, production, and distribution of sold energy products★ per unit of energy (MJ) delivered. Achieving net zero carbon intensity of the energy products we sell by 2050 or sooner, will mean that the aggregate lifecycle emissions associated with the sales of energy products will also be at net zero.

4.1 Average carbon intensity of our sold energy products★ (gCO₂e/MJ)

Definition Rate of GHG emissions estimated on a lifecycle basis from the use, production, and distribution of sold energy products per unit of energy (MJ) delivered. For this purpose, lifecycle covers the 'well-to-wheel' emissions of fuel products and the 'well-to-wire' emissions of power products and excludes embodied emissions from capital goods and assets.

See Figure 1 on [page 15](#) for further detail on the lifecycle basis used in aim 3.

Scope Reporting period 1 January to 31 December 2023.

bp reports the average carbon intensity of our sold energy products, as a weighted average across all categories and provides a breakdown by four key product categories: refined products, gas products, bioproducts, and power products.

For the purposes of aim 3, 'sales' represents sales to third parties, including physically settled trades, with the exception of, for example, financial trades and certain other transactions where the purpose or effect is that the volumes traded or supplied net off against each other. Some of the sales volumes included in aim 3 are based on contractual volumes agreed by counterparties and the final delivered volume may differ in some cases.

Sales by BP p.l.c. or a bp group subsidiary (i.e. fully consolidated entities) are considered on a 100% basis, while sales by a bp equity accounted entity (EAE) are reported on a bp equity share basis.

For the purposes of aim 3, intercompany sales (sales between two group subsidiaries) are not included and EAEs are treated as third parties. Energy product sales do not include sales by Rosneft^a. The application of netting will vary depending on the features of the particular commodity market and/or nature of the transaction, but will typically include the consideration of whether the terms of particular sale and purchase transactions correspond in respect of one or more of the following variables:

Scope cont.

- Counterparty
- Delivery period/delivery date
- Product type/grade
- Delivery location
- Delivery window

For the 2023 reporting period, sold energy products include the following:

Gas products:

- Liquefied natural gas (LNG)
- Pipeline gas
- Natural gas liquids (NGLs)
- Liquefied petroleum gas (LPG)
- Compressed natural gas (CNG)

Refined products:

- Gasoline
- Diesel
- Aviation fuels, including kerosene
- Fuel oil
- Fuel grade petroleum coke
- Other middle distillates, including gas oil and heating oil

Bioproducts:

- Biogas
- Bio compressed natural gas (CNG)
- Bio-content/ETBE^b blended in gasoline
- Bio-content blended in diesel
- Ethanol (including ethanol from our biofuel business in Brazil)
- Biodistillates
- Sustainable aviation fuel (SAF)/Biojet

Power products:

- Bio-power^c
- Renewable power (solar, wind)^c
- Environmental attribute certificate (EAC) power (EV, utility, traded)^d
- Residual grid power (EV, utility, traded)
- Power and steam sales associated with bp assets (for example, from refineries)
- Other power (for example sold power via equity stakes in power plant facilities)^e

Based on bp's definition of energy products related to aim 3, crude oil is not considered to be an energy product.

a On 27 February 2022, bp announced that it intends to exit its 19.75% shareholding in Rosneft Oil Company (Rosneft). bp ceased equity accounting for Rosneft from this date.

b Ethyl Tertiary Butyl Ether (ETBE) is considered a bioproduct, but the calculation of lifecycle emissions includes the fossil component.

c Power directly associated with a generation asset.

d Grid power associated with environmental attribute certificates (EAC).

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)



4. Net zero sales (aim 3)

Units	gCO ₂ e/MJ.
Method	<p>The average carbon intensity (gCO₂e/MJ) of bp's sold energy products★ is calculated as follows:</p> $\text{Average Carbon Intensity} = \frac{\sum_i (\text{Carbon Intensity})_i \times \text{Energy}_i}{\sum_i \text{Energy}_i}$ <p>Where: (Carbon Intensity)_i is the carbon intensity of energy product <i>i</i>. Energy_i is the energy of sold product <i>i</i>.</p> <p>Gas products, refined products and bioproducts</p> <p>For gas products, refined products, and bioproducts, the methodology applied covers the lifecycle emissions on a 'well-to-wheel' basis (i.e., from extraction/feedstock production to end-use). The carbon intensity of our sold refined products, gas products and bioproducts is calculated as follows:</p> $(\text{Carbon Intensity})_i = \frac{(\text{WTT emissions})_i + (\text{End-use emissions})_i}{\text{Energy}_i}$ <p>Where: (WTT emissions)_i is the well to tank emissions of energy product <i>i</i>, calculated based on average industry carbon intensity factors. (End-use emissions)_i is the end-use carbon emissions of energy product <i>i</i>. For bioproducts (except ETBE which includes fossil carbon), the end-use carbon emissions are accounted for as zero. For gas and refined products, the end-use carbon emissions are calculated assuming 100% stoichiometric conversion of elemental carbon to carbon dioxide (CO₂). Energy_i is the energy of sold product <i>i</i>, calculated based on the net calorific value of the product. Industry standard factors, such as carbon intensity factors, are applied for each energy product's value chain. Industry factors are taken from a combination of the latest industry publications, including publications by the JRC-Eucar-Concawe (JEC), DEFRA, California Air Resources Board (CARB), European Parliament and the Council of the European Union. This means that the basis of the emissions can vary by product.</p>

Method cont.

Power products

For power products the methodology applied covers the lifecycle emissions on a 'well to wire' basis (from extraction/feedstock production to transmission and distribution). The carbon intensity of bp's power products is calculated as outlined below and adopts a fossil fuel equivalence methodology.

$$(\text{Carbon Intensity})_i = \frac{(\text{CO}_2\text{e Emissions})_i}{(\text{Fossil Equivalence of Sold Energy})_i}$$

Where:
 (CO₂e Emissions)_i is determined based on the sold/exported power product *i* and lifecycle residual grid factor or lifecycle renewable emission factor (for solar/wind/bio-power etc.), with emission factors defined using industry standard factors from references including the IEA and JEC.

(Fossil Equivalence of Sold Energy)_i is determined by applying a fossil equivalence factor to the sold/exported power product *i*, before the inclusion of transmission and distribution losses (see IEA), based on conversion efficiencies described in the *bp Energy Outlook*.

Aggregate lifecycle emissions associated with sales of energy products★

Aggregate lifecycle GHG emissions associated with sales of energy products, as determined in the calculation of the average carbon intensity of bp's sold energy products.

Aggregate energy associated with sales of energy products

Aggregate energy associated with sales of energy products, as determined in the calculation of the average carbon intensity of our sold energy products, with electricity represented as fossil equivalence of sold energy.

If errors in input data or calculations that underpin aim 3 are identified after year end reporting, which lead to a difference exceeding the thresholds described in our aim 3 accounting policy, those numbers are restated for the relevant year or years in the next reporting period. The restatement policy also applies to the 2019 baseline year. The 2019 baseline figure is not restated to reflect acquisitions or divestments in subsequent years. We apply the same approach to both organic and inorganic investment.

Source

The calculation is performed by the bp strategy, sustainability & ventures (SS&V) carbon ambition team.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

5. Reducing methane (aim 4)

Aim 4 is to install methane measurement at all our existing major oil and gas processing sites by 2023, publish the data, and then drive a 50% reduction in methane intensity★ of our operations.

5.1 Methane intensity (%)

Definition Total methane (CH₄) emissions from upstream★ oil and gas activities operated by bp as a percentage of the marketed gas production from those operations. This is consistent with the Oil and Gas Climate Initiative (OGCI) definition.

Marketed gas production is gas production from operated, producing upstream assets, that reaches a market irrespective of whether bp has custody of the gas.

Scope Reporting period 1 January to 31 December 2023.

CH₄ emissions: all operated upstream assets report CH₄ emissions on a 100% basis including emissions from operated upstream oil and gas terminals and LNG facilities.

All operated upstream producing assets are in-scope except:

- Exploration drilling activity in new regions
- Non-producing assets, for example offices
- Major new projects prior to first production (oil or gas)

Marketed gas production: all upstream gas reaching a market from bp operated, upstream assets, whether or not this is bp-owned product, and includes gas production from natural gas wells and associated gas from oil production wells. Throughput from bp-operated oil and gas terminals is excluded to avoid double counting despite their associated CH₄ emissions being included in the metric.

Units % in volume basis.

Method bp's operating management system (OMS)★ provides a single framework for managing bp's operating activities and includes standards, procedures and guidance which set out bp's requirements for the GHG and energy data submission, approval, and review processes.

CH₄ data is required to be submitted into the bp group reporting tool, OneCSR in accordance with OMS requirements, broadly based on the GHG Protocol Corporate Standard and the Ipieca Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011. The responsibility for quantifying and submitting CH₄ emissions for reporting is assigned to individual bp facilities and business departments, which are termed reporting units (RUs).

Method cont.

OMS also sets out the methodologies used for calculation of GHG data. Where regulatory methodologies apply to the RUs' emissions sources, the RU may apply the calculation methodology required by the relevant regulator. Applicable regulatory requirements may include US EPA methane regulations.

Where regulatory methodologies do not cover certain emission sources the methodologies laid out in OMS may be used and are primarily based on the API Compendium of GHG Emissions Methodologies for the Oil and Gas Industry 2021 and industry recognized references, such as the IPCC guidelines, US EPA publications and UK EEMs.

These methodologies include the option to use estimates to calculate emissions based on a hierarchy of preference for environmental performance data calculations, with a bias towards direct measurement, as noted in OMS:

- Continuous direct measurement of emissions
- Continuous parameter monitoring systems
- Periodic measurement of emissions
- Equipment manufacturer emissions factors
- Published emission factors

RUs submit a quarterly breakdown of CH₄ data by source (based on both direct measurements and calculations) directly into OneCSR. They are required to account for all significant variances from the previous year and identify the sustainable emission reductions for the reporting period, where applicable.

The RUs follow a formal data submission sign-off process confirming data has been reported in accordance with bp requirements. Once submitted, CH₄ data is reviewed at corporate level by subject matter experts.

Marketed gas data is provided by the central reservoir development team or directly from specific bp entities using local production reporting systems where bp does not have custody of the gas. Marketed gas data is imported into OneCSR which performs the intensity calculation whereby the volume of CH₄ emissions is divided by the volume of marketed gas.

Methane intensity calculation is consistent with the Oil and Gas Climate Initiative (OGCI) methane intensity methodology.

To facilitate publication of data – including in the *bp Annual Report and Form 20-F 2023* and the *bp Sustainability Report 2023*, we use a cut-off date of 31 January to allow for verification and internal and external limited assurance prior to reporting. After this date, subject to bp verification, published values are only changed in line with our restatement policy.

Source

OneCSR, the bp group reporting tool.

The methane intensity metric is calculated in OneCSR using the CH₄ data provided by RUs, and the marketed gas data provided by the reservoir development team or directly from specific bp entities.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

6. Equity GHG emissions

6.1 Scope 1 (direct) GHG emissions (equity boundary) (MtCO₂e)

Definition bp's equity share of direct carbon dioxide(CO₂) and direct methane (CH₄) emissions. This is irrespective of whether activities are operated by bp (see operational control-based Scope 1 (direct) greenhouse gas emissions). bp's reported GHG emissions include CH₄ and CO₂. Other GHGs are not included as they are not material to our operations. CH₄ emissions are converted to CO₂ equivalent using the 100-year global warming potential (GWP) recommended by the Fifth Assessment Report (AR5) of the Inter-governmental Panel on Climate Change (IPCC).

Scope Reporting period 1 January to 31 December 2023.
 bp equity share data comprises 100% of emissions from subsidiaries and the percentage of emissions equivalent to our share of joint arrangements and associates, other than bp's share of Rosneft^a. Where bp enters into a production sharing agreement (PSA) or production sharing contract (PSC), bp's equity share is its entitlement share of net production. Where bp participates with other entities in an unincorporated non-operated joint venture (in the absence of a PSA or PSC), bp's equity share is its share of the benefits of the arrangement.
 Reporting units (RUs) are advised to check with finance directors so that emissions are collected and submitted based on the status and extent of equity share of any activities within the RU.

Units MtCO₂e.

Method bp's operating management system (OMS)[★] provides a single framework for managing bp's operating activities and includes standards, procedures and guidance which set out bp's requirements for the GHG and energy data submission, approval, and review processes.

Data is required to be submitted into the bp group reporting tool, OneCSR in accordance with OMS requirements, broadly based on the GHG Protocol Corporate Standard and Ipieca Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011.

OMS also sets out the methodologies we use for calculation of GHG data. These methodologies include the option to use estimates to calculate emissions based on a hierarchy of preference for environmental performance data calculations.

RUs submit a quarterly breakdown of CO₂ and CH₄ data directly into the group reporting tool, OneCSR. For the end of year submission, they are required to account for all significant variances from the previous year and identify the sustainable emission reductions for the reporting period, where applicable. The RUs follow a formal GHG data submission sign-off process confirming that the data has been submitted in accordance with OMS requirements. Once submitted, the GHG data is reviewed at corporate level by subject matter experts.

To facilitate publication of data – including in the *bp Annual Report and Form 20-F 2023* and the *bp Sustainability Report 2023*, we use a cut-off date of 31 January to allow for verification and internal and external limited assurance prior to reporting. After this date, subject to bp verification, published values are only changed in line with our restatement policy.

Source Direct GHG emissions data are submitted into the OneCSR by the RUs, reviewed at corporate level by subject matter experts and independently assured for use in external reporting.

^a On 27 February 2022, bp announced that it intends to exit its 19.75% shareholding in Rosneft Oil Company (Rosneft). bp ceased equity accounting for Rosneft from this date.

[★] See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

6. Equity GHG emissions

6.2 Scope 2 (indirect) GHG emissions (equity boundary) (MtCO₂e)

Definition bp's equity share of Scope 2 (indirect) GHG emissions. Scope 2 (indirect) emissions are those associated with the consumption of purchased electricity, heat, steam and cooling. bp reports GHG emissions on the basis of methane (CH₄) and carbon dioxide (CO₂).

Scope Reporting period 1 January to 31 December 2023.
 bp equity share data comprises 100% of emissions from subsidiaries and the percentage of emissions equivalent to our share of joint arrangements and associates, other than bp's share of Rosneft^a. Where bp enters into a production sharing agreement (PSA) or production sharing contract (PSC), bp's equity share is its entitlement share of net production. Where bp participates with other entities in an unincorporated non-operated joint venture (in the absence of a PSA or PSC), bp's equity share is its share of the benefits of the arrangement.
 Reporting units (RUs) are advised to check with finance directors so that emissions are collected and submitted based on the status and extent of equity share of any activities within the RU.

Units MtCO₂e.

Method bp's operating management system (OMS)[★] provides a single framework for managing bp's operating activities and includes standards, procedures and guidance which set out bp's requirements for the GHG and energy data submission, approval, and review processes.

Data is required to be submitted in the bp group reporting tool, OneCSR in accordance with OMS requirements, broadly based on the GHG Protocol Corporate Standard, GHG Protocol Scope 2 Reporting Guidance and the Ipieca Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011.

Equity data is required to be submitted in OneCSR by RUs within the operational control boundary using the method noted above; the equity share is then calculated in OneCSR.

Non-operated businesses within our financial reporting boundary are required to submit a quarterly breakdown of Scope 2 indirect emissions either directly into OneCSR or via an RU within the operational control boundary. At year-end non-operated businesses are required to account for all significant variances from the previous year.

The RUs follow a formal GHG data submission sign-off process and are responsible for ensuring that the data has been submitted in accordance with OMS requirements. Once submitted, the GHG data is reviewed at corporate level by subject matter experts.

To facilitate publication of data – including in the *bp Annual Report and Form 20-F 2023* and the *bp Sustainability Report 2023*, we use a cut-off date of 31 January to allow for verification and internal and external limited assurance prior to reporting. After this date, subject to bp verification, published values are only changed in line with our restatement policy.

Source Scope 2 (indirect) GHG emissions data are submitted into the group reporting tool, OneCSR, by the RUs, reviewed at corporate level by subject matter experts and the metric is independently assured for use in external reporting.

[★] See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

7. Energy consumption

7.1 Energy consumption (GWh, base units of kWh)

Definition Energy consumption from activities operated by bp or otherwise within bp's operational control boundary. The energy reported in this metric is the underlying global energy consumption used to calculate GHG emissions excluding flared and vented hydrocarbons. Although these excluded sources reflect loss of energy resources, they do not reflect energy use required for production or manufacturing of products.

The total, global energy consumption is reported with two supporting metrics as required for UK Streamlined Energy and Carbon Reporting (SECR):

- I. UK and offshore energy consumption.
- II. Global (excluding UK and offshore) energy consumption.

Scope Reporting period 1 January to 31 December 2023.

The scope of energy consumption data reported covers bp's operational control boundary. bp operated comprises:

- bp operated assets (which include unmanned assets such as wellheads and pipelines where bp workforce are not present on a day-to-day basis, where these are operated by bp).
- Company owned and operated retail sites.
- Vessels for which bp holds the International Safety Management Document of Compliance (DOC).
- Road vehicles, aircraft and rail transportation that are dedicated to bp's business use (this includes vehicles contractually dedicated or leased to exclusive business use for bp operated entities).
- Contractor drilling activities conducted on behalf of businesses under bp operational control.
- Pending handover of field or asset operations, sites and assets where following divestment, bp no longer has an equity interest but maintains day-to-day operations pursuant to a contractual arrangement.
- Leased offices over 50,000 ft² (reporting units may estimate data if not available from office lessor).

The scope of reporting aligns with requirements for reporting energy consumption as required for SECR.

Read more in the *bp Annual Report 2023* [page 51](#)

Units GWh, base units of kWh.

Method bp's operating management system (OMS)★ provides a single framework for managing bp's operating activities and includes standards, procedures and guidance which set out bp's requirements for the GHG and energy data submission, approval, and review processes.

Data is required to be submitted into the bp group reporting tool, OneCSR in accordance with the bp OMS requirements, broadly based on the GHG Protocol Corporate Standard and the Ipieca Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011.

The responsibility for calculating and submitting energy consumption data to be used for reporting is assigned to individual bp facilities and business departments, which are termed reporting units (RUs). RUs submit a quarterly breakdown of energy data directly into OneCSR.

OMS also sets out the methodologies used for reporting energy data. These methodologies include the option to use estimates based on a hierarchy of preference for environmental performance data calculations as noted in OMS.

Data is provided by fuel type and includes electricity, steam, natural gas, diesel, propane, kerosene, gasoline/petrol, petrochemical residues, residual fuel oil, coke and biomass (biogas, biodiesel, ethanol). Data is either reported in units of energy or as fuel use in units of mass, using metered data where available. Where fuel use is reported in units of mass, it is converted into units of energy in OneCSR using conversion factors defined in bp Statistical Review of World Energy (now Energy Institute Statistical Review of World Energy).

The RUs follow a formal energy data submission sign-off process and are responsible for ensuring that the data has been reported in accordance with our requirements. Once submitted, the energy data is reviewed at corporate level by subject matter experts.

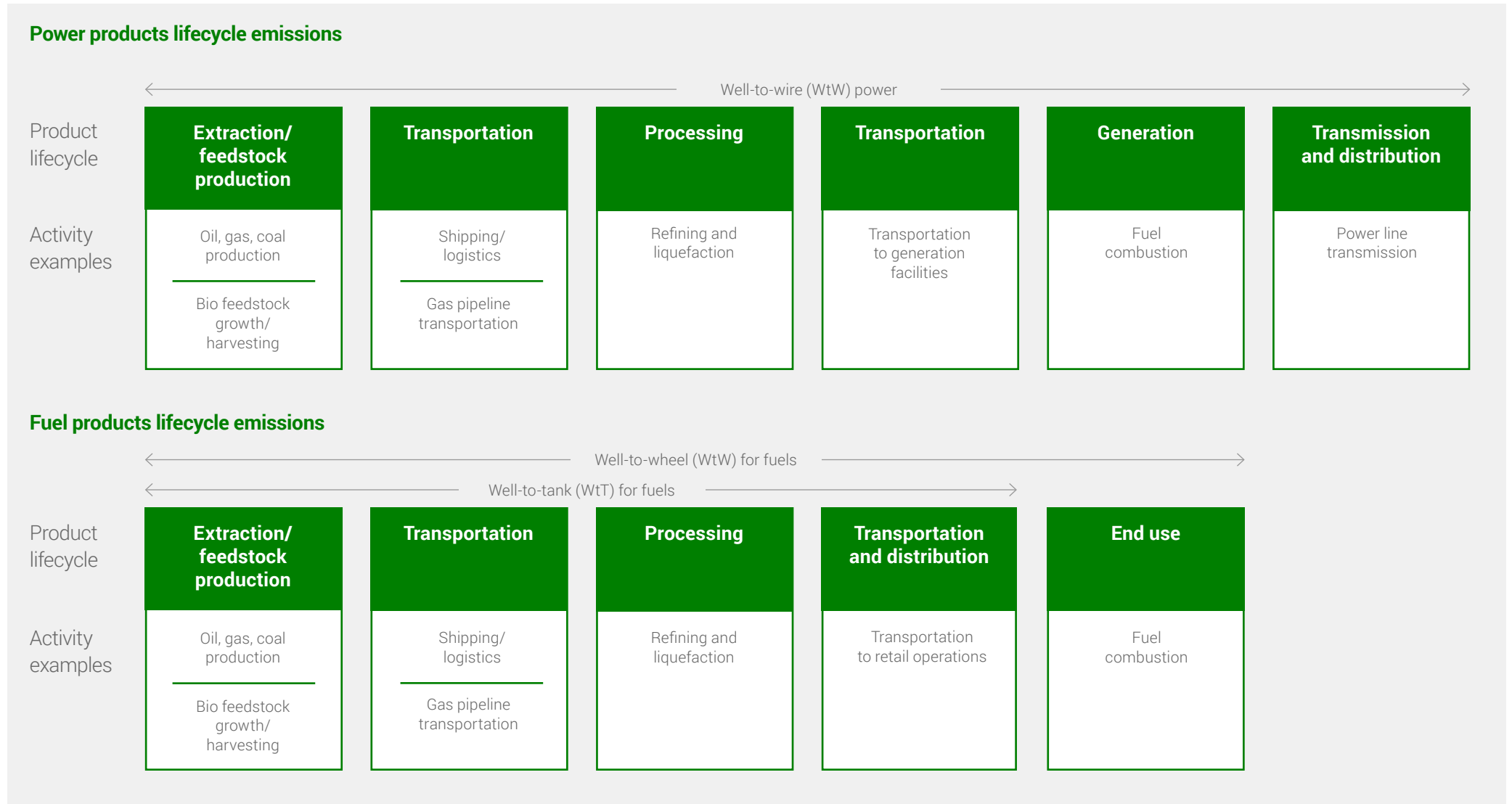
To facilitate publication of data – including in the *bp Annual Report and Form 20-F 2023* and the *bp Sustainability Report 2023*, we use a cut-off date of 31 January to allow for verification and internal and external limited assurance prior to reporting. After this date, subject to bp verification, published values are only changed in line with our restatement policy.

Source Energy consumption data are submitted into the group reporting tool, OneCSR by the RUs, reviewed at corporate level by subject matter experts and the metric is independently assured for use in external reporting.

★ See the glossary in the *bp Sustainability Report 2023* [pages 59-61](#)

Appendix

Figure 1



Give your feedback

Email the corporate reporting team
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