



Basis of reporting



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Reporting criteria summary for selected key performance indicators in our 2020 corporate reporting

The purpose of this document is to outline the approach and scope used for data collection and verification of sustainability performance data, as published in our **bp annual report** and Form20-F, **sustainability report, ESG datasheet** and online at [bp.com/sustainability](https://www.bp.com/sustainability).

Scope of reporting

The indicators included cover our activities during the period 1 January to 31 December 2020. Reporting covers our global operations including those joint ventures that fall within our operational control boundary. In some cases, we may also provide information about some of our joint venture activities where we are not the operator.

Where appropriate we have indicated where the indicators relate to our aims to get bp to net zero.

Selected key performance indicators

1. Safety

- 1.1 Recordable injury frequency rate
- 1.2 Day away from work case frequency
- 1.3 Number of fatalities
- 1.4 Number of oil spills
- 1.5 Process safety events (tier 1 and tier 2)

2. Net zero operations (Aim 1)

- 2.1 Operational control boundary Scope 1 (direct) GHG emissions (MteCO₂e)
- 2.2 Operational control boundary Scope 2 (indirect) emissions (MteCO₂e)
- 2.3 Scope 1 (direct) GHG emissions (equity boundary) (MteCO₂e)
- 2.4 Scope 2 (indirect) GHG emissions (equity boundary) (MteCO₂e)
- 2.5 Cumulative total Sustainable Emissions Reductions (SERs) (MteCO₂e)
- 2.6 Energy consumption (GWh, base units of kWh)

3. Net zero oil and gas (Aim 2)

- 3.1 Emissions from the carbon in our upstream oil and gas production (MteCO₂e)

4. Halving intensity (Aim 3)

- 4.1 Average emissions intensity of our marketed energy products (gCO₂e/MJ)

5. Reducing methane (Aim 4)

- 5.1 Methane intensity (%)



1. Safety

1.1 Recordable injury frequency (RIF) – workforce

Definition The total number of recordable injuries to bp employees and bp contractors for every 200,000 hours worked by the bp workforce. bp's definition of recordable injury is aligned with the Occupational Safety and Health Administration (OSHA) definition.

Scope The KPI covers bp workforce (bp employees and bp contractors).
It covers the reporting period 1 January to 31 December 2020.
This metric is reported on an operational control basis.

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.

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 by dividing the total number of recordable injuries by the total number of workforce hours worked, multiplied by 200,000.

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.

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 Day away from work case frequency (DAFWCF) – workforce

Definition The total number of injury day away from work cases to bp employees and bp contractors for every 200,000 hours worked by the bp workforce. bp's definition of DAFWC is aligned with OSHA.

Scope bp workforce (bp employees and bp contractors).
It covers the reporting period 1 January to 31 December 2020.
This metric is reported on an operational control basis.

Units Day away from work cases per 200,000 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.

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

DAFWCF is calculated in IRIS by dividing the total number of days away from work cases by the total number of workforce hours worked, multiplied by 200,000.

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.

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 day away from work case frequency reporting.



1.3 Number of fatalities – workforce

Definition	A workforce fatality is any death of an employee or contractor as a result of a work-related incident.
Scope	bp workforce (bp employees and bp contractors). It covers the reporting period 1 January to 31 December 2020. This metric is reported on an operational control basis.
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. 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	Fatalities are recorded in IRIS by entities across the bp group and are the basis of workforce fatality reporting.

1.4 Number of oil spills >1bbl

Definition	The number of accidental or unplanned losses of hydrocarbon from primary containment from a bp or contractor operation, irrespective of any secondary containment or recovery. Oil spills >1bbl are defined as any liquid hydrocarbon release of more than, or equal to, one barrel (159 litres, equivalent to 42 US gallons).
Scope	Reporting period 1 January to 31 December 2020. It includes reported oil spills >1bbl 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.
Units	Number oil spills >1bbl.
Method	IRIS is bp's global application for recording, reporting and learning from Health and Safety incidents. Oil spill incidents can be recorded in IRIS by any bp employee and any bp contractor with IRIS access. 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	Oil spill incidents are recorded in IRIS by entities across the bp group and are the basis of oil spills >1bbl reporting.

1.5 Process safety events (tier 1 and tier 2)

Definition	An unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials, from a process. Process safety events (PSE) tier 1 are the most severe, with consequences including one or more of: workforce DAFWC or fatality; third party hospital admission or fatality; an 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. PSE tier 2 consequences include workforce recordable injury, less severe fire/explosion or PRD discharge or release of material when meeting defined thresholds and conditions. bp's definition of PSE tier 1 and tier 2 are aligned with the American Petroleum Institute guide RP-754 Process Safety Performance Indicators for the Refining and Petrochemical Industries and The International Association of Oil & Gas Producers (IOGP) Report 456 – Process safety – recommended practice on key performance indicators.
Scope	Reporting period 1 January to 31 December 2020. It includes reported process safety events 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.
Units	Number of process safety events tier 1 and tier 2.
Method	IRIS is bp's global application for recording, reporting and learning from Health and Safety incidents. Process safety incidents can be recorded in IRIS by any bp employee and any bp contractor with IRIS access. 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	Process safety incidents are recorded in IRIS by entities across the bp group and are the basis of process safety events tier 1 and tier 2 reporting.



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 Scope 1 and Scope 2 GHG emissions.

2.1 Operational control boundary Scope 1 (direct) GHG emissions (MteCO₂e)

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 CH ₄ and CO ₂ . Other GHGs are not included as they are not material to our operations. CH ₄ emissions are converted to carbon dioxide equivalent using the 100-year GWP recommended by the Fourth Assessment Report of the Inter-governmental Panel on Climate Change (IPCC).
Scope	<p>Reporting period 1 January to 31 December 2020.</p> <p>The scope of greenhouse gas data reported covers bp's operational control boundary. bp operated includes:</p> <ul style="list-style-type: none"> • 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) or sites and assets operated by a joint venture in which bp has the ability to determine Board level decisions. • 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. • Contractor drilling activities conducted on behalf of businesses under bp operational control. • Until 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. <p>This boundary for reporting broadly coincides with bp's HSSE operational boundary for certain incident reporting which means that these assets are classified in the same way (i.e. as bp-operated or non-bp-operated) for both incident reporting purposes and GHG emissions reporting purposes.</p> <p>The scope of reporting includes emissions from the UK and offshore area, and Global (excluding UK and offshore) emissions as provided in Streamlined Energy and Carbon Reporting (SECR).</p>
Units	MteCO ₂ e.

Method Data is required to be submitted following the bp internal documents bp Practice, Submission of Environmental and Social Performance Data Group Defined Practice (GDP) 8.1 which is based on the GHG Protocol Corporate Standard and the IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011. The bp Procedure, Calculations and Methodologies for Environmental Performance Data (GPRO 8.1-0001) sets out the methodologies we use for calculation of GHG data which are based on the API Compendium of GHG Emissions Methodologies for the Oil and Gas Industry and industry recognized references, such as the IPCC guidelines and US EPA publications.

The responsibility for calculating and submitting GHG emissions 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 CO₂ and methane 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 and are responsible for ensuring that the data has been reported in accordance with the requirements.

Once submitted, the GHG data is reviewed at corporate level by subject matter experts.

The RUs quantify their emissions of carbon dioxide and methane based on the methodologies and requirements described in our requirements, which also specify a 'hierarchy' of possible approaches, with a bias towards direct measurement. Where local regulatory requirements differ from the specified methodologies, RUs may choose to submit data using local regulatory methodologies. In the event that the regulatory methodology for a significant source results in a figure judged to be less accurate than the specified methodologies then, where this is judged to be significant, the RU should use the bp specified calculation methodologies in its submission to the group reporting tool, OneCSR.

In addition, this metric is reported with four supporting metrics following the same methodology outlined above:

- CO₂ emissions.
- Methane emissions (unit of Mte).
- UK and offshore.
- Global (excluding UK and offshore).

Source Direct 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.



2.2 Operational control boundary Scope 2 (indirect) emissions (MteCO₂e)

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. bp reports GHG emissions on the basis of CH ₄ and CO ₂ .
Scope	<p>Reporting period 1 January to 31 December 2020.</p> <p>The scope of greenhouse gas data reported covers bp's operational control boundary. bp operated includes:</p> <ul style="list-style-type: none"> 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) or sites and assets operated by a joint venture in which bp has the ability to determine Board level decisions. 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. Contractor drilling activities conducted on behalf of businesses under bp operational control. Until 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. <p>This boundary for reporting broadly coincides with bp's HSSE operational boundary for certain incident reporting which means that these assets are classified in the same way (i.e. as bp-operated or non-bp-operated) for both incident reporting purposes and GHG emissions reporting purposes.</p> <p>The scope of reporting covers the reporting of emissions under SECR, split by the UK and offshore area, and non-UK areas.</p>
Units	MteCO ₂ e.
Method	<p>Data is required to be submitted following the bp internal document bp Practice Submission of Environmental and Social Performance Data Group Defined Practice (GDP) 8.1 which is based on the GHG Protocol Corporate Standard and the IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011. The bp Procedure Calculations and Methodologies for Environmental Performance Data (GPRO 8.1-0001) also set out the methodologies we use for calculation of GHG data which are based on the API Compendium of GHG Emissions Methodologies for the Oil and Gas Industry and industry recognized references, such as the IPCC guidelines and US EPA publications. The responsibility for calculating and submitting Scope 2 GHG emissions to be used for reporting is assigned to individual bp facilities and business departments, which are termed 'Reporting Units' (RUs). The RUs follow a formal GHG data submission sign-off process and are responsible for ensuring the data has been reported in accordance with our requirements. Once submitted, the GHG data is reviewed at corporate level by subject matter experts.</p> <p>In addition, this metric is reported with two supporting metrics:</p> <ol style="list-style-type: none"> UK and offshore. Global (excluding UK and offshore).

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.

2.3 Scope 1 (direct) GHG emissions (equity boundary) (MteCO₂e)

Definition	bp's equity share of direct CO ₂ and direct methane emissions. This is irrespective of whether activities are operated by bp (see Operational control-based Scope 1 (direct) greenhouse gas emissions above). bp's reported GHG emissions include CH ₄ and CO ₂ . Other GHGs are not included as they are not material to our operations. CH ₄ emissions are converted to carbon dioxide equivalent using the 100-year GWP recommended by the Fourth Assessment Report of the Inter-governmental Panel on Climate Change (IPCC).
Scope	<p>Reporting period 1 January to 31 December 2020.</p> <p>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.</p> <p>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.</p>
Units	MteCO ₂ e.
Method	<p>Data is required to be submitted following the bp Practice Submission of Environmental and Social Performance Data Group Defined Practice (GDP) 8.1 which is based on the GHG Protocol Corporate Standard and IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011.</p> <p>RUs submit a quarterly breakdown of CO₂ and methane 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 and are responsible for ensuring that the data has been submitted in accordance with the requirements. Once submitted, the GHG data is reviewed at corporate level by subject matter experts.</p>
Source	Direct GHG emissions data are submitted into the group reporting tool, OneCSR, by the RUs, reviewed at corporate level by subject matter experts and independently assured for use in external reporting.



2.4 Scope 2 (indirect) GHG emissions (equity boundary) (MteCO₂e)

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 CH ₄ and CO ₂ .
Scope	Reporting period 1 January to 31 December 2020. 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.
Units	MteCO ₂ e.
Method	Scope 2 (indirect) emissions are those associated with the consumption of purchased electricity, heat, steam and cooling. Data is required to be submitted following the bp internal document 'bp Practice Submission of Environmental and Social Performance Data' Group Defined Practice (GDP) 8.1 which is based on the GHG Protocol Corporate Standard and the IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011. 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 our requirements. Once submitted, the GHG data is reviewed at corporate level by subject matter experts.
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.

2.5 Cumulative total Sustainable Emissions Reductions (SERs) (MteCO₂e)

Definition	Sustainable GHG emissions reductions (SERs) from activities that are within: <ol style="list-style-type: none"> 1) the bp operational control boundary. 2) the bp equity share 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 and methane) 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 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 the three criteria described above, in the period 1 January to 31 December 2020. SERs reported include Scope 1 (direct) CO ₂ emission reductions, direct CH ₄ (methane) emission reductions and Scope 2 (indirect) GHG emissions reductions. The operational boundary includes the following: <ul style="list-style-type: none"> • 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) or sites and assets operated by a joint venture in which bp has the ability to determine Board level decisions. • 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. • Contractor drilling activities conducted on behalf of businesses under bp operational control. • Until 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. bp equity share boundary: 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.
Units	MteCO ₂ e.
Method	The responsibility for calculating and submitting SERs is with individual bp facilities and business departments, which are termed 'Reporting Units'. 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 methane 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.
Source	Data on SERs is submitted into the group reporting tool, OneCSR, by RUs, reviewed at corporate level by subject matter experts, and independently assured for use in external reporting.



2.6 Energy consumption (GWh, base units of kWh)

Definition	Energy consumption from activities operated by bp or otherwise within bp's operational control boundary.
Scope	<p>Reporting period 1 January to 31 December 2020.</p> <p>The scope of energy consumption data reported covers bp's operational control boundary. bp operated includes:</p> <ul style="list-style-type: none"> • 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) or sites and assets operated by a joint venture in which bp has the ability to determine Board level decisions. • 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. • Contractor drilling activities conducted on behalf of businesses under bp operational control. • Until 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. <p>This boundary for reporting broadly coincides with bp's HSSE operational boundary for certain incident reporting which means that these assets are classified in the same way (i.e. as bp-operated or non-bp-operated) for both incident reporting purposes and GHG emissions and energy reporting purposes.</p> <p>The scope of reporting includes energy consumption from the UK and offshore, and Global (excluding UK and offshore) as provided in SECR.</p>
Units	GWh, base units of kWh.
Method	<p>Data is required to be submitted following the bp internal documents bp Practice, Submission of Environmental and Social Performance Data Group Defined Practice (GDP) 8.1 which is based on the GHG Protocol Corporate Standard and the IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011. The bp Procedure, Calculations and Methodologies for Environmental Performance Data (GPRO 8.1-0001) sets out the methodologies we use for reporting energy data. Data is provided by fuel type and includes but is not limited to electricity, steam, fuel gas, diesel and 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.</p> <p>The responsibility for calculating and submitting energy consumption 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 the group reporting tool, OneCSR.</p>

Method cont.	<p>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.</p> <p>The total, global energy consumption is reported with two supporting metrics:</p> <ol style="list-style-type: none"> UK and offshore. Global (excluding UK and offshore).
Source	Energy 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.



3. Net zero oil and gas (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 on a bp equity share basis excluding Rosneft.

3.1 Emissions from the carbon in our upstream oil and gas production (MteCO₂e)

Definition Estimated CO₂ emissions from the assumed 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 and assuming that all produced volumes undergo full stoichiometric combustion to CO₂.

These emissions are broadly equivalent to the GHG Protocol, Scope 3, category 11, with the specific scope of upstream production volumes.

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 type of production fluid (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 crude oil, or natural gas or NGL produced, on a bp equity basis;

Density is the density of crude oil, or natural gas or NGL;

Cwt% is the carbon content of crude oil, or natural gas or NGL.

Scope	Reporting period 1 January to 31 December 2020. Based on bp equity share of production volumes of crude oil, natural gas and NGLs, other than bp's share of Rosneft. Assumes all produced volumes undergo complete stoichiometric combustion to CO ₂ .
Units	Carbon dioxide expressed in CO ₂ equivalent (MteCO ₂ e).
Method	The calculation is performed by bp Strategy & Sustainability (S&S) carbon management team and is subject to independent third-party assurance for use in external reporting.
Source	The volumes are consistent with stock exchange announcements and data published in bp annual reports.



4. Halving intensity (Aim 3)

Aim 3 is to cut the carbon intensity of the products we sell by 50% by 2050 or sooner. This is a lifecycle carbon intensity approach, per unit of energy. It covers marketing sales of energy products and potentially, in future, certain other products e.g. associated with land carbon projects.

4.1 Average emissions intensity of our marketed energy products

Definition Rate of GHG emissions estimated on a lifecycle basis from the use, production and distribution of marketed energy products per unit of energy (MJ) delivered.

Scope Reporting period 1 January to 31 December 2020.
bp reports the carbon intensity of our marketed 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.
Marketing scope relates to emissions associated with the total sales of energy products to an end-user (customer or business). For the 2020 reporting period marketed energy products include the following:

Gas products:

- Liquefied natural gas (LNG).
- Pipeline gas.
- Bio-gas.

Refined products:

- Natural gas liquids (NGLs).
- Liquefied petroleum gas (LPG).
- Gasoline (including associated bio-content/ETBE^a where applied).
- Diesel (including associated bio-content where applied).
- Aviation fuels.
- Fuel oil.
- Petroleum coke.
- Other middle distillates, including gas oil and kerosene.

Bioproducts:

- Bio-iso-butanol.
- Ethanol from our biofuel businesses (including ethanol in US and Brazil).
- Biojet.

Power products:

- Bio.
- Solar.
- Wind.
- Electric vehicle power sales.
- Equity power sales associated with BP assets (for example, from downstream refineries).
- Other power (for example marketed power via equity stakes in power plant facilities).

Marketing sales of refined products include branded and unbranded sales of refined fuel products to business-to-business and business-to-consumer customers, including servicestation dealers, jobbers, airlines, small and large resellers such as hypermarkets, and the military. All other value chain marketing sales reflect marketing of a finished product where it is assumed to go to an end-user and represent bp's share of those sales.

Scope cont. Specific products not in scope: crude oil (as it is included in the lifecycle for refined products), unless it is sold for use by an end user and combusted, refined products intended for non-fuel use (including lubricants, bitumen and naphtha), trades to others where the product is subsequently marketed by them.

Marketing product sales do not include sales from certain joint ventures, including Rosneft, PAEG or Reliance.

Units gCO₂e/MJ.

Method The average carbon emissions intensity of bp marketed energy products is calculated as follows:

$$\text{bp Average Carbon Intensity} = \frac{\sum_i (\text{Carbon Intensity})_i \times \text{Energy}_i}{\sum_i \text{Energy}_i}$$

Where: (Carbon Intensity)_i is the carbon intensity of energy product i

Energy_i is the marketed energy of product i

Gas products, refined products and bioproducts

For gas products, refined products, and bioproducts, the methodology applied covers the lifecycle emissions on a 'well to wheel' basis. The marketed products carbon intensity of our refined products, gas products and bioproducts is calculated as follows:

$$(\text{Carbon Intensity})_i = \frac{(\text{WTT emissions})_i + (\text{End use emissions})_i}{\text{Energy}_i}$$

Where: (WTT emissions)_i is the well to tank emissions of energy product i, calculated based on average industry emission factors.

(End-use emissions)_i is the end-use carbon emissions of energy product i. For bioproducts, the end-use carbon emissions are assumed to be zero. For gas and refined products, the end-use emissions are calculated assuming 100% stoichiometric conversion of elemental carbon to CO₂.

Industry standard factors, such as emission factors, are applied for each energy product's value chain. Industry factors are taken from a combination of sources, meaning that the basis of the emissions can vary by product/value chain element. For example:

- Embodied emissions from capital goods and assets are excluded for the fossil fuel products but are included for solar/wind products.
- The emissions factor used for corn ethanol includes induced land use change. The emissions factor used for sugar cane ethanol does not include induced land use change due to differences in methodologies used by the USEPA and the European Commission.

Power products

For power products, bp uses a fossil fuel equivalency factor, following the approach in the bp Statistical Review of World Energy 2020. The carbon intensity of our marketed power products is calculated as follows:

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

Where: (CO₂e Emissions)_i is determined based on the sold/exported power and local grid factor or lifecycle emission factor (for Solar/Wind).

(Fossil Equivalence of Sold Energy)_i is determined by applying a fossil equivalency factor to the sold/exported power, based on conversion efficiencies described in the bp Statistical Review of World Energy 2020.

Source The calculation is performed by the S&S carbon management team and is subject to independent third-party assurance for use in external reporting.



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 emissions from upstream oil and gas activities operated by bp as a percentage of the marketed gas production from those operations. 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 2020. Methane emissions: All operated upstream assets report methane 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: <ul style="list-style-type: none"> • Exploration drilling activity in new regions. • Non-producing assets e.g. logistics bases, offices, mud plants. • 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 methane emissions being included in the metric.
Units	% in volume basis.
Method	Methane data is required to be submitted following the bp internal documents bp Practice, Submission of Environmental and Social Performance Data Group Defined Practice (GDP) 8.1 which is based on the GHG Protocol Corporate Standard and the IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions 2nd Edition, May 2011. The bp Procedure, Calculations and Methodologies for Environmental Performance Data (GPRO 8.1-0001) sets out the methodologies we use for calculation of GHG data which are based on the API Compendium of GHG Emissions Methodologies for the Oil and Gas Industry and industry recognized references, such as the IPCC guidelines and US EPA publications. The responsibility for calculating and submitting methane emissions 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 methane data by source 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 methane data submission sign-off process and are responsible for ensuring data has been reported in accordance with the requirements. Once submitted, methane data is reviewed at corporate level by subject matter experts.

Method cont.

The RUs quantify their emissions of methane based on the methodologies and requirements described in our requirements, which also specify a 'hierarchy' of possible approaches, with a bias towards direct measurement. Where local regulatory requirements differ from the specified methodologies, RUs may choose to submit data using local regulatory methodologies. In the event the regulatory methodology for a significant source results in a figure judged to be less accurate than the specified methodologies then, where this is judged to be significant, the RU should use the bp specified calculation methodologies in its submission to the group reporting tool, OneCSR.

Marketed gas data is provided by the reservoir development team or directly from specific bp entities where marketed gas data is not available from the central reservoir development team.

Subject matter experts perform the intensity calculation whereby the volume of methane 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.

Source

The methane intensity metric is provided using the methane data from the group reporting tool, OneCSR, and the marketed gas data provided by the reservoir development team or directly from specific bp entities.

