

Module: Introduction**Page: Introduction**

CC0.1**Introduction**

Please give a general description and introduction to your organization.

We are a global energy group with wide reach across the world's energy system. The energy we produce helps to support economic growth and improve quality of life for millions of people. We strive to be a world-class operator, a responsible corporate citizen and a good employer. We employ more than 70,000 people.

Through our work we provide customers with fuel for transport, energy for heat and light, lubricants to keep engines moving and the petrochemicals products used to make everyday items as diverse as paints, clothes and packaging. In supplying energy we contribute to economies around the world by employing local staff, helping to develop national and local suppliers, and through the taxes we pay to governments. Additionally, we aim to create meaningful and sustainable impacts in those communities through our social investments.

As a global group, our interests and activities are held or operated through subsidiaries, branches, joint arrangements or associates established in – and subject to the laws and regulations of – many different jurisdictions. We have well-established operations in Europe, North and South America, Australasia, Asia and Africa. BP p.l.c. and its subsidiaries are separate legal entities. References to “BP”, “BP businesses”, “we”, “our” and similar terms throughout this submission are to BP p.l.c. and its subsidiaries generally, to one or more of them, or to those who work for them.

In responding to some of the questions in this questionnaire we make forward-looking statements that refer to our estimates, plans and expectations. Actual results and outcomes could differ materially due to factors that we note in our UK and SEC filings. Please refer to our Annual Report, Stock Exchange Announcements and SEC filings for more details. These documents are available on our website. Responses other than quantified data are intended to be illustrative rather than comprehensive or selected according to materiality; quantified data drawn from data published elsewhere by BP are subject to any qualifications or clarifications provided there.

CC0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed

Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3**Country list configuration**

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country

CC0.4**Currency selection**

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD(\$)

CC0.6**Modules**

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

We interpret the term 'climate change' in this question and 1.1 above to relate primarily to the delivery of long-term shareholder value in the context of the low carbon transition. Understood in this way, at group level we generally approach climate change as something to be considered as a dimension of BP's strategy and planning, rather than being compartmentalised separately from those. As such, the highest level of responsibility rests with the BP p.l.c. Board, which is collectively responsible for pursuing the BP Goal to maximise long-term shareholder value through the allocation of its resources to activities in the oil, natural gas, petrochemicals and energy businesses.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Other: Relevant employees, such as those involved with implementing emissions reduction projects	Monetary reward	Emissions reduction project	Implementation of emissions reduction projects, such as capital projects to further reduce flaring activity at our operations.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Annually	Board or individual/sub-set of the Board or committee appointed by the Board	All geographic areas where BP does business.	> 6 years	

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

BP's processes relevant to this question include the periodic review of BP's strategy, and implementation of BP's risk management system and policy, which requires risk identification and management.

Company

At group level, we interpret the term 'climate change risks and opportunities' to relate primarily to those risks and opportunities for BP which are relevant to the delivery of long-term shareholder value in the context of the low carbon transition. Such risks and opportunities, where sufficiently significant, are among those considered by the BP p.l.c. Board in its periodic review of BP's strategy with members of BP's executive team. For example, in 2016 the Board worked with the executive team to understand the potential evolution of the markets in which BP operates and the implications of a transition to a low carbon economy.

Part of the process to inform such strategy reviews, including the identification of relevant climate change risks and opportunities, is the preparation of BP's annual Energy Outlook. For example, at its September 2016 meeting the Board reviewed the BP Energy Outlook, updated in January 2017, which looks at long-term energy trends and develops projections for world energy markets over the next two decades, and discussed the executive team's proposals for the strategic direction of the group.

Asset

Under BP's risk management policy and the associated risk management procedures, our operating businesses are responsible for identifying and managing risks and bringing together people with the right skills to do this. For risks to BP managed at the individual asset level, this includes management and staff at the asset. Risks which may be identified include potential effects on operations from physical climate parameters, for example loss of primary containment or loss of structural integrity caused by extreme weather. Our operating management system includes processes and tools for use in this risk identification and management.

CC2.1c

How do you prioritize the risks and opportunities identified?

BP businesses and functions applying BP's risk management policy are required to assess their identified risks based on predefined scales/criteria documented in BP's risk management policy: HSSE, financial and non-financial criteria used to assess the potential impact of an event; and quantitative and qualitative criteria used to estimate the potential likelihood of an event occurring. This is intended to allow comparison of different risks on a like-for-like basis taking into account potential impact and likelihood. Tools and guidance are also available to help assess risk and inform prioritisation decisions and risk management plans. For example, the risk management policy provides a common risk matrix based on the criteria described above, which is used across the group. Colours on the matrix determine minimum levels of oversight, with the larger risks notified to more senior levels.

These tools also help to enable review of the group's principal risks and uncertainties as part of BP's annual planning process. As a result of these reviews, 'climate change and carbon pricing' is considered a risk that could have a material adverse effect on the implementation of BP's strategy, business, financial performance, results of operations, cash flows, liquidity, prospects, shareholder value and returns and reputation (as reported in Risk factors in BP's Annual Report and Accounts in 2016).

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment
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CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

(i) BP has central (group) teams working on policy, economics and technology that collect climate/carbon science, policy, regulatory and technology information from around the world, at a global level (e.g. UNFCCC, Kyoto and Paris Agreement) and a regional and national level (e.g. US, EU, China). The central teams are supported by local teams in key regions. Sources of information include governments, universities, NGOs, research and consultants. We use this information in briefings to help inform executive and Board decision making.

(ii) An example of how climate change policy and the energy transition has influenced the business strategy, is the recent strategy update presented to investors, which includes three strategic horizons, with components of relevance here including the following:

Short term – portfolio resilience and new business models

Medium term – shift to gas and advantaged oil, and growth in Alternative Energy and new business models

Long term – advantaged resources and full participation in the energy transition

(iii) Two aspects of climate change policy and the energy transition that have influenced BP's strategy are regulatory changes and opportunities to develop green businesses. Current and anticipated policies and regulations that limit GHG emissions from our operations (e.g. CO₂ and methane emissions) and/or end users' emissions have influenced our focus on reducing emissions from our own operations and providing lower carbon energy and more energy efficient products. Opportunities to develop green businesses, in the form of tax credits, subsidies or mandates have influenced BP's decisions to invest in biofuels and wind businesses.

(iv) An important element of our short term strategy that has been influenced by climate change is our focus on efficient operations and working to manage our GHG emissions by improving energy efficiency, as well as by reducing flaring and emissions of methane. We track our scope 1 emissions using a range of internal operational performance metrics and some of our businesses currently employ internal operational energy intensity or GHG emission reduction activity targets that incentivize GHG emission reductions and thereby support our resilience in the transition to a lower carbon world.

(v) As highlighted by BP's Chief Economist at its launch in January 2017, BP's Energy Outlook 2035 contains forward- looking statements that, as with any such forecasts, involve risk and uncertainties because they relate to events and depend on circumstances, that will or may occur in the future; the actual outcomes may differ depending upon a variety of factors, and this is one reason why we regularly revisit our Energy Outlook. With this in mind, the "base case" described in our Energy Outlook 2035 predicts, on a "most likely" basis, that the growth in consumption of oil will gradually slow and likely peak. This is predicted to be a result of slowing demand growth, not limited supply, as was once thought. In a world of longer-term abundance, oil prices are likely to remain under pressure. Focus will shift to greater efficiency and low-cost production. Gas will grow as a cleaner alternative to coal. Advanced fuels and lubricants will help motorists reduce emissions. Renewable energy will grow rapidly to become commercial at scale. This Energy Outlook 2035 and BP's Technology Outlook, which assesses possible technology developments out to 2050, help inform decision making by BP businesses and the executive and board decision making bodies as relevant, including in the development of our strategic priorities over the longer term. Specifically, we have developed three scenarios to frame our strategy and help inform our portfolio choices. In broad terms, these scenarios corresponded to a return to the oil price cycle as we have experienced before, a second scenario of oil and gas oversupply, chiefly from shale and OPEC, and a third scenario representing our 'faster transition' cases described in the 2017 Energy Outlook of strong climate policies including faster renewable energy penetration and mobility revolution. Key for us is a strategy and investment choices that are robust to this range of scenarios and, given the uncertainties of the energy outlook, should not to be fixed on a single view. Our strategy is intended to be resilient to, and to achieve growth under, a range of outcomes.

(vi) BP's strategy is to evolve to take strategic advantage of changing prices, policy, technology and customer preferences. We have announced plans to grow our lower carbon offerings across all parts of BP, increasing the share of natural gas in our upstream portfolio, developing efficient fuels and lubricants, growing our biofuels and wind businesses, and investing in new low carbon business models.

(vii) Changes in climate change policy and regulation are creating fast growing markets for low carbon products and services that BP is pursuing as part of its strategy. Consequently, in 2016, BP made a number of business decisions to expand our activities in low carbon businesses. Two substantial examples are:

- Butamax our joint venture with DuPont has acquired Nesika Energy. Its state-of-the-art ethanol facility in Kansas in the US will be converted to the commercial production of bio-butanol using Butamax's proprietary technology.
- BP is partnering with Fulcrum BioEnergy – a company that produces sustainable jet fuel from household waste. We are investing \$30 million in Fulcrum and are planning to supply the fuel to some of our aviation customers in North America.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price on carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

To help anticipate the possibility of greater regulatory requirements for GHG emissions, we factor a carbon cost on operational emissions into our own investment decisions and engineering designs for large new projects and those for which emissions costs would be a material part of the project. In industrialized countries, this is currently \$40 per tonne of CO2 equivalent, and we also stress test at a carbon price of \$80 per tonne. Our carbon cost, along with energy efficiency considerations, encourages projects to be set up in a way that will have lower GHG emissions.

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
 Trade associations
 Funding research organizations

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Cap and trade	Support	Reform of the EU ETS. We support the EU ETS as the primary policy to limit carbon emissions from the industrial sector. We engage through multiple channels, directly as BP and indirectly (e.g. via Fuels Europe).	The EU ETS should create a level playing field for covered sectors, including appropriate protection for sectors exposed to international competition with overseas competitors not exposed to a carbon price.
Cap and trade	Support	Regional cap and trade pilot schemes in China. We support regional and eventually national carbon trading schemes as the most efficient and effective policy to limit carbon emissions. We have engaged directly to advise and support regional authorities to develop effective and efficient carbon trading systems.	Efficient and effective regional carbon trading systems that could eventually be linked at the national level.
Other: Carbon Pricing	Support	BP endorsed the World Bank carbon pricing statement and in 2015 joined other oil and gas companies in calling on the UN and governments to put a price on carbon. We are working with our peers and other parts of the private sector, governments and civil society to help support the expansion and implementation of carbon pricing, through our membership of the Carbon Pricing Leadership Coalition.	Governments across the world to provide clear, stable, long-term, ambitious policy frameworks. We were pleased to see that the Paris Agreement creates the possibility for carbon pricing to help deliver global goals and national contributions for reducing GHG emissions. We recognize different national prices are a necessary and practical first step but would like to see convergence towards a single global carbon price over time. In the meantime, any national carbon pricing mechanism should address the impacts of unequal international competition. Otherwise there is a risk of carbon leakage, meaning that energy-intensive industrial activity and investment could just move from one country to a less-regulated part of the world – potentially increasing their associated GHGs worldwide.

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
OGCI (Oil & Gas Climate Initiative)	Consistent	<p>BP's position is consistent with the OGCI joint collaborative declaration in the 2015 OGCI report, More energy, lower emissions. "OGCI members recognize the general ambition to limit global average temperature rise to 2°C, and that the existing trend of the world's net greenhouse gas (GHG) emissions is not consistent with this ambition."</p> <p>"Governments set the conditions within which we produce and use energy and have a critical role to play in creating clear stable policy frameworks that are consistent with a 2°C future. OGCI will support the implementation of these frameworks because they will help our companies to take informed decisions and make effective and sustainable contributions to addressing climate change."</p>	<p>BP's CEO Bob Dudley chairs this CEO-led initiative and BP is actively involved at all levels in this initiative to influence existing and future positions.</p>
IPIECA (The global oil and gas industry association for environmental and social issues)	Consistent	<p>BP's position is consistent with IPIECA's Paris Puzzle. Paris Puzzle key messages: "IPIECA recognises that addressing the risks of climate change is a challenge for our generation and will be for those to come. Meeting the challenge will require actions from all parts of society. Significant policy action, technology development and business response will be needed over many decades. The oil and gas industry can play a key role in helping society to meet the challenge." "IPIECA believes it is possible to address climate change risks while also meeting growing global energy demand and supporting economic</p>	<p>BP is represented on the IPIECA executive committee and is on the Climate Change Working Group. BP actively contributed to the IPIECA publication – "The Paris Puzzle – The pathway to a low-emissions future" and its presentation at a side-event at COP21. Subsequently in 2016 we contributed to the follow-up publication - "Exploring low-emissions pathways -Advancing the Paris Puzzle"</p>

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		development. As an industry we are already taking a range of actions across our own operations and products to support these goals.”	
IETA (International Emissions Trading Association)	Consistent	BP's position is reflected in IETA's stated objective and vision. IETA's stated objective: "Our objective is to build international policy and market frameworks for reducing greenhouse gases at lowest cost." IETA's stated vision: "Our vision is a single global carbon price produced by markets of high environmental integrity. We pursue this vision with an eye to pragmatism, political reality and sound economics."	BP was a founder member of IETA and is currently represented on the board of directors. We seek to influence the development of positions on current issues by active involvement in the relevant working groups

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

No

CC2.3e

Please provide details of the other engagement activities that you undertake

CC2.3f

What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Agreed positions are communicated to relevant staff across BP businesses and are intended to form the basis of interaction with policy makers and with other stakeholders with which those businesses are associated.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

No

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
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CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
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CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
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CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
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CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

An organisation's operational GHG emissions can be influenced by a variety of factors that may result from shifts in business activity, production or assets. Because of this, an enterprise-wide GHG emissions reduction target may create a risk of unintended consequences. Such emissions reductions are also only one way in which BP, as an energy group can contribute to the lower carbon agenda. For these reasons, BP currently does not have enterprise wide GHG targets. Over the next five years, although there may be annual fluctuations, it is likely that as we work in more technically challenging and potentially more energy-intensive areas, the carbon intensity of our upstream operations will continue to increase, while declining production in our mature assets, which requires more energy, also pushes intensity incrementally higher. We expect the GHG intensity of our refining portfolio to remain relatively flat or to decrease at certain refineries due to efficiency projects in progress.

CC3.2

Do you classify any of your existing goods and/or services as low carbon products or do they enable a third party to avoid GHG emissions?

Yes

CC3.2a

Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
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CC3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	12	140000
Implementation commenced*	0	0
Implemented*	21	290000
Not to be implemented	0	0

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Process emissions reductions	On our ETAP platform in the North Sea, UK, we resized the main oil export pump on in order to improve system efficiency. This was a voluntary activity that resulted in the reduction of Scope 1 emissions.	3400	Scope 1	Voluntary	95000	250000	1-3 years	16-20 years	
Process emissions reductions	Completion of a new gas injector well in 2016 at our operations in Angola reduced flaring activity. This was a voluntary activity that resulted in the reduction of Scope 1 emissions.	105000	Scope 1	Voluntary					
Process emissions reductions	Reduced duration of well test flaring in 2016 at operations in Oman reduced flaring activity. This was a voluntary activity that resulted in the reduction of Scope 1 emissions.	66000	Scope 1	Voluntary					
Process emissions reductions	Completion of flare gas recovery projects in 2016 at two of our US refineries reduced flaring activity. This was a voluntary activity that resulted in the reduction of Scope 1 emissions.	47000	Scope 1	Voluntary					
Process emissions reductions	We upgraded equipment in our operations in the Caspian that reduced process emissions. This was a voluntary activity that resulted in the reduction of Scope 1 emissions.	24000	Scope 1	Voluntary					
Energy	.At our petrochemicals plant in Geel,	12000	Scope	Voluntary		50000000	4-10	16-20	

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
efficiency: Processes	Belgium, we have made technology improvements that achieve greater energy efficiency in producing purified terephthalic acid, used to make clothes, plastic bottles and other items. These upgrades allow us to use 30% less power, resulting in an overall GHG reduction of 14%. This was a voluntary activity that resulted in the reduction of Scope 1 emissions.		1				years	years	

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Internal price on carbon	We factor a carbon cost into our own investments and engineering designs for large new projects and those for which operational emissions costs would be a material part of the project. In industrialized countries this is \$40 per tonne of CO2 equivalent. We use this cost as a basis for assessing the economic value of the investment and as a consideration in the project engineering.
Partnering with governments on technology development	BP is a founding partner in the World Bank's Global Gas Flaring Reduction partnership, we fully participate in the various programmes under this partnership, we directly support the partnership through both funding and assistance with work items, and we continue to work towards reduced flaring and venting from our worldwide exploration and production operations. This is a voluntary activity and is aimed at reducing Scope 1 emissions. This partnership was launched in 2002, is ongoing and expected to continue.

Method	Comment
Partnering with governments on technology development	BP is a charter partner and participant in the US EPA Natural Gas STAR Program. This is a flexible, voluntary partnership that encourages oil and natural gas companies to adopt cost-effective technologies and practices that improve operational efficiency and reduce emissions of methane.
Compliance with regulatory requirements/standards	In some countries and cases, complying with regulatory requirements/standards can require investing in equipment or actions that results in lower emissions.
Other	Internal requirements: Our practice on environmental and social requirements for new access projects, major projects, international protected area projects and acquisition negotiations contains various requirements intended to promote informed project decision making on GHG management.

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but	Complete	Measuring our progress, page 19. The changing world	https://www.cdp.net/sites/2017/83/2083/Climate Change 2017/Shared Documents/Attachments/CC4.1/2017_BP_AnnualReport.pdf	We have attached a low resolution version of our Annual Report. Please

Publication	Status	Page/Section reference	Attach the document	Comment
have not used the CDSB Framework		of energy, pages 8 & 9. Climate change, page 43.		see our corporate website to view the high resolution version.
In voluntary communications	Complete	GHG Data, Page 8. Taking action on climate change, pages 10 to 20	https://www.cdp.net/sites/2017/83/2083/Climate Change 2017/Shared Documents/Attachments/CC4.1/2017_BP_SustainabilityReport.pdf	We have attached a low resolution version of our Sustainability Report. Please see our corporate website to view the high resolution version.

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Cap and trade schemes	Governments are putting in place taxes, carbon trading schemes and other measures to limit greenhouse gas (GHG) emissions. We expect around two-thirds of BP's direct emissions will be in countries subject to emissions and carbon policies by 2020. For example in Europe, direct GHG emissions from BP operations are covered by the EU emissions trading scheme, in which the cost of acquiring allowances in order to comply with the cap and trade regulations could increase due to market considerations and policy interventions	Increased operational cost	1 to 3 years	Direct	Likely	Low-medium	The cost of acquiring allowances and other carbon credits in order to comply with the cap and trade regulations applicable to BP's operations (such as refining and upstream production) could increase due to market considerations and policy interventions as Governments seek to further reduce GHG emissions from the capped sectors For example in 2016 the gross cost to BP's upstream operations in the North Sea to the European Emissions Trading Scheme. was close to € 4.7 million to purchase 795,000 allowances.	Relevant BP businesses manage the cost of any residual obligation (price risk) after any engineering or operational emission reduction activities that they have undertaken, through the use of our Global Environmental Products team within our Integrated Supply and Trading function. This team sources the allowances and other carbon credits from global markets. In 2016 businesses in BP's upstream operations in the North Sea implemented Real Sustainable Reductions in GHG emissions estimated to be	It is difficult to provide an accurate management cost to this activity as resources are utilized across a number of teams and spread across multiple activities (commercial, environment, business). However, by way of example the external verification cost for the EU ETS is ~ \$50,000 per annum (this varies with the number of sites in scope).

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	as Governments seek to further reduce GHG emissions from the capped sectors.							approximately 14,000 tonnes including the re-sizing of an oil export pump at our ETAP facility and procedural changes at our offshore Bruce platform to minimise flaring.	

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in temperature extremes	Production efficiency, with associated potential for increased operating costs, may be impacted if the ambient air temperature rises above the design temperature range for equipment such as	Increased operational cost	>6 years	Direct	Likely	Low	A potential increase in operational costs.	BP requires major projects, with the exception of seismic projects or exploration drilling projects, to consider potential climate change risks This is intended to promote informed project	The costs of any management actions would vary depending upon the situation.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	compressors impacting liquefaction processes. For example, our operations in Indonesia.							decision making on GHG management.	

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	The emission of methane along the natural gas value chain has the potential to adversely affect perceptions of the case for natural gas as a lower carbon energy source. If BP and the industry are not able to address such perceptions with appropriate information on	Reduced demand for goods/services	3 to 6 years	Direct	About as likely as not	Medium	Without effective control of methane emissions there is a risk that demand for gas in the energy transition is reduced with a consequent reduction in revenue from BP's equity gas production.	We participate in the Climate and Clean Air Coalition's Oil and Gas Methane Partnership (CCAC) and the Oil and Gas Climate Initiative (OGCI) to build a more reliable and complete picture of methane emissions from oil & gas operations. Through CCAC we are deepening our	The cost of undertaking the external methane studies is significant, but the cost is shared between the participating partners. For example, BP's share of undertaking the work with third party specialists to examine the life cycle greenhouse emissions

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	methane emissions from the production and bringing to market of natural gas, this could reduce projected demand for natural gas globally with lower revenue generation for BP.							industry's understanding of the core sources and mitigation options available for the bulk of methane emissions in upstream operations. Through OGCI, we are working with third party specialists to examine the life cycle greenhouse emissions (including methane) and economic mitigation options of different oil and gas value chains. In 2015 and 2016 we conducted methane assessments of many of BP's upstream operations. We are using this work to develop methane mitigation opportunities in our operations. For example, we identified that flaring is one of our	(including methane) of different oil and gas value chains is around \$70,000.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								largest sources of methane emissions, enabling BP businesses to make some interventions. In 2016, these interventions included completion of a new gas injector well in our operations in Angola, and reduced duration of well test flaring at operations in Oman.	

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

. The answers to CC5.1a to CC5.1c are intended to be illustrative and are not the only risks considered.

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation

Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Renewable energy regulation	Current or anticipated regulation of GHG emissions and renewable energy is creating markets for low or lower carbon sources of energy including gas which BP is pursuing as part of its business strategy. Our strategy is to invest in renewable energy where we can build commercially viable businesses at scale. Our main focus to date has been to invest in wind in the US and in sugar cane ethanol in Brazil.	Investment opportunities	Up to 1 year	Indirect (Client)	Very likely	Low	Our Brazilian biofuels and our US Wind businesses generate positive operating cash. We believe that there are value accretive growth options that we can continue to deliver through wise investment choices and sound business models.	BP's Alternative Energy business was established over a decade ago to pursue opportunities created by fast growing markets in low-carbon sources of energy. Alternative Energy now has the largest operated renewables business among our oil and gas peers, with a focus on biofuels and wind. Alternative Energy is seeking to deliver value generating growth options through investment in existing installations and investing in new production. During 2016 we continued to explore opportunities to commercialise	BP has made substantial investments in the Alternative Energy business. We continue to invest in the US wind and Brazilian biofuels businesses, and also in low carbon venture opportunities.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								technology at scale in renewable fuels and recently announced that Butamax our joint venture with DuPont has acquired Nesika Energy. Its state-of-the-art ethanol facility in Kansas in the US will be converted to the commercial production of bio-butanol using Butamax's proprietary technology.	

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behavior	To the extent that customer preference for low carbon products translates into purchasing choices, this creates the opportunity to increase BP's market share and/or margin of certain fuel, lubricant and chemical products. BP has identified the marketing opportunity to differentiate high specification engine lubricating oils as products which can help users lower their carbon footprint, and develop new lower carbon/ carbon neutral products.	Increased demand for existing products/services	Up to 1 year	Direct	Likely	Low	Increased sales and increased margin.	Having identified products with potential for market differentiation based on carbon footprint, the BP business contracts with an independent service provider to certify the low carbon credentials of the product. For carbon neutral products, the BSI PAS 2060 standard is used. The product is then marketed as a low carbon product or as carbon neutral product with the remaining carbon footprint offset using carbon reductions sourced from our Target Neutral program. For example, in 2016 Castrol India Ltd, a BP Group company, launched Castrol	There is significant up-front cost for each product for a recognised third party to certify the low carbon credentials of the product. For products certified to PAS 2060, additional costs for third party assurance are also required.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								GTX ECO, a high performance engine oil manufactured from re-refined waste oil and with a 10% lower life cycle carbon footprint than standard Castrol GTX Diesel product. The carbon reduction was verified after testing and analysis by ERM.	

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

.At this stage, we have not identified any physical climate impacts that represent a potential opportunity to make a substantive change in our business operations, revenue or expenditure.

In terms of evaluating potential opportunities in the CDP category of physical climate impact of snow and ice, one of our businesses did this by assessing whether any change in the extent of sea ice cover in the northern hemisphere could potentially present an opportunity for changes in maritime activity in the Northern Sea Route (NSR). This route, if available for longer periods during the year, could reduce journey times between Europe and Asia, with associated reduced journey costs.

Opportunities from this potential impact have not been identified as relevant to BP because, when other factors are taken into account, such as costs for ice-class ships and associated fuels and technologies, slower speeds, navigational difficulties, fees for icebreaker services, and management of risks associated with this unique region, the overall saving in fuel costs did not currently translate into a substantive opportunity for BP.

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Thu 01 Jan 2015 - Thu 31 Dec 2015	49030000
Scope 2 (location-based)	Thu 01 Jan 2015 - Thu 31 Dec 2015	6910000
Scope 2 (market-based)		

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2nd edition, 2011
Other

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

We use the BP Environmental Performance Reporting Requirements, which comprise reporting instructions and calculation methodologies covering a range of environmental parameters including GHG emissions. The reporting boundaries and emissions calculation approach are broadly aligned with both The Greenhouse Gas Protocol and the IPIECA/API/OGP Petroleum Industry Guidelines for Reporting GHG Emissions. The BP Requirements set out a tiered approach to calculating emissions requiring the use of approaches (tiers) based on determination of fuel consumption and fuel properties for major sources rather than the use of generic

emission factors. For minor sources and where we consider that it is not feasible to determine actual fuel properties BP defaults to IPCC emission factors (see 7.4). For industry specific "process" emissions the BP Requirements recommend emission factors from the API Compendium of Greenhouse Gas Emission Methodologies for the Oil and Gas Industry.

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Natural gas	56.1	Other: kg of CO2 per GJ	Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
Liquefied petroleum gas (LPG)	63.1	Other: kg of CO2 per GJ	Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
Jet kerosene	71.5	Other: kg of CO2 per GJ	Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
Kerosene	71.9	Other: kg of CO2 per GJ	Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
Crude oil	73.3	Other: kg of CO2 per GJ	Revised 1996 IPCC Guidelines for National Greenhouse

Fuel/Material/Energy	Emission Factor	Unit	Reference
			Gas Inventories
Residual fuel oil	77.4	Other: kg of CO2 per GJ	Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories

Further Information

CC7.1 BP employs a rolling base year approach and thus the base year for 2016 emissions performance is 2015. Note: The reported 2015 figure of 48.91Mte has been amended to 49.03Mte.

Page: CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Other: Our GHG reporting encompasses all BP's consolidated entities as well as our share of equity-accounted entities other than BP's share of Rosneft

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

50100000

CC8.3

Please describe your approach to reporting Scope 2 emissions

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure	We have operations where we are able to access electricity supplier emissions factors or residual emissions factors, but are unable to report a Scope 2, market-based figure	

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO₂e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
6210000		

CC8.4

Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
GHGs other than CO2 and CH4	Emissions are not relevant	Emissions are not relevant	Emissions are not relevant	We report on GHG emissions including CO2 and Methane for direct (scope 1) emissions and CO2 for indirect (scope 2) emissions. The answers "Emissions are not relevant" here in CC8.4a means that we do not include nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride as they are not material to the overall figure and therefore it is not practical for BP businesses to collect this data.

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1		Assumptions Metering/ Measurement Constraints Other: Published Emissions Factors	BP collects GHG emissions data from around 160 sites worldwide ranging in size from well over 3 million tonnes of CO2e per year to less than ten tonnes per year. Some of these facilities already participate in GHG programs (mandatory and voluntary) where data requirements need to be met such as in Europe and the US. The sources of uncertainty vary considerably from one facility to another as the simpler facilities (but not always the smallest) may have a single commercial fuel with a single meter, while a complex refinery will have many different fuels with varying compositions and numerous facility specific process sources. We have not undertaken a formal uncertainty analysis on the GHG emissions inventory, but we have over ten years of historic data and based on experience to date, we believe we are able to account for very small changes from one year to the next.
Scope 2 (location-based)		Other: Published Emissions Factors	We have not undertaken a formal uncertainty analysis on the GHG emissions inventory, but we have over ten years of historic data and based on experience to date, we believe we are able to account for very small changes from one year to the next.

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 2 (market-based)			

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2017/83/2083/Climate Change 2017/Shared Documents/Attachments/CC8.6a/CDP-verification-template-2017_EY.pdf	Pages 1 - 2 of the attached CDP template.	ISAE3000	100

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission
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CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2017/83/2083/Climate Change 2017/Shared Documents/Attachments/CC8.7a/CDP-verification-template-2017_EY.pdf	Pages 1 - 2 of the attached CDP template.	ISAE3000	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Year on year change in emissions (Scope 1)	
Year on year change in emissions (Scope 2)	
Year on year change in emissions (Scope 3)	This includes the "Customer Emissions" figure included on page 8 in BP's 2016 Sustainability Report.
Year on year emissions intensity figure	This includes the three segment GHG intensity figures included on page 8 in BP's 2016 Sustainability Report.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Yes

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

1919400

Further Information

CC8.2- Our scope 1 emissions number does not include CO2 sequestered, captured and stored or transferred out. We report only the GHG emissions that reach the atmosphere. This is consistent with the GHG Protocol which defines emissions as "The release of GHG into the atmosphere." CC8.9a The figure provided represents the carbon dioxide emissions from the combustion of bagasse from our sugar cane operations in Brazil.

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
Algeria	530000
Angola	3580000
Argentina	2280000
Australia	2180000
Azerbaijan	820000
Belgium	370000
Bolivia	60000
Brazil	130000
Canada	620000
China	1600000
Egypt	1320000
Georgia	70000
Germany	4860000

Country/Region	Scope 1 metric tonnes CO2e
India	90000
Indonesia	2140000
Malaysia	10000
Netherlands	2300000
New Zealand	230000
Norway	210000
Oman	400000
Rest of world	1830000
Russia	170000
South Africa	600000
South Korea	40000
Spain	1550000
Taiwan	110000
Trinidad and Tobago	2140000
Turkey	90000
United Arab Emirates	620000
United Kingdom	2140000
United States of America	17020000

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

- By business division
- By GHG type

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Upstream	26803000
Downstream	21067000
Other Business and Corporate	2228000

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
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CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	46060000
CH4	4030000

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
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Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Australia	280000			

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Belgium	90000			
Brazil	10000			
Canada	50000			
China	530000			
Germany	1000000			
Indonesia	80000			
Malaysia	20000			
Netherlands	150000			
New Zealand	20000			
Rest of world	350000			
South Africa	70000			
South Korea	50000			
Spain	30000			
Taiwan	70000			
Trinidad and Tobago	20000			
United Kingdom	330000			
United States of America	3040000			

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Upstream	536000	
Downstream	5572000	
Other Business and Corporate	101000	

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
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CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
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Further Information

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	
Steam	2880000
Cooling	

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

189070000

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Other: Self-generated fuel gas and refinery fuel gas	148990000
Natural gas	19580000
Other: Other hydrocarbons. Includes: residual fuel oil; FCC coke; diesel; and petrochemical residues	20500000

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment

Further Information

Note that fuel use data is reported on an operated basis not a BP share basis. GHG emissions are reported on a BP share basis as described in answer to question 8.1. Electricity figures are based on net imported electricity and therefore do not include BP businesses' own generation and use of electricity. Energy consumed to generate BP businesses' own electricity is included within the fuel consumption energy data. Steam figures are based on net imported steam and therefore do not include the generation and use of steam by BP businesses. Energy consumed by BP businesses to generate steam is included within our fuel consumption energy data.

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

CC12.1a

Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	0.5	Decrease	Actions taken by BP businesses to sustainably reduce their scope 1 emissions in 2015 accounted for a reduction of 0.3 Mte. Our previous years scope 1 + scope 2 emissions totalled 55.9 Mte CO ₂ e, our percentage decrease was determined to be -0.5% based on the following calculation: $-0.3/55.9 = -0.5\%$
Divestment	0.8	Decrease	Divestments across all segments as part of an asset divestment programme accounted for a reduction in scope 1 emissions of 0.4 Mte. Our previous years scope 1 + scope 2 emissions totalled 55.9 Mte CO ₂ e, our percentage decrease was determined to be -0.8% based on the following calculation: $-0.44/55.9 = -0.8\%$
Acquisitions	0.5	Increase	Increases in equity across all segments accounted for a 0.3 Mte increase in scope 1 emissions. Our previous years scope 1 + scope 2 emissions totalled 55.9 Mte CO ₂ e, our percentage increase was determined to be 0.5% based on the following calculation: $0.3/55.9 = 0.5\%$
Mergers			
Change in output			

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other	2.8	Increase	In 2016, the increase in scope 1 emissions of 1.54 Mte was primarily due to operational changes that included the start-up activities of the third-party operated Sunrise oil sands project in Canada and the third-party operated LNG plant in Angola. And one of our US refineries started operations following a planned shutdown for maintenance. Around a quarter of the increase is due to changes in how we calculate emissions. Our previous years scope 1 + scope 2 emissions totalled 55.9 Mte CO ₂ e, our percentage increase was determined to be 2.8% based on the following calculation: $1.54/55.9=2.8\%$

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO₂e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.00030	metric tonnes CO2e	184827000000	Location-based	20	Increase	The reason for the increase is that in the relevant period, revenue decreased reflecting lower oil and gas prices and the weaker refining environment, combined with an increase in our reported emissions primarily due to operational changes.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
408	metric tonnes CO2e	Other: Petrochemicals production in thousand tonnes	14229	Location-based	5.9	Decrease	The main reason for the reduction in GHG intensity was emissions reduction activities – our petrochemicals facilities implemented new proprietary manufacturing processes that reduce the energy consumption required to make products, and therefore the associated scope 1 and scope 2 emissions. This is based on an advanced design and engineering solution developed to enable recovery of heat generated by the chemical reaction in PTA manufacture. This accounts for around two-thirds of the

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
							decrease. Divestment of one of our US facilities accounts for around a third of the decrease.
1152	metric tonnes CO2e	Other: Refinery kbd uEDC (Utilized Equivalent Distillation	15975	Location-based	0	No change	
35	metric tonnes CO2e	Other: Upstream production of hydrocarbons in thousand barrels of oil equivalent (mboe)	770880	Location-based	5.3	Increase	The GHG intensity of our upstream portfolio has risen in 2016 primarily because of an increased contribution from more GHG-intensive operations, such as unconventional gas operations in the US.

Further Information

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

Yes

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
California's Greenhouse Gas Cap and Trade Program	Fri 01 Jan 2016 - Sat 31 Dec 2016	0		6985362	Other: Products sold
New Zealand ETS	Fri 01 Jan 2016 - Sat 31 Dec 2016	0		4468684	Other: Products sold
European Union ETS	Fri 01 Jan 2016 - Sat 31 Dec 2016	9170616		11602854	Other: Totals include only installations operated by BP

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

Affected installations make a business decision whether to comply through investment in emission reductions and/or purchase of allowances.

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

Yes

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
Credit purchase	Wind	Sares Wind Power Plant	Gold Standard	33614	33614	Yes	Voluntary Offsetting
Credit purchase	Hydro	Grouped Hydropower plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China	VCS (Verified Carbon Standard)	115787	115787	Yes	Voluntary Offsetting
Credit purchase	Biomass energy	National Bachu Biomass Power Generation Project	Gold Standard	72639	72639	Yes	Voluntary Offsetting
Credit purchase	Biomass energy	National Bachu Biomass Power Generation Project	Gold Standard	2679	2679	No	Voluntary Offsetting
Credit purchase	Forests	Lower Zambezi REDD + Project	VCS (Verified Carbon Standard)	118970	118970	Yes	Voluntary Offsetting
Credit purchase	Forests	Lower Zambezi REDD + Project	VCS (Verified Carbon Standard)	4353	4353	No	Voluntary Offsetting
Credit purchase	Energy efficiency: households	Low cost irrigation devices programme in India	Gold Standard	21572	21572	Yes	Voluntary Offsetting
Credit purchase	Energy efficiency: households	Promotion of Low Cost Irrigation Device in Eastern States of India	VCS (Verified Carbon Standard)	1677	1677	Yes	Voluntary Offsetting
Credit purchase	PFCs and SF6	Conversion of SF6 To An Alternative Cover Gas In Magnesium Production In Eaton Rapids, MI and Strathroy, ON	Gold Standard	93029	93029	Yes	Voluntary Offsetting
Credit purchase	Energy efficiency: industry	Campus Wide Clean Energy & Energy Efficiency	VCS (Verified Carbon Standard)	131579	131579	Yes	Voluntary Offsetting
Credit purchase	Hydro	Gansu Yongchang County Donghewan Cascaded Hydropower Project	VCS (Verified Carbon Standard)	13985	13985	Yes	Voluntary Offsetting

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
			Standard)				
Credit purchase	Forests	Redd Forests Grouped Project: Protection of Tasmanian Native Forest	VCS (Verified Carbon Standard)	18130	18130	Yes	Voluntary Offsetting
Credit purchase	Forests	Redd Forests Grouped Project: Protection of Tasmanian Native Forest	VCS (Verified Carbon Standard)	31870	31870	No	Voluntary Offsetting
Credit purchase	Hydro	Grouped Hydropower Plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China	VCS (Verified Carbon Standard)	13000	13000	Yes	Voluntary Offsetting
Credit purchase	Hydro	Grouped Hydropower Plants in Chongqing, Yunnan, Sichuan and Guizhou Provinces, P.R. China	VCS (Verified Carbon Standard)	7000	7000	No	Voluntary Offsetting
Credit purchase	Landfill gas	Mamak Landfill Waste Management Project Turkey	Gold Standard	7212	7212	Yes	Voluntary Offsetting
Credit purchase	Landfill gas	Mamak Landfill Waste Management Project Turkey	Gold Standard	1288	1288	No	Voluntary Offsetting

Further Information

CC13.1a - China is operating emission trading pilots in five cities and two provinces. A number of BP joint venture companies in China are participating in these schemes. CC13.2a – The table does not include quantities of credits purchased or originated to be used for compliance purposes.

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Not evaluated				
Capital goods	Not evaluated				
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Not evaluated				
Upstream transportation and distribution	Not evaluated				
Waste generated in operations	Not evaluated				
Business travel	Not evaluated				
Employee commuting	Not evaluated				
Upstream leased assets	Not evaluated				
Downstream transportation and distribution	Not evaluated				
Processing of sold products	Not evaluated				
Use of sold products	Relevant, calculated	395000000	We estimate "customer emissions" by applying global average emissions factors from the IPCC to BP's total reported		BP reports "customer emissions" rather than

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			production of natural gas, natural gas liquids and refinery throughputs. The natural gas, natural gas liquids and refinery throughput numbers used are the same as those that we report externally in our financial statements.		"use of sold products"; as detailed in methodology.
End of life treatment of sold products	Not evaluated				
Downstream leased assets	Not evaluated				
Franchises	Not evaluated				
Investments	Not evaluated				
Other (upstream)	Not evaluated				
Other (downstream)	Not evaluated				

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2017/83/2083/Climate Change 2017/Shared Documents/Attachments/CC14.2a/CDP-verification-template-2017_EY.pdf	Pages 1 - 2 of the attached CDP template.	ISAE3000	100

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Use of sold products	Change in output	1.79	Decrease	The decrease in "customer emissions" (402 Mte in 2015 compared to 395 Mte 2016) is primarily explained by two factors. Firstly, a reduction in gas production at our operations in Trinidad and Tobago. And secondly, a slight reduction in overall refinery throughputs from ceasing operations

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
				at Bulwer in 2015 and the large turnaround at Whiting.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

BP Target Neutral (BPTN), a not-for-profit carbon management programme, where BP engages with its customers on the impact of emissions. Engagement is with both business customers (b2b) and consumers (b2c). The central premise of BP Target Neutral is collective action to mitigate climate change, that by working together with our customers and stakeholders, we can achieve a greater impact.

1.Method of Engagement:

We engage in different ways:

Consumers:

1. Membership community: BP Target Neutral runs a membership programme which has 30,000 participants. Members receive quarterly newsletters which promote the Reduce-Replace-Neutralise approach to carbon reduction and provide tools for members to offset all their travel related carbon emissions through carbon offset programmes.

2. Educational tools: Via bptargetneutral.com, we provide education on Reduce-Replace-Neutralise including a carbon calculator, video with Adam Hart Davis and animations of offset projects. For B2B customers we provide a 'Business Hub' with communication materials including carbon offset project briefs and photos, to help our customers communicate their carbon mitigation and offsetting activity.

3. Education & Awareness: In 2016 we celebrated 10 years of operating BP Target Neutral and held a convention for staff and select customers to promote lower carbon products..

4. Products and Services: we work to provide lower carbon product and services, for example Castrol Professional – a carbon neutral range of lubricants for OEMs which has offset close to 1million tonnes of carbon since 2013 (certified under BSI PAS 2060). In 2016 we launched the following product and service offers:

- PTAir – a new low carbon PTA brand with three products that offers a more sustainable solution for the polyester (PET) value chain through a combination of world-class technology and carbon management;

- Castrol Vecton – Australia’s first certified (Under the Australian NCOS scheme) carbon neutral diesel engine oil for the heavy duty trucking sector and,

In our carbon neutral offers we promote the adoption of international best practices, including PAS2060, which involves the development of an emissions plan and delivering emissions reduction on a year on year basis.

2. Strategy for prioritization

BP Target Neutral works as an internal consultancy with BP customer facing businesses identifying opportunities to help customers reduce their emissions and differentiate our products and services.

These BP businesses include Castrol; Fuels US; Fuels Europe; Petrochemicals and Air BP. Each business is at a different level of maturity in implementing a lower carbon marketing strategy but each follow the same process:

Step 1: Understand market and customer trends using research data to help understand customer preferences for lower carbon propositions (these insights differ depending on business or consumers)

Step 2: Work with the business to agree strategy and priorities. For example, Castrol follow a product led strategy whereas Air BP approach is brand led.

Step 3: Implement pilot activities to test uptake for various customer sectors.

Step 4: Measure success and implement at scale.

3. Measure of success

Programme measures:

- Uptake of the programme, BPTN Target Neutral programme - worked on 60 separate marketing activities.

- Volume of carbon credits retired to support the work programme increased to over 640,000 tonnes in 2016 vs 30,000 tonnes five years ago.

- The programme is also monitored by our external Assurance & Advisory Panel who review the progress on a quarterly basis, see <https://www.bptargetneutral.com/uk/about-us/governance/our-advisors/>

- BP Target Neutral is audited against the ICROA (Internal Carbon Reduction and Offset Alliance) Code of Best Practice and passed this audit again in 2016, for the 10th consecutive year.

Examples of business measures:

- Petchems: Launch of PTAir lower carbon and PTA neutral (increase in sales will be the measure for 2017)

- Castrol measures each activity separately. For example, for Castrol Professional, the measure is business retention. For Castrol Vecton the measure is increase in

sales; Franchise Workshop carbon toolkit – measure is number of workshops using the service.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
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CC14.4c

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Dev Sanyal	CEO, Alternative Energy & EVP, Regions	Other: Executive Vice President and member of the Group Executive Board

Further Information

Module: Oil & Gas

Page: OG0. Reference information

OG0.1

Please identify the significant petroleum industry components of your business within your reporting boundary (select all that apply)

Exploration, production & gas processing
Storage, transportation & distribution
Specialty operations
Refining
Retail & marketing

Further Information

Page: OG1. Production, reserves and sales by hydrocarbon type - (1 Jan 2016 - 31 Dec 2016)

OG1.1

Is your organization involved with oil & gas production or reserves?

Yes

OG1.2

Please provide values for annual gross and net production by hydrocarbon type (in units of BOE) for the reporting year in the following table. The values required are aggregate values for the reporting organization

Product	Gross production (BOE)	Net production (BOE)	Production consolidation boundary	Comment

OG1.3

Please provide values for reserves by hydrocarbon type (in units of BOE) for the reporting year. Please indicate if the figures are for reserves that are proved, probable or both proved and probable. The values required are aggregate values for the reporting organization

Product	Country/region	Reserves (BOE)	Date of assessment	Proved/Probable/Proved+Probable

OG1.4

Please explain which listing requirements or other methodologies you have used to provide reserves data in OG1.3. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this

BP reports reserves according to SEC-approved methodology.

OG1.5

Please provide values for annual sales of hydrocarbon types (in units of BOE) for the reporting year in the following table. The values required are aggregate values for the reporting organization

Product	Sales (BOE)	Comment

OG1.6

Please provide the average breakeven cost of current production used in estimation of proven reserves

Hydrocarbon/project	Breakeven cost/BOE	Comment
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OG1.7

In your economic assessment of hydrocarbon reserves, resources or assets, do you conduct scenario analysis and/or portfolio stress testing consistent with a low-carbon energy transition?

OG1.7a

Please describe your scenario analysis and/or portfolio stress testing, the inputs used and the implications for your capital expenditure plans and investment decisions

OG1.7b

Please explain why you have not conducted any scenario analysis and/or portfolio stress testing consistent with a low-carbon energy transition

Further Information

OG1.2: We report our production, net of royalties, using approved SEC methodology. In 2016 we produced 747520000 BOE of liquid hydrocarbons (including condensate, bitumen and NGLs) and 445237100 BOE of natural gas. OG1.3: We estimate our net proved reserves, net of royalties, using approved SEC methodology. In 2016 our estimated proved reserves of liquid hydrocarbons were 10333000000 BOE and natural gas were 7477000000 BOE.

OG2.1

Please indicate the consolidation basis (financial control, operational control, equity share) used to report the Scope 1 and Scope 2 emissions by segment in the O&G value chain. Further information can be provided in the text box in OG2.2

Segment	Consolidation basis for reporting Scope 1 emissions	Consolidation basis for reporting Scope 2 emissions
Exploration, production & gas processing	Operational Control	Operational Control
Storage, transportation & distribution	Operational Control	Operational Control
Specialty operations	Operational Control	Operational Control
Refining	Operational Control	Operational Control
Retail & marketing	Operational Control	Operational Control

OG2.2

Please provide clarification for cases in which different consolidation bases have been used and the level/focus of disclosure. For example, a reporting organization whose business is solely in storage, transportation and distribution (STD) may use the text box to explain why only the STD row has been completed

OG2.3

Please provide masses of gross Scope 1 carbon dioxide and methane emissions in units of metric tonnes CO₂ and CH₄, respectively, for the organization's owned/controlled operations broken down by value chain segment

Segment	Gross Scope 1 carbon dioxide emissions (metric tonnes CO ₂)	Gross Scope 1 methane emissions (metric tonnes CH ₄)
Exploration, production & gas processing	20419000	104000
Storage, transportation & distribution	8322000	12000

Segment	Gross Scope 1 carbon dioxide emissions (metric tonnes CO2)	Gross Scope 1 methane emissions (metric tonnes CH4)
Specialty operations	4521000	2000
Refining	15047000	2000
Retail & marketing	120000	100

OG2.4

Please provide masses of gross Scope 2 GHG emissions in units of metric tonnes CO2e for the organization's owned/controlled operations broken down by value chain segment

Segment	Gross Scope 2 emissions (metric tonnes CO2e)	Comment
Exploration, production & gas processing	247000	Location based
Storage, transportation & distribution	527000	Location based
Specialty operations	1432000	Location based
Refining	3831000	Location based
Retail & marketing	188000	Location based

Further Information

Page: OG3. Scope 1 emissions by emissions category - (1 Jan 2016 - 31 Dec 2016)

OG3.1

Please confirm the consolidation basis (financial control, operational control, equity share) used to report Scope 1 emissions by emissions category

Segment	Consolidation basis for reporting Scope 1 emissions by emissions category
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OG3.2

Please provide clarification for cases in which different consolidation bases have been used to report by emissions categories (combustion, flaring, process emissions, vented emissions, fugitive emissions) in the various segments

OG3.3

Please provide masses of gross Scope 1 carbon dioxide and methane emissions released into the atmosphere in units of metric tonnes CO2 and CH4, respectively, for the whole organization broken down by emissions category

Emissions category	Gross Scope 1 carbon dioxide emissions (metric tonnes CO2)	Gross Scope 1 methane emissions (metric tonnes CH4)
Combustion		
Flaring		
Process emissions		
Vented emissions		
Fugitive emissions		

OG3.4

Please describe your organization’s efforts to reduce flaring, including any flaring reduction targets set and/or its involvement in voluntary flaring reduction programs, if flaring is relevant to your operations

BP is a founding member of the World Bank’s Global Gas Flaring Reduction partnership, which brings together governments, companies and international institutions to help use gas that would otherwise be vented or flared. We have worked with the state oil company of Azerbaijan, SOCAR, to increase gas recovery

from offshore operations in the Caspian Sea – an effort commended by the World Bank.

We are also a member of the World Bank Zero Routine Flaring by 2030 initiative, which aims to eliminate routine flaring from oil assets by 2030. Routine flaring constitutes less than 5% of total flaring in our upstream operations. Our major new projects are designed to eliminate routine flaring.

In Indonesia we have been working on a long-term flare reduction programme. Since 2012 our Tangguh operations have reduced flaring by approximately 67% by recycling gas for use as a fuel. We continue to evaluate our existing operations to identify viable opportunities to reduce flaring.

Further Information

Page: OG4. Transfers & sequestration of CO2 emissions - (1 Jan 2016 - 31 Dec 2016)

OG4.1

Is your organization involved in the transfer or sequestration of CO2?

Yes

OG4.2

Please indicate the consolidation basis (financial control, operational control, equity share) used to report transfers and sequestration of CO2 emissions

Activity	Consolidation basis
Transfers	Operational Control
Sequestration of CO2 emissions	Operational Control

OG4.3

Please provide clarification for cases in which different consolidation bases have been used (e.g. for a given activity, capture, injection or storage pathway)

The operational control consolidation basis applies to all responses to OG4

OG4.4

Using the units of metric tonnes of CO2, please provide gross masses of CO2 transferred in and out of the reporting organization (as defined by the consolidation basis). Please note that questions of ownership of the CO2 are addressed in OG4.6

Transfer direction	CO2 transferred – Reporting year
CO2 transferred in	
CO2 transferred out	

OG4.5

Please provide clarification on whether any oil reservoirs and/or sequestration system (geological or oceanic) have been included within the organizational boundary of the reporting organization. Provide details, including degrees to which reservoirs are shared with other entities

OG4.6

Please explain who (e.g. the reporting organization) owns the transferred emissions and what potential liabilities are attached. In the case of sequestered emissions, please clarify whether the reporting organization or one or more third parties owns the sequestered emissions and who has potential liability for them

OG4.7

Please provide masses in metric tonnes of gross CO2 captured for purposes of carbon capture and sequestration (CCS) during the reporting year according to capture pathway. For each pathway, please provide a breakdown of the percentage of the gross captured CO2 that was transferred into the

reporting organization and the percentage that was transferred out of the organization (to be stored)

Capture pathway in CCS	Captured CO2 (metric tonnes CO2)	Percentage transferred in	Percentage transferred out
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OG4.8

Please provide masses in metric tonnes of gross CO2 injected and stored for purposes of CCS during the reporting year according to injection and storage pathway

Injection and storage pathway	Injected CO2 (metric tonnes CO2)	Percentage of injected CO2 intended for long-term (>100 year) storage	Year in which injection began	Cumulative CO2 injected and stored (metric tonnes CO2)
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OG4.9

Please provide details of risk management performed by the reporting organization and/or third party in relation to its CCS activities. This should cover pre-operational evaluation of the storage (e.g. site characterization), operational monitoring, closure monitoring, remediation for CO2 leakage, and results of third party verification

Further Information

Page: OG5. Emissions intensity - (1 Jan 2016 - 31 Dec 2016)

OG5.1

Please provide estimated emissions intensities (Scope 1 + Scope 2) associated with current production and operations

Year ending	Segment	Hydrocarbon/product	Emissions intensity (metric tonnes CO2e per thousand BOE)	% change from previous year	Direction of change from previous year	Reason for change
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OG5.2

Please clarify how each of the emissions intensities has been derived and supply information on the methodology used where this differs from information already given in answer to the methodology questions in the main information request

Further Information

Page: **OG6. Development strategy - (1 Jan 2016 - 31 Dec 2016)**

OG6.1

For each relevant strategic development area, please provide financial information for the reporting year

Strategic development area	Describe how this relates to your business strategy	Sales generated	EBITDA	Net assets	CAPEX	OPEX	Comment
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OG6.2

Please describe your future capital expenditure plans for different strategic development areas

Strategic development area	CAPEX	Total return expected from CAPEX investments	Comment

OG6.3

Please describe your current expenses in research and development (R&D) and future R&D expenditure plans for different strategic development areas

Strategic development area	R&D expenses – Reporting year	R&D expenses – Future plans	Comment

Further Information

Page: OG7. Methane from the natural gas value chain

OG7.1

Please indicate the consolidation basis (financial control, operational control, equity share) used to prepare data to answer the questions in OG7

Segment	Consolidation basis
Exploration, production & gas processing	Operational Control

OG7.2

Please provide clarification for cases in which different consolidation bases have been used

OG7.3

Does your organization conduct leak detection and repair (LDAR), or use other methods to find and fix fugitive methane emissions?

Yes

OG7.3a

Please describe the protocol through which methane leak detection and repair, or other leak detection methods, are conducted, including predominant frequency of inspections, estimates of assets covered, and methodologies employed

We have complex operational sites and pipelines that can stretch through hundreds of miles of difficult terrain. BP businesses inspect our major operations at intervals.

Many BP Upstream operated assets already have Optical Gas Imaging (OGI) camera technology. Application of this technology will evolve over time and at variable frequencies. Frequency is established on a site by site basis and depends on several prioritizing factors such as facility enclosure, leak history of the process area and proximity of high vibration equipment or thermal cycling that can exacerbate the conditions for leaks to develop. Sites in the US are approaching leak detection and repair from a regulatory perspective.

The intent is that any leaks identified are repaired on a prioritized basis. Repair of leaks is prioritized based on a qualitative assessment of the size, whether the leak is in an enclosed space or not, and other factors such as proximity to other process equipment and feasibility of repair during uptime. Leaks that are not severe and cannot be repaired when the equipment is online may be prioritized for a future turnaround.

Depending on the location, we use infrared cameras, centralized monitoring stations, sniffer dogs , or other inspection techniques to help to detect any gas leaks. For example, part of the Baku-Tbilisi-Ceyhan pipeline runs through an environmentally sensitive part of Georgia. The business determined the best way to monitor for potential pipeline leaks while avoiding the need to dig pipeline trenches was to use specially trained 'sniffer' dogs. The dogs' ability to detect gas in the parts per billion range allows the business to monitor the pipeline without disruption to the land.

OG7.3b

Please explain why not and whether you plan on conducting leak detection and repair, or other methods to find and fix fugitive methane emissions

OG7.4

Please indicate the proportion of your organization's methane emissions inventory estimated using the following methodologies (+/- 5%)

Methodology	Proportion of total methane emissions estimated with methodology	What area of your operations does this answer relate to?
Direct detection and measurement		
Engineering calculations		
Source-specific emission factors (IPCC Tier 3)		
IPCC Tier 1 and/or Tier 2 emission factors		

OG7.5

Please use the following table to report your methane emissions rate

Year ending	Segment	Estimate total methane emitted expressed as % of natural gas production or throughput at given segment	Estimate total methane emitted expressed as % of total hydrocarbon production or throughput at given segment

OG7.6

Does your organization participate in voluntary methane emissions reduction programs?

Yes

OG7.6a

Please describe your organization's participation in voluntary methane emissions reduction programs

As a member of the Oil and Gas Climate Initiative, we are working with Imperial College London to compare GHG and air emissions across different gas and coal supply chains to seek to identify the most effective ways to reduce GHG emissions.

Through the Climate and Clean Air Coalition's (CCAC) Oil and Gas Methane Partnership, we are working to help deepen our industry's understanding of the core sources that account for the bulk of methane emissions in upstream operations. We expect this to support informed decision-making on potential options to help reduce emissions.

OG7.7

Did you have a methane-specific emissions reduction target that was active (ongoing or reached completion) in the reporting year and/or were methane emissions incorporated into targets reported in CC3?

No

OG7.7a

If you have a methane-specific emissions reduction target that is not detailed as a separate target in CC3, please provide those details here, addressing all of the metrics requested in table CC3.1a or CC3.1b (for an absolute or intensity target, respectively)

OG7.7b

If methane emissions were incorporated into targets reported in CC3 (but not detailed as a separate target), please indicate which target ID(s) incorporate methane emissions, and specify the portion of those targets that is comprised of methane

OG7.7c

Please explain: (i) why you do not have a methane-specific emissions reduction target or do not incorporate methane into your targets reported in CC3; and (ii) forecast how your methane emissions will change over the next five years

An organisation's GHG emissions can be influenced by a variety of factors that may result from shifts in business activity, production or assets. This makes it difficult to establish an appropriate GHG target that can be cascaded throughout the organization with the objective of achieving cost-effective emission reductions. Management of GHG emissions is business-led and governed at a local level through our operating management system.

Further Information

OG7.5 We calculate that our methane intensity – that is, the methane emissions as a percentage of marketed gas production – is around 0.2%
CDP 2017 Climate Change 2017 Information Request