BP’s Advancing Low Carbon accreditation programme activity table

2019

Activity	Description of Activity	ALC outcome	RIC category	Basis	GHG calculation standards or other methodology followed	Saving/ Offset	Total value Saving/ Offset (tonnes CO_2e) to 2 significant figures	Time period	Delivered by BP / third parties	BP equity share or contribution when third party delivered
BP fuels with ACTIVE technology	BP is developing and deploying advanced fuels that contain its ACTIVE Technology formula designed to improve engine efficiency. This helps reduce fuel consumption, which, in turn, helps to lower CO_2 emissions.	Furthering research and technology to advance low carbon	Improve	New technologies have been developed that lead to improved efficiency including a new formulation that can clean away harmful deposits from diesel engines and a component that can reduce friction in gasoline engines. Helping to improve the efficiency of customers vehicles means that less fuel is used and therefore lower CO_2e emissions are created for an identical journey.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	BP	N/A
Air BP into plane fuelling services	BP's programme to maintain carbon neutrality for our global into-plane fuelling service across Air BP operated locations.	Offsetting carbon produced	Improve	Summation of GHG emissions associated with Air BP's airport into plane services estimated within the defined boundary of fuel delivered to onsite airport storage facilities, to the sale of fuel into the aircraft. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	GHG Protocol Corporate Accounting and Reporting Standard and PAS 2060.	Offset	13,000	[July 2017 – June 2018]	BP	N/A
Air BP's low carbon offer to private customers	An initiative between Air BP and BP Target Neutral to help aircraft operators offset the carbon dioxide emissions from the fuel they buy from BP.	Enabling BP or third parties to meet their low carbon objectives	Improve	GHG outcome based on volume of fuel used for customer flights x DEFRA emission factor for kerosene jet fuel generating the CO_2e footprint. Well to wing emissions are considered for fuel being used. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	Methodology based on DEFRA's emission conversion factors for greenhouse gas company reporting.	Offset	8,400	[Jan – Dec 2018]	BP	N/A
Acetic anhydride	BP has developed a unique method of making the chemical acetic anhydride that requires less energy than traditional methods.	Furthering research and technology to advance low carbon	Improve	Lower comparative carbon footprint of chemical production based on "Life Cycle Assessment of BP Acetyls Europe Acetic Acid & Acetic Anhydride Final Report with Critical Review" prepared by ENVIRON International Corporation, Denver, CO dated April 2014 and critically reviewed by Avenue C Advisors, LLC.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	BP	N/A
BP and Aral fuel cards (fleet)	BP and Aral offer business customers the opportunity to offset the carbon emissions from the fuel they buy from us, as well as accessing training and data to improve their own fuel efficiency.	Offsetting carbon produced	Improve	Summation of GHG emissions calculated from actual fuel volumes sold for BP and Aral fuel card holders by type in 2018 x DEFRA's emission factors per fuel type. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	Methodology based on DEFRA's emission conversion factors for greenhouse gas company reporting.	Offset	50,000	[Jan – Dec 2018]	BP	N/A
BP Biojet	BP's sustainable aviation fuel made with recycled cooking oil.	Producing less carbon than competitor/industry benchmarks	Improve	A Life Cycle Analysis (LCA) was performed by SkyNRG, on blend BP-SPK-004, evaluating every step in the supply chain on its GHG emissions, up to and including blending at ST1 Terminal. Emissions arising from transport of the fuel from the ST1 Terminal, to the final customer locations, was completed by BP Target Neutral and Air BP, utilizing the Roundtable on Sustainable Biomaterials (RSB) methodology. Total GHG emissions were compared to emissions from an equivalent amount of fossil jet fuel, using standard figures provided by RSB.	Roundtable on Sustainable Biomaterials (RSB) GHG calculation methodology aligned with the PAS 2050 principles.	Saving	340	[Jan – Dec 2018]	BP	N/A

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BP Chargemaster	BP has more than 6,500 charging points for electric vehicles across the UK, following its acquisition of Chargemaster in mid-2018.	Producing less carbon than competitor/industry benchmarks	Create	GHG savings based on kWh supplied to customers on the POLAR public charging network. The baseline used is average grams of CO_2e (CO_2, CH_4 and N_2O) per mile for the passenger car parc in the UK in 2018. This was calculated using the car parc data by car segment from IHS Markit combined with kg CO_2e per mile for each car segment from DEFRA. Miles travelled were calculated using the kWh provided on the network from the BP Chargemaster system data multiplied by the weighted average miles per kWh for the current EV parc, calculated by assessing the current vehicle parc and the published miles/kWh figures. This methodology is based on a tank-to-wheels approach.	Applying DEFRA published emission data for passenger cars.	Saving	3,400	[Aug – Dec 2018]	BP	N/A
BP participation in CO_2 Capture Project (CCP)	BP is a founding member of the CCP project, formed with other energy companies in 2000. Participants have carried out more than 150 projects to improve understanding of carbon capture, use and storage.	Furthering research and technology to advance low carbon	Reduce	Since its inception, CCP participants have undertaken more than 150 projects to increase understanding of the science, engineering, application and economics of CCUS. The current fourth phase of the project (CCP4) aims to increase understanding of existing, emerging, and breakthrough CO_2 capture technologies applied to oil and gas scenarios and demonstrate that geological storage is safe, measurable, and verifiable. CCP will continue to demonstrate safe and secure geological containment through field-based monitoring and the development of robust intervention protocols.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP contributes via funding/resource – no equity share
BP participation in the Oil and Gas Climate Initiative (OGCI)	BP was one of the founding members of the voluntary, CEO-led Oil and Gas Climate Initiative, which aims to increase the ambition, speed and scale of activities by its individual companies to help reduce manmade GHG emissions.	Furthering research and technology to advance low carbon	Create	OGCI is driving action in a number of areas such as the role of gas in the energy transition, including setting a new partnership wide methane intensity target, engaging with governments and industries to catalyse CCUS deployments, collaborating with others on energy transport efficiency, and exploring low emissions opportunities linked to reducing net emissions from agriculture and forestry. OGCI's investment arm, OGCI Climate Investments, is a $1billion dollar investment vehicle supporting the development, use and scale-up of low emissions technologies and business models.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	Partnership of 13 oil and gas companies. BP contributes via funding/resource – no equity share
BP sponsorship of the Harvard Kennedy School Energy and Climate Policy Programme	BP sponsors the Harvard Kennedy School's Energy and Climate Policy Programme, which is looking at policy options under the Paris Agreement for climate change mitigation, adaptation, finance and energy technology.	Furthering research and technology to advance low carbon	Reduce	Research includes advancing energy and environmental policy, particularly to better understand the interactions and influences of geopolitics of energy, energy technology and policy, and energy markets and policy. Specifically supported the Environment and Natural Resources Program, the Science, Technology, and Public Policy Program, and the Harvard Environmental Economics Program.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP contributes via funding/resource – no equity share

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BP sponsorship of Princeton Carbon Mitigation Initiative	Princeton's Carbon Mitigation Initiative brings together scientists, engineers and policy experts to design carbon mitigation strategies that are safe, effective and affordable.	Furthering research and technology to advance low carbon	Reduce	CMI aims to identify the most credible methods of capturing and sequestering carbon emissions. Research from CMI Science featured close collaboration with the Geophysical Fluid Dynamics Laboratory (GFDL) of the US Department of Commerce. Together, CMI and GFDL are improving the understanding of atmospheric, oceanic and terrestrial carbon dioxide (CO_2) and other greenhouse gases. A growing effort is focused upon developing a better understanding of past tropical cyclone activity and intensity in order to improve the ability to predict future activity in response to changing climatic conditions.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP contributes via funding/resource – no equity share
BP sponsorship of Tufts University Climate Policy Lab	The Climate Policy Lab explores which climate policies work and why – providing independent advice to governments as they implement policies in response to the Paris Agreement on climate change.	Furthering research and technology to advance low carbon	Reduce	Research activities include the Carbon Pricing Report, focused on the 100 countries who have stated their intent to use carbon pricing to achieve the Paris Agreement commitments; government engagement on carbon pricing in Latin America; gap analysis of China's climate policy; research on energy innovation in major emerging economies and participation in COP23 in Bonn, including presenting the Carbon Pricing Report-during the negotiations.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP contributes via funding/resource – no equity share
BP sponsorship of University of Texas Gulf Coast Carbon Center	BP supports the Gulf Coast Carbon Center (GCCC) which works to further understanding of the practical and cost-effective ways to plan, operate, monitor and close carbon capture, use and storage projects.	Furthering research and technology to advance low carbon	Reduce	Activities includes conducting model, lab and field studies to understand and validate geological storage of CO_2 in the deep subsurface; evaluating technologies that monitor CO_2 in geological structures and recommending strategies that minimise the risk of release; educating and engaging with stakeholders and communities about the benefits, safety, and risks; and helping the private sector to contribute to an economically viable CO_2 storage industry.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP contributes via funding/resource – no equity share
BP participation in Climate and Clean Air Coalition (CCAC)	BP is a member of the Climate & Clean Air Coalition (CCAC) which aims to deepen industry's understanding of the core sources of methane emissions in upstream operations so that it can take action to address them.	Furthering research and technology to advance low carbon	Reduce	CCAC has helped the industry better understand their sources of methane. BP has undertaken a survey of its methane sources; identified sources which are uncontrolled and is assessing these for mitigation. BP has also contributed to the development of Technical Guidance Documents for 9 core sources of methane. These documents contain suggested methodologies for quantifying methane emissions from each source and describe established mitigation options.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	Partnership with NGOs, organisations and governments

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BP participation in the Methane Guiding Principles	BP is a signatory of the Methane Guiding Principles that were drawn up by a coalition of industry peers, international institutions, non-governmental organizations and academics to develop best practices on methane emissions reductions.	Furthering research and technology to advance low carbon	Reduce	The Methane Guiding Principles (MGPs) aim to continually reduce methane emissions; advance strong performance across the gas value chain; improve accuracy of methane emissions data; advocate sound policy and regulations on methane emissions and increase transparency. Members are committed to following the principles via an implementation plan. By end 2018, the Methane Guiding Principles had achieved a doubling of signatories to 16 member companies and it continues to grow. The MGPs have also helped inform BP's own Methane Leadership Plan.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	Partnership with NGOs, organisations and governments
BP participation in World Bank flaring reduction initiatives	BP participates in the Global Gas Flaring Reduction Partnership and World Bank Zero Routine Flaring by 2030, which aim to eliminate routine flaring and to remove technical and regulatory barriers to progress.	Furthering research and technology to advance low carbon	Reduce	BP was a founding member of the Global Gas Flaring Reduction Partnership (GGFR), which works to increase the use of natural gas associated with oil production by helping to remove technical and regulatory barriers to flaring reduction. BP contributes to research, sharing of best practice and developing country-specific gas flaring reduction programmes at our facilities. The 'Zero Routine Flaring by 2030' initiative brings together stakeholders who have agreed to work together to eliminate routine flaring from operated oil assets by 2030.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	Partnership with NGOs, organisations and governments
BP Target Neutral	BP's carbon offsetting programme that develops carbon neutral products and services.	Enabling BP or third parties to meet their low carbon objectives	Improve	Summation of GHG emissions associated with all BP and customer activities within the defined period of 1st January to 31st December. This excludes all activities that have been individually accredited by the ALC Programme. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral. The whole BP Target Neutral programme is assured by ICROA (International Carbon Reduction and Offset Alliance) on an annual basis using Climate Check.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060 following ICROA best practice standards.	Offset	110,000	[Jan – Dec 2018]	BP	N/A
Biofuels	BP's biofuels business in Brazil converts sugar cane into ethanol for use as a fuel for transport. Ethanol reduces GHG emissions by up to 70%, compared with conventional transport fuels.	Providing renewable energy	Create	The GHG emission saving is calculated from the difference in the gasoline and sugarcane ethanol emission factors multiplied by BP Biofuels Brazil annual ethanol production (excluding dehydration of third party volumes and sugar production) expressed in energy terms (GJ/yr). The Brazil sugarcane ethanol well to wheel emission factor is based on the JRC/EUCAR/Concawe (JEC) Well to Wheel Report (March 2014). Analysis considers the planting, cultivation, harvesting and transport to mill of the cane, the processing of the cane to ethanol, and transport from mill to port and subsequent long-distance freight to Europe, distribution and dispensing at retail site.	BP developed methodology using globally recognized and respected references which follow the ISO 14040:2006 standard on life cycle assessment.	Saving	700,000	[Jan – Dec 2018]	BP	N/A

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Biopower	BP creates biopower by burning bagasse, the fibre that remains after crushing sugarcane stalks. Some of the power runs our three biofuels mills in Brazil, with the rest exported to the local electricity grid.	Providing renewable energy	Create	GHG savings have been estimated as 22% of the total biofuels GHG savings (which is shown as a separate activity where sugarcane is converted to transport fuel) where the stated power export is treated as a GHG emission credit in the emission calculations. The data source of the calculation is the LCA study by [Macedo 2004] and [Macedo 2008] which describes best-current-practice in the Centre-South region, where 85% of Brazil's sugar cane is grown.	BP developed methodology using globally recognized and respected references which follow the ISO 14040:2006 standard on life cycle assessment.	Saving	Included in the Biofuels figures estimated to account for 22% of the savings [approximately 150,000 tonnes CO_2e of 700,000 tonnes CO_2e]	[Jan – Dec 2018]	BP	N/A
Butamax advanced biofuels	Working in partnership with DuPont, BP has developed Butamax technology, which converts sugars from corn into an energy-rich bio-product known as bio-isobutanol.	Furthering research and technology to advance low carbon	Improve	This technology produces bioisobutanol which increases the renewable content of gasoline and provides a non-fossil-fuel-based alternative input for existing chemical applications. Lower carbon content based on comparing emissions from vehicles using bio-isobutanol with vehicles using traditional biofuels or pure gasoline.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP has a 50% equity share in Butamax, with the other 50% owned by DuPont
Carbonfree Chemicals	BP has invested in Carbonfree Chemicals which has developed new technology to convert GHG emissions from waste gases into chemicals that can be used to make products such as baking soda.	Producing less carbon than competitor/industry benchmarks	Create	GHG savings from this novel carbon capture and utilization process are determined by first calculating the amount of CO_2 directly absorbed from the flue gases from records of the quantity of sodium bicarbonate produced by the reaction of sodium hydroxide with the CO_2 in the flue gases. The next step is to add the savings from the sale of the (carbon negative) sodium bicarbonate and by-products through the displacement of virgin products with a higher carbon footprint. A lifecycle balance was completed by Skyonic in 2015 to demonstrate these savings.	Other - Lifecycle study for the Capitol SkyMine facility using its calculated CO_2 reduction factor.	Saving	9,400	[Jan – Dec 2018]	3rd Party	BP has an 8% equity share in Carbonfree
Castrol carbon neutral car dealership offer	BP's carbon offsetting programme gives car dealerships the opportunity to offset their own emissions and offer customers the same service – for a set mileage – within the sale or service of their vehicle.	Enabling BP or third parties to meet their low carbon objectives	Improve	Summation of GHG emissions associated with franchise workshop/car dealership operations estimated within the defined boundary as per BPTN Carbon Neutral Protocol. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral	BP Target Neutral Carbon Neutral Protocol.	Offset	31,000	[Jan – Dec 2018]	BP	N/A
Castrol EDGE BIO-SYNTHETIC and Castrol MAGNATEC BIO-SYNTHETIC	Castrol EDGE BIO-SYNTHETIC and Castrol MAGNATEC BIO-SYNTHETIC are made with 25% sugar cane derived oil compounds. Both have been certified carbon neutral to the BSI PAS 2060 standard.	Offsetting carbon produced	Improve	GHG emissions are calculated from the summation of cradle to grave emissions from Castrol's BIO-SYNTHETIC engine oils initially sold only in Australia, China and North America. MAGNATEC BIO has now recently launched in Turkey. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060.	Offset	180	[Dec 2017 – Nov 2018]	BP	N/A
Castrol GTX ECO	Castrol GTX ECO uses a base-oil blend made of at least 50% re-refined oil mixed with virgin oil to reduce carbon dioxide emissions by a minimum of 10% during its production.	Furthering research and technology to advance low carbon	Improve	Castrol GTX ECO delivers a 10% carbon dioxide (CO_2) reduction in comparison to Castrol GTX Diesel 15W-40. The product is currently in limited market and has not yet been launched globally.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	BP	N/A

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Castrol low viscosity lubricants	Castrol has developed a number of engine lubricants for passenger cars with low viscosities that help reduce friction, which improves fuel economy, leading to lower carbon dioxide emissions.	Producing less carbon than competitor/industry benchmarks	Improve	GHG savings are based on comparing CO_2 emissions from cars using Castrol's global car engine lubricants portfolio versus the global industry average portfolio. The formula used is as follows: Fuel Efficiency benefit vs Industry Average × Fuel Vol × Emissions Factor × Castrol Market Share ÷ real world correction factor.	BP developed emissions methodology aligned with PAS 2050 principles.	Saving	580,000	[Jan – Dec 2018]	BP	N/A
Castrol Optigear Synthetic	Castrol is the world's first supplier to offer the wind industry certified carbon neutral lubricants in accordance with the BSI PAS 2060 standard.	Offsetting carbon produced	Improve	GHG emissions are based on the summation of cradle to grave emissions associated with Castrol Optigear Synthetic gear oils, for use in wind turbines, sold in the European, Asia Pacific and Americas markets. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral. Castrol Optigear Synthetic became a carbon neutral product in 2017. Castrol Optigear Synthetic have committed to maintaining their carbon neutral status and have increased sales volumes of the product during the 2018 period.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060.	Offset	14,000	[Apr 2017 - Mar 2018]	BP	N/A
Castrol passenger car oil carbon (PCO) neutral initiative	The passenger car oils that Castrol sells in Japan have been certified carbon neutral in accordance with the BSI PAS 2060 standard.	Offsetting carbon produced	Improve	GHG emissions are based on a summation of cradle to grave GHG emissions associated with Castrol PCO range of engine oil products sold in Japan. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060.	Offset	25,000	[Feb 2018- Jan 2019]	BP	N/A
Castrol Professional	Castrol's high performance engine oil is the world's first certified carbon neutral oil in accordance with the BSI PAS 2060 standard.	Offsetting carbon produced	Improve	GHG emissions are based on a summation of cradle to grave GHG emissions associated with Castrol Professional range of engine oil products sold globally. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060.	Offset	300,000	[Apr 2017 – Mar 2018]	BP	N/A
Castrol Transmax	In Japan, Castrol's transmission fluids, Transmax ATF Professional FE and CVT Professional have been certified as carbon neutral in accordance with the BSI PAS 2060 standard.	Offsetting carbon produced	Improve	GHG emissions are based on summation of cradle to grave emissions associated with Castrol Transmax range of engine oil products sold in Japan. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060.	Offset	6,200	[Oct 2017 – Sept 2018]	BP	N/A
Castrol VECTON	Castrol VECTON was the world's first certified carbon neutral commercial vehicle engine oil in accordance with the BSI PAS 2060 standard and is specifically formulated to meet the needs of the commercial vehicle industry.	Offsetting carbon produced	Improve	GHG emissions based on the summation of cradle to grave emissions associated with Castrol VECTON's range of engine oil products sold globally (excluding Australia). Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060.	Offset	170,000	[Dec 2017 – Nov 2018]	BP	N/A
Cherry Point renewable diesel	BP's Cherry Point refinery now manufactures diesel made from biomass-based feedstocks, alongside traditional fossil fuel feedstocks. This fuel has a lower carbon footprint compared with the petroleum-based alternative.	Providing renewable energy	Improve	GHG savings are based on Renewable Diesel (RD) fuel having a lower Carbon Intensity (CI) than ULSD. The carbon intensity is taken from Life cycle analysis (LCA) which is derived from the California Air Resources Board (CARB) approved pathways. The delta between the CO_2e emission figures for ULSD and RD fuel determines the emissions savings.	Other - Methods and process per CARB Low Carbon Fuel Standard (LCFS) pathway approval and use of the LCA to determine carbon intensity.	Saving	200,000	[Jan 2018 – Dec 2018]	BP	N/A

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Encourage Capital EKO Green Carbon Fund	BP has invested in the EKO Green Carbon fund which, in turn, invests in the development of carbon offsetting opportunities.	Enabling BP or third parties to meet their low carbon objectives	Create	GHG savings are calculated from the summation of the Encourage Capital EKO Green Fund issued offsets by the California Air Resources board in the 2018 calendar year. These offsets undergo a rigorous process of verification by independent third-party verifiers and the offsets are ultimately issued by the California state regulator.	Compliance Offset Protocol US Forest Offset Projects.	Offset	230,000	[Jan – Dec 2018]	3rd Party	BP Ventures has a 33.37% stake in EKO.
FreeWire	BP has invested in FreeWire, which makes ultra-fast electric vehicle charging technology.	Furthering research and technology to advance low carbon	Create	FreeWire specializes in mobile and networked energy storage and is developing ultra-fast EV charging technology.	N/A - furthering research and technology	N/A	N/A	[Aug - Dec 2018]	3rd Party	BP Ventures has a 13.5% stake in Freewire
Fulcrum BioEnergy	BP has invested in Fulcrum BioEnergy, which has developed a process to turn certain types of household waste into fuel for transport.	Furthering research and technology to advance low carbon	Create	Fuel produced by Fulcrum BioEnergy's plants will be lower in GHG emissions, resulting in more than 80% reduction in GHG emissions compared to a baseline petroleum transportation fuel.	N/A - furthering research and technology	N/A	N/A	[Jan -Dec 2018]	3rd Party	BP Ventures and Air BP businesses have an 8.4% stake in Fulcrum BioEnergy
Global Environmental Products	BP's Global Environmental Products business supports carbon pricing by helping enable projects that reduce GHG emissions and generate environmental credits for use in carbon emissions trading markets.	Enabling BP or third parties to meet their low carbon objectives	Create	GHG savings calculated from the figure remaining after netting BP's annual use of forestry offsets for compliance against the volume delivered in a given year. Offsets within the given year for forestry projects are based on the amount issued by the California Air Resources Board. Additionally, biogas facilities generate Renewable Identification Numbers (RINs) once dispensed into a vehicle which are then categorised as GHG emission savings.	Compliance Offset Protocol US Forest Offset Projects.	Offset / saving	28,000,000 - Total 27,000,000 - Forestry offsets 960,000 - Biogas GHG savings	[Jan – Dec 2018]	BP	N/A
Lightning Systems	BP has invested in Lightning Systems which makes electric powertrains for trucks, vans and buses.	Furthering research and technology to advance low carbon	Create	Lightning Systems works with fleets of trucks and buses by either replacing existing diesel or gasoline vehicles entirely with battery electric vehicles or, in the case of bus fleets, by taking existing vehicle fleets and swapping out their diesel-based or petrol-based powertrains for its own Zero Emission Vehicle (ZEV) powertrain.	N/A - furthering research and technology	N/A	N/A	[Oct - Dec 2018]	3rd Party	BP Ventures has a 32% stake in Lightening Systems
Lightsource BP	Lightsource BP is focusing on funding, developing and managing major solar projects and smart energy solutions around the world.	Providing renewable energy	Create	GHG savings equate to emissions saved from the difference in Carbon Intensity (CI) from the local grid and that generated from Lightsource BP multiplied by the power generated. (Grid CO_2 intensity [kg CO_2e/MWh] - Solar CO_2 intensity [kg CO_2e/MWh]) x Annual Power Generation [MWh]. For the emissions factor for Solar PV, the 50th percentile values were used from the data provided by the IPCC (Intergovernmental Panel on Climate Change). The data is presented on a gross basis.	BP Solar Methodology using emissions factors from IPCC, the UK Department for Business, Energy & Industrial Strategy, and the International Energy Agency.	Saving	71,000	[Feb - Dec 2018]	3rd Party	BP has a 43.2% equity share in Lightsource
LNG carriers	We have introduced a fleet of liquefied natural gas (LNG) carriers that are the most fuel efficient and technologically advanced vessels ever built by BP.	Producing less carbon than competitor/industry benchmarks	Reduce	GHG savings are determined by comparing CO_2 emissions using the baseline shipyard standard Energy Efficiency Design Index (EEDI offering versus emissions generated by the BP Shipping design. Additionally, GHG savings are delivered from the compressors which are part of the fuel system, used to run a reliquification plant, condensing and saving gas that would otherwise have to be flared. 3 out of 6 LNG carriers have been included in scope. The remainder to be included in next year's emission calculation.	BP developed emissions methodology aligned with the GHG Protocol Corporate Accounting and Reporting Standard.	Saving	28,000	[May – Dec 2018]	BP	N/A

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NEXCEL	NEXCEL reduces tailpipe CO_2 emissions through a combination of thermal management – faster engine warm-up – and new bespoke oil formulations.	Furthering research and technology to advance low carbon	Improve	NEXCEL oil cell reduces tailpipe CO_2 emissions, through thermal management (faster warm-up) and provides new bespoke oil formulations. Currently, the product is used in the limited edition of the Aston Martin Vulcans and other Aston Martin race cars. There are further plans for adoption and first road car applications intended for soon after 2020.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	BP	N/A
Oil tankers	BP operates a fleet of 26 new oil tankers that go beyond the International Maritime Organization's energy efficiency regulation requirements.	Producing less carbon than competitor/industry benchmarks	Reduce	GHG emissions savings are calculated based on the overall mileage travelled by the new vessels assuming that vessels are travelling fully loaded. The CO_2 emissions are then compared to the baseline shipyard standard EEDI (Energy Efficiency Design Index) offering versus that what was achieved by the BP Shipping design.	BP developed emissions methodology aligned with the GHG Protocol Corporate Accounting and Reporting Standard.	Saving	22,000	[Jan – Dec 2018]	BP	N/A
ONYX InSight	ONYX InSight is a joint venture between Castrol and Romax Technology that provides engineering and software services to wind farm operators so that they can monitor the condition of their turbines and avoid breakdowns.	Providing renewable energy	Create	GHG savings are calculated based on the additional wind generated, if the equivalent electricity saved is produced using conventional resources. This is summarised as (Grid CO_2 Intensity [kg CO_2/MWh] – Wind CO_2 Intensity [kg CO_2 e/MWh]) x Additional Annual Power Generated [MWh].	BP developed emissions methodology aligned with PAS 2050 principles.	Saving	76,500	[Jan – Dec 2018]	BP	N/A
OzHarvest partnership	We've partnered with OzHarvest, an Australian food-rescue organization, to reduce food waste and help deliver more meals to people in need. This results in a reduction of food to landfill and associated potential methane emissions.	Enabling BP or third parties to meet their low carbon objectives	Reduce	GHG emissions savings are based on calculating the equivalent avoided methane emissions which would be generated had the food been disposed of at a landfill site. OzHarvest reported rescuing and distributing 8,518 tonnes of food from Australian food donors. GHG outcome based on volume of food rescued x DEFRA emission factor for organic food and drink waste generating the CO_2e footprint.	Methodology based on DEFRA's emission conversion factors for greenhouse gas company reporting.	Saving	5,300	[Jan – Dec 2018]	3rd Party	BP contributes via funding/resource – no equity share
Peloton	BP has invested in Peloton Technology, an automated vehicle technology company, which has developed a wireless system that allows freight trucks to travel closely together to reduce aerodynamic drag and fuel consumption.	Furthering research and technology to advance low carbon	Create	Truck platooning is a hardware and software offering which allows two Class 8 vehicles to drive closely together, usually between 14 and 30 meters, to improve aerodynamics and save an estimated average of 7% in fuel, resulting in reduced emissions.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP Ventures has a 4.7% stake in Peloton
PT Air™ Neutral	PTAir™ Neutral is the world's first certified carbon neutral PTA, giving BP customers the opportunity to purchase a carbon neutral product with net zero carbon emissions.	Offsetting carbon produced	Improve	GHG emissions are calculated by determining the summation of cradle to gate emissions associated with PTAir Neutral branded product produced and sold from its manufacturing facility in Geel, Belgium. Equivalent of total GHG emissions within scope are offset using credits obtained by BP Target Neutral.	GHG Protocol Product Life Cycle Accounting and Reporting Standard and PAS 2060.	Offset	14,000	[May 2017 – Apr 2018]	BP	N/A
PTAir™	PTAir™ offers customers in the polyester value chain the opportunity to purchase lower carbon feedstock.	Producing less carbon than competitor/industry benchmarks	Improve	GHG emission savings are calculated based on the difference between the carbon footprint of PTAir and the carbon footprint of the average PTA in the European industry, multiplied by the tonnage of PTAir™ sold by BP.	Methodology established by PlasticsEurope (PlasticsEurope 2011), which is in accordance with ISO 14040–44 requirements.	Saving	17,000	[Jan – Dec 2018]	BP	N/A

Activity	Description of Activity	ALC outcome	RIC category	Basis	GHG calculation standards or other methodology followed	Saving/ Offset	Total value Saving/ Offset (tonnes CO_2e) to 2 significant figures	Time period	Delivered by BP / third parties	BP equity share or contribution when third party delivered
Sustainable emissions reductions	BP is taking steps to tackle emissions across its operations through delivering sustainable emissions reductions.	Reducing GHG emissions	Reduce	GHG savings for each reduction initiative are estimated by comparing reported emissions and the emissions for the same period that would have happened had the activity not taken place. The precise methodology employed is activity specific. The gross savings from the individual activities within the scope of the ALC certification are aggregated separately for BP operated facilities and for facilities operated by our partners. In BP's 2018 Sustainability Report (SR), the full programme of sustainable emissions reductions is reported on 100% operational control basis. The ALC accredited SER programme differs in scope from what is reported in BP's SR by excluding 1) reductions driven by regulations and 2) those emissions reductions already covered by an existing accreditation activity e.g. new LNG tankers in the 2018 ALC accreditation programme.	BP's environmental performance reporting requirements.	Saving	1,200,000 (BP operated) 70,000 (3rd party operated)	[Jan – Dec 2018]	BP and 3rd parties	Whilst this is activity-specific, in aggregate and for the in-scope sustainable emissions reductions, BP has a 44% weighted average equity share for BP operated sites, and a 45 % weighted average equity share for 3rd Party operated sites.
Solidia Technologies	BP has invested in Solidia Technologies, which has developed technologies that have the potential to reduce the carbon footprint of concrete, as well as reduce water consumption.	Furthering research and technology to advance low carbon	Create	Solidia technology offers a way to lower carbon by manufacturing cement using a lower kiln temperature hence uses less energy and at another stage capturing and storing CO_2 within Solidia concrete. This technology offers the potential to reduce the carbon footprint of cement and concrete production by up to 70% compared to the manufacture of Ordinary Portland Cement and concrete.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP has a 7.7% equity share in Solidia
StoreDot	BP has invested in StoreDot, an ultra-fast-charging battery start-up company, which is developing technology that could reduce recharging times for electric vehicles to five minutes.	Furthering research and technology to advance low carbon	Create	StoreDot has developed new battery technology that allows ultra-fast charging in mobile phones and other industrial markets and is now using that technology to create a new type of EV 'flash' battery that could see EV charging times fall to five minutes – equivalent to the average amount of time it takes to fuel a gasoline powered car.	N/A - furthering research and technology	N/A	N/A	[Oct – Dec 2018]	3rd Party	BP Ventures has a 4.4% equity share in StoreDot
Titan 1 Battery Storage Project	Working with Tesla, BP is piloting a high-performance energy storage project at its Titan 1 wind farm in the US. The technology stores excess energy for use across the site when the wind isn't blowing.	Furthering research and technology to advance low carbon	Create	The storage project stores electricity when the wind site is generating it, and then has that electricity available to be consumed across the site whenever needed. The use of this technology is the first of its kind in BP's U.S. operated wind business. Located at BP Wind Energy's Titan 1 Wind Farm in South Dakota, where a pilot project was undertaken, the high-performance 212kW/840kWhr battery, supplied by Tesla, will be integrated with the wind farm and configured to help manage the internal electricity demands. The farm has 10 turbines with the capacity to generate 25 MW of wind energy.	N/A - furthering research and technology	N/A	N/A	[Oct – Dec 2018]	BP	N/A

Activity	Description of Activity	ALC outcome	RIC category	Basis	GHG calculation standards or other methodology followed	Saving/ Offset	Total value Saving/ Offset (tonnes CO_2e) to 2 significant figures	Time period	Delivered by BP / third parties	BP equity share or contribution when third party delivered
Tricoya Technologies	BP has invested in Tricoya Technologies Limited (TTL), a wood modification technology company that uses proprietary acetylation technology and the chemical acetic anhydride to alter wood's chemistry to improve its durability.	Furthering research and technology to advance low carbon	Create	Tricoya Technologies Limited (TTL) exploits the manufacture of acetylated Tricoya® wood chips for use in panels such as MDF. The material has carbon sequestration advantages as it locks CO_2 away for a longer time from the atmosphere than traditional wood chips. The acetylation process produces sustainable wood products that have much lower CI levels compared to PVC panels and is a product which exhibits superior dimensional stability and durability compared with other natural and treated wood products. The first commercial scale Tricoya® production facility is currently under construction.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP has a 9% equity share in Tricoya
Voltaware	BP has invested in Voltaware which has developed an internet-enabled energy monitoring device that allows business and residential users to track energy demand.	Furthering research and technology to advance low carbon	Create	GHG savings through use of technology to advance low carbon. The Voltaware device uses sensors and artificial intelligence to break down electricity data from individual appliances, allowing users to better understand and manage their electricity consumption supporting the overall goal of reducing the carbon footprint. It also gives businesses the chance to track the performance of individual pieces of machinery and identify any equipment that needs repair or replacement before it fails. The data on any given appliance can be checked and analysed in real time using an associated app.	N/A - furthering research and technology	N/A	N/A	[Jan – Dec 2018]	3rd Party	BP Ventures has a 16.7% stake in Voltaware
Wind energy	BP has significant interests in onshore wind energy in the US, operating 10 sites in seven states and holding an interest in another facility in Hawaii.	Providing renewable energy	Create	These figures represent the estimated additional GHG emissions that would have been created if the electricity generated at the wind farms in which BP holds an interest had been generated by other available generation sources. They are based on an assessment of the net CO_2 avoided due to the displacement of grid average power in US sub-grids where BP's wind farms are located. The calculation is determined by (Grid CO_2 Intensity [kg CO_2/MWh] – Wind CO_2 Intensity [kg CO_2 eq/MWh]) x Annual Power Generation [MWh]. US grid power carbon intensity is based on US EPA eGrid data 2016 for annual total output emission rates. [Note: The BP Equity Share of additional GHG emissions that would have been created if the electricity generated at the wind sites had been generated by other available generation sources in 2018 is 2,020,000 tonnes CO_2e. This includes the three sites up until the point that they were divested. This is the figure usually used for reporting purposes]	BP developed methodology using globally recognized and respected references which follow the ISO 14040:2006 standard on life cycle assessment.	Saving	3,300,000 (BP operated) 67,000 (3rd party operated)	[Jan – Dec 2018]	BP and 3rd parties	Up until the completion of the divestment of three wind sites in Texas in December 2018, BP had 13 operated wind sites and 1 non operated site. Of the 13 operated sites, BP had 50% equity share in 7 of them, and had 100% ownership in the remaining 6; still holding a 50% equity share in the non operated site. Following the divestment, BP had 10 operated wind sites in seven states, still holding an interest in another facility in Hawaii. Of the 10 operated sites, BP has 50% equity share in 7 of them.

Explanation of the terms used above	
Column heading	**Description**
Activity	Activities from all aspects of BP's business are eligible, including products, operations, investments and ventures. Activities can be undertaken by BP itself or in partnership with others. These must be activities which deliver what we describe as a better carbon outcome.
Activity description	A short summary of the activity. More information on each available on bp.com/advancinglowcarbon.
ALC outcome	Each activity must meet at least one of the 'better carbon outcomes' defined by the programme: a) reducing GHG emissions b) producing less carbon than competitor or industry benchmarks c) providing renewable energy d) offsetting carbon produced e) furthering research and technology to advance low carbon f) enabling BP or third parties to meet their low carbon objectives
RIC outcome	This outlines which element of BP's Reduce-Improve-Create framework is most relevant.
Basis / methodology	Description of the methodology used to calculate the savings / offsets or the basis for inclusion in the programme where quantitative data may not be available (i.e. for activities furthering research and technology)
GHG calculation standards or other methodology followed	There are a number of available methodologies for calculating GHG emissions within international standards. This column outlines the GHG methodology standard that has been followed to calculate savings / offsets. Where a BP developed methodology has been used, this has been aligned with the core principles of the most relevant standard methodology.
Saving / offset	This column describes whether the outcome has a GHG saving (i.e. an ALC outcome which fits within ALC criteria 1a-c or 1f) or GHG offset (ALC criteria 1d or 1f). A saving is reducing the GHG emissions compared to the counterfactual or competitor benchmarks or industry standards. As per the International Carbon Reduction and Offset Alliance (ICROA) definition, an offset is the practice of compensating for GHG emissions by retiring carbon credits. The basis for each saving and offset is described in the 'basis' column. The total emissions saved or offset from the accredited activities are estimated using a variety of methodologies and baselines. The figures aim only to illustrate the impact of the activities within the programme and delivered by BP or a BP partner only refers to the organisation leading on delivering the activity. Savings or offsets may be claimed by or attributed to other parties. The scope of accredited activities is wider than, and does not seek to align with, BPs greenhouse gas reporting boundaries. Therefore, the figures are not directly comparable to BP's reported emissions. There are a number of activities where no saving or offset has been identified. Some activities will not have savings or offsets identified due to their nature (e.g. research), whilst others may be quantified in future years as they scale up.
Total value (CO_2e tonnes) to 2 significant figures	The estimated total value column summarises the gross GHG savings or offsets associated with the activity in the relevant time period for the ALC programme. This has been estimated to 2 significant figures and is measured in CO_2 equivalents in metric tonnes. The CO_2e data has been calculated on a 100% gross basis regardless of BP's percentage share in the activity.
Time period	The ALC programme describes the time period in which GHG emissions data have been provided and assured. This is generally the full calendar year. Where the activity has only been operational for part of the year, or where BP's involvement has only begun part way through the year, only the savings achieved during the relevant period of the year have been counted. For BP Target Neutral activities which have been previously externally assured according to existing time periods– the data provided needs to include a period within 2018, for example, an achievement period from November 2017 to October 2018 is satisfactory.
Delivered by BP or third Parties	This column sets out who has delivered the activity. This will always be BP or a BP partner. A BP partner can include joint ventures, companies in which BP has made investments and collaborations. 'Delivered' in this context refers solely to which organisation has led on delivering the activity.
Equity share or contribution when third Party delivered	Where an activity has been delivered by a BP partner, this column outlines the equity stake BP has with the organization or group. Where there is no equity stake, the BP contribution is described.