Financial statements

Consolidated financial statements of the BP group

Independent auditor's report on the Annual Report and Accounts to the members of BP p.l.c.

Opinion

In our opinion:

- the financial statements give a true and fair view of the state of the group's and of the parent company's affairs as at 31 December 2017 and of the group's profit for the year then ended;
- the group financial statements have been properly prepared in accordance with IFRS as adopted by the European Union;
- the parent company financial statements have been properly prepared in accordance with United Kingdom generally accepted accounting practice including FRS 101 'Reduced Disclosure Framework'; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the group financial statements, Article 4 of the IAS Regulation.

Separate opinion in relation to IFRS as issued by the International Accounting Standards Board

As explained in Note 1 to the consolidated financial statements, the group in addition to applying IFRS as adopted by the European Union, has also applied IFRS as issued by the International Accounting Standards Board (IASB). In our opinion the consolidated financial statements comply with IFRS as issued by the IASB.

What we have audited

We have audited the financial statements of BP p.l.c. which comprise:

Group	Parent company
Group balance sheet as at 31 December 2017.	Balance sheet as at 31 December 2017.
Group income statement for the year then ended.	Statement of changes in equity for the year then ended.
Group statement of comprehensive income for the year then ended.	Related Notes 1 to 14 to the financial statements, including a summary of significant accounting policies.
Group statement of changes in equity for the year then ended.	
Group cash flow statement for the year then ended.	
Related Notes 1 to 36 to the financial statements, including a summary of significant accounting policies.	

The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law and International Financial Reporting Standards (IFRS) as adopted by the European Union. The financial reporting framework that has been applied in the preparation of the parent company financial statements is applicable law and United Kingdom accounting standards including FRS 101 (United Kingdom generally accepted accounting practice).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report below. We are independent of the group and parent company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Conclusions relating to principal risks, going concern and viability statement

We have nothing to report in respect of the following information in the annual report, in relation to which the ISAs (UK) require us to report to you whether we have anything material to add or draw attention to:

- the disclosures in the annual report set out on page 57 that describe the principal risks and explain how they are being managed or mitigated;
- the directors' confirmation set out on page 113 in the annual report that they have carried out a robust assessment of the principal risks facing the entity, including those that would threaten its business model, future performance, solvency or liquidity;
- the directors' statement set out on page 114 in the annual report about whether they considered it appropriate to adopt the going concern basis of accounting in preparing the financial statements, and their identification of any material uncertainties to the entity's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;
- whether the directors' statement in relation to going concern required under the Listing Rules in accordance with Listing Rule 9.8.6R(3) is materially inconsistent with our knowledge obtained in the audit; or
- the directors' explanation set out on page 114 in the annual report as to how they have assessed the prospects of the entity, over what period they have done so and why they consider that period to be appropriate, and their statement as to whether they have a reasonable expectation that the entity will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

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Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on the overall audit strategy, the allocation of resources in the audit and in directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in our opinion thereon, and we do not provide a separate opinion on these matters.

Risk	Our response to the risk	Key observations communicated to the Audit Committee

The determination of the liabilities, contingent liabilities and disclosures arising from the Gulf of Mexico oil spill (as described on page 79 of the report of the audit committee and Note 2 of the financial statements).
 	
There is particular uncertainty around estimating and valuing the remaining outstanding business economic loss claims. The determination of the liability is subject to judgement as to the amount that each remaining claim will be settled at.
 	
The total amount recognized as an increase in provisions in relation to the Gulf of Mexico oil spill during the year was $2,647 million relating to business economic loss ('BEL') and other claims associated with the Court Supervised Settlement Program ('CSSP'). The increase is predominantly a result of significantly higher average BEL claims determinations issued by the CSSP during the fourth quarter and the continuing effect arising from the Policy 495 ruling. The remaining provision as at 31 December 2017 was $2,580 million.
	For the liabilities and contingent liabilities related to the Gulf of Mexico oil spill the primary audit engagement team performed the following audit procedures.
	
	• We walked through and tested the controls designed and operated by the group relating to the provisions and payables for the Gulf of Mexico oil spill.
	• We met with the group's legal team to understand developments across key remaining Gulf of Mexico oil spill matters and their status.
	• We reviewed audit enquiry response letters from external legal counsel and read determinations and judgements made by the courts.
	• In respect of the provision for the outstanding business economic loss claims:
	  • We compared the key assumptions that have been used in the determination of the year end provision, to historical experience.
	  • We reconciled the number of undetermined claims to third party claims management data.
	  • We performed a detailed review of the status and expected outcome of the significant claims within appeals, which included discussion with the group general counsel.
	  • We performed sensitivity analyses over average cost per claim assumptions and assessed the potential effect on the provision.
	  • We considered events that took place after the balance sheet date and before the issuance of this report and ensured these were reflected appropriately.
	• We assessed the remaining economic loss and property damage claims from individuals and businesses that either opted out of the Plaintiffs' Steering Committee ('PSC') settlement and/or were excluded from that settlement. We validated a sample of claims to third party data, assessing the year end closing payable was appropriate.
	• We considered the accounting treatment of the liabilities, contingent liabilities and disclosures under IFRS criteria, to conclude whether these were appropriate in all circumstances.
		There remains uncertainty around the BEL provision, in particular the unresolved claims and claims under appeal, as the amounts payable may differ from those provided.
		
		Based on our procedures we are satisfied that the amounts provided in the financial statements, as disclosed in Note 2 of the financial statements, are supported by claims experience.

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Risk	Our response to the risk	Key observations communicated to the Audit Committee
The estimate of oil and gas reserves and resources has a significant impact on the financial statements, particularly impairment testing and depreciation, depletion and amortization ('DD&A') charges (as described on page 80 of the report of the audit committee and Note 1 of the financial statements). The estimation of oil and natural gas reserves and resources is a significant area of judgement due to the technical uncertainty in assessing quantities and complex contractual arrangements dictating the group's share of reportable volumes. Reserves and resources are also a fundamental indicator of the future potential of the group's performance.	Our procedures were performed by team members with significant experience of the process of estimating oil and gas reserves and resources, including the primary audit engagement team and component teams at 9 Upstream components. • We confirmed our understanding and tested key management controls related to the reserves and resources estimation process. This included management's review and approval of estimated volumes. • We tested the controls over the group's certification process for internal technical and commercial experts who are responsible for reserves and resources estimation. • We assessed the competence and objectivity of the group's internal and external experts, to satisfy ourselves that these parties are appropriate in their roles within the estimation process. • We confirmed that significant changes in reserves and resources were made in the appropriate period, and were in compliance with BP's discovered resources management policy ('DRM') and SEC regulations. • Where reserve and resources volumes have a material impact on the financial statements, we validated these volumes and assumptions against underlying information and documentation as required by the DRM. • We validated that the updated reserves and resources estimates were included appropriately in the group's consideration of oil and gas asset impairment valuations and in accounting for DD&A.	Based on our procedures we consider that the reserves estimations are reasonable for use in the impairment testing and calculation of DD&A.
Unauthorized trading activity within the integrated supply and trading function has the potential to impact revenue and profits (as described within the group's principal risks on page 58 and Note 1 of the financial statements). Unauthorized trading activity is a fraud risk associated with a potential deliberate misstatement of the group's trading positions or mis-marking of positions with an intention to: • Minimize trading losses. • Maximize trading profits. • Understate profits or move profits to subsequent periods when bonus ceilings have already been reached, to maximize individual bonuses across financial years. These acts would lead to a misstatement of the group's revenue and profits.	Audit procedures on trading activities were performed by component teams and the primary engagement team at 7 components across the UK, US and Singapore. • We walked through and tested the controls designed and operated by the group over unauthorized trading activity. • We identified trades with the highest risk of unauthorized activity so as to focus our testing on these trades. • We performed existence and completeness testing by independently confirming a sample of trades with third parties. • We verified the fair value of a sample of derivatives using contract and external market prices. For derivative instruments where observable market data is not available we have independently validated the internal valuation models management used to determine fair value. • We tested the completeness of the amounts recorded in the financial statements through performing procedures to detect unrecorded liabilities as well as detailed cut-off procedures around sales, purchases, trade receivables and trade payables.	Based on our procedures we identified no matters to report to the Audit Committee.

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Risk	Our response to the risk	Key observations communicated to the Audit Committee
US Tax Reform (as described on page 81 of the report of the Audit committee and Note 1 of the financial statements). On 22 December 2017, the US Tax Cuts and Jobs Act ('TCJA') was signed into law, enacting widespread changes to US fiscal law. The group recognized a one-off taxation charge of $0.9 billion for the year ended 31 December 2017, in respect of the remeasurement of deferred tax balances as a result of the reduction in the US federal corporate income tax rate from 35% to 21%. We focused on this area due to the complexity and extent of the US tax reform package, the requirement for the group to determine and account for the effects of the change close to its year end and the material impact on the group's profit for the year.	Audit procedures were performed by team members and EY tax experts with significant experience of the US corporate tax system. • We verified that the internal controls over financial reporting were designed appropriately to enable the accounting implications of US tax reform to be accurately recorded in the financial statements. • We assessed the tax accounting implications on existing deferred tax assets and liabilities based on the enacted 21% corporate rate. We tested and confirmed that the methodology used by management to calculate the estimated liability was based on an acceptable interpretation of the TCJA legislation. • We verified the analysis performed by management to determine the appropriate presentation, in accordance with IAS 12, of the impact of tax changes recorded through the income statement and statement of other comprehensive income. • We performed procedures to evaluate management's assessment of other key US tax reform changes which may affect the group's 2017 income tax position, including the one-time transition tax, anti-base erosion measures and expected realization of foreign tax credits.	Based on the audit procedures specifically designed and performed to respond to the impact of US tax reform on the group, we concluded that management's computation of the tax accounting assessments and adjustments is calculated in compliance with IAS 12. The appropriate presentation and disclosures are made in the financial statements at 31 December 2017. Due to the nature and circumstances around US tax reform, the presentation of the $0.9 billion charge as a non-operating item is appropriately disclosed.

Changes from the prior year

Our risk assessment and audit approach evolve as circumstances which impact the group's business or financial statements change. In the prior year, our auditor's report included a key audit matter in relation to the macroeconomic environment at the time which had the potential to materially impact the carrying value of the Group Upstream's non-current assets. This risk has been downgraded in 2017. In our view, the macroeconomic environment no longer represents a significant risk for our audit, given the fact that the impairment indicators identified in 2016 have subsided through 2017, mainly as a result of sustained increases in oil prices. In the current year, our auditor's report includes a key audit matter in relation to US Tax Reform due to the matters set out above.

An overview of the scope of our audit

Tailoring the scope

Our assessment of audit risk, our evaluation of materiality and our allocation of performance materiality determine our audit scope for each entity within the group. Taken together, this enables us to form an opinion on the consolidated financial statements. We take into account size, risk profile, the organization of the group and effectiveness of group-wide controls, changes in the business environment and other factors such as recent internal audit results when assessing the level of work to be performed at each component.

In scoping the audit we reflect the group's structure (Upstream, Downstream, Rosneft and Other businesses and corporate), plus the group's functions. In assessing the risk of material misstatement to the group financial statements, and to ensure we had adequate quantitative coverage of significant accounts in the financial statements, we performed full or specific scope audit procedures over 55 components covering the UK, US, Abu Dhabi, Angola, Azerbaijan, Brazil, Egypt, Germany, India, Russia, Singapore, Trinidad and Tobago and the group functions, representing the principal business units within the group.

Of the 55 components selected, we performed an audit of the complete financial information of 9 components ("full scope components") which were selected based on their size or risk characteristics. For the remaining 46 components ("specific scope components"), we performed audit procedures on specific accounts within that component that we considered had the potential for the greatest impact on the significant accounts in the financial statements either because of the size of these accounts or their risk profile.

For the current year, the full scope components contributed 30% of the group's profit before tax (2016 29%), 42% of the group's revenue (2016 41%) and 10% of the group's property, plant and equipment (2016 10%). The specific scope components contributed 32% of the group's profit before tax (2016 32%), 30% of the group's revenue (2016 26%) and 52% of the group's property, plant and equipment (2016 54%). The audit scope of the specific scope components may not have included testing of all significant accounts of the component but will have contributed to the coverage of significant accounts tested for the group. Of the 46 specific scope components, we instructed 14 of these locations to perform specified procedures over goodwill, intangible assets, the carrying value of certain investments held by the group, gain on sale of businesses and fixed assets, interest and other income, exploration expenses, sales and other operating revenues and production taxes.

The remaining components not subject to full or specific group scoping are not significant individually or in the aggregate. They include many small, low risk components and balances; each remaining component represents an average of 0.13% of the total group profit before tax and 0.13% of total group revenue. For these components, we performed other procedures, including evaluating and testing management's group wide controls across a range of geographies and segments, specifically testing the oversight and review controls that management has in place to ensure there are no material misstatements in these locations. We performed analytical and enquiry procedures to address the risk of residual misstatement on a segment-wide and component basis. We tested consolidation journals to identify the existence of any further risks of misstatement that could have been material to the group financial statements.

Involvement with component teams

In establishing our overall approach to the group audit, we determined the type of work that needed to be undertaken at each of the components by us, as the primary audit engagement team, or by component auditors from other EY global network firms operating under our instruction. Of the 9 full scope components, audit procedures were performed on 5 of these directly by the primary audit engagement team. For the 46 specific scope components, audit procedures were performed on 24 of these directly by the primary audit engagement team. Testing of management's group wide controls was performed by component auditors. Where work was performed by component auditors, we determined the appropriate level of involvement to enable us to determine that sufficient audit evidence had been obtained as a basis for our opinion on the group as a whole.

The group audit team continued to follow a programme of planned visits designed to ensure that the Senior Statutory Auditor or his designate visits significant locations to ensure the audit is executed and delivered in accordance with the planned approach and to confirm the quality of the audit work undertaken. During the current year's audit cycle, visits were undertaken by the primary audit engagement team to the component teams in Abu Dhabi, Azerbaijan, Egypt, Germany, India, Russia, Singapore, the UK and the US. Part of the purpose of these visits is to confirm that appropriate procedures have been performed by the auditors of the components and that the significant audit areas were covered as communicated in the detailed audit instructions, including the risks of material misstatement as outlined above. The primary audit engagement team review included examining key working papers and conclusions where these related to areas of management and auditor judgement with specific focus on the risks detailed above. The primary audit engagement team also participated in the component teams' planning, during visits made earlier in the audit period. Telephone and video meetings were held with the auditors at locations which the primary audit engagement team did not visit in person. This, together with additional procedures performed at group level, gave us appropriate evidence for our opinion on the group financial statements.

One of the significant locations is Russia, which includes Rosneft, a material associate not controlled by BP. We were provided with appropriate access to Rosneft's auditor in order to ensure they had completed the procedures required by ISA (UK) 600 on the financial statements of Rosneft, used as the basis for BP's equity accounting.

Our application of materiality

We apply the concept of materiality in planning and performing the audit, in evaluating the effect of identified misstatements on the audit and in forming our audit opinion.

Materiality

The magnitude of an omission or misstatement that, individually or in the aggregate, could reasonably be expected to influence the economic decisions of the users of the financial statements. Materiality provides a basis for determining the nature and extent of our audit procedures.

We determined materiality for the group to be $0.5 billion (2016 $0.5 billion). For the 2017 audit, we deemed it appropriate to determine our materiality based on 5% of the group's underlying replacement cost profit (as defined on page 293) before interest and taxation for 2017. Due to the recovery and stability in oil and gas prices through 2017 we no longer view it as necessary to determine materiality based on normalizing current year expected underlying replacement cost profit before interest and taxation and how those results would look if oil and gas prices forecast by the company for 2018 and 2019 had prevailed in the year.

Underlying replacement cost profit before interest and taxation remains the most appropriate measure upon which to calculate materiality, due to the fact it excludes the impact of changes in crude oil, gas and product prices and items disclosed as non-operating items, which can significantly distort the group's results in a given period. For details of non-operating items please see page 250 of the *Annual Report and Form 20-F 2017.*

We determined materiality for our audit of the standalone parent company financial statements to be $1,300 million (2016 $1,300 million), which is 1% (2016 1%) of equity. The materiality determined for the standalone parent company financial statements exceeds the group materiality as it is determined on a different basis given the nature of the operations. For the purposes of the audit of the group financial statements, our procedures, including those on balances in the parent company, are undertaken with reference to the group materiality and performance materiality set out in this report.

During the course of our audit, we re-assessed initial materiality in the context of the group's performance and forward expectations and this resulted in no change from our original assessment of materiality.

Performance materiality

The application of materiality at the individual account or balance level. It is set at an amount to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds materiality.

On the basis of our risk assessments, together with our assessment of the group's overall control environment, our judgement was that performance materiality was 75% (2016 75%) of our materiality, namely $375 million (2016 $375 million). We have set performance materiality at this percentage to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds materiality.

Audit work at component locations for the purpose of obtaining audit coverage over significant financial statement accounts is undertaken based on a percentage of total performance materiality. The performance materiality set for each component is based on the relative scale and risk of the component to the group as a whole and our assessment of the risk of misstatement at that component. In the current year, the range of performance materiality allocated to components was $75 million to $300 million (2016 $75 million to $281 million).

Reporting threshold

An amount below which identified misstatements are considered as being clearly trivial.

We agreed with the audit committee that we would report to them all uncorrected audit differences in excess of $25 million (2016 $25 million), which is set at 5% of materiality, as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds.

We evaluate any uncorrected misstatements against both the quantitative measures of materiality discussed above and in light of other relevant qualitative considerations in forming our opinion.

Other information

The other information comprises the information included in the Annual Report other than the financial statements and our auditor's report thereon. The directors are responsible for the other information.

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Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in this report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

In this context, we also have nothing to report in regard to our responsibility to specifically address the following items in the other information and to report as uncorrected material misstatements of the other information where we conclude that those items meet the following conditions:

- Fair, balanced and understandable set out on page 114 – the statement given by the directors that they consider the annual report and financial statements taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the group's performance, business model and strategy, is materially inconsistent with our knowledge obtained in the audit; or
- Audit committee reporting set out on pages 77-83 – the section describing the work of the audit committee does not appropriately address matters communicated by us to the audit committee; or
- Directors' statement of compliance with the UK Corporate Governance Code set out on page 113 – the parts of the directors' statement required under the Listing Rules relating to the company's compliance with the UK Corporate Governance Code containing provisions specified for review by the auditor in accordance with Listing Rule 9.8.10R(2) do not properly disclose a departure from a relevant provision of the UK Corporate Governance Code.

Opinions on other matters prescribed by the Companies Act 2006

In our opinion, the part of the Directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic report and the Directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic report and the Directors' report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic report or the Directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements and the part of the Directors' remuneration report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of directors

As explained more fully in the Statement of directors' responsibilities set out on page 113, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group and parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Explanation as to what extent the audit was considered capable of detecting irregularities, including fraud

The objectives of our audit, in respect to fraud, are; to identify and assess the risks of material misstatement of the financial statements due to fraud; to obtain sufficient appropriate audit evidence regarding the assessed risks of material misstatement due to fraud, through designing and implementing appropriate responses; and to respond appropriately to fraud or suspected fraud identified during the audit. However, the primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management.

Our approach was as follows:

- We obtained an understanding of the legal and regulatory frameworks that are applicable to the group and determined that the most significant are those that relate to the reporting framework (IFRS, FRS 101, the Companies Act 2006, UK Corporate Governance Code and US Securities Exchange Act of 1934) and the relevant tax compliance regulations in the jurisdictions in which the group operates. In addition, we concluded that there are certain significant laws and regulations which may have an effect on the determination of the

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amounts and disclosures in the financial statements being the Listing Rules of the UK Listing Authority, and those laws and regulations as disclosed within Regulation of the group's business on pages 265-270 and International trade sanctions on pages 273-274.

- We understood how the group is complying with those frameworks by making enquiries of management, internal audit, those responsible for legal and compliance procedures and the group general counsel. We corroborated our enquiries through the attendance at meetings held by the audit, disclosure and safety, ethics and environment assurance committees. We designed our audit procedures to identify non-compliance with such laws and regulations identified in the paragraph above. As well as enquiry and attendance at meetings, our procedures involved a review of the reporting to the above committees and a review of board meetings and other committee minutes to identify any non-compliance with laws and regulations.
- We assessed the susceptibility of the group's financial statements to material misstatement, including how fraud might occur by meeting with management to understand where they considered there was susceptibility to fraud. We also considered performance targets and their propensity to influence management to manage earnings and revenue by overriding internal controls. We considered the controls that the group has established to address risks identified, or that otherwise prevent, deter and detect fraud; and how senior management monitors those controls. We performed specific procedures to respond to the fraud risk of unauthorized trading as referred to in the key audit matters section above. Our procedures also included testing a risk-based sample of manual journals that may have been posted with the intention of overriding internal controls to manipulate earnings. These procedures were designed to provide reasonable assurance that the financial statements were free from fraud or error.
- The group operates in the oil and gas industry which is a highly regulated environment. As such the Senior Statutory Auditor reviewed the experience and expertise of the engagement team to ensure that the team had the appropriate competence and capabilities, which included the use of an expert where appropriate.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at https://www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Other matters we are required to address

- We were appointed by the company on 17 May 2017 to audit the financial statements for the year ended 31 December 2017.
- The period of total uninterrupted engagement including previous renewals and reappointments is over 100 years, covering the year ended 1909 to the year ended 31 December 2017.
- The non-audit services prohibited by the FRC's Ethical Standard were not provided to the group or the parent company and we remain independent of the group and the parent company in conducting the audit.
- The audit opinion is consistent with the additional report to the audit committee.

John C. Flaherty (Senior Statutory Auditor)
for and on behalf of Ernst & Young LLP, Statutory Auditor
London
29 March 2018

1. The maintenance and integrity of the BP p.l.c. web site is the responsibility of BP p.l.c.; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the web site.
2. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

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Consolidated financial statements of the BP group

Report of Independent Registered Public Accounting Firm

To the shareholders and board of directors of BP p.l.c.

Opinion on the financial statements

We have audited the accompanying group balance sheets of BP p.l.c. (the Company) as of 31 December 2017 and 2016, and the related group income statement, group statement of comprehensive income, group statement of changes in equity and group cash flow statement for each of the three years in the period ended 31 December 2017, and the related notes (collectively referred to as the "group financial statements"). In our opinion, the group financial statements present fairly, in all material respects, the financial position of BP p.l.c. at 31 December 2017 and 2016 and the results of its operations and its cash flows for each of the three years in the period ended 31 December 2017, in conformity with International Financial Reporting Standards ("IFRS") as adopted by the European Union and IFRS as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), BP p.l.c.'s internal control over financial reporting as of 31 December 2017, based on criteria established in the UK Financial Reporting Council's Guidance on Risk Management, Internal Control and Related Financial and Business Reporting and our report dated 29 March 2018 expressed an unqualified opinion thereon.

Basis for opinion

These financial statements are the responsibility of BP p.l.c.'s management. Our responsibility is to express an opinion on these financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to BP p.l.c. in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP
We have served as the Company's auditor since 1909.
London, United Kingdom
29 March 2018

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Consolidated financial statements of the BP group

Report of Independent Registered Public Accounting Firm

To the shareholders and board of directors of BP p.l.c.

Opinion on internal control over financial reporting

We have audited BP p.l.c.'s internal control over financial reporting as of 31 December 2017, based on criteria established in the UK Financial Reporting Council's Guidance on Risk Management, Internal Control and Related Financial and Business Reporting. In our opinion, BP p.l.c. maintained, in all material respects, effective internal control over financial reporting as of 31 December 2017, based on the UK Financial Reporting Council's Guidance.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the group balance sheets of BP p.l.c. as of 31 December 2017 and 2016, the related group income statement, group statement of comprehensive income, group statement of changes in equity and group cash flow statement for each of the three years in the period ended 31 December 2017, and our report dated 29 March 2018 expressed an unqualified opinion thereon.

Basis for opinion

BP p.l.c.'s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's report on internal control over financial reporting on page 275. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP
London, United Kingdom
29 March 2018

Consent of independent registered public accounting firm

We consent to the incorporation by reference of our reports dated 29 March 2018, with respect to the group financial statements of BP p.l.c., and the effectiveness of internal control over financial reporting of BP p.l.c., included in this Annual Report and Form 20-F for the year ended 31 December 2017 in the following Registration Statements:

> Registration Statements on Form F-3 (File Nos. 333-208478 and 333-208478-01) of BP p.l.c. and BP Capital Markets p.l.c.; and
> Registration Statements on Form S-8 (File Nos. 333-67206, 333-79399, 333-103924, 333-123482, 333-123483, 333-131583, 333-131584, 333-132619, 333-146868, 333-146870, 333-146873, 333-173136, 333-177423, 333-179406, 333-186462, 333-186463, 333-199015, 333-200794, 333-200795, 333-207188, 333-207189, 333-210316 and 333-210318) of BP p.l.c.

/s/ Ernst & Young LLP
London, United Kingdom
29 March 2018

1. The maintenance and integrity of the BP p.l.c. web site is the responsibility of BP p.l.c.; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the web site.
2. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Group income statement

For the year ended 31 December	Note	2017	2016	$ million 2015
Sales and other operating revenues	4	**240,208**	183,008	222,894
Earnings from joint ventures – after interest and tax	14	**1,177**	966	(28)
Earnings from associates – after interest and tax	15	**1,330**	994	1,839
Interest and other income	5	**657**	506	611
Gains on sale of businesses and fixed assets	3	**1,210**	1,132	666
Total revenues and other income		**244,582**	186,606	225,982
Purchases	17	**179,716**	132,219	164,790
Production and manufacturing expenses[a]		**24,229**	29,077	37,040
Production and similar taxes	4	**1,775**	683	1,036
Depreciation, depletion and amortization	4	**15,584**	14,505	15,219
Impairment and losses on sale of businesses and fixed assets	3	**1,216**	(1,664)	1,909
Exploration expense	6	**2,080**	1,721	2,353
Distribution and administration expenses		**10,508**	10,495	11,553
Profit (loss) before interest and taxation		**9,474**	(430)	(7,918)
Finance costs[a]	5	**2,074**	1,675	1,347
Net finance expense relating to pensions and other post-retirement benefits	22	**220**	190	306
Profit (loss) before taxation		**7,180**	(2,295)	(9,571)
Taxation[a]	7	**3,712**	(2,467)	(3,171)
Profit (loss) for the year		**3,468**	172	(6,400)
Attributable to				
BP shareholders		**3,389**	115	(6,482)
Non-controlling interests		**79**	57	82
		3,468	172	(6,400)
Earnings per share				
Profit (loss) for the year attributable to BP shareholders				
Per ordinary share (cents)				
Basic	9	**17.20**	0.61	(35.39)
Diluted	9	**17.10**	0.60	(35.39)
Per ADS (dollars)				
Basic	9	**1.03**	0.04	(2.12)
Diluted	9	**1.03**	0.04	(2.12)

[a] See Note 2 for information on the impact of the Gulf of Mexico oil spill on these income statement line items.

Group statement of comprehensive income[a]

For the year ended 31 December

	Note	2017	2016	$ million 2015
Profit (loss) for the year		**3,468**	172	(6,400)
Other comprehensive income				
Items that may be reclassified subsequently to profit or loss				
Currency translation differences		**1,986**	254	(4,119)
Exchange (gains) losses on translation of foreign operations reclassified to gain or loss on sale of businesses and fixed assets		**(120)**	30	23
Available-for-sale investments		**14**	1	1
Cash flow hedges marked to market	28	**197**	(639)	(178)
Cash flow hedges reclassified to the income statement	28	**116**	196	249
Cash flow hedges reclassified to the balance sheet	28	**112**	81	22
Share of items relating to equity-accounted entities, net of tax	14, 15	**564**	833	(814)
Income tax relating to items that may be reclassified	7	**(196)**	13	257
		2,673	769	(4,559)
Items that will not be reclassified to profit or loss				
Remeasurements of the net pension and other post-retirement benefit liability or asset	22	**3,646**	(2,496)	4,139
Share of items relating to equity-accounted entities, net of tax	14, 15	**—**	—	(1)
Income tax relating to items that will not be reclassified	7	**(1,303)**	739	(1,397)
		2,343	(1,757)	2,741
Other comprehensive income		**5,016**	(988)	(1,818)
Total comprehensive income		**8,484**	(816)	(8,218)
Attributable to				
BP shareholders		**8,353**	(846)	(8,259)
Non-controlling interests		**131**	30	41
		8,484	(816)	(8,218)

[a] See Note 30 for further information.

Group statement of changes in equity[a]

$ million

	Share capital and capital reserves	Treasury shares	Foreign currency translation reserve	Fair value reserves	Profit and loss account	BP shareholders' equity	Non-controlling interests	Total equity
At 1 January 2017	**46,122**	**(18,443)**	**(6,878)**	**(1,153)**	**75,638**	**95,286**	**1,557**	**96,843**
Profit (loss) for the year	**—**	**—**	**—**	**—**	**3,389**	**3,389**	**79**	**3,468**
Other comprehensive income	**—**	**—**	**1,722**	**410**	**2,832**	**4,964**	**52**	**5,016**
Total comprehensive income	**—**	**—**	**1,722**	**410**	**6,221**	**8,353**	**131**	**8,484**
Dividends[b]	**—**	**—**	**—**	**—**	**(6,153)**	**(6,153)**	**(141)**	**(6,294)**
Repurchase of ordinary share capital	**—**	**—**	**—**	**—**	**(343)**	**(343)**	**—**	**(343)**
Share-based payments, net of tax	**—**	**1,485**	**—**	**—**	**(798)**	**687**	**—**	**687**
Share of equity-accounted entities' changes in equity, net of tax	**—**	**—**	**—**	**—**	**215**	**215**	**—**	**215**
Transactions involving non-controlling interests, net of tax	**—**	**—**	**—**	**—**	**446**	**446**	**366**	**812**
At 31 December 2017	**46,122**	**(16,958)**	**(5,156)**	**(743)**	**75,226**	**98,491**	**1,913**	**100,404**
At 1 January 2016	43,902	(19,964)	(7,267)	(823)	81,368	97,216	1,171	98,387
Profit (loss) for the year	—	—	—	—	115	115	57	172
Other comprehensive income	—	—	389	(330)	(1,020)	(961)	(27)	(988)
Total comprehensive income	—	—	389	(330)	(905)	(846)	30	(816)
Dividends[b]	—	—	—	—	(4,611)	(4,611)	(107)	(4,718)
Share-based payments, net of tax	2,220	1,521	—	—	(750)	2,991	—	2,991
Share of equity-accounted entities' changes in equity, net of tax	—	—	—	—	106	106	—	106
Transactions involving non-controlling interests, net of tax	—	—	—	—	430	430	463	893
At 31 December 2016	46,122	(18,443)	(6,878)	(1,153)	75,638	95,286	1,557	96,843
At 1 January 2015	43,902	(20,719)	(3,409)	(897)	92,564	111,441	1,201	112,642
Profit (loss) for the year	—	—	—	—	(6,482)	(6,482)	82	(6,400)
Other comprehensive income	—	—	(3,858)	74	2,007	(1,777)	(41)	(1,818)
Total comprehensive income	—	—	(3,858)	74	(4,475)	(8,259)	41	(8,218)
Dividends[b]	—	—	—	—	(6,659)	(6,659)	(91)	(6,750)
Share-based payments, net of tax	—	755	—	—	(99)	656	—	656
Share of equity-accounted entities' changes in equity, net of tax	—	—	—	—	40	40	—	40
Transactions involving non-controlling interests, net of tax	—	—	—	—	(3)	(3)	20	17
At 31 December 2015	43,902	(19,964)	(7,267)	(823)	81,368	97,216	1,171	98,387

[a] See Note 30 for further information.
[b] See Note 8 for further information.

Group balance sheet

At 31 December	Note	2017	$ million 2016
Non-current assets			
Property, plant and equipment	10	**129,471**	129,757
Goodwill	12	**11,551**	11,194
Intangible assets	13	**18,355**	18,183
Investments in joint ventures	14	**7,994**	8,609
Investments in associates	15	**16,991**	14,092
Other investments	16	**1,245**	1,033
Fixed assets		**185,607**	182,868
Loans		**646**	532
Trade and other receivables	18	**1,434**	1,474
Derivative financial instruments	28	**4,110**	4,359
Prepayments		**1,112**	945
Deferred tax assets	7	**4,469**	4,741
Defined benefit pension plan surpluses	22	**4,169**	584
		201,547	195,503
Current assets			
Loans		**190**	259
Inventories	17	**19,011**	17,655
Trade and other receivables	18	**24,849**	20,675
Derivative financial instruments	28	**3,032**	3,016
Prepayments		**1,414**	1,486
Current tax receivable		**761**	1,194
Other investments	16	**125**	44
Cash and cash equivalents	23	**25,586**	23,484
		74,968	67,813
Total assets		**276,515**	263,316
Current liabilities			
Trade and other payables	20	**44,209**	37,915
Derivative financial instruments	28	**2,808**	2,991
Accruals		**4,960**	5,136
Finance debt	24	**7,739**	6,634
Current tax payable		**1,686**	1,666
Provisions	21	**3,324**	4,012
		64,726	58,354
Non-current liabilities			
Other payables	20	**13,889**	13,946
Derivative financial instruments	28	**3,761**	5,513
Accruals		**505**	469
Finance debt	24	**55,491**	51,666
Deferred tax liabilities	7	**7,982**	7,238
Provisions	21	**20,620**	20,412
Defined benefit pension plan and other post-retirement benefit plan deficits	22	**9,137**	8,875
		111,385	108,119
Total liabilities		**176,111**	166,473
Net assets		**100,404**	96,843
Equity			
BP shareholders' equity	30	**98,491**	95,286
Non-controlling interests	30	**1,913**	1,557
Total equity	30	**100,404**	96,843

C-H Svanberg Chairman
R W Dudley Group chief executive
29 March 2018

Group cash flow statement

For the year ended 31 December				$ million
	Note	**2017**	2016	2015
Operating activities				
Profit (loss) before taxation		**7,180**	(2,295)	(9,571)
Adjustments to reconcile profit (loss) before taxation to net cash provided by operating activities				
Exploration expenditure written off	6	**1,603**	1,274	1,829
Depreciation, depletion and amortization	4	**15,584**	14,505	15,219
Impairment and (gain) loss on sale of businesses and fixed assets	3	**6**	(2,796)	1,243
Earnings from joint ventures and associates		**(2,507)**	(1,960)	(1,811)
Dividends received from joint ventures and associates		**1,253**	1,105	1,614
Interest receivable		**(304)**	(200)	(247)
Interest received		**375**	267	176
Finance costs	5	**2,074**	1,675	1,347
Interest paid		**(1,572)**	(1,137)	(1,080)
Net finance expense relating to pensions and other post-retirement benefits	22	**220**	190	306
Share-based payments		**661**	779	321
Net operating charge for pensions and other post-retirement benefits, less contributions and benefit payments for unfunded plans	22	**(394)**	(467)	(592)
Net charge for provisions, less payments		**2,106**	4,487	11,792
(Increase) decrease in inventories		**(848)**	(3,681)	3,375
(Increase) decrease in other current and non-current assets		**(4,848)**	(1,172)	6,796
Increase (decrease) in other current and non-current liabilities		**2,344**	1,655	(9,328)
Income taxes paid		**(4,002)**	(1,538)	(2,256)
Net cash provided by operating activities		**18,931**	10,691	19,133
Investing activities				
Expenditure on property, plant and equipment, intangible and other assets		**(16,562)**	(16,701)	(18,648)
Acquisitions, net of cash acquired		**(327)**	(1)	23
Investment in joint ventures		**(50)**	(50)	(265)
Investment in associates		**(901)**	(700)	(1,312)
Total cash capital expenditure		**(17,840)**	(17,452)	(20,202)
Proceeds from disposals of fixed assets	3	**2,936**	1,372	1,066
Proceeds from disposals of businesses, net of cash disposed	3	**478**	1,259	1,726
Proceeds from loan repayments		**349**	68	110
Net cash used in investing activities		**(14,077)**	(14,753)	(17,300)
Financing activities				
Net issue (repurchase) of shares		**(343)**	—	—
Proceeds from long-term financing		**8,712**	12,442	8,173
Repayments of long-term financing		**(6,276)**	(6,685)	(6,426)
Net increase (decrease) in short-term debt		**(158)**	51	473
Net increase (decrease) in non-controlling interests		**1,063**	887	(5)
Dividends paid				
BP shareholders	8	**(6,153)**	(4,611)	(6,659)
Non-controlling interests		**(141)**	(107)	(91)
Net cash provided by (used in) financing activities		**(3,296)**	1,977	(4,535)
Currency translation differences relating to cash and cash equivalents		**544**	(820)	(672)
Increase (decrease) in cash and cash equivalents		**2,102**	(2,905)	(3,374)
Cash and cash equivalents at beginning of year		**23,484**	26,389	29,763
Cash and cash equivalents at end of year		**25,586**	23,484	26,389

Notes on financial statements

1. Significant accounting policies, judgements, estimates and assumptions

Authorization of financial statements and statement of compliance with International Financial Reporting Standards

The consolidated financial statements of the BP group for the year ended 31 December 2017 were approved and signed by the group chief executive and chairman on 29 March 2018 having been duly authorized to do so by the board of directors. BP p.l.c. is a public limited company incorporated and domiciled in England and Wales. The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB), IFRS as adopted by the European Union (EU) and in accordance with the provisions of the UK Companies Act 2006. IFRS as adopted by the EU differs in certain respects from IFRS as issued by the IASB. The differences have no impact on the group's consolidated financial statements for the years presented. The significant accounting policies and accounting judgements, estimates and assumptions of the group are set out below.

Basis of preparation

The consolidated financial statements have been prepared on a going concern basis and in accordance with IFRS and IFRS Interpretations Committee (IFRIC) interpretations issued and effective for the year ended 31 December 2017. The accounting policies that follow have been consistently applied to all years presented.

The consolidated financial statements are presented in US dollars and all values are rounded to the nearest million dollars ($ million), except where otherwise indicated.

Significant accounting policies: use of judgements, estimates and assumptions

Inherent in the application of many of the accounting policies used in preparing the financial statements is the need for BP management to make judgements, estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of revenues and expenses. Actual outcomes could differ from the estimates and assumptions used. The accounting judgements and estimates that could have a significant impact on the results of the group are set out in boxed text below, and should be read in conjunction with the information provided in the Notes on financial statements. The areas requiring the most significant judgement and estimation in the preparation of the consolidated financial statements are: accounting for interests in other entities; oil and natural gas accounting, including the estimation of reserves; the recoverability of asset carrying values, including trade receivables; derivative financial instruments; provisions and contingencies, including provisions and contingencies related to the Gulf of Mexico oil spill; pensions and other post-retirement benefits; and income taxes. Where an estimate has a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year this is specifically noted within the boxed text. Whilst the impact of the application of hedge accounting on the group's financial statements can be significant, the group no longer considers the decision to apply such accounting to represent one of its significant accounting judgements.

Basis of consolidation

The group financial statements consolidate the financial statements of BP p.l.c. and its subsidiaries drawn up to 31 December each year. Subsidiaries are consolidated from the date of their acquisition, being the date on which the group obtains control, and continue to be consolidated until the date that control ceases. The financial statements of subsidiaries are prepared for the same reporting year as the parent company, using consistent accounting policies. Intra-group balances and transactions, including unrealized profits arising from intra-group transactions, have been eliminated. Unrealized losses are eliminated unless the transaction provides evidence of an impairment of the asset transferred. Non-controlling interests represent the equity in subsidiaries that is not attributable, directly or indirectly, to BP shareholders.

Interests in other entities

Business combinations and goodwill

Business combinations are accounted for using the acquisition method. The identifiable assets acquired and liabilities assumed are recognized at their fair values at the acquisition date.

Goodwill is initially measured as the excess of the aggregate of the consideration transferred, the amount recognized for any non-controlling interest and the acquisition-date fair values of any previously held interest in the acquiree over the fair value of the identifiable assets acquired and liabilities assumed at the acquisition date. At the acquisition date, any goodwill acquired is allocated to each of the cash-generating units, or groups of cash-generating units, expected to benefit from the combination's synergies. Following initial recognition, goodwill is measured at cost less any accumulated impairment losses. Goodwill arising on business combinations prior to 1 January 2003 is stated at the previous carrying amount under UK generally accepted accounting practice, less subsequent impairments. See Note 12 for further information.

Goodwill may also arise upon investments in joint ventures and associates, being the surplus of the cost of investment over the group's share of the net fair value of the identifiable assets and liabilities. Any such goodwill is recorded within the corresponding investment in joint ventures and associates.

Interests in joint arrangements

The results, assets and liabilities of joint ventures are incorporated in these financial statements using the equity method of accounting as described below.

Certain of the group's activities, particularly in the Upstream segment, are conducted through joint operations. BP recognizes, on a line-by-line basis in the consolidated financial statements, its share of the assets, liabilities and expenses of these joint operations incurred jointly with the other partners, along with the group's income from the sale of its share of the output and any liabilities and expenses that the group has incurred in relation to the joint operation.

Interests in associates

The results, assets and liabilities of associates are incorporated in these financial statements using the equity method of accounting as described below.

Significant judgement: investment in Rosneft

Judgement is required in assessing the level of control or influence over another entity in which the group holds an interest. For BP, the judgement that the group has significant influence over Rosneft Oil Company (Rosneft), a Russian oil and gas company is significant. As a consequence of this judgement, BP uses the equity method of accounting for its investment and BP's share of Rosneft's oil and natural gas reserves is included in the group's estimated net proved reserves of equity-accounted entities. If significant influence was not present, the investment would be accounted for as an available-for-sale financial asset as described under 'Financial assets' below and no share of Rosneft's oil and natural gas reserves would be reported.

Significant influence is defined in IFRS as the power to participate in the financial and operating policy decisions of the investee but is not control or joint control of those policies. Significant influence is presumed when an entity owns 20% or more of the voting power of the investee. Significant influence is presumed not to be present when an entity owns less than 20% of the voting power of the investee.

BP owns 19.75% of the voting shares of Rosneft. The Russian federal government, through its investment company JSC Rosneftegaz, owned 50% plus one share of the voting shares of Rosneft at 31 December 2017. IFRS identifies several indicators that may provide evidence of significant influence, including representation on the board of directors of the investee and participation in policy-making processes. BP's group chief executive, Bob Dudley, has been a member of the board of directors of Rosneft since 2013 and he is chairman of the Rosneft board's Strategic Planning Committee. A second BP-nominated director, Guillermo Quintero, has been a member of the Rosneft board and its HR and Remuneration Committee since 2015. BP also holds the voting rights at general meetings of shareholders conferred by its 19.75% stake in Rosneft. BP's management consider, therefore, that the group has significant influence over Rosneft, as defined by IFRS.

The equity method of accounting

Under the equity method, an investment is carried on the balance sheet at cost plus post-acquisition changes in the group's share of net assets of the entity, less distributions received and less any impairment in value of the investment. Loans advanced to equity-accounted entities that have the characteristics of equity financing are also included in the investment on the group balance sheet. The group income statement reflects the group's share of the results after tax of the equity-accounted entity, adjusted to account for depreciation, amortization and any impairment of the equity-accounted entity's assets based on their fair values at the date of acquisition. The group statement of comprehensive income includes the group's share of the equity-accounted entity's other comprehensive income. The group's share of amounts recognized directly in equity by an equity-accounted entity is recognized directly in the group's statement of changes in equity.

Financial statements of equity-accounted entities are prepared for the same reporting year as the group. Where material differences arise in the accounting policies used by the equity-accounted entity and those used by BP, adjustments are made to those financial statements to bring the accounting policies used into line with those of the group.

Unrealized gains on transactions between the group and its equity-accounted entities are eliminated to the extent of the group's interest in the equity-accounted entity.

The group assesses investments in equity-accounted entities for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. If any such indication of impairment exists, the carrying amount of the investment is compared with its recoverable amount, being the higher of its fair value less costs of disposal and value in use. If the carrying amount exceeds the recoverable amount, the investment is written down to its recoverable amount.

Segmental reporting

The group's operating segments are established on the basis of those components of the group that are evaluated regularly by the group chief executive, BP's chief operating decision maker, in deciding how to allocate resources and in assessing performance.

The accounting policies of the operating segments are the same as the group's accounting policies described in this note, except that IFRS requires that the measure of profit or loss disclosed for each operating segment is the measure that is provided regularly to the chief operating decision maker. For BP, this measure of profit or loss is replacement cost profit before interest and tax which reflects the replacement cost of inventories sold in the period and is arrived at by excluding inventory holding gains and losses from profit. Replacement cost profit for the group is not a recognized measure under IFRS. For further information see Note 4.

Foreign currency translation

In individual subsidiaries, joint ventures and associates, transactions in foreign currencies are initially recorded in the functional currency of those entities at the spot exchange rate on the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated into the functional currency at the spot exchange rate on the balance sheet date. Any resulting exchange differences are included in the income statement, unless hedge accounting is applied. Non-monetary assets and liabilities, other than those measured at fair value, are not retranslated subsequent to initial recognition.

In the consolidated financial statements, the assets and liabilities of non-US dollar functional currency subsidiaries, joint ventures, associates, and related goodwill, are translated into US dollars at the spot exchange rate on the balance sheet date. The results and cash flows of non-US dollar functional currency subsidiaries, joint ventures and associates are translated into US dollars using average rates of exchange. In the consolidated financial statements, exchange adjustments arising when the opening net assets and the profits for the year retained by non-US dollar functional currency subsidiaries, joint ventures and associates are translated into US dollars are recognized in a separate component of equity and reported in other comprehensive income. Exchange gains and losses arising on long-term intra-group foreign currency borrowings used to finance the group's non-US dollar investments are also reported in other comprehensive income. On disposal or partial disposal of a non-US dollar functional currency subsidiary, joint venture or associate, the related accumulated exchange gains and losses recognized in equity are reclassified from equity to the income statement.

Non-current assets held for sale

Non-current assets and disposal groups classified as held for sale are measured at the lower of carrying amount and fair value less costs to sell.

Non-current assets and disposal groups are classified as held for sale if their carrying amounts will be recovered through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset or disposal group is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification as held for sale, and actions required to complete the plan of sale should indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

1. Significant accounting policies, judgements, estimates and assumptions – continued

Property, plant and equipment and intangible assets are not depreciated or amortized once classified as held for sale.

Intangible assets

Intangible assets, other than goodwill, include expenditure on the exploration for and evaluation of oil and natural gas resources, computer software, patents, licences and trademarks and are stated at the amount initially recognized, less accumulated amortization and accumulated impairment losses.

Intangible assets acquired separately from a business are carried initially at cost. An intangible asset acquired as part of a business combination is measured at fair value at the date of acquisition and is recognized separately from goodwill if the asset is separable or arises from contractual or other legal rights.

Intangible assets with a finite life, other than capitalized exploration and appraisal costs as described below, are amortized on a straight-line basis over their expected useful lives. For patents, licences and trademarks, expected useful life is the shorter of the duration of the legal agreement and economic useful life, and can range from three to fifteen years. Computer software costs generally have a useful life of three to five years.

The expected useful lives of assets are reviewed on an annual basis and, if necessary, changes in useful lives are accounted for prospectively.

Oil and natural gas exploration, appraisal and development expenditure

Oil and natural gas exploration, appraisal and development expenditure is accounted for using the principles of the successful efforts method of accounting as described below.

Licence and property acquisition costs

Exploration licence and leasehold property acquisition costs are capitalized within intangible assets and are reviewed at each reporting date to confirm that there is no indication that the carrying amount exceeds the recoverable amount. This review includes confirming that exploration drilling is still under way or planned or that it has been determined, or work is under way to determine, that the discovery is economically viable based on a range of technical and commercial considerations, and sufficient progress is being made on establishing development plans and timing. If no future activity is planned, the remaining balance of the licence and property acquisition costs is written off. Lower value licences are pooled and amortized on a straight-line basis over the estimated period of exploration. Upon recognition of proved reserves and internal approval for development, the relevant expenditure is transferred to property, plant and equipment.

Exploration and appraisal expenditure

Geological and geophysical exploration costs are recognized as an expense as incurred. Costs directly associated with an exploration well are initially capitalized as an intangible asset until the drilling of the well is complete and the results have been evaluated. These costs include employee remuneration, materials and fuel used, rig costs and payments made to contractors. If potentially commercial quantities of hydrocarbons are not found, the exploration well costs are written off. If hydrocarbons are found and, subject to further appraisal activity, are likely to be capable of commercial development, the costs continue to be carried as an asset. If it is determined that development will not occur then the costs are expensed.

Costs directly associated with appraisal activity undertaken to determine the size, characteristics and commercial potential of a reservoir following the initial discovery of hydrocarbons, including the costs of appraisal wells where hydrocarbons were not found, are initially capitalized as an intangible asset. When proved reserves of oil and natural gas are determined and development is approved by management, the relevant expenditure is transferred to property, plant and equipment.

The determination of whether potentially economic oil and natural gas reserves have been discovered by an exploration well is usually made within one year of well completion, but can take longer, depending on the complexity of the geological structure. Exploration wells that discover potentially economic quantities of oil and natural gas and are in areas where major capital expenditure (e.g. an offshore platform or a pipeline) would be required before production could begin, and where the economic viability of that major capital expenditure depends on the successful completion of further exploration or appraisal work in the area, remain capitalized on the balance sheet as long as such work is under way or firmly planned.

Development expenditure

Expenditure on the construction, installation and completion of infrastructure facilities such as platforms, pipelines and the drilling of development wells, including service and unsuccessful development or delineation wells, is capitalized within property, plant and equipment and is depreciated from the commencement of production as described below in the accounting policy for property, plant and equipment.

Significant judgement: oil and natural gas accounting

Judgement is required to determine whether it is appropriate to continue to carry costs associated with exploration wells and exploratory-type stratigraphic test wells on the balance sheet. It is not unusual to have such costs remaining suspended on the balance sheet for several years while additional appraisal drilling and seismic work on the potential oil and natural gas field is performed or while the optimum development plans and timing are established. All such carried costs are subject to regular technical, commercial and management review on at least an annual basis to confirm the continued intent to develop, or otherwise extract value from, the discovery. Where this is no longer the case, the costs are immediately expensed.

One of the circumstances that indicate an entity should test such assets for impairment is that the period for which the entity has a right to explore in the specific area has expired or will expire in the near future, and is not expected to be renewed. BP has leases in the Gulf of Mexico making up a prospect, some with terms that were scheduled to expire at the end of 2013 and some with terms that were scheduled to expire at the end of 2014. A significant proportion of our capitalized exploration and appraisal costs in the Gulf of Mexico relate to this prospect. This prospect requires the development of subsea technology to ensure that the hydrocarbons can be extracted safely. BP is in negotiation with the US Bureau of Safety and Environmental Enforcement in relation to seeking extension of these leases so that the discovered hydrocarbons can be developed. BP remains committed to developing this prospect and expects that the leases will be renewed and, therefore, continues to carry the capitalized costs on its balance sheet.

Property, plant and equipment

Property, plant and equipment is stated at cost, less accumulated depreciation and accumulated impairment losses. The initial cost of an asset comprises its purchase price or construction cost, any costs directly attributable to bringing the asset into the location and condition necessary for it to be capable of operating in the manner intended by management, the initial estimate of any decommissioning obligation, if any, and, for assets that necessarily take a substantial period of time to get ready for their intended use, directly attributable finance costs. The purchase

1. Significant accounting policies, judgements, estimates and assumptions – continued

price or construction cost is the aggregate amount paid and the fair value of any other consideration given to acquire the asset. The capitalized value of a finance lease is also included within property, plant and equipment.

Expenditure on major maintenance refits or repairs comprises the cost of replacement assets or parts of assets, inspection costs and overhaul costs. Where an asset or part of an asset that was separately depreciated is replaced and it is probable that future economic benefits associated with the item will flow to the group, the expenditure is capitalized and the carrying amount of the replaced asset is derecognized. Inspection costs associated with major maintenance programmes are capitalized and amortized over the period to the next inspection. Overhaul costs for major maintenance programmes, and all other maintenance costs are expensed as incurred.

Oil and natural gas properties, including related pipelines, are depreciated using a unit-of-production method. The cost of producing wells is amortized over proved developed reserves. Licence acquisition, common facilities and future decommissioning costs are amortized over total proved reserves. The unit-of-production rate for the depreciation of common facilities takes into account expenditures incurred to date, together with estimated future capital expenditure expected to be incurred relating to as yet undeveloped reserves expected to be processed through these common facilities.

Other property, plant and equipment is depreciated on a straight-line basis over its expected useful life. The typical useful lives of the group's other property, plant and equipment are as follows:

Land improvements	15 to 25 years
Buildings	20 to 50 years
Refineries	20 to 30 years
Petrochemicals plants	20 to 30 years
Pipelines	10 to 50 years
Service stations	15 years
Office equipment	3 to 7 years
Fixtures and fittings	5 to 15 years

The expected useful lives of property, plant and equipment are reviewed on an annual basis and, if necessary, changes in useful lives are accounted for prospectively.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the item) is included in the income statement in the period in which the item is derecognized.

Significant estimate: estimation of oil and natural gas reserves

Significant technical and commercial judgements are required to determine the group's estimated oil and natural gas reserves. Reserves estimates are regularly reviewed and updated. Factors such as the availability of geological and engineering data, reservoir performance data, acquisition and divestment activity, drilling of new wells, and commodity prices all impact on the determination of the group's estimates of its oil and natural gas reserves. BP bases its proved reserves estimates on the requirement of reasonable certainty with rigorous technical and commercial assessments based on conventional industry practice and regulatory requirements.

The estimation of oil and natural gas reserves and BP's process to manage reserves bookings is described in Supplementary information on oil and natural gas on page 191, which is unaudited. Details on BP's proved reserves and production compliance and governance processes are provided on page 260. The 2017 movements in proved reserves are reflected in the tables showing movements in oil and natural gas reserves by region in Supplementary information on oil and natural gas (unaudited) on page 191.

Estimates of oil and natural gas reserves determined by applying US Securities and Exchange Commission regulations are used to calculate depreciation, depletion and amortization charges for the group's oil and gas properties. The impact of changes in estimated proved reserves is dealt with prospectively by amortizing the remaining carrying value of the asset over the expected future production.

Oil and natural gas reserves estimates based upon management's assumptions for future commodity prices have a direct impact on the assessment of the recoverability of asset carrying values reported in the financial statements. If proved reserves estimates determined by applying management's assumptions are revised downwards, earnings could be affected by changes in depreciation expense or an immediate write-down of the property's carrying value. Changes in proved reserves, therefore, could result in a material change in those properties' carrying values within the next financial year. See also Significant judgements and estimates: recoverability of asset carrying values.

Information on the carrying amounts of the group's oil and natural gas properties, together with the amounts recognized in the income statement as depreciation, depletion and amortization is contained in Note 10 and Note 4 respectively.

Impairment of property, plant and equipment, intangible assets, and goodwill

The group assesses assets or groups of assets, called cash-generating units (CGUs), for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or CGU may not be recoverable; for example, changes in the group's business plans, changes in the group's assumptions about commodity prices, low plant utilization, evidence of physical damage or, for oil and gas assets, significant downward revisions of estimated reserves or increases in estimated future development expenditure or decommissioning costs. If any such indication of impairment exists, the group makes an estimate of the asset's or CGU's recoverable amount. Individual assets are grouped into CGUs for impairment assessment purposes at the lowest level at which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets. A CGU's recoverable amount is the higher of its fair value less costs of disposal and its value in use. Where the carrying amount of a CGU exceeds its recoverable amount, the CGU is considered impaired and is written down to its recoverable amount.

The business segment plans, which are approved on an annual basis by senior management, are the primary source of information for the determination of value in use. They contain forecasts for oil and natural gas production, refinery throughputs, sales volumes for various types of refined products (e.g. gasoline and lubricants), revenues, costs and capital expenditure. As an initial step in the preparation of these plans, various assumptions regarding market conditions, such as oil prices, natural gas prices, refining margins, refined product margins and cost inflation rates are set by senior management. These assumptions take account of existing prices, global supply-demand equilibrium for oil and natural gas, other macroeconomic factors and historical trends and variability. In assessing value in use, the estimated future cash flows are adjusted for the risks specific to the asset group and are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money.

1. Significant accounting policies, judgements, estimates and assumptions – continued

Fair value less costs of disposal is the price that would be received to sell the asset in an orderly transaction between market participants and does not reflect the effects of factors that may be specific to the group and not applicable to entities in general.

An assessment is made at each reporting date as to whether there is any indication that previously recognized impairment losses may no longer exist or may have decreased. If such an indication exists, the recoverable amount is estimated. A previously recognized impairment loss is reversed only if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognized. If that is the case, the carrying amount of the asset is increased to the lower of its recoverable amount and the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Impairment reversals are recognized in profit or loss. After a reversal, the depreciation charge is adjusted in future periods to allocate the asset's revised carrying amount, less any residual value, on a systematic basis over its remaining useful life.

Goodwill is reviewed for impairment annually or more frequently if events or changes in circumstances indicate the recoverable amount of the group of CGUs to which the goodwill relates should be assessed. In assessing whether goodwill has been impaired, the carrying amount of the group of CGUs to which goodwill has been allocated is compared with its recoverable amount. Where the recoverable amount of the group of CGUs is less than the carrying amount (including goodwill), an impairment loss is recognized. An impairment loss recognized for goodwill is not reversed in a subsequent period.

Significant judgements and estimates: recoverability of asset carrying values

Determination as to whether, and by how much, an asset, CGU, or group of CGUs containing goodwill is impaired involves management estimates on highly uncertain matters such as the effects of inflation and deflation on operating expenses, discount rates, production profiles, reserves and resources, and future commodity prices, including the outlook for global or regional market supply-and-demand conditions for crude oil, natural gas and refined products. Judgement is required when determining the appropriate grouping of assets into a CGU or the appropriate grouping of CGUs for impairment testing purposes. See Note 12 for details on how these groupings have been determined in relation to the impairment testing of goodwill.

As disclosed above, the recoverable amount of an asset is the higher of its value in use and its fair value less costs of disposal. Fair value less costs of disposal may be determined based on similar recent market transaction data or, where recent market transactions for the asset are not available for reference, using discounted cash flow techniques. Where discounted cash flow analyses are used to calculate fair value less costs of disposal, judgements are made about the assumptions market participants would use when pricing the asset, CGU or group of CGUs containing goodwill and the test is performed on a post-tax basis.

Irrespective of whether there is any indication of impairment, BP is required to test annually for impairment of goodwill acquired in business combinations. The group carries goodwill of approximately $11.6 billion on its balance sheet (2016 $11.2 billion), principally relating to the Atlantic Richfield, Burmah Castrol, Devon Energy and Reliance transactions. In testing goodwill for impairment, the group uses the approach described above to determine recoverable amount. If there are low oil or natural gas prices for an extended period, the group may need to recognize goodwill impairment charges against its Upstream segment goodwill. Sensitivities relating to impairment testing of goodwill in the Upstream segment are provided in Note 12.

Details of impairment charges and reversals recognized in the income statement are provided in Note 3 and details on the carrying amounts of assets are shown in Note 10, Note 12 and Note 13.

Assumptions made in impairment tests in 2017 relating to discount rates, oil and gas properties and oil and gas prices are discussed below. Changes in the economic environment or other facts and circumstances may necessitate revisions to these assumptions and could result in a material change to the carrying values of the group's assets within the next financial year.

Discount rates

For value-in-use calculations, future cash flows are adjusted for risks specific to the cash-generating unit and are discounted using a pre-tax discount rate. The pre-tax discount rate is based upon the cost of funding the group derived from an established model, adjusted to a pre-tax basis. Fair value less costs of disposal calculations use the post-tax discount rate.

The discount rates applied in impairment tests are reassessed each year. In 2017 the discount rate used to determine recoverable amounts based on fair value less costs of disposal was 6% (2016 6%). The discount rate used to determine recoverable amounts based on value in use was 9% (2016 9%). In both cases, where the cash-generating unit is located in a country which is judged to be higher risk an additional 2% premium was added to the discount rate (2016 2%).

Oil and natural gas properties

For oil and natural gas properties, expected future cash flows are estimated using management's best estimate of future oil and natural gas prices and production and reserves volumes. The estimated future level of production in all impairment tests is based on assumptions about future commodity prices, production and development costs, field decline rates, current fiscal regimes and other factors.

Reserves assumptions for value-in-use tests are restricted to proved and probable reserves.

When estimating the fair value of our Upstream assets, assumptions reflect all reserves and resources that management believe a market participant would consider when valuing the asset, which in some cases are broader in scope than the reserves used in a value-in-use test. In determining a fair value, risk factors may be applied to reserves and resources which do not meet the criteria to be treated as proved. Depending upon the classification of the reserves and resources, this can result in associated forecast cash flows being reduced by a factor of between 10% and 90% from their estimated full potential value. Changing the risk factor applied will in some cases have an impact upon the carrying value of the asset concerned. Based on tests performed in 2016 and 2017, a 10% increase in the risk factors used in any single test could have an impact of up to $0.4 billion upon the carrying value of that asset.

The recoverability of intangible exploration and appraisal expenditure is covered under Oil and natural gas exploration, appraisal and development expenditure above.

Oil and gas prices

The long-term price assumptions used to determine recoverable amount based on fair value less costs of disposal from 2023 onwards are derived from $75 per barrel for Brent and $4/mmBtu for Henry Hub, both in 2015 prices, inflated for the remaining life of the asset (2016 $75 per barrel and $4/mmBtu, both in 2015 prices, from 2022 onwards). To determine recoverable amount based on value in use, the price assumptions were inflated to 2023 but from 2023 onwards were not inflated.

1. Significant accounting policies, judgements, estimates and assumptions – continued

For both value-in-use and fair value less costs of disposal impairment tests, the price assumptions used for the five-year period to 2022 have been set such that there is a gradual transition from current market prices to the long-term price assumptions as noted above, with the rate of increase reducing in the later years.

Oil prices have firmed somewhat in the wake of the extension of OPEC and non-OPEC production cuts and the gradual adjustment in oil inventories from elevated levels. BP's long-term assumption for oil prices is higher than recent market prices reflecting the judgement that recent prices are not consistent with the market being able to produce sufficient oil to meet global demand sustainably in the longer term.

US gas prices have been affected by short-term volatility in winter demand although remain relatively muted. BP's long-term price assumption for US gas is higher than recent market prices as US gas production is expected to grow strongly, supported by increased exports of liquefied natural gas, absorbing the lowest cost resources and requiring increased investment in infrastructure.

Inventories

Inventories, other than inventories held for short-term trading purposes, are stated at the lower of cost and net realizable value. Cost is determined by the first-in first-out method and comprises direct purchase costs, cost of production, transportation and manufacturing expenses. Net realizable value is determined by reference to prices existing at the balance sheet date, adjusted where the sale of inventories after the reporting period gives evidence about their net realizable value at the end of the period.

Inventories held for short-term trading purposes are stated at fair value less costs to sell and any changes in fair value are recognized in the income statement.

Supplies are valued at the lower of cost on a weighted average basis and net realizable value.

Leases

Agreements under which payments are made to owners in return for the right to use a specific asset are accounted for as leases. Leases that transfer substantially all the risks and rewards of ownership are recognized as finance leases. All other leases are accounted for as operating leases.

Finance leases are capitalized at the commencement of the lease term at the fair value of the leased item or, if lower, at the present value of the minimum lease payments. Finance charges are allocated to each period so as to achieve a constant rate of interest on the remaining balance of the liability and are charged directly against income. Capitalized leased assets are depreciated over the shorter of the estimated useful life of the asset or the lease term.

Operating lease payments are recognized as an expense on a straight-line basis over the lease term.

Financial assets

Financial assets are recognized initially at fair value, normally being the transaction price plus, in the case of financial assets not at fair value through profit or loss, directly attributable transaction costs. The subsequent measurement of financial assets depends on their classification, as set out below. The group derecognizes financial assets when the contractual rights to the cash flows expire or the financial asset is transferred to a third party.

Loans and receivables

Loans and receivables are carried at amortized cost using the effective interest method if the time value of money is significant. Gains and losses are recognized in income when the loans and receivables are derecognized or impaired and when interest is recognized using the effective interest method. This category of financial assets includes trade and other receivables.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss are carried on the balance sheet at fair value with gains or losses recognized in the income statement. Derivatives, other than those designated as effective hedging instruments, are classified as held for trading and are included in this category.

Derivatives designated as hedging instruments in an effective hedge

These derivatives are carried on the balance sheet at fair value. The treatment of gains and losses arising from revaluation is described below in the accounting policy for derivative financial instruments and hedging activities.

Held-to-maturity financial assets

Held-to-maturity financial assets are measured at amortized cost, using the effective interest method, less any impairment.

Available-for-sale financial assets

Available-for-sale financial assets are measured at fair value, with gains or losses recognized within other comprehensive income, except for impairment losses, and, for available-for-sale debt instruments, foreign exchange gains or losses, interest recognized using the effective interest method, and any changes in fair value arising from revised estimates of future cash flows, which are recognized in profit or loss.

Cash equivalents

Cash equivalents are short-term highly liquid investments that are readily convertible to known amounts of cash, are subject to insignificant risk of changes in value and generally have a maturity of three months or less from the date of acquisition. Cash equivalents are classified as loans and receivables, held-to-maturity financial assets or available-for-sale financial assets.

Impairment of loans and receivables

The group assesses at each balance sheet date whether a financial asset or group of financial assets is impaired. If there is objective evidence that an impairment loss on loans and receivables carried at amortized cost has been incurred, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate. The carrying amount of the asset is reduced, with the amount of the loss recognized in the income statement.

Significant judgement: recoverability of trade receivables

Judgements are required in assessing the recoverability of overdue trade receivables and determining whether a provision against those receivables is required. In particular, judgements are required in the current oil and gas price environment relating to amounts due from countries that are reliant on revenues from hydrocarbon-producing activities. Factors considered include the credit rating of the counterparty, the amount and timing of anticipated future payments and any possible actions that can be taken to mitigate the risk of non-payment. See Note 27 for information on overdue receivables.

Financial liabilities

The measurement of financial liabilities depends on their classification, as follows:

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss are carried on the balance sheet at fair value with gains or losses recognized in the income statement. Derivatives, other than those designated as effective hedging instruments, are classified as held for trading and are included in this category.

Derivatives designated as hedging instruments in an effective hedge

These derivatives are carried on the balance sheet at fair value. The treatment of gains and losses arising from revaluation is described below in the accounting policy for derivative financial instruments and hedging activities.

Financial liabilities measured at amortized cost

All other financial liabilities are initially recognized at fair value, net of transaction costs. For interest-bearing loans and borrowings this is the fair value of the proceeds received net of issue costs associated with the borrowing.

After initial recognition, other financial liabilities are subsequently measured at amortized cost using the effective interest method. Amortized cost is calculated by taking into account any issue costs and any discount or premium on settlement. Gains and losses arising on the repurchase, settlement or cancellation of liabilities are recognized in interest and other income and finance costs respectively.

This category of financial liabilities includes trade and other payables and finance debt, except finance debt designated in a fair value hedge relationship.

Derivative financial instruments and hedging activities

The group uses derivative financial instruments to manage certain exposures to fluctuations in foreign currency exchange rates, interest rates and commodity prices, as well as for trading purposes. These derivative financial instruments are recognized initially at fair value on the date on which a derivative contract is entered into and subsequently remeasured at fair value. Derivatives are carried as assets when the fair value is positive and as liabilities when the fair value is negative.

Contracts to buy or sell a non-financial item (for example, oil, oil products, gas or power) that can be settled net in cash, with the exception of contracts that were entered into and continue to be held for the purpose of the receipt or delivery of a non-financial item in accordance with the group's expected purchase, sale or usage requirements, are accounted for as financial instruments. Gains or losses arising from changes in the fair value of derivatives that are not designated as effective hedging instruments are recognized in the income statement.

If, at inception of a contract, the valuation cannot be supported by observable market data, any gain or loss determined by the valuation methodology is not recognized in the income statement but is deferred on the balance sheet and is commonly known as 'day-one gain or loss'. This deferred gain or loss is recognized in the income statement over the life of the contract until substantially all the remaining contract term can be valued using observable market data at which point any remaining deferred gain or loss is recognized in the income statement. Changes in valuation subsequent to the initial valuation are recognized immediately in the income statement.

For the purpose of hedge accounting, hedges are classified as:

- fair value hedges when hedging exposure to changes in the fair value of a recognized asset or liability
- cash flow hedges when hedging exposure to variability in cash flows that is attributable to either a particular risk associated with a recognized asset or liability or a highly probable forecast transaction.

Hedge relationships are formally designated and documented at inception, together with the risk management objective and strategy for undertaking the hedge. The documentation includes identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged, and how the entity will assess the hedging instrument effectiveness in offsetting the exposure to changes in the hedged item's fair value or cash flows attributable to the hedged risk. Such hedges are expected at inception to be highly effective in achieving offsetting changes in fair value or cash flows. Hedges meeting the criteria for hedge accounting are accounted for as follows:

Fair value hedges

The change in fair value of a hedging derivative is recognized in profit or loss. The change in the fair value of the hedged item attributable to the risk being hedged is recorded as part of the carrying value of the hedged item and is also recognized in profit or loss. The group applies fair value hedge accounting when hedging interest rate risk and certain currency risks on fixed rate borrowings.

If the criteria for hedge accounting are no longer met, or if the group revokes the designation, the accumulated adjustment to the carrying amount of a hedged item at such time is then amortized to profit or loss over the remaining period to maturity.

Cash flow hedges

The effective portion of the gain or loss on a cash flow hedging instrument is reported in other comprehensive income, while the ineffective portion is recognized in profit or loss. Amounts reported in other comprehensive income are reclassified to the income statement when the hedged transaction affects profit or loss.

Where the hedged item is a non-financial asset or liability, such as a forecast foreign currency transaction for the purchase of property, plant and equipment, the amounts recognized within other comprehensive income are reclassified to the initial carrying amount of the non-financial asset or liability. Where the hedged item is an equity investment, the amounts recognized in other comprehensive income remain in the separate component of equity until the hedged cash flows affect profit or loss. Where the hedged item is recognized directly in profit or loss, the amounts recognized in other comprehensive income are reclassified to production and manufacturing expenses, except for cash flow hedges of variable interest rate risk which are reclassified to finance costs.

If the hedging instrument expires or is sold, terminated or exercised without replacement or rollover, or if its designation as a hedge is revoked, amounts previously recognized within other comprehensive income remain in equity until the forecast transaction occurs and are reclassified to the income statement or to the initial carrying amount of a non-financial asset or liability as above. If the forecast transaction is no longer expected to occur, amounts previously recognized within other comprehensive income will be immediately reclassified to the income statement.

1. Significant accounting policies, judgements, estimates and assumptions – continued

Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. The group categorizes assets and liabilities measured at fair value into one of three levels depending on the ability to observe inputs employed in their measurement. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are inputs that are observable, either directly or indirectly, other than quoted prices included within level 1 for the asset or liability. Level 3 inputs are unobservable inputs for the asset or liability reflecting significant modifications to observable related market data or BP's assumptions about pricing by market participants.

Significant judgement and estimate: derivative contracts

In some cases the fair values of derivatives are estimated using internal models due to the absence of quoted prices or other observable, market-corroborated data. This applies to the group's longer-term derivative contracts. The majority of these contracts are valued using models with inputs that include price curves for each of the different products that are built up from available active market pricing data and modelled using the maximum available external pricing information. Additionally, where limited data exists for certain products, prices are determined using historic and long-term pricing relationships. Price volatility is also an input for options models. Changes in the key assumptions could have a material impact on the carrying amounts of derivative assets and liabilities in the next financial year. For more information see Note 28.

In some cases, judgement is required to determine whether contracts to buy or sell commodities meet the definition of a derivative. Contracts to buy and sell LNG are not considered to meet the definition as they are not considered capable of being net settled and so are accounted for on an accruals basis.

Offsetting of financial assets and liabilities

Financial assets and liabilities are presented gross in the balance sheet unless both of the following criteria are met: the group currently has a legally enforceable right to set off the recognized amounts; and the group intends to either settle on a net basis or realize the asset and settle the liability simultaneously. A right of set off is the group's legal right to settle an amount payable to a creditor by applying against it an amount receivable from the same counterparty. The relevant legal jurisdiction and laws applicable to the relationships between the parties are considered when assessing whether a current legally enforceable right to set off exists.

Provisions and contingencies

Provisions are recognized when the group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. Where appropriate, the future cash flow estimates are adjusted to reflect risks specific to the liability.

If the effect of the time value of money is material, provisions are determined by discounting the expected future cash flows at a pre-tax risk-free rate that reflects current market assessments of the time value of money. Where discounting is used, the increase in the provision due to the passage of time is recognized within finance costs. A provision is discounted using either a nominal discount rate of 2.5% (2016 2%) or a real discount rate of 0.5% (2016 0.5%), as appropriate. Provisions are split between amounts expected to be settled within 12 months of the balance sheet date (current) and amounts expected to be settled later (non-current).

Contingent liabilities are possible obligations whose existence will only be confirmed by future events not wholly within the control of the group, or present obligations where it is not probable that an outflow of resources will be required or the amount of the obligation cannot be measured with sufficient reliability. Contingent liabilities are not recognized in the financial statements but are disclosed unless the possibility of an outflow of economic resources is considered remote.

Decommissioning

Liabilities for decommissioning costs are recognized when the group has an obligation to plug and abandon a well, dismantle and remove a facility or an item of plant and to restore the site on which it is located, and when a reliable estimate of that liability can be made. Where an obligation exists for a new facility or item of plant, such as oil and natural gas production or transportation facilities, this liability will be recognized on construction or installation. Similarly, where an obligation exists for a well, this liability is recognized when it is drilled. An obligation for decommissioning may also crystallize during the period of operation of a well, facility or item of plant through a change in legislation or through a decision to terminate operations; an obligation may also arise in cases where an asset has been sold but the subsequent owner is no longer able to fulfil its decommissioning obligations, for example due to bankruptcy. The amount recognized is the present value of the estimated future expenditure determined in accordance with local conditions and requirements. The provision for the costs of decommissioning wells, production facilities and pipelines at the end of their economic lives is estimated using existing technology, at current prices or future assumptions, depending on the expected timing of the activity, and discounted using the real discount rate. The weighted average period over which these costs are generally expected to be incurred is estimated to be approximately 17 years.

An amount equivalent to the decommissioning provision is recognized as part of the corresponding intangible asset (in the case of an exploration or appraisal well) or property, plant and equipment. The decommissioning portion of the property, plant and equipment is subsequently depreciated at the same rate as the rest of the asset. Other than the unwinding of discount on the provision, any change in the present value of the estimated expenditure is reflected as an adjustment to the provision and the corresponding asset.

Environmental expenditures and liabilities

Environmental expenditures that are required in order for the group to obtain future economic benefits from its assets are capitalized as part of those assets. Expenditures that relate to an existing condition caused by past operations that do not contribute to future earnings are expensed.

Liabilities for environmental costs are recognized when a clean-up is probable and the associated costs can be reliably estimated. Generally, the timing of recognition of these provisions coincides with the commitment to a formal plan of action or, if earlier, on divestment or on closure of inactive sites.

The amount recognized is the best estimate of the expenditure required to settle the obligation. Provisions for environmental liabilities have been estimated using existing technology, at current prices and discounted using a real discount rate. The weighted average period over which these costs are generally expected to be incurred is estimated to be approximately five years.

1. Significant accounting policies, judgements, estimates and assumptions – continued

Significant judgements and estimates: provisions

For information on estimates and judgements relating to the Gulf of Mexico oil spill, see Note 2.

The group holds provisions for the future decommissioning of oil and natural gas production facilities and pipelines at the end of their economic lives. The largest decommissioning obligations facing BP relate to the plugging and abandonment of wells and the removal and disposal of oil and natural gas platforms and pipelines around the world. Most of these decommissioning events are many years in the future and the precise requirements that will have to be met when the removal event occurs are uncertain. Decommissioning technologies and costs are constantly changing, as are political, environmental, safety and public expectations. The timing and amounts of future cash flows are subject to significant uncertainty and estimation is required in determining the amounts of provisions to be recognized. Any changes in the expected future costs are reflected in both the provision and the asset.

If oil and natural gas production facilities and pipelines are sold to third parties, judgement is required to assess whether the new owner will be unable to meet their decommissioning obligations, whether BP would then be responsible for decommissioning, and if so the extent of that responsibility.

Decommissioning provisions associated with downstream and petrochemicals facilities are generally not recognized, as the potential obligations cannot be measured, given their indeterminate settlement dates. The group performs periodic reviews of its downstream and petrochemicals long-lived assets for any changes in facts and circumstances that might require the recognition of a decommissioning provision.

The provision for environmental liabilities is estimated based on current legal and constructive requirements, technology, price levels and expected plans for remediation. Actual costs and cash outflows can differ from current estimates because of changes in laws and regulations, public expectations, prices, discovery and analysis of site conditions and changes in clean-up technology.

The timing and amount of future expenditures relating to decommissioning and environmental liabilities are reviewed annually, together with the interest rate used in discounting the cash flows. The interest rate used to determine the balance sheet obligations at the end of 2017 was a real rate of 0.5% (2016 0.5%), which was based on long-dated US government bonds.

Further information about the group’s provisions is provided in Note 21. Changes in assumptions in relation to the group's provisions could result in a material change in their carrying amounts within the next financial year.

As described in Note 31, the group is subject to further claims and actions for which no provisions have been recognized. The facts and circumstances relating to particular cases are evaluated regularly in determining whether a provision relating to a specific litigation should be recognized or revised. Accordingly, significant management judgement relating to provisions and contingent liabilities is required, since the outcome of litigation is difficult to predict.

Employee benefits

Wages, salaries, bonuses, social security contributions, paid annual leave and sick leave are accrued in the period in which the associated services are rendered by employees of the group. Deferred bonus arrangements that have a vesting date more than 12 months after the balance sheet date are valued on an actuarial basis using the projected unit credit method and amortized on a straight-line basis over the service period until the award vests. The accounting policies for share-based payments and for pensions and other post-retirement benefits are described below.

Share-based payments

Equity-settled transactions

The cost of equity-settled transactions with employees is measured by reference to the fair value of the equity instruments on the date on which they are granted and is recognized as an expense over the vesting period, which ends on the date on which the employees become fully entitled to the award. A corresponding credit is recognized within equity. Fair value is determined by using an appropriate, widely used, valuation model. In valuing equity-settled transactions, no account is taken of any vesting conditions, other than conditions linked to the price of the shares of the company (market conditions). Non-vesting conditions, such as the condition that employees contribute to a savings-related plan, are taken into account in the grant-date fair value, and failure to meet a non-vesting condition, where this is within the control of the employee is treated as a cancellation and any remaining unrecognized cost is expensed.

For other equity-settled share-based payment transactions, the goods or services received and the corresponding increase in equity are measured at the fair value of the goods or services received unless their fair value cannot be reliably estimated. If the fair value of the goods and services received cannot be reliably estimated, the transaction is measured by reference to the fair value of the equity instruments granted.

Cash-settled transactions

The cost of cash-settled transactions is recognized as an expense over the vesting period, measured by reference to the fair value of the corresponding liability which is recognized on the balance sheet. The liability is remeasured at fair value at each balance sheet date until settlement, with changes in fair value recognized in the income statement.

Pensions and other post-retirement benefits

The cost of providing benefits under the group’s defined benefit plans is determined separately for each plan using the projected unit credit method, which attributes entitlement to benefits to the current period to determine current service cost and to the current and prior periods to determine the present value of the defined benefit obligation. Past service costs, resulting from either a plan amendment or a curtailment (a reduction in future obligations as a result of a material reduction in the plan membership), are recognized immediately when the company becomes committed to a change.

Net interest expense relating to pensions and other post-retirement benefits, which is recognized in the income statement, represents the net change in present value of plan obligations and the value of plan assets resulting from the passage of time, and is determined by applying the discount rate to the present value of the benefit obligation at the start of the year, and to the fair value of plan assets at the start of the year, taking into account expected changes in the obligation or plan assets during the year.

1. Significant accounting policies, judgements, estimates and assumptions – continued

Remeasurements of the defined benefit liability and asset, comprising actuarial gains and losses, and the return on plan assets (excluding amounts included in net interest described above) are recognized within other comprehensive income in the period in which they occur and are not subsequently reclassified to profit and loss.

The defined benefit pension plan surplus or deficit recognized on the balance sheet for each plan comprises the difference between the present value of the defined benefit obligation (using a discount rate based on high quality corporate bonds) and the fair value of plan assets out of which the obligations are to be settled directly. Fair value is based on market price information and, in the case of quoted securities, is the published bid price. Defined benefit pension plan surpluses are only recognized to the extent they are recoverable, typically by way of refund.

Contributions to defined contribution plans are recognized in the income statement in the period in which they become payable.

Significant estimate: pensions and other post-retirement benefits

Accounting for defined benefit pensions and other post-retirement benefits involves making significant estimates when measuring the group's pension plan surpluses and deficits. These estimates require assumptions to be made about many uncertainties.

Pensions and other post-retirement benefit assumptions are reviewed by management at the end of each year. These assumptions are used to determine the projected benefit obligation at the year end and hence the surpluses and deficits recorded on the group's balance sheet, and pension and other post-retirement benefit expense for the following year.

The assumptions that are the most significant to the amounts reported are the discount rate, inflation rate, salary growth and mortality levels. Assumptions about these variables are based on the environment in each country. The assumptions used vary from year to year, with resultant effects on future net income and net assets. Changes to some of these assumptions, in particular the discount rate and inflation rate, could result in material changes to the carrying amounts of the group's pension and other post-retirement benefit obligations within the next financial year. Any differences between these assumptions and the actual outcome will also affect future net income and net assets.

The values ascribed to these assumptions and a sensitivity analysis of the impact of changes in the assumptions on the benefit expense and obligation used are provided in Note 22.

Income taxes

Income tax expense represents the sum of current tax and deferred tax.

Income tax is recognized in the income statement, except to the extent that it relates to items recognized in other comprehensive income or directly in equity, in which case the related tax is recognized in other comprehensive income or directly in equity.

Current tax is based on the taxable profit for the period. Taxable profit differs from net profit as reported in the income statement because it is determined in accordance with the rules established by the applicable taxation authorities. It therefore excludes items of income or expense that are taxable or deductible in other periods as well as items that are never taxable or deductible. The group’s liability for current tax is calculated using tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is provided, using the liability method, on temporary differences at the balance sheet date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes. Deferred tax liabilities are recognized for all taxable temporary differences except:

- where the deferred tax liability arises on the initial recognition of goodwill
- where the deferred tax liability arises on the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither accounting profit nor taxable profit or loss
- in respect of taxable temporary differences associated with investments in subsidiaries and associates and interests in joint arrangements, where the group is able to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for deductible temporary differences, carry-forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences and the carry-forward of unused tax credits and unused tax losses can be utilized except where the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither accounting profit nor taxable profit or loss. In respect of deductible temporary differences associated with investments in subsidiaries and associates and interests in joint arrangements, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the balance sheet date. Deferred tax assets and liabilities are not discounted.

Deferred tax assets and liabilities are offset only when there is a legally enforceable right to set off current tax assets against current tax liabilities and when the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the current tax assets and liabilities on a net basis or to realize the assets and settle the liabilities simultaneously.

Where tax treatments are uncertain, if it is considered probable that a taxation authority will accept the group's proposed tax treatment, income taxes are recognized consistent with the group's income tax filings. If it is not considered probable, the uncertainty is reflected using either the most likely amount or an expected value, depending on which method better predicts the resolution of the uncertainty.

Significant judgements and estimates: income taxes

The computation of the group's income tax expense and liability involves the interpretation of applicable tax laws and regulations in many jurisdictions throughout the world. The resolution of tax positions taken by the group, through negotiations with relevant tax authorities or through litigation, can take several years to complete and in some cases it is difficult to predict the ultimate outcome. Therefore, judgement is required to determine whether provisions for income taxes are required and, if so, estimation is required of the amounts that could be payable.

In addition, the group has carry-forward tax losses and tax credits in certain taxing jurisdictions that are available to offset against future taxable profit. However, deferred tax assets are recognized only to the extent that it is probable that taxable profit will be available against which the unused tax losses or tax credits can be utilized. Management judgement is exercised in assessing whether this is the case and estimates are required to be made of the amount of future taxable profits that will be available.

To the extent that actual outcomes differ from management's estimates, income tax charges or credits, and changes in current and deferred tax assets or liabilities, may arise in future periods. For more information see Note 7.

The United States Tax Cuts and Jobs Act ('the Act') was signed into US law on 22 December 2017 and introduces significant modifications to income tax rates and the overall basis for determining tax payable on the foreign earnings of US group companies. Changes to current and deferred tax have been made based on the newly enacted law which is still subject to further clarification. Estimates and assumptions have been made where necessary to assess the impact of the Act on the group's tax balances and positions. These calculations will continue to be refined as information and clarifications from US legislative and regulatory bodies become available. See Note 7 for further information on the impact for the year ended 31 December 2017.

Judgement is also required when determining whether a particular tax is an income tax or another type of tax (for example a production tax). Accounting for deferred tax is applied to income taxes as described above, but is not applied to other types of taxes; rather such taxes are recognized in the income statement on an appropriate basis. In December 2016 BP renewed its onshore concession in Abu Dhabi. As a result of changes in the fiscal terms of the arrangement, the group's taxes payable relating to the concession are now principally reported as income taxes rather than as production taxes.

Customs duties and sales taxes

Customs duties and sales taxes which are passed on to customers are excluded from revenues and expenses. Assets and liabilities are recognized net of the amount of customs duties or sales tax except:

- Customs duties or sales taxes incurred on the purchase of goods and services which are not recoverable from the taxation authority are recognized as part of the cost of acquisition of the asset.
- Receivables and payables are stated with the amount of customs duty or sales tax included.

The net amount of sales tax recoverable from, or payable to, the taxation authority is included within receivables or payables in the balance sheet.

Own equity instruments – treasury shares

The group's holdings in its own equity instruments are shown as deductions from shareholders' equity at cost. Treasury shares represent BP shares repurchased and available for specific and limited purposes. For accounting purposes, shares held in Employee Share Ownership Plans (ESOPs) to meet the future requirements of the employee share-based payment plans are treated in the same manner as treasury shares and are, therefore, included in the financial statements as treasury shares. Consideration, if any, received for the sale of such shares is also recognized in equity, with any difference between the proceeds from sale and the original cost being taken to the profit and loss account reserve. No gain or loss is recognized in the income statement on the purchase, sale, issue or cancellation of equity shares. Shares repurchased under the share buy-back programme which are immediately cancelled are not shown as treasury shares, but are shown as a deduction from the profit and loss account reserve in the group statement of changes in equity.

Revenue

Revenue arising from the sale of goods is recognized when the significant risks and rewards of ownership have passed to the buyer, which is typically at the point that title passes, and the revenue can be reliably measured.

Revenue is measured at the fair value of the consideration received or receivable and represents amounts receivable for goods provided in the normal course of business, net of discounts, customs duties and sales taxes.

Physical exchanges are reported net, as are sales and purchases made with a common counterparty, as part of an arrangement similar to a physical exchange. Similarly, where the group acts as agent on behalf of a third party to procure or market energy commodities, any associated fee income is recognized but no purchase or sale is recorded. Additionally, where forward sale and purchase contracts for oil, natural gas or power have been determined to be for short-term trading purposes, the associated sales and purchases are reported net within sales and other operating revenues whether or not physical delivery has occurred.

Generally, revenues from the production of oil and natural gas properties in which the group has an interest with joint operation partners are recognized on the basis of the group's working interest in those properties (the entitlement method). Differences between the production sold and the group's share of production are not significant.

Finance costs

Finance costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use, are added to the cost of those assets until such time as the assets are substantially ready for their intended use. All other finance costs are recognized in the income statement in the period in which they are incurred.

Impact of new International Financial Reporting Standards

The group adopted Disclosure Initiative: Amendments to IAS 7 'Statement of cash flows' with effect from 1 January 2017. The amendments require the disclosure of information that enables users of the financial statements to evaluate changes in liabilities arising from financing activities, including changes arising from cash flows and non-cash changes. The amendments do not have any impact upon the primary financial statements. See Note 25 for further information.

1. Significant accounting policies, judgements, estimates and assumptions – continued

There are no other new or amended standards or interpretations adopted during the year that have a significant impact on the financial statements.

Not yet adopted

The following three pronouncements from the IASB will become effective for future financial reporting periods and have not been adopted by the group in these financial statements. Each of the standards has been adopted by the EU. There are no other standards and interpretations in issue but not yet adopted that the directors anticipate will have a material effect on the reported income or net assets of the group.

IFRS 9 'Financial Instruments'

IFRS 9 'Financial Instruments' was issued in July 2014 and replaces IAS 39 'Financial Instruments: Recognition and Measurement.' BP will adopt IFRS 9 in the financial reporting period commencing 1 January 2018.

IFRS 9 provides a single classification and measurement approach for financial assets that reflects the business model in which they are managed and their cash flow characteristics. Under the new standard the group's financial assets will be classified as measured at amortised cost, fair value through profit or loss, or fair value through other comprehensive income. For financial liabilities the existing classification and measurement requirements of IAS 39 are largely retained. Whilst financial assets will be reclassified into the categories required by IFRS 9, the group has not identified any significant impacts on the measurement of its financial assets and financial liabilities as a result of the classification and measurement requirements of the new standard. However, for existing equity instruments classified as available-for-sale investments under IAS 39, we intend to recognize fair value gains and losses in profit or loss under IFRS 9, rather than in other comprehensive income as was the case under IAS 39. An adjustment to the 2018 opening balance sheet is expected to be made to transfer $17 million of fair value gains net of related tax from the available-for-sale investments reserve to the profit and loss account reserve. Prospectively, fair value gains and losses on new equity instruments may be recognized either in profit or loss or in other comprehensive income as an election on an instrument-by-instrument basis on initial recognition.

The financial asset impairment requirements of IFRS 9 introduce a forward-looking expected credit loss model that results in earlier recognition of credit losses than the incurred loss model of IAS 39. Given the short-term nature of the majority of its financial assets and the group's active management of credit risk, the group does not expect a significant impact on adoption of IFRS 9's impairment requirements. The adjustment to the 2018 opening balance sheet, which will reduce both the carrying amounts of financial assets and the profit and loss account reserve, makes up the majority of the adjustment on adoption of IFRS 9 in the table below. Subsequent movements in the expected loss reserve will be recognized in profit or loss.

The hedge accounting requirements of IFRS 9 have been simplified and are more closely aligned to an entity's risk management strategy. Under IFRS 9 all existing hedging relationships will qualify as continuing hedging relationships and the group also intends to apply hedge accounting prospectively to certain of its commodity price risk management activities for which hedge accounting was not possible under IAS 39. This will have no impact on the 2018 opening balance sheet.

IFRS 9 also introduces a new way of treating fair value movements on the time value and cross currency basis spreads of certain hedging instruments. Whereas under IAS 39 these movements were recognized in profit or loss, the group is either required, or will elect, to initially recognize these movements within equity to the extent that they relate to the hedged item. An adjustment to the 2018 opening balance sheet is expected to be made to transfer $37 million of losses net of related tax from the profit and loss account reserve to the costs of hedging reserve for relevant hedging instruments existing on transition.

The expected overall impact of transition on 2018 opening net assets is summarized below.

	$ million
	Net assets
At 31 December 2017	100,404
Adjustment on adoption of IFRS 9 net of tax and including the group's share of equity-accounted entities[a]	(180)
At 1 January 2018	100,224

[a] The adjustment on adoption of IFRS 9 mainly relates to an increase in the credit reserve of financial assets in the scope of IFRS 9's impairment requirements. IFRS 9 requires credit losses to be recognized on an expected rather than incurred loss basis as was the case under IAS 39. The profit and loss account reserve is expected to reduce by an equivalent amount.

Other minor reserves adjustments, as described above, are expected to result in an increase to the profit and loss reserve of $54 million offset by a reduction in the available-for-sale reserve of $17 million and creation of the costs of hedging reserve of $37 million.

Under IAS 39 the effective portion of the gain or loss on a cash flow hedging instrument is reported in other comprehensive income and is reclassified to the balance sheet as part of the initial carrying amount of the corresponding non-financial asset or liability. Under IFRS 9 the effective portion of the gain or loss continues to be reported in the statement of other comprehensive income but the transfer to the balance sheet will be shown in the statement of changes in equity.

IFRS 15 'Revenue from Contracts with Customers'

IFRS 15 'Revenue from Contracts with Customers' was issued in May 2014 and replaces IAS 18 'Revenue' and certain other standards and interpretations. IFRS 15 provides a single model of accounting for revenue arising from contracts with customers, focusing on the identification and satisfaction of performance obligations. BP will adopt IFRS 15 in the financial reporting period commencing 1 January 2018 and has elected to apply the 'modified retrospective' transition approach to implementation.

Under IFRS 15, revenue from contracts with customers is recognized when or as the group satisfies a performance obligation by transferring a promised good or service to a customer. A good or service is transferred when the customer obtains control of that good or service. The transfer of control of oil, natural gas, natural gas liquids, LNG, petroleum and chemical products, and other items sold by the group usually coincides with title passing to the customer and the customer taking physical possession. The group principally satisfies its performance obligations at a point in time and the amounts of revenue recognized relating to performance obligations satisfied over time are not significant. The accounting for revenue under IFRS 15 does not, therefore, represent a substantive change from the group's current practice for recognizing revenue from sales to customers.

Certain changes in accounting arising from the implementation of IFRS 15 have been identified but the new standard has had no material effect on the group's net assets as at 1 January 2018 and so no transition adjustment will be presented.

The most significant change identified is the accounting for revenues relating to oil and natural gas properties in which the group has an interest with joint operation partners. From 1 January 2018, BP ceased recognizing revenue in relation to the group's entitlement to the production from oil and gas properties based on its working interest, irrespective of whether the production was taken and sold to customers.

1. Significant accounting policies, judgements, estimates and assumptions – continued

In its 2018 financial statements the group will recognize revenue when sales are made to customers and production costs will be accrued or deferred to reflect differences between volumes taken and sold to customers and the group's ownership interest in total production volumes. This may result in changes in revenues and profits recognized in each period, but there will be no change in the total revenues and profits over the duration of the joint operation. Variability in oil and gas prices and the timing of when each partner in a joint operation takes its share of production mean that the precise impact on the group's revenues and profits in any particular future period is uncertain. However, the impact on the group's reported net assets as at 31 December 2017 and its reported profit for the year ended 31 December 2017 of applying this accounting would not have been material.

IFRS 15 requires the disclosure of revenue from contracts with customers disaggregated into categories that depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. It is the group's intention to provide additional disclosure of revenue from contracts with customers disaggregated by product grouping. The group's sales and other operating revenues as reported for 2016 and 2017 by product grouping are presented below:

		$ million
	2017	2016
Crude oil	**49,670**	32,284
Oil products	**159,821**	126,465
Natural gas and NGLs	**16,196**	11,337
Non-oil products and other operating revenues from contracts with customers	**12,538**	11,487
Revenue from contracts with customers[a]	**238,225**	181,573
Other revenues	**1,983**	1,435
Sales and other operating revenues[a]	**240,208**	183,008

[a] Amounts presented for 2016 and 2017 include revenues from the production of oil and natural gas properties in which the group has an interest with joint operation partners determined using the entitlements method in accordance with the group's accounting policy for those periods (see Revenue above). The amounts presented do not, therefore, represent the Revenue from contracts with customers or Sales and other operating revenues that would have been reported for those periods had IFRS 15 been applied using a fully retrospective transition approach. The differences are not significant. No restatement of prior periods will be made in relation to this change.

IFRS 16 'Leases'

IFRS 16 'Leases' provides a new model for lessee accounting in which all leases, other than short-term leases and leases of low-value items, will be accounted for by the recognition on the balance sheet of a right-to-use asset and a lease liability. The subsequent amortization of the right-to-use asset and the interest expense related to the lease liability will be recognized in profit or loss over the lease term. IFRS 16 replaces IAS 17 'Leases' and IFRIC 4 'Determining whether an arrangement contains a lease' and will be effective for financial reporting periods beginning on or after 1 January 2019.

BP will adopt IFRS 16 on 1 January 2019. An implementation project was initiated in 2016 and work is progressing including a system solution to hold lease data and generate accounting entries. Work streams have also been initiated to cover data and processes, accounting policy development and the impacts on key performance indicators and financial metrics.

On transition, BP intends to use the modified retrospective approach permitted by the standard in which the cumulative effect of initially applying the standard is recognized in opening retained earnings at the date of initial application with no restatement of comparative periods' financial information.

IFRS 16 introduces a revised definition of a lease. As permitted by the standard, BP does not intend to reassess the existing population of leases under the new definition and will only apply the new definition for the assessment of contracts entered into after the transition date.

The group's evaluation of the effect of adoption of the standard is ongoing but it is expected that it will have a material effect on the group's financial statements, significantly increasing the group's recognized assets and liabilities. It is expected that the presentation and timing of recognition of charges in the income statement will also change as the operating lease expense currently reported under IAS 17, typically on a straight-line basis, will be replaced by depreciation of the right-to-use asset and interest on the lease liability. In the cash flow statement operating lease payments are currently presented within cash flows from operating activities but under IFRS 16 payments will be presented as financing cash flows, representing repayments of debt, and as operating cash flows, representing payments of interest. Variable lease payments that do not depend on an index or rate are not included in the lease liability and will continue to be presented as operating cash flows.

Information on the group's leases currently classified as operating leases, which are not recognized on the balance sheet, is presented in Note 26 and provides an indication of the magnitude of assets and liabilities that will be recognized on the balance sheet from 2019. However, the commitments information provided in Note 26 is on an undiscounted basis whereas the amounts recognized under the new standard will be on a discounted basis. The discount rates to be used on transition will be incremental borrowing rates as appropriate for each lease based on factors such as the lessee legal entity, lease term and currency. Currently the range of such incremental borrowing rates applicable for the majority of the leases for the group is 2% to 7%, with the rate primarily determined by the country of operation. There will likely be other differences in the amounts recognized and our evaluation of the precise impacts is ongoing. In particular, we are considering the accounting for leases of assets within joint operations within the Upstream segment. The operating lease commitments for leases within joint operations are included on the basis of BP's net working interest for the information provided in Note 26, irrespective of whether BP is the operator and whether the lease has been co-signed by the joint operators or not. In certain circumstances, where BP is the operator, it may be appropriate under IFRS 16 to recognize 100% of the future lease payments as the right-of-use asset and/or the lease liability. Similarly, it may be appropriate under IFRS 16 to recognize no right-of-use asset or lease liability in cases where BP is not the operator and is not a signatory to the lease. Our evaluation of this aspect is not yet complete. This could materially affect the amounts recognized relating to leases of drilling rigs for which BP's share of operating lease commitments at 31 December 2017 amounted to $2,088 million on an undiscounted basis.

2. Significant event – Gulf of Mexico oil spill

As a consequence of the Gulf of Mexico oil spill in April 2010, BP continues to incur costs and has also recognized liabilities for certain future costs.

The impacts of the Gulf of Mexico oil spill on the income statement, balance sheet and cash flow statement of the group are included within the relevant line items in those statements and are shown in the table below.

			$ million
	2017	2016	2015
Income statement			
Production and manufacturing expenses	**2,687**	6,640	11,709
Profit (loss) before interest and taxation	**(2,687)**	(6,640)	(11,709)
Finance costs	**493**	494	247
Profit (loss) before taxation	**(3,180)**	(7,134)	(11,956)
Less: Taxation	**(2,222)**	3,105	3,492
Profit (loss) for the period	**(5,402)**	(4,029)	(8,464)
Balance sheet			
Current assets			
Trade and other receivables	**252**	194	
Current liabilities			
Trade and other payables	**(2,089)**	(3,056)	
Provisions	**(1,439)**	(2,330)	
Net current assets (liabilities)	**(3,276)**	(5,192)	
Non-current assets			
Deferred tax	**2,067**	2,973	
Non-current liabilities			
Other payables	**(12,253)**	(13,522)	
Provisions	**(1,141)**	(112)	
Deferred tax	**3,634**	5,119	
Net non-current assets (liabilities)	**(7,693)**	(5,542)	
Net assets (liabilities)	**(10,969)**	(10,734)	
Cash flow statement			
Profit (loss) before taxation	**(3,180)**	(7,134)	(11,956)
Net charge for interest and other finance expense, less net interest paid	**493**	494	247
Net charge for provisions, less payments	**2,542**	4,353	11,296
(Increase) decrease in other current and non-current assets	**(1,738)**	(3,210)	—
Increase (decrease) in other current and non-current liabilities	**(3,453)**	(1,608)	(732)
Pre-tax cash flows	**(5,336)**	(7,105)	(1,145)

Income statement

The group income statement for 2017 includes a pre-tax charge of $3,180 million (2016 pre-tax charge of $7,134 million) in relation to the Gulf of Mexico oil spill. The charge within production and manufacturing expenses in 2017 of $2,687 million (2016 $6,640 million) relates mainly to an increase in the provision relating to business economic loss (BEL) and other claims associated with the Deepwater Horizon Court Supervised Settlement Program (DHCSSP). The increase in the provision is primarily a result of significantly higher average claims determinations issued by the DHCSSP in the fourth quarter of the year and the continuing effect of the Fifth Circuit's May 2017 opinion on the matching of revenues with expenses when evaluating BEL claims. Finance costs of $493 million (2016 $494 million) reflect the unwinding of the discount on payables and, for 2016, provisions. Taxation includes a charge of $3,012 million in respect of the revaluation of US deferred tax assets related to the Gulf of Mexico oil spill following the reduction in the US federal corporate income tax rate from 35% to 21% enacted in December 2017.

The cumulative amount charged to the income statement to date comprises spill response costs arising in the aftermath of the incident, amounts charged for the 2012 agreement with the US government to resolve all federal criminal claims arising from the incident, amounts charged for the 2016 consent decree and settlement agreement with the United States and the five Gulf coast states including amounts payable for natural resource damages, state claims and Clean Water Act penalties, operating costs, amounts charged upon initial recognition of the trust obligation, other litigation, claims, environmental and legal costs and estimated obligations for future costs, net of settlements agreed with the co-owners of the Macondo well and other third parties.

The cumulative pre-tax income statement charge since the incident amounts to $65.8 billion and is analysed in the table below.

				$ million
	2017	2016	2015	Cumulative since the incident
Environmental costs	**—**	—	5,303	8,526
Spill response costs	**—**	—	—	14,304
Litigation and claims costs	**2,647**	6,596	5,758	41,781
Clean Water Act penalties	**—**	—	551	4,061
Other costs	**40**	44	97	1,309
Settlements credited to the income statement	**—**	—	—	(5,681)
(Profit) loss before interest and taxation	**2,687**	6,640	11,709	64,300
Finance costs	**493**	494	247	1,465
(Profit) loss before taxation	**3,180**	7,134	11,956	65,765

2. Significant event – Gulf of Mexico oil spill – continued

Provisions and contingent liabilities

Provisions

Movements during the year in the remaining provision, which relates to litigation and claims, are presented in the table below.

	$ million
	2017
	Litigation and claims
At 1 January	2,442
Increase in provision	2,647
Reclassified to other payables	(759)
Utilization	(1,750)
At 31 December	2,580
Of which – current	1,439
– non-current	1,141

Litigation and claims – PSC settlement

The Economic and Property Damages Settlement Agreement (EPD Settlement Agreement) with the Plaintiffs' Steering Committee (PSC) provides for a court-supervised settlement programme, the DHCSSP, which commenced operation on 4 June 2012. A separate claims administrator was appointed to pay medical claims and to implement other aspects of the Medical Benefits Class Action Settlement. For further information on the PSC settlements, see Legal proceedings on page 270.

The litigation and claims provision reflects the latest estimate for the remaining costs associated with the PSC settlement. These costs relate predominantly to BEL claims and associated administration costs. The amounts ultimately payable may differ from the amount provided and the timing of payments is uncertain.

The increase in the provision in the year is primarily a result of significantly higher average BEL claims determinations issued by the DHCSSP during the fourth quarter of the year and the effect of the May 2017 Fifth Circuit opinion on the policy addressing the matching of revenue with expenses in relation to BEL claims. See Legal proceedings on page 270 for further details on the May 2017 Fifth Circuit opinion and related appeals.

The DHCSSP's determination of BEL claims was substantially completed by the end of 2017. Nevertheless, a significant number of BEL claims determined by the DHCSSP have been and continue to be appealed by BP and/or the claimants, with the total value of claims under appeal or eligible for appeal approximately doubling during the fourth quarter of the year. The DHCSSP has reported that the total determinations for all economic and property damages claims amounted to $14.2 billion and the total amount paid with respect to such claims was $11.2 billion, in each case as at 31 December 2017. The difference in the above DHCSSP amounts primarily relates to determinations of BEL claims under appeal or eligible for appeal, along with certain other items, including claims determined eligible for payment and which are not being appealed.

The amount provided for includes the latest estimate of the amounts that are expected ultimately to be paid to resolve outstanding BEL claims. Claims under appeal will ultimately only be resolved once the full judicial appeals process has been concluded, including appeals to the Federal District Court and Fifth Circuit, as may be the case, or when settlements are reached with individual claimants. Depending upon the ultimate resolution of these claims (including how such resolution may be impacted by the May 2017 Fifth Circuit opinion), the amounts payable may differ from those currently provided.

The DHCSSP is expected to issue determinations with respect to remaining BEL claims in the first half of 2018. Whilst BP has a better understanding of the total population of remaining claims, there is uncertainty around how these claims will ultimately be determined, including in relation to the impact of the May 2017 Fifth Circuit opinion on the determination of such claims.

Payments to resolve outstanding claims under the PSC settlement are now expected to be made over a number of years. The timing of payments, however, is uncertain, and, in particular, will be impacted by how long it takes to resolve claims that have been appealed and may be appealed in the future.

Contingent liabilities

For information on legal proceedings relating to the Deepwater Horizon oil spill, see Legal proceedings on pages 270-273. Any further outstanding Deepwater Horizon related claims are not expected to have a material impact on the group's financial performance.

Other payables

Other payables include amounts payable under the 2016 consent decree and settlement agreement with the United States and five Gulf coast states, including amounts payable for natural resource damages, state claims and Clean Water Act penalties. On a discounted basis the amounts included in other payables for these elements of the agreements are $5,556 million, $2,841 million and $4,047 million respectively at 31 December 2017. For full details of these agreements, see *BP Annual Report and Form 20-F 2015*.

In addition, other payables at 31 December 2017 also includes $1,209 million in relation to the 2012 agreement with the US government to resolve all federal criminal claims arising from the incident, which falls due in 2018.

Cash flow statement

The impact on net cash provided by operating activities on a pre-tax basis amounted to an outflow of $5,336 million (2016 outflow of $7,105 million, 2015 outflow of $1,145 million). On a post-tax basis, the amounts were an outflow of $5,167 million (2016 outflow of $6,892 million and 2015 outflow of $1,130 million).

Cash outflows in 2016 and 2017 include payments made under the 2012 agreement with the US government to resolve all federal criminal claims arising from the incident and the 2016 consent decree and settlement agreement with the United States and the five Gulf coast states.

3. Disposals and impairment

The following amounts were recognized in the income statement in respect of disposals and impairments.

			$ million
	2017	2016	2015
Gains on sale of businesses and fixed assets			
Upstream	**526**	557	324
Downstream	**674**	561	316
Other businesses and corporate	**10**	14	26
	1,210	1,132	666

			$ million
	2017	2016	2015
Losses on sale of businesses and fixed assets			
Upstream	**127**	169	124
Downstream	**88**	89	98
Other businesses and corporate	**—**	3	41
	215	261	263
Impairment losses			
Upstream	**1,138**	1,022	2,484
Downstream	**69**	84	265
Other businesses and corporate	**32**	11	155
	1,239	1,117	2,904
Impairment reversals			
Upstream	**(176)**	(3,025)	(1,080)
Downstream	**(62)**	(17)	(178)
	(238)	(3,042)	(1,258)
Impairment and losses on sale of businesses and fixed assets	**1,216**	(1,664)	1,909

Disposals

Disposal proceeds and principal gains and losses on disposals by segment are described below.

			$ million
	2017	2016	2015
Proceeds from disposals of fixed assets	**2,936**	1,372	1,066
Proceeds from disposals of businesses, net of cash disposed	**478**	1,259	1,726
	3,414	2,631	2,792
By business			
Upstream	**1,183**	839	769
Downstream	**2,078**	1,646	1,747
Other businesses and corporate	**153**	146	276
	3,414	2,631	2,792

At 31 December 2017, deferred consideration relating to disposals amounted to $259 million receivable within one year (2016 $255 million and 2015 $41 million) and $268 million receivable after one year (2016 $271 million and 2015 $385 million). In addition, contingent consideration receivable relating to the disposals amounted to $237 million at 31 December 2017 (2016 $131 million and 2015 $292 million).

Upstream

In 2017, gains principally resulted from the disposal of a portion of our interest in the Perdido offshore hub in the US, and further gains associated with disposals in the UK.

In 2016, gains principally resulted from the contribution of BP's Norwegian upstream business into Aker BP ASA and from the sale of certain properties in the UK.

In 2015, gains principally resulted from the sale of our interests in the Central Area Transmission System in the North Sea, and from adjustments to prior year disposals in Canada.

Downstream

In 2017, gains principally resulted from the disposal of our interest in the SECCO joint venture and the disposal of certain midstream assets in Europe.

In 2016, gains principally resulted from the disposal of certain US and non-US midstream assets in our fuels business and the dissolution of our German refining joint operation with Rosneft.

In 2015, gains principally resulted from the disposal of our investment in the UTA European fuel cards business and our Australian bitumen business.

3. Disposals and impairment – continued

Summarized financial information relating to the sale of businesses is shown in the table below. The principal transaction categorized as a business disposal in 2017 was the disposal of our interest in the Forties Pipeline System in the North Sea. The principal transactions categorized as business disposals in 2016 were the contribution of BP's Norwegian upstream business into Aker BP ASA and the dissolution of the group's German refining joint operation with Rosneft. The principal transactions categorized as business disposals in 2015 were the sales of our interests in the Central Area Transmission System in the North Sea and in the UTA European fuel cards business.

			$ million
	2017	2016	2015
Non-current assets	**735**	4,794	154
Current assets	**57**	1,202	80
Non-current liabilities	**(173)**	(2,558)	(70)
Current liabilities	**(86)**	(532)	(50)
Total carrying amount of net assets disposed	**533**	2,906	114
Recycling of foreign exchange on disposal	**—**	25	16
Costs on disposal[a]	**3**	229	8
	536	3,160	138
Gains on sale of businesses[b]	**44**	593	446
Total consideration	**580**	3,753	584
Non-cash consideration[c]	**(216)**	(2,698)	—
Consideration received (receivable)[d]	**121**	223	1,116
Proceeds from the sale of businesses related to completed transactions	**485**	1,278	1,700
Deposits[e]	**(7)**	(19)	26
Proceeds from the sale of businesses, net of cash disposed[f]	**478**	1,259	1,726

[a] 2016 includes amounts relating to the remeasurement to fair value of certain assets as a result of the dissolution of our German refining joint operation with Rosneft.

[b] 2016 gains on sale of businesses include deferred amounts not recognized in the income statement.

[c] 2016 non-cash consideration principally relates to the contribution of BP's Norwegian upstream business into Aker BP ASA in exchange for 30% interest in Aker BP ASA and the dissolution of the group's German refining joint operation with Rosneft.

[d] Consideration received from prior year business disposals or to be received from current year disposals. 2015 included $1,079 million of proceeds from our Toledo refinery partner, Husky Energy, in place of capital commitments relating to the original divestment transaction that have not been subsequently sanctioned.

[e] Proceeds received in the current year in advance of business disposals, less deposits received in prior years in relation to business disposals completed in the current year.

[f] Proceeds are stated net of cash and cash equivalents disposed of $25 million (2016 $676 million and 2015 $9 million).

Impairments

Impairment losses and impairment reversals in each segment are described below. For information on significant estimates and judgements made in relation to impairments see Impairment of property, plant and equipment, intangibles and goodwill within Note 1. See also Note 10, Note 13 and Note 19 for further information on impairments by asset category.

Upstream

Impairment losses and reversals related primarily to producing and midstream assets.

The 2017 impairment losses of $1,138 million related to a number of different assets, with the most significant charges arising in Lower 48 and the North Sea. Impairment losses within Upstream arose primarily as a result of changes in reserves estimates and the decision to dispose of certain assets, including the Forties Pipeline System business.

The 2017 impairment reversals of $176 million related to a number of different assets, with the most significant reversals arising in the North Sea.

The 2016 impairment losses of $1,022 million related to a number of different assets, with the most significant charges arising in the North Sea. Impairment losses within Upstream arose primarily as a result of revised cost estimates and decisions to dispose of certain assets.

The 2016 impairment reversals of $3,025 million primarily related to the North Sea and Angola. The largest impairment reversals related to the Andrew area cash-generating unit (CGU) in the North Sea and the PSVM and Greater Plutonio CGUs in Angola but none of these were individually significant. In addition an impairment reversal was recorded in relation to the Block KG D6 CGU in India; and exploration costs were also written back during the period (see Note 6). The impairment reversals arose following a reduction in the discount rate applied, changes to future price assumptions, and also increased confidence in the progress of the KG D6 projects in India.

The 2015 impairment losses of $2,484 million included $761 million in Angola, of which $371 million related to the Greater Plutonio CGU. Impairment losses also included $830 million in relation to CGUs in the North Sea, of which $328 million related to the Andrew area CGU. The impairment losses primarily arose as a result of a lower price environment in the near term, and were also affected to a lesser extent by certain technical reserves revisions and increases in decommissioning cost estimates. The 2015 impairment reversals of $1,080 million included $945 million in the North Sea business, of which $473 million related to the Eastern Trough Area Project (ETAP) CGU. The impairment reversals mainly arose as a result of decreases in cost estimates and a reduction in the discount rate applied, offsetting the impact of lower prices in the near term.

Downstream

Impairment losses totalling $69 million, $84 million, and $265 million were recognized in 2017, 2016 and 2015 respectively. The amount for 2015 was principally in relation to certain manufacturing assets in our petrochemicals business and certain US midstream assets, where the expected disposal proceeds were lower than the book values.

Other businesses and corporate

Impairment losses totalling $32 million, $11 million, and $155 million were recognized in 2017, 2016 and 2015 respectively. The amount for 2015 was principally in respect of our US wind business.

4. Segmental analysis

The group's organizational structure reflects the various activities in which BP is engaged. At 31 December 2017, BP had three reportable segments: Upstream, Downstream and Rosneft.

Upstream's activities include oil and natural gas exploration, field development and production; midstream transportation, storage and processing; and the marketing and trading of natural gas, including liquefied natural gas (LNG), together with power and natural gas liquids (NGLs).

Downstream's activities include the refining, manufacturing, marketing, transportation, and supply and trading of crude oil, petroleum, petrochemicals products and related services to wholesale and retail customers.

BP's interest in Rosneft is accounted for using the equity method and is reported as a separate operating segment, reflecting the way in which the investment is managed.

Other businesses and corporate comprises the biofuels and wind businesses, the group's shipping and treasury functions, and corporate activities worldwide.

The accounting policies of the operating segments are the same as the group's accounting policies described in Note 1. However, IFRS requires that the measure of profit or loss disclosed for each operating segment is the measure that is provided regularly to the chief operating decision maker for the purposes of performance assessment and resource allocation. For BP, this measure of profit or loss is replacement cost profit or loss before interest and tax which reflects the replacement cost of supplies by excluding from profit or loss inventory holding gains and losses[a]. Replacement cost profit or loss for the group is not a recognized measure under IFRS.

Sales between segments are made at prices that approximate market prices, taking into account the volumes involved. Segment revenues and segment results include transactions between business segments. These transactions and any unrealized profits and losses are eliminated on consolidation, unless unrealized losses provide evidence of an impairment of the asset transferred. Sales to external customers by region are based on the location of the group subsidiary which made the sale. The UK region includes the UK-based international activities of Downstream.

All surpluses and deficits recognized on the group balance sheet in respect of pension and other post-retirement benefit plans are allocated to Other businesses and corporate. However, the periodic expense relating to these plans is allocated to the operating segments based upon the business in which the employees work.

Certain financial information is provided separately for the US as this is an individually material country for BP, and for the UK as this is BP's country of domicile.

[a] Inventory holding gains and losses represent the difference between the cost of sales calculated using the replacement cost of inventory and the cost of sales calculated on the first-in first-out (FIFO) method after adjusting for any changes in provisions where the net realizable value of the inventory is lower than its cost. Under the FIFO method, which we use for IFRS reporting, the cost of inventory charged to the income statement is based on its historical cost of purchase or manufacture, rather than its replacement cost. In volatile energy markets, this can have a significant distorting effect on reported income. The amounts disclosed represent the difference between the charge to the income statement for inventory on a FIFO basis (after adjusting for any related movements in net realizable value provisions) and the charge that would have arisen based on the replacement cost of inventory. For this purpose, the replacement cost of inventory is calculated using data from each operation's production and manufacturing system, either on a monthly basis, or separately for each transaction where the system allows this approach. The amounts disclosed are not separately reflected in the financial statements as a gain or loss. No adjustment is made in respect of the cost of inventories held as part of a trading position and certain other temporary inventory positions.

4. Segmental analysis – continued

$ million

By business	Upstream	Downstream	Rosneft	Other businesses and corporate	Consolidation adjustment and eliminations	2017 Total group
Segment revenues						
Sales and other operating revenues	**45,440**	**219,853**	**—**	**1,469**	**(26,554)**	**240,208**
Less: sales and other operating revenues between segments	**(24,179)**	**(1,800)**	**—**	**(575)**	**26,554**	**—**
Third party sales and other operating revenues	**21,261**	**218,053**	**—**	**894**	**—**	**240,208**
Earnings from joint ventures and associates – after interest and tax	**930**	**674**	**922**	**(19)**	**—**	**2,507**
Segment results						
Replacement cost profit (loss) before interest and taxation	**5,221**	**7,221**	**836**	**(4,445)**	**(212)**	**8,621**
Inventory holding gains (losses)[a]	**8**	**758**	**87**	**—**	**—**	**853**
Profit (loss) before interest and taxation	**5,229**	**7,979**	**923**	**(4,445)**	**(212)**	**9,474**
Finance costs						**(2,074)**
Net finance expense relating to pensions and other post-retirement benefits						**(220)**
Profit (loss) before taxation						**7,180**
Other income statement items						
Depreciation, depletion and amortization						
US	**4,631**	**875**	**—**	**65**	**—**	**5,571**
Non-US	**8,637**	**1,141**	**—**	**235**	**—**	**10,013**
Charges for provisions, net of write-back of unused provisions, including change in discount rate	**220**	**304**	**—**	**2,902**	**—**	**3,426**
Segment assets						
Investments in joint ventures and associates	**12,093**	**2,349**	**10,059**	**484**	**—**	**24,985**
Additions to non-current assets[b]	**14,500**	**2,677**	**—**	**275**	**—**	**17,452**

[a] See explanation of inventory holding gains and losses on page 147.

[b] Includes additions to property, plant and equipment; goodwill; intangible assets; investments in joint ventures; and investments in associates.

$ million

By business	Upstream	Downstream	Rosneft	Other businesses and corporate	Consolidation adjustment and eliminations	2016 Total group
Segment revenues						
Sales and other operating revenues	33,188	167,683	—	1,667	(19,530)	183,008
Less: sales and other operating revenues between segments	(17,581)	(1,291)	—	(658)	19,530	—
Third party sales and other operating revenues	15,607	166,392	—	1,009	—	183,008
Earnings from joint ventures and associates – after interest and tax	723	608	647	(18)	—	1,960
Segment results						
Replacement cost profit (loss) before interest and taxation	574	5,162	590	(8,157)	(196)	(2,027)
Inventory holding gains (losses)[a]	60	1,484	53	—	—	1,597
Profit (loss) before interest and taxation	634	6,646	643	(8,157)	(196)	(430)
Finance costs						(1,675)
Net finance expense relating to pensions and other post-retirement benefits						(190)
Profit (loss) before taxation						(2,295)
Other income statement items						
Depreciation, depletion and amortization						
US	4,396	856	—	71	—	5,323
Non-US	7,835	1,094	—	253	—	9,182
Charges for provisions, net of write-back of unused provisions, including change in discount rate	352	758	—	6,719	—	7,829
Segment assets						
Investments in joint ventures and associates	10,968	3,035	8,243	455	—	22,701
Additions to non-current assets[b]	17,879	3,109	—	216	—	21,204

[a] See explanation of inventory holding gains and losses on page 147.

[b] Includes additions to property, plant and equipment; goodwill; intangible assets; investments in joint ventures; and investments in associates.

4. Segmental analysis – continued

By business	Upstream	Downstream	Rosneft	Other businesses and corporate	Consolidation adjustment and eliminations	Total group
						$ million
						2015
Segment revenues						
Sales and other operating revenues	43,235	200,569	—	2,048	(22,958)	222,894
Less: sales and other operating revenues between segments	(21,949)	(68)	—	(941)	22,958	—
Third party sales and other operating revenues	21,286	200,501	—	1,107	—	222,894
Earnings from joint ventures and associates – after interest and tax	192	491	1,330	(202)	—	1,811
Segment results						
Replacement cost profit (loss) before interest and taxation	(937)	7,111	1,310	(13,477)	(36)	(6,029)
Inventory holding gains (losses)[a]	(30)	(1,863)	4	—	—	(1,889)
Profit (loss) before interest and taxation	(967)	5,248	1,314	(13,477)	(36)	(7,918)
Finance costs						(1,347)
Net finance expense relating to pensions and other post-retirement benefits						(306)
Profit before taxation						(9,571)
Other income statement items						
Depreciation, depletion and amortization						
US	4,007	906	—	77	—	4,990
Non-US	8,866	1,162	—	201	—	10,229
Charges for provisions, net of write-back of unused provisions, including change in discount rate	824	611	—	11,781	—	13,216
Segment assets						
Investments in joint ventures and associates	8,304	3,214	5,797	519	—	17,834
Additions to non-current assets[b]	17,635	2,130	—	315	—	20,080

[a] See explanation of inventory holding gains and losses on page 147.

[b] Includes additions to property, plant and equipment; goodwill; intangible assets; investments in joint ventures; and investments in associates.

By geographical area	US	Non-US	Total
			$ million
			2017
Revenues			
Third party sales and other operating revenues[a]	**83,269**	**156,939**	**240,208**
Other income statement items			
Production and similar taxes	**52**	**1,723**	**1,775**
Results			
Replacement cost profit (loss) before interest and taxation	**(266)**	**8,887**	**8,621**
Non-current assets			
Non-current assets[b c]	**61,828**	**123,646**	**185,474**

[a] Non-US region includes UK $48,837 million.

[b] Non-US region includes UK $18,004 million.

[c] Includes property, plant and equipment; goodwill; intangible assets; investments in joint ventures; investments in associates; and non-current prepayments.

By geographical area	US	Non-US	Total
			$ million
			2016
Revenues			
Third party sales and other operating revenues[a]	65,132	117,876	183,008
Other income statement items			
Production and similar taxes	155	528	683
Results			
Replacement cost profit (loss) before interest and taxation	(8,311)	6,284	(2,027)
Non-current assets			
Non-current assets[b c]	64,628	118,152	182,780

[a] Non-US region includes UK $37,119 million.

[b] Non-US region includes UK $18,615 million.

[c] Includes property, plant and equipment; goodwill; intangible assets; investments in joint ventures; investments in associates; and non-current prepayments.

4. Segmental analysis – continued

			$ million
			2015
By geographical area	US	Non-US	Total
Revenues			
Third party sales and other operating revenues[a]	74,162	148,732	222,894
Other income statement items			
Production and similar taxes	215	821	1,036
Results			
Replacement cost profit (loss) before interest and taxation	(12,243)	6,214	(6,029)
Non-current assets			
Non-current assets[b c]	67,776	111,106	178,882

[a] Non-US region includes UK $51,550 million.
[b] Non-US region includes UK $19,152 million.
[c] Includes property, plant and equipment; goodwill; intangible assets; investments in joint ventures; investments in associates; and non-current prepayments.

5. Income statement analysis

			$ million
	2017	2016	2015
Interest and other income			
Interest income	**288**	183	226
Other income	**369**	323	385
	657	506	611
Currency exchange losses charged to the income statement[a]	**83**	698	8
Expenditure on research and development	**391**	400	418
Finance costs			
Interest payable	**1,718**	1,221	1,065
Capitalized at 2.25% (2016 1.81% and 2015 1.75%)[b]	**(297)**	(244)	(179)
Unwinding of discount on provisions and other payables	**653**	698	461
	2,074	1,675	1,347

[a] Excludes exchange gains and losses arising on financial instruments measured at fair value through profit or loss.
[b] Tax relief on capitalized interest is approximately $64 million (2016 $56 million and 2015 $42 million).

6. Exploration for and evaluation of oil and natural gas resources

The following financial information represents the amounts included within the group totals relating to activity associated with the exploration for and evaluation of oil and natural gas resources. All such activity is recorded within the Upstream segment.

For information on significant judgements made in relation to oil and natural gas accounting see Intangible assets within Note 1.

			$ million
	2017	2016	2015
Exploration and evaluation costs			
Exploration expenditure written off[a]	**1,603**	1,274	1,829
Other exploration costs	**477**	447	524
Exploration expense for the year	**2,080**	1,721	2,353
Impairment losses	**—**	62	—
Intangible assets – exploration and appraisal expenditure	**17,026**	16,960	17,286
Liabilities	**82**	102	145
Net assets	**16,944**	16,858	17,141
Cash used in operating activities	**477**	447	524
Cash used in investing activities	**1,901**	2,920	1,216

[a] 2017 includes a write-off in Angola of $574 million in relation to licence relinquishment, and Egypt of $208 million following a determination that no commercial hydrocarbons had been found. 2017 also includes a $145-million write-off in relation to the value ascribed to certain licences in the deepwater Gulf of Mexico as part of the accounting for the acquisition of upstream assets from Devon Energy in 2011. 2016 included a $601-million write-off in Brazil relating to the BM-C-34 licence and various write-offs in the Gulf of Mexico totalling $611 million and India totalling $216 million, partially offset by a write-back of $319 million in India relating to block KG D6 as a result of increased confidence in the progress of the projects. An impairment reversal of $234 million was also recorded in 2016 in relation to KG D6 in India. 2015 included a $432-million write-off in Libya as there was significant uncertainty about the timing of future drilling operations. It also included a $345-million write-off relating to the Gila discovery in the deepwater Gulf of Mexico and a $336-million write-off relating to the Pandora discovery in Angola as development of these prospects was considered challenging. For further information see Upstream – Exploration on page 29.

The carrying amount, by location, of exploration and appraisal expenditure capitalized as intangible assets at 31 December 2017 is shown in the table below.

Carrying amount	Location
$1- 2 billion	Angola; India; Egypt; Middle East
$2- 3 billion	US- Gulf of Mexico; Canada; Brazil

7. Taxation

Tax on profit

	2017	2016	$ million 2015
Current tax			
Charge for the year	**4,208**	1,762	1,910
Adjustment in respect of prior years[a]	**58**	(123)	(329)
	4,266	1,639	1,581
Deferred tax[b]			
Origination and reversal of temporary differences in the current year	**(503)**	(3,709)	(5,090)
Adjustment in respect of prior years[c]	**(51)**	(397)	338
	(554)	(4,106)	(4,752)
Tax charge (credit) on profit or loss	**3,712**	(2,467)	(3,171)

[a] The adjustments in respect of prior years reflect the reassessment of the current tax balances for prior years in light of changes in facts and circumstances during the year.

[b] Origination and reversal of temporary differences in the current year include the impact of tax rate changes on deferred tax balances. 2017 includes a charge of $859 million in respect of the reduction in the US federal corporate income tax rate from 35% to 21%, effective from 1 January 2018; this has been calculated as the change in deferred tax balances at 31 December 2017, excluding the increase in the provision in the fourth quarter for business economic loss and other claims associated with the Deepwater Horizon Court Supervised Settlement Program (DHCSSP). The adjustments in respect of prior periods reflect the reassessment of deferred tax balances for prior years in light of all other changes in facts and circumstances during the year.

[c] 2016 included the reassessment of the recognition of deferred tax assets in relation to foreign tax credits in the US.

In 2017, the total tax charge recognized within other comprehensive income was $1,499 million (2016 $752 million credit and 2015 $1,140 million charge), primarily comprising the deferred tax impact of the remeasurements of the net pension and other post-retirement benefit liability or asset. See Note 30 for further information.

The total tax charge recognized directly in equity was $263 million (2016 $5 million credit and 2015 $9 million charge); for 2017 this relates to current tax on transactions with non-controlling interests.

For information on significant estimates and judgements made in relation to taxation see Income taxes within Note 1.

Reconciliation of the effective tax rate

The following table provides a reconciliation of the group weighted average statutory corporate income tax rate to the effective tax rate of the group on profit or loss before taxation.

For 2016 and 2015, the items presented in the reconciliation are affected as a result of the overall tax credit for the year and the loss before taxation. In order to provide a more meaningful analysis of the effective tax rate, the table also presents separate reconciliations for the group excluding the impacts of the Gulf of Mexico oil spill and impairment losses and reversals, and for the impacts of the Gulf of Mexico oil spill and impairment losses and reversals in isolation.

	2017	2016 excluding impacts of Gulf of Mexico oil spill and impairments	2016 impacts of Gulf of Mexico oil spill and impairments	2016	2015 excluding impacts of Gulf of Mexico oil spill and impairments	2015 impacts of Gulf of Mexico oil spill and impairments	$ million 2015
Profit (loss) before taxation	**7,180**	2,914	(5,209)	(2,295)	4,031	(13,602)	(9,571)
Tax charge (credit) on profit or loss	**3,712**	(117)	(2,350)	(2,467)	945	(4,116)	(3,171)
Effective tax rate	**52%**	(4)%	45%	107%	23%	30%	33%

							% of profit or loss before taxation
Tax rate computed at the weighted average statutory rate[a]	**44**	18	33	52	17	38	46
Increase (decrease) resulting from							
Tax reported in equity-accounted entities	**(7)**	(15)	—	19	(7)	—	3
Adjustments in respect of prior years	**—**	5	13	23	1	—	—
Deferred tax not recognized	**9**	26	3	(27)	17	(5)	(14)
Tax incentives for investment[b]	**(6)**	(9)	—	11	(10)	—	4
Gulf of Mexico oil spill non-deductible costs	**1**	—	(2)	(4)	—	(2)	(3)
Disposal impacts[c]	**(1)**	(24)	—	30	(3)	—	1
Foreign exchange	**(4)**	1	—	(2)	18	—	(8)
Items not deductible for tax purposes	**5**	8	—	(11)	10	—	(4)
Impact of US tax reform[d]	**12**	—	—	—	—	—	—
Decrease in rate of UK supplementary charge[e]	**—**	(15)	—	19	(23)	—	10
Other[b]	**(1)**	1	(2)	(3)	3	(1)	(2)
Effective tax rate	**52**	(4)	45	107	23	30	33

[a] Calculated based on the statutory corporate income tax rate applicable in the countries in which the group operates, weighted by the profits and losses before tax in the respective countries. It reflects the mix of profits and losses arising in higher tax rate jurisdictions (primarily the Upstream segment) and lower tax rate jurisdictions (primarily the Downstream segment).

[b] A minor amendment has been made to 2015 to conform with current year presentation. There is no impact on 2016.

[c] In 2016 this related primarily to the tax impact on the contribution of BP's Norwegian upstream business into Aker BP ASA.

[d] Relates to the deferred tax impact of the reduction in the US federal corporate income tax rate from 35% to 21%, effective from 1 January 2018.

[e] Relates to the deferred tax impact of the reductions in the UK supplementary charge rate applicable to profits arising in the North Sea from 20% to 10% in 2016 and from 32% to 20% in 2015.

7. Taxation – continued

Deferred tax

Analysis of movements during the year in the net deferred tax liability	2017	$ million 2016
At 1 January	**2,497**	8,054
Exchange adjustments	**12**	(71)
Charge (credit) for the year in the income statement	**(554)**	(4,106)
Charge (credit) for the year in other comprehensive income	**1,503**	(714)
Charge (credit) for the year in equity	**1**	(5)
Acquisitions and disposals	**54**	(661)
At 31 December	**3,513**	2,497

The following table provides an analysis of deferred tax in the income statement and the balance sheet by category of temporary difference:

	Income statement[a]			Balance sheet[a]	$ million
	2017	2016	2015	**2017**	2016
Deferred tax liability					
Depreciation	**(3,971)**	81	(102)	**23,045**	26,864
Pension plan surpluses	**(12)**	(12)	84	**1,319**	171
Derivative financial instruments	**(27)**	(230)	(326)	**623**	761
Other taxable temporary differences	**(64)**	(122)	59	**1,317**	1,254
	(4,074)	(283)	(285)	**26,304**	29,050
Deferred tax asset					
Pension plan and other post-retirement benefit plan deficits	**340**	98	12	**(1,386)**	(1,889)
Decommissioning, environmental and other provisions	**3,503**	591	(2,513)	**(8,618)**	(12,108)
Derivative financial instruments	**(50)**	(6)	62	**(672)**	(734)
Tax credits[b]	**1,476**	(5,177)	256	**(3,750)**	(5,225)
Loss carry forward	**(964)**	249	(2,239)	**(6,493)**	(5,458)
Other deductible temporary differences	**(785)**	422	(45)	**(1,872)**	(1,139)
	3,520	(3,823)	(4,467)	**(22,791)**	(26,553)
Net deferred tax charge (credit) and net deferred tax liability	**(554)**	(4,106)	(4,752)	**3,513**	2,497
Of which – deferred tax liabilities				**7,982**	7,238
– deferred tax assets				**4,469**	4,741

[a] The 2017 income statement and balance sheet are impacted by the reduction in US federal corporate income tax rate from 35% to 21%, effective from 1 January 2018.

[b] The 2016 income statement reflected the impact of a loss carry-back claim in the US, displacing foreign tax credits utilized in prior periods which are now carried forward.

The recognition of deferred tax assets of $3,503 million (2016 $3,839 million), in entities which have suffered a loss in either the current or preceding period, is supported by forecasts which indicate that sufficient future taxable profits will be available to utilize such assets. For 2017, $2,067 million relates to the US (2016 $2,974 million) and $1,336 million relates to India (2016 $699 million).

A summary of temporary differences, unused tax credits and unused tax losses for which deferred tax has not been recognized is shown in the table below.

At 31 December	2017	$ billion 2016
Unused US state tax losses[a]	**6.8**	9.6
Unused tax losses – other jurisdictions[b]	**4.5**	5.2
Unused tax credits	**20.1**	19.2
of which – arising in the UK[c]	**16.3**	17.1
– arising in the US[d]	**3.8**	2.0
Deductible temporary differences[e]	**31.4**	26.7
Taxable temporary differences associated with investments in subsidiaries and equity-accounted entities	**1.6**	3.1

[a] These losses expire in the period 2018-2037 with applicable tax rates ranging from 3% to 12%.

[b] The majority of the unused tax losses have no fixed expiry date.

[c] The UK unused tax credits arise predominantly in overseas branches of UK entities based in jurisdictions with higher statutory corporate income tax rates than the UK. No deferred tax asset has been recognized on these tax credits as they are unlikely to have value in the future; UK taxes on these overseas branches are largely mitigated by double tax relief in respect of overseas tax. These tax credits have no fixed expiry date.

[d] The US unused tax credits expire in the period 2018-2027.

[e] The majority comprises fixed asset temporary differences in the UK. Substantially all of the temporary differences have no expiry date.

Impact of previously unrecognized deferred tax or write-down of deferred tax assets on tax charge	2017	2016	$ million 2015
Current tax benefit relating to the utilization of previously unrecognized deferred tax assets	**22**	40	123
Deferred tax benefit arising from the reversal of a previous write-down of deferred tax assets	**—**	269	—
Deferred tax benefit relating to the recognition of previously unrecognized deferred tax assets[a]	**436**	394	—
Deferred tax expense arising from the write-down of a previously recognized deferred tax asset	**78**	55	768

[a] 2017 includes the reassessment of prior year deferred tax balances in India in light of changes in facts and circumstances during the year.

8. Dividends

The quarterly dividend paid on 29 March 2018 in respect of the fourth quarter 2017 was 10 cents per ordinary share ($0.60 per American Depositary Share (ADS)). The corresponding amount in sterling was announced on 19 March 2018. A scrip dividend alternative is available, allowing shareholders to elect to receive their dividend in the form of new ordinary shares and ADS holders in the form of new ADSs.

	Pence per share			Cents per share			$ million		
	2017	2016	2015	**2017**	2016	2015	**2017**	2016	2015
Dividends announced and paid in cash									
Preference shares							**1**	1	2
Ordinary shares									
March	**8.1587**	7.0125	6.6699	**10.00**	10.00	10.00	**1,303**	1,099	1,708
June	**7.7563**	6.9167	6.5295	**10.00**	10.00	10.00	**1,546**	1,168	1,691
September	**7.6213**	7.5578	6.5488	**10.00**	10.00	10.00	**1,676**	1,161	1,717
December	**7.4435**	7.9313	6.6342	**10.00**	10.00	10.00	**1,627**	1,182	1,541
	30.9798	29.4183	26.3824	**40.00**	40.00	40.00	**6,153**	4,611	6,659
Dividend announced, paid in March 2018				**10.00**			**1,828**		

The details of the scrip dividends issued are shown in the table below.

	2017	2016	2015
Number of shares issued (thousand)	**289,789**	548,005	102,810
Value of shares issued ($ million)	**1,714**	2,858	642

The financial statements for the year ended 31 December 2017 do not reflect the dividend announced on 6 February 2018 and paid in March 2018; this will be treated as an appropriation of profit in the year ending 31 December 2018.

9. Earnings per share

			Cents per share
Per ordinary share	**2017**	2016	2015
Basic earnings per share	**17.20**	0.61	(35.39)
Diluted earnings per share	**17.10**	0.60	(35.39)

			Dollars per share
Per American Depositary Share (ADS)	**2017**	2016	2015
Basic earnings per share	**1.03**	0.04	(2.12)
Diluted earnings per share	**1.03**	0.04	(2.12)

Basic earnings per ordinary share amounts are calculated by dividing the profit (loss) for the year attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the year.

The average number of shares outstanding includes certain shares that will be issuable in the future under employee share-based payment plans and excludes treasury shares, which includes shares held by the Employee Share Ownership Plan trusts (ESOPs).

For the diluted earnings per share calculation, the weighted average number of shares outstanding during the year is adjusted for the average number of shares that are potentially issuable in connection with employee share-based payment plans. If the inclusion of potentially issuable shares would decrease loss per share, the potentially issuable shares are excluded from the weighted average number of shares outstanding used to calculate diluted earnings per share. A dilutive effect relating to potentially issuable shares has not been included, therefore, in the calculation of diluted earnings per share for 2015.

			$ million
	2017	2016	2015
Profit (loss) attributable to BP shareholders	**3,389**	115	(6,482)
Less: dividend requirements on preference shares	**1**	1	2
Profit (loss) for the year attributable to BP ordinary shareholders	**3,388**	114	(6,484)

			Shares thousand
	2017	2016	2015
Basic weighted average number of ordinary shares	**19,692,613**	18,744,800	18,323,646
Potential dilutive effect of ordinary shares issuable under employee share-based payment plans	**123,829**	110,519	—
Weighted average number of ordinary shares outstanding used to calculate diluted earnings per share	**19,816,442**	18,855,319	18,323,646

			Shares thousand
	2017	2016	2015
Basic weighted average number of ordinary shares - ADS equivalent	**3,282,102**	3,124,133	3,053,941
Potential dilutive effect of ordinary shares (ADS equivalent) issuable under employee share-based payment plans	**20,638**	18,420	—
Weighted average number of ordinary shares (ADS equivalent) outstanding used to calculate diluted earnings per share	**3,302,740**	3,142,553	3,053,941

9. Earnings per share – continued

The number of ordinary shares outstanding at 31 December 2017, excluding treasury shares, and including certain shares that will be issuable in the future under employee share-based payment plans was 19,817,325,868. Between 31 December 2017 and 8 March 2018, the latest practicable date before the completion of these financial statements, there was a net increase of 61,262,729 in the number of ordinary shares outstanding as a result of share issues in relation to employee share-based payment plans.

Employee share-based payment plans

The group operates share and share option plans for directors and certain employees to obtain ordinary shares and ADSs in the company. Information on these plans for directors is shown in the Directors remuneration report on pages 90-112.

The following table shows the number of shares potentially issuable under equity-settled employee share option plans, including the number of options outstanding, the number of options exercisable at the end of each year, and the corresponding weighted average exercise prices. The dilutive effect of these plans at 31 December is also shown.

Share options		**2017**		2016
	Number of options[ab] thousand	**Weighted average exercise price $**	Number of options[ab] thousand	Weighted average exercise price $
Outstanding	**22,399**	**4.34**	26,284	3.85
Exercisable	**1,112**	**4.46**	498	4.59
Dilutive effect	**5,145**	**n/a**	3,380	n/a

[a] Numbers of options shown are ordinary share equivalents (one ADS is equivalent to six ordinary shares).

[b] At 31 December 2017 the quoted market price of one BP ordinary share was £5.23 (2016 £5.10).

In addition, the group operates a number of equity-settled employee share plans under which share units are granted to the group's senior leaders and certain other employees. These plans typically have a three-year performance or restricted period during which the units accrue net notional dividends which are treated as having been reinvested. Leaving employment will normally preclude the conversion of units into shares, but special arrangements apply for participants that leave for qualifying reasons. The number of shares that are expected to vest each year under employee share plans are shown in the table below. The dilutive effect of the employee share plans at 31 December is also shown.

Share plans	**2017**	2016
Vesting	**Number of shares[a] thousand**	Number of shares[a] thousand
Within one year	**101,550**	92,529
1 to 2 years	**108,373**	94,760
2 to 3 years	**85,878**	102,342
3 to 4 years	**413**	680
Over 4 years	**166**	319
	296,380	290,630
Dilutive effect	**126,122**	113,012

[a] Numbers of shares shown are ordinary share equivalents (one ADS is equivalent to six ordinary shares).

There has been a net decrease of 34,787,890 in the number of potential ordinary shares relating to employee share-based payment plans between 31 December 2017 and 8 March 2018.

10. Property, plant and equipment

$ million

	Land and land improvements	Buildings	Oil and gas properties[a]	Plant, machinery and equipment	Fittings, fixtures and office equipment	Transportation	Oil depots, storage tanks and service stations	Total
Cost								
At 1 January 2017	**3,066**	**2,235**	**215,564**	**43,725**	**2,670**	**14,000**	**7,623**	**288,883**
Exchange adjustments	**264**	**42**	**—**	**1,251**	**91**	**28**	**772**	**2,448**
Additions	**264**	**94**	**12,366**	**1,890**	**240**	**347**	**575**	**15,776**
Acquisitions	**—**	**—**	**—**	**41**	**—**	**228**	**1**	**270**
Transfers	**—**	**—**	**451**	**—**	**—**	**—**	**—**	**451**
Deletions	**(120)**	**(798)**	**(2,327)**	**(245)**	**(148)**	**(3,829)**	**(223)**	**(7,690)**
At 31 December 2017	**3,474**	**1,573**	**226,054**	**46,662**	**2,853**	**10,774**	**8,748**	**300,138**
Depreciation								
At 1 January 2017	**584**	**1,062**	**122,428**	**18,686**	**2,022**	**9,823**	**4,521**	**159,126**
Exchange adjustments	**33**	**27**	**—**	**647**	**67**	**19**	**466**	**1,259**
Charge for the year	**90**	**94**	**12,385**	**1,764**	**185**	**381**	**350**	**15,249**
Impairment losses	**3**	**35**	**624**	**35**	**—**	**479**	**17**	**1,193**
Impairment reversals	**—**	**—**	**(135)**	**—**	**—**	**(72)**	**—**	**(207)**
Deletions	**(27)**	**(400)**	**(1,976)**	**(136)**	**(138)**	**(3,107)**	**(169)**	**(5,953)**
At 31 December 2017	**683**	**818**	**133,326**	**20,996**	**2,136**	**7,523**	**5,185**	**170,667**
Net book amount at 31 December 2017	**2,791**	**755**	**92,728**	**25,666**	**717**	**3,251**	**3,563**	**129,471**
Cost								
At 1 January 2016	3,194	2,877	215,566	45,744	2,866	14,038	8,418	292,703
Exchange adjustments	(119)	(37)	—	(342)	(127)	(9)	(375)	(1,009)
Additions	106	24	12,036	1,699	192	156	568	14,781
Acquisitions	46	—	—	793	—	—	—	839
Remeasurements[b]	—	—	—	(1,505)	—	—	—	(1,505)
Transfers	—	—	1,629	—	—	—	—	1,629
Deletions	(161)	(629)	(13,667)	(2,664)	(261)	(185)	(988)	(18,555)
At 31 December 2016	3,066	2,235	215,564	43,725	2,670	14,000	7,623	288,883
Depreciation								
At 1 January 2016	642	1,157	123,831	20,652	2,084	9,439	5,140	162,945
Exchange adjustments	(9)	(44)	—	(264)	(96)	(6)	(218)	(637)
Charge for the year	40	166	11,213	1,740	214	397	384	14,154
Remeasurements[b]	—	—	—	(1,319)	—	—	—	(1,319)
Impairment losses	9	123	518	11	79	256	4	1,000
Impairment reversals	(2)	—	(2,923)	(12)	—	(101)	(4)	(3,042)
Transfers	—	—	5	—	—	—	—	5
Deletions	(96)	(340)	(10,216)	(2,122)	(259)	(162)	(785)	(13,980)
At 31 December 2016	584	1,062	122,428	18,686	2,022	9,823	4,521	159,126
Net book amount at 31 December 2016	2,482	1,173	93,136	25,039	648	4,177	3,102	129,757
Assets held under finance leases at net book amount included above								
At 31 December 2017	**—**	**2**	**16**	**238**	**—**	**233**	**7**	**496**
At 31 December 2016	—	2	21	266	—	241	—	530
Assets under construction included above								
At 31 December 2017								**23,789**
At 31 December 2016								29,177

[a] For information on significant estimates and judgements made in relation to the estimation of oil and natural reserves see Property, plant and equipment within Note 1.

[b] Relates to the remeasurement to fair value of previously held interests in certain assets as a result of the dissolution on 31 December 2016 of the group's German refining joint operation with Rosneft.

11. Capital commitments

Authorized future capital expenditure for property, plant and equipment by group companies for which contracts had been signed at 31 December 2017 amounted to $11,340 million (2016 $11,207 million). BP's share of capital commitments of joint ventures amounted to $483 million (2016 $522 million).

12. Goodwill and impairment review of goodwill

		$ million
	2017	2016
Cost		
At 1 January	**11,805**	12,236
Exchange adjustments	**336**	(544)
Acquisitions	**83**	247
Deletions	**(61)**	(134)
At 31 December	**12,163**	11,805
Impairment losses		
At 1 January	**611**	609
Exchange adjustments	**1**	5
Deletions	**—**	(3)
At 31 December	**612**	611
Net book amount at 31 December	**11,551**	11,194
Net book amount at 1 January	**11,194**	11,627

Impairment review of goodwill

		$ million
Goodwill at 31 December	**2017**	2016
Upstream	**7,728**	7,726
Downstream	**3,758**	3,401
Other businesses and corporate	**65**	67
	11,551	11,194

Goodwill acquired through business combinations has been allocated to groups of cash-generating units that are expected to benefit from the synergies of the acquisition. For Upstream, goodwill is allocated to all oil and gas assets in aggregate at the segment level. For Downstream, goodwill has been allocated to Lubricants and Other.

For information on significant estimates and judgements made in relation to impairments see Impairment of property, plant and equipment, intangible assets and goodwill within Note 1.

Upstream

		$ million
	2017	2016
Goodwill	**7,728**	7,726
Excess of recoverable amount over carrying amount	**27,705**	26,035

Consistent with the prior year the review for impairment was carried out during the third quarter. As permitted by IAS 36, the detailed calculations of recoverable amount performed in 2016 were used in the 2017 impairment test as the criteria in that standard were considered satisfied: the headroom was substantial in 2016; there have been no significant changes in the assets and liabilities; and the likelihood that the recoverable amount would be less than the carrying amount at the time was remote. The table above shows the carrying amount of goodwill for the segment at year-end and the excess of the recoverable amount over the carrying amount at the date of the test (the headroom). The recoverable amount for 2017 is based upon the remaining future cash flows from the 2016 detailed calculation. The headroom presented for 2017 does not represent the headroom that would result if a test was run based on discounted future cash flows estimated using updated 2017 data and assumptions.

The fair value less costs of disposal is based on the cash flows expected to be generated by the projected oil or natural gas production profiles up to the expected dates of cessation of production of each producing field, appropriately risked for the purposes of goodwill impairment testing. Midstream and supply and trading activities and equity-accounted entities are generally not included in the impairment review of goodwill, because they are not part of the grouping of cash-generating units to which the goodwill relates and which is used to monitor the goodwill for internal management purposes. Where such activities form part of a wider Upstream cash-generating unit, they are reflected in the test. The fair value calculation is based primarily on level 3 inputs as defined by the IFRS 13 'Fair value measurement' hierarchy. As the production profile and related cash flows can be estimated from BP's experience, management believes that the estimated cash flows expected to be generated over the life of each field is the appropriate basis upon which to assess goodwill for impairment. The estimated date of cessation of production depends on the interaction of a number of variables, such as the recoverable quantities of hydrocarbons, the production profile of the hydrocarbons, the cost of the development of the infrastructure necessary to recover the hydrocarbons, production costs, the contractual duration of the production concession and the selling price of the hydrocarbons produced. As each producing field has specific reservoir characteristics and economic circumstances, the cash flows of the fields are computed using appropriate individual economic models and key assumptions agreed by BP management. Capital expenditure, operating costs and expected hydrocarbon production profiles are derived from the business segment plan. Estimated production volumes and cash flows up to the date of cessation of production on a field-by-field basis are developed to be consistent with this. The production profiles used are consistent with the reserve and resource volumes approved as part of BP's centrally controlled process for the estimation of proved and probable reserves and total resources. Exploration and appraisal assets are deemed to have a recoverable amount equal to their carrying amount.

The key assumptions used in the fair value less costs of disposal calculation are oil and natural gas prices, production volumes and the discount rate. The price and discount rate assumptions for 2016 were used as disclosed in Note 1. The fair value less costs of disposal calculations were prepared solely for the purposes of determining whether the goodwill balance was impaired. Estimated future cash flows were prepared on the basis of certain assumptions prevailing at the time of the prior year test. The actual outcomes may differ from the assumptions made. For example, reserves and resources estimates and production forecasts are subject to revision as further technical information becomes available and economic conditions change, and future commodity prices may differ from the forecasts used in the calculations.

12. Goodwill and impairment review of goodwill – continued

The sensitivities to different variables were estimated for 2016 using certain simplifying assumptions. For example, lower oil and gas price sensitivities do not reflect the specific impacts for each contractual arrangement and will not capture fully any favourable impacts that may arise from cost deflation. Therefore a detailed calculation at any given price or production profile may produce a different result.

For 2016 it is estimated that if the oil price assumption for all future years was approximately $13 per barrel lower in each year, this would cause the recoverable amount to be equal to the carrying amount of goodwill and related net non-current assets of the segment. It is estimated that if the gas price assumption for all future years was approximately $2 per mmBtu lower in each year, this would cause the recoverable amount to be equal to the carrying amount of goodwill and related net non-current assets of the segment.

Estimated production volumes are based on detailed data for each field and take into account development plans agreed by management as part of the long-term planning process. For 2016, the average production for the purposes of goodwill impairment testing over the following 15 years is 889mmboe per year and it is estimated that if production volume were to be reduced by approximately 4% for this period, this would cause the recoverable amount to be equal to the carrying amount of goodwill and related net non-current assets of the segment.

For 2016 it is estimated that if the post-tax discount rate was approximately 9% for the entire portfolio, an increase of 3% for all countries not considered 'higher risk' and 1% for countries considered 'higher risk', this would cause the recoverable amount to be equal to the carrying amount of goodwill and related net non-current assets of the segment.

Downstream

						$ million
			2017			2016
	Lubricants	**Other**	**Total**	Lubricants	Other	Total
Goodwill	**2,849**	**909**	**3,758**	2,571	830	3,401

Cash flows for each cash-generating unit are derived from the business segment plans, which cover a period of up to five years. To determine the value in use for each of the cash-generating units, cash flows for a period of 10 years are discounted and aggregated with a terminal value.

Lubricants

As permitted by IAS 36, the detailed calculations of Lubricants' recoverable amount performed in the most recent detailed calculation in 2013 were used for the 2017 impairment test as the criteria in that standard were considered satisfied: the headroom was substantial in 2013; there have been no significant changes in the assets and liabilities; and the likelihood that the recoverable amount would be less than the carrying amount is remote.

The key assumptions to which the calculation of value in use for the Lubricants unit is most sensitive are operating unit margins, sales volumes, and discount rate. The values assigned to these key assumptions reflect BP's experience. No reasonably possible change in any of these key assumptions would cause the unit's carrying amount to exceed its recoverable amount. Cash flows beyond the two-year plan period were extrapolated using a nominal 3% growth rate.

13. Intangible assets

						$ million
			2017			2016
	Exploration and appraisal expenditure[a]	**Other intangibles**	**Total**	Exploration and appraisal expenditure[a]	Other intangibles	Total
Cost						
At 1 January	**18,524**	**4,035**	**22,559**	19,856	4,055	23,911
Exchange adjustments	**—**	**197**	**197**	—	(149)	(149)
Acquisitions	**—**	**41**	**41**	—	15	15
Additions	**2,128**	**310**	**2,438**	2,896	251	3,147
Transfers	**(451)**	**—**	**(451)**	(1,629)	—	(1,629)
Deletions	**(2,315)**	**(95)**	**(2,410)**	(2,599)	(137)	(2,736)
At 31 December	**17,886**	**4,488**	**22,374**	18,524	4,035	22,559
Amortization						
At 1 January	**1,564**	**2,812**	**4,376**	2,570	2,681	5,251
Exchange adjustments	**—**	**107**	**107**	—	(96)	(96)
Charge for the year	**1,603**	**335**	**1,938**	1,274	351	1,625
Impairment losses	**—**	**—**	**—**	62	—	62
Transfers	**—**	**—**	**—**	(5)	—	(5)
Deletions	**(2,307)**	**(95)**	**(2,402)**	(2,337)	(124)	(2,461)
At 31 December	**860**	**3,159**	**4,019**	1,564	2,812	4,376
Net book amount at 31 December	**17,026**	**1,329**	**18,355**	16,960	1,223	18,183
Net book amount at 1 January	**16,960**	**1,223**	**18,183**	17,286	1,374	18,660

[a] For further information see Intangible assets within Note 1 and Note 6.

14. Investments in joint ventures

The following table provides aggregated summarized financial information relating to the group's share of joint ventures.

			$ million
	2017	2016	2015[a]
Sales and other operating revenues	**11,380**	10,081	9,588
Profit before interest and taxation	**1,394**	1,612	785
Finance costs	**100**	156	188
Profit before taxation	**1,294**	1,456	597
Taxation	**117**	490	625
Profit (loss) for the year	**1,177**	966	(28)
Other comprehensive income	**8**	5	(1)
Total comprehensive income	**1,185**	971	(29)
Non-current assets	**10,139**	10,874	
Current assets	**2,419**	3,257	
Total assets	**12,558**	14,131	
Current liabilities	**1,687**	2,087	
Non-current liabilities	**2,927**	3,520	
Total liabilities	**4,614**	5,607	
Net assets	**7,944**	8,524	
Group investment in joint ventures			
Group share of net assets (as above)	**7,944**	8,524	
Loans made by group companies to joint ventures	**50**	85	
	7,994	8,609	

[a] The loss for 2015 shown in the table above included $711 million relating to BP`s share of impairment losses recognized by joint ventures, a significant element of which related to the Angola LNG plant.

In December 2017, BP completed a cash-free transaction with Bridas Corporation (Bridas) in which its interests in the oil and gas producer Pan American Energy (PAE) and Bridas' interest in the refiner and marketer Axion Energy (Axion) were combined to form a new integrated energy company. PAE was previously owned 60% by BP and 40% by Bridas. The new company, Pan American Energy Group, is owned equally by BP and Bridas.

Transactions between the group and its joint ventures are summarized below.

Sales to joint ventures		**2017**		2016		$ million 2015
Product	**Sales**	**Amount receivable at 31 December**	Sales	Amount receivable at 31 December	Sales	Amount receivable at 31 December
LNG, crude oil and oil products, natural gas	**2,929**	**352**	2,760	291	2,841	245

Purchases from joint ventures		**2017**		2016		$ million 2015
Product	**Purchases**	**Amount payable at 31 December**	Purchases	Amount payable at 31 December	Purchases	Amount payable at 31 December
LNG, crude oil and oil products, natural gas, refinery operating costs, plant processing fees	**1,257**	**176**	943	120	861	104

The terms of the outstanding balances receivable from joint ventures are typically 30 to 45 days. The balances are unsecured and will be settled in cash. There are no significant provisions for doubtful debts relating to these balances and no significant expense recognized in the income statement in respect of bad or doubtful debts. Dividends receivable are not included in the table above.

15. Investments in associates

The following table provides aggregated summarized financial information for the group's associates as it relates to the amounts recognized in the group income statement and on the group balance sheet.

					$ million
			Income statement		Balance sheet
			Earnings from associates - after interest and tax		Investments in associates
	2017	2016	2015	**2017**	2016
Rosneft	**922**	647	1,330	**10,059**	8,243
Other associates	**408**	347	509	**6,932**	5,849
	1,330	994	1,839	**16,991**	14,092

The associate that is material to the group at both 31 December 2017 and 2016 is Rosneft.

BP owns 19.75% of the voting shares of Rosneft which are listed on the MICEX stock exchange in Moscow and its global depository receipts are listed on the London Stock Exchange. The Russian federal government, through its investment company JSC Rosneftegaz, owned 50.0% plus one share of the voting shares of Rosneft at 31 December 2017.

BP classifies its investment in Rosneft as an associate because, in management's judgement, BP has significant influence over Rosneft; see Interests in other entities within Note 1 for further information. The group's investment in Rosneft is a foreign operation whose functional currency is the Russian rouble. The increase in the group`s equity-accounted investment balance for Rosneft at 31 December 2017 compared

15. Investments in associates – continued

with 31 December 2016 principally relates to earnings from Rosneft and foreign exchange effects which have been recognized in other comprehensive income.

The value of BP's 19.75% shareholding in Rosneft based on the quoted market share price of $4.99 per share (2016 $6.50 per share) was $10,444 million at 31 December 2017 (2016 $13,604 million).

The following table provides summarized financial information relating to Rosneft. This information is presented on a 100% basis and reflects adjustments made by BP to Rosneft's own results in applying the equity method of accounting. BP adjusts Rosneft's results for the accounting required under IFRS relating to BP's purchase of its interest in Rosneft and the amortization of the deferred gain relating to the disposal of BP's interest in TNK-BP. These adjustments have increased the reported profit for 2017, as shown in the table below, compared with the equivalent amount in Russian roubles that we expect Rosneft to report in its own financial statements under IFRS.

			$ million
			Gross amount
	2017	2016	2015
Sales and other operating revenues	**103,028**	74,380	84,071
Profit before interest and taxation	**9,949**	7,094	12,253
Finance costs	**2,228**	1,747	3,696
Profit before taxation	**7,721**	5,347	8,557
Taxation	**1,742**	1,797	1,792
Non-controlling interests	**1,311**	273	30
Profit for the year	**4,668**	3,277	6,735
Other comprehensive income	**2,810**	4,203	(4,111)
Total comprehensive income	**7,478**	7,480	2,624
Non-current assets	**158,719**	129,403	
Current assets	**39,737**	37,914	
Total assets	**198,456**	167,317	
Current liabilities	**66,506**	46,284	
Non-current liabilities	**70,704**	71,980	
Total liabilities	**137,210**	118,264	
Net assets	**61,246**	49,053	
Less: non-controlling interests	**10,314**	7,316	
	50,932	41,737	

The group received dividends, net of withholding tax, of $314 million from Rosneft in 2017 (2016 $332 million and 2015 $271 million).

Summarized financial information for the group's share of associates is shown below.

									$ million
									BP share
			2017			2016			2015
	Rosneft[a]	**Other**	**Total**	Rosneft[a]	Other	Total	Rosneft[a]	Other	Total
Sales and other operating revenues	**20,348**	**7,600**	**27,948**	14,690	5,377	20,067	16,604	6,000	22,604
Profit before interest and taxation	**1,965**	**626**	**2,591**	1,401	525	1,926	2,420	661	3,081
Finance costs	**440**	**54**	**494**	345	22	367	730	6	736
Profit before taxation	**1,525**	**572**	**2,097**	1,056	503	1,559	1,690	655	2,345
Taxation	**344**	**164**	**508**	355	156	511	354	146	500
Non-controlling interests	**259**	**—**	**259**	54	—	54	6	—	6
Profit for the year	**922**	**408**	**1,330**	647	347	994	1,330	509	1,839
Other comprehensive income	**555**	**1**	**556**	830	(2)	828	(812)	(2)	(814)
Total comprehensive income	**1,477**	**409**	**1,886**	1,477	345	1,822	518	507	1,025
Non-current assets	**31,347**	**9,261**	**40,608**	25,557	7,848	33,405			
Current assets	**7,848**	**2,645**	**10,493**	7,488	2,002	9,490			
Total assets	**39,195**	**11,906**	**51,101**	33,045	9,850	42,895			
Current liabilities	**13,135**	**2,501**	**15,636**	9,141	1,827	10,968			
Non-current liabilities	**13,964**	**3,308**	**17,272**	14,216	2,934	17,150			
Total liabilities	**27,099**	**5,809**	**32,908**	23,357	4,761	28,118			
Net assets	**12,096**	**6,097**	**18,193**	9,688	5,089	14,777			
Less: non-controlling interests	**2,037**	**—**	**2,037**	1,445	—	1,445			
	10,059	**6,097**	**16,156**	8,243	5,089	13,332			
Group investment in associates									
Group share of net assets (as above)	**10,059**	**6,097**	**16,156**	8,243	5,089	13,332			
Loans made by group companies to associates	**—**	**835**	**835**	—	760	760			
	10,059	**6,932**	**16,991**	8,243	5,849	14,092			

[a] From 1 October 2014, Rosneft adopted hedge accounting in relation to a portion of highly probable future export revenue denominated in US dollars over a five-year period. Foreign exchange gains and losses arising on the retranslation of borrowings denominated in currencies other than the Russian rouble and designated as hedging instruments are recognized initially in other comprehensive income, and are reclassified to the income statement as the hedged revenue is recognized.

15. Investments in associates – continued

Transactions between the group and its associates are summarized below.

Sales to associates						$ million
		2017		2016		2015
Product	**Sales**	**Amount receivable at 31 December**	Sales	Amount receivable at 31 December	Sales	Amount receivable at 31 December
LNG, crude oil and oil products, natural gas	**2,261**	**216**	4,210	765	5,302	1,058

Purchases from associates						$ million
		2017		2016		2015
Product	**Purchases**	**Amount payable at 31 December**	Purchases	Amount payable at 31 December	Purchases	Amount payable at 31 December
Crude oil and oil products, natural gas, transportation tariff	**11,613**	**1,681**	8,873	2,000	11,619	2,026

In addition to the transactions shown in the table above, in 2016 the group completed the dissolution of its German refining joint operation with Rosneft. In 2015, the group acquired a 20% participatory interest in Taas-Yuryakh Neftegazodobycha, a Rosneft subsidiary.

The terms of the outstanding balances receivable from associates are typically 30 to 45 days. The balances are unsecured and will be settled in cash. There are no significant provisions for doubtful debts relating to these balances and no significant expense recognized in the income statement in respect of bad or doubtful debts. Dividends receivable are not included in the table above.

The majority of the sales to and purchases from associates relate to crude oil and oil products transactions with Rosneft.

BP has commitments amounting to $13,932 million (2016 $15,344 million), primarily in relation to contracts with its associates for the purchase of transportation capacity.

16. Other investments

				$ million
		2017		2016
	Current	**Non-current**	Current	Non-current
Equity investments[a]	**15**	**418**	2	405
Other	**110**	**827**	42	628
	125	**1,245**	44	1,033

[a] The majority of equity investments are unlisted.

Other non-current investments includes $662 million relating to life insurance policies in the US (2016 $628 million) which are financial assets measured at fair value through profit or loss. The fair value is determined using the higher of the amount that would be received if the policies were cashed in and discounted future cash flows that would be received on maturity of the policies. It is considered a level 3 valuation under the fair value hierarchy. Future cash flows are estimated based on inputs that include life expectancy, investment performance and the cost of insurance cover. The pre-tax discount rate is based on a third-party high-quality US insurance company corporate bond index.

17. Inventories

		$ million
	2017	2016
Crude oil	**5,692**	5,531
Natural gas	**119**	155
Refined petroleum and petrochemical products	**10,694**	9,198
	16,505	14,884
Supplies	**2,211**	2,388
	18,716	17,272
Trading inventories	**295**	383
	19,011	17,655
Cost of inventories expensed in the income statement	**179,716**	132,219

The inventory valuation at 31 December 2017 is stated net of a provision of $474 million (2016 $501 million) to write down inventories (principally supplies) to their net realizable value. The net credit to the income statement in the year in respect of inventory net realizable value provisions was $27 million (2016 $769 million credit).

Trading inventories are valued using quoted benchmark prices adjusted as appropriate for location and quality differentials. They are predominantly categorized within level 2 of the fair value hierarchy.

18. Trade and other receivables

	2017 Current	2017 Non-current	2016 Current	2016 Non-current
				$ million
Financial assets				
Trade receivables	**18,912**	**4**	13,393	—
Amounts receivable from joint ventures and associates	**566**	**2**	1,056	—
Other receivables	**4,206**	**671**	5,352	815
	23,684	**677**	19,801	815
Non-financial assets				
Gulf of Mexico oil spill trust fund reimbursement asset	**252**	**—**	194	—
Other receivables	**913**	**757**	680	659
	1,165	**757**	874	659
	24,849	**1,434**	20,675	1,474

Non-recourse arrangements to discount receivables, as part of discretionary funding in support of certain supply and trading activities and management of credit risk, included $1.7 billion relating to receivables based on provisional prices (2016 $1.3 billion). The group had continuing involvement in these receivables to the extent of movements in market prices after the date of discounting. The amounts which continued to be recognized on the balance sheet relating to the group's continuing involvement in these receivables totalled $0.2 billion, unchanged from 2016.

Trade and other receivables are predominantly non-interest bearing. See Note 27 for further information.

19. Valuation and qualifying accounts

	2017 Accounts receivable	2017 Fixed asset investments	2016 Accounts receivable	2016 Fixed asset investments	2015 Accounts receivable	2015 Fixed asset investments
						$ million
At 1 January	**392**	**335**	447	435	331	517
Charged to costs and expenses	**68**	**47**	120	55	243	195
Charged to other accounts[a]	**13**	**3**	(7)	(2)	(23)	(4)
Deductions	**(138)**	**(71)**	(168)	(153)	(104)	(273)
At 31 December	**335**	**314**	392	335	447	435

[a] Principally exchange adjustments.

Valuation and qualifying accounts comprise impairment provisions for accounts receivable and fixed asset investments, and are deducted in the balance sheet from the assets to which they apply.

For information on significant judgements made in relation to the recoverability of trade receivables see Impairment of loans and receivables within Note 1.

20. Trade and other payables

	2017 Current	2017 Non-current	2016 Current	2016 Non-current
				$ million
Financial liabilities				
Trade payables	**26,983**	**—**	21,575	—
Amounts payable to joint ventures and associates	**1,857**	**—**	2,120	—
Other payables[a]	**11,632**	**13,582**	12,079	13,760
	40,472	**13,582**	35,774	13,760
Non-financial liabilities				
Other payables	**3,737**	**307**	2,141	186
	44,209	**13,889**	37,915	13,946

[a] The majority of non-current other payables relate to the Gulf of Mexico oil spill. See Note 2 for further information.

Trade and other payables, other than those relating to the Gulf of Mexico oil spill, are predominantly interest free. See Note 27 for further information.

21. Provisions

$ million	Decommissioning	Environmental	Litigation and claims	Other	Total
At 1 January 2017	**16,442**	**1,584**	**3,162**	**3,236**	**24,424**
Exchange adjustments	**326**	**12**	**4**	**162**	**504**
Acquisitions	**—**	**2**	**—**	**—**	**2**
Increase (decrease) in existing provisions	**(228)**	**249**	**2,907**	**786**	**3,714**
Write-back of unused provisions	**—**	**(94)**	**(26)**	**(369)**	**(489)**
Unwinding of discount	**121**	**8**	**8**	**13**	**150**
Change in discount rate	**(106)**	**—**	**(13)**	**(14)**	**(133)**
Utilization	**(21)**	**(231)**	**(1,916)**	**(739)**	**(2,907)**
Reclassified to other payables	**(239)**	**—**	**(792)**	**(73)**	**(1,104)**
Deletions	**(195)**	**(14)**	**—**	**(8)**	**(217)**
At 31 December 2017	**16,100**	**1,516**	**3,334**	**2,994**	**23,944**
Of which – current	**378**	**269**	**1,738**	**939**	**3,324**
– non-current	**15,722**	**1,247**	**1,596**	**2,055**	**20,620**
Of which – Gulf of Mexico oil spill[a]	**—**	**—**	**2,580**	**—**	**2,580**

[a] Further information on the financial impacts of the Gulf of Mexico oil spill is provided in Note 2.

The decommissioning provision comprises the future cost of decommissioning oil and natural gas wells, facilities and related pipelines. The environmental provision includes provisions for costs related to the control, abatement, clean-up or elimination of environmental pollution relating to soil, groundwater, surface water and sediment contamination. The litigation and claims category includes provisions for matters related to, for example, commercial disputes, product liability, and allegations of exposures of third parties to toxic substances. Included within the other category at 31 December 2017 are provisions for deferred employee compensation of $391 million (2016 $422 million).

For information on significant estimates and judgements made in relation to provisions, including those for the Gulf of Mexico oil spill, see Provisions and contingencies within Note 1.

22. Pensions and other post-retirement benefits

Most group companies have pension plans, the forms and benefits of which vary with conditions and practices in the countries concerned. Pension benefits may be provided through defined contribution plans (money purchase schemes) or defined benefit plans (final salary and other types of schemes with committed pension benefit payments). For defined contribution plans, retirement benefits are determined by the value of funds arising from contributions paid in respect of each employee. For defined benefit plans, retirement benefits are based on such factors as an employee's pensionable salary and length of service. Defined benefit plans may be funded or unfunded. The assets of funded plans are generally held in separately administered trusts.

For information on significant estimates and judgements made in relation to accounting for these plans see Pensions and other post-retirement benefits within Note 1.

The primary pension arrangement in the UK is a funded final salary pension plan under which retired employees draw the majority of their benefit as an annuity. This pension plan is governed by a corporate trustee whose board is composed of four member-nominated directors, four company-nominated directors, an independent director and an independent chairman nominated by the company. The trustee board is required by law to act in the best interests of the plan participants and is responsible for setting certain policies, such as investment policies of the plan. The UK plan is closed to new joiners but remains open to ongoing accrual for current members. New joiners in the UK are eligible for membership of a defined contribution plan.

In the US, all employees now accrue benefits under a cash balance formula. Benefits previously accrued under final salary formulas are legally protected. Retiring US employees typically take their pension benefit in the form of a lump sum payment upon retirement. The plan is funded and its assets are overseen by a fiduciary Investment Committee composed of six BP employees appointed by the president of BP Corporation North America Inc. (the appointing officer). The Investment Committee is required by law to act in the best interests of the plan participants and is responsible for setting certain policies, such as the investment policies of the plan. US employees are also eligible to participate in a defined contribution (401k) plan in which employee contributions are matched with company contributions. In the US, group companies also provide post-retirement healthcare to retired employees and their dependants (and, in certain cases, life insurance coverage); the entitlement to these benefits is usually based on the employee remaining in service until a specified age and completion of a minimum period of service.

In the Eurozone, there are defined benefit pension plans in Germany, France, the Netherlands and other countries. In Germany and France, the majority of the pensions are unfunded, in line with market practice. In Germany, the group's largest Eurozone plan, employees receive a pension and also have a choice to supplement their core pension through salary sacrifice. For employees who joined since 2002 the core pension benefit is a career average plan with retirement benefits based on such factors as an employee's pensionable salary and length of service. The returns on the notional contributions made by both the company and employees are based on the interest rate which is set out in German tax law. Retired German employees take their pension benefit typically in the form of an annuity. The German plans are governed by legal agreements between BP and the works council or between BP and the trade union.

The level of contributions to funded defined benefit plans is the amount needed to provide adequate funds to meet pension obligations as they fall due. During 2017 the aggregate level of contributions was $637 million (2016 $651 million and 2015 $1,066 million). The aggregate level of contributions in 2018 is expected to be approximately $600 million, and includes contributions in all countries that we expect to be required to make contributions by law or under contractual agreements, as well as an allowance for discretionary funding.

For the primary UK plan there is a funding agreement between the group and the trustee. On an annual basis the latest funding position is reviewed and a schedule of contributions is agreed. The current agreement covers the next five years. The funding agreement can be terminated unilaterally by either party with two years' notice. Contractually committed funding therefore represents seven years of future contributions, which amounted to $2,623 million at 31 December 2017, of which $106 million relates to past service.This amount is included in the group's committed cash flows relating to pensions and other post-retirement benefit plans as set out in the table of contractual obligations on page 252.

22. Pensions and other post-retirement benefits – continued

The surplus relating to the primary UK pension plan is recognized on the balance sheet on the basis that the company is entitled to a refund of any remaining assets once all members have left the plan.

Pension contributions in the US are determined by legislation and are supplemented by discretionary contributions. All of the contributions made into the US pension plan in 2017 were discretionary and no statutory funding requirement is expected in the next 12 months.

There was no minimum funding requirement for the US plan, and no significant minimum funding requirements in other countries at 31 December 2017.

The obligation and cost of providing pensions and other post-retirement benefits is assessed annually using the projected unit credit method. The date of the most recent actuarial review was 31 December 2017. The UK plans are subject to a formal actuarial valuation every three years; valuations are required more frequently in many other countries. The most recent formal actuarial valuation of the UK pension plans was as at 31 December 2014, and a valuation as at 31 December 2017 is currently under way. A valuation of the US plan is carried out annually.

The material financial assumptions used to estimate the benefit obligations of the various plans are set out below. The assumptions are reviewed by management at the end of each year, and are used to evaluate the accrued benefit obligation at 31 December and pension expense for the following year.

									%
Financial assumptions used to determine benefit obligation			UK			US			Eurozone
	2017	2016	2015	**2017**	2016	2015	**2017**	2016	2015
Discount rate for plan liabilities	**2.5**	2.7	3.9	**3.5**	3.9	4.0	**1.9**	1.7	2.4
Rate of increase in salaries	**4.1**	4.6	4.4	**4.1**	4.2	3.9	**3.0**	3.0	3.2
Rate of increase for pensions in payment	**2.9**	3.0	3.0	**—**	—	—	**1.4**	1.5	1.6
Rate of increase in deferred pensions	**2.9**	3.0	3.0	**—**	—	—	**0.6**	0.5	0.6
Inflation for plan liabilities	**3.1**	3.2	3.0	**1.7**	1.8	1.5	**1.6**	1.6	1.8

									%
Financial assumptions used to determine benefit expense			UK			US			Eurozone
	2017	2016	2015	**2017**	2016	2015	**2017**	2016	2015
Discount rate for plan service cost	**2.7**	4.0	3.9	**4.1**	4.2	3.8	**2.1**	2.7	2.3
Discount rate for plan other finance expense	**2.7**	3.9	3.6	**3.9**	4.0	3.7	**1.7**	2.4	2.0
Inflation for plan service cost	**3.2**	3.1	3.1	**1.8**	1.5	1.6	**1.6**	1.8	2.0

The discount rate assumptions are based on third-party AA corporate bond indices and for our largest plans in the UK, US and the Eurozone we use yields that reflect the maturity profile of the expected benefit payments. The inflation rate assumptions for our UK and US plans are based on the difference between the yields on index-linked and fixed-interest long-term government bonds. In other countries, including the Eurozone, we use this approach, or advice from the local actuary depending on the information available. The inflation assumptions are used to determine the rate of increase for pensions in payment and the rate of increase in deferred pensions where there is such an increase.

The assumptions for the rate of increase in salaries are based on the inflation assumption plus an allowance for expected long-term real salary growth. These include an allowance for promotion-related salary growth, of up to 0.8% depending on country.

In addition to the financial assumptions, we regularly review the demographic and mortality assumptions. The mortality assumptions reflect best practice in the countries in which we provide pensions, and have been chosen with regard to applicable published tables adjusted where appropriate to reflect the experience of the group and an extrapolation of past longevity improvements into the future. BP's most substantial pension liabilities are in the UK, the US and the Eurozone where our mortality assumptions are as follows:

									Years
Mortality assumptions			UK			US			Eurozone
	2017	2016	2015	**2017**	2016	2015	**2017**	2016	2015
Life expectancy at age 60 for a male currently aged 60	**27.4**	28.0	28.5	**25.1**	25.7	25.7	**25.1**	25.0	24.9
Life expectancy at age 60 for a male currently aged 40	**29.0**	30.0	31.0	**26.8**	27.5	27.5	**27.6**	27.6	27.5
Life expectancy at age 60 for a female currently aged 60	**28.8**	29.5	29.5	**28.4**	29.3	29.2	**29.0**	28.9	28.8
Life expectancy at age 60 for a female currently aged 40	**30.5**	31.9	31.9	**30.0**	31.0	30.9	**31.4**	31.3	31.2

Pension plan assets are generally held in trusts, the primary objective of which is to accumulate assets sufficient to meet the obligations of the plans. The assets of the trusts are invested in a manner consistent with fiduciary obligations and principles that reflect current practices in portfolio management.

A significant proportion of the assets are held in equities, which are expected to generate a higher level of return over the long term, with an acceptable level of risk. In order to provide reasonable assurance that no single security or type of security has an unwarranted impact on the total portfolio, the investment portfolios are highly diversified.

The trustee's long-term investment objective for the primary UK plan as it matures is to invest in assets whose value changes in the same way as the plan liabilities, in order to reduce the level of funding risk. To move towards this objective, the UK plan uses a liability driven investment (LDI) approach for part of the portfolio, investing in government bonds to achieve this matching effect for the most significant plan liability assumptions of interest rate and inflation rate. This is partly funded by short-term sale and repurchase agreements, whereby the plan borrows money using existing bonds as security and which will be bought back at a specified price at an agreed future date. The funds raised are used to invest in further bonds to increase the proportion of assets which match the plan liabilities. The borrowings are shown separately in the analysis of pension plan assets in the table below.

22. Pensions and other post-retirement benefits – continued

For the primary UK pension plan there is an agreement with the trustee to increase the proportion of assets included in the LDI portfolio over time by reducing the proportion of plan assets held as equities and increasing the proportion held as bonds. There is a similar agreement in place for the primary US plan. During 2017, the UK and the US plans switched 15% and 5% of plan assets respectively from equities to bonds.

The current asset allocation policy for the major plans at 31 December 2017 was as follows:

	UK	US
Asset category	%	%
Total equity (including private equity)	**43**	**50**
Bonds/cash (including LDI)	**50**	**50**
Property/real estate	**7**	**—**

The amounts invested under the LDI programme by the primary UK pension plan as at 31 December 2017 were $2,588 million (2016 $423 million) of government-issued nominal bonds and $16,177 million (2016 $9,384 million) of index-linked bonds.

In addition, the primary UK plan entered into interest rate swaps in the year to offset the long-term fixed interest rate exposure for $1,333 million (2016 $4,450 million) of the corporate bond portfolio. At 31 December 2017 the fair value liability of these swaps was $49 million (2016 $144 million fair value liability) and is included in other assets in the table below.

Some of the group's pension plans in other countries also use derivative financial instruments as part of their asset mix to manage the level of risk.

The group's main pension plans do not invest directly in either securities or property/real estate of the company or of any subsidiary.

The fair values of the various categories of assets held by the defined benefit plans at 31 December are presented in the table below, including the effects of derivative financial instruments. Movements in the fair value of plan assets during the year are shown in detail in the table on page 165.

					$ million
	UK[a]	US[b]	Eurozone	Other	Total
Fair value of pension plan assets					
At 31 December 2017					
Listed equities – developed markets	**9,548**	**2,158**	**537**	**376**	**12,619**
– emerging markets	**2,220**	**220**	**83**	**53**	**2,576**
Private equity[c]	**2,679**	**1,461**	**—**	**—**	**4,140**
Government issued nominal bonds	**2,663**	**1,777**	**941**	**545**	**5,926**
Government issued index-linked bonds	**16,177**	**—**	**2**	**—**	**16,179**
Corporate bonds	**4,682**	**2,024**	**546**	**272**	**7,524**
Property[d]	**2,211**	**6**	**71**	**30**	**2,318**
Cash	**390**	**80**	**21**	**98**	**589**
Other	**104**	**53**	**23**	**45**	**225**
Debt (repurchase agreements) used to fund liability driven investments	**(5,583)**	**—**	**—**	**—**	**(5,583)**
	35,091	**7,779**	**2,224**	**1,419**	**46,513**
At 31 December 2016					
Listed equities – developed markets	11,494	2,283	436	363	14,576
– emerging markets	2,549	220	54	46	2,869
Private equity[c]	2,754	1,442	1	—	4,197
Government issued nominal bonds	489	1,438	821	448	3,196
Government issued index-linked bonds	9,384	—	4	—	9,388
Corporate bonds	4,042	1,732	427	259	6,460
Property[d]	1,970	6	45	28	2,049
Cash	547	105	17	83	752
Other	(68)	90	74	83	179
Debt (repurchase agreements) used to fund liability driven investments	(2,981)	—	—	—	(2,981)
	30,180	7,316	1,879	1,310	40,685
At 31 December 2015					
Listed equities – developed markets	13,474	2,329	423	371	16,597
– emerging markets	2,305	226	49	50	2,630
Private equity[c]	2,933	1,522	1	4	4,460
Government issued nominal bonds	393	1,527	685	492	3,097
Government issued index-linked bonds	6,425	—	5	—	6,430
Corporate bonds	4,357	1,717	551	367	6,992
Property[d]	2,453	6	48	58	2,565
Cash	564	116	10	139	829
Other	110	67	102	50	329
Debt (repurchase agreements) used to fund liability driven investments	(1,791)	—	—	—	(1,791)
	31,223	7,510	1,874	1,531	42,138

[a] Bonds held by the UK pension plans are denominated in sterling. Property held by the UK pension plans is in the United Kingdom.

[b] Bonds held by the US pension plans are denominated in US dollars.

[c] Private equity is valued at fair value based on the most recent third-party net asset valuation.

[d] Properties are valued based on an analysis of recent market transactions supported by market knowledge derived from third-party valuers.

22. Pensions and other post-retirement benefits – continued

$ million

					2017
	UK	US	Eurozone	Other	Total
Analysis of the amount charged to profit (loss) before interest and taxation					
Current service cost[a]	357	292	85	46	780
Past service cost[b]	12	—	5	(1)	16
Settlement[b]	—	—	13	—	13
Operating charge relating to defined benefit plans	369	292	103	45	809
Payments to defined contribution plans	31	191	7	38	267
Total operating charge	400	483	110	83	1,076
Interest income on plan assets[a]	(845)	(266)	(37)	(48)	(1,196)
Interest on plan liabilities	831	393	121	71	1,416
Other finance (income) expense	(14)	127	84	23	220
Analysis of the amount recognized in other comprehensive income					
Actual asset return less interest income on plan assets	2,396	826	30	43	3,295
Change in financial assumptions underlying the present value of the plan liabilities	(236)	(514)	336	(47)	(461)
Change in demographic assumptions underlying the present value of the plan liabilities	734	72	—	(23)	783
Experience gains and losses arising on the plan liabilities	91	(40)	(36)	14	29
Remeasurements recognized in other comprehensive income	2,985	344	330	(13)	3,646
Movements in benefit obligation during the year					
Benefit obligation at 1 January	29,908	10,533	6,820	1,715	48,976
Exchange adjustments	2,886	—	915	89	3,890
Operating charge relating to defined benefit plans	369	292	103	45	809
Interest cost	831	393	121	71	1,416
Contributions by plan participants[c]	16	—	2	6	24
Benefit payments (funded plans)[d]	(1,903)	(641)	(75)	(89)	(2,708)
Benefit payments (unfunded plans)[d]	(5)	(239)	(302)	(20)	(566)
Acquisitions	—	1	—	—	1
Disposals	—	(1)	(9)	—	(10)
Remeasurements	(589)	482	(300)	56	(351)
Benefit obligation at 31 December[a e]	31,513	10,820	7,275	1,873	51,481
Movements in fair value of plan assets during the year					
Fair value of plan assets at 1 January	30,180	7,316	1,879	1,310	40,685
Exchange adjustments	3,048	—	264	72	3,384
Interest income on plan assets[a f]	845	266	37	48	1,196
Contributions by plan participants[c]	16	—	2	6	24
Contributions by employers (funded plans)	509	12	87	29	637
Benefit payments (funded plans)[d]	(1,903)	(641)	(75)	(89)	(2,708)
Remeasurements[f]	2,396	826	30	43	3,295
Fair value of plan assets at 31 December[g]	35,091	7,779	2,224	1,419	46,513
Surplus (deficit) at 31 December	3,578	(3,041)	(5,051)	(454)	(4,968)
Represented by					
Asset recognized	3,838	260	43	28	4,169
Liability recognized	(260)	(3,301)	(5,094)	(482)	(9,137)
	3,578	(3,041)	(5,051)	(454)	(4,968)
The surplus (deficit) may be analysed between funded and unfunded plans as follows					
Funded	3,838	238	(106)	(101)	3,869
Unfunded	(260)	(3,279)	(4,945)	(353)	(8,837)
	3,578	(3,041)	(5,051)	(454)	(4,968)
The defined benefit obligation may be analysed between funded and unfunded plans as follows					
Funded	(31,253)	(7,541)	(2,330)	(1,520)	(42,644)
Unfunded	(260)	(3,279)	(4,945)	(353)	(8,837)
	(31,513)	(10,820)	(7,275)	(1,873)	(51,481)

[a] The costs of managing plan investments are offset against the investment return, the costs of administering pension plan benefits are generally included in current service cost and the costs of administering other post-retirement benefit plans are included in the benefit obligation.

[b] Past service costs and settlements have arisen from restructuring programmes and represent charges for special termination benefits representing the increased liability arising as a result of early retirements mostly in the UK and Eurozone.

[c] Most of the contributions made by plan participants into UK pension plans were made under salary sacrifice.

[d] The benefit payments amount shown above comprises $3,235 million benefits and $2 million settlements, plus $37 million of plan expenses incurred in the administration of the benefit.

[e] The benefit obligation for the US is made up of $8,085 million for pension liabilities and $2,735 million for other post-retirement benefit liabilities (which are unfunded and are primarily retiree medical liabilities). The benefit obligation for the Eurozone includes $4,586 million for pension liabilities in Germany which is largely unfunded.

[f] The actual return on plan assets is made up of the sum of the interest income on plan assets and the remeasurement of plan assets as disclosed above.

[g] The fair value of plan assets includes borrowings related to the LDI programme as described on page 164.

22. Pensions and other post-retirement benefits – continued

					$ million
					2016
	UK	US	Eurozone	Other	Total
Analysis of the amount charged to profit (loss) before interest and taxation					
Current service cost[a]	333	310	76	71	790
Past service cost[b]	17	(24)	7	1	1
Settlement	—	—	9	(1)	8
Operating charge relating to defined benefit plans	350	286	92	71	799
Payments to defined contribution plans	30	194	7	33	264
Total operating charge	380	480	99	104	1,063
Interest income on plan assets[a]	(1,086)	(287)	(47)	(51)	(1,471)
Interest on plan liabilities	1,005	417	159	80	1,661
Other finance (income) expense	(81)	130	112	29	190
Analysis of the amount recognized in other comprehensive income					
Actual asset return less interest income on plan assets	4,422	330	53	8	4,813
Change in financial assumptions underlying the present value of the plan liabilities	(6,932)	(239)	(622)	4	(7,789)
Change in demographic assumptions underlying the present value of the plan liabilities	430	9	12	(5)	446
Experience gains and losses arising on the plan liabilities	55	(62)	26	15	34
Remeasurements recognized in other comprehensive income	(2,025)	38	(531)	22	(2,496)
Movements in benefit obligation during the year					
Benefit obligation at 1 January	28,974	10,643	6,640	2,089	48,346
Exchange adjustments	(5,688)	—	(282)	23	(5,947)
Operating charge relating to defined benefit plans	350	286	92	71	799
Interest cost	1,005	417	159	80	1,661
Contributions by plan participants[c]	18	—	2	6	26
Benefit payments (funded plans)[d]	(1,192)	(821)	(78)	(117)	(2,208)
Benefit payments (unfunded plans)[d]	(6)	(284)	(301)	(24)	(615)
Acquisitions	—	—	4	—	4
Disposals	—	—	—	(399)	(399)
Remeasurements	6,447	292	584	(14)	7,309
Benefit obligation at 31 December[a e]	29,908	10,533	6,820	1,715	48,976
Movements in fair value of plan assets during the year					
Fair value of plan assets at 1 January	31,223	7,510	1,874	1,531	42,138
Exchange adjustments	(5,916)	—	(76)	15	(5,977)
Interest income on plan assets[a f]	1,086	287	47	51	1,471
Contributions by plan participants[c]	18	—	2	6	26
Contributions by employers (funded plans)	539	10	57	45	651
Benefit payments (funded plans)[d]	(1,192)	(821)	(78)	(117)	(2,208)
Disposals	—	—	—	(229)	(229)
Remeasurements[f]	4,422	330	53	8	4,813
Fair value of plan assets at 31 December[g]	30,180	7,316	1,879	1,310	40,685
Surplus (deficit) at 31 December	272	(3,217)	(4,941)	(405)	(8,291)
Represented by					
Asset recognized	530	—	22	32	584
Liability recognized	(258)	(3,217)	(4,963)	(437)	(8,875)
	272	(3,217)	(4,941)	(405)	(8,291)
The surplus (deficit) may be analysed between funded and unfunded plans as follows					
Funded	519	(36)	(316)	(83)	84
Unfunded	(247)	(3,181)	(4,625)	(322)	(8,375)
	272	(3,217)	(4,941)	(405)	(8,291)
The defined benefit obligation may be analysed between funded and unfunded plans as follows					
Funded	(29,661)	(7,352)	(2,195)	(1,393)	(40,601)
Unfunded	(247)	(3,181)	(4,625)	(322)	(8,375)
	(29,908)	(10,533)	(6,820)	(1,715)	(48,976)

[a] The costs of managing plan investments are offset against the investment return, the costs of administering pension plan benefits are generally included in current service cost and the costs of administering other post-retirement benefit plans are included in the benefit obligation.

[b] Past service costs have arisen from restructuring programmes and represent a combination of credits as a result of the curtailment in the pension arrangements of a number of employees mostly in the US and charges for special termination benefits representing the increased liability arising as a result of early retirements mostly in the UK and Eurozone. The UK also includes $12 million of cost resulting from benefit harmonization within the primary plan.

[c] Most of the contributions made by plan participants into UK pension plans were made under salary sacrifice.

[d] The benefit payments amount shown above comprises $2,754 million benefits and $14 million settlements, plus $55 million of plan expenses incurred in the administration of the benefit.

[e] The benefit obligation for the US is made up of $7,902 million for pension liabilities and $2,631 million for other post-retirement benefit liabilities (which are unfunded and are primarily retiree medical liabilities). The benefit obligation for the Eurozone includes $4,289 million for pension liabilities in Germany which is largely unfunded.

[f] The actual return on plan assets is made up of the sum of the interest income on plan assets and the remeasurement of plan assets as disclosed above.

[g] The fair value of plan assets includes borrowings related to the LDI programme as described on page 164.

22. Pensions and other post-retirement benefits – continued

					$ million
					2015
	UK	US	Eurozone	Other	Total
Analysis of the amount charged to profit (loss) before interest and taxation					
Current service cost[a]	485	371	96	96	1,048
Past service cost[b]	12	(27)	47	(7)	25
Settlement	—	—	(1)	(3)	(4)
Operating charge relating to defined benefit plans	497	344	142	86	1,069
Payments to defined contribution plans	31	205	8	41	285
Total operating charge	528	549	150	127	1,354
Interest income on plan assets[a]	(1,124)	(289)	(37)	(55)	(1,505)
Interest on plan liabilities	1,146	423	151	91	1,811
Other finance expense	22	134	114	36	306
Analysis of the amount recognized in other comprehensive income					
Actual asset return less interest income on plan assets	315	(139)	25	33	234
Change in financial assumptions underlying the present value of the plan liabilities	2,054	607	592	213	3,466
Change in demographic assumptions underlying the present value of the plan liabilities	—	60	15	—	75
Experience gains and losses arising on the plan liabilities	336	(48)	47	29	364
Remeasurements recognized in other comprehensive income	2,705	480	679	275	4,139

[a] The costs of managing plan investments are offset against the investment return, the costs of administering pension plan benefits are generally included in current service cost and the costs of administering other post-retirement benefit plans are included in the benefit obligation.

[b] Past service costs have arisen from restructuring programmes and represent a combination of credits as a result of the curtailment in the pension arrangements of a number of employees mostly in the US and Trinidad and charges for special termination benefits representing the increased liability arising as a result of early retirements mostly in the UK and Eurozone.

Sensitivity analysis

The discount rate, inflation, salary growth and the mortality assumptions all have a significant effect on the amounts reported. A one-percentage point change, in isolation, in certain assumptions as at 31 December 2017 for the group's plans would have had the effects shown in the table below. The effects shown for the expense in 2018 comprise the total of current service cost and net finance income or expense.

		$ million
	One percentage point	
	Increase	**Decrease**
Discount rate[a]		
Effect on pension and other post-retirement benefit expense in 2018	**(366)**	**298**
Effect on pension and other post-retirement benefit obligation at 31 December 2017	**(7,532)**	**9,751**
Inflation rate[b]		
Effect on pension and other post-retirement benefit expense in 2018	**241**	**(200)**
Effect on pension and other post-retirement benefit obligation at 31 December 2017	**5,373**	**(4,690)**
Salary growth		
Effect on pension and other post-retirement benefit expense in 2018	**78**	**(68)**
Effect on pension and other post-retirement benefit obligation at 31 December 2017	**837**	**(747)**

[a] The amounts presented reflect that the discount rate is used to determine the asset interest income as well as the interest cost on the obligation.

[b] The amounts presented reflect the total impact of an inflation rate change on the assumptions for rate of increase in salaries, pensions in payment and deferred pensions.

One additional year of longevity in the mortality assumptions would increase the 2018 pension and other post-retirement benefit expense by $56 million and the pension and other post-retirement benefit obligation at 31 December 2017 by $1,694 million.

Estimated future benefit payments and the weighted average duration of defined benefit obligations

The expected benefit payments, which reflect expected future service, as appropriate, but exclude plan expenses, up until 2027 and the weighted average duration of the defined benefit obligations at 31 December 2017 are as follows:

					$ million
Estimated future benefit payments	**UK**	**US**	**Eurozone**	**Other**	**Total**
2018	**1,101**	**847**	**369**	**109**	**2,426**
2019	**1,087**	**815**	**359**	**110**	**2,371**
2020	**1,108**	**798**	**346**	**109**	**2,361**
2021	**1,148**	**853**	**336**	**109**	**2,446**
2022	**1,176**	**784**	**332**	**112**	**2,404**
2023-2027	**6,319**	**3,701**	**1,559**	**563**	**12,142**
					Years
Weighted average duration	**19.8**	**9.5**	**14.3**	**13.1**	

23. Cash and cash equivalents

	2017	2016
		$ million
Cash	**4,592**	5,592
Term bank deposits	**17,324**	15,947
Cash equivalents (excluding term bank deposits)	**3,670**	1,945
	25,586	23,484

Cash and cash equivalents comprise cash in hand; current balances with banks and similar institutions; term deposits of three months or less with banks and similar institutions; money market funds and commercial paper. The carrying amounts of cash and term bank deposits approximate their fair values. Substantially all of the other cash equivalents are categorized within level 1 of the fair value hierarchy.

Cash and cash equivalents at 31 December 2017 includes $1,488 million (2016 $2,059 million) that is restricted. The restricted cash balances include amounts required to cover initial margin on trading exchanges and certain cash balances which are subject to exchange controls.

The group holds $3,638 million (2016 $3,649 million) of cash and cash equivalents outside the UK and it is not expected that any significant tax will arise on repatriation.

24. Finance debt

						$ million
			2017			2016
	Current	Non-current	Total	Current	Non-current	Total
Borrowings	**7,701**	**54,873**	**62,574**	6,592	51,074	57,666
Net obligations under finance leases	**38**	**618**	**656**	42	592	634
	7,739	**55,491**	**63,230**	6,634	51,666	58,300

The main elements of current borrowings are the current portion of long-term borrowings that is due to be repaid in the next 12 months of $6,849 million (2016 $5,587 million) and issued commercial paper of $744 million (2016 $971 million). Finance debt does not include accrued interest, which is reported within other payables.

The following table shows the weighted average interest rates achieved through a combination of borrowings and derivative financial instruments entered into to manage interest rate and currency exposures.

			Fixed rate debt		Floating rate debt	Total
	Weighted average interest rate %	Weighted average time for which rate is fixed Years	Amount $ million	Weighted average interest rate %	Amount $ million	Amount $ million
						2017
US dollar	**4**	**4**	**18,090**	**3**	**44,212**	**62,302**
Other currencies	**6**	**16**	**895**	**3**	**33**	**928**
			18,985		**44,245**	**63,230**
						2016
US dollar	3	4	8,693	2	47,749	56,442
Other currencies	7	16	809	1	1,049	1,858
			9,502		48,798	58,300

Fair values

The estimated fair value of finance debt is shown in the table below together with the carrying amount as reflected in the balance sheet.

Long-term borrowings in the table below include the portion of debt that matures in the 12 months from 31 December 2017, whereas in the balance sheet the amount is reported within current finance debt.

The carrying amount of the group's short-term borrowings, comprising mainly of commercial paper, approximates their fair value. The fair values of the majority of the group's long-term borrowings are determined using quoted prices in active markets, and so fall within level 1 of the fair value hierarchy. Where quoted prices are not available, quoted prices for similar instruments in active markets are used and such measurements are therefore categorized in level 2 of the fair value hierarchy. The fair value of the group's finance lease obligations is estimated using discounted cash flow analysis based on the group's current incremental borrowing rates for similar types and maturities of borrowing and are consequently categorized in level 2 of the fair value hierarchy.

				$ million
		2017		2016
	Fair value	Carrying amount	Fair value	Carrying amount
Short-term borrowings	**852**	**852**	1,006	1,006
Long-term borrowings	**63,182**	**61,722**	57,723	56,660
Net obligations under finance leases	**1,131**	**656**	1,097	634
Total finance debt	**65,165**	**63,230**	59,826	58,300

25. Capital disclosures and analysis of changes in net debt

The group defines capital as total equity. We maintain our financial framework to support the pursuit of value growth for shareholders, while ensuring a secure financial base.

The group monitors capital on the basis of the net debt ratio, that is, the ratio of net debt to net debt plus equity. Net debt is calculated as gross finance debt, as shown in the balance sheet, plus the fair value of associated derivative financial instruments that are used to hedge foreign exchange and interest rate risks relating to finance debt, for which hedge accounting is applied, less cash and cash equivalents. Net debt and net debt ratio are non-GAAP measures. BP believes these measures provide useful information to investors. Net debt enables investors to see the economic effect of gross debt, related hedges and cash and cash equivalents in total. The net debt ratio enables investors to see how significant net debt is relative to equity from shareholders. The derivatives are reported on the balance sheet within the headings 'Derivative financial instruments'. All components of equity are included in the denominator of the calculation.

We aim to manage the net debt ratio within a 20-30% band and maintain a significant liquidity buffer. At 31 December 2017, the net debt ratio was 27.4% (2016 26.8%).

		$ million
At 31 December	**2017**	2016
Gross debt	**63,230**	58,300
Less: fair value asset (liability) of hedges related to finance debt[a]	**(175)**	(697)
	63,405	58,997
Less: cash and cash equivalents	**25,586**	23,484
Net debt	**37,819**	35,513
Equity	**100,404**	96,843
Net debt ratio	**27.4 %**	26.8%

[a] Derivative financial instruments entered into for the purpose of managing interest rate and foreign currency exchange risk associated with net debt with a fair value liability position of $634 million (2016 liability of $1,962 million, 2015 liability of $1,617 million) are not included in the calculation of net debt shown above as hedge accounting was not applied for these instruments. The movement in the year is attributable to a net cash outflow of $242 million (2016 net cash outflow $299 million) and fair value gains of $1,086 million (2016 fair value losses of $644 million).

An analysis of changes in net debt is provided below. Amendments have been made to the presentation of this analysis to eliminate movements related to non-hedge accounted derivatives.

								$ million
				2017				2016
Movement in net debt	**Finance debt**	**Hedge-accounted derivatives**	**Cash and cash equivalents**	**Net debt**	Finance debt	Hedge-accounted derivatives	Cash and cash equivalents	Net debt
At 1 January	**(58,300)**	**(697)**	**23,484**	**(35,513)**	(53,168)	(379)	26,389	(27,158)
Exchange adjustments	**(1,324)**	**—**	**544**	**(780)**	380	—	(820)	(440)
Net financing cash flow	**(2,236)**	**(284)**	**1,558**	**(962)**	(6,363)	256	(2,085)	(8,192)
Fair value gains (losses)	**(1,314)**	**1,282**	**—**	**(32)**	805	(896)	—	(91)
Other movements	**(56)**	**(476)**	**—**	**(532)**	46	322	—	368
At 31 December	**(63,230)**	**(175)**	**25,586**	**(37,819)**	(58,300)	(697)	23,484	(35,513)

26. Operating leases

The cost recognized in relation to minimum lease payments for the year was $4,423 million (2016 $5,113 million and 2015 $6,008 million).

The future minimum lease payments at 31 December 2017, before deducting related rental income from operating sub-leases of $188 million (2016 $186 million), are shown in the table below. This does not include future contingent rentals. Where the lease rentals are dependent on a variable factor, the future minimum lease payments are based on the factor as at inception of the lease.

		$ million
Future minimum lease payments	**2017**	2016
Payable within		
1 year	**2,969**	3,315
2 to 5 years	**6,387**	6,651
Thereafter	**4,614**	4,289
	13,970	14,255

In the case of an operating lease entered into by BP as the operator of a joint operation, the amounts included in the totals disclosed represent the net operating lease expense and net future minimum lease payments. These net amounts are after deducting amounts reimbursed, or to be reimbursed, by joint operators, whether the joint operators have co-signed the lease or not. Where BP is not the operator of a joint operation, BP's share of the lease expense and future minimum lease payments is included in the amounts shown, whether BP has co-signed the lease or not.

Typical durations of operating leases are up to ten years for leases of plant and machinery, up to fifteen years for leases of ships and commercial vehicles and up to forty years for leases of land and buildings.

The most significant items of plant and machinery hired under operating leases are drilling rigs used in the Upstream segment. At 31 December 2017, the future minimum lease payments relating to these amounted to $2,088 million (2016 $2,969 million).

The group has entered into a number of structured operating leases for ships and in some cases the lease rental payments vary with market interest rates. The variable portion of the lease payments above or below the amount based on the market interest rate prevailing at inception of the lease is treated as contingent rental expense. The group also routinely enters into bareboat charters, time-charters and voyage-charters for ships on standard industry terms. The future minimum lease payments relating to operating leases for international oil and gas ships managed by the BP Shipping function amounted to $3,172 million (2016 $3,582 million).

26. Operating leases – continued

Commercial vehicles hired under operating leases are primarily railcars. Retail service station sites and office accommodation are the main items in the land and buildings category.

The terms and conditions of these operating leases do not impose any significant financial restrictions on the group. Some of the leases of ships and buildings allow for renewals at BP's option, and some of the group's operating leases contain escalation clauses.

BP will adopt IFRS 16 'Leases' on 1 January 2019. See Note 1 for further details.

27. Financial instruments and financial risk factors

The accounting classification of each category of financial instruments, and their carrying amounts, are set out below.

								$ million
At 31 December 2017	Note	Loans and receivables	Available-for-sale financial assets	Held-to-maturity investments	At fair value through profit or loss	Derivative hedging instruments	Financial liabilities measured at amortized cost	Total carrying amount
Financial assets								
Other investments – equity shares	16	—	433	—	—	—	—	433
– other	16	—	275	—	662	—	—	937
Loans		836	—	—	—	—	—	836
Trade and other receivables	18	24,361	—	—	—	—	—	24,361
Derivative financial instruments	28	—	—	—	6,454	688	—	7,142
Cash and cash equivalents	23	21,916	2,270	1,400	—	—	—	25,586
Financial liabilities								
Trade and other payables	20	—	—	—	—	—	(54,054)	(54,054)
Derivative financial instruments	28	—	—	—	(5,705)	(864)	—	(6,569)
Accruals		—	—		—	—	(5,465)	(5,465)
Finance debt	24	—	—	—	—	—	(63,230)	(63,230)
		47,113	2,978	1,400	1,411	(176)	(122,749)	(70,023)
At 31 December 2016								
Financial assets								
Other investments – equity shares	16	—	407	—	—	—	—	407
– other	16	—	42	—	628	—	—	670
Loans		791	—	—	—	—	—	791
Trade and other receivables	18	20,616	—	—	—	—	—	20,616
Derivative financial instruments	28	—	—	—	6,490	885	—	7,375
Cash and cash equivalents	23	21,539	1,749	196	—	—	—	23,484
Financial liabilities								
Trade and other payables	20	—	—	—	—	—	(49,534)	(49,534)
Derivative financial instruments	28	—	—	—	(6,507)	(1,997)	—	(8,504)
Accruals		—	—		—	—	(5,605)	(5,605)
Finance debt	24	—	—	—	—	—	(58,300)	(58,300)
		42,946	2,198	196	611	(1,112)	(113,439)	(68,600)

The fair value of finance debt is shown in Note 24. For all other financial instruments, the carrying amount is either the fair value, or approximates the fair value.

Financial risk factors

The group is exposed to a number of different financial risks arising from natural business exposures as well as its use of financial instruments including market risks relating to commodity prices, foreign currency exchange rates and interest rates; credit risk; and liquidity risk.

The group financial risk committee (GFRC) advises the group chief financial officer (CFO) who oversees the management of these risks. The GFRC is chaired by the CFO and consists of a group of senior managers including the group treasurer and the heads of the group finance, tax and the integrated supply and trading functions. The purpose of the committee is to advise on financial risks and the appropriate financial risk governance framework for the group. The committee provides assurance to the CFO and the group chief executive (GCE), and via the GCE to the board, that the group's financial risk-taking activity is governed by appropriate policies and procedures and that financial risks are identified, measured and managed in accordance with group policies and group risk appetite.

The group's trading activities in the oil, natural gas, LNG and power markets are managed within the integrated supply and trading function. Treasury holds foreign exchange and interest-rate products in the financial markets to hedge group exposures related to debt issuance; the compliance, control, and risk management processes for these activities are managed within the treasury function. All other foreign exchange and interest rate activities within financial markets are performed within the integrated supply and trading function and are also underpinned by the compliance, control and risk management infrastructure common to the activities of BP's integrated and supply function. All derivative activity is carried out by specialist teams that have the appropriate skills, experience and supervision. These teams are subject to close financial and management control.

The integrated supply and trading function maintains formal governance processes that provide oversight of market risk, credit risk and operational risk associated with trading activity. A policy and risk committee monitors and validates limits and risk exposures, reviews incidents and validates risk-related policies, methodologies and procedures. A commitments committee approves value-at-risk delegations, the trading of new products, instruments and strategies and material commitments.

In addition, the integrated supply and trading function undertakes derivative activity for risk management purposes under a control framework as described more fully below.

27. Financial instruments and financial risk factors – continued

(a) Market risk

Market risk is the risk or uncertainty arising from possible market price movements and their impact on the future performance of a business. The primary commodity price risks that the group is exposed to include oil, natural gas and power prices that could adversely affect the value of the group's financial assets, liabilities or expected future cash flows. The group enters into derivatives in a well-established entrepreneurial trading operation. In addition, the group has developed a control framework aimed at managing the volatility inherent in certain of its natural business exposures. In accordance with the control framework the group enters into various transactions using derivatives for risk management purposes.

The major components of market risk are commodity price risk, foreign currency exchange risk and interest rate risk, each of which is discussed below.

(i) Commodity price risk

The group's integrated supply and trading function uses conventional financial and commodity instruments and physical cargoes and pipeline positions available in the related commodity markets. Oil and natural gas swaps, options and futures are used to mitigate price risk. Power trading is undertaken using a combination of over-the-counter forward contracts and other derivative contracts, including options and futures. This activity is on both a standalone basis and in conjunction with gas derivatives in relation to gas-generated power margin. In addition, NGLs are traded around certain US inventory locations using over-the-counter forward contracts in conjunction with over-the-counter swaps, options and physical inventories.

The group measures market risk exposure arising from its trading positions in liquid periods using value-at-risk techniques. These techniques make a statistical assessment of the market risk arising from possible future changes in market prices over a one-day holding period. The value-at-risk measure is supplemented by stress testing. Trading activity occurring in liquid periods is subject to value-at-risk limits for each trading activity and for this trading activity in total. The board has delegated a limit of $100 million value at risk in support of this trading activity. Alternative measures are used to monitor exposures which are outside liquid periods and which cannot be actively risk-managed.

(ii) Foreign currency exchange risk

Since BP has global operations, fluctuations in foreign currency exchange rates can have a significant effect on the group's reported results and future expenditure commitments. The effects of most exchange rate fluctuations are absorbed in business operating results through changing cost competitiveness, lags in market adjustment to movements in rates and translation differences accounted for on specific transactions. For this reason, the total effect of exchange rate fluctuations is not identifiable separately in the group's reported results. The main underlying economic currency of the group's cash flows is the US dollar. This is because BP's major product, oil, is priced internationally in US dollars. BP's foreign currency exchange management policy is to limit economic and material transactional exposures arising from currency movements against the US dollar. The group co-ordinates the handling of foreign currency exchange risks centrally, by netting off naturally-occurring opposite exposures wherever possible and then managing any material residual foreign currency exchange risks.

Most of the group's borrowings are in US dollars or are hedged with respect to the US dollar. At 31 December 2017, the total foreign currency borrowings not swapped into US dollars amounted to $928 million (2016 $809 million).

The group manages the net residual foreign currency exposures by constantly reviewing the foreign currency economic value at risk and aims to manage such risk to keep the 12-month foreign currency value at risk below $400 million. At no point over the past three years did the value at risk exceed the maximum risk limit. The most significant exposures relate to capital expenditure commitments and other UK, Eurozone and Australian operational requirements, for which hedging programmes are in place and hedge accounting is applied.

For highly probable forecast capital expenditures the group fixes the US dollar cost of non-US dollar supplies by using currency forwards. The exposures are sterling, euro, Australian dollar, Norwegian krone and Korean Won. At 31 December 2017 the most significant open contracts in place were for $437 million sterling (2016 $1,204 million sterling).

For UK, Eurozone and Australian operational requirements the group uses cylinders (purchased call and sold put options) to manage the estimated exposures. At 31 December 2017, there are no open positions hedging these exposures (2016 cylinders consisted of receive sterling, pay US dollar cylinders $1,885 million; receive euro, pay US dollar cylinders for $585 million; receive Australian dollar, pay US dollar cylinders for $274 million).

Where the group enters into foreign currency exchange contracts for entrepreneurial trading purposes the activity is controlled using trading value-at-risk techniques as explained in (i) commodity price risk above.

(iii) Interest rate risk

BP is also exposed to interest rate risk from the possibility that changes in interest rates will affect future cash flows or the fair values of its financial instruments, principally finance debt. Whilst the group issues debt in a variety of currencies based on market opportunities, it uses derivatives to swap the debt to a floating rate exposure, mainly to US dollar floating, but in certain defined circumstances maintains a US dollar fixed rate exposure for a proportion of debt. The proportion of floating rate debt net of interest rate swaps at 31 December 2017 was 70% of total finance debt outstanding (2016 84%). The weighted average interest rate on finance debt at 31 December 2017 was 3% (2016 2%) and the weighted average maturity of fixed rate debt was five years (2016 five years).

The group's earnings are sensitive to changes in interest rates on the floating rate element of the group's finance debt. If the interest rates applicable to floating rate instruments were to have increased by one percentage point on 1 January 2018, it is estimated that the group's finance costs for 2018 would increase by approximately $442 million (2016 $488 million increase).

(b) Credit risk

Credit risk is the risk that a customer or counterparty to a financial instrument will fail to perform or fail to pay amounts due causing financial loss to the group and arises from cash and cash equivalents, derivative financial instruments and deposits with financial institutions and principally from credit exposures to customers relating to outstanding receivables. Credit exposure also exists in relation to guarantees issued by group companies under which the outstanding exposure incremental to that recognized on the balance sheet at 31 December 2017 was $656 million (2016 $309 million) in respect of liabilities of joint ventures and associates and $382 million (2016 $370 million) in respect of liabilities of other third parties.

27. Financial instruments and financial risk factors – continued

The group has a credit policy, approved by the CFO that is designed to ensure that consistent processes are in place throughout the group to measure and control credit risk. Credit risk is considered as part of the risk-reward balance of doing business. On entering into any business contract the extent to which the arrangement exposes the group to credit risk is considered. Key requirements of the policy include segregation of credit approval authorities from any sales, marketing or trading teams authorized to incur credit risk; the establishment of credit systems and processes to ensure that all counterparty exposure is rated and that all counterparty exposure and limits can be monitored and reported; and the timely identification and reporting of any non-approved credit exposures and credit losses. While each segment is responsible for its own credit risk management and reporting consistent with group policy, the treasury function holds group-wide credit risk authority and oversight responsibility for exposure to banks and financial institutions.

The maximum credit exposure associated with financial assets is equal to the carrying amount. The group does not aim to remove credit risk entirely but expects to experience a certain level of credit losses. As at 31 December 2017, the group had in place credit enhancements designed to mitigate approximately $14.7 billion of credit risk (2016 $11.6 billion). Reports are regularly prepared and presented to the GFRC that cover the group's overall credit exposure and expected loss trends, exposure by segment, and overall quality of the portfolio.

Management information used to monitor credit risk indicates that 77% (2016 79%) of total unmitigated credit exposure relates to counterparties of investment-grade credit quality.

		$ million
Trade and other receivables at 31 December	**2017**	2016
Neither impaired nor past due	**22,858**	19,459
Impaired (net of provision)	**53**	71
Not impaired and past due in the following periods		
within 30 days	**637**	446
31 to 60 days	**130**	116
61 to 90 days	**114**	56
over 90 days	**569**	468
	24,361	20,616

Movements in the impairment provision for trade receivables are shown in Note 19.

Financial instruments subject to offsetting, enforceable master netting arrangements and similar agreements

The following table shows the amounts recognized for financial assets and liabilities which are subject to offsetting arrangements on a gross basis, and the amounts offset in the balance sheet.

Amounts which cannot be offset under IFRS, but which could be settled net under the terms of master netting agreements if certain conditions arise, and collateral received or pledged, are also presented in the table to show the total net exposure of the group.

				Related amounts not set off in the balance sheet		$ million
At 31 December 2017	Gross amounts of recognized financial assets (liabilities)	Amounts set off	Net amounts presented on the balance sheet	Master netting arrangements	Cash collateral (received) pledged	Net amount
Derivative assets	**8,522**	**(1,380)**	**7,142**	**(1,554)**	**(321)**	**5,267**
Derivative liabilities	**(7,818)**	**1,380**	**(6,438)**	**1,554**	**—**	**(4,884)**
Trade and other receivables	**11,648**	**(5,311)**	**6,337**	**(2,156)**	**(114)**	**4,067**
Trade and other payables	**(12,543)**	**5,311**	**(7,232)**	**2,156**	**—**	**(5,076)**
At 31 December 2016						
Derivative assets	9,025	(1,882)	7,143	(1,058)	(133)	5,952
Derivative liabilities	(10,236)	1,882	(8,354)	1,058	—	(7,296)
Trade and other receivables	8,815	(4,468)	4,347	(1,039)	(118)	3,190
Trade and other payables	(9,664)	4,468	(5,196)	1,039	—	(4,157)

(c) Liquidity risk

Liquidity risk is the risk that suitable sources of funding for the group's business activities may not be available. The group's liquidity is managed centrally with operating units forecasting their cash and currency requirements to the central treasury function. Unless restricted by local regulations, generally subsidiaries pool their cash surpluses to the treasury function, which will then arrange to fund other subsidiaries' requirements, or invest any net surplus in the market or arrange for necessary external borrowings, while managing the group's overall net currency positions.

Standard & Poor's Ratings long-term credit rating for BP is A- (stable outlook) and Moody's Investors Service rating is A1 (positive outlook).

During 2017, $8 billion of long-term taxable bonds were issued with terms ranging from one to twelve years. Commercial paper is issued at competitive rates to meet short-term borrowing requirements as and when needed.

As a further liquidity measure, the group continues to maintain suitable levels of cash and cash equivalents, amounting to $25.6 billion at 31 December 2017 (2016 $23.5 billion), primarily invested with highly rated banks or money market funds and readily accessible at immediate and short notice. At 31 December 2017, the group had substantial amounts of undrawn borrowing facilities available, consisting of $7,625 million of standby facilities, all of which is available to draw and repay up to the first half of 2022. These facilities are with 25 international banks, and borrowings under them would be at pre-agreed rates.

The group also has committed letter of credit (LC) facilities totalling $9,400 million with a number of banks, allowing LCs to be issued for a maximum 23-month duration. There were also uncommitted secured LC facilities in place at 31 December 2017 for $1,560 million, which are secured against inventories or receivables when utilized. The facilities only terminate by either party giving a stipulated termination notice to the other.

27. Financial instruments and financial risk factors – continued

The amounts shown for finance debt in the table below include future minimum lease payments with respect to finance leases. The table also shows the timing of cash outflows relating to trade and other payables and accruals.

								$ million
				2017				2016
	Trade and other payables[a]	**Accruals**	**Finance debt[b]**	**Interest on finance debt**	Trade and other payables[a]	Accruals	Finance debt[b]	Interest on finance debt[c]
Within one year	**40,472**	**4,960**	**7,626**	**1,757**	35,774	5,136	6,620	1,217
1 to 2 years	**1,693**	**135**	**7,331**	**1,537**	2,005	186	5,909	1,083
2 to 3 years	**1,413**	**83**	**7,068**	**1,321**	1,278	91	6,624	942
3 to 4 years	**1,378**	**70**	**6,766**	**1,114**	1,239	53	6,201	801
4 to 5 years	**1,368**	**54**	**7,986**	**894**	1,229	33	6,564	658
5 to 10 years	**6,181**	**115**	**24,162**	**1,951**	5,826	75	22,190	1,446
Over 10 years	**6,125**	**48**	**2,089**	**390**	7,248	31	3,573	382
	58,630	**5,465**	**63,028**	**8,964**	54,599	5,605	57,681	6,529

[a] 2017 includes $18,918 million (2016 $21,644 million) in relation to the Gulf of Mexico oil spill.

[b] Fair value adjustments relating to hedging activity have been excluded from finance debt which therefore is not equal the amounts presented on the balance sheet. 2016 has been amended to conform with this presentation.

[c] 2016 has been amended to exclude interest payments that do not relate to finance debt. Interest on liabilities is included in trade and other payables.

The group manages liquidity risk associated with derivative contracts, other than derivative hedging instruments, based on the expected maturities of both derivative assets and liabilities as indicated in Note 28. Management does not currently anticipate any cash flows that could be of a significantly different amount, or could occur earlier than the expected maturity analysis provided.

The table below shows the timing of cash outflows for derivative financial instruments entered into for the purpose of managing interest rate and foreign currency exchange risk associated with net debt, whether or not hedge accounting is applied, based upon contractual payment dates. The amounts reflect the gross settlement amount where the pay leg of a derivative will be settled separately from the receive leg, as in the case of cross-currency swaps hedging non-US dollar finance debt. The swaps are with high investment-grade counterparties and therefore the settlement-day risk exposure is considered to be negligible. Not shown in the table are the gross settlement amounts (inflows) for the receive leg of derivatives that are settled separately from the pay leg, which amount to $21,484 million at 31 December 2017 (2016 $18,014 million) to be received on the same day as the related cash outflows. For further information on our derivative financial instruments, see Note 28.

		$ million
Cash outflows for derivative financial instruments at 31 December	**2017**	2016
Within one year	**1,505**	2,677
1 to 2 years	**1,700**	1,505
2 to 3 years	**1,678**	1,700
3 to 4 years	**2,384**	1,678
4 to 5 years	**2,838**	2,384
5 to 10 years	**11,238**	9,985
Over 10 years	**724**	1,413
	22,067	21,342

28. Derivative financial instruments

In the normal course of business the group enters into derivative financial instruments (derivatives) to manage its normal business exposures in relation to commodity prices, foreign currency exchange rates and interest rates, including management of the balance between floating rate and fixed rate debt, consistent with risk management policies and objectives. An outline of the group's financial risks and the objectives and policies pursued in relation to those risks is set out in Note 27. Additionally, the group has a well-established entrepreneurial trading operation that is undertaken in conjunction with these activities using a similar range of contracts.

For information on significant estimates and judgements made in relation to the valuation of derivatives see Derivative financial instruments within Note 1.

The fair values of derivative financial instruments at 31 December are set out below.

Exchange traded derivatives are valued using closing prices provided by the exchange as at the balance sheet date. These derivatives are categorized within level 1 of the fair value hierarchy.

Over-the-counter (OTC) financial swaps and physical commodity sale and purchase contracts are generally valued using readily available information in the public markets and quotations provided by brokers and price index developers. These quotes are corroborated with market data and are categorized within level 2 of the fair value hierarchy.

In certain less liquid markets, or for longer-term contracts, forward prices are not as readily available. In these circumstances, OTC financial swaps and physical commodity sale and purchase contracts are valued using internally developed methodologies that consider historical relationships between various commodities, and that result in management's best estimate of fair value. These contracts are categorized within level 3 of the fair value hierarchy.

Financial OTC and physical commodity options are valued using industry standard models that consider various assumptions, including quoted forward prices for commodities, time value, volatility factors, and contractual prices for the underlying instruments, as well as other relevant economic factors. The degree to which these inputs are observable in the forward markets determines whether the option is categorized within level 2 or level 3 of the fair value hierarchy.

28. Derivative financial instruments – continued

				$ million
		2017		2016
	Fair value asset	**Fair value liability**	Fair value asset	Fair value liability
Derivatives held for trading				
Currency derivatives	**237**	**(756)**	167	(2,000)
Oil price derivatives	**1,637**	**(1,281)**	1,543	(952)
Natural gas price derivatives	**3,580**	**(2,844)**	3,780	(2,845)
Power price derivatives	**885**	**(693)**	768	(560)
Other derivatives	**115**	**—**	232	—
	6,454	**(5,574)**	6,490	(6,357)
Embedded derivatives				
Commodity price contracts	**—**	**(16)**	—	(50)
Other embedded derivatives	**—**	**(115)**	—	(100)
	—	**(131)**	—	(150)
Cash flow hedges				
Currency forwards, futures and cylinders	**35**	**(35)**	32	(451)
Cross-currency interest rate swaps	**—**	**—**	—	(154)
	35	**(35)**	32	(605)
Fair value hedges				
Currency forwards, futures and swaps	**460**	**(523)**	22	(1,159)
Interest rate swaps	**193**	**(306)**	831	(233)
	653	**(829)**	853	(1,392)
	7,142	**(6,569)**	7,375	(8,504)
Of which – current	**3,032**	**(2,808)**	3,016	(2,991)
– non-current	**4,110**	**(3,761)**	4,359	(5,513)

Derivatives held for trading

The group maintains active trading positions in a variety of derivatives. The contracts may be entered into for risk management purposes, to satisfy supply requirements or for entrepreneurial trading. Certain contracts are classified as held for trading, regardless of their original business objective, and are recognized at fair value with changes in fair value recognized in the income statement. Trading activities are undertaken by using a range of contract types in combination to create incremental gains by arbitraging prices between markets, locations and time periods. The net of these exposures is monitored using market value-at-risk techniques as described in Note 27.

The following tables show further information on the fair value of derivatives and other financial instruments held for trading purposes.

Derivative assets held for trading have the following fair values and maturities.

							$ million
							2017
	Less than 1 year	**1-2 years**	**2-3 years**	**3-4 years**	**4-5 years**	**Over 5 years**	**Total**
Currency derivatives	**186**	**31**	**8**	**5**	**3**	**4**	**237**
Oil price derivatives	**1,280**	**177**	**99**	**66**	**14**	**1**	**1,637**
Natural gas price derivatives	**1,122**	**609**	**428**	**328**	**288**	**805**	**3,580**
Power price derivatives	**420**	**188**	**81**	**60**	**38**	**98**	**885**
Other derivatives	**—**	**—**	**—**	**—**	**—**	**115**	**115**
	3,008	**1,005**	**616**	**459**	**343**	**1,023**	**6,454**

							$ million
							2016
	Less than 1 year	1-2 years	2-3 years	3-4 years	4-5 years	Over 5 years	Total
Currency derivatives	102	34	20	2	7	2	167
Oil price derivatives	1,178	201	91	49	22	2	1,543
Natural gas price derivatives	1,238	647	424	313	267	891	3,780
Power price derivatives	305	164	114	58	53	74	768
Other derivatives	132	—	—	—	—	100	232
	2,955	1,046	649	422	349	1,069	6,490

At 31 December 2016 the group had a contingent consideration receivable in respect of the disposal of the Texas City refinery. The sale agreement contained an embedded derivative and had been designated at fair value through profit or loss and shown within other derivatives held for trading, within level 3 of the fair value hierarchy. The valuation was dependent on refinery throughput and future margins and final payment was received in 2017.

28. Derivative financial instruments – continued

Derivative liabilities held for trading have the following fair values and maturities.

							$ million
							2017
	Less than 1 year	**1-2 years**	**2-3 years**	**3-4 years**	**4-5 years**	**Over 5 years**	**Total**
Currency derivatives	**(92)**	**(232)**	**(66)**	**(188)**	**(99)**	**(79)**	**(756)**
Oil price derivatives	**(1,120)**	**(118)**	**(33)**	**(4)**	**(6)**	**—**	**(1,281)**
Natural gas price derivatives	**(973)**	**(410)**	**(334)**	**(224)**	**(194)**	**(709)**	**(2,844)**
Power price derivatives	**(337)**	**(134)**	**(63)**	**(39)**	**(29)**	**(91)**	**(693)**
	(2,522)	**(894)**	**(496)**	**(455)**	**(328)**	**(879)**	**(5,574)**

							$ million
							2016
	Less than 1 year	1-2 years	2-3 years	3-4 years	4-5 years	Over 5 years	Total
Currency derivatives	(379)	(36)	(402)	(101)	(338)	(744)	(2,000)
Oil price derivatives	(787)	(105)	(40)	(11)	(3)	(6)	(952)
Natural gas price derivatives	(947)	(421)	(257)	(258)	(197)	(765)	(2,845)
Power price derivatives	(201)	(126)	(81)	(39)	(31)	(82)	(560)
	(2,314)	(688)	(780)	(409)	(569)	(1,597)	(6,357)

The following table shows the fair value of derivative assets and derivative liabilities held for trading, analysed by maturity period and by methodology of fair value estimation. This information is presented on a gross basis, that is, before netting by counterparty.

							$ million
							2017
	Less than 1 year	**1-2 years**	**2-3 years**	**3-4 years**	**4-5 years**	**Over 5 years**	**Total**
Fair value of derivative assets							
Level 2	**3,663**	**1,003**	**438**	**244**	**140**	**135**	**5,623**
Level 3	**386**	**258**	**231**	**226**	**211**	**899**	**2,211**
	4,049	**1,261**	**669**	**470**	**351**	**1,034**	**7,834**
Less: netting by counterparty	**(1,041)**	**(256)**	**(53)**	**(11)**	**(8)**	**(11)**	**(1,380)**
	3,008	**1,005**	**616**	**459**	**343**	**1,023**	**6,454**
Fair value of derivative liabilities							
Level 2	**(3,338)**	**(953)**	**(358)**	**(289)**	**(163)**	**(166)**	**(5,267)**
Level 3	**(225)**	**(197)**	**(191)**	**(177)**	**(173)**	**(724)**	**(1,687)**
	(3,563)	**(1,150)**	**(549)**	**(466)**	**(336)**	**(890)**	**(6,954)**
Less: netting by counterparty	**1,041**	**256**	**53**	**11**	**8**	**11**	**1,380**
	(2,522)	**(894)**	**(496)**	**(455)**	**(328)**	**(879)**	**(5,574)**
Net fair value	**486**	**111**	**120**	**4**	**15**	**144**	**880**

							$ million
							2016
	Less than 1 year	1-2 years	2-3 years	3-4 years	4-5 years	Over 5 years	Total
Fair value of derivative assets							
Level 2	3,962	1,035	509	208	117	189	6,020
Level 3	448	265	249	243	241	906	2,352
	4,410	1,300	758	451	358	1,095	8,372
Less: netting by counterparty	(1,455)	(254)	(109)	(29)	(9)	(26)	(1,882)
	2,955	1,046	649	422	349	1,069	6,490
Fair value of derivative liabilities							
Level 2	(3,610)	(778)	(701)	(249)	(401)	(872)	(6,611)
Level 3	(159)	(164)	(188)	(189)	(177)	(751)	(1,628)
	(3,769)	(942)	(889)	(438)	(578)	(1,623)	(8,239)
Less: netting by counterparty	1,455	254	109	29	9	26	1,882
	(2,314)	(688)	(780)	(409)	(569)	(1,597)	(6,357)
Net fair value	641	358	(131)	13	(220)	(528)	133

28. Derivative financial instruments – continued

Level 3 derivatives

The following table shows the changes during the year in the net fair value of derivatives held for trading purposes within level 3 of the fair value hierarchy.

					$ million
	Oil price	**Natural gas price**	**Power price**	**Other**	**Total**
Fair value contracts at 1 January 2017	**68**	**145**	**(147)**	**231**	**297**
Gains (losses) recognized in the income statement	**76**	**161**	**61**	**15**	**313**
Settlements	**(68)**	**(35)**	**(113)**	**(131)**	**(347)**
Transfers out of level 3	**(9)**	**(206)**	**(27)**	**—**	**(242)**
Net fair value of contracts at 31 December 2017	**67**	**65**	**(226)**	**115**	**21**
Deferred day-one gains (losses)					**503**
Derivative asset (liability)					**524**

					$ million
	Oil price	Natural gas price	Power price	Other	Total
Fair value contracts at 1 January 2016	169	214	91	292	766
Gains (losses) recognized in the income statement	(37)	1	(82)	139	21
Settlements	(63)	(51)	(145)	(200)	(459)
Transfers out of level 3	(1)	(19)	(11)	—	(31)
Net fair value of contracts at 31 December 2016	68	145	(147)	231	297
Deferred day-one gains (losses)					427
Derivative asset (liability)					724

The amount recognized in the income statement for the year relating to level 3 held-for-trading derivatives still held at 31 December 2017 was a $234-million gain (2016 $253-million loss related to derivatives still held at 31 December 2016).

Derivative gains and losses

The group enters into derivative contracts including futures, options, swaps and certain forward sales and forward purchases contracts, relating to both currency and commodity trading activities. Gains or losses arise on contracts entered into for risk management purposes, optimization activity and entrepreneurial trading. They also arise on certain contracts that are for normal procurement or sales activity for the group but that are required to be fair valued under accounting standards. These gains and losses are included within sales and other operating revenues in the income statement. Also included within this line item are gains and losses on inventory held for trading purposes. The total amount relating to all these items (excluding gains and losses on realized physical derivative contracts that have been reflected gross in the income statement within sales and purchases) was a net gain of $1,983 million (2016 $1,435 million net gain and 2015 $5,508 million net gain). This number does not include gains and losses on realized physical derivative contracts that have been reflected gross in the income statement within sales and purchases or the change in value of transportation and storage contracts which are not recognized under IFRS, but does include the associated financially settled contracts. The net amounts for actual gains and losses relating to these derivative contracts and all related items therefore differ significantly from the amounts disclosed above.

The group also enters into derivative contracts including futures, options, swaps and certain forward sales and forward purchase contracts primarily relating to foreign currency risk management activities. Gains and losses on these contracts are included within production and manufacturing expenses in the income statement. The change in the unrealized value of these contracts was a net gain of $1,420 million (2016 $154 million net loss and 2015 $833 million net loss), however the gains and losses in each year are largely offset by opposing net foreign exchange differences on retranslation of the associated non-US dollar debt. The net amounts for actual gains and losses relating to these derivative contracts and all related items therefore differ significantly from the amounts disclosed above.

Cash flow hedges

At 31 December 2017, the group held currency forwards used to hedge the foreign currency risk of highly probable forecast transactions. Note 27 outlines the group's approach to foreign currency exchange risk management. For cash flow hedges the group only claims hedge accounting for the spot value on the currency with any fair value attributable to forward points taken immediately to the income statement. The amounts remaining in equity at 31 December 2017 in relation to these cash flow hedges consist of deferred losses of $21 million maturing in 2018, deferred gains of $8 million maturing in 2019 and deferred gains of $2 million maturing in 2020 and beyond.

Fair value hedges

At 31 December 2017, the group held interest rate and cross-currency interest rate swap contracts as fair value hedges of the interest rate risk and foreign currency risk on fixed rate debt issued by the group. The gain on the hedging derivative instruments recognized in the income statement in 2017 was $364 million (2016 $316-million loss and 2015 $788-million loss) offset by a loss on the fair value of the finance debt of $394 million (2016 $270-million gain and 2015 $833-million gain).

The interest rate and cross-currency interest rate swaps mature within one to twelve years, and have the same maturity terms as the debt that they are hedging. They are used to convert sterling, euro, Swiss franc, Australian dollar, Canadian dollar, Norwegian krone and Hong Kong dollar denominated fixed rate borrowings into floating rate debt. Note 27 outlines the group's approach to interest rate and foreign currency exchange risk management.

29. Called-up share capital

The allotted, called up and fully paid share capital at 31 December was as follows:

Issued	2017 Shares thousand	2017 $ million	2016 Shares thousand	2016 $ million	2015 Shares thousand	2015 $ million
8% cumulative first preference shares of £1 each[a]	**7,233**	**12**	7,233	12	7,233	12
9% cumulative second preference shares of £1 each[a]	**5,473**	**9**	5,473	9	5,473	9
		21		21		21
Ordinary shares of 25 cents each						
At 1 January	**21,049,696**	**5,263**	20,108,771	5,028	20,005,961	5,002
Issue of new shares for the scrip dividend programme	**289,789**	**72**	548,005	137	102,810	26
Issue of new shares – other[b]	**—**	**—**	392,920	98	—	—
Repurchase of ordinary share capital	**(51,292)**	**(13)**	—	—	—	—
At 31 December	**21,288,193**	**5,322**	21,049,696	5,263	20,108,771	5,028
		5,343		5,284		5,049

[a] The nominal amount of 8% cumulative first preference shares and 9% cumulative second preference shares that can be in issue at any time shall not exceed £10,000,000 for each class of preference shares.

[b] Relates to the issue of new ordinary shares in consideration for a 10% interest in the Abu Dhabi onshore oil concession. See Note 30 for further information.

Voting on substantive resolutions tabled at a general meeting is on a poll. On a poll, shareholders present in person or by proxy have two votes for every £5 in nominal amount of the first and second preference shares held and one vote for every ordinary share held. On a show-of-hands vote on other resolutions (procedural matters) at a general meeting, shareholders present in person or by proxy have one vote each.

In the event of the winding up of the company, preference shareholders would be entitled to a sum equal to the capital paid up on the preference shares, plus an amount in respect of accrued and unpaid dividends and a premium equal to the higher of (i) 10% of the capital paid up on the preference shares and (ii) the excess of the average market price of such shares on the London Stock Exchange during the previous six months over par value.

During 2017 the company repurchased 51 million ordinary shares for a total consideration of $343 million, including transaction costs of $2 million, as part of the share repurchase programme announced on 31 October 2017. All shares purchased were for cancellation. The repurchased shares represented 0.2% of ordinary share capital.

Treasury shares[a]

	2017 Shares thousand	2017 Nominal value $ million	2016 Shares thousand	2016 Nominal value $ million	2015 Shares thousand	2015 Nominal value $ million
At 1 January	**1,614,657**	**403**	1,756,327	439	1,811,297	453
Purchases for settlement of employee share plans	**4,423**	**1**	9,631	2	51,142	13
Shares re-issued for employee share-based payment plans[b]	**(137,008)**	**(34)**	(151,301)	(38)	(106,112)	(27)
At 31 December	**1,482,072**	**370**	1,614,657	403	1,756,327	439
Of which – shares held in treasury by BP	**1,472,343**	**368**	1,576,411	394	1,727,763	432
– shares held in ESOP trusts	**9,705**	**2**	21,432	5	18,453	4
– shares held by BP's US share plan administrator[c]	**24**	**—**	16,814	4	10,111	3

[a] See Note 30 for definition of treasury shares.

[b] A minor amendment has been made to the number of shares re-issued for employee share-based payment plans in 2016.

[c] Held in the form of ADSs to meet the requirements of employee share-based payment plans in the US.

For each year presented, the balance at 1 January represents the maximum number of shares held in treasury by BP during the year, representing 7.5% (2016 8.6% and 2015 8.9%) of the called-up ordinary share capital of the company.

During 2017, the movement in shares held in treasury by BP represented less than 0.5% (2016 less than 0.8% and 2015 less than 0.2%) of the ordinary share capital of the company.

30. Capital and reserves

	Share capital	Share premium account	Capital redemption reserve	Merger reserve	Total share capital and capital reserves
At 1 January 2017	**5,284**	**12,219**	**1,413**	**27,206**	**46,122**
Profit (loss) for the year	—	—	—	—	—
Items that may be reclassified subsequently to profit or loss					
Currency translation differences (including recycling)	—	—	—	—	—
Available-for-sale investments (including recycling)	—	—	—	—	—
Cash flow hedges (including recycling)	—	—	—	—	—
Share of items relating to equity-accounted entities, net of tax[a]	—	—	—	—	—
Other	—	—	—	—	—
Items that will not be reclassified to profit or loss					
Remeasurements of the net pension and other post-retirement benefit liability or asset	—	—	—	—	—
Total comprehensive income	—	—	—	—	—
Dividends	**72**	**(72)**	—	—	—
Repurchases of ordinary share capital	**(13)**	—	**13**	—	—
Share-based payments, net of tax[b]	—	—	—	—	—
Share of equity-accounted entities' changes in equity, net of tax	—	—	—	—	—
Transactions involving non-controlling interests[c]	—	—	—	—	—
At 31 December 2017	**5,343**	**12,147**	**1,426**	**27,206**	**46,122**

	Share capital	Share premium account	Capital redemption reserve	Merger reserve	Total share capital and capital reserves
At 1 January 2016	5,049	10,234	1,413	27,206	43,902
Profit (loss) for the year	—	—	—	—	—
Items that may be reclassified subsequently to profit or loss					
Currency translation differences (including recycling)	—	—	—	—	—
Available-for-sale investments (including recycling)	—	—	—	—	—
Cash flow hedges (including recycling)	—	—	—	—	—
Share of items relating to equity-accounted entities, net of tax[a]	—	—	—	—	—
Other	—	—	—	—	—
Items that will not be reclassified to profit or loss					
Remeasurements of the net pension and other post-retirement benefit liability or asset	—	—	—	—	—
Total comprehensive income	—	—	—	—	—
Dividends	137	(137)	—	—	—
Share-based payments, net of tax[b d]	98	2,122	—	—	2,220
Share of equity-accounted entities' changes in equity, net of tax	—	—	—	—	—
Transactions involving non-controlling interests	—	—	—	—	—
At 31 December 2016	5,284	12,219	1,413	27,206	46,122

	Share capital	Share premium account	Capital redemption reserve	Merger reserve	Total share capital and capital reserves
At 1 January 2015	5,023	10,260	1,413	27,206	43,902
Profit (loss) for the year	—	—	—	—	—
Items that may be reclassified subsequently to profit or loss					
Currency translation differences (including recycling)[a]	—	—	—	—	—
Available-for-sale investments (including recycling)	—	—	—	—	—
Cash flow hedges (including recycling)	—	—	—	—	—
Share of items relating to equity-accounted entities, net of tax[a]	—	—	—	—	—
Other	—	—	—	—	—
Items that will not be reclassified to profit or loss					
Remeasurements of the net pension and other post-retirement benefit liability or asset	—	—	—	—	—
Share of items relating to equity-accounted entities, net of tax	—	—	—	—	—
Total comprehensive income	—	—	—	—	—
Dividends	26	(26)	—	—	—
Share-based payments, net of tax[b]	—	—	—	—	—
Share of equity-accounted entities' changes in equity, net of tax	—	—	—	—	—
Transactions involving non-controlling interests	—	—	—	—	—
At 31 December 2015	5,049	10,234	1,413	27,206	43,902

[a] Principally foreign exchange effects relating to the Russian rouble.

[b] Movements in treasury shares relate to employee share-based payment plans.

[c] Principally relates to the initial public offering of common units in BP Midstream Partners LP for which net proceeds of $811 million were received.

[d] Includes ordinary shares issued to the government of Abu Dhabi in consideration for a 10% interest in the Abu Dhabi onshore oil concession. The share-based payment transaction was valued at the fair value of the interest in the assets, with reference to a market transaction for an identical interest.

30. Capital and reserves – continued

$ million

Treasury shares	Foreign currency translation reserve	Available-for-sale investments	Cash flow hedges	Total fair value reserves	Profit and loss account	BP shareholders' equity	Non-controlling interests	Total equity
(18,443)	**(6,878)**	**3**	**(1,156)**	**(1,153)**	**75,638**	**95,286**	**1,557**	**96,843**
—	—	—	—	—	3,389	3,389	79	3,468
—	1,722	—	—	—	(3)	1,719	52	1,771
—	—	14	—	14	—	14	—	14
—	—	—	396	396	—	396	—	396
—	—	—	—	—	564	564	—	564
—	—	—	—	—	(72)	(72)	—	(72)
—	—	—	—	—	2,343	2,343	—	2,343
—	1,722	14	396	410	6,221	8,353	131	8,484
—	—	—	—	—	(6,153)	(6,153)	(141)	(6,294)
—	—	—	—	—	(343)	(343)	—	(343)
1,485	—	—	—	—	(798)	687	—	687
—	—	—	—	—	215	215	—	215
—	—	—	—	—	446	446	366	812
(16,958)	**(5,156)**	**17**	**(760)**	**(743)**	**75,226**	**98,491**	**1,913**	**100,404**

Treasury shares	Foreign currency translation reserve	Available-for-sale investments	Cash flow hedges	Total fair value reserves	Profit and loss account	BP shareholders' equity	Non-controlling interests	Total equity
(19,964)	(7,267)	2	(825)	(823)	81,368	97,216	1,171	98,387
—	—	—	—	—	115	115	57	172
—	389	—	—	—	—	389	(27)	362
—	—	1	—	1	—	1	—	1
—	—	—	(331)	(331)	—	(331)	—	(331)
—	—	—	—	—	833	833	—	833
—	—	—	—	—	(96)	(96)	—	(96)
—	—	—	—	—	(1,757)	(1,757)	—	(1,757)
—	389	1	(331)	(330)	(905)	(846)	30	(816)
—	—	—	—	—	(4,611)	(4,611)	(107)	(4,718)
1,521	—	—	—	—	(750)	2,991	—	2,991
—	—	—	—	—	106	106	—	106
—	—	—	—	—	430	430	463	893
(18,443)	(6,878)	3	(1,156)	(1,153)	75,638	95,286	1,557	96,843

Treasury shares	Foreign currency translation reserve	Available-for-sale investments	Cash flow hedges	Total fair value reserves	Profit and loss account	BP shareholders' equity	Non-controlling interests	Total equity
(20,719)	(3,409)	1	(898)	(897)	92,564	111,441	1,201	112,642
—	—	—	—	—	(6,482)	(6,482)	82	(6,400)
—	(3,858)	—	—	—	—	(3,858)	(41)	(3,899)
—	—	1	—	1	—	1	—	1
—	—	—	73	73	—	73	—	73
—	—	—	—	—	(814)	(814)	—	(814)
—	—	—	—	—	80	80	—	80
—	—	—	—	—	2,742	2,742	—	2,742
—	—	—	—	—	(1)	(1)	—	(1)
—	(3,858)	1	73	74	(4,475)	(8,259)	41	(8,218)
—	—	—	—	—	(6,659)	(6,659)	(91)	(6,750)
755	—	—	—	—	(99)	656	—	656
—	—	—	—	—	40	40	—	40
—	—	—	—	—	(3)	(3)	20	17
(19,964)	(7,267)	2	(825)	(823)	81,368	97,216	1,171	98,387

30. Capital and reserves – continued

Share capital
The balance on the share capital account represents the aggregate nominal value of all ordinary and preference shares in issue, including treasury shares.

Share premium account
The balance on the share premium account represents the amounts received in excess of the nominal value of the ordinary and preference shares.

Capital redemption reserve
The balance on the capital redemption reserve represents the aggregate nominal value of all the ordinary shares repurchased and cancelled.

Merger reserve
The balance on the merger reserve represents the fair value of the consideration given in excess of the nominal value of the ordinary shares issued in an acquisition made by the issue of shares.

Treasury shares
Treasury shares represent BP shares repurchased and available for specific and limited purposes. For accounting purposes shares held in Employee Share Ownership Plans (ESOPs) and BP's US share plan administrator to meet the future requirements of the employee share-based payment plans are treated in the same manner as treasury shares and are, therefore, included in the financial statements as treasury shares. The ESOPs are funded by the group and have waived their rights to dividends in respect of such shares held for future awards. Until such time as the shares held by the ESOPs vest unconditionally to employees, the amount paid for those shares is shown as a reduction in shareholders' equity. Assets and liabilities of the ESOPs are recognized as assets and liabilities of the group.

Foreign currency translation reserve
The foreign currency translation reserve records exchange differences arising from the translation of the financial statements of foreign operations. Upon disposal of foreign operations, the related accumulated exchange differences are recycled to the income statement.

Available-for-sale investments
This reserve records the changes in fair value of available-for-sale investments except for impairment losses, foreign exchange gains or losses, or changes arising from revised estimates of future cash flows. On disposal or impairment of the investments, the cumulative changes in fair value are recycled to the income statement.

Cash flow hedges
This reserve records the portion of the gain or loss on a hedging instrument in a cash flow hedge that is determined to be an effective hedge. It includes $651 million relating to the acquisition of an 18.5% interest in Rosneft in 2013 which will only be reclassified to the income statement if the investment in Rosneft is either sold or impaired. For further information on the accounting for cash flow hedges see Note 1- Derivative financial instruments and hedging activities.

Profit and loss account
The balance held on this reserve is the accumulated retained profits of the group.

30. Capital and reserves – continued

The pre-tax amounts of each component of other comprehensive income, and the related amounts of tax, are shown in the table below.

			$ million
			2017
	Pre-tax	**Tax**	**Net of tax**
Items that may be reclassified subsequently to profit or loss			
Currency translation differences (including recycling)	**1,866**	**(95)**	**1,771**
Available-for-sale investments (including recycling)	**14**	**—**	**14**
Cash flow hedges (including recycling)	**425**	**(29)**	**396**
Share of items relating to equity-accounted entities, net of tax	**564**	**—**	**564**
Other	**—**	**(72)**	**(72)**
Items that will not be reclassified to profit or loss			
Remeasurements of the net pension and other post-retirement benefit liability or asset	**3,646**	**(1,303)**	**2,343**
Other comprehensive income	**6,515**	**(1,499)**	**5,016**

			$ million
			2016
	Pre-tax	Tax	Net of tax
Items that may be reclassified subsequently to profit or loss			
Currency translation differences (including recycling)	284	78	362
Available-for-sale investments (including recycling)	1	—	1
Cash flow hedges (including recycling)	(362)	31	(331)
Share of items relating to equity-accounted entities, net of tax	833	—	833
Other	—	(96)	(96)
Items that will not be reclassified to profit or loss			
Remeasurements of the net pension and other post-retirement benefit liability or asset	(2,496)	739	(1,757)
Other comprehensive income	(1,740)	752	(988)

			$ million
			2015
	Pre-tax	Tax	Net of tax
Items that may be reclassified subsequently to profit or loss			
Currency translation differences (including recycling)	(4,096)	197	(3,899)
Available-for-sale investments (including recycling)	1	—	1
Cash flow hedges (including recycling)	93	(20)	73
Share of items relating to equity-accounted entities, net of tax	(814)	—	(814)
Other	—	80	80
Items that will not be reclassified to profit or loss			
Remeasurements of the net pension and other post-retirement benefit liability or asset	4,139	(1,397)	2,742
Share of items relating to equity-accounted entities, net of tax	(1)	—	(1)
Other comprehensive income	(678)	(1,140)	(1,818)

31. Contingent liabilities

Contingent liabilities related to the Gulf of Mexico oil spill

See Note 2 for information on contingent liabilities related to the Gulf of Mexico oil spill.

Contingent liabilities not related to the Gulf of Mexico oil spill

There were contingent liabilities at 31 December 2017 in respect of guarantees and indemnities entered into as part of the ordinary course of the group's business. No material losses are likely to arise from such contingent liabilities. Further information on financial guarantees is included in Note 27.

In the normal course of the group's business, legal and regulatory proceedings are pending or may be brought against BP group entities arising out of current and past operations, including matters related to commercial disputes, product liability, antitrust, commodities trading, premises-liability claims, consumer protection, general health, safety and environmental claims and allegations of exposures of third parties to toxic substances, such as lead pigment in paint, asbestos and other chemicals. BP believes that the impact of these legal proceedings on the group's results of operations, liquidity or financial position will not be material.

The group files tax returns in many jurisdictions throughout the world. Various tax authorities are currently examining the group's tax returns. Tax returns contain matters that could be subject to differing interpretations of applicable tax laws and regulations including the tax deductibility of certain intercompany charges. The resolution of tax positions through negotiations with relevant tax authorities, or through litigation, can take several years to complete and the amounts could be significant and could be material to the group's results of operations, financial position or liquidity. While it is difficult to predict the ultimate outcome in some cases, the group does not anticipate that there will be any material impact upon the group's results of operations, financial position or liquidity.

31. Contingent liabilities – continued

The group is subject to numerous national and local health, safety and environmental laws and regulations concerning its products, operations and other activities. These laws and regulations may require the group to take future action to remediate the effects on the environment of prior disposal or release of chemicals or petroleum substances by the group or other parties. Such contingencies may exist for various sites including refineries, chemical plants, oil fields, commodities extraction sites, service stations, terminals and waste disposal sites. In addition, the group may have obligations relating to prior asset sales or closed facilities. The ultimate requirement for remediation and its cost are inherently difficult to estimate. However, the estimated cost of known environmental obligations has been provided in these accounts in accordance with the group's accounting policies. While the amounts of future costs that are not provided for could be significant and could be material to the group's results of operations in the period in which they are recognized, it is not possible to estimate the amounts involved. BP does not expect these costs to have a material effect on the group's financial position or liquidity.

If oil and natural gas production facilities and pipelines are sold to third parties and the subsequent owner is unable to meet their decommissioning obligations it is possible that, in certain circumstances, BP could be partially or wholly responsible for decommissioning. BP is not currently aware of any such cases that have a greater than remote chance of reverting to the Group. Furthermore, as described in Provisions and contingencies within Note 1, decommissioning provisions associated with downstream and petrochemical facilities are not generally recognized as the potential obligations cannot be measured given their indeterminate settlement dates.

32. Remuneration of senior management and non-executive directors

Remuneration of directors

			$ million
	2017	2016	2015
Total for all directors			
Emoluments	**9**	10	10
Amounts received under incentive schemes[a]	**9**	14	14
Total	**18**	24	24

[a] Excludes amounts relating to past directors.

Emoluments

These amounts comprise fees paid to the non-executive chairman and the non-executive directors and, for executive directors, salary and benefits earned during the relevant financial year, plus cash bonuses awarded for the year.

Pension contributions

During 2017, one executive director participated in a UK final salary pension plan in respect of service prior to 1 April 2011. During 2017, one executive director participated in retirement savings plans established for US employees and in a US defined pension plan in respect of service prior to 1 September 2016.

Further information

Full details of individual directors' remuneration are given in the Directors' remuneration report on page 90.

Remuneration of directors and senior management

			$ million
	2017	2016	2015
Total for all senior management and non-executive directors			
Short-term employee benefits	**29**	28	33
Pensions and other post-retirement benefits	**2**	3	4
Share-based payments	**29**	39	36
Total	**60**	70	73

Senior management comprises members of the executive team, see pages 66-67 for further information.

Short-term employee benefits

These amounts comprise fees and benefits paid to the non-executive chairman and non-executive directors, as well as salary, benefits and cash bonuses for senior management. Deferred annual bonus awards, to be settled in shares, are included in share-based payments. Short term employee benefits includes compensation for loss of office of $nil in 2017 (2016 $2.2 million and 2015 $nil).

Pensions and other post-retirement benefits

The amounts represent the estimated cost to the group of providing pensions and other post-retirement benefits to senior management in respect of the current year of service measured in accordance with IAS 19 'Employee Benefits'.

Share-based payments

This is the cost to the group of senior management's participation in share-based payment plans, as measured by the fair value of options and shares granted, accounted for in accordance with IFRS 2 'Share-based Payments'.

33. Employee costs and numbers

Employee costs	2017	2016	$ million 2015
Wages and salaries[a]	**7,572**	8,456	9,556
Social security costs	**711**	760	879
Share-based payments[b]	**624**	764	833
Pension and other post-retirement benefit costs	**1,296**	1,253	1,660
	10,203	11,233	12,928

			2017			2016			2015
Average number of employees[c]	**US**	**Non-US**	**Total**	US	Non-US	Total	US	Non-US	Total
Upstream	**6,200**	**12,200**	**18,400**	6,700	13,500	20,200	7,900	15,100	23,000
Downstream[d e]	**6,100**	**35,900**	**42,000**	6,600	36,600	43,200	7,800	38,200	46,000
Other businesses and corporate[e f]	**1,900**	**12,400**	**14,300**	1,900	12,100	14,000	1,700	11,900	13,600
	14,200	**60,500**	**74,700**	15,200	62,200	77,400	17,400	65,200	82,600

[a] Includes termination costs of $189 million (2016 $545 million and 2015 $857 million).

[b] The group provides certain employees with shares and share options as part of their remuneration packages. The majority of these share-based payment arrangements are equity-settled.

[c] Reported to the nearest 100.

[d] Includes 16,500 (2016 15,800 and 2015 15,000) service station staff.

[e] Around 800 centralized function employees were reallocated from Upstream and Downstream to Other businesses and corporate during 2016, and around 2,000 from the global business services organization were reallocated from Downstream to Other businesses and corporate during 2015.

[f] Includes 4,700 (2016 4,900 and 2015 5,300) agricultural, operational and seasonal workers in Brazil.

34. Auditor's remuneration

Fees – Ernst & Young	2017	2016	$ million 2015
The audit of the company annual accounts[a]	**26**	25	27
The audit of accounts of subsidiaries of the company	**11**	12	13
Total audit	**37**	37	40
Audit-related assurance services[b]	**7**	7	7
Total audit and audit-related assurance services	**44**	44	47
Taxation compliance services	**—**	1	1
Services relating to corporate finance transactions	**—**	—	1
Non-audit and other assurance services	**3**	1	1
Total non-audit or non-audit-related assurance services	**3**	2	3
Services relating to BP pension plans[c]	**—**	1	1
	47	47	51

[a] Fees in respect of the audit of the accounts of BP p.l.c. including the group's consolidated financial statements.

[b] Includes interim reviews and audit of internal control over financial reporting and non-statutory audit services.

[c] The pension plan services include tax compliance service of $nil (2016 $nil and 2015 $0.4 million).

2017 includes $1.6 million of additional fees for 2016 and 2016 includes $1 million of additional fees for 2015. Auditors' remuneration is included in the income statement within distribution and administration expenses.

The tax services relate to income tax and indirect tax compliance, employee tax services and tax advisory services.

The audit committee has established pre-approval policies and procedures for the engagement of Ernst & Young to render audit and certain assurance and other services. The audit fees payable to Ernst & Young are reviewed by the audit committee in the context of other global companies for cost-effectiveness. Ernst & Young performed further assurance services that were not prohibited by regulatory or other professional requirements and were pre-approved by the Committee. Ernst & Young is engaged for these services when its expertise and experience of BP are important. Most of this work is of an audit nature.

Under SEC regulations, the remuneration of the auditor of $47 million (2016 $47 million and 2015 $51 million) is required to be presented as follows: audit $37 million (2016 $37 million and 2015 $40 million); other audit-related $7 million (2016 $7 million and 2015 $7 million); tax $nil (2016 $1 million and 2015 $1 million); and all other fees $3 million (2016 $2 million and 2015 $3 million).

35. Subsidiaries, joint arrangements and associates

The more important subsidiaries and associates of the group at 31 December 2017 and the group percentage of ordinary share capital (to nearest whole number) are set out below. There are no individually significant joint arrangements. Those held directly by the parent company are marked with an asterisk (*), the percentage owned being that of the group unless otherwise indicated. A complete list of undertakings of the group is included in Note 14 in the parent company financial statements of BP p.l.c. which are filed with the Registrar of Companies in the UK, along with the group's annual report.

Subsidiaries	%	Country of incorporation	Principal activities
International			
BP Corporate Holdings	100	England & Wales	Investment holding
BP Exploration Operating Company	100	England & Wales	Exploration and production
*BP Global Investments	100	England & Wales	Investment holding
*BP International	100	England & Wales	Integrated oil operations
BP Oil International	100	England & Wales	Integrated oil operations
*Burmah Castrol	100	Scotland	Lubricants
Angola			
BP Exploration (Angola)	100	England & Wales	Exploration and production
Azerbaijan			
BP Exploration (Caspian Sea)	100	England & Wales	Exploration and production
BP Exploration (Azerbaijan)	100	England & Wales	Exploration and production
Canada			
*BP Holdings Canada	100	England & Wales	Investment holding
Egypt			
BP Exploration (Delta)	100	England & Wales	Exploration and production
Germany			
BP Europa SE	100	Germany	Refining and marketing
India			
BP Exploration (Alpha)	100	England & Wales	Exploration and production
Trinidad & Tobago			
BP Trinidad and Tobago	70	US	Exploration and production
UK			
BP Capital Markets	100	England & Wales	Finance
US			
*BP Holdings North America	100	England & Wales	Investment holding
Atlantic Richfield Company	100	US	Exploration and production, refining and marketing
BP America	100	US	Exploration and production, refining and marketing
BP America Production Company	100	US	Exploration and production, refining and marketing
BP Company North America	100	US	Exploration and production, refining and marketing
BP Corporation North America	100	US	Exploration and production, refining and marketing
BP Exploration (Alaska)	100	US	Exploration and production, refining and marketing
BP Products North America	100	US	Exploration and production, refining and marketing
Standard Oil Company	100	US	Exploration and production, refining and marketing
BP Capital Markets America	100	US	Finance

Associates	%	Country of incorporation	Principal activities
Russia			
Rosneft	20	Russia	Integrated oil operations

36. Condensed consolidating information on certain US subsidiaries

BP p.l.c. fully and unconditionally guarantees the payment obligations of its 100%-owned subsidiary BP Exploration (Alaska) Inc. under the BP Prudhoe Bay Royalty Trust. The following financial information for BP p.l.c., BP Exploration (Alaska) Inc. and all other subsidiaries on a condensed consolidating basis is intended to provide investors with meaningful and comparable financial information about BP p.l.c. and its subsidiary issuers of registered securities and is provided pursuant to Rule 3-10 of Regulation S-X in lieu of the separate financial statements of each subsidiary issuer of public debt securities. Non-current assets for BP p.l.c. includes investments in subsidiaries recorded under the equity method for the purposes of the condensed consolidating financial information. Equity-accounted income of subsidiaries is the group's share of profit related to such investments. The eliminations and reclassifications column includes the necessary amounts to eliminate the intercompany balances and transactions between BP p.l.c., BP Exploration (Alaska) Inc. and other subsidiaries. The financial information presented in the following tables for BP Exploration (Alaska) Inc. incorporates subsidiaries of BP Exploration (Alaska) Inc. using the equity method of accounting and excludes the BP group's midstream operations in Alaska that are reported through different legal entities and that are included within the 'other subsidiaries' column in these tables. BP p.l.c. also fully and unconditionally guarantees securities issued by BP Capital Markets p.l.c. and BP Capital Markets America Inc. These companies are 100%-owned finance subsidiaries of BP p.l.c.

Income statement

					$ million
For the year ended 31 December					**2017**
	Issuer	**Guarantor**			
	BP Exploration (Alaska) Inc.	**BP p.l.c.**	**Other subsidiaries**	**Eliminations and reclassifications**	**BP group**
Sales and other operating revenues	3,264	—	240,177	(3,233)	240,208
Earnings from joint ventures- after interest and tax	—	—	1,177	—	1,177
Earnings from associates- after interest and tax	—	—	1,330	—	1,330
Equity-accounted income of subsidiaries- after interest and tax	—	4,436	—	(4,436)	—
Interest and other income	11	369	1,470	(1,193)	657
Gains on sale of businesses and fixed assets	71	9	1,139	(9)	1,210
Total revenues and other income	3,346	4,814	245,293	(8,871)	244,582
Purchases	1,010	—	181,939	(3,233)	179,716
Production and manufacturing expenses	1,156	—	23,073	—	24,229
Production and similar taxes[a]	(18)	—	1,793	—	1,775
Depreciation, depletion and amortization	735	—	14,849	—	15,584
Impairment and losses on sale of businesses and fixed assets	—	—	1,216	—	1,216
Exploration expense	—	—	2,080	—	2,080
Distribution and administration expenses	19	616	10,022	(149)	10,508
Profit (loss) before interest and taxation	444	4,198	10,321	(5,489)	9,474
Finance costs	6	826	2,286	(1,044)	2,074
Net finance (income) expense relating to pensions and other post-retirement benefits	—	(15)	235	—	220
Profit (loss) before taxation	438	3,387	7,800	(4,445)	7,180
Taxation	(392)	(11)	4,115	—	3,712
Profit (loss) for the year	830	3,398	3,685	(4,445)	3,468
Attributable to					
BP shareholders	830	3,398	3,606	(4,445)	3,389
Non-controlling interests	—	—	79	—	79
	830	3,398	3,685	(4,445)	3,468

[a] Includes revised non-cash provision adjustments; actual cash payments for Production and similar taxes remain in line with prior year.

Statement of comprehensive income

					$ million
For the year ended 31 December					**2017**
	Issuer	**Guarantor**			
	BP Exploration (Alaska) Inc.	**BP p.l.c.**	**Other subsidiaries**	**Eliminations and reclassifications**	**BP group**
Profit (loss) for the year	830	3,398	3,685	(4,445)	3,468
Other comprehensive income	—	1,981	3,035	—	5,016
Equity-accounted other comprehensive income of subsidiaries	—	2,983	—	(2,983)	—
Total comprehensive income	830	8,362	6,720	(7,428)	8,484
Attributable to					
BP shareholders	830	8,362	6,589	(7,428)	8,353
Non-controlling interests	—	—	131	—	131
	830	8,362	6,720	(7,428)	8,484

36. Condensed consolidating information on certain US subsidiaries – continued

Income statement continued

For the year ended 31 December	Issuer	Guarantor			$ million 2016
	BP Exploration (Alaska) Inc.	BP p.l.c.	Other subsidiaries	Eliminations and reclassifications	BP group
Sales and other operating revenues	2,740	—	182,999	(2,731)	183,008
Earnings from joint ventures- after interest and tax	—	—	966	—	966
Earnings from associates- after interest and tax	—	—	994	—	994
Equity-accounted income of subsidiaries- after interest and tax	—	862	—	(862)	—
Interest and other income	94	343	899	(830)	506
Gains on sale of businesses and fixed assets	—	—	1,132	—	1,132
Total revenues and other income	2,834	1,205	186,990	(4,423)	186,606
Purchases	888	—	134,062	(2,731)	132,219
Production and manufacturing expenses	1,171	—	27,906	—	29,077
Production and similar taxes	102	—	581	—	683
Depreciation, depletion and amortization	673	—	13,832	—	14,505
Impairment and losses on sale of businesses and fixed assets	(147)	—	(1,517)	—	(1,664)
Exploration expense	—	—	1,721	—	1,721
Distribution and administration expenses	—	808	9,797	(110)	10,495
Profit (loss) before interest and taxation	147	397	608	(1,582)	(430)
Finance costs	103	311	1,981	(720)	1,675
Net finance (income) expense relating to pensions and other post-retirement benefits	—	(82)	272	—	190
Profit (loss) before taxation	44	168	(1,645)	(862)	(2,295)
Taxation	(41)	53	(2,479)	—	(2,467)
Profit (loss) for the year	85	115	834	(862)	172
Attributable to					
BP shareholders	85	115	777	(862)	115
Non-controlling interests	—	—	57	—	57
	85	115	834	(862)	172

Statement of comprehensive income continued

	Issuer	Guarantor			$ million 2016
	BP Exploration (Alaska) Inc.	BP p.l.c.	Other subsidiaries	Eliminations and reclassifications	BP group
Profit (loss) for the year	85	115	834	(862)	172
Other comprehensive income	—	(1,505)	517	—	(988)
Equity-accounted other comprehensive income of subsidiaries	—	544	—	(544)	—
Total comprehensive income	85	(846)	1,351	(1,406)	(816)
Attributable to					
BP shareholders	85	(846)	1,321	(1,406)	(846)
Non-controlling interests	—	—	30	—	30
	85	(846)	1,351	(1,406)	(816)

36. Condensed consolidating information on certain US subsidiaries – continued

Income statement continued

$ million

2015

	Issuer BP Exploration (Alaska) Inc.	Guarantor BP p.l.c.	Other subsidiaries	Eliminations and reclassifications	BP group
Sales and other operating revenues	3,438	—	222,881	(3,425)	222,894
Earnings from joint ventures- after interest and tax	—	—	(28)	—	(28)
Earnings from associates- after interest and tax	—	—	1,839	—	1,839
Equity-accounted income of subsidiaries- after interest and tax	—	(5,404)	—	5,404	—
Interest and other income	29	185	671	(274)	611
Gains on sale of businesses and fixed assets	—	31	666	(31)	666
Total revenues and other income	3,467	(5,188)	226,029	1,674	225,982
Purchases	1,432	—	166,783	(3,425)	164,790
Production and manufacturing expenses	1,360	—	35,680	—	37,040
Production and similar taxes	140	—	896	—	1,036
Depreciation, depletion and amortization	569	—	14,650	—	15,219
Impairment and losses on sale of businesses and fixed assets	176	—	1,733	—	1,909
Exploration expense	—	—	2,353	—	2,353
Distribution and administration expenses	56	1,125	10,449	(77)	11,553
Profit (loss) before interest and taxation	(266)	(6,313)	(6,515)	5,176	(7,918)
Finance costs	35	36	1,473	(197)	1,347
Net finance (income) expense relating to pensions and other post-retirement benefits	—	20	286	—	306
Profit (loss) before taxation	(301)	(6,369)	(8,274)	5,373	(9,571)
Taxation	(129)	82	(3,124)	—	(3,171)
Profit (loss) for the year	(172)	(6,451)	(5,150)	5,373	(6,400)
Attributable to					
BP shareholders	(172)	(6,451)	(5,232)	5,373	(6,482)
Non-controlling interests	—	—	82	—	82
	(172)	(6,451)	(5,150)	5,373	(6,400)

Statement of comprehensive income continued

$ million

2015

	Issuer BP Exploration (Alaska) Inc.	Guarantor BP p.l.c.	Other subsidiaries	Eliminations and reclassifications	BP group
Profit (loss) for the year	(172)	(6,451)	(5,150)	5,373	(6,400)
Other comprehensive income	—	1,863	(3,681)	—	(1,818)
Equity-accounted other comprehensive income of subsidiaries	—	(3,640)	—	3,640	—
Total comprehensive income	(172)	(8,228)	(8,831)	9,013	(8,218)
Attributable to					
BP shareholders	(172)	(8,228)	(8,872)	9,013	(8,259)
Non-controlling interests	—	—	41	—	41
	(172)	(8,228)	(8,831)	9,013	(8,218)

36. Condensed consolidating information on certain US subsidiaries – continued

Balance sheet

	Issuer BP Exploration (Alaska) Inc.	Guarantor BP p.l.c.	Other subsidiaries	Eliminations and reclassifications	BP group
					$ million
					2017
Non-current assets					
Property, plant and equipment	6,973	—	122,498	—	129,471
Goodwill	—	—	11,551	—	11,551
Intangible assets	585	—	17,770	—	18,355
Investments in joint ventures	—	—	7,994	—	7,994
Investments in associates	—	2	16,989	—	16,991
Other investments	—	—	1,245	—	1,245
Subsidiaries- equity-accounted basis	—	161,840	—	(161,840)	—
Fixed assets	7,558	161,842	178,047	(161,840)	185,607
Loans	1	—	34,701	(34,056)	646
Trade and other receivables	—	2,623	1,434	(2,623)	1,434
Derivative financial instruments	—	—	4,110	—	4,110
Prepayments	—	—	1,112	—	1,112
Deferred tax assets	—	—	4,469	—	4,469
Defined benefit pension plan surpluses	—	3,838	331	—	4,169
	7,559	168,303	224,204	(198,519)	201,547
Current assets					
Loans	—	—	190	—	190
Inventories	274	—	18,737	—	19,011
Trade and other receivables	2,206	293	32,691	(10,341)	24,849
Derivative financial instruments	—	—	3,032	—	3,032
Prepayments	2	—	1,412	—	1,414
Current tax receivable	—	—	761	—	761
Other investments	—	—	125	—	125
Cash and cash equivalents	—	10	25,576	—	25,586
	2,482	303	82,524	(10,341)	74,968
Total assets	10,041	168,606	306,728	(208,860)	276,515
Current liabilities					
Trade and other payables	673	7,843	46,034	(10,341)	44,209
Derivative financial instruments	—	—	2,808	—	2,808
Accruals	115	60	4,785	—	4,960
Finance debt	—	—	7,739	—	7,739
Current tax payable	—	—	1,686	—	1,686
Provisions	1	—	3,323	—	3,324
	789	7,903	66,375	(10,341)	64,726
Non-current liabilities					
Other payables	—	34,104	16,464	(36,679)	13,889
Derivative financial instruments	—	—	3,761	—	3,761
Accruals	—	—	505	—	505
Finance debt	—	—	55,491	—	55,491
Deferred tax liabilities	838	1,337	5,807	—	7,982
Provisions	1,222	—	19,398	—	20,620
Defined benefit pension plan and other post-retirement benefit plan deficits	—	221	8,916	—	9,137
	2,060	35,662	110,342	(36,679)	111,385
Total liabilities	2,849	43,565	176,717	(47,020)	176,111
Net assets	7,192	125,041	130,011	(161,840)	100,404
Equity					
BP shareholders' equity	7,192	125,041	128,098	(161,840)	98,491
Non-controlling interests	—	—	1,913	—	1,913
	7,192	125,041	130,011	(161,840)	100,404

Balance sheet continued

	Issuer	Guarantor			$ million 2016
	BP Exploration (Alaska) Inc.	BP p.l.c.	Other subsidiaries	Eliminations and reclassifications	BP group
Non-current assets					
Property, plant and equipment	7,405	—	122,352	—	129,757
Goodwill	—	—	11,194	—	11,194
Intangible assets	578	—	17,605	—	18,183
Investments in joint ventures	—	—	8,609	—	8,609
Investments in associates	—	2	14,090	—	14,092
Other investments	—	—	1,033	—	1,033
Subsidiaries- equity-accounted basis	—	156,864	—	(156,864)	—
Fixed assets	7,983	156,866	174,883	(156,864)	182,868
Loans	9	—	34,941	(34,418)	532
Trade and other receivables	—	2,951	1,474	(2,951)	1,474
Derivative financial instruments	—	—	4,359	—	4,359
Prepayments	—	—	945	—	945
Deferred tax assets	—	—	4,741	—	4,741
Defined benefit pension plan surpluses	—	528	56	—	584
	7,992	160,345	221,399	(194,233)	195,503
Current assets					
Loans	—	—	259	—	259
Inventories	249	—	17,406	—	17,655
Trade and other receivables[a]	1,593	487	24,610	(6,015)	20,675
Derivative financial instruments	—	—	3,016	—	3,016
Prepayments	7	—	1,479	—	1,486
Current tax receivable	—	—	1,194	—	1,194
Other investments	—	—	44	—	44
Cash and cash equivalents	—	50	23,434	—	23,484
	1,849	537	71,442	(6,015)	67,813
Total assets	9,841	160,882	292,841	(200,248)	263,316
Current liabilities					
Trade and other payables[a]	672	4,096	39,162	(6,015)	37,915
Derivative financial instruments	—	—	2,991	—	2,991
Accruals	116	129	4,891	—	5,136
Finance debt	—	—	6,634	—	6,634
Current tax payable[a]	—	—	1,666	—	1,666
Provisions	2	—	4,010	—	4,012
	790	4,225	59,354	(6,015)	58,354
Non-current liabilities					
Other payables	20	34,389	16,906	(37,369)	13,946
Derivative financial instruments	—	—	5,513	—	5,513
Accruals	—	43	426	—	469
Finance debt	—	—	51,666	—	51,666
Deferred tax liabilities	1,279	179	5,780	—	7,238
Provisions	1,390	—	19,022	—	20,412
Defined benefit pension plan and other post-retirement benefit plan deficits	—	219	8,656	—	8,875
	2,689	34,830	107,969	(37,369)	108,119
Total liabilities	3,479	39,055	167,323	(43,384)	166,473
Net assets	6,362	121,827	125,518	(156,864)	96,843
Equity					
BP shareholders' equity[a]	6,362	121,827	123,961	(156,864)	95,286
Non-controlling interests	—	—	1,557	—	1,557
	6,362	121,827	125,518	(156,864)	96,843

[a] Amendments have been made to previously reported amounts for BP Exploration (Alaska) Inc., reducing current trade and other receivables by $990 million, current trade and other payables by $50 million and current tax payable by $11 million, with offsetting amendments to BP shareholders' equity. This relates to intra-BP group balances and, as such, amendments have also been made to the same line items presented for Other subsidiaries as well as eliminations amounts. The amendments represent the adjustment of amounts recorded in earlier periods by BP Exploration (Alaska) Inc. as intra-BP group balances relating to group re-organizations and the tax consequences thereon which are now considered to be more appropriately treated as shown by the amended amounts above.

36. Condensed consolidating information on certain US subsidiaries – continued

Cash flow statement

				$ million
				2017
	Issuer	**Guarantor**		
	BP Exploration (Alaska) Inc.	**BP p.l.c.**	**Other subsidiaries**	**BP group**
Net cash provided by operating activities	**227**	**6,456**	**12,248**	**18,931**
Net cash provided by (used in) investing activities	**(227)**	**—**	**(13,850)**	**(14,077)**
Net cash provided by (used in) financing activities	**—**	**(6,496)**	**3,200**	**(3,296)**
Currency translation differences relating to cash and cash equivalents	**—**	**—**	**544**	**544**
Increase (decrease) in cash and cash equivalents	**—**	**(40)**	**2,142**	**2,102**
Cash and cash equivalents at beginning of year	**—**	**50**	**23,434**	**23,484**
Cash and cash equivalents at end of year	**—**	**10**	**25,576**	**25,586**

				$ million
For the year ended 31 December				2016
	Issuer	Guarantor		
	BP Exploration (Alaska) Inc.	BP p.l.c.	Other subsidiaries	BP group
Net cash provided by operating activities	699	4,661	5,331	10,691
Net cash provided by (used in) investing activities	(699)	—	(14,054)	(14,753)
Net cash provided by (used in) financing activities	—	(4,611)	6,588	1,977
Currency translation differences relating to cash and cash equivalents	—	—	(820)	(820)
Increase (decrease) in cash and cash equivalents	—	50	(2,955)	(2,905)
Cash and cash equivalents at beginning of year	—	—	26,389	26,389
Cash and cash equivalents at end of year	—	50	23,434	23,484

				$ million
For the year ended 31 December				2015
	Issuer	Guarantor		
	BP Exploration (Alaska) Inc.	BP p.l.c.	Other subsidiaries	BP group
Net cash provided by operating activities	925	6,628	11,580	19,133
Net cash provided by (used in) investing activities	(925)	—	(16,375)	(17,300)
Net cash provided by (used in) financing activities	—	(6,659)	2,124	(4,535)
Currency translation differences relating to cash and cash equivalents	—	—	(672)	(672)
Increase (decrease) in cash and cash equivalents	—	(31)	(3,343)	(3,374)
Cash and cash equivalents at beginning of year	—	31	29,732	29,763
Cash and cash equivalents at end of year	—	—	26,389	26,389

Supplementary information on oil and natural gas (unaudited)

The regional analysis presented below is on a continent basis, with separate disclosure for countries that contain 15% or more of the total proved reserves (for subsidiaries plus equity-accounted entities), in accordance with SEC and FASB requirements.

Oil and gas reserves – certain definitions

Unless the context indicates otherwise, the following terms have the meanings shown below:

Proved oil and gas reserves

Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible – from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations – prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.

(i) The area of the reservoir considered as proved includes:

   (A) The area identified by drilling and limited by fluid contacts, if any; and

   (B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.

(ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.

(iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.

(iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:

   (A) Successful testing by a pilot project in an area of the reservoir with properties no more favourable than in the reservoir as a whole, the operation of an installed programme in the reservoir or an analogous reservoir, or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or programme was based; and

   (B) The project has been approved for development by all necessary parties and entities, including governmental entities.

(v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

Undeveloped oil and gas reserves

Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

(i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.

(ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.

(iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, or by other evidence using reliable technology establishing reasonable certainty.

Developed oil and gas reserves

Developed oil and gas reserves are reserves of any category that can be expected to be recovered:

(i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and

(ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

For details on BP's proved reserves and production compliance and governance processes, see pages 259-264.

Oil and natural gas exploration and production activities

										$ million
										2017
	Europe		**North America**		**South America**	**Africa**	**Asia**		**Australasia**	**Total**
	UK	**Rest of Europe**	**US**	**Rest of North America**			**Russia**	**Rest of Asia**		
Subsidiaries										
Capitalized costs at 31 December[a b]										
Gross capitalized costs										
Proved properties	**34,208**	**—**	**83,449**	**3,518**	**13,581**	**49,795**	**—**	**35,519**	**5,984**	**226,054**
Unproved properties	**481**	**—**	**3,957**	**2,561**	**2,905**	**4,013**	**—**	**3,407**	**562**	**17,886**
	34,689	**—**	**87,406**	**6,079**	**16,486**	**53,808**	**—**	**38,926**	**6,546**	**243,940**
Accumulated depreciation	**21,793**	**—**	**48,462**	**367**	**7,495**	**34,870**	**—**	**18,007**	**3,192**	**134,186**
Net capitalized costs	**12,896**	**—**	**38,944**	**5,712**	**8,991**	**18,938**	**—**	**20,919**	**3,354**	**109,754**
Costs incurred for the year ended 31 December[a b]										
Acquisition of properties										
Proved	**—**	**—**	**22**	**—**	**—**	**564**	**—**	**1,187**	**—**	**1,773**
Unproved	**13**	**—**	**13**	**—**	**330**	**374**	**—**	**228**	**—**	**958**
	13	**—**	**35**	**—**	**330**	**938**	**—**	**1,415**	**—**	**2,731**
Exploration and appraisal costs[c]	**336**	**—**	**102**	**52**	**264**	**682**	**11**	**190**	**18**	**1,655**
Development	**995**	**—**	**2,776**	**58**	**911**	**2,972**	**—**	**2,760**	**223**	**10,695**
Total costs	**1,344**	**—**	**2,913**	**110**	**1,505**	**4,592**	**11**	**4,365**	**241**	**15,081**
Results of operations for the year ended 31 December[a]										
Sales and other operating revenues[d]										
Third parties	**204**	**—**	**724**	**171**	**1,134**	**2,211**	**—**	**1,276**	**967**	**6,687**
Sales between businesses	**1,745**	**—**	**9,117**	**2**	**327**	**4,022**	**—**	**6,394**	**487**	**22,094**
	1,949	**—**	**9,841**	**173**	**1,461**	**6,233**	**—**	**7,670**	**1,454**	**28,781**
Exploration expenditure	**331**	**—**	**282**	**39**	**83**	**1,346**	**11**	**(29)**	**17**	**2,080**
Production costs	**629**	**—**	**2,256**	**116**	**573**	**979**	**—**	**904**	**157**	**5,614**
Production taxes	**(37)**	**—**	**52**	**—**	**86**	**—**	**—**	**1,618**	**56**	**1,775**
Other costs (income)[e]	**(272)**	**2**	**1,655**	**34**	**71**	**280**	**39**	**311**	**349**	**2,469**
Depreciation, depletion and amortization	**1,190**	**—**	**4,258**	**96**	**742**	**3,586**	**—**	**2,147**	**366**	**12,385**
Net impairments and (gains) losses on sale of businesses and fixed assets	**133**	**(12)**	**87**	**(1)**	**(31)**	**—**	**—**	**(10)**	**13**	**179**
	1,974	**(10)**	**8,590**	**284**	**1,524**	**6,191**	**50**	**4,941**	**958**	**24,502**
Profit (loss) before taxation[f]	**(25)**	**10**	**1,251**	**(111)**	**(63)**	**42**	**(50)**	**2,729**	**496**	**4,279**
Allocable taxes[g]	**(104)**	**—**	**(1,811)**	**(28)**	**155**	**788**	**(19)**	**1,505**	**146**	**632**
Results of operations	**79**	**10**	**3,062**	**(83)**	**(218)**	**(746)**	**(31)**	**1,224**	**350**	**3,647**
Upstream and Rosneft segments replacement cost profit (loss) before interest and tax										
Exploration and production activities – subsidiaries (as above)	**(25)**	**10**	**1,251**	**(111)**	**(63)**	**42**	**(50)**	**2,729**	**496**	**4,279**
Midstream and other activities – subsidiaries[h]	**(185)**	**97**	**(176)**	**(111)**	**140**	**(80)**	**3**	**315**	**11**	**14**
Equity-accounted entities[i j]	**—**	**71**	**25**	**—**	**381**	**205**	**837**	**245**	**—**	**1,764**
Total replacement cost profit (loss) before interest and tax	**(210)**	**178**	**1,100**	**(222)**	**458**	**167**	**790**	**3,289**	**507**	**6,057**

[a] These tables contain information relating to oil and natural gas exploration and production activities of subsidiaries, which includes our share of oil and natural gas exploration and production activities of joint operations. They do not include any costs relating to the Gulf of Mexico oil spill. Amounts relating to the management and ownership of crude oil and natural gas pipelines, LNG liquefaction and transportation operations are excluded. In addition, our midstream activities of marketing and trading of natural gas, power and NGLs in the US, Canada, UK, Asia and Europe are excluded. The most significant midstream pipeline interests include the Trans-Alaska Pipeline System, the South Caucasus Pipeline, the Forties Pipeline System and the Baku-Tbilisi-Ceyhan pipeline. The Forties Pipeline System was divested on 31 October 2017. Major LNG activities are located in Trinidad, Indonesia, Australia and Angola.

[b] Decommissioning assets are included in capitalized costs at 31 December but are excluded from costs incurred for the year.

[c] Includes exploration and appraisal drilling expenditures, which are capitalized within intangible assets, and geological and geophysical exploration costs, which are charged to income as incurred.

[d] Presented net of transportation costs, purchases and sales taxes.

[e] Includes property taxes, other government take and the fair value gain on embedded derivatives of $32 million. The UK region includes a $343-million gain which is offset by corresponding charges primarily in the US region, relating to the group self-insurance programme.

[f] Excludes the unwinding of the discount on provisions and payables amounting to $120 million which is included in finance costs in the group income statement.

[g] US region includes the deferred tax impact of the reduction in the US Federal corporate income tax rate from 35% to 21% enacted in December 2017.

[h] Midstream and other activities excludes inventory holding gains and losses.

[i] The profits of equity-accounted entities are included after interest and tax.

[j] From 16 December 2017, BP entered into a new 50:50 joint venture Pan American Energy Group (PAEG). Prior to this, Pan American Energy (PAE) was owned 60% by BP and 40% by Bridas Corporation. Of BP's initial 60% interest in PAE, 10% was classified as held for sale on 9 September 2017. For September, only 9 days of income was reported for the full 60%. After this equity accounting continued for the 50% not classified as held for sale. BP accounted for 50% of the enlarged entity from 16 December 2017.

Oil and natural gas exploration and production activities – continued

										$ million
										2017
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia[a]	Rest of Asia		
Equity-accounted entities (BP share)										
Capitalized costs at 31 December[b c]										
Gross capitalized costs										
Proved properties	—	3,187	—	—	9,096	—	24,686	3,434	—	40,403
Unproved properties	—	481	—	—	68	—	907	26	—	1,482
	—	3,668	—	—	9,164	—	25,593	3,460	—	41,885
Accumulated depreciation	—	400	—	—	4,249	—	6,207	3,460	—	14,316
Net capitalized costs	—	3,268	—	—	4,915	—	19,386	—	—	27,569
Costs incurred for the year ended 31 December[b d e]										
Acquisition of properties[c]										
Proved	—	323	—	—	—	—	653	—	—	976
Unproved	—	152	—	—	20	—	416	—	—	588
	—	475	—	—	20	—	1,069	—	—	1,564
Exploration and appraisal costs[d]	—	49	—	—	43	—	194	—	—	286
Development	—	199	—	—	576	—	3,361	446	—	4,582
Total costs	—	723	—	—	639	—	4,624	446	—	6,432
Results of operations for the year ended 31 December[b]										
Sales and other operating revenues[f]										
Third parties	—	773	—	—	1,750	—	—	988	—	3,511
Sales between businesses	—	—	—	—	—	—	11,537	—	—	11,537
	—	773	—	—	1,750	—	11,537	988	—	15,048
Exploration expenditure	—	68	—	—	—	—	59	—	—	127
Production costs	—	157	—	—	592	—	1,424	117	—	2,290
Production taxes	—	—	—	—	336	—	5,712	426	—	6,474
Other costs (income)	—	67	—	—	11	—	409	(5)	—	482
Depreciation, depletion and amortization	—	328	—	—	458	—	1,539	446	—	2,771
Net impairments and losses on sale of businesses and fixed assets	—	6	—	—	27	—	54	—	—	87
	—	626	—	—	1,424	—	9,197	984	—	12,231
Profit (loss) before taxation	—	147	—	—	326	—	2,340	4	—	2,817
Allocable taxes	—	54	—	—	(18)	—	457	—	—	493
Results of operations[g]	—	93	—	—	344	—	1,883	4	—	2,324
Upstream and Rosneft segments replacement cost profit (loss) before interest and tax from equity-accounted entities										
Exploration and production activities – equity-accounted entities after tax (as above)	—	93	—	—	344	—	1,883	4	—	2,324
Midstream and other activities after tax[h]	—	(22)	25	—	37	205	(1,046)	241	—	(560)
Total replacement cost profit (loss) after interest and tax	—	71	25	—	381	205	837	245	—	1,764

[a] Amounts reported for Russia in this table include BP's share of Rosneft's worldwide activities, including insignificant amounts outside Russia.

[b] These tables contain information relating to oil and natural gas exploration and production activities of equity-accounted entities. Amounts relating to the management and ownership of crude oil and natural gas pipelines, LNG liquefaction and transportation operations as well as downstream activities of Rosneft and Pan American Energy Group are excluded. The amounts reported for equity-accounted entities exclude the corresponding amounts for their equity-accounted entities.

[c] Decommissioning assets are included in capitalized costs at 31 December but are excluded from costs incurred for the year.

[d] Includes exploration and appraisal drilling expenditures, which are capitalized within intangible assets, and geological and geophysical exploration costs, which are charged to income as incurred.

[e] The amounts shown reflect BP's share of equity-accounted entities' costs incurred, and not the costs incurred by BP in acquiring an interest in equity-accounted entities.

[f] Presented net of transportation costs and sales taxes.

[g] From 16 December 2017, BP entered into a new 50:50 joint venture Pan American Energy Group (PAEG). Prior to this, Pan American Energy (PAE) was owned 60% by BP and 40% by Bridas Corporation. Of BP's initial 60% interest in PAE, 10% was classified as held for sale on 9 September 2017. For September, only 9 days of income was reported for the full 60%. After this equity accounting continued for the 50% not classified as held for sale. BP accounted for 50% of the enlarged entity from 16 December 2017.

[h] Includes interest and adjustment for non-controlling interests. Excludes inventory holding gains and losses.

Oil and natural gas exploration and production activities – continued

										$ million
										2016
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
Capitalized costs at 31 December[a b]										
Gross capitalized costs										
Proved properties	34,171	—	81,633	3,622	12,624	46,892	—	30,870	5,752	215,564
Unproved properties	483	—	4,712	2,377	2,450	3,808	—	4,132	562	18,524
	34,654	—	86,345	5,999	15,074	50,700	—	35,002	6,314	234,088
Accumulated depreciation	21,745	—	44,988	272	6,764	31,456	—	15,942	2,826	123,993
Net capitalized costs	12,909	—	41,357	5,727	8,310	19,244	—	19,060	3,488	110,095
Costs incurred for the year ended 31 December[a b]										
Acquisition of properties[c]										
Proved	215	—	314	—	—	—	—	703	207	1,439
Unproved	—	—	38	10	10	181	—	1,728	—	1,967
	215	—	352	10	10	181	—	2,431	207	3,406
Exploration and appraisal costs[d]	165	5	391	70	123	297	10	252	89	1,402
Development	1,284	3	2,372	28	1,519	2,957	—	2,788	194	11,145
Total costs	1,664	8	3,115	108	1,652	3,435	10	5,471	490	15,953
Results of operations for the year ended 31 December[a]										
Sales and other operating revenues[e]										
Third parties	244	26	640	74	747	1,215	—	97	1,042	4,085
Sales between businesses	1,387	421	6,204	2	103	3,391	—	3,908	309	15,725
	1,631	447	6,844	76	850	4,606	—	4,005	1,351	19,810
Exploration expenditure	133	3	693	61	672	87	10	(27)	89	1,721
Production costs	619	208	2,524	114	476	1,220	—	691	154	6,006
Production taxes	(351)	—	155	—	38	—	—	800	41	683
Other costs (income)[f]	(215)	37	1,687	25	115	597	34	115	153	2,548
Depreciation, depletion and amortization	1,002	209	3,940	66	591	2,937	—	2,179	289	11,213
Net impairments and (gains) losses on sale of businesses and fixed assets	(809)	(345)	(627)	(5)	(77)	(765)	—	(182)	63	(2,747)
	379	112	8,372	261	1,815	4,076	44	3,576	789	19,424
Profit (loss) before taxation[g]	1,252	335	(1,528)	(185)	(965)	530	(44)	429	562	386
Allocable taxes[h]	(286)	(287)	(402)	(40)	(194)	670	(10)	(74)	288	(335)
Results of operations	1,538	622	(1,126)	(145)	(771)	(140)	(34)	503	274	721
Upstream and Rosneft segments replacement cost profit (loss) before interest and tax										
Exploration and production activities – subsidiaries (as above)	1,252	335	(1,528)	(185)	(965)	530	(44)	429	562	386
Midstream and other activities – subsidiaries[i]	(417)	54	(14)	(137)	187	(142)	(2)	(81)	13	(539)
Equity-accounted entities[j k]	—	(1)	20	—	447	(12)	597	266	—	1,317
Total replacement cost profit (loss) before interest and tax	835	388	(1,522)	(322)	(331)	376	551	614	575	1,164

[a] These tables contain information relating to oil and natural gas exploration and production activities of subsidiaries, which includes our share of oil and natural gas exploration and production activities of joint operations. They do not include any costs relating to the Gulf of Mexico oil spill. Amounts relating to the management and ownership of crude oil and natural gas pipelines, LNG liquefaction and transportation operations are excluded. In addition, our midstream activities of marketing and trading of natural gas, power and NGLs in the US, Canada, UK, Asia and Europe are excluded. The most significant midstream pipeline interests include the Trans-Alaska Pipeline System, the Forties Pipeline System, the South Caucasus Pipeline and the Baku-Tbilisi-Ceyhan pipeline. Major LNG activities are located in Trinidad, Indonesia, Australia and Angola.

[b] Decommissioning assets are included in capitalized costs at 31 December but are excluded from costs incurred for the year.

[c] Rest of Asia amounts include BP's participating interest in the Abu Dhabi ADCO concession.

[d] Includes exploration and appraisal drilling expenditures, which are capitalized within intangible assets, and geological and geophysical exploration costs, which are charged to income as incurred.

[e] Presented net of transportation costs, purchases and sales taxes.

[f] Includes property taxes, other government take and the fair value gain on embedded derivatives of $32 million. The UK region includes a $454-million gain which is offset by corresponding charges primarily in the US region, relating to the group self-insurance programme.

[g] Excludes the unwinding of the discount on provisions and payables amounting to $152 million which is included in finance costs in the group income statement.

[h] UK region includes the deferred tax impact of the enactment of legislation to reduce the UK supplementary charge tax rate applicable to profits arising in the North Sea from 20% to 10%.

[i] Midstream and other activities excludes inventory holding gains and losses.

[j] The profits of equity-accounted entities are included after interest and tax.

[k] Includes the results of BP's 30% interest in Aker BP ASA from 1 October 2016.

Oil and natural gas exploration and production activities – continued

										$ million
										2016
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia[a]	Rest of Asia		
Equity-accounted entities (BP share)										
Capitalized costs at 31 December[b c]										
Gross capitalized costs										
Proved properties	—	2,702	—	—	10,211	—	19,558	3,009	—	35,480
Unproved properties	—	296	—	—	6	—	383	26	—	711
	—	2,998	—	—	10,217	—	19,941	3,035	—	36,191
Accumulated depreciation	—	48	—	—	4,615	—	4,401	3,035	—	12,099
Net capitalized costs	—	2,950	—	—	5,602	—	15,540	—	—	24,092
Costs incurred for the year ended 31 December[b d e]										
Acquisition of properties[c]										
Proved	—	—	—	—	—	—	1,576	—	—	1,576
Unproved	—	—	—	—	—	—	69	—	—	69
	—	—	—	—	—	—	1,645	—	—	1,645
Exploration and appraisal costs[d]	—	18	—	—	7	—	118	1	—	144
Development	—	54	—	—	559	—	2,070	371	—	3,054
Total costs	—	72	—	—	566	—	3,833	372	—	4,843
Results of operations for the year ended 31 December[b]										
Sales and other operating revenues[f]										
Third parties	—	162	—	—	1,865	—	—	876	—	2,903
Sales between businesses	—	—	—	—	—	—	8,088	16	—	8,104
	—	162	—	—	1,865	—	8,088	892	—	11,007
Exploration expenditure	—	13	—	—	—	—	50	—	—	63
Production costs	—	36	—	—	559	—	1,085	145	—	1,825
Production taxes	—	—	—	—	335	—	3,393	352	—	4,080
Other costs (income)	—	(13)	—	—	(429)	—	345	3	—	(94)
Depreciation, depletion and amortization	—	48	—	—	499	—	1,082	386	—	2,015
Net impairments and losses on sale of businesses and fixed assets	—	—	—	—	164	—	59	—	—	223
	—	84	—	—	1,128	—	6,014	886	—	8,112
Profit (loss) before taxation	—	78	—	—	737	—	2,074	6	—	2,895
Allocable taxes	—	75	—	—	319	—	435	3	—	832
Results of operations[g]	—	3	—	—	418	—	1,639	3	—	2,063
Upstream and Rosneft segments replacement cost profit (loss) before interest and tax from equity-accounted entities										
Exploration and production activities – equity-accounted entities after tax (as above)	—	3	—	—	418	—	1,639	3	—	2,063
Midstream and other activities after tax[h]	—	(4)	20	—	29	(12)	(1,042)	263	—	(746)
Total replacement cost profit (loss) after interest and tax	—	(1)	20	—	447	(12)	597	266	—	1,317

[a] Amounts reported for Russia in this table include BP's share of Rosneft's worldwide activities, including insignificant amounts outside Russia. Amounts also include certain adjustments, mainly related to purchase price allocations for 2016 acquisitions.

[b] These tables contain information relating to oil and natural gas exploration and production activities of equity-accounted entities. Amounts relating to the management and ownership of crude oil and natural gas pipelines, LNG liquefaction and transportation operations as well as downstream activities of Rosneft are excluded. The amounts reported for equity-accounted entities exclude the corresponding amounts for their equity-accounted entities.

[c] Decommissioning assets are included in capitalized costs at 31 December but are excluded from costs incurred for the year.

[d] Includes exploration and appraisal drilling expenditures, which are capitalized within intangible assets, and geological and geophysical exploration costs, which are charged to income as incurred.

[e] The amounts shown reflect BP's share of equity-accounted entities' costs incurred, and not the costs incurred by BP in acquiring an interest in equity-accounted entities.

[f] Presented net of transportation costs and sales taxes.

[g] Includes the results of BP's 30% interest in Aker BP ASA from 1 October 2016.

[h] Includes interest and adjustment for non-controlling interests. Excludes inventory holding gains and losses.

Oil and natural gas exploration and production activities – continued

										$ million
										2015
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
Capitalized costs at 31 December[a b]										
Gross capitalized costs										
Proved properties	33,214	10,568	80,716	3,559	11,051	42,807	—	28,474	5,177	215,566
Unproved properties	437	168	5,602	2,377	2,964	4,635	—	2,740	933	19,856
	33,651	10,736	86,318	5,936	14,015	47,442	—	31,214	6,110	235,422
Accumulated depreciation	21,447	7,172	43,290	191	6,251	29,406	—	15,967	2,677	126,401
Net capitalized costs	12,204	3,564	43,028	5,745	7,764	18,036	—	15,247	3,433	109,021
Costs incurred for the year ended 31 December[a b]										
Acquisition of properties										
Proved	17	—	131	—	—	259	—	—	—	407
Unproved	—	—	56	—	(118)	8	—	—	—	(54)
	17	—	187	—	(118)	267	—	—	—	353
Exploration and appraisal costs[c]	178	11	651	75	114	533	5	102	125	1,794
Development	1,784	73	3,662	324	1,299	2,749	—	3,439	128	13,458
Total costs	1,979	84	4,500	399	1,295	3,549	5	3,541	253	15,605
Results of operations for the year ended 31 December[a]										
Sales and other operating revenues[d]										
Third parties	496	209	651	14	1,594	1,829	—	800	1,450	7,043
Sales between businesses	1,149	718	7,427	2	33	4,005	—	4,028	340	17,702
	1,645	927	8,078	16	1,627	5,834	—	4,828	1,790	24,745
Exploration expenditure	115	8	960	108	51	1,001	5	53	52	2,353
Production costs	879	313	2,777	77	703	1,521	—	1,083	166	7,519
Production taxes	(273)	—	215	—	214	—	—	834	46	1,036
Other costs (income)[e]	(795)	92	2,460	48	140	358	27	76	215	2,621
Depreciation, depletion and amortization	949	544	3,671	13	673	3,412	—	2,420	322	12,004
Net impairments and (gains) losses on sale of businesses and fixed assets	(390)	17	340	—	101	846	—	105	140	1,159
	485	974	10,423	246	1,882	7,138	32	4,571	941	26,692
Profit (loss) before taxation[f]	1,160	(47)	(2,345)	(230)	(255)	(1,304)	(32)	257	849	(1,947)
Allocable taxes[g]	(930)	159	(857)	(5)	(28)	694	(5)	(66)	472	(566)
Results of operations	2,090	(206)	(1,488)	(225)	(227)	(1,998)	(27)	323	377	(1,381)
Upstream and Rosneft segments replacement cost profit (loss) before interest and tax										
Exploration and production activities – subsidiaries (as above)	1,160	(47)	(2,345)	(230)	(255)	(1,304)	(32)	257	849	(1,947)
Midstream and other activities – subsidiaries[h]	401	110	43	10	211	(39)	(16)	67	14	801
Equity-accounted entities[i]	—	(7)	19	—	370	(552)	1,326	363	—	1,519
Total replacement cost profit (loss) before interest and tax	1,561	56	(2,283)	(220)	326	(1,895)	1,278	687	863	373

[a] These tables contain information relating to oil and natural gas exploration and production activities of subsidiaries, which includes our share of oil and natural gas exploration and production activities of joint operations. They do not include any costs relating to the Gulf of Mexico oil spill. Amounts relating to the management and ownership of crude oil and natural gas pipelines, LNG liquefaction and transportation operations are excluded. In addition, our midstream activities of marketing and trading of natural gas, power and NGLs in the US, Canada, UK, Asia and Europe are excluded. The most significant midstream pipeline interests include the Trans-Alaska Pipeline System, the Forties Pipeline System, the Central Area Transmission System pipeline, the South Caucasus Pipeline and the Baku-Tbilisi-Ceyhan pipeline. Major LNG activities are located in Trinidad, Indonesia, Australia and Angola.

[b] Decommissioning assets are included in capitalized costs at 31 December but are excluded from costs incurred for the year.

[c] Includes exploration and appraisal drilling expenditures, which are capitalized within intangible assets, and geological and geophysical exploration costs, which are charged to income as incurred.

[d] Presented net of transportation costs, purchases and sales taxes.

[e] Includes property taxes, other government take and the fair value gain on embedded derivatives of $120 million. The UK region includes a $832-million gain which is offset by corresponding charges primarily in the US region, relating to the group self-insurance programme.

[f] Excludes the unwinding of the discount on provisions and payables amounting to $164 million which is included in finance costs in the group income statement.

[g] UK region includes the one-off deferred tax impact of the enactment of legislation to reduce the UK supplementary charge tax rate applicable to profits arising in the North Sea from 32% to 20%.

[h] Midstream and other activities excludes inventory holding gains and losses.

[i] BP's share of the profits of equity-accounted entities are included after interest and tax reported by those entities.

Oil and natural gas exploration and production activities – continued

										$ million
										2015
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia[a]	Rest of Asia		
Equity-accounted entities (BP share)										
Capitalized costs at 31 December[b c]										
Gross capitalized costs										
Proved properties	—	—	—	—	9,824	—	12,728	3,486	—	26,038
Unproved properties	—	—	—	—	—	—	437	26	—	463
	—	—	—	—	9,824	—	13,165	3,512	—	26,501
Accumulated depreciation	—	—	—	—	4,117	—	2,788	3,458	—	10,363
Net capitalized costs	—	—	—	—	5,707	—	10,377	54	—	16,138
Costs incurred for the year ended 31 December[b d e]										
Acquisition of properties[c]										
Proved	—	—	—	—	—	—	16	—	—	16
Unproved	—	—	—	—	—	—	26	—	—	26
	—	—	—	—	—	—	42	—	—	42
Exploration and appraisal costs[d]	—	—	—	—	8	—	123	1	—	132
Development	—	—	—	—	1,128	—	1,702	443	—	3,273
Total costs	—	—	—	—	1,136	—	1,867	444	—	3,447
Results of operations for the year ended 31 December[b]										
Sales and other operating revenues[f]										
Third parties	—	—	—	—	2,060	—	—	1,022	—	3,082
Sales between businesses	—	—	—	—	—	—	8,592	19	—	8,611
	—	—	—	—	2,060	—	8,592	1,041	—	11,693
Exploration expenditure	—	—	—	—	3	—	52	—	—	55
Production costs	—	—	—	—	647	—	1,083	168	—	1,898
Production taxes	—	—	—	—	425	—	3,911	388	—	4,724
Other costs (income)	—	—	—	—	(381)	—	284	—	—	(97)
Depreciation, depletion and amortization	—	—	—	—	465	—	992	484	—	1,941
Net impairments and losses on sale of businesses and fixed assets	—	—	—	—	80	—	—	35	—	115
	—	—	—	—	1,239	—	6,322	1,075	—	8,636
Profit (loss) before taxation	—	—	—	—	821	—	2,270	(34)	—	3,057
Allocable taxes	—	—	—	—	504	—	449	1	—	954
Results of operations	—	—	—	—	317	—	1,821	(35)	—	2,103
Upstream and Rosneft segments replacement cost profit (loss) before interest and tax from equity-accounted entities										
Exploration and production activities – equity-accounted entities after tax (as above)	—	—	—	—	317	—	1,821	(35)	—	2,103
Midstream and other activities after tax[g]	—	(7)	19	—	53	(552)	(495)	398	—	(584)
Total replacement cost profit (loss) after interest and tax	—	(7)	19	—	370	(552)	1,326	363	—	1,519

[a] Amounts reported for Russia in this table include BP's share of Rosneft's worldwide activities, including insignificant amounts outside Russia.

[b] These tables contain information relating to oil and natural gas exploration and production activities of equity-accounted entities. Amounts relating to the management and ownership of crude oil and natural gas pipelines, LNG liquefaction and transportation operations as well as downstream activities of Rosneft are excluded. The amounts reported for equity-accounted entities exclude the corresponding amounts for their equity-accounted entities.

[c] Decommissioning assets are included in capitalized costs at 31 December but are excluded from costs incurred for the year.

[d] Includes exploration and appraisal drilling expenditures, which are capitalized within intangible assets, and geological and geophysical exploration costs, which are charged to income as incurred.

[e] The amounts shown reflect BP's share of equity-accounted entities' costs incurred, and not the costs incurred by BP in acquiring an interest in equity-accounted entities.

[f] Presented net of transportation costs and sales taxes.

[g] Includes interest and adjustment for non-controlling interests. Excludes inventory holding gains and losses.

Movements in estimated net proved reserves

Crude oil[a b]										million barrels 2017
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US[c]	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	155	—	826	42	9	317	—	1,107	32	2,487
Undeveloped	274	—	497	209	11	42	—	245	14	1,291
	429	—	1,322	251	20	358	—	1,352	46	3,778
Changes attributable to										
Revisions of previous estimates	15	—	208	5	1	35	—	407	2	673
Improved recovery	—	—	12	—	—	2	—	—	—	14
Purchases of reserves-in-place	3	—	1	—	—	1	—	—	—	5
Discoveries and extensions	—	—	12	—	—	—	—	42	—	53
Production[d]	(29)	—	(131)	(7)	(5)	(88)	—	(119)	(6)	(384)
Sales of reserves-in-place	(9)	—	—	—	—	—	—	—	—	(9)
	(20)	—	101	(2)	(4)	(50)	—	330	(4)	351
At 31 December[e]										
Developed	245	—	932	54	10	281	—	1,040	31	2,592
Undeveloped	164	—	492	195	6	28	—	642	11	1,537
	409	—	1,423	248	16	309	—	1,682	42	4,129
Equity-accounted entities (BP share)[f]										
At 1 January										
Developed	—	45	—	—	321	1	3,162	43	—	3,573
Undeveloped	—	69	—	—	325	—	2,134	1	—	2,529
	—	114	—	—	646	1	5,296	44	—	6,101
Changes attributable to										
Revisions of previous estimates	—	2	—	—	1	—	102	(1)	—	104
Improved recovery	—	11	—	—	4	—	—	—	—	16
Purchases of reserves-in-place	—	34	—	—	—	—	37	—	—	71
Discoveries and extensions	—	1	—	—	22	—	264	—	—	288
Production	—	(11)	—	—	(28)	—	(325)	(36)	—	(401)
Sales of reserves-in-place	—	(5)	—	—	(98)	—	—	—	—	(103)
	—	31	—	—	(98)	—	78	(37)	—	(25)
At 31 December[g]										
Developed	—	56	—	—	285	1	3,124	6	—	3,473
Undeveloped	—	89	—	—	263	—	2,251	—	—	2,603
	—	145	—	—	548	1	5,374	6	—	6,076
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	155	45	826	42	330	318	3,162	1,150	32	6,060
Undeveloped	274	69	497	209	336	42	2,134	246	14	3,819
	429	114	1,322	251	666	360	5,296	1,395	46	9,879
At 31 December										
Developed	245	56	932	54	295	282	3,124	1,047	31	6,064
Undeveloped	164	89	492	195	269	28	2,251	642	11	4,140
	409	145	1,423	249	564	310	5,374	1,688	42	10,205

[a] Crude oil includes condensate and bitumen. Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 9 million barrels upon which a net profits royalty will be payable over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[d] Includes 5 million barrels of crude oil in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[e] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[f] Includes 337 million barrels of crude oil in respect of the 6.31% non-controlling interest in Rosneft, including 32 mmbbl held through BP's equity-accounted interest in Taas-Yuryakh Neftegazodobycha.

[g] Total proved crude oil reserves held as part of our equity interest in Rosneft is 5,402 million barrels, comprising less than 1 million barrels in Vietnam and Canada, 59 million barrels in Venezuela and 5,342 million barrels in Russia.

Movements in estimated net proved reserves - continued

million barrels

Natural gas liquids[a b]										2017
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	13	—	226	—	5	13	—	—	9	266
Undeveloped	3	—	73	—	28	1	—	—	2	107
	16	—	299	—	33	14	—	—	11	373
Changes attributable to										
Revisions of previous estimates	2	—	(44)	—	—	11	—	—	(4)	(36)
Improved recovery	—	—	15	—	—	—	—	—	—	15
Purchases of reserves-in-place	—	—	—	—	—	—	—	—	—	—
Discoveries and extensions	—	—	1	—	—	—	—	—	—	1
Production[c]	(3)	—	(24)	—	(3)	(4)	—	—	(1)	(35)
Sales of reserves-in-place	(1)	—	—	—	—	—	—	—	—	(1)
	(2)	—	(52)	—	(3)	7	—	—	(5)	(55)
At 31 December[d]										
Developed	11	—	177	—	2	21	—	—	5	216
Undeveloped	3	—	69	—	28	—	—	—	1	102
	14	—	246	—	30	21	—	—	6	318
Equity-accounted entities (BP share)[e]										
At 1 January										
Developed	—	3	—	—	—	11	50	—	—	65
Undeveloped	—	2	—	—	—	—	15	—	—	17
	—	5	—	—	—	11	65	—	—	81
Changes attributable to										
Revisions of previous estimates	—	—	—	—	—	1	68	—	—	69
Improved recovery	—	1	—	—	—	—	—	—	—	1
Purchases of reserves-in-place	—	2	—	—	—	—	—	—	—	2
Discoveries and extensions	—	—	—	—	—	—	—	—	—	—
Production	—	(1)	—	—	—	(1)	(2)	—	—	(4)
Sales of reserves-in-place	—	—	—	—	—	—	—	—	—	—
	—	3	—	—	—	(1)	66	—	—	68
At 31 December[f]										
Developed	—	4	—	—	—	10	82	—	—	97
Undeveloped	—	4	—	—	—	—	49	—	—	53
	—	8	—	—	—	10	131	—	—	149
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	13	3	226	—	5	24	50	—	9	331
Undeveloped	3	2	73	—	28	1	15	—	2	123
	16	5	299	—	33	25	65	—	11	454
At 31 December										
Developed	11	4	177	—	2	31	82	—	5	313
Undeveloped	3	4	69	—	28	—	49	—	1	154
	14	8	246	—	30	31	131	—	6	467

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 2 thousand barrels per day for equity-accounted entities.

[d] Includes 9 million barrels of NGL in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[e] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[f] Total proved NGL reserves held as part of our equity interest in Rosneft is 131 million barrels, comprising less than 1 million barrels in Venezuela, Vietnam and Canada, and 131 million barrels in Russia.

Movements in estimated net proved reserves- continued

Total liquids[a b]										million barrels 2017
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US[c]	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	168	—	1,051	42	14	330	—	1,107	42	2,753
Undeveloped	277	—	569	209	39	43	—	245	16	1,398
	445	—	1,621	251	53	372	—	1,352	57	4,151
Changes attributable to										
Revisions of previous estimates	17	—	164	5	1	45	—	407	(2)	637
Improved recovery	—	—	27	—	—	2	—	—	—	29
Purchases of reserves-in-place	3	—	1	—	—	1	—	—	—	5
Discoveries and extensions	—	—	12	—	—	—	—	42	—	54
Production[d]	(32)	—	(155)	(7)	(8)	(92)	—	(119)	(7)	(419)
Sales of reserves-in-place	(10)	—	—	—	—	—	—	—	—	(10)
	(22)	—	49	(2)	(7)	(43)	—	330	(9)	296
At 31 December[e]										
Developed	256	—	1,108	54	12	301	—	1,040	36	2,808
Undeveloped	167	—	561	195	34	28	—	642	12	1,639
	424	—	1,669	248	46	329	—	1,682	48	4,447
Equity-accounted entities (BP share)[f]										
At 1 January										
Developed	—	48	—	—	321	12	3,213	43	—	3,637
Undeveloped	—	71	—	—	325	—	2,148	1	—	2,545
	—	119	—	—	646	12	5,361	44	—	6,183
Changes attributable to										
Revisions of previous estimates	—	2	—	—	1	1	170	(1)	—	174
Improved recovery	—	13	—	—	4	—	—	—	—	17
Purchases of reserves-in-place	—	36	—	—	—	—	37	—	—	72
Discoveries and extensions	—	1	—	—	22	—	264	—	—	288
Production	—	(12)	—	—	(28)	(2)	(327)	(36)	—	(405)
Sales of reserves-in-place	—	(6)	—	—	(98)	—	—	—	—	(104)
	—	34	—	—	(98)	(1)	144	(37)	—	43
At 31 December[gh]										
Developed	—	60	—	—	285	11	3,206	6	—	3,569
Undeveloped	—	93	—	—	263	—	2,300	—	—	2,656
	—	153	—	—	548	12	5,505	6	—	6,225
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	168	48	1,051	42	335	342	3,213	1,150	42	6,390
Undeveloped	277	71	569	209	364	43	2,148	246	16	3,943
	445	119	1,621	251	699	385	5,361	1,395	57	10,333
At 31 December										
Developed	256	60	1,108	54	297	313	3,206	1,047	36	6,377
Undeveloped	167	93	561	195	297	28	2,300	642	12	4,295
	424	153	1,669	249	594	341	5,505	1,688	48	10,672

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 9 million barrels of oil equivalent upon which a net profits royalty will be payable, over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[d] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 2 thousand barrels per day for equity-accounted entities.

[e] Also includes 14 million barrels in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[f] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[g] Includes 338 million barrels in respect of the non-controlling interest in Rosneft, including 32 mmboe held through BP's equity-accounted interest in Taas-Yuryakh Neftegazodobycha.

[h] Total proved liquid reserves held as part of our equity interest in Rosneft is 5,533 million barrels, comprising less than 1 million barrels in Canada, 59 million barrels in Venezuela, less than 1 million barrels in Vietnam and 5,473 million barrels in Russia.

Movements in estimated net proved reserves – continued

Natural gas[a b]										billion cubic feet 2017
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	499	—	5,447	—	1,784	767	—	1,890	3,012	13,398
Undeveloped	350	—	2,567	—	4,970	2,191	—	3,769	1,643	15,490
	848	—	8,014	—	6,755	2,958	—	5,659	4,654	28,888
Changes attributable to										
Revisions of previous estimates	50	—	(38)	3	(677)	(450)	—	258	(129)	(983)
Improved recovery	—	—	1,002	—	—	1	—	6	—	1,009
Purchases of reserves-in-place	25	—	—	—	—	527	—	—	—	552
Discoveries and extensions	—	—	10	—	829	14	—	1,229	—	2,082
Production[c]	(77)	—	(664)	(3)	(714)	(380)	—	(152)	(291)	(2,281)
Sales of reserves-in-place	(4)	—	—	—	—	—	—	—	—	(4)
	(5)	—	309	—	(562)	(288)	—	1,342	(420)	376
At 31 December[d]										
Developed	523	—	5,238	(1)	2,862	1,159	—	2,755	2,730	15,266
Undeveloped	320	—	3,086	—	3,330	1,510	—	4,245	1,505	13,997
	843	—	8,323	(1)	6,193	2,670	—	7,000	4,235	29,263
Equity-accounted entities (BP share)[e]										
At 1 January										
Developed	—	89	—	—	1,546	412	5,544	26	—	7,617
Undeveloped	—	21	—	—	534	—	6,304	4	—	6,863
	—	110	—	1	2,080	412	11,847	30	—	14,480
Changes attributable to										
Revisions of previous estimates	—	19	—	—	47	5	1,556	(2)	—	1,625
Improved recovery	—	37	—	—	55	—	—	—	—	92
Purchases of reserves-in-place	—	39	—	—	—	237	10	—	—	286
Discoveries and extensions	—	1	—	—	67	—	324	—	—	392
Production[c]	—	(19)	—	—	(178)	(32)	(488)	(8)	—	(726)
Sales of reserves-in-place	—	(6)	—	—	(347)	—	—	—	—	(353)
	—	70	—	—	(356)	210	1,403	(10)	—	1,316
At 31 December[f g]										
Developed	—	112	—	—	1,274	476	6,077	17	—	7,955
Undeveloped	—	69	—	—	450	146	7,173	3	—	7,841
	—	180	—	—	1,724	622	13,250	20	—	15,796
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	499	89	5,447	—	3,330	1,179	5,544	1,916	3,012	21,015
Undeveloped	350	21	2,567	—	5,505	2,191	6,304	3,772	1,643	22,353
	848	110	8,014	—	8,835	3,370	11,847	5,688	4,654	43,368
At 31 December										
Developed	523	112	5,238	—	4,136	1,635	6,077	2,771	2,730	23,221
Undeveloped	320	69	3,086	—	3,781	1,656	7,173	4,249	1,505	21,838
	843	180	8,323	—	7,917	3,291	13,250	7,020	4,235	45,060

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Includes 180 billion cubic feet of natural gas consumed in operations, 131 billion cubic feet in subsidiaries, 49 billion cubic feet in equity-accounted entities.

[d] Includes 1,860 billion cubic feet of natural gas in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[e] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[f] Includes 306 billion cubic feet of natural gas in respect of the 2.30% non-controlling interest in Rosneft including 12 billion cubic feet held through BP's equity-accounted interest in Taas-Yuryakh Neftegazodobycha.

[g] Total proved gas reserves held as part of our equity interest in Rosneft is 13,522 billion cubic feet, comprising 0 billion cubic feet in Canada, 28 billion cubic feet in Venezuela, 19 billion cubic feet in Vietnam, 237 billion cubic feet in Egypt and 13,237 billion cubic feet in Russia.

Movements in estimated net proved reserves – continued

million barrels of oil equivalent[c]

Total hydrocarbons[a b]	Europe		North America		South America	Africa	Asia		Australasia	Total
										2017
	UK	Rest of Europe	US[d]	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	254	—	1,990	42	321	462	—	1,433	561	5,063
Undeveloped	338	—	1,012	209	896	420	—	895	299	4,068
	592	—	3,002	251	1,217	882	—	2,327	860	9,131
Changes attributable to										
Revisions of previous estimates	25	—	157	5	(116)	(32)	—	451	(24)	467
Improved recovery	—	—	200	—	—	2	—	1	—	203
Purchases of reserves-in-place	8	—	1	—	—	92	—	—	—	100
Discoveries and extensions	—	—	14	—	143	3	—	254	—	413
Production[e f]	(45)	—	(270)	(8)	(131)	(157)	—	(145)	(57)	(812)
Sales of reserves-in-place	(11)	—	—	—	—	—	—	—	—	(11)
	(23)	—	102	(2)	(104)	(93)	—	562	(81)	361
At 31 December[g]										
Developed	347	—	2,011	54	505	501	—	1,515	507	5,440
Undeveloped	222	—	1,093	195	608	288	—	1,374	272	4,052
	569	—	3,104	248	1,114	790	—	2,889	779	9,492
Equity-accounted entities (BP share)[h]										
At 1 January										
Developed	—	63	—	—	588	83	4,168	47	—	4,951
Undeveloped	—	75	—	—	417	—	3,235	1	—	3,729
	—	138	—	—	1,005	83	7,404	49	—	8,679
Changes attributable to										
Revisions of previous estimates	—	5	—	—	9	2	439	(1)	—	454
Improved recovery	—	19	—	—	14	—	—	—	—	33
Purchases of reserves-in-place	—	42	—	—	—	41	38	—	—	122
Discoveries and extensions	—	1	—	—	34	—	320	—	—	355
Production[e]	—	(15)	—	—	(58)	(7)	(411)	(38)	—	(530)
Sales of reserves-in-place	—	(7)	—	—	(158)	—	—	—	—	(165)
	—	46	—	—	(159)	35	386	(39)	—	269
At 31 December[i j]										
Developed	—	80	—	—	505	93	4,254	9	—	4,941
Undeveloped	—	105	—	—	341	25	3,536	1	—	4,008
	—	184	—	—	846	119	7,790	10	—	8,949
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	254	63	1,990	42	909	545	4,168	1,480	561	10,014
Undeveloped	338	75	1,012	209	1,313	420	3,235	896	299	7,797
	592	138	3,002	251	2,222	966	7,404	2,376	860	17,810
At 31 December										
Developed	347	80	2,011	54	1,010	595	4,254	1,524	507	10,381
Undeveloped	222	105	1,093	195	949	314	3,536	1,374	272	8,060
	569	184	3,104	249	1,959	908	7,790	2,899	779	18,441

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] 5.8 billion cubic feet of natural gas = 1 million barrels of oil equivalent.

[d] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 9 million barrels of oil equivalent upon which a net profits royalty will be payable, over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[e] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 2 thousand barrels per day for equity-accounted entities.

[f] Includes 31 million barrels of oil equivalent of natural gas consumed in operations, 23 million barrels of oil equivalent in subsidiaries, 8 million barrels of oil equivalent in equity-accounted entities.

[g] Includes 335 million barrels of oil equivalent in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[h] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[i] Includes 391 million barrels of oil equivalent in respect of the non-controlling interest in Rosneft, including 34 mmboe held through BP's equity-accounted interest in Taas-Yuryakh Neftegazodobycha.

[j] Total proved reserves held as part of our equity interest in Rosneft is 7,864 million barrels of oil equivalent, comprising less than 1 million barrels of oil equivalent in Canada, 64 million barrels of oil equivalent in Venezuela, 3 million barrels of oil equivalent in Vietnam, 41 million barrels of oil equivalent in Egypt and 7,755 million barrels of oil equivalent in Russia.

Movements in estimated net proved reserves – continued

million barrels

Crude oil[a b]										2016
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US[c]	Rest of North America			Russia	Rest of Asia[d]		
Subsidiaries										
At 1 January										
Developed	141	86	890	46	8	340	—	598	35	2,146
Undeveloped	298	19	577	205	18	89	—	192	16	1,414
	440	106	1,467	252	26	429	—	790	51	3,560
Changes attributable to										
Revisions of previous estimates[d]	13	—	(30)	—	(2)	22	—	543	2	548
Improved recovery	—	—	1	—	—	3	—	70	—	74
Purchases of reserves-in-place	3	—	3	—	—	—	—	25	1	32
Discoveries and extensions	2	—	—	4	—	—	—	—	—	6
Production[e]	(29)	(9)	(119)	(5)	(4)	(96)	—	(75)	(6)	(341)
Sales of reserves-in-place	—	(97)	(1)	—	—	—	—	(1)	(2)	(102)
	(11)	(106)	(145)	(1)	(6)	(71)	—	562	(5)	218
At 31 December[f]										
Developed	155	—	826	42	9	317	—	1,107	32	2,487
Undeveloped	274	—	497	209	11	42	—	245	14	1,291
	429	—	1,322	251	20	358	—	1,352	46	3,778
Equity-accounted entities (BP share)[g]										
At 1 January										
Developed	—	—	—	—	311	2	2,844	68	—	3,225
Undeveloped	—	—	—	—	311	—	1,981	—	—	2,292
	—	—	—	—	622	2	4,825	68	—	5,517
Changes attributable to										
Revisions of previous estimates	—	—	—	—	(2)	—	33	13	—	45
Improved recovery	—	—	—	—	1	—	4	—	—	5
Purchases of reserves-in-place	—	116	—	—	36	—	456	—	—	609
Discoveries and extensions	—	—	—	—	16	—	285	—	—	301
Production	—	(3)	—	—	(28)	—	(305)	(37)	—	(373)
Sales of reserves-in-place	—	—	—	—	—	—	(2)	(1)	—	(2)
	—	114	—	—	24	—	471	(25)	—	584
At 31 December[h]										
Developed	—	45	—	—	321	1	3,162	43	—	3,573
Undeveloped	—	69	—	—	325	—	2,134	1	—	2,529
	—	114	—	—	646	1	5,296	44	—	6,101
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	141	86	890	47	319	342	2,844	666	35	5,371
Undeveloped	298	19	577	205	329	89	1,981	192	16	3,707
	440	106	1,467	252	648	431	4,825	858	51	9,078
At 31 December										
Developed	155	45	826	42	330	318	3,162	1,150	32	6,060
Undeveloped	274	69	497	209	336	42	2,134	246	14	3,819
	429	114	1,322	251	666	360	5,296	1,395	46	9,879

[a] Crude oil includes condensate and bitumen. Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 9 million barrels upon which a net profits royalty will be payable over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[d] Rest of Asia includes additions from Abu Dhabi ADCO concession.

[e] Includes 6 million barrels of crude oil in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[f] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[g] Includes 347 million barrels of crude oil in respect of the 6.58% non-controlling interest in Rosneft, including 28 mmbbl held through BP's equity-accounted interest in Taas-Yuryakh Neftegazodobycha.

[h] Total proved crude oil reserves held as part of our equity interest in Rosneft is 5,330 million barrels, comprising less than 1 million barrels in Vietnam and Canada, 62 million barrels in Venezuela and 5,268 million barrels in Russia.

Movements in estimated net proved reserves – continued

million barrels

Natural gas liquids[a b]	Europe		North America		South America	Africa	Asia		Australasia	Total
2016	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	5	11	269	—	7	5	—	—	9	308
Undeveloped	4	1	70	—	28	10	—	—	2	115
	10	12	339	—	35	15	—	—	12	422
Changes attributable to										
Revisions of previous estimates	7	—	(24)	—	—	1	—	—	—	(14)
Improved recovery	—	—	3	—	—	—	—	—	—	3
Purchases of reserves-in-place	1	—	4	—	—	—	—	—	—	6
Discoveries and extensions	—	—	—	—	—	—	—	—	—	—
Production[c]	(2)	(1)	(24)	—	(2)	(2)	—	—	(1)	(34)
Sales of reserves-in-place	—	(10)	—	—	—	—	—	—	—	(10)
	7	(12)	(40)	—	(2)	(1)	—	—	(1)	(49)
At 31 December[d]										
Developed	13	—	226	—	5	13	—	—	9	266
Undeveloped	3	—	73	—	28	1	—	—	2	107
	16	—	299	—	33	14	—	—	11	373
Equity-accounted entities (BP share)[e]										
At 1 January										
Developed	—	—	—	—	—	13	32	—	—	45
Undeveloped	—	—	—	—	—	—	15	—	—	15
	—	—	—	—	—	13	47	—	—	60
Changes attributable to										
Revisions of previous estimates	—	—	—	—	—	(2)	18	—	—	16
Improved recovery	—	—	—	—	—	—	—	—	—	—
Purchases of reserves-in-place	—	5	—	—	—	—	—	—	—	5
Discoveries and extensions	—	—	—	—	—	—	—	—	—	—
Production	—	—	—	—	—	—	—	—	—	—
Sales of reserves-in-place	—	—	—	—	—	—	—	—	—	—
	—	5	—	—	—	(2)	18	—	—	21
At 31 December[f]										
Developed	—	3	—	—	—	11	50	—	—	65
Undeveloped	—	2	—	—	—	—	15	—	—	17
	—	5	—	—	—	11	65	—	—	81
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	5	11	269	—	7	18	32	—	9	352
Undeveloped	4	1	70	—	28	10	15	—	2	130
	10	12	339	—	35	28	47	—	12	482
At 31 December										
Developed	13	3	226	—	5	24	50	—	9	331
Undeveloped	3	2	73	—	28	1	15	—	2	123
	16	5	299	—	33	25	65	—	11	454

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 3 thousand barrels per day for equity-accounted entities.

[d] Includes 10 million barrels of NGL in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[e] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[f] Total proved NGL reserves held as part of our equity interest in Rosneft is 65 million barrels, comprising less than 1 million barrels in Venezuela, Vietnam and Canada, and 65 million barrels in Russia.

Movements in estimated net proved reserves – continued

Total liquids[a b]										million barrels 2016
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US[c]	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	147	98	1,159	46	15	346	—	598	45	2,453
Undeveloped	303	20	647	205	46	99	—	192	18	1,529
	449	117	1,806	252	61	444	—	790	63	3,982
Changes attributable to										
Revisions of previous estimates[d]	20	—	(54)	—	(2)	23	—	543	3	533
Improved recovery	—	—	5	—	—	3	—	70	—	78
Purchases of reserves-in-place	5	—	7	—	—	—	—	25	1	38
Discoveries and extensions	2	—	—	4	—	—	—	—	—	6
Production[e]	(31)	(10)	(143)	(5)	(6)	(98)	—	(75)	(7)	(375)
Sales of reserves-in-place	—	(108)	(1)	—	—	—	—	(1)	(2)	(112)
	(4)	(117)	(185)	(1)	(8)	(72)	—	562	(5)	168
At 31 December[f]										
Developed	168	—	1,051	42	14	330	—	1,107	42	2,753
Undeveloped	277	—	569	209	39	43	—	245	16	1,398
	445	—	1,621	251	53	372	—	1,352	57	4,151
Equity-accounted entities (BP share)[g]										
At 1 January										
Developed	—	—	—	—	311	14	2,876	68	—	3,270
Undeveloped	—	—	—	—	312	—	1,996	—	—	2,307
	—	—	—	—	622	14	4,872	68	—	5,577
Changes attributable to										
Revisions of previous estimates	—	—	—	—	(2)	(2)	51	13	—	61
Improved recovery	—	—	—	—	1	—	4	—	—	5
Purchases of reserves-in-place	—	122	—	—	36	—	456	—	—	614
Discoveries and extensions	—	—	—	—	16	—	285	—	—	301
Production	—	(3)	—	—	(28)	—	(305)	(37)	—	(374)
Sales of reserves-in-place	—	—	—	—	—	—	(2)	(1)	—	(2)
	—	119	—	—	24	(2)	489	(25)	—	605
At 31 December[h i]										
Developed	—	48	—	—	321	12	3,213	43	—	3,637
Undeveloped	—	71	—	—	325	—	2,148	1	—	2,545
	—	119	—	—	646	12	5,361	44	—	6,183
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	147	98	1,159	47	326	360	2,876	666	45	5,723
Undeveloped	302	20	647	205	357	99	1,996	192	18	3,836
	449	117	1,806	252	684	459	4,872	858	63	9,560
At 31 December										
Developed	168	48	1,051	42	335	342	3,213	1,150	42	6,390
Undeveloped	277	71	569	209	364	43	2,148	246	16	3,943
	445	119	1,621	251	699	385	5,361	1,395	57	10,333

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 9 million barrels of oil equivalent upon which a net profits royalty will be payable, over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[d] Rest of Asia includes additions from Abu Dhabi ADCO concession.

[e] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 3 thousand barrels per day for equity-accounted entities.

[f] Also includes 16 million barrels in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[g] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[h] Includes 347 million barrels in respect of the non-controlling interest in Rosneft, including 28 mmboe held through BP's equity accounted interest in Taas-Yuryakh Neftegazodobycha.

[i] Total proved liquid reserves held as part of our equity interest in Rosneft is 5,395 million barrels, comprising less than 1 million barrels in Canada, 62 million barrels in Venezuela, less than 1 million barrels in Vietnam and 5,333 million barrels in Russia.

Movements in estimated net proved reserves – continued

Natural gas[a b]										billion cubic feet 2016
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	348	274	6,257	—	2,071	847	—	1,803	3,408	15,009
Undeveloped	343	14	2,105	—	5,989	2,305	—	3,455	1,343	15,553
	691	288	8,363	—	8,060	3,152	—	5,257	4,751	30,563
Changes attributable to										
Revisions of previous estimates	133	—	(231)	3	(1,042)	(19)	—	548	396	(211)
Improved recovery	—	—	469	—	42	1	—	22	—	534
Purchases of reserves-in-place	95	—	91	—	—	—	—	—	252	438
Discoveries and extensions	—	—	1	—	355	43	—	—	—	399
Production[c]	(71)	(33)	(676)	(4)	(624)	(219)	—	(152)	(306)	(2,085)
Sales of reserves-in-place	—	(256)	(2)	—	(37)	—	—	(17)	(439)	(750)
	158	(288)	(348)	—	(1,306)	(194)	—	401	(97)	(1,675)
At 31 December[d]										
Developed	499	—	5,447	—	1,784	767	—	1,890	3,012	13,398
Undeveloped	350	—	2,567	—	4,970	2,191	—	3,769	1,643	15,490
	848	—	8,014	—	6,755	2,958	—	5,659	4,654	28,888
Equity-accounted entities (BP share)[e]										
At 1 January										
Developed	—	—	—	1	1,463	386	4,962	44	—	6,856
Undeveloped	—	—	—	—	598	—	6,176	4	—	6,778
	—	—	—	1	2,061	386	11,139	48	—	13,634
Changes attributable to										
Revisions of previous estimates	—	—	—	—	62	34	736	5	—	836
Improved recovery	—	—	—	—	1	—	10	—	—	11
Purchases of reserves-in-place	—	115	—	—	19	—	81	—	—	216
Discoveries and extensions	—	—	—	—	128	—	343	—	—	471
Production[c]	—	(4)	—	—	(190)	(8)	(461)	(15)	—	(680)
Sales of reserves-in-place	—	—	—	—	—	—	(1)	(8)	—	(8)
	—	110	—	—	20	26	709	(18)	—	846
At 31 December[f g]										
Developed	—	89	—	—	1,546	412	5,544	26	—	7,617
Undeveloped	—	21	—	—	534	—	6,304	4	—	6,863
	—	110	—	1	2,080	412	11,847	30	—	14,480
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	348	274	6,257	1	3,534	1,233	4,962	1,847	3,408	21,865
Undeveloped	343	14	2,105	—	6,587	2,305	6,176	3,459	1,343	22,331
	691	288	8,363	1	10,121	3,538	11,139	5,305	4,751	44,197
At 31 December										
Developed	499	89	5,447	—	3,330	1,179	5,544	1,916	3,012	21,015
Undeveloped	350	21	2,567	—	5,505	2,191	6,304	3,772	1,643	22,353
	848	110	8,014	—	8,835	3,370	11,847	5,688	4,654	43,368

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Includes 176 billion cubic feet of natural gas consumed in operations, 145 billion cubic feet in subsidiaries, 31 billion cubic feet in equity-accounted entities.

[d] Includes 2,026 billion cubic feet of natural gas in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[e] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[f] Includes 300 billion cubic feet of natural gas in respect of the 2.53% non-controlling interest in Rosneft including 3 billion cubic feet held through BP's equity accounted interest in Taas-Yuryakh Neftegazodobycha.

[g] Total proved gas reserves held as part of our equity interest in Rosneft is 11,900 billion cubic feet, comprising 1 billion cubic feet in Canada, 33 billion cubic feet in Venezuela, 23 billion cubic feet in Vietnam and 11,843 billion cubic feet in Russia.

Movements in estimated net proved reserves – continued

Total hydrocarbons[a b]										million barrels of oil equivalent[c] 2016
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US[d]	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	207	145	2,238	46	373	492	—	909	632	5,041
Undeveloped	362	22	1,010	205	1,078	496	—	788	250	4,211
	568	167	3,248	252	1,451	988	—	1,696	882	9,252
Changes attributable to										
Revisions of previous estimates[e]	43	—	(94)	1	(181)	20	—	637	71	497
Improved recovery	—	—	86	—	7	3	—	74	—	170
Purchases of reserves-in-place	21	—	23	—	—	—	—	25	44	113
Discoveries and extensions	2	—	—	4	61	8	—	—	—	75
Production[f g]	(43)	(16)	(260)	(5)	(114)	(136)	—	(101)	(60)	(735)
Sales of reserves-in-place	—	(152)	(1)	—	(7)	—	—	(4)	(78)	(241)
	23	(167)	(245)	(1)	(233)	(105)	—	631	(22)	(121)
At 31 December[h]										
Developed	254	—	1,990	42	321	462	—	1,433	561	5,063
Undeveloped	338	—	1,012	209	896	420	—	895	299	4,068
	592	—	3,002	251	1,217	882	—	2,327	860	9,131
Equity-accounted entities (BP share)[i]										
At 1 January										
Developed	—	—	—	—	563	81	3,732	76	—	4,452
Undeveloped	—	—	—	—	415	—	3,061	1	—	3,476
	—	—	—	—	978	81	6,792	77	—	7,928
Changes attributable to										
Revisions of previous estimates	—	—	—	—	9	4	178	14	—	205
Improved recovery	—	—	—	—	1	—	6	—	—	7
Purchases of reserves-in-place	—	142	—	—	39	—	470	—	—	652
Discoveries and extensions	—	—	—	—	38	—	344	—	—	382
Production[g]	—	(3)	—	—	(61)	(2)	(385)	(40)	—	(491)
Sales of reserves-in-place	—	—	—	—	—	—	(2)	(2)	—	(4)
	—	138	—	—	27	2	611	(28)	—	751
At 31 December[j k]										
Developed	—	63	—	—	588	83	4,168	47	—	4,951
Undeveloped	—	75	—	—	417	—	3,235	1	—	3,729
	—	138	—	—	1,005	83	7,404	49	—	8,679
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	207	145	2,238	47	936	573	3,732	984	632	9,493
Undeveloped	362	22	1,010	205	1,493	496	3,061	788	250	7,687
	568	167	3,248	252	2,429	1,069	6,792	1,773	882	17,180
At 31 December										
Developed	254	63	1,990	42	909	545	4,168	1,480	561	10,014
Undeveloped	338	75	1,012	209	1,313	420	3,235	896	299	7,797
	592	138	3,002	251	2,222	966	7,404	2,376	860	17,810

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] 5.8 billion cubic feet of natural gas = 1 million barrels of oil equivalent.

[d] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 9 million barrels of oil equivalent upon which a net profits royalty will be payable, over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[e] Rest of Asia includes additions from Abu Dhabi ADCO concession.

[f] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 3 thousand barrels per day for equity-accounted entities.

[g] Includes 30 million barrels of oil equivalent of natural gas consumed in operations, 25 million barrels of oil equivalent in subsidiaries, 5 million barrels of oil equivalent in equity-accounted entities.

[h] Includes 366 million barrels of oil equivalent in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[i] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[j] Includes 402 million barrels of oil equivalent in respect of the non-controlling interest in Rosneft, including 29 mmboe held through BP's equity accounted interest in Taas-Yuryakh Neftegazodobycha.

[k] Total proved reserves held as part of our equity interest in Rosneft is 7,447 million barrels of oil equivalent, comprising less than 1 million barrels of oil equivalent in Canada, 68 million barrels of oil equivalent in Venezuela, 4 million barrels of oil equivalent in Vietnam and 7,375 million barrels of oil equivalent in Russia.

Movements in estimated net proved reserves – continued

Crude oil[a b]										million barrels 2015
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US[c]	Rest of North America			Russia	Rest of Asia[d]		
Subsidiaries										
At 1 January										
Developed	159	95	1,030	9	10	317	—	384	40	2,044
Undeveloped	329	22	664	163	22	120	—	197	19	1,538
	488	117	1,694	172	32	437	—	581	59	3,582
Changes attributable to										
Revisions of previous estimates	(23)	2	(130)	39	(2)	80	—	295	(2)	260
Improved recovery	—	—	15	—	—	2	—	—	—	18
Purchases of reserves-in-place	1	—	—	—	—	6	—	—	—	7
Discoveries and extensions	—	—	3	42	—	2	—	—	—	47
Production[e]	(27)	(14)	(115)	(1)	(5)	(98)	—	(87)	(6)	(353)
Sales of reserves-in-place	(1)	—	—	—	—	—	—	—	—	(1)
	(48)	(12)	(227)	80	(6)	(8)	—	208	(8)	(21)
At 31 December[f]										
Developed	141	86	890	46	8	340	—	598	35	2,146
Undeveloped	298	19	577	205	18	89	—	192	16	1,414
	440	106	1,467	252	26	429	—	790	51	3,560
Equity-accounted entities (BP share)[g]										
At 1 January										
Developed	—	—	—	—	316	2	2,997	89	—	3,405
Undeveloped	—	—	—	—	314	—	1,933	11	—	2,258
	—	—	—	1	630	2	4,930	101	—	5,663
Changes attributable to										
Revisions of previous estimates	—	—	—	—	9	—	(23)	3	—	(11)
Improved recovery	—	—	—	—	3	—	—	—	—	3
Purchases of reserves-in-place	—	—	—	—	—	—	28	—	—	28
Discoveries and extensions	—	—	—	—	9	—	185	—	—	194
Production	—	—	—	—	(28)	—	(295)	(35)	—	(358)
Sales of reserves-in-place	—	—	—	—	—	—	(1)	—	—	(1)
	—	—	—	—	(8)	—	(105)	(32)	—	(146)
At 31 December[h]										
Developed	—	—	—	—	311	2	2,844	68	—	3,225
Undeveloped	—	—	—	—	311	—	1,981	—	—	2,292
	—	—	—	—	622	2	4,825	68	—	5,517
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	159	95	1,030	9	326	319	2,997	473	40	5,448
Undeveloped	329	22	664	164	336	120	1,933	208	19	3,796
	488	117	1,694	173	662	439	4,930	682	59	9,244
At 31 December										
Developed	141	86	890	47	319	342	2,844	666	35	5,371
Undeveloped	298	19	577	205	329	89	1,981	192	16	3,707
	440	106	1,467	252	648	431	4,825	858	51	9,078

[a] Crude oil includes condensate and bitumen. Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 23 million barrels upon which a net profits royalty will be payable over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[d] Production volume recognition methodology for our Technical Service Contract arrangement in Iraq was simplified in 2016 to exclude the impact of oil price movements on lifting imbalances. A minor adjustment has been made to comparative periods. There was no impact on 2015 proved reserves totals.

[e] Includes 8 million barrels of crude oil in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[f] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[g] Includes 70 million barrels of crude oil in respect of the 1.27% non-controlling interest in Rosneft, including 28 mmbbl held through BP's equity accounted interest in Taas-Yuryakh Neftegazodobycha.

[h] Total proved crude oil reserves held as part of our equity interest in Rosneft is 4,823 million barrels, comprising less than 1 million barrels in Vietnam and Canada, 26 million barrels in Venezuela and 4,797 million barrels in Russia.

Movements in estimated net proved reserves – continued

Natural gas liquids[a b]	Europe		North America		South America	Africa	Asia		Australasia	Total
										million barrels 2015
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	6	13	323	—	11	5	—	—	6	364
Undeveloped	3	1	104	—	28	7	—	—	3	146
	9	14	427	—	39	12	—	—	10	510
Changes attributable to										
Revisions of previous estimates	2	—	(80)	—	—	6	—	—	3	(69)
Improved recovery	—	—	12	—	—	—	—	—	—	12
Purchases of reserves-in-place	—	—	3	—	—	—	—	—	—	4
Discoveries and extensions	—	—	—	—	—	—	—	—	—	—
Production[c]	(2)	(2)	(23)	—	(4)	(3)	—	—	(1)	(34)
Sales of reserves-in-place	—	—	(1)	—	—	—	—	—	—	(1)
	—	(2)	(88)	—	(4)	3	—	—	2	(88)
At 31 December[d]										
Developed	5	11	269	—	7	5	—	—	9	308
Undeveloped	4	1	70	—	28	10	—	—	2	115
	10	12	339	—	35	15	—	—	12	422
Equity-accounted entities (BP share)[e]										
At 1 January										
Developed	—	—	—	—	—	15	30	—	—	46
Undeveloped	—	—	—	—	—	—	16	—	—	16
	—	—	—	—	—	15	46	—	—	62
Changes attributable to										
Revisions of previous estimates	—	—	—	—	—	(3)	1	—	—	(2)
Improved recovery	—	—	—	—	—	—	—	—	—	—
Purchases of reserves-in-place	—	—	—	—	—	—	—	—	—	—
Discoveries and extensions	—	—	—	—	—	—	—	—	—	—
Production	—	—	—	—	—	—	—	—	—	—
Sales of reserves-in-place	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	(3)	1	—	—	(2)
At 31 December[f]										
Developed	—	—	—	—	—	13	32	—	—	45
Undeveloped	—	—	—	—	—	—	15	—	—	15
	—	—	—	—	—	13	47	—	—	60
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	6	13	323	—	11	20	30	—	6	410
Undeveloped	3	1	104	—	28	7	16	—	3	163
	9	14	427	—	39	27	46	—	10	572
At 31 December										
Developed	5	11	269	—	7	18	32	—	9	352
Undeveloped	4	1	70	—	28	10	15	—	2	130
	10	12	339	—	35	28	47	—	12	482

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 4 thousand barrels per day for equity-accounted entities.

[d] Includes 11 million barrels of NGL in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[e] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[f] Total proved NGL reserves held as part of our equity interest in Rosneft is 47 million barrels, comprising less than 1 million barrels in Venezuela, Vietnam and Canada, and 47 million barrels in Russia.

Movements in estimated net proved reserves – continued

Total liquids[a b]										million barrels 2015
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US[c]	Rest of North America			Russia	Rest of Asia[d]		
Subsidiaries										
At 1 January										
Developed	166	108	1,352	9	21	322	—	384	46	2,407
Undeveloped	332	23	769	163	50	127	—	197	22	1,684
	497	131	2,121	172	71	449	—	581	68	4,092
Changes attributable to										
Revisions of previous estimates	(20)	2	(210)	39	(2)	86	—	295	1	191
Improved recovery	—	—	28	—	—	2	—	—	—	30
Purchases of reserves-in-place	1	—	3	—	—	6	—	—	—	11
Discoveries and extensions	—	—	4	42	—	2	—	—	—	48
Production[e]	(29)	(16)	(138)	(1)	(8)	(101)	—	(87)	(7)	(387)
Sales of reserves-in-place	(1)	—	(1)	—	—	—	—	—	—	(2)
	(48)	(14)	(315)	80	(10)	(5)	—	208	(6)	(109)
At 31 December[f]										
Developed	147	98	1,159	46	15	346	—	598	45	2,453
Undeveloped	302	20	647	205	46	99	—	192	18	1,529
	449	117	1,806	252	61	444	—	790	63	3,982
Equity-accounted entities (BP share)[g]										
At 1 January										
Developed	—	—	—	—	316	17	3,028	89	—	3,451
Undeveloped	—	—	—	—	314	—	1,949	11	—	2,274
	—	—	—	1	630	17	4,976	101	—	5,725
Changes attributable to										
Revisions of previous estimates	—	—	—	—	9	(3)	(22)	3	—	(13)
Improved recovery	—	—	—	—	3	—	—	—	—	3
Purchases of reserves-in-place	—	—	—	—	—	—	28	—	—	28
Discoveries and extensions	—	—	—	—	9	—	185	—	—	194
Production	—	—	—	—	(28)	—	(295)	(35)	—	(358)
Sales of reserves-in-place	—	—	—	—	—	—	(1)	—	—	(1)
	—	—	—	(1)	(8)	(3)	(104)	(32)	—	(147)
At 31 December[h i]										
Developed	—	—	—	—	311	14	2,876	68	—	3,270
Undeveloped	—	—	—	—	312	—	1,996	—	—	2,307
	—	—	—	—	622	14	4,872	68	—	5,577
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	166	108	1,352	9	337	339	3,028	473	46	5,858
Undeveloped	332	23	769	164	364	127	1,949	208	22	3,958
	497	131	2,121	173	701	466	4,976	682	68	9,817
At 31 December										
Developed	147	98	1,159	47	326	360	2,876	666	45	5,723
Undeveloped	302	20	647	205	357	99	1,996	192	18	3,836
	449	117	1,806	252	684	459	4,872	858	63	9,560

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 23 million barrels upon which a net profits royalty will be payable, over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[d] Production volume recognition methodology for our Technical Service Contract arrangement in Iraq was simplified in 2016 to exclude the impact of oil price movements on lifting imbalances. A minor adjustment has been made to comparative periods. There was no impact on 2015 proved reserves totals.

[e] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 4 thousand barrels per day for equity-accounted entities.

[f] Also includes 19 million barrels in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[g] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[h] Includes 70 million barrels in respect of the non-controlling interest in Rosneft, including 28 mmboe held through BP's equity accounted interest in Taas-Yuryakh Neftegazodobycha.

[i] Total proved liquid reserves held as part of our equity interest in Rosneft is 4,871 million barrels, comprising less than 1 million barrels in Canada, 26 million barrels in Venezuela, less than 1 million barrels in Vietnam and 4,844 million barrels in Russia.

Movements in estimated net proved reserves – continued

Natural gas[a b]										billion cubic feet 2015
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
Subsidiaries										
At 1 January										
Developed	382	300	7,168	17	2,352	901	—	1,688	3,316	16,124
Undeveloped	386	19	2,447	—	6,313	1,597	—	3,892	1,719	16,372
	768	318	9,615	17	8,666	2,497	—	5,580	5,035	32,496
Changes attributable to										
Revisions of previous estimates	(12)	14	(1,120)	(13)	132	203	—	(165)	13	(948)
Improved recovery	4	—	432	—	—	7	—	—	—	443
Purchases of reserves-in-place	—	—	65	—	29	554	—	—	—	648
Discoveries and extensions	—	—	5	—	—	174	—	—	—	179
Production[c]	(65)	(44)	(628)	(4)	(709)	(248)	—	(157)	(297)	(2,151)
Sales of reserves-in-place	(5)	—	(6)	—	(58)	(35)	—	—	—	(104)
	(77)	(30)	(1,252)	(17)	(605)	654	—	(322)	(284)	(1,933)
At 31 December[d]										
Developed	348	274	6,257	—	2,071	847	—	1,803	3,408	15,009
Undeveloped	343	14	2,105	—	5,989	2,305	—	3,455	1,343	15,553
	691	288	8,363	—	8,060	3,152	—	5,257	4,751	30,563
Equity-accounted entities (BP share)[e]										
At 1 January										
Developed	—	—	—	1	1,228	400	4,674	60	—	6,363
Undeveloped	—	—	—	1	717	—	5,111	9	—	5,837
	—	—	—	1	1,945	400	9,785	69	—	12,200
Changes attributable to										
Revisions of previous estimates	—	—	—	(1)	81	(14)	1,604	(2)	—	1,669
Improved recovery	—	—	—	—	8	—	—	—	—	8
Purchases of reserves-in-place	—	—	—	—	—	—	5	—	—	5
Discoveries and extensions	—	—	—	—	209	—	175	—	—	384
Production[c]	—	—	—	—	(182)	—	(430)	(19)	—	(632)
Sales of reserves-in-place	—	—	—	—	(1)	—	—	—	—	(1)
	—	—	—	(1)	116	(14)	1,354	(21)	—	1,434
At 31 December[f g]										
Developed	—	—	—	1	1,463	386	4,962	44	—	6,856
Undeveloped	—	—	—	—	598	—	6,176	4	—	6,778
	—	—	—	1	2,061	386	11,139	48	—	13,634
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	382	300	7,168	18	3,581	1,301	4,674	1,748	3,316	22,487
Undeveloped	386	19	2,447	1	7,030	1,597	5,111	3,901	1,719	22,209
	768	318	9,615	18	10,610	2,897	9,785	5,648	5,035	44,695
At 31 December										
Developed	348	274	6,257	1	3,534	1,233	4,962	1,847	3,408	21,865
Undeveloped	343	14	2,105	—	6,587	2,305	6,176	3,459	1,343	22,331
	691	288	8,363	1	10,121	3,538	11,139	5,305	4,751	44,197

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Includes 175 billion cubic feet of natural gas consumed in operations, 146 billion cubic feet in subsidiaries, 29 billion cubic feet in equity-accounted entities.

[d] Includes 2,359 billion cubic feet of natural gas in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[e] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[f] Includes 129 billion cubic feet of natural gas in respect of the 0.23% non-controlling interest in Rosneft including 5 billion cubic feet held through BP's equity accounted interest in Taas-Yuryakh Neftegazodobycha.

[g] Total proved gas reserves held as part of our equity interest in Rosneft is 11,169 billion cubic feet, comprising 1 billion cubic feet in Canada, 13 billion cubic feet in Venezuela, 22 billion cubic feet in Vietnam and 11,133 billion cubic feet in Russia.

Movements in estimated net proved reserves – continued

million barrels of oil equivalent[c]

Total hydrocarbons[a b]	Europe		North America		South America	Africa	Asia		Australasia	Total
2015	UK	Rest of Europe	US[d]	Rest of North America			Russia	Rest of Asia[e]		
Subsidiaries										
At 1 January										
Developed	232	160	2,588	12	426	477	—	675	618	5,187
Undeveloped	398	26	1,191	163	1,139	403	—	868	319	4,507
	630	186	3,779	175	1,565	880	—	1,543	937	9,695
Changes attributable to										
Revisions of previous estimates	(22)	4	(403)	36	21	121	—	267	4	27
Improved recovery	1	—	102	—	—	3	—	—	—	106
Purchases of reserves-in-place	1	—	15	—	5	102	—	—	—	122
Discoveries and extensions	—	—	4	42	—	32	—	—	—	79
Production[f g]	(40)	(23)	(247)	(2)	(130)	(144)	—	(114)	(58)	(758)
Sales of reserves-in-place	(1)	—	(2)	—	(10)	(6)	—	—	—	(19)
	(62)	(19)	(531)	77	(114)	108	—	153	(55)	(443)
At 31 December[h]										
Developed	207	145	2,238	46	373	492	—	909	632	5,041
Undeveloped	362	22	1,010	205	1,078	496	—	788	250	4,211
	568	167	3,248	252	1,451	988	—	1,696	882	9,252
Equity-accounted entities (BP share)[i]										
At 1 January										
Developed	—	—	—	—	528	86	3,834	100	—	4,548
Undeveloped	—	—	—	1	438	—	2,830	13	—	3,280
	—	—	—	1	965	86	6,663	112	—	7,828
Changes attributable to										
Revisions of previous estimates	—	—	—	(1)	23	(5)	255	3	—	274
Improved recovery	—	—	—	—	5	—	—	—	—	5
Purchases of reserves-in-place	—	—	—	—	—	—	29	—	—	29
Discoveries and extensions	—	—	—	—	45	—	215	—	—	260
Production[g]	—	—	—	—	(60)	—	(369)	(39)	—	(467)
Sales of reserves-in-place	—	—	—	—	—	—	(1)	—	—	(1)
	—	—	—	(1)	12	(5)	129	(36)	—	100
At 31 December[j k]										
Developed	—	—	—	—	563	81	3,732	76	—	4,452
Undeveloped	—	—	—	—	415	—	3,061	1	—	3,476
	—	—	—	—	978	81	6,792	77	—	7,928
Total subsidiaries and equity-accounted entities (BP share)										
At 1 January										
Developed	232	160	2,588	12	954	563	3,834	775	618	9,735
Undeveloped	398	26	1,191	164	1,576	403	2,830	881	319	7,788
	630	186	3,779	176	2,530	966	6,663	1,656	937	17,523
At 31 December										
Developed	207	145	2,238	47	936	573	3,732	984	632	9,493
Undeveloped	362	22	1,010	205	1,493	496	3,061	788	250	7,687
	568	167	3,248	252	2,429	1,069	6,792	1,773	882	17,180

[a] Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] 5.8 billion cubic feet of natural gas = 1 million barrels of oil equivalent.

[d] Proved reserves in the Prudhoe Bay field in Alaska include an estimated 23 million barrels of oil equivalent upon which a net profits royalty will be payable, over the life of the field under the terms of the BP Prudhoe Bay Royalty Trust.

[e] Production volume recognition methodology for our Technical Service Contract arrangement in Iraq was simplified in 2016 to exclude the impact of oil price movements on lifting imbalances. A minor adjustment has been made to comparative periods. There was no impact on 2015 proved reserves totals.

[f] Excludes NGLs from processing plants in which an interest is held of less than 1 thousand barrels per day for subsidiaries and 4 thousand barrels per day for equity-accounted entities.

[g] Includes 30 million barrels of oil equivalent of natural gas consumed in operations, 25 million barrels of oil equivalent in subsidiaries, 5 million barrels of oil equivalent in equity-accounted entities.

[h] Includes 425 million barrels of oil equivalent in respect of the 30% non-controlling interest in BP Trinidad and Tobago LLC.

[i] Volumes of equity-accounted entities include volumes of equity-accounted investments of those entities.

[j] Includes 70 million barrels of oil equivalent in respect of the non-controlling interest in Rosneft, including 28 mmboe held through BP's equity accounted interest in Taas-Yuryakh Neftegazodobycha.

[k] Total proved reserves held as part of our equity interest in Rosneft is 6,796 million barrels of oil equivalent, comprising less than 1 million barrels of oil equivalent in Canada, 28 million barrels of oil equivalent in Venezuela, 4 million barrels of oil equivalent in Vietnam and 6,764 million barrels of oil equivalent in Russia.

Standardized measure of discounted future net cash flows and changes therein relating to proved oil and gas reserves

The following tables set out the standardized measure of discounted future net cash flows, and changes therein, relating to crude oil and natural gas production from the group's estimated proved reserves. This information is prepared in compliance with FASB Oil and Gas Disclosures requirements.

Future net cash flows have been prepared on the basis of certain assumptions which may or may not be realized. These include the timing of future production, the estimation of crude oil and natural gas reserves and the application of average crude oil and natural gas prices and exchange rates from the previous 12 months. Furthermore, both proved reserves estimates and production forecasts are subject to revision as further technical information becomes available and economic conditions change. BP cautions against relying on the information presented because of the highly arbitrary nature of the assumptions on which it is based and its lack of comparability with the historical cost information presented in the financial statements.

										$ million 2017
	Europe		**North America**		**South America**	**Africa**	**Asia**		**Australasia**	**Total**
	UK	**Rest of Europe**	**US**	**Rest of North America**			**Russia**	**Rest of Asia**		
At 31 December										
Subsidiaries										
Future cash inflows[a]	**26,300**	**—**	**99,200**	**7,100**	**15,200**	**27,000**	**—**	**118,800**	**26,200**	**319,800**
Future production cost[b]	**13,800**	**—**	**46,700**	**4,100**	**7,100**	**8,600**	**—**	**52,600**	**8,400**	**141,300**
Future development cost[b]	**1,700**	**—**	**12,100**	**1,100**	**2,400**	**3,400**	**—**	**18,200**	**3,200**	**42,100**
Future taxation[c]	**4,200**	**—**	**6,500**	**—**	**1,700**	**3,800**	**—**	**33,200**	**4,800**	**54,200**
Future net cash flows	**6,600**	**—**	**33,900**	**1,900**	**4,000**	**11,200**	**—**	**14,800**	**9,800**	**82,200**
10% annual discount[d e]	**2,100**	**—**	**13,100**	**1,100**	**500**	**3,400**	**—**	**5,500**	**4,800**	**30,500**
Standardized measure of discounted future net cash flows[e]	**4,500**	**—**	**20,800**	**800**	**3,500**	**7,800**	**—**	**9,300**	**5,000**	**51,700**
Equity-accounted entities (BP share)[f]										
Future cash inflows[a]	**—**	**9,000**	**—**	**—**	**32,900**	**—**	**205,100**	**400**	**—**	**247,400**
Future production cost[b]	**—**	**4,100**	**—**	**—**	**15,500**	**—**	**114,900**	**300**	**—**	**134,800**
Future development cost[b]	**—**	**800**	**—**	**—**	**3,400**	**—**	**17,600**	**100**	**—**	**21,900**
Future taxation[c]	**—**	**3,100**	**—**	**—**	**3,100**	**—**	**12,400**	**—**	**—**	**18,600**
Future net cash flows	**—**	**1,000**	**—**	**—**	**10,900**	**—**	**60,200**	**—**	**—**	**72,100**
10% annual discount[d]	**—**	**400**	**—**	**—**	**6,400**	**—**	**34,900**	**—**	**—**	**41,700**
Standardized measure of discounted future net cash flows[g h]	**—**	**600**	**—**	**—**	**4,500**	**—**	**25,300**	**—**	**—**	**30,400**
Total subsidiaries and equity-accounted entities										
Standardized measure of discounted future net cash flows	**4,500**	**600**	**20,800**	**800**	**8,000**	**7,800**	**25,300**	**9,300**	**5,000**	**82,100**

The following are the principal sources of change in the standardized measure of discounted future net cash flows:

	Subsidiaries	**Equity-accounted entities (BP share)**	$ million **Total subsidiaries and equity-accounted entities**
Sales and transfers of oil and gas produced, net of production costs	**(12,800)**	**(5,500)**	**(18,300)**
Development costs for the current year as estimated in previous year	**9,800**	**4,200**	**14,000**
Extensions, discoveries and improved recovery, less related costs	**2,300**	**1,300**	**3,600**
Net changes in prices and production cost	**33,100**	**7,300**	**40,400**
Revisions of previous reserves estimates	**2,800**	**1,000**	**3,800**
Net change in taxation	**(12,500)**	**(1,500)**	**(14,000)**
Future development costs	**3,000**	**(4,600)**	**(1,600)**
Net change in purchase and sales of reserves-in-place	**800**	**(600)**	**200**
Addition of 10% annual discount	**2,300**	**2,600**	**4,900**
Total change in the standardized measure during the year[i]	**28,800**	**4,200**	**33,000**

[a] The marker prices used were Brent $54.36/bbl, Henry Hub $2.96/mmBtu.

[b] Production costs, which include production taxes, and development costs relating to future production of proved reserves are based on the continuation of existing economic conditions. Future decommissioning costs are included.

[c] Taxation is computed with reference to appropriate year-end statutory corporate income tax rates.

[d] Future net cash flows from oil and natural gas production are discounted at 10% regardless of the group assessment of the risk associated with its producing activities.

[e] Non-controlling interests in BP Trinidad and Tobago LLC amounted to $1,100 million.

[f] The standardized measure of discounted future net cash flows of equity-accounted entities includes standardized measure of discounted future net cash flows of equity-accounted investments of those entities.

[g] Non-controlling interests in Rosneft amounted to $1,963 million in Russia.

[h] No equity-accounted future cash flows in Africa because proved reserves are received as a result of contractual arrangements, with no associated costs.

[i] Total change in the standardized measure during the year includes the effect of exchange rate movements. Exchange rate effects arising from the translation of our share of Rosneft changes to US dollars are included within 'Net changes in prices and production cost'.

Standardized measure of discounted future net cash flows and changes therein relating to proved oil and gas reserves – continued

$ million

2016

	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
At 31 December										
Subsidiaries										
Future cash inflows[a]	21,600	—	72,400	4,500	11,700	23,600	—	78,100	24,000	235,900
Future production cost[b]	13,900	—	43,100	3,500	6,600	10,000	—	42,600	9,400	129,100
Future development cost[b]	3,000	—	14,300	1,100	3,700	5,100	—	15,400	3,500	46,100
Future taxation[c]	1,700	—	500	—	100	2,000	—	17,800	3,400	25,500
Future net cash flows	3,000	—	14,500	(100)	1,300	6,500	—	2,300	7,700	35,200
10% annual discount[d e]	900	—	4,900	—	200	2,800	—	(600)	4,100	12,300
Standardized measure of discounted future net cash flows[e f]	2,100	—	9,600	(100)	1,100	3,700	—	2,900	3,600	22,900
Equity-accounted entities (BP share)[g]										
Future cash inflows[a]	—	5,400	—	—	34,400	—	159,900	1,900	—	201,600
Future production cost[b]	—	3,000	—	—	16,500	—	84,300	1,200	—	105,000
Future development cost[b]	—	700	—	—	3,800	—	13,200	700	—	18,400
Future taxation[c]	—	1,300	—	—	3,600	—	10,100	—	—	15,000
Future net cash flows	—	400	—	—	10,500	—	52,300	—	—	63,200
10% annual discount[d]	—	200	—	—	6,100	—	30,700	—	—	37,000
Standardized measure of discounted future net cash flows[h i]	—	200	—	—	4,400	—	21,600	—	—	26,200
Total subsidiaries and equity-accounted entities										
Standardized measure of discounted future net cash flows	2,100	200	9,600	(100)	5,500	3,700	21,600	2,900	3,600	49,100

The following are the principal sources of change in the standardized measure of discounted future net cash flows:

$ million

	Subsidiaries	Equity-accounted entities (BP share)	Total subsidiaries and equity-accounted entities
Sales and transfers of oil and gas produced, net of production costs	(15,200)	(5,400)	(20,600)
Development costs for the current year as estimated in previous year	13,100	3,500	16,600
Extensions, discoveries and improved recovery, less related costs	700	900	1,600
Net changes in prices and production cost	(25,500)	(5,900)	(31,400)
Revisions of previous reserves estimates	12,200	1,200	13,400
Net change in taxation	(2,500)	900	(1,600)
Future development costs	4,900	(2,500)	2,400
Net change in purchase and sales of reserves-in-place	1,800	2,900	4,700
Addition of 10% annual discount	3,000	2,800	5,800
Total change in the standardized measure during the year[j]	(7,500)	(1,600)	(9,100)

[a] The marker prices used were Brent $42.82/bbl, Henry Hub $2.46/mmBtu.

[b] Production costs, which include production taxes, and development costs relating to future production of proved reserves are based on the continuation of existing economic conditions. Future decommissioning costs are included.

[c] Taxation is computed with reference to appropriate year-end statutory corporate income tax rates.

[d] Future net cash flows from oil and natural gas production are discounted at 10% regardless of the group assessment of the risk associated with its producing activities.

[e] In certain situations, revenues and costs are included in the standardized measure of discounted future net cash flows valuation and excluded from the determination of proved reserves and vice versa. This can result in the standardized measure of discounted future net cash flows being negative. Depending on the timing of those cash flows the effect of discounting may be to increase the discounted future net cash flows.

[f] Non-controlling interests in BP Trinidad and Tobago LLC amounted to $300 million.

[g] The standardized measure of discounted future net cash flows of equity-accounted entities includes standardized measure of discounted future net cash flows of equity-accounted investments of those entities.

[h] Non-controlling interests in Rosneft amounted to $1,608 million in Russia.

[i] No equity-accounted future cash flows in Africa because proved reserves are received as a result of contractual arrangements, with no associated costs.

[j] Total change in the standardized measure during the year includes the effect of exchange rate movements. Exchange rate effects arising from the translation of our share of Rosneft to US dollars are included within 'Net changes in prices and production cost'.

Standardized measure of discounted future net cash flows and changes therein relating to proved oil and gas reserves – continued

										$ million
										2015
	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
At 31 December										
Subsidiaries										
Future cash inflows[a]	27,500	7,800	98,100	7,200	20,100	32,800	—	65,200	32,000	290,700
Future production cost[b]	15,700	5,300	56,300	4,200	8,600	12,000	—	35,900	15,200	153,200
Future development cost[b]	4,700	700	18,800	1,700	7,000	8,100	—	18,200	4,500	63,700
Future taxation[c]	2,900	800	3,100	—	1,700	3,300	—	3,800	4,000	19,600
Future net cash flows	4,200	1,000	19,900	1,300	2,800	9,400	—	7,300	8,300	54,200
10% annual discount[d]	1,900	300	7,400	900	900	4,300	—	3,700	4,400	23,800
Standardized measure of discounted future net cash flows[e]	2,300	700	12,500	400	1,900	5,100	—	3,600	3,900	30,400
Equity-accounted entities (BP share)[f]										
Future cash inflows[a]	—	—	—	—	39,900	—	182,300	3,700	—	225,900
Future production cost[b]	—	—	—	—	20,200	—	101,200	2,200	—	123,600
Future development cost[b]	—	—	—	—	5,300	—	11,000	1,300	—	17,600
Future taxation[c]	—	—	—	—	3,900	—	12,400	100	—	16,400
Future net cash flows	—	—	—	—	10,500	—	57,700	100	—	68,300
10% annual discount[d]	—	—	—	—	6,700	—	33,800	—	—	40,500
Standardized measure of discounted future net cash flows[g] [h]	—	—	—	—	3,800	—	23,900	100	—	27,800
Total subsidiaries and equity-accounted entities										
Standardized measure of discounted future net cash flows	2,300	700	12,500	400	5,700	5,100	23,900	3,700	3,900	58,200

The following are the principal sources of change in the standardized measure of discounted future net cash flows:

			$ million
	Subsidiaries	Equity-accounted entities (BP share)	Total subsidiaries and equity-accounted entities
Sales and transfers of oil and gas produced, net of production costs	(27,900)	(7,300)	(35,200)
Development costs for the current year as estimated in previous year	15,000	4,500	19,500
Extensions, discoveries and improved recovery, less related costs	600	700	1,300
Net changes in prices and production cost	(100,400)	(24,700)	(125,100)
Revisions of previous reserves estimates	13,500	500	14,000
Net change in taxation	38,600	2,300	40,900
Future development costs	3,200	(100)	3,100
Net change in purchase and sales of reserves-in-place	(700)	300	(400)
Addition of 10% annual discount	8,000	4,700	12,700
Total change in the standardized measure during the year[i]	(50,100)	(19,100)	(69,200)

[a] The marker prices used were Brent $54.17/bbl, Henry Hub $2.59/mmBtu.

[b] Production costs, which include production taxes, and development costs relating to future production of proved reserves are based on the continuation of existing economic conditions. Future decommissioning costs are included.

[c] Taxation is computed with reference to appropriate year-end statutory corporate income tax rates.

[d] Future net cash flows from oil and natural gas production are discounted at 10% regardless of the group assessment of the risk associated with its producing activities.

[e] Non-controlling interests in BP Trinidad and Tobago LLC amounted to $600 million.

[f] The standardized measure of discounted future net cash flows of equity-accounted entities includes standardized measure of discounted future net cash flows of equity-accounted investments of those entities.

[g] Non-controlling interests in Rosneft amounted to $93 million in Russia.

[h] No equity-accounted future cash flows in Africa because proved reserves are received as a result of contractual arrangements, with no associated costs.

[i] Total change in the standardized measure during the year includes the effect of exchange rate movements. Exchange rate effects arising from the translation of our share of Rosneft to US dollars are included within 'Net changes in prices and production cost'.

Operational and statistical information

The following tables present operational and statistical information related to production, drilling, productive wells and acreage. Figures include amounts attributable to assets held for sale.

Crude oil and natural gas production

The following table shows crude oil, natural gas liquids and natural gas production for the years ended 31 December 2017, 2016 and 2015.

Production for the year[a b]

	Europe		North America		South America	Africa	Asia		Australasia	Total
	UK	Rest of Europe	US	Rest of North America			Russia[c]	Rest of Asia[d]		
Subsidiaries[e]										
Crude oil[f]										thousand barrels per day
2017	**80**	**—**	**370**	**20**	**12**	**241**	**—**	**325**	**17**	**1,064**
2016	79	24	335	13	10	263	—	204	16	943
2015	72	38	323	3	12	270	—	199	17	933
Natural gas liquids										thousand barrels per day
2017	**6**	**—**	**56**	**—**	**10**	**10**	**—**	**—**	**2**	**85**
2016	6	4	56	—	8	5	—	—	3	82
2015	7	5	56	—	11	7	—	1	3	88
Natural gas[g]										million cubic feet per day
2017	**182**	**—**	**1,659**	**9**	**1,936**	**949**	**—**	**371**	**783**	**5,889**
2016	170	82	1,656	10	1,689	513	—	363	820	5,302
2015	155	111	1,528	10	1,922	589	—	380	801	5,495
Equity-accounted entities (BP share)										
Crude oil[f]										thousand barrels per day
2017	**—**	**31**	**—**	**—**	**63**	**1**	**905**	**99**	**—**	**1,099**
2016	—	7	—	—	65	—	840	102	—	1,015
2015	—	—	—	—	68	—	809	97	—	974
Natural gas liquids										thousand barrels per day
2017	**—**	**2**	**—**	**—**	**—**	**6**	**4**	**—**	**—**	**12**
2016	—	—	—	—	1	4	4	—	—	8
2015	—	—	—	—	3	3	4	—	—	10
Natural gas[g]										million cubic feet per day
2017	**—**	**53**	**—**	**—**	**418**	**77**	**1,308**	**—**	**—**	**1,855**
2016	—	12	—	—	449	18	1,279	15	—	1,773
2015	—	—	—	—	435	—	1,195	21	—	1,651

[a] Production excludes royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Amounts reported for Russia include BP's share of Rosneft worldwide activities, including insignificant amounts outside Russia.

[d] Production volume recognition methodology for our Technical Service Contract arrangement in Iraq was simplified in 2016 to exclude the impact of oil price movements on lifting imbalances. A minor adjustment has been made to comparative periods.

[e] All of the oil and liquid production from Canada is bitumen.

[f] Crude oil includes condensate.

[g] Natural gas production excludes gas consumed in operations.

Operational and statistical information – continued

Productive oil and gas wells and acreage

The following tables show the number of gross and net productive oil and natural gas wells and total gross and net developed and undeveloped oil and natural gas acreage in which the group and its equity-accounted entities had interests as at 31 December 2017. A 'gross' well or acre is one in which a whole or fractional working interest is owned, while the number of 'net' wells or acres is the sum of the whole or fractional working interests in gross wells or acres. Productive wells are producing wells and wells capable of production. Developed acreage is the acreage within the boundary of a field, on which development wells have been drilled, which could produce the reserves; while undeveloped acres are those on which wells have not been drilled or completed to a point that would permit the production of commercial quantities, whether or not such acres contain proved reserves.

		Europe		North America		South America	Africa	Asia		Australasia	Total[b]
		UK	Rest of Europe	US	Rest of North America			Russia[a]	Rest of Asia		
Number of productive wells at 31 December 2017											
Oil wells[c]	– gross	**130**	**47**	**2,365**	**166**	**5,145**	**693**	**62,492**	**2,250**	**12**	**73,300**
	– net	**78**	**14**	**817**	**41**	**2,337**	**466**	**12,342**	**482**	**2**	**16,579**
Gas wells[d]	– gross	**76**	**1**	**23,376**	**268**	**982**	**194**	**478**	**86**	**68**	**25,529**
	– net	**34**	**—**	**9,841**	**133**	**347**	**82**	**94**	**37**	**14**	**10,582**
Oil and natural gas acreage at 31 December 2017											thousands of acres
Developed	– gross	**132**	**70**	**6,467**	**157**	**1,322**	**789**	**6,393**	**1,586**	**173**	**17,089**
	– net	**75**	**21**	**3,446**	**71**	**351**	**310**	**1,211**	**304**	**41**	**5,830**
Undeveloped[e]	– gross	**2,553**	**1,361**	**5,179**	**15,139**	**23,358**	**43,211**	**425,477**	**8,286**	**5,584**	**530,148**
	– net	**1,586**	**517**	**3,780**	**7,200**	**7,082**	**27,841**	**84,724**	**1,977**	**2,116**	**136,823**

[a] Based on information received from Rosneft as at 31 December 2017.

[b] Because of rounding, some totals may not exactly agree with the sum of their component parts.

[c] Includes approximately 8,890 gross (1,731 net) multiple completion wells (more than one formation producing into the same well bore).

[d] Includes approximately 2,827 gross (1,438 net) multiple completion wells. If one of the multiple completions in a well is an oil completion, the well is classified as an oil well.

[e] Undeveloped acreage includes leases and concessions.

Net oil and gas wells completed or abandoned

The following table shows the number of net productive and dry exploratory and development oil and natural gas wells completed or abandoned in the years indicated by the group and its equity-accounted entities. Productive wells include wells in which hydrocarbons were encountered and the drilling or completion of which, in the case of exploratory wells, has been suspended pending further drilling or evaluation. A dry well is one found to be incapable of producing hydrocarbons in sufficient quantities to justify completion.

	Europe		North America		South America	Africa	Asia		Australasia	Total[a]
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
2017										
Exploratory										
Productive	**2.8**	**0.1**	**1.5**	**1.2**	**3.2**	**2.6**	**9.4**	**1.4**	**—**	**22.2**
Dry	**2.4**	**—**	**—**	**—**	**—**	**2.9**	**—**	**1.0**	**—**	**6.3**
Development										
Productive	**2.5**	**0.5**	**124.0**	**8.0**	**103.7**	**16.5**	**282.7**	**43.6**	**1.1**	**582.6**
Dry	**—**	**—**	**0.5**	**—**	**1.6**	**2.1**	**—**	**0.8**	**—**	**5.0**
2016										
Exploratory										
Productive	0.3	0.4	0.5	—	0.6	2.1	3.4	1.6	—	8.9
Dry	1.0	0.3	4.7	—	—	1.5	—	0.3	—	7.8
Development										
Productive	3.4	1.4	145.6	—	99.8	20.2	88.5	55.2	0.5	414.6
Dry	0.8	—	—	—	0.6	2.0	—	1.0	—	4.4
2015										
Exploratory										
Productive	—	—	4.0	—	1.1	2.6	4.5	—	—	12.2
Dry	—	—	—	—	0.4	1.0	—	—	0.2	1.6
Development										
Productive	1.6	0.4	235.6	—	143.1	20.7	91.4	51.2	0.9	544.7
Dry	—	—	—	—	2.3	1.3	—	—	—	3.5

[a] Because of rounding, some totals may not exactly agree with the sum of their component parts.

Drilling and production activities in progress

The following table shows the number of exploratory and development oil and natural gas wells in the process of being drilled by the group and its equity-accounted entities as of 31 December 2017. Suspended development wells and long-term suspended exploratory wells are also included in the table.

	Europe		North America		South America	Africa	Asia		Australasia	Total[a]
	UK	Rest of Europe	US	Rest of North America			Russia	Rest of Asia		
At 31 December 2017										
Exploratory										
Gross	**1.0**	**—**	**4.0**	**—**	**4.0**	**4.0**	**—**	**4.0**	**—**	**17.0**
Net	**0.3**	**—**	**2.6**	**—**	**0.6**	**2.1**	**—**	**4.0**	**—**	**9.6**
Development										
Gross	**6.0**	**1.5**	**242.0**	**—**	**24.0**	**30.0**	**—**	**115.0**	**3.0**	**421.5**
Net	**2.3**	**0.4**	**113.6**	**—**	**7.8**	**18.2**	**—**	**22.6**	**0.5**	**165.4**

[a] Because of rounding, some totals may not exactly agree with the sum of their component parts.

Parent company financial statements of BP p.l.c.

Company balance sheet

At 31 December			$ million
	Note	**2017**	2016
Non-current assets			
Investments	2	**166,276**	166,283
Receivables	3	**2,623**	2,951
Defined benefit pension plan surpluses	4	**3,838**	528
		172,737	169,762
Current assets			
Receivables	3	**293**	487
Cash and cash equivalents		**10**	50
		303	537
Total assets		**173,040**	170,299
Current liabilities			
Payables	5	**7,903**	4,225
Non-current liabilities			
Payables	5	**34,104**	34,432
Deferred tax liabilities	6	**1,337**	179
Defined benefit pension plan deficits	4	**221**	219
		35,662	34,830
Total liabilities		**43,565**	39,055
Net assets		**129,475**	131,244
Capital and reserves[a]			
Profit and loss account			
Brought forward		**104,498**	111,521
Profit (loss) for the year		**2,145**	(375)
Other movements		**(5,565)**	(6,648)
		101,078	104,498
Called-up share capital	7	**5,343**	5,284
Share premium account		**12,147**	12,219
Other capital and reserves		**10,907**	9,243
		129,475	131,244

[a] See Statement of changes in equity on page 220 for further information.

The financial statements on pages 219-245 were approved and signed by the group chief executive on 29 March 2018 having been duly authorized to do so by the board of directors:

R W Dudley Group chief executive

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

Company statement of changes in equity[a]

$ million

	Share capital	Share premium account	Capital redemption reserve	Merger reserve	Treasury shares	Foreign currency translation reserve	Profit and loss account	Total equity
At 1 January 2017	**5,284**	**12,219**	**1,413**	**26,509**	**(18,443)**	**(236)**	**104,498**	**131,244**
Profit for the year	**—**	**—**	**—**	**—**	**—**	**—**	**2,145**	**2,145**
Other comprehensive income	**—**	**—**	**—**	**—**	**—**	**166**	**1,815**	**1,981**
Total comprehensive income	**—**	**—**	**—**	**—**	**—**	**166**	**3,960**	**4,126**
Dividends	**72**	**(72)**	**—**	**—**	**—**	**—**	**(6,153)**	**(6,153)**
Repurchases of ordinary share capital	**(13)**	**—**	**13**	**—**	**—**	**—**	**(343)**	**(343)**
Share-based payments, net of tax	**—**	**—**	**—**	**—**	**1,485**	**—**	**(884)**	**601**
At 31 December 2017	**5,343**	**12,147**	**1,426**	**26,509**	**(16,958)**	**(70)**	**101,078**	**129,475**
At 1 January 2016	5,049	10,234	1,413	26,509	(19,964)	—	111,521	134,762
Loss for the year	—	—	—	—	—	—	(375)	(375)
Other comprehensive income	—	—	—	—	—	(236)	(1,269)	(1,505)
Total comprehensive income	—	—	—	—	—	(236)	(1,644)	(1,880)
Dividends	137	(137)	—	—	—	—	(4,611)	(4,611)
Share-based payments, net of tax[b]	98	2,122	—	—	1,521	—	(768)	2,973
At 31 December 2016	5,284	12,219	1,413	26,509	(18,443)	(236)	104,498	131,244

[a] See Note 8 for further information.

[b] Share capital and share premium amounts relate to the issue of new ordinary shares to the government of Abu Dhabi. See Notes 3 and 10 for further information. Movements in treasury shares relate to employee share-based payment plans.

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

Notes on financial statements

1. Significant accounting policies, judgements, estimates and assumptions

Authorization of financial statements and statement of compliance with Financial Reporting Standard 101 'Reduced Disclosure Framework' (FRS 101)

The financial statements of BP p.l.c. for the year ended 31 December 2017 were approved and signed by the group chief executive on 29 March 2018 having been duly authorized to do so by the board of directors. The company meets the definition of a qualifying entity under Financial Reporting Standard 100 'Application of Financial Reporting Requirements' (FRS 100) issued by the Financial Reporting Council. Accordingly, these financial statements have been prepared in accordance with FRS 101 and in accordance with the provisions of the UK Companies Act 2006.

Basis of preparation

The financial statements have been prepared on a going concern basis and in accordance with the Companies Act 2006 and applicable UK accounting standards.

The financial statements have been prepared under the historical cost convention. Historical cost is generally based on the fair value of the consideration given in exchange for the assets.

As permitted by FRS 101, the company has taken advantage of the disclosure exemptions available in relation to:

(a) the requirements of IFRS 7 'Financial Instruments: Disclosures';

(b) the requirements of paragraphs 10(d), 10(f), 16, 38A, 38B, 38C, 38D, 40A, 40B, 40C, 40D, 111 and 134 to 136 of IAS 1 'Presentation of Financial Statements';

(c) the requirements of IAS 7 'Statement of Cash Flows';

(d) the requirements of paragraphs 30 and 31 of IAS 8 'Accounting Policies, Changes in Accounting Estimates and Errors' in relation to standards not yet effective;

(e) the requirements of paragraphs 17 and 18A of IAS 24 'Related Party Disclosures'; and

(f) the requirements of IAS 24 'Related Party Disclosures' to disclose related party transactions entered into between two or more members of a group, provided that any subsidiary which is a party to the transaction is wholly owned by such a member.

Where required, equivalent disclosures are given in the consolidated financial statements of BP p.l.c.

As permitted by Section 408 of the Companies Act 2006, the income statement of the company is not presented as part of these financial statements.

The financial statements are presented in US dollars and all values are rounded to the nearest million dollars ($ million), except where otherwise indicated.

Significant accounting policies: use of judgements, estimates and assumptions

Inherent in the application of many of the accounting policies used in preparing the financial statements is the need for management to make judgements, estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of revenues and expenses. Actual outcomes could differ from the estimates and assumptions used. The accounting judgements and estimates that could have a significant impact on the results of the company are set out in boxed text below, and should be read in conjunction with the information provided in the Notes on financial statements.

Investments

Investments in subsidiaries are recorded at cost. The company assesses investments for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If any such indication of impairment exists, the company makes an estimate of its recoverable amount. Where the carrying amount of an investment exceeds its recoverable amount, the investment is considered impaired and is written down to its recoverable amount. Where these circumstances have reversed, the impairment previously made is reversed to the extent of the original cost of the investment.

Significant estimate or judgement: investments

The recoverable amount, which is often the fair value less costs to sell, may be based upon discounted future cash flows. The assumptions underlying these calculations, such as the discount rate, future oil and gas prices, and other asset specific factors, are judgemental. Further information on the assumptions that are used in such calculations is included in Note 1 to the consolidated financial statements.

Foreign currency translation

The functional and presentation currency of the financial statements is US dollars. Transactions in foreign currencies are initially recorded in the functional currency by applying the spot exchange rate on the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated into the functional currency at the spot exchange rate on the balance sheet date. Any resulting exchange differences are included in the income statement. Non-monetary assets and liabilities, other than those measured at fair value, are not retranslated subsequent to initial recognition.

Exchange adjustments arising when the opening net assets and the profits for the year retained by a non-US dollar functional currency branch are translated into US dollars are recognized in a separate component of equity and reported in other comprehensive income. Income statement transactions are translated into US dollars using the average exchange rate for the reporting period.

Financial guarantees

The company enters into financial guarantee contracts with its subsidiaries. At the inception of a financial guarantee contract, a liability is recognized initially at fair value and then subsequently at the higher of the estimated loss and amortized cost. Where a guarantee is issued for a premium, a receivable of an amount equal to the liability is initially recognized. Subsequently, the liability and receivable reduce by the amount of consideration received, which is recognized in the income statement. Where a guarantee is issued without a premium, the fair value is recognized as additional investment in the entity to which the guarantee relates.

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

1. Significant accounting policies, judgements, estimates and assumptions – continued

Share-based payments

Equity-settled transactions

The cost of equity-settled transactions with employees of the company and other members of the group is measured by reference to the fair value of the equity instruments on the date on which they are granted and is recognized as an expense over the vesting period, which ends on the date on which the employees become fully entitled to the award. A corresponding credit is recognized within equity. Fair value is determined by using an appropriate, widely used, valuation model. In valuing equity-settled transactions, no account is taken of any vesting conditions, other than conditions linked to the price of the shares of the company (market conditions). Non-vesting conditions, such as the condition that employees contribute to a savings-related plan, are taken into account in the grant-date fair value, and failure to meet a non-vesting condition, where this is within the control of the employee, is treated as a cancellation and any remaining unrecognized cost is expensed.

For other equity-settled share-based payment transactions, the goods or services received and the corresponding increase in equity are measured at the fair value of the goods or services received, unless their fair value cannot be reliably estimated. If the fair value of the goods and services received cannot be reliably estimated, the transaction is measured by reference to the fair value of the equity instruments granted.

Cash-settled transactions

The cost of cash-settled transactions is recognized as an expense over the vesting period, measured by reference to the fair value of the corresponding liability which is recognized on the balance sheet. The liability is remeasured at fair value at each balance sheet date until settlement, with changes in fair value recognized in the income statement.

Pensions

The cost of providing benefits under the company's defined benefit plans is determined separately for each plan using the projected unit credit method, which attributes entitlement to benefits to the current period to determine current service cost and to the current and prior periods to determine the present value of the defined benefit obligation. Past service costs, resulting from either a plan amendment or a curtailment (a reduction in future obligations as a result of a material reduction in the plan membership), are recognized immediately when the company becomes committed to a change.

Net interest expense relating to pensions, which is recognized in the income statement, represents the net change in present value of plan obligations and the value of plan assets resulting from the passage of time, and is determined by applying the discount rate to the present value of the benefit obligation at the start of the year, and to the fair value of plan assets at the start of the year, taking into account expected changes in the obligation or plan assets during the year.

Remeasurements of the defined benefit liability and asset, comprising actuarial gains and losses, and the return on plan assets (excluding amounts included in net interest described above) are recognized within other comprehensive income in the period in which they occur and are not subsequently reclassified to profit and loss.

The defined benefit pension plan surplus or deficit recognized on the balance sheet for each plan comprises the difference between the present value of the defined benefit obligation (using a discount rate based on high quality corporate bonds) and the fair value of plan assets out of which the obligations are to be settled directly. Fair value is based on market price information and, in the case of quoted securities, is the published bid price. Defined benefit pension plan surpluses are only recognized to the extent they are recoverable, typically by way of refund.

Contributions to defined contribution plans are recognized in the income statement in the period in which they become payable.

Significant estimate: pensions

Accounting for defined benefit pensions involves making significant estimates when measuring the company's pension plan surpluses and deficits. These estimates require assumptions to be made about many uncertainties.

Pension assumptions are reviewed by management at the end of each year. These assumptions are used to determine the projected benefit obligation at the year end and hence the surpluses and deficits recorded on the company's balance sheet, and pension expense for the following year. The assumptions used are provided in Note 4.

The assumptions that are the most significant to the amounts reported are the discount rate, inflation rate, salary growth and mortality levels. Assumptions about these variables are based on the environment in each country. The assumptions used vary from year to year, with resultant effects on future net income and net assets. Changes to some of these assumptions, in particular the discount rate and inflation rate, could result in material changes to the carrying amounts of the company's pension obligations within the next financial year. Any differences between these assumptions and the actual outcome will also affect future net income and net assets.

The values ascribed to these assumptions and a sensitivity analysis of the impact of changes in the assumptions on the benefit expense and obligation used are provided in Note 4.

Income taxes

Income tax expense represents the sum of current tax and deferred tax.

Income tax is recognized in the income statement, except to the extent that it relates to items recognized in other comprehensive income or directly in equity, in which case the related tax is recognized in other comprehensive income or directly in equity.

Current tax is based on the taxable profit for the period. Taxable profit differs from net profit as reported in the income statement because it is determined in accordance with the rules established by the applicable taxation authorities. It therefore excludes items of income or expense that are taxable or deductible in other periods as well as items that are never taxable or deductible. The company's liability for current tax is calculated using tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is provided, using the liability method, on temporary differences at the balance sheet date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes. Deferred tax liabilities are recognized for taxable temporary differences.

Deferred tax assets are only recognized to the extent that it is probable that they will be realized in the future.

1. Significant accounting policies, judgements, estimates and assumptions – continued

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the balance sheet date. Deferred tax assets and liabilities are not discounted.

Significant estimate or judgement: deferred tax

Management judgement is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and level of future taxable profits.

Financial assets

All financial assets held by the company are classified as loans and receivables. Financial assets include cash and cash equivalents, receivables and other investments. The company determines the classification of its financial assets at initial recognition. Financial assets are recognized initially at fair value, normally being the transaction price plus directly attributable transaction costs. The company derecognizes financial assets when the contractual rights to the cash flows expire or the financial asset is transferred to a third party.

Loans and receivables

Loans and receivables are carried at amortized cost using the effective interest method if the time value of money is significant. Gains and losses are recognized in income when the loans and receivables are derecognized or impaired, and when interest is recognized using the effective interest method. This category of financial assets includes trade and other receivables. Cash equivalents are short-term highly liquid investments that are readily convertible to known amounts of cash, are subject to insignificant risk of changes in value and have a maturity of three months or less from the date of acquisition.

Financial liabilities

All financial liabilities held by the company are classified as financial liabilities measured at amortized cost. Financial liabilities include other payables, accruals, and most items of finance debt. The company determines the classification of its financial liabilities at initial recognition.

Financial liabilities measured at amortized cost

All financial liabilities are initially recognized at fair value, net of transaction costs. For interest-bearing loans and borrowings this is the fair value of the proceeds received net of issue costs associated with the borrowing.

After initial recognition, financial liabilities are subsequently measured at amortized cost using the effective interest method. Amortized cost is calculated by taking into account any issue costs and any discount or premium on settlement. Gains and losses arising on the repurchase, settlement or cancellation of liabilities are recognized in interest and other income and finance costs respectively. This category of financial liabilities includes trade and other payables and finance debt.

2. Investments

			$ million
	Subsidiaries	Associates	
	Shares	Shares	Total
Cost			
At 1 January 2017	**166,355**	**2**	**166,357**
Disposals	**(41)**	**—**	**(41)**
Other movements	**(7)**	**—**	**(7)**
At 31 December 2017	**166,307**	**2**	**166,309**
Amounts provided			
At 1 January 2017	**74**	**—**	**74**
Disposals	**(41)**	**—**	**(41)**
At 31 December 2017	**33**	**—**	**33**
Cost			
At 1 January 2016	139,313	2	139,315
Additions	32,833	—	32,833
Disposals	(5,791)	—	(5,791)
At 31 December 2016	166,355	2	166,357
Amounts provided			
At 1 January 2016	74	—	74
At 31 December 2016	74	—	74
At 31 December 2017	**166,274**	**2**	**166,276**
At 31 December 2016	166,281	2	166,283

The more important subsidiaries of the company at 31 December 2017 and the percentage holding of ordinary share capital (to the nearest whole number) are set out below. For a full list of related undertakings see Note 14.

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

2. Investments – continued

Subsidiaries	%	Country of incorporation	Principal activities
International			
BP Global Investments	100	England & Wales	Investment holding
BP International	100	England & Wales	Integrated oil operations
Burmah Castrol	100	Scotland	Lubricants
Canada			
BP Holdings Canada	100	England & Wales	Investment holding
US			
BP Holdings North America	100	England & Wales	Investment holding

The carrying value of the investment in BP International Limited at 31 December 2017 was $76,152 million (2016 $76,152 million).

3. Receivables

				$ million
		2017		2016
	Current	**Non-current**	Current	Non-current
Amounts receivable from subsidiaries[a]	**289**	**2,623**	480	2,951
Amounts receivable from associates	**4**	**—**	4	—
Other receivables	**—**	**—**	3	—
	293	**2,623**	487	2,951

[a] Non-current receivables includes a promissory note issued by BP (Abu Dhabi) Limited in 2016 in consideration for the issue of BP p.l.c. ordinary shares to the government of Abu Dhabi. See Note 10 for further information.

4. Pensions

The primary pension arrangement is a funded final salary pension plan in the UK under which retired employees draw the majority of their benefit as an annuity. This pension plan is governed by a corporate trustee whose board is composed of four member-nominated directors, four company-nominated directors, an independent director, and an independent chairman nominated by the company. The trustee board is required by law to act in the best interests of the plan participants and is responsible for setting certain policies, such as investment policies of the plan. The plan is closed to new joiners but remains open to ongoing accrual for current members. New joiners are eligible for membership of a defined contribution plan.

The level of contributions to funded defined benefit plans is the amount needed to provide adequate funds to meet pension obligations as they fall due. During 2017 the aggregate level of contributions was $509 million (2016 $539 million). The aggregate level of contributions in 2018 is expected to be approximately $483 million, and includes contributions we expect to be required to make by law or under contractual agreements, as well as an allowance for discretionary funding.

For the primary plan there is a funding agreement between the company and the trustee. On an annual basis the latest funding position is reviewed and a schedule of contributions covering the next five years has been agreed. The funding agreement can be terminated unilaterally by either party with two years' notice. Contractually committed funding therefore represents seven years of future contributions, which amounted to $2,623 million at 31 December 2017, of which $106 million relates to past service. The surplus relating to the primary pension plan is recognized on the balance sheet on the basis that the company is entitled to a refund of any remaining assets once all members have left the plan.

The obligation and cost of providing the pension benefits is assessed annually using the projected unit credit method. The date of the most recent actuarial review was 31 December 2017. The principal plans are subject to a formal actuarial valuation every three years in the UK. The most recent formal actuarial valuation of the primary pension plan was as at 31 December 2014, and a valuation as at 31 December 2017 is currently under way.

The material financial assumptions used to estimate the benefit obligations of the plans are set out below. The assumptions are reviewed by management at the end of each year, and are used to evaluate accrued pension benefits at 31 December and pension expense for the following year.

Financial assumptions used to determine benefit obligation		%
	2017	2016
Discount rate for pension plan liabilities	**2.5**	2.7
Rate of increase in salaries	**4.1**	4.6
Rate of increase for pensions in payment	**2.9**	3.0
Rate of increase in deferred pensions	**2.9**	3.0
Inflation for pension plan liabilities	**3.1**	3.2

Financial assumptions used to determine benefit expense		%
	2017	2016
Discount rate for pension plan service costs	**2.7**	4.0
Discount rate for pension plan other finance expense	**2.7**	3.9
Inflation for pension plan service costs	**3.2**	3.1

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4. Pensions – continued

The discount rate assumption is based on third-party AA corporate bond indices and we use yields that reflect the maturity profile of the expected benefit payments. The inflation rate assumption is based on the difference between the yields on index-linked and fixed-interest long-term government bonds. The inflation assumption is used to determine the rate of increase for pensions in payment and the rate of increase in deferred pensions.

The assumption for the rate of increase in salaries is based on our inflation assumption plus an allowance for expected long-term real salary growth. This includes an allowance for promotion-related salary growth of 0.7%.

In addition to the financial assumptions, we regularly review the demographic and mortality assumptions. The mortality assumptions reflect best practice in the UK, and have been chosen with regard to applicable published tables adjusted to reflect the experience of the plans and an extrapolation of past longevity improvements into the future. For the primary pension plan the mortality assumptions are as follows:

Mortality assumptions		Years
	2017	2016
Life expectancy at age 60 for a male currently aged 60	**27.4**	28.0
Life expectancy at age 60 for a male currently aged 40	**29.0**	30.0
Life expectancy at age 60 for a female currently aged 60	**28.8**	29.5
Life expectancy at age 60 for a female currently aged 40	**30.5**	31.9

The assets of the primary plan are held in a trust, the primary objective of which is to accumulate assets sufficient to meet the obligations of the plan. The assets of the trusts are invested in a manner consistent with fiduciary obligations and principles that reflect current practices in portfolio management.

A significant proportion of the assets are held in equities, owing to a higher expected level of return over the long term of such assets with an acceptable level of risk. In order to provide reasonable assurance that no single security or type of security has an unwarranted impact on the total portfolio, the investment portfolios are highly diversified.

The trustee's long-term investment objective for the primary UK plan as it matures is to invest in assets whose value changes in the same way as the plan liabilities, in order to reduce the level of funding risk. To move towards this objective, the plan uses a liability driven investment (LDI) approach for part of the portfolio, investing in government bonds to achieve this matching effect for the most significant plan liability assumptions of interest rate and inflation rate. This is partly funded by short-term sale and repurchase agreements, whereby the plan borrows money using existing bonds as security and which will be bought back at a specified price at an agreed future date. The funds raised are used to invest in further bonds to increase the proportion of assets which match the plan liabilities. The borrowings are shown separately in the analysis of pension plan assets in the table below.

The primary UK pension plan has an agreement with the trustee to increase the proportion of assets included in the LDI portfolio over time by reducing the proportion of plan assets held as equities and increasing the proportion held as bonds. During 2017, the plan switched 15% of plan assets from equities to bonds.

The company's asset allocation policy for the primary plan is as follows:

Asset category	%
Total equity (including private equity)	**43**
Bonds/cash (including LDI)	**50**
Property/real estate	**7**

The amounts invested under the LDI programme by the primary UK pension plan as at 31 December 2017 were $2,588 million (2016 $423 million) of government-issued nominal bonds and $16,177 million (2016 $9,384 million) of index-linked bonds.

In addition, the primary plan has entered into interest rate swaps in the year to offset the long-term fixed interest rate exposure for $1,333 million (2016 $4,450 million) of the corporate bond portfolio. At 31 December 2017 the fair value liability of these swaps was $49 million (2016 $144 million fair value liability) and is included in other assets in the table below.

The primary plan does not invest directly in either securities or property/real estate of the company or of any subsidiary.

The fair values of the various categories of assets held by the defined benefit plans at 31 December are presented in the table below, including the effects of derivative financial instruments. Movements in the fair value of plan assets during the year are shown in detail in the table on page 226.

		$ million
	2017	2016
Fair value of pension plan assets		
Listed equities - developed markets	**9,548**	11,494
- emerging markets	**2,220**	2,549
Private equity[a]	**2,679**	2,754
Government issued nominal bonds[b]	**2,663**	489
Government issued index-linked bonds[b]	**16,177**	9,384
Corporate bonds[b]	**4,682**	4,042
Property[c]	**2,211**	1,970
Cash	**390**	547
Other	**104**	(68)
Debt (repurchase agreements) used to fund liability driven investments	**(5,583)**	(2,981)
	35,091	30,180

[a] Private equity is valued at fair value based on the most recent third-party net asset valuation.

[b] Bonds held are denominated in sterling.

[c] Property held is all located in the United Kingdom and are valued based on an analysis of recent market transactions supported by market knowledge derived from third-party valuers.

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4. Pensions – continued

		$ million
	2017	2016
Analysis of the amount charged to profit before interest and taxation		
Current service cost[a]	**357**	333
Past service cost[b]	**12**	17
Operating charge relating to defined benefit plans	**369**	350
Payments to defined contribution plan	**31**	30
Total operating charge	**400**	380
Interest income on plan assets[c]	**845**	1,086
Interest on plan liabilities	**(830)**	(1,004)
Other finance income (expense)	**15**	82
Analysis of the amount recognized in other comprehensive income		
Actual asset return less interest income on pension plan assets	**2,396**	4,422
Change in financial assumptions underlying the present value of the plan liabilities	**(237)**	(6,926)
Change in demographic assumptions underlying the present value of plan liabilities	**734**	430
Experience gains and losses arising on the plan liabilities	**91**	55
Remeasurements recognized in other comprehensive income	**2,984**	(2,019)

[a] The costs of managing the fund's investments are treated as being part of the investment return, the costs of administering our pensions plan benefits are included in current service cost.

[b] Past service cost represents the increased liability arising as a result of early retirements occurring as part of restructuring programmes.

[c] The actual return on plan assets is made up of the sum of the interest income on plan assets and the remeasurement of plan assets as disclosed above.

		$ million
	2017	2016
Movements in benefit obligation during the year		
Benefit obligation at 1 January	**29,871**	28,934
Exchange adjustments	**2,882**	(5,680)
Operating charge relating to defined benefit plans	**369**	350
Interest cost	**830**	1,004
Contributions by plan participants[a]	**16**	18
Benefit payments (funded plans)[b]	**(1,903)**	(1,192)
Benefit payments (unfunded plans)[b]	**(3)**	(4)
Remeasurements	**(588)**	6,441
Benefit obligation at 31 December	**31,474**	29,871
Movements in fair value of plan assets during the year		
Fair value of plan assets at 1 January	**30,180**	31,223
Exchange adjustments	**3,048**	(5,916)
Interest income on plan assets[c]	**845**	1,086
Contributions by plan participants[a]	**16**	18
Contributions by employers (funded plans)	**509**	539
Benefit payments (funded plans)[b]	**(1,903)**	(1,192)
Remeasurements[c]	**2,396**	4,422
Fair value of plan assets at 31 December[d e]	**35,091**	30,180
Surplus at 31 December	**3,617**	309
Represented by		
Asset recognized	**3,838**	528
Liability recognized	**(221)**	(219)
	3,617	309
The surplus may be analysed between funded and unfunded plans as follows		
Funded	**3,838**	519
Unfunded	**(221)**	(210)
	3,617	309
The defined benefit obligation may be analysed between funded and unfunded plans as follows		
Funded	**(31,253)**	(29,661)
Unfunded	**(221)**	(210)
	(31,474)	(29,871)

[a] Most of the contributions made by plan participants were made under salary sacrifice.

[b] The benefit payments amount shown above comprises $1,888 million benefits plus $18 million of plan expenses incurred in the administration of the benefit.

[c] The actual return on plan assets is made up of the sum of the interest income on plan assets and the remeasurement of plan assets as disclosed above.

[d] Reflects $34,841 million of assets held in the BP Pension Fund (2016 $29,970 million) and $183 million held in the BP Global Pension Trust (2016 $165 million), with $53 million representing the company's share of Merchant Navy Officers Pension Fund (2016 $38 million) and $14 million of Merchant Navy Ratings Pension Fund (2016 $7 million).

[e] The fair value of plan assets includes borrowings related to the LDI programme as described on page 225.

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4. Pensions – continued

Sensitivity analysis

The discount rate, inflation, salary growth and the mortality assumptions all have a significant effect on the amounts reported. A one-percentage point change, in isolation, in certain assumptions as at 31 December 2017 for the company's plans would have had the effects shown in the table below. The effects shown for the expense in 2018 comprise the total of current service cost and net finance income or expense.

		$ million
	One percentage point	
	Increase	Decrease
Discount rate[a]		
Effect on pension expense in 2018	**(292)**	**241**
Effect on pension obligation at 31 December 2017	**(5,166)**	**6,789**
Inflation rate[b]		
Effect on pension expense in 2018	**185**	**(156)**
Effect on pension obligation at 31 December 2017	**4,316**	**(3,795)**
Salary growth		
Effect on pension expense in 2018	**50**	**(45)**
Effect on pension obligation at 31 December 2017	**578**	**(525)**

[a] The amounts presented reflect that the discount rate is used to determine the asset interest income as well as the interest cost on the obligation.

[b] The amounts presented reflect the total impact of an inflation rate change on the assumptions for rate of increase in salaries, pensions in payment and deferred pensions.

One additional year of longevity in the mortality assumptions would increase the 2018 pension expense by $39 million and the pension obligation at 31 December 2017 by $1,192 million.

Estimated future benefit payments and the weighted average duration of defined benefit obligations

The expected benefit payments, which reflect expected future service, as appropriate, but exclude plan expenses, up until 2027 and the weighted average duration of the defined benefit obligations at 31 December 2017 are as follows:

	$ million
Estimated future benefit payments	
2018	**1,098**
2019	**1,085**
2020	**1,106**
2021	**1,146**
2022	**1,173**
2023-2027	**6,308**
	Years
Weighted average duration	**19.8**

5. Payables

				$ million
		2017		2016
	Current	**Non-current**	Current	Non-current
Amounts payable to subsidiaries	**7,770**	**34,055**	3,904	34,389
Accruals and deferred income	**60**	**—**	129	43
Other payables	**73**	**49**	192	—
	7,903	**34,104**	4,225	34,432

Included in non-current amounts payable to subsidiaries is an interest-bearing payable of $4,236 million (2016 $4,236 million) with BP International Limited, with interest being charged based on a 3-month USD LIBOR rate plus 55 basis points and a maturity date of December 2021. Also included is an interest-bearing payable of $27,100 million (2016 $27,100 million) with BP International Limited, with interest being charged based on a 3-month USD LIBOR rate plus 65 basis points and a maturity date of May 2023. Non-current amounts payable to subsidiaries also includes an interest-bearing payable of $2,300 million (2016 $2,300 million) with BP Finance plc, with interest being charged based on a 1-year USD LIBOR rate and a maturity date of April 2020.

The maturity profile of the financial liabilities included in the balance sheet at 31 December is shown in the table below. These amounts are included within payables.

		$ million
	2017	2016
Due within		
1 to 2 years	**73**	206
2 to 5 years	**6,830**	6,936
More than 5 years	**27,201**	27,290
	34,104	34,432

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

6. Taxation

Tax charge included in total comprehensive income	2017	$ million 2016
Deferred tax		
Origination and reversal of timing differences in the current year	**1,158**	(698)
This comprises:		
Taxable temporary differences relating to pensions	**1,158**	(698)
Deferred tax		
Deferred tax liability		
Pensions	**1,337**	179
Net deferred tax liability	**1,337**	179
Analysis of movements during the year		
At 1 January	**179**	877
Charge (credit) for the year on ordinary activities	**(11)**	52
Charge (credit) for the year in other comprehensive income	**1,169**	(750)
At 31 December	**1,337**	179

At 31 December 2017, deferred tax assets of $92 million on other temporary differences and $8 million relating to pensions (2016 $82 million relating to other temporary differences and $8 million relating to pensions) were not recognized as it is not considered probable that suitable taxable profits will be available in the company from which the future reversal of the underlying temporary differences can be deducted. It is anticipated that the reversal of these temporary differences will benefit other group companies in the future.

7. Called-up share capital

The allotted, called-up and fully paid share capital at 31 December was as follows:

	2017		2016	
Issued	**Shares thousand**	**$ million**	Shares thousand	$ million
8% cumulative first preference shares of £1 each[a]	**7,233**	**12**	7,233	12
9% cumulative second preference shares of £1 each[a]	**5,473**	**9**	5,473	9
		21		21
Ordinary shares of 25 cents each				
At 1 January	**21,049,696**	**5,263**	20,108,771	5,028
Issue of new shares for the scrip dividend programme	**289,789**	**72**	548,005	137
Issue of new shares - other[b]	**—**	**—**	392,920	98
Repurchase of ordinary share capital	**(51,292)**	**(13)**	—	—
At 31 December	**21,288,193**	**5,322**	21,049,696	5,263
		5,343		5,284

[a] The nominal amount of 8% cumulative first preference shares and 9% cumulative second preference shares that can be in issue at any time shall not exceed £10,000,000 for each class of preference shares.

[b] Relates to the issue of new ordinary shares to the government of Abu Dhabi. See Notes 3 and 10 for further information.

Voting on substantive resolutions tabled at a general meeting is on a poll. On a poll, shareholders present in person or by proxy have two votes for every £5 in nominal amount of the first and second preference shares held and one vote for every ordinary share held. On a show-of-hands vote on other resolutions (procedural matters) at a general meeting, shareholders present in person or by proxy have one vote each.

In the event of the winding up of the company, preference shareholders would be entitled to a sum equal to the capital paid up on the preference shares, plus an amount in respect of accrued and unpaid dividends and a premium equal to the higher of (i) 10% of the capital paid up on the preference shares and (ii) the excess of the average market price of such shares on the London Stock Exchange during the previous six months over par value.

During 2017 the company repurchased 51 million ordinary shares at a cost of $343 million, including transaction costs of $2 million, as part of the share repurchase programme announced on 31 October 2017. All shares purchased were for cancellation. The repurchased shares represented 0.2% of ordinary share capital.

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

7. Called-up share capital – continued

Treasury shares[a]

	2017		2016	
	Shares thousand	**Nominal value $ million**	Shares thousand	Nominal value $ million
At 1 January	**1,614,657**	**403**	1,756,327	439
Purchases for settlement of employee share plans	**4,423**	**1**	9,631	2
Shares re-issued for employee share-based payment plans[b]	**(137,008)**	**(34)**	(151,301)	(38)
At 31 December	**1,482,072**	**370**	1,614,657	403
Of which - shares held in treasury by BP	**1,472,343**	**368**	1,576,411	394
- shares held in ESOP trusts	**9,705**	**2**	21,432	5
- shares held by BP's US plan administrator[c]	**24**	**—**	16,814	4

[a] See Note 8 for definition of treasury shares.

[b] A minor amendment has been made to the number of shares re-issued for employee share-based payment plans in 2016.

[c] Held by the company in the form of ADSs to meet the requirements of employee share-based payment plans in the US.

For each year presented, the balance at 1 January represents the maximum number of shares held in treasury by BP during the year, representing 7.5% (2016 8.6%) of the called-up ordinary share capital of the company.

During 2017, the movement in shares held in treasury by BP represented less than 0.5% (2016 less than 0.8%) of the ordinary share capital of the company.

8. Capital and reserves

See statement of changes in equity for details of all reserves balances.

Share capital

The balance on the share capital account represents the aggregate nominal value of all ordinary and preference shares in issue, including treasury shares.

Share premium account

The balance on the share premium account represents the amounts received in excess of the nominal value of the ordinary and preference shares.

Capital redemption reserve

The balance on the capital redemption reserve represents the aggregate nominal value of all the ordinary shares repurchased and cancelled.

Merger reserve

The balance on the merger reserve represents the fair value of the consideration given in excess of the nominal value of the ordinary shares issued in an acquisition made by the issue of shares.

Treasury shares

Treasury shares represent BP shares repurchased and available for specific and limited purposes. For accounting purposes, shares held in Employee Share Ownership Plans (ESOPs) and by BP's US share plan administrator to meet the future requirements of the employee share-based payment plans are treated in the same manner as treasury shares and are, therefore, included in the financial statements as treasury shares. The ESOPs are funded by the company and have waived their rights to dividends in respect of such shares held for future awards. Until such time as the shares held by the ESOPs vest unconditionally to employees, the amount paid for those shares is shown as a reduction in shareholders' equity. Assets and liabilities of the ESOPs are recognized as assets and liabilities of the company.

Foreign currency translation reserve

The foreign currency translation reserve records exchange differences arising from the translation of the financial information of the foreign currency branch. Upon disposal of foreign operations, the related accumulated exchange differences are recycled to the income statement.

Profit and loss account

The balance held on this reserve is the accumulated retained profits of the company.

The profit and loss account reserve includes $24,107 million (2016 $24,107 million), the distribution of which is limited by statutory or other restrictions.

The financial statements for the year ended 31 December 2017 do not reflect the dividend announced on 6 February 2018 and paid in March 2018; this will be treated as an appropriation of profit in the year ended 31 December 2018.

9. Financial guarantees

The company has issued guarantees under which the maximum aggregate liabilities at 31 December 2017 were $75,824 million (2016 $71,443 million), the majority of which relate to finance debt of subsidiaries. Also included are guarantees of subsidiaries' liabilities under the Consent Decree between the United States, the Gulf states and BP and under the settlement agreement with the Gulf states in relation to the Gulf of Mexico oil spill. The company has also issued uncapped indemnities and guarantees, including a guarantee of subsidiaries' liabilities under the Plaintiffs' Steering Committee agreement relating to the Gulf of Mexico oil spill. Uncapped indemnities and guarantees are also issued in relation to potential losses arising from environmental incidents involving ships leased and operated by a subsidiary.

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

10. Share-based payments

Effect of share-based payment transactions on the company's result and financial position

		$ million
	2017	2016
Total expense recognized for equity-settled share-based payment transactions	**397**	397
Total (credit) expense recognized for cash-settled share-based payment transactions	**9**	44
Total expense recognized for share-based payment transactions	**406**	441
Closing balance of liability for cash-settled share-based payment transactions	**54**	59
Total intrinsic value for vested cash-settled share-based payments	**58**	48

In 2016, in addition to the share-based payment transactions detailed in the table above, the company issued ordinary shares to the government of Abu Dhabi in consideration for a 10% interest in the Abu Dhabi onshore oil concession. The interest in the concession is owned by a subsidiary of the company, BP (Abu Dhabi) Limited. As part of the agreements BP (Abu Dhabi) Limited issued a promissory note to the company as described in Note 3. The share-based payment transaction was valued at the fair value of the interest in the assets, which was valued with reference to a market transaction for an identical interest.

Additional information on the company's share-based payment plans is provided in Note 9 to the consolidated financial statements.

11. Auditor's remuneration

Note 34 to the consolidated financial statements provides details of the remuneration of the company's auditor on a group basis.

12. Directors' remuneration

		$ million
Remuneration of directors	**2017**	2016
Total for all directors		
Emoluments	**9**	10
Amounts awarded under incentive schemes[a]	**9**	14
Total	**18**	24

[a] Excludes amounts relating to past directors.

Emoluments

These amounts comprise fees paid to the non-executive chairman and the non-executive directors and, for executive directors, salary and benefits earned during the relevant financial year, plus cash bonuses awarded for the year. Further information is provided in the Directors' remuneration report on page 90.

13. Employee costs and numbers

		$ million
Employee costs	**2017**	2016
Wages and salaries	**496**	480
Social security costs	**74**	66
Pension costs	**92**	69
	662	615

Average number of employees	**2017**	2016
Upstream	**262**	248
Downstream	**1,125**	1,152
Other businesses and corporate	**2,384**	2,405
	3,771	3,805

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group

In accordance with Section 409 of the Companies Act 2006, a full list of related undertakings, the registered office address and the percentage of equity owned as at 31 December 2017 is disclosed below.

Unless otherwise stated, the share capital disclosed comprises ordinary shares or common stock (or local equivalent thereof) which are indirectly held by BP p.l.c.

All subsidiary undertakings are controlled by the group and their results are fully consolidated in the group's financial statements.

The percentage of equity owned by the group is 100% unless otherwise noted below.

The stated ownership percentages represent the effective equity owned by the group.

Subsidiaries

200 PS Overseas Holdings Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
4321 North 800 West LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
563916 Alberta Ltd. (99.90%)	240- Fourth Avenue SW, Calgary AB T2P 4H4, Canada
ACP (Malaysia), Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Actomat B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Advance Petroleum Holdings Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Advance Petroleum Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
AE Cedar Creek Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
AE Goshen II Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
AE Goshen II Wind Farm LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
AE Power Services LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
AE Wind PartsCo LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Air BP Albania SHA	Aeroporti Nderkombetar i Tiranes, "Nene Tereza", Post Box 2933 in Tirana, Albania
Air BP Brasil Ltda.	Avenida Rouxinol, 55 , Offices 501-514 , Moema Office Tower, São Paulo, 04516- 000, Brazil
Air BP Canada LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Air BP Croatia d.o.o.	Petrinjska ulica 2, Zagreb, Croatia
Air BP Denmark ApS	Arne Jacobsens Allé 7, 5th Floor, 2300, Copenhagen, Denmark
Air BP Finland OY[b]	Öljytie 4, 01530 Vantaa, Finland
Air BP Iceland	Armula 24, 108, Reykjavik, Iceland
Air BP Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Air BP Norway AS	P.O. Box, 153 Skoyen, Oslo, 0212, Norway
Air BP Sales Romania S.R.L.	59 Aurel Vlaicu Street, Otopeni, Ilfov County, Romania
Air BP Sweden AB	Box 8107, 10420, Stockholm, Sweden
Air Refuel Pty Ltd[c]	398 Tingira Street, Pinkenba QLD 4008, Australia
Allgreen Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
AM/PM International Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
American Oil Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco (Fiddich) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Amoco (U.K.) Exploration Company, LLC	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Austria Petroleum Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Bolivia Petroleum Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Bolivia Services Company Inc.	Craigmuir Chambers, P.O. Box 71, Road Town, Tortola, British Virgin Islands
Amoco Brazil, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Canada International Holdings B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Amoco Capline Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Chemical (Europe) S.A.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Chemical Holding B.V.[d]	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Amoco Chemical U.K. Limited (in liquidation)	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Amoco Chemicals (FSC) B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Amoco CNG (Trinidad) Limited	5-5A Queen's Park West, Port-of-Spain, Trinidad and Tobago
Amoco Cypress Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Destin Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Endicott Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Environmental Services Company	Bank of America Center, 16th Floor, 1111 East Main Street, Richmond VA 23219, United States
Amoco Exploration Holdings B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Amoco Fabrics (U.K.) Limited (in liquidation)	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Amoco Fabrics and Fibers Ltd.[e]	1423 Cameron Street, Hawkesbury ON, Canada
Amoco Guatemala Petroleum Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco International Finance Corporation	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco International Petroleum Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Kazakhstan (CPC) Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Leasing Corporation	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Louisiana Fractionator Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Main Pass Gathering Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Marketing Environmental Services Company	400 East Court Avenue, Des Moines IA 50309, United States
Amoco MB Fractionation Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco MBF Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Netherlands Petroleum Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Nigeria Exploration Company Limited[f]	7M8 Ligali Ayorinde Street, Victoria Island, Lagos, Nigeria
Amoco Nigeria Oil Company Limited[f]	7M8 Ligali Ayorinde Street, Victoria Island, Lagos, Nigeria
Amoco Nigeria Petroleum Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Nigeria Petroleum Company Limited	7M8 Ligali Ayorinde Street, Victoria Island, Lagos, Nigeria
Amoco Norway Oil Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States

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14. Related undertakings of the group – continued

Amoco Oil Holding Company	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Olefins Corporation	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Overseas Exploration Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Pipeline Asset Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Pipeline Holding Company	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Properties Incorporated	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Realty Company	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Remediation Management Services Corporation	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Research Operating Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Rio Grande Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Somalia Petroleum Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco Sulfur Recovery Company	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Tax Leasing X Corporation	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Amoco Trinidad Gas B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Amoco Tri-States NGL Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Amoco U.K. Petroleum Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
AmProp Finance Company	251 East Ohio Street, Suite 500, Indianapolis IN 46204, United States
Amprop Illinois I Limited Partnership[g]	801 Adlai Stevenson Drive, Springfield, IL, 62703, United States
Amprop, Inc.	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Anaconda Arizona, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Arabian Production And Marketing Lubricants Company (50.00%)	Riyadh Airport Road, Business Gate, Building C2, 2nd Floor., Saudi Arabia
Aral Aktiengesellschaft	Wittener Straße 45, 44789 Bochum, Germany
Aral Luxembourg S.A.	Bâtiment B, 36route de Longwy, L-8080 Bertrange, Luxembourg
Aral Services Luxembourg Sarl	Autoroute A3/E25, L-3325 Brechem Ouest, Luxembourg
Aral Tankstellen Services Sarl	Bâtiment B, 36route de Longwy, L-8080 Bertrange, Luxembourg
Aral Vertrieb GmbH	Überseeallee 1, 20457, Hamburg, Hamburg, Germany
ARCO British International, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO British Limited, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Coal Australia Inc.	Level 17, 717 Bourke Street, Docklands VIC, Australia
ARCO El-Djazair Holdings Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO El-Djazair LLC	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Environmental Remediation, L.L.C.[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Exploration, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Gaviota Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Ghadames Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO International Investments Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO International Services Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Material Supply Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Midcon LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Neftegaz Holdings, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Oil Company Nigeria Unlimited[a]	7M8 Ligali Ayorinde Street, Victoria Island, Lagos, Nigeria
ARCO Oman Inc.	Providence House, East Hill Street, P.O. Box N-3944, Nassau, Bahamas
ARCO Products Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Resources Limited	Level 17, 717 Bourke Street, Docklands VIC, Australia
ARCO Terminal Services Corporation	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
ARCO Trinidad Exploration and Production Company Limited	Providence House, East Hill Street, P.O. Box N-3944, Nassau, Bahamas
ARCO Unimar Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Aspac Lubricants (Malaysia) Sdn. Bhd. (63.03%)	Tower 5, Avenue 7, The Horizon Bangsar South City, No. 8, Jalan Kerinchi, 59200 Kuala Lumpur, Malaysia
Atlantic 2/3 UK Holdings Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Atlantic Richfield Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Autino Holdings Limited (90.73%)[h]	83-85 London Street , Reading , Berkshire, RG1 4QA, United Kingdom
Autino Limited (90.73%)	83-85 London Street , Reading , Berkshire, RG1 4QA, United Kingdom
Auwahi Wind Energy Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
B2Mobility GmbH	Wittener Straße 45, 44789 Bochum, Germany
Bahia de Bizkaia Electridad, S.L. (75.00%)	Atraque Punta Lucero, Explanada Punta Ceballos s/n, Ziérbena (Vizcaya), Spain
Baltimore Ennis Land Company, Inc.	1300 East Ninth Street, Cleveland, OH, 44114, United States
Black Lake Pipe Line Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP- Castrol (Thailand) Limited (57.56%)[b]	23rd Fl. Rajanakarn Bldg, 3 South Sathon Road, Yannawa Sathon, Bangkok 10120, Thailand
BP (Abu Dhabi) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP (Barbados) Holding SRL	Erin Court, Bishop's Court Hill, St. Michael , Barbados
BP (Barbican) Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP (China) Holdings Limited[a]	Room 2101, 21F Youyou International Plaza, 76 Pujian Road, Pudong, Shanghai , PRC
BP (China) Industrial Lubricants Limited[a]	Bin Jiang Road, Petrochemical Industrial Park, Jiangsu Province, China
BP (Gibraltar) Limited[j]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP (Indian Agencies) Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP (Malta) Limited (in liquidation)[i]	3rd Floor, Navi Buildings, Pantar Road, Lija, LJA 2021, Malta
BP (Shandong) Petroleum Co., Ltd[a]	Room 1-2201, Sijian Meilin Mansion, No. 48-15 Wuyingshan Middle Road, Tianqiao District, Ji'nan, Shandong, China
BP (Shanghai) Trading Limited[a]	No. 28 Maji Road, Donghua Financial Building, China (Shanghai) Pilot Free Trade, Shanghai, China
BP Absheron Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Africa Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Akaryakit Ortakligi (70.00%)[g]	Degirmen yolu cad. No:28, Asia OfisPark K:3 İcerenkoy-Atasehir, Istanbul, 34752, Turkey
BP Alaska LNG LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States

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14. Related undertakings of the group – continued

BP Alternative Energy Holdings Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Alternative Energy Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Alternative Energy North America Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP America Chembel Holding LLC	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP America Chemicals Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP America Foreign Investments Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP America Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP America Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP America Production Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP AMI Leasing, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Amoco Chemical Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Amoco Chemical Holding Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Amoco Chemical Indonesia Limited	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
BP Amoco Chemical Malaysia Holding Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Amoco Chemical Singapore Holding Company	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
BP Amoco Exploration (Faroes) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Amoco Exploration (In Amenas) Limited	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
BP Amoco Neighborhood Development Corporation	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
BP Angola (Block 18) B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Argentina Exploration Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Argentina Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Aromatics Holdings Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Aromatics Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Aromatics Limited N.V.	Amocolaan 2 2440 Geel , Belgium
BP Asia Limited	Unit 807, Tower B, Manulife Financial Centre, 223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
BP Asia Pacific (Malaysia) Sdn. Bhd.	Tower 5, Avenue 7, The Horizon Bangsar South City, No. 8, Jalan Kerinchi, 59200 Kuala Lumpur, Malaysia
BP Asia Pacific Holdings Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Asia Pacific Pte Ltd[i]	7 Straits View #26-01, Marina One East Tower, Singapore, 018936, Singapore
BP Australia Capital Markets Limited	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Australia Employee Share Plan Proprietary Limited	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Australia Group Pty Ltd[f]	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Australia Investments Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Australia Nominees Proprietary Limited	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Australia Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Australia Shipping Pty Ltd[k]	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Australia Swaps Management Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Aviation A/S	c/o Danish Refuelling Services, Kastrup Lufthavn, 2770 Kastrup, Denmark
BP Benevolent Fund Trustees Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Berau Ltd.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Biocombustíveis S.A. (99.96%)	Avenida das Nações Unidas, 12399, 4fl, Sao Paulo, Brazil
BP Bioenergia Campina Verde Ltda. (99.96%)	Rua Principal, Fazenda Recanto, Caixa Postal 01, Ituiutaba, Minas Gerais, 38.300-898, Brazil
BP Bioenergia Ituiutaba Ltda. (99.96%)	Fazenda Recanto, Zona Rural, CEP 38.300-898, Ituiutaba, Minas Gerais, Brazil
BP Bioenergia Itumbiara S.A. (99.96%)	Estrada Municipal Itumbiara, Chacoeira Dourada, Fazenda Jandaia, Itumbiara, Goiás, 75516-126, Brazil
BP Bioenergia Tropical S.A. (99.97%)	Rodovia GO 410, km 51 à esquerda, Fazenda Canadá, s/n, Zona Rural, Edéia, Goiás, 75940-000, Brazil
BP Biofuels Advanced Technology Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Biofuels Brazil Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Biofuels Louisiana LLC[a]	5615 Corporate Blvd., Suite 400B, Baton Rouge LA 70808, United States
BP Biofuels North America LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Biofuels Trading Comércio, Importação e Exportação Ltda. (99.96%)	Avenida das Nações Unidas, 12.399 , 4º andar, cj. 41B, sala 01, São Paulo, Brazil
BP Bomberai Ltd.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Brasil Ltda.	Avenida das Américas, no. 3434, Salas 301 a 308, Barra da Tijuca, Rio de Janeiro, RJ, 22640-102, Brazil
BP Brazil Tracking L.L.C.[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Bulwer Island Pty Ltd[l]	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Business Service Centre Asia Sdn Bhd	Tower 5, Avenue 7, The Horizon Bangsar South City, No. 8, Jalan Kerinchi, 59200 Kuala Lumpur, Malaysia
BP Business Service Centre KFT[a]	BP Business Service Centre KFT, 32-34 Soroksári út, H-1095 Budapest, Hungary
BP Canada Energy Development Company	Stewart McKelvey, 900, 1959 Upper Water Street, Halifax NS B3J 3N2, Canada
BP Canada Energy Group ULC	Stewart McKelvey, 900, 1959 Upper Water Street, Halifax NS B3J 3N2, Canada
BP Canada Energy Marketing Corp.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Canada International Holdings B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Canada Investments Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Capellen Sarl	Aire de Capellen, L-8309 Capellen, Luxembourg
BP Capital Markets America Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Capital Markets p.l.c.	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Car Fleet Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Caribbean Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Castrol KK (64.84%)	East Tower 20F, Gate CIty Ohsaki, 1-11-2 Osaki, Shinagawa-ku, Tokyo, Japan
BP Castrol Lubricants (Malaysia) Sdn. Bhd. (63.03%)	Tower 5, Avenue 7, The Horizon Bangsar South City, No. 8, Jalan Kerinchi, 59200 Kuala Lumpur, Malaysia
BP Chembel N.V.	Amocolaan 2 2440 Geel , Belgium
BP Chemical US Sales Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Chemicals (Korea) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Chemicals East China Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Chemicals Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Chemicals Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Chemicals Trading Limited (In Liquidation)	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

BP Chile Petrolera Limitada	Patricio Raby Benavente, Moneda N° 920 Of 205, Santiago, Chile
BP China Exploration and Production Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP China Limited (In Liquidation)[i]	55 Baker Street, London, W1U 7EU, United Kingdom
BP Commodities Trading Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Company North America Inc.	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
BP Containment Response Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Containment Response System Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Continental Holdings Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Corporate Holdings Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Corporation North America Inc.	150 West Market Street, Suite 800, Indianapolis IN 46204, United States
BP Danmark A/S	Arne Jacobsens Allé 7, 5th Floor, 2300, Copenhagen, Denmark
BP D-B Pipeline Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Developments Australia Pty. Ltd.	Level 8, 250 St Georges Terrace, Perth WA 6000, Australia
BP Dogal Gaz Ticaret Anonim Sirketi	Degirmen yolu cad. No:28, Asia OfisPark K:3 İcerenkoy-Atasehir, Istanbul, 34752, Turkey
BP East Kalimantan CBM Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Eastern Mediterranean Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Egypt Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Egypt East Delta Marine Corporation	Craigmuir Chambers, P.O. Box 71, Road Town, Tortola, British Virgin Islands
BP Egypt East Tanka B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Egypt Production B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Egypt Ras El Barr B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Egypt West Mediterranean (Block B) B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Energía México, S. de R.L. de C.V.	Avenida Santa Fe 505, Col. Cruz Manca Santa Fe, Delegacion Cuajimalpa, Mexico
BP Energy Asia Pte. Limited	7 Straits View #26-01, Marina One East Tower, Singapore, 018936, Singapore
BP Energy Colombia Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Energy Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Energy do Brasil Ltda.	Avenida das Américas, no. 3434, Salas 301 a 308, Barra da Tijuca, Rio de Janeiro, RJ, 22640-102, Brazil
BP Energy Europe Limited	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
BP Espana, S.A. Unipersonal[l]	Avenida de Barajas 30, Parque Empresarial Omega, Edificio D. 28108 Alcobendas, Madrid, Spain
BP Estaciones y Servicios Energéticos, Sociedad Anónima de Capital Variable[c]	Avenida Santa Fe 505, Piso 10, Distrito Federal, Mexico C.P. 0534, Mexico
BP Europa SE[m]	Überseeallee 1, 20457, Hamburg, Hamburg, Germany
BP Exploracion de Venezuela S.A.	Av. Francisco de Miranda, Edif Cavendes, Los Palos Grandes, Chacao, Caracas Miranda, 1060, Venezuela
BP Exploration & Production Inc.[e]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Exploration (Absheron) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Alaska) Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Exploration (Algeria) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Alpha) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Angola) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Azerbaijan) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Canada) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Caspian Sea) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Delta) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (El Djazair) Limited	Providence House, East Hill Street, P.O. Box N-3910, Nassau, Bahamas
BP Exploration (Epsilon) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Finance) Limited (In Liquidation)	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Greenland) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Madagascar) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Morocco) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Namibia) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Nigeria Finance) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Nigeria) Limited	Landmark Towers- 5B, Water Corporation Road, Victoria Island, Lagos, Nigeria
BP Exploration (Shafag-Asiman) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Shah Deniz) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (South Atlantic) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Vietnam) Limited (In Liquidation)	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration (Xazar) PTE. Limited	7 Straits View #26-01, Marina One East Tower, Singapore, 018936, Singapore
BP Exploration Angola (Kwanza Benguela) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Australia Pty Ltd	Level 8, 250 St Georges Terrace, Perth WA 6000, Australia
BP Exploration Beta Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration China Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Company (Middle East) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Company Limited[n]	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
BP Exploration Indonesia Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Libya Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Mexico Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Mexico, S.A. DE C.V.[b]	Avenida Santa Fe 505, Col. Cruz Manca Santa Fe, Delegacion Cuajimalpa, Mexico
BP Exploration North Africa Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Operating Company Limited[l]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Orinoco Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Exploration Personnel Company Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Express Shopping Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Finance Australia Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Finance p.l.c.	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Foundation Incorporated[a]	251 East Ohio Street, Suite 500, Indianapolis IN 46204, United States

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

BP France	Immeuble Le Cervier, 12 Avenue des Béguines, Cergy Saint Christophe, 95866, Cergy Pontoise, France
BP Fuels & Lubricants AS	P.O.Box 153 Skøyen, 0212 Oslo, Norway
BP Fuels Deutschland GmbH	Wittener Straße 45, 44789 Bochum, Germany
BP Gas Europe, S.A.U.	Avenida de Barajas 30, Parque Empresarial Omega, Edificio D. 28108 Alcobendas, Madrid, Spain
BP Gas Marketing Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Gas Supply (Angola) LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Ghana Limited	Number 12, Aviation Road, Una Home 3rd Floor, Airport City , Accra, Greater Accra, PMB CT 42, Ghana
BP Global Investments Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Global Investments Salalah & Co LLC	PO Box 2309, Salalah, 211, Oman
BP Global West Africa Limited	Heritage Place, 7th Floor, Left Wing, 21 Lugard Avenue, Ikoyi, Lagos, Nigeria
BP GOM Logistics LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Greece Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Guangdong Limited (90.00%)[a]	Rm 2710Guangfa Bank Plaza, No. 83 Nonglin Xia Road, Yuexiu District, Guangzhou, China
BP High Density Polyethylene France- BP HDPE	Immeuble Le Cervier, 12 Avenue des Béguines, Cergy Saint Christophe, 95866, Cergy Pontoise, France
BP Holdings (Thailand) Limited (81.01%)[o]	39/77-78 Moo 2 Rama II Road, Tambon Bangkrachao, Amphur Muang, Samutsakorn 74000, Thailand
BP Holdings B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Holdings Canada Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Holdings International B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Holdings North America Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Hong Kong Limited	Unit 807, Tower B, Manulife Financial Centre, 223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
BP India Limited	Technopolis Knowledge Park, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India
BP India Services Private Limited	Technopolis Knowledge Park, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India
BP Indonesia Investment Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP International Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP International Services Company	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
BP Investment Management Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Investments Asia Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Iran Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP IRAQ N.V.	Amocolaan 2 2440 Geel , Belgium
BP Italia SpA	Via Verona 12, Cornaredo, 20010, Milan, Italy
BP Japan K.K.	Roppongi Hills Mori Tower, 10-1 Roppongi 6-chome, Minato-ku, Tokyo106-6115, Japan
BP Kapuas I Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Kapuas II Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Kapuas III Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Korea Limited	2nd Floor, Woojin Bldg., 76-4, Jamwon-dong, Seocho-gu, Seoul 137-909, Republic of Korea
BP Kuwait Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Latin America LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Lesotho (Pty) Limited[i]	BP House, Motsoene Road, Industrial Area, Maseru, Lesotho
BP Lingen GmbH	Raffineriestraße, 49808 Lingen, Germany
BP LNG Shipping Limited	Clarendon House, 2 Church Street, P.O. Box HM 1022, Hamilton, HM DX, Bermuda
BP Lubes Marketing GmbH	Überseeallee 1, 20457, Hamburg, Hamburg, Germany
BP Lubricants KK (64.84%)	East Tower 20F, Gate CIty Ohsaki, 1-11-2 Osaki, Shinagawa-ku, Tokyo, Japan
BP Lubricants USA Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Luxembourg S.A.	Aire de Capellen, L-8309 Capellen, Luxembourg
BP Malaysia Holdings Sdn. Bhd. (70.00%)	Tower 5, Avenue 7, The Horizon Bangsar South City, No. 8, Jalan Kerinchi, 59200 Kuala Lumpur, Malaysia
BP Management International B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Management Netherlands B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Marine Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Mariner Holding Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Maritime Services (Isle of Man) Limited	Samuel Harris House, 5-11 St Georges Street, Douglas, Isle of Man, IM1 1AJ, Isle of Man
BP Maritime Services (Singapore) Pte. Limited	7 Straits View #26-01, Marina One East Tower, Singapore, 018936, Singapore
BP Marketing Egypt LLC	Plot 28, North 90 Road, Housing & Construction Bank Building, New Cairo, Cairo, 11835, Egypt
BP Mauritania Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Mauritius Limited	5th Floor, Ebene Esplanade, 24 Cybercity, Ebene, Mauritius
BP Middle East Enterprises Corporation	Craigmuir Chambers, P.O. Box 71, Road Town, Tortola, British Virgin Islands
BP Middle East Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Middle East LLC	P.O.Box 1699, Dubai, 1699, United Arab Emirates
BP Midstream Partners GP LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Midstream Partners Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Midstream Partners LP[g]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Mocambique Limitada	Society and Geography Avenue, Plot No. 269 , Third floor, Maputo, Mozambique
BP Mocambique Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Muturi Holdings B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Nederland Holdings BV	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Netherlands Exploration Holding B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Netherlands Upstream B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP New Ventures Middle East Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP New Zealand Holdings Limited	Watercare House, 73 Remuera Road, Newmarket, Auckland, 1050, New Zealand
BP New Zealand Share Scheme Limited	Watercare House, 73 Remuera Road, Newmarket, Auckland, 1050, New Zealand
BP Nutrition Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Offshore Gathering Systems Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Offshore Pipelines Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Offshore Response Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Oil (Thailand) Limited (90.32%)[p]	39/77-78 Moo 2 Rama II Road, Tambon Bangkrachao, Amphur Muang, Samutsakorn 74000, Thailand
BP Oil and Chemicals International Philippines Inc.	30/F LKGTower, 6801 Ayala Avenue, Makati City 1226, Philippines

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

BP Oil Australia Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Oil Espana, S.A. Unipersonal	Polígono Industrial "El Serrallo", s/n 12100 Grao de Castellón, Castellón de la Plana, Spain
BP Oil Hellenic S.A.	26 Kifissias Ave. and 2 Paradissou st., 15125 Maroussi, Athens, Greece
BP Oil International Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Oil Kent Refinery Limited (in liquidation)	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Oil Llandarcy Refinery Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Oil Logistics UK Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Oil Marketing GmbH	Wittener Straße 45, 44789 Bochum, Germany
BP Oil New Zealand Limited	Watercare House, 73 Remuera Road, Newmarket, Auckland, 1050, New Zealand
BP Oil Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Oil Shipping Company, USA	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Oil UK Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Oil Venezuela Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Oil Vietnam Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Oil Yemen Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Olex Fanal Mineralol GmbH	Überseeallee 1, 20457, Hamburg, Hamburg, Germany
BP Pacific Investments Ltd	Watercare House, 73 Remuera Road, Newmarket, Auckland, 1050, New Zealand
BP Pakistan (Badin) Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Pakistan Exploration and Production, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Pension Trustees Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Pensions (Overseas) Limited[i]	Albert House, South Esplanade, St. Peter Port, GY1 1AW, Guernsey
BP Pensions Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Petrochemicals India Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Petroleo y Gas, S.A.	Av. Francisco de Miranda, Edif Cavendes, Los Palos Grandes, Chacao, Caracas Miranda, 1060, Venezuela
BP Petrolleri Anonim Sirketi (24.89%)	Degirmen yolu cad. No:28, Asia OfisPark K:3 İcerenkoy-Atasehir, Istanbul, 34752, Turkey
BP Pipelines (Alaska) Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Pipelines (BTC) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Pipelines (North America) Inc.	45 Memorial Circle, Augusta ME 04330, United States
BP Pipelines (SCP) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Pipelines (TANAP) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Pipelines TAP Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Polska Services Sp. z o.o.	Ul. Jasnogórska 1, 31-358 Kraków, Malopolskie, Poland
BP Portugal-Comercio de Combustiveis e Lubrificantes SA	Lagoas Park, Edificio 3, Porto Salvo, Oeiras, Portugal
BP Poseidon Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Products North America Inc.	351 West Camden Street, Baltimore MD 21201, United States
BP Properties Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Raffinaderij Rotterdam B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP Refinery (Kwinana) Proprietary Limited	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP Refining & Petrochemicals GmbH	Wittener Straße 45, 44789 Bochum, Germany
BP Regional Australasia Holdings Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP River Rouge Pipeline Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Russian Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP SC Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Senegal Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Services International Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Servicios de combustibles SA de CV	Avenida Santa Fe 505, Col. Cruz Manca Santa Fe, Delegacion Cuajimalpa, Mexico
BP Servicios territoriales, S.A. de C.V.	Avenida Santa Fe 505, Col. Cruz Manca Santa Fe, Delegacion Cuajimalpa, Mexico
BP Shafag-Asiman Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Shipping Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Singapore Pte. Limited	7 Straits View #26-01, Marina One East Tower, Singapore, 018936, Singapore
BP Solar Energy North America LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Solar Espana, S.A. Unipersonal[c]	Avenida de Barajas 30, Parque Empresarial Omega, Edificio D. 28108 Alcobendas, Madrid, Spain
BP Solar International Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Solar Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
BP South East Asia Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Southern Africa Proprietary Limited (75.00%)	BP House, 10 Junction Avenue, Parktown, Johannesburg, 2193, South Africa
BP Southern Cone Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Subsea Well Response (Brazil) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Subsea Well Response Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Taiwan Marketing Limited	7FNo. 71Sec. 3Min Sheng East Road, Taipei, Taiwan
BP Tanjung IV Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Technology Ventures Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Technology Ventures Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Toplivnaya Kompanya LLC[a]	2 Paveletskaya sq, Building1, 115054 Moscow, Russian Federation
BP Trade and Supply (Germany) GmbH,Hamburg	Überseeallee 1, 20457, Hamburg, Hamburg, Germany
BP Trading Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Train 2/3 Holding SRL	Erin Court, Bishop's Court Hill, St. Michael , Barbados
BP Transportation (Alaska) Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Trinidad and Tobago LLC (70.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Trinidad Processing Limited	5-5A Queen's Park West, Port-of-Spain, Trinidad and Tobago
BP Turkey Refining Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Two Pipeline Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Venezuela Investments B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BP West Aru I Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

BP West Aru II Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP West Coast Products LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP West Papua I Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP West Papua III Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Wind Energy North America Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP Wiriagar Ltd.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP World-Wide Technical Services Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BP Zhuhai Chemical Company Limited (85.00%)[a]	Da Ping Harbour, Lin Gang Industrial Zone, Zhuhai City, Guangdong Province, China
BP+Amoco International Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
BPA Investment Holding Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP-AIOC Exploration (TISA) LLC (70.84%)[a]	153 Neftchilar Avenue, Baku, AZ1010, Azerbaijan
BPNE International B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
BPRY Caribbean Ventures LLC (70.00%)[a]	RL&F Service Corp, 920 North King Street, 2nd Floor, Wilmington DE 19801, United States
BPX Energy Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Brian Jasper Nominees Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Britannic Energy Trading Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Britannic Investments Iraq Limited (90.00%)	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Britannic Marketing Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Britannic Strategies Limited	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
Britannic Trading Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
British Pipeline Agency Limited (50.00%)[b q]	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS, United Kingdom
Britoil Limited	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
BTC Pipeline Holding Company Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Burmah Castrol Australia Pty Ltd[r]	Level 17, 717 Bourke Street, Docklands VIC, Australia
Burmah Castrol Holdings Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Burmah Castrol PLC[i]	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
Burmah Castrol South Africa (Pty) Limited	BP House, 10 Junction Avenue, Parktown, Johannesburg, 2193, South Africa
Burmah Chile S.A.	José Musalen Saffie, Huerfanos N° 770 Of. 301, Santiago, Chile
Burmah Fuels Australia Pty Ltd[l]	Level 17, 717 Bourke Street, Docklands VIC, Australia
BXL Plastics Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Cadman DBP Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Cape Vincent Wind Power, LLC[a]	111 Eighth Avenue, New York, New York, 10011, United States
Casitas Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Castrol (China) Limited	Unit 807, Tower B, Manulife Financial Centre, 223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
Castrol (Ireland) Limited	2 Grand Canal Square, Dublin 2, Dublin, Ireland
Castrol (Shenzhen) Company Limited[a]	No.1120 Mawan Road, Nanshan District, China
Castrol (Tianjin) Lubricants Co., Ltd[a]	Tianjin Economic Development Area, China
Castrol (U.K.) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Castrol Australia Pty. Limited	Level 17, 717 Bourke Street, Docklands VIC, Australia
Castrol Austria GmbH[a]	Straße 6, Objekt 17, Industriezentrum NÖ-Süd, 2355 Wr. Neudorf, Austria
Castrol B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Castrol BP Petco Limited Liability Company (65.00%)[a]	22-36 Nguyen Hue Street, 57-69F Dong Khoi Street, District 1, Ho Chi Minh City, Vietnam
Castrol Brasil Ltda.	Avenida das Américas, no. 3434, Salas 301 a 308, Barra da Tijuca, Rio de Janeiro, RJ, 22640-102, Brazil
Castrol Caribbean & Central America Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Castrol Colombia Limitada	KR 7 NO. 74 09, Bogota D.C., Colombia
Castrol Del Peru S.A. (99.49%)	Av. Camino Real, 111 Torre B Oficina, 603 San Isidro, Lima, Peru
Castrol Hungária Trading Co. LLC "u.d." (Castrol Hungária Kereskedelmi Kft. "v.a.")[a]	32-34 Soroksári út, Budapest, 1095, Hungary
Castrol India Limited (51.00%)	Technopolis Knowledge Park, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India
Castrol Industrial North America Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Castrol Industrie und Service GmbH	Erkelenzer Straße 20, 41179 Mönchengladbach, Germany
Castrol KK (64.84%)	East Tower 20F, Gate CIty Ohsaki, 1-11-2 Osaki, Shinagawa-ku, Tokyo, Japan
Castrol Limited	Technology Centre, Whitchurch Hill, Pangbourne, Reading, RG8 7QR, United Kingdom
Castrol Lubricants (CR), s.r.o. (v likvidaci)[a]	Na strži 1702/65, 14800 Praha 4 Nusle, Czech Republic
Castrol Lubricants RO S.R.L	5th Floor, 92-96 Izvor St, 5th District, Bucharest, Romania
Castrol Mexico, S.A. de C.V.[c]	Avenida Santa Fe 505, Col. Cruz Manca Santa Fe, Delegacion Cuajimalpa, Mexico
Castrol Namibia (Pty) Limited	BP House, 10 Junction Avenue, Parktown, Johannesburg, 2193, South Africa
Castrol Offshore Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Castrol Pakistan (Private) Limited	D-67/1, Block # 4, Scheme # 5, , Clifton, Karachi, Pakistan, Karachi, Pakistan
Castrol Philippines, Inc.	32/F LKG Tower, Ayala Avenue, Makati City, 6801, Philippines
Castrol Servicos Ltda.	Avenida Tamboré, 448, Barueri, Sao Paulo, Brazil
Castrol Slovensko, s.r.o. (v likvidácii)[a]	Rožnavská 24, 821 04 Bratislava 2, Slovakia
Castrol South Africa Proprietary Limited	BP House, 10 Junction Avenue, Parktown, Johannesburg, 2193, South Africa
Castrol Ukraine LLC[a]	2a Konstiantynivskay Street, Kyiv, 04071, Ukraine
Castrol Zimbabwe (Private) Limited	Barking Road, Willowvale, Harare, Zimbabwe
Centrel Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
CH-Twenty Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
CH-Twenty, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Clarisse Holdings Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Coastwise Trading Company, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Consolidada de Energia y Lubricantes, (CENERLUB) C.A.	Av. Eugenio Mendoza, San Felipe Edificio Centro Letonia, La Castellana, Caracas, 1060, Venezuela
Conti Cross Keys Inn, Inc.	Easton and Swamp Roads, Buckinham Township, Bucks County, Pennsylvania, United States
Coro Trading NZ Limited	Watercare House, 73 Remuera Road, Newmarket, Auckland, 1050, New Zealand
Cuyama Pipeline Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Delta Housing Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States

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14. Related undertakings of the group – continued

Dermody Developments Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Dermody Holdings Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Dermody Investments Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Dermody Petroleum Pty. Ltd.	Level 17, 717 Bourke Street, Docklands VIC, Australia
DHC Solvent Chemie GmbH	Timmerhellstsr. 28, 45478, Mülheim/Ruhr, Germany
Dome Beaufort Petroleum Limited	240- 4th Avenue SW, Calgary AB T2P 4H4, Canada
Dome Beaufort Petroleum Limited (March 1980) Limited Partnership[g]	240- Fourth Avenue SW, Calgary AB T2P 4H4, Canada
Dome Beaufort Petroleum Limited 1979 Partnership No. 1[g]	240- Fourth Avenue SW, Calgary AB T2P 4H4, Canada
Dome Wallis (1980) Limited Partnership (92.50%)[g]	240- Fourth Avenue SW, Calgary AB T2P 4H4, Canada
Dradnats, Inc.	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
ECM Markets SA (Pty) Ltd (75.00%)	BP House, 10 Junction Avenue, Parktown, Johannesburg, 2193, South Africa
Elite Customer Solutions Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Elm Holdings Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Energy Global Investments (USA) Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Enstar LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Europa Oil NZ Limited	Watercare House, 73 Remuera Road, Newmarket, Auckland, 1050, New Zealand
Exomet, Inc.	1300 East Ninth Street, Cleveland, OH, 44114, United States
Expandite Contract Services Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Exploration (Luderitz Basin) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Exploration Service Company Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Flat Ridge 2 Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Flat Ridge Wind Energy, LLC[a]	112 SW 7th Street, Suite 3C, Topeka, Kansas, 66603, United States
Foseco Chile Ltda.	Avenida Eliodoro Yañez N° 1572, Providencia , Santiago, Chile, Chile
Foseco Holding International B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Foseco Holding, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Foseco, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fosroc Expandite Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Fosven, CA	Av. Francisco de Miranda, Edif Cavendes, Los Palos Grandes, Chacao, Caracas Miranda, 1060, Venezuela
Fowler Ridge Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fowler Ridge I Land Investments LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fowler Ridge II Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fowler Ridge III Wind Farm LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
FreeBees B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Fuel & Retail Aviation Sweden AB	Box 8107, 10420, Stockholm, Sweden
FUELPLANE- Sociedade Abastecedora de Aeronaves, Unipessoal, Lda	Lagoas Park, Edificio 3, Porto Salvo, Oeiras, Portugal
FWK (2017) Limited[t]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
FWK Holdings (2017) LTD[t]	Chertsey Road , Sunbury on Thames , TW16 7BP, United Kingdom
Gardena Holdings Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Gasolin GmbH	Wittener Straße 45, 44789 Bochum, Germany
GOAM 1 C.I S. A .S	Calle 80 No.11-42, Bogota, 110111, Colombia
Grampian Aviation Fuelling Services Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Guangdong Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Highlands Ethanol, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Hydrogen Energy International Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
IGI Resources, Inc.	12550 W. Explorer Dr., Suite 100, Boise, Idaho, 83713, United States
Insight Analytics Solutions Holdings Limited (74.50%)	Romax Technology Centre , University of Nottingham Innovation Park, Triumph Road, Nottingham, NG7 2TU, United Kingdom
Insight Analytics Solutions Limited (74.50%)	Romax Technology Centre , University of Nottingham Innovation Park, Triumph Road, Nottingham, NG7 2TU, United Kingdom
Insight Analytics Solutions USA, Inc (74.50%)	2108 55th Street, Suite 105, Boulder CO 80301, United States
International Bunker Supplies Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
International Card Centre Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Iraq Petroleum Company Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Jupiter Insurance Limited	The Albany, South Esplanade, St Peter Port, GY1 4NF, Guernsey
Kabulonga Properties Limited	3rd floor Mukuba Pension House, Dedan Kimathi Road, Lusaka 10101, Zambia
Ken-Chas Reserve Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Kenilworth Oil Company Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Latin Energy Argentina S.A.	Av. Cordoba 315 Piso 8, Buenos Aires, 1054, Argentina
Lebanese Aviation Technical Services S.A.L.	P O Box- 11-5814c/o Coral Oil Building, 583Avenue de Gaulle, Raoucheh, Beirut, Lebanon
Lubricants UK Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Mardi Gras Transportation System Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Markoil, S.A. Unipersonal	Avenida de Barajas 30, Parque Empresarial Omega, Edificio D. 28108 Alcobendas, Madrid, Spain
Masana Petroleum Solutions (Pty) Ltd (37.88%)	BP House, 10 Junction Avenue, Parktown, Johannesburg, 2193, South Africa
Mayaro Initiative for Private Enterprise Development (70.00%)[a]	5-5A Queen's Park West, Port-of-Spain, Trinidad and Tobago
Mehoopany Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Mes Tecnologia en Servicios y Energia, S.A. DE C.V. (99.92%)[c]	Avenida Santa Fe 505, Col. Cruz Manca Santa Fe, Delegacion Cuajimalpa, Mexico
Minza Pty. Ltd.	Level 17, 717 Bourke Street, Docklands VIC, Australia
Mountain City Remediation, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
No. 1 Riverside Quay Proprietary Limited	Level 17, 717 Bourke Street, Docklands VIC, Australia
Nordic Lubricants A/S	Arne Jacobsens Allé 7, 5th Floor, 2300, Copenhagen, Denmark
Nordic Lubricants AB	Hemvärnsgatan , 171 54, Solna, Sweden

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14. Related undertakings of the group – continued

Nordic Lubricants Oy (in liquidation)	Teknobulevardi 3-5, 01530 Vantaa, Finland
North America Funding Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Oelwerke Julius Schindler GmbH	Überseeallee 1, 20457, Hamburg, Hamburg, Germany
OMD87, Inc.	111 Eighth Avenue, New York, New York, 10011, United States
Omega Oil Company	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
OnSight Analytics Solutions India Private Ltd. (74.50%)	#11, Platinum Tower, Ground Floor, Old Trunk Road, Pallavaram Chennai, India
OOO BP STL[a]	Novinskiy blvd.8, 17th floor, office 11, 121099, Moscow, Russian Federation
Orion Delaware Mountain Wind Farm LP[a]	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Orion Energy Holdings, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Orion Energy L.L.C.[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Orion Post Land Investments, LLC[a]	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Pacroy (Thailand) Co., Ltd. (39.00%)	23rd Fl. Rajanakarn Bldg, 3 South Sathon Road, Yannawa Sathon, Bangkok 10120, Thailand
Pan American Petroleum Company of California	818 West Seventh Street, 2nd Floor, Los Angeles, CA, 90017, United States
Peaks America Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Pearl River Delta Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Phoenix Petroleum Services, Limited Liability Company	Baghdad International Airport, Al-Burhan Commercial Complex , First floor, Baghdad, Iraq
Products Cogeneration Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Produits Métallurgie Doittau SA- PROMEDO	Immeuble Le Cervier, 12 Avenue des Béguines, Cergy Saint Christophe, 95866, Cergy Pontoise, France
Prospect International, C.A.	Av. Eugenio Mendoza, San Felipe Edificio Centro Letonia, La Castellana, Caracas, 1060, Venezuela
PT BP Petrochemicals Indonesia	20th Floor Summitmas II Jl., Jend. Sudirman Kav. 61- 62, Jakarta, Selatan, Indonesia
PT Castrol Indonesia (68.30%)	Perkantoran Hijau Arkadia, Tower B, Jl. Let. Jenderal TB. Simatupang Kav. 88, Jakarta12520, Indonesia
PT Jasatama Petroindo[c]	Perkantoran Hijau Arkadia, Tower B, Jl. Let. Jenderal TB. Simatupang Kav. 88, Jakarta12520, Indonesia
Reading Investment (Nominee) Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Reax Industria e Comercio Ltda.	Estrada São Lourenço, 751, part, Duque de Caxias, Rio Janeiro, Brazil
Remediation Management Services Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Richfield Oil Corporation	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Rolling Thunder I Power Partners, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Romax Insight Korea Limited (74.50%)	504 Cheong dan ro-213-3, Young pyung dong 2170-1 Jeju Science Park Smart Building, Jeju City, Jeju-do, Korea, Republic of
Ropemaker Deansgate Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Ropemaker Properties Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Ruehl Gesellschaft m.b.H. & Co KG.[g]	Straße 6, Objekt 17, Industriezentrum NÖ-Süd, 2355 Wr. Neudorf, Austria
Ruhr Oel GmbH (ROG)	Johannastraße 2-8, 45899 Gelsenkirchen-Horst, Germany
Rural Fuel Limited (49.00%)	AR Short & Co, Level 8, FMG Building, 55 The Square, Palmerston North, New Zealand
Rusdene GSS Limited[t]	4 High Street, Alton, Hampshire, GU34 1BU, United Kingdom
Saltend Chemicals Park Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Saturn Insurance Inc.	400 Cornerstone Drive, Suite 240, Williston VT 05495, United States
Setra Lubricants[a]	2 Paveletskaya sq, Building1, 115054 Moscow, Russian Federation
Setra Lubricants Kazakhstan LLP[g]	98 Panfilov Street, office 809, Almaty, 05000, Kazakhstan
Sherbino I Holdings LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Sherbino II Wind Farm LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Sherbino Mesa I Land Investments LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Shine Top International Investment Limited	Unit 807, Tower B, Manulife Financial Centre, 223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
Silver Star I Power Partners, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Sociedade de Promocao Imobiliaria Quinta do Loureiro, SA	Lagoas Park, Edificio 3, Porto Salvo, Oeiras, Portugal
Société de Gestion de Dépots d'Hydrocarbures- GDH[a]	Immeuble Le Cervier, 12 Avenue des Béguines, Cergy Saint Christophe, 95866, Cergy Pontoise, France
SOFAST Limited (62.77%)[u]	23rd Fl. Rajanakarn Bldg, 3 South Sathon Road, Yannawa Sathon, Bangkok 10120, Thailand
Southeast Texas Biofuels LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Southern Ridge Pipeline Holding Company	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Southern Ridge Pipeline LP LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Sp/f Decision3 (GreenSteam) Company (61.68%)[v]	Krosslíð 11, FO-100 Tórshavn , Faroe Islands
SRHP (99.99%)[a]	Immeuble Le Cervier, 12 Avenue des Béguines, Cergy Saint Christophe, 95866, Cergy Pontoise, France
Standard Oil Company, Inc.	251 East Ohio Street, Suite 500, Indianapolis IN 46204, United States
Taradadis Pty. Ltd.	Level 17, 717 Bourke Street, Docklands VIC, Australia
Telcom General Corporation (99.96%)[e]	818 West Seventh Street, 2nd Floor, Los Angeles, CA, 90017, United States
Terre de Grace Partnership (75.00%)[g]	1100, 635- 8th Avenue SW, Calgary AB T2P 3M3, Canada
The Anaconda Company	814 Thayer Avenue, Bismarck, ND, 58501-4018, United States
The BP Share Plans Trustees Limited[i]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
The Burmah Oil Company (Pakistan Trading) Limited	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
The Shorebank Corporation	7054 S. Jeffery Blvd., Chicago IL 60649, United States
The Standard Oil Company	4400 Easton Commons Way , Suite 125, Columbus OH 43219, United States
TISA Education Complex LLC (70.84%)[a]	153 Neftchilar Avenue, Baku, AZ1010, Azerbaijan
TJKK	Roppongi Hills Mori Tower, 10-1 Roppongi 6-chome, Minato-ku, Tokyo106-6115, Japan
Toledo Refinery Holding Company LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Trinity Hills Wind Farm LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Union Texas International Corporation	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
UT Petroleum Services, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Vastar Energy, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Vastar Gas Marketing, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Vastar Holdings, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Vastar Pipeline, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Vastar Power Marketing, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Viceroy Investments Limited	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Warrenville Development Limited Partnership[a]	33 North LaSalle Street, Chicago, Illinois 60602, United States

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

Water Way Trading and Petroleum Services LLC (90.00%)	Hay Al Wihda, Q904, Alley 68, H32, Korodha, Baghdad, Iraq
Welchem, Inc.	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
West Kimberley Fuels Pty Ltd	Level 17, 717 Bourke Street, Docklands VIC, Australia
Westlake Houston Development, LLC[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Whiting Clean Energy, Inc.	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Windpark Energy Nederland B.V.	d'Arcyweg 76, 3198 NA Europoort Rotterdam, Netherlands
Wiriagar Overseas Ltd	Jayla Place, Wickhams Cay 1, PO Box 3190, Road Town, Tortola, VG1110, British Virgin Islands

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

Related undertakings other than subsidiaries

A Flygbranslehantering AB (AFAB) (25.00%)	Box 135, 190 46 Arlanda, Sweden
ABG Autobahn-Betriebe GmbH (32.58%)[a]	Brucknerstraße 4, 1041 Wien, Austria
Abu Dhabi Marine Areas Limited (33.33%)[b]	Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP, United Kingdom
Advanced Biocatalytics Corporation (24.20%)[w]	18010 Skypark Circle , #130 , Irvine CA 92614, United States
AGES International GmbH & Co. KG, Langenfeld (24.70%)[g]	Berghausener Straße 96, 40764 Langenfeld, Germany
AGES Maut System GmbH & Co. KG, Langenfeld (24.70%)[g]	Berghausener Straße 96, 40764 Langenfeld, Germany
Air BP Copec S.A. (51.00%)	Patricio Raby Benavente, Moneda N° 920 Of 205, Santiago, Chile
Air BP Italia Spa (50.00%)	Via Lazio 20/C, 00187 Roma, Italy
Air BP PBF del Peru S.A.C. (50.00%)	Avenida Ricardo Rivera Navarrete n.501 / room 1602, Lima, Peru
Air BP Petrobahia Ltda. (50.00%)	Av. Anita Garibaldi, n.252, 2o floor, Ala Sul, Federação, Salvador, Bahia, 40210-750, Brazil
Aircraft Fuel Supply B.V. (28.57%)	Oude Vijfhuizerweg 6, 1118LV Luchthaven, Schiphol, Netherlands
Aircraft Refuelling Company GmbH (33.33%)[a]	Trabrennstraße 6-8 3, A-1020, Wien, Austria
Airport Fuel Services Pty. Limited (20.00%)	Level 12, 680 George Street, Sydney NSW 2000, Australia
Aker BP ASA (30.00%)	Oksenoyveien 10, , 1366 Lysaker, Norway
Alaska Tanker Company, LLC (25.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Alyeska Pipeline Service Company (48.44%)	9360 Glacier Highway, Suite 202, Juneau AK 99801, United States
Ambarli Depolama Hizmetleri Limited Sirketi (50.00%)	Yakuplu Mahallesi Genc, Osman Caddesi, No.7 Beylikdüzü, Istanbul, Turkey
Ammenn GmbH (75.00%)	Luisenstraße 5 a, 26382 Wilhelmshaven, Germany
ARCO Solar Nigeria Ltd. (40.00%)	7M8 Ligali Ayorinde Street, Victoria Island, Lagos, Nigeria
ATAS Anadolu Tasfiyehanesi Anonim Sirketi (68.00%)	Degirmen yolu cad. No:28, Asia OfisPark K:3 İcerenkoy-Atasehir, Istanbul, 34752, Turkey
Atlantic 1 Holdings LLC (34.00%)[a]	RL&F Service Corp, 920 North King Street, 2nd Floor, Wilmington DE 19801, United States
Atlantic 2/3 Holdings LLC (42.50%)[a]	RL&F Service Corp, 920 North King Street, 2nd Floor, Wilmington DE 19801, United States
Atlantic 4 Holdings LLC (37.78%)[a]	RL&F Service Corp, 920 North King Street, 2nd Floor, Wilmington DE 19801, United States
Atlantic LNG 2/3 Company of Trinidad and Tobago Unlimited (42.50%)	Princes Court, Cor. Pembroke & Keate Street, Port-of-Spain, Trinidad and Tobago
Atlantic LNG 4 Company of Trinidad and Tobago Unlimited (37.78%)	Princes Court, Cor. Pembroke & Keate Street, Port-of-Spain, Trinidad and Tobago
Atlantic LNG Company of Trinidad and Tobago (34.00%)	Princes Court, Cor. Pembroke & Keate Street, Port-of-Spain, Trinidad and Tobago
Atlas Methanol Company Unlimited (36.90%)	Maracaibo Drive, Point Lisas Industrial Estate, Point Lisas, Trinidad and Tobago
Australasian Lubricants Manufacturing Company Pty Ltd (50.00%)[b]	Building 1, 747 Lytton Road, Murarrie QLD 4172, Australia
Australian Terminal Operations Management Pty Ltd (50.00%)	Level 3, Unit 3, 22 Albert Road, South Melbourne VIC 3205, Australia
Auwahi Holdings, LLC (50.00%)[a]	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Auwahi Wind Energy LLC (50.00%)[a]	National Registered Agents, Inc., 160 Greentree Dr., Dover, Delaware, 19904, United States
Aviation Fuel Services Limited (25.00%)	Calshot Way Central Area, Heathrow Airport, Hounslow, Middlesex, TW6 1PY, United Kingdom
Axion Comercializacion de Combustibles y Lubricantes S.A. (50.00%)	Luis A de Herrera 1248, Torre II, Piso 22 (Edificio World Trade Center), Montevideo, Uruguay
Axion Energy Argentina S.A. (50.00%)	Carlos María Della Paolera 265, Piso 22, Ciudad Autónoma de Buenos Aires, Argentina
Axion Energy Holding S.L. (50.00%)[a]	Campus Empresarial Arbea- Edificio No 1, Carretera Fuencarral a Alcobendas, Alcobendas, Madrid, Spain
Axion Energy Paraguay S.R.L. (50.00%)[a]	Av. España 1369 esquina San Rafael, Asunción, Paraguay
Axuy Energy Holdings S.R.L. (50.00%)[a]	Avenida Luis Alberto de Herrera 1248, Oficina 1901, Montevideo, Uruguay
Axuy Energy Investments S.R.L. (50.00%)[a]	Avenida Luis Alberto de Herrera 1248, Oficina 1901, Montevideo, Uruguay
Azerbaijan Gas Supply Company Limited (23.06%)[b]	P.O. Box 309, Ugland House, 113 South Church Street, George Town, Grand Cayman, Cayman Islands
Azerbaijan International Operating Company (40.50%)[x]	190 Elgin Avenue, George Town, Grand Cayman , KY1-9005, Cayman Islands
Baplor S.A. (50.00%)	Colonia 810, Oficina 403, Montevideo, Uruguay
Barranca Sur Minera S.A. (50.00%)	Calle 14, No 781, Piso 2, Oficina 3, Ciudad de La Plata, Provincia de Buenos Aires, Argentina
Bayernoil Raffineriegesellschaft mbH (35.00%)	Postfach 10 08 58, 85008 Ingolstadt, Germany
Beer GmbH (50.00%)	Saganer Straße 31, 90475 Nürnberg, Germany
Beer GmbH & Co. Mineralol-Vertriebs-KG (50.00%)[g]	Saganer Straße 31, 90475 Nürnberg, Germany
BGFH Betankungs-Gesellschaft Frankfurt-Hahn GbR (50.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
Billund Refuelling I/S (50.00%)	GA Centervej 1, DK-7190, Billund, Denmark
Blendcor (Pty) Limited (37.50%)[s]	135 Honshu Road, Islandview, Durban, 4052, South Africa
Blue Marble Holdings Limited (23.58%)[y]	Desklodge- 5th Floor, 1 Temple Way, Bristol, BS2 0BY, United Kingdom
BP AOC Pumpstation Maatschap (50.00%)[g]	Rijndwarsweg 3, 3198 LK Europoort, Rotterdam, Netherlands
BP Dhofar LLC (49.00%)	P.O.Box 20302/211, 20302, Oman
BP Esso AOC Maatschap (22.80%)[g]	Rijndwarsweg 3, 3198 LK Europoort, Rotterdam, Netherlands
BP Esso Pipeline Maatschap (50.00%)[g]	Rijndwarsweg 3, 3198 LK Europoort, Rotterdam, Netherlands
BP Guangzhou Development Oil Product Co., Ltd (40.00%)[a]	No.13 Longxue Road, Longxue Island, Nansha District, Guangzhou, Guangdong, 511450, China
BP PetroChina Petroleum Co., Ltd (49.00%)[a]	Room A17th Floor, No.22 Gangkou Road, Jiangmen, Guangdong Province, China
BP PETRONAS Acetyls Sdn. Bhd. (70.00%)	Symphony House, Pusat Dagangan Dana 1, Jalan PJU 1A/46, 47301 Petaling Jaya, Selangor, Malaysia
BP Sinopec (ZheJiang) Petroleum Co., Ltd (40.00%)[a]	12 Hua Zhe Plaza, 1 Hua Zhe Square, Hang Zhou City, Zhe Jiang Province, China
BP Sinopec Marine Fuels Pte. Ltd. (50.00%)	112 Robinson Road, #05-01, Robinson 112, 068902, Singapore
BP West Africa Supply Limited (50.00%)	Number 1, Rehoboth Place, Dade Street, North Labone Estates, Accra, Accra Metropolitan, Greater Accra, P. O. BOX CT3278, Ghana
BP YPC Acetyls Company (Nanjing) Limited (50.00%)[a]	9# Huo Ju Road, Liu He District, Nanjing, Jiangsu Province, China
BP-Husky Refining LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
BP-Japan Oil Development Company Limited (50.00%)[b]	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

Braendstoflageret Kobenhavns Lufthavn I/S (20.83%)	Københavns, Lufthavn, 2770 Kastrup, Denmark
BTC International Investment Co. (30.10%)[z]	P.O. Box 309, Ugland House, 113 South Church Street, George Town, Grand Cayman, Cayman Islands
Butamax™ Advanced Biofuels LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Caesar Oil Pipeline Company, LLC (56.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Cairns Airport Refuelling Service Pty Ltd (33.33%)	680 George Street, Sydney NSW 2000, Australia
Cantera K-3 Limited Partnership (39.00%)[g]	6400 Shafer Ct., Suite 400, Rosemont IL 60018-4927, United States
Canton Renewables, LLC (50.00%)[a]	30600 Telegraph Road, Suite 2345, Bingham Farms MI 48025, United States
Castrol Cuba S.A. (50.00%)	Calle 6 No 319, esq 5ta. Ave., Miramar, Playa, La Habana, Cuba
Castrol DongFeng Lubricant Co., Ltd (50.00%)[a]	Room 1404-1405, Donghe Centre Tower B, 3 Sanjiao Hu Road, Wuhan, Hubei Province, China
Cedar Creek II Holdings LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Cedar Creek II, LLC (50.00%)[a]	1560 Broadway, Suite 2090, Denver, Colorado, 80202, United States
CEFARI RNG OKC, LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Cekisan Depolama Hizmetleri Limited Sirketi (35.00%)	Yakuplu Ambarli Mevkii, 9 Ada2-3-6-7 Parsel, Büyükçekmece, Istanbul, Turkey
Central African Petroleum Refineries (Pvt) Ltd	Block 1 Tendeseka Office Park, Samora Machel Av/Renfrew Road, Harare, Zimbabwe
CERF Shelby, LLC (50.00%)[a]	800 S. Gay Street, Suite 2021, Knoxville TN 37929, United States
Chicap Pipe Line Company (56.17%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
China American Petrochemical Company, Ltd. (CAPCO) (61.36%)	6th Floor, No. 413 Section 2 Ruei Kuang Road, Neihhu, Taipei, 11493, Taiwan
China Aviation Oil (Singapore) Corporation Ltd	8 Temasek Boulevard #31-02, Suntec City Tower 3, Singapore 038988, Singapore
Clean Eagle RNG, LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Cleopatra Gas Gathering Company, LLC (53.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Coastal Oil Logistics Limited (25.00%)	10th Floor, The Bayleys Building, Cnr Brandon St and Lambton Quay, Wellington, 6011, New Zealand
Combined Refuelling Service VOF (25.00%)[g]	Anchoragelaan 4, 1118 LD, Schipol, Netherlands
Compania de Inversiones El Condor Limitada (99.00%)	Av. Andrés Bello 2711, Piso 24, Las Condes, Santiago, Chile
Concessionaria Stalvedro SA (50.00%)	San Gottardo Sud, 6780, Airolo, Switzerland
CSG Convenience Service GmbH (24.80%)	Wittener Straße 45, 44789 Bochum, Germany
Danish Refuelling Service I/S (33.33%)[g]	Kastrup Lufthavn, 2770 Kastrup, Denmark
Danish Tankage Services I/S (50.00%)[g]	Kastrup Lufthavn, 2770 Kastrup, Denmark
Dinarel S.A. (20.00%)	La Cumparsita 1373, piso 4°, Montevideo, Uruguay
DOPARK GmbH (25.00%)	Westfalendamm 166, 44141 Dortmund, Germany
Dusseldorf Fuelling Services GbR (33.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
Dusseldorf Tank Services GbR (33.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
East Tanka Petroleum Company "ETAPCO" (50.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
Ekma Oil Company "EKMA" (50.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
El Temsah Petroleum Company "PETROTEMSAH" (25.00%)	5 El Mokhayam El Daiem St, 6th Sector, Nasr City, Egypt
EMDAD Aviation Fuel Storage FZCO (33.33%)	P.O.Box 261781, Dubai, United Arab Emirates
Emoil Storage Company FZCO (20.00%)	Plot No. B003R04, Box No. 9400, Dubai, United Arab Emirates, Dubai, United Arab Emirates
Endymion Oil Pipeline Company, LLC (65.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Energenomics LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Energy Emerging Investments, LLC (50.00%)[a]	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Entrepot petrolier de Chambery (32.00%)	562 Avenue du Parc de l'Ile, 92000, Nanterre, France
Entrepôt Pétrolier de Puget sur Argens- EPPA (58.25%)	Immeuble Le Cervier, 12 Avenue des Béguines, Cergy Saint Christophe, 95866, Cergy Pontoise, France
Erdol-Lagergesellschaft m.b.H. (23.00%)[a]	Radlpaßstraße 6, 8502 Lannach, Austria
Eroil Mineraloel GmbH- Diehl (50.00%)	Schillerstraße 10, 66482 Zweibrücken, Germany
Esma Petroleum Company "ESMA" (50.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
Estonian Aviation Fuelling Services (49.00%)	Lennujaama tee 2, Tallinn EE0011, Estonia
Etzel-Kavernenbetriebsgesellschaft mbH & Co. KG (33.00%)[g]	Bertrand-Russell-Straße 3, 22761 Hamburg, Germany
Etzel-Kavernenbetriebs-Verwaltungsgesellschaft mbH (33.33%)	Bertrand-Russell-Straße 3, 22761 Hamburg, Germany
FFS Frankfurt Fuelling Services (GmbH & Co.) OHG (33.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
Field Services Enterprise S.A. (50.00%)	Av. Leandro N. Alem 1180, piso 11, Buenos Aires, Argentina
Finite Carbon, Inc. (50.00%)	2711 Centerville Road, Suite 400, Wilmington, County of New Castle, Delaware 19808
Finite Resources, Inc. (50.00%)	2711 Centerville Road, Suite 400, Wilmington, County of New Castle, Delaware 19808
Fip Verwaltungs GmbH (50.00%)	Rheinstraße 36, 49090 Osnabrück, Germany
Flat Ridge 2 Wind Energy LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Flat Ridge 2 Wind Holdings LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Flughafen Hannover Pipeline Verwaltungsgesellschaft mbH (50.00%)	Überseeallee 1, 20457, Hamburg, Germany
Flughafen Hannover Pipelinegesellschaft mbH & Co. KG (50.00%)[g]	Überseeallee 1, 20457, Hamburg, Hamburg, Germany
Flytanking AS (50.00%)	Postboks 36, Stjordal, NO-7501, Norway
Foreseer Ltd (25.00%)	121A Thoday Street, Cambridge , Cambridgeshire, CB1 3AT , United Kingdom
Formosa BP Chemicals Corporation (50.00%)	No. 1-1Formosa Industrial Comples, Mailiao, Yunlin Hsien, Taiwan
Fowler I Holdings LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fowler II Holdings LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fowler Ridge II Wind Farm LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fowler Ridge Wind Farm LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Fuelling Aviation Service- FAS (50.00%)[a]	3 Rue des Vignes, Aéroport Charles de Gaulle, 93290, Tremblay en France, France
Fundación para la Eficiencia Energética de la Comunidad Valenciana (33.33%)[a]	Calle Lituania n° 10, Castellón de la Plana, Spain
Gardermeon Fuelling Services AS (33.33%)	Postboks 133, Gardermoen, NO-2061, Norway
Gemalsur S.A. (50.00%)	Colonia 810, Oficina 403, Montevideo, Uruguay

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

Georg Reitberger Mineralöle Verwaltungs GmbH	Bahnhofstraße 25, 86551 Aichach, Germany
Georgian Pipeline Company (40.50%)[x]	190 Elgin Avenue, George Town, Grand Cayman , KY1-9005, Cayman Islands
Gezamenlijke Tankdienst Schiphol B.V. (50.00%)	Anchoragelaan 6, 1118 LD Schiphol, Netherlands
GISSCO S.A. (50.00%)	2,Vouliagmenis Ave & Papaflessa, 16777 Elliniko, Athens, Attika, Greece
Goshen Phase II LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Gothenburgh Fuelling Company AB (GFC) (33.33%)	Box 2154, 438 14, LANDVETTER, Sweden
Gravcap, Inc. (25.00%)	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Groupement Pétrolier de Saint Pierre des Corps-GPSPC (20.00%)[a]	150 Avenue Yves Farge, 37700, Saint Pierre des Corps, France
Groupement Pétrolier de Strasbourg (33.33%)[a]	562 Avenue du Parc de l'Ile, 92000, Nanterre, France
Guangdong Dapeng LNG Company Limited (30.00%)[a]	10-11/FTime Finance Center, No.4001 Shennan Dadao, Shenzhen, Guangdong Province, China
Gulf Of Suez Petroleum Company "GUPCO" (50.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
GVÖ Gebinde-Verwertungsgesellschaft der Mineralölwirtschaft mbH (21.00%)	Steindamm 55, 20099 Hamburg, Germany
Hamburg Tank Service (HTS) GbR (33.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
Heinrich Fip GmbH & Co. KG (50.00%)[g]	Rheinstraße 36, 49090 Osnabrück, Germany
Heliex Power Limited (32.40%)[w]	Kelvin Building , Bramah Avenue , East Kilbride, Glasgow , Scotland, G75 0RD, United Kingdom
HFS Hamburg Fuelling Services GbR (25.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
Hiergeist Heizolhandel GmbH & Co. KG (50.00%)[g]	Grubenweg 4, 83666 Waakirchen-Marienstein, Germany
Hiergeist Verwaltung GmbH (50.00%)	Grubenweg 4, 83666 Waakirchen-Marienstein, Germany
Hokchi Energy S.A. de C.V. (50.00%)	Torre A, Calzada Legaria 549, Colonia 10 de Abril, Ciudad de Mexico, C. P. 11250, Mexico
Hokchi Iberica S.L. (50.00%)	Campus Empresarial Arbea- Edificio No 1, Carretera Fuencarral a Alcobendas, Alcobendas, Madrid, Spain
Hydrogen Energy International LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
In Salah Gas Ltd (25.50%)[s]	22 Grenville Street, St Helier, JE4 8PX, Jersey
In Salah Gas Services Ltd (25.50%)[s]	22 Grenville Street, St Helier, JE4 8PX, Jersey
India Gas Solutions Private Limited (50.00%)	2nd North Avenue, Bandra- Kurla Complex, Bandra (East), Mumbai 400 051, Maharashtra, India
Jamaica Aircraft Refuelling Services Limited (51.00%)[b]	PCJ Building36 Trafalgar Road, Kingston 10, Jamaica
Kingston Research Limited (50.00%)	C/O Banks Cooper Associates, 21 Marina Court, Hull, HU1 1TJ, United Kingdom
Klaus Köhn GmbH (50.00%)	An der Braker Bahn 22, 26122 Oldenburg, Germany
KM Phoenix Holdings LLC (25.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Köhn & Plambeck GmbH & Co. KG (50.00%)[g]	An der Braker Bahn 22, 26122 Oldenburg, Germany
Kosmos Energy Investments Senegal Limited (49.99%)[b]	6th Floor, 65 Gresham Street, London, England and Wales, EC2V 7NQ, United Kingdom
Kurt Ammenn GmbH & Co. KG (50.00%)[g]	Luisenstraße 5 a, 26382 Wilhelmshaven, Germany
LFS Langenhagen Fuelling Services GbR (50.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
Limited Liability Company TYNGD (20.00%)[a]	Pervomayskaya street, 32A, 678144, Lensk, Sakha (Yakutiya) Republic, Russian Federation
Lotos- Air BP Polska Spólka z ograniczoną odpowiedzialnością (50.00%)	Grunwaldzka 472B, 80-309, Gdansk, Poland
LOTTE BP Chemical Co., Ltd (50.94%)	2-2 Sangnam-ri, Chungryang-myun, Ulju-gun, Ulsan 689-863, Republic of Korea
Maasvlakte Europoort Pipeline Maatschap (50.00%)[g]	Rijndwarsweg 3, 3198 LK Europoort, Rotterdam, Netherlands
Maatschap Europoort Terminal (50.00%)[g]	Moezelweg 101, 3198LS Europoort, Rotterdam, Netherlands
Mach Monument Aviation Fuelling Co. Ltd. (70.00%)	Naz City, Building J, Suite 10 Erbil, Iraq
Malmo Fuelling Services AB (33.33%)	Box 22, SE 230 32 Malmö-Sturup, Sweden
Manchester Airport Storage and Hydrant Company	Bircham Dyson Bell, 50 Broadway, London, SW1H 0BL , United Kingdom
Manpetrol S.A. (50.00%)	Francisco Behr 20, Barrio Pueyrredon, Comodoro Rivadavia, Provincia del Chubut, Argentina
Mars Oil Pipeline Company LLC (28.50%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Masana Employee Share Trust No. 1 (37.88%)[a]	Block B, 2nd Floor, BP House, 10 Junction Avenue, Parktown, 2193, South Africa
MATELUB S.A.R.L. (Baldersheim/Frankreich) (80.00%)	20 Rue Contades, 67300, Schiltigheim, France
Mavrix, LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
McFall Fuel Limited (49.00%)	700 Bond Street, Te Awamutu, New Zealand
Mediteranean Gas Co. "MEDGAS" (25.00%)	5 El Mokhayam El Daiem St, 6th Sector, Nasr City, Egypt
Mehoopany Wind Energy LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Mehoopany Wind Holdings LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
Middle East Lubricants Company LLC (40.00%)	6th Flr City Tower, 2- Sheikh Zayed Road, PO Box 1699, Dubai, United Arab Emirates
Milne Point Pipeline, LLC (50.00%)[a]	900 E. Benson Boulevard, Anchorage, Alaska, 99508, United States
Mineralol-Handels-Gesellschaft mbH, Celle (50.00%)	Kronestraße 22-23, 29221 Celle, Germany
Mobene GmbH & Co. KG (50.00%)[g]	Spaldingstraße 64, 20097 Hamburg, Germany
Mobene Verwaltungs-GmbH (50.00%)	Spaldingstraße 64, 20097 Hamburg, Germany
N.V. Rotterdam-Rijn-Pijpleiding Maatschappij (RRP) (44.40%)	Butaanweg 215, NL-3196 KC Vondelingenplaat, Rotterdam, 3045, Havennummer , Netherlands
Natural Gas Vehicles Company "NGVC" (40.00%)	85 El Nasr Road, Cairo, Cairo, Egypt
New Zealand Oil Services Limited (50.00%)	Level 3, 139 The Terrace, Wellington, 6011, New Zealand
Newshelf 1310 (RF) Proprietary Limited (37.88%)	Block B, 2nd Floor, BP House, 10 Junction Avenue, Parktown, 2193, South Africa
NFX Combustíveis Marítimos Ltda. (50.00%)	Avenida Atlântica, no. 1.130, 2nd floor (part), Copacabana, Rio de Janeiro, RJ, 22021-000, Brazil
Nord-West Oelleitung GmbH (59.33%)	Zum Ölhafen 207, 26384 Wilhelmshaven, Germany
North Ghara Petroleum Company (NOGHCO) (30.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
North October Petroleum Company "NOPCO" (50.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
Ocwen Energy Pty Ltd (49.50%)	GTH Accounting Group Pty Ltd '2', 1A Kitchener Street, Toowoomba QLD 4350, Australia
Oleoductos Canarios, S.A. (20.00%)	C/ Explanada Tomas Quevedo S/N, 35008 Puerto De La Luz, Las Palmas De G.C, Spain
Optis, LLC (50.00%)[a]	6705 Steger Drive, Cincinnati OH 45237-3097, United States
Oslo Lufthaven Tankanlegg AS (33.33%)	Postboks 134, Gardermoen, NO-2061, Norway
PAE E & P Bolivia Limited (50.00%)	Trinity Place Annex, Corner of Frederick & Shirley Streets, P.O. Box N-4805, Nassau, Bahamas

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14. Related undertakings of the group – continued

PAE Oil & Gas Bolivia Ltda. (50.00%)	Cuarto anillo, Avda. Ovidio Barbery N° 4200,Equipetrol Norte, Santa Cruz de la Sierra, Bolivia
Pan American Energy Chile Limitada (50.00%)	Nueva de Lyon N° 145, piso 12, oficina 1203, Edificio Costa, Santiago de Chile, Chile
Pan American Energy do Brasil Ltda. (50.00%)[a]	Rua Manoel da Nóbrega n°1280, 10° andar, Sao Paulo, Sao Paulo, 04001-902, Brazil
Pan American Energy Group, S.L. (50.00%)[s]	Campus Empresarial Arbea- Edificio No 1, Carretera Fuencarral a Alcobendas, Alcobendas, Madrid, Spain
Pan American Energy Holdings Ltd. (50.00%)	Palm Grove House, P.O. Box 438, Road Town, Tortola, British Virgin Islands
Pan American Energy Iberica S.L. (50.00%)	Campus Empresarial Arbea- Edificio No 1, Carretera Fuencarral a Alcobendas, Alcobendas, Madrid, Spain
Pan American Energy Investments Ltd. (50.00%)	Palm Grove House, P.O. Box 438, Road Town, Tortola, British Virgin Islands
Pan American Energy LLC (50.00%)[a]	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Pan American Energy Uruguay S.A. (50.00%)	Colonia 810, Oficina 403, Montevideo, Uruguay
Pan American Fueguina S.A. (50.00%)	O´Higgins N° 194, Rio Grande, Argentina
Pan American Sur S.A. (50.00%)	O´Higgins N° 194, Rio Grande, Argentina
Paul Harling Mineralole GmbH & Co. KG (50.00%)[g]	Kronestraße 22-23, 29221 Celle, Germany
Peninsular Aviation Services Company Limited (25.00%)[i]	P O Box 6369, Jeddah 21442, Saudi Arabia
Pentland Aviation Fuelling Services Limited (50.00%)[c]	6th Floor (c/o Q8 Aviation), Dukes Court, Duke Street, Woking, GU21 5BH, United Kingdom
Petrostock SA (50.00%)	route de Pré-Bois 2, 1214, Vernier, Switzerland
Pharaonic Petroleum Company "PhPC" (25.00%)	70/72 Road 200, Maadi, Cairo, Egypt
Prince William Sound Oil Spill Response Corporation (25.00%)	9360 Glacier Highway, Suite 202, Juneau AK 99801, United States
Proteus Oil Pipeline Company, LLC (65.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
PT Petro Storindo Energi (30.00%)	Bakrie Tower 17th Floor, Rasuna Epicentrum Complex Jl. H.R Rasuna Said, Jakarta, 12940, Indonesia
PT. Aneka Petroindo Raya (49.90%)	AKR Tower 25th floor, Jalan Panjang No.5, Kebon Jeruk, Jakarta, 11530, Indonesia
PT. Dirgantara Petroindo Raya (49.90%)	Wisma AKR, 25th floor, Jalan Panjang No.5, Kebon Jeruk, , Jakarta Barat, 11530, Indonesia
PTE Pipeline LLC (32.00%)[a]	2711 Centerville Road, Suite 400, Wilmington DE 19808, United States
Raffinerie de Strasbourg (33.33%)	24 Cours Michelet, 92800, Puteaux, France
Rahamat Petroleum Company (PETRORAHAMAT) (50.00%)	70/72 Road 200, Maadi, Cairo, Egypt
Raimund Mineraloel GmbH (50.00%)	Hörhof 1, 95473 Creußen, Germany
RAPI SA (62.51%)	26 Kifissias Ave. and 2 Paradissou st., 15125 Maroussi, Athens, Greece
Raststaette Glarnerland AG, Niederurnen (20.00%)	Nideracher 1, 8867, Niederurnen, Switzerland
RD Petroleum Limited (49.00%)	Albert Alloo & Sons, 67 Princes Street, Dunedin, New Zealand
Resolution Partners LLP (68.00%)[g]	1675 Broadway, Denver CO 80202, United States
Rhein-Main-Rohrleitungstransportgesellschaft mbH (35.00%)	Godorfer Hauptstraße 186, 50997 Köln, Germany
Rio Grande Pipeline Company (30.00%)[g]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
RMF Holdings Limited (49.00%)	KPMG, 247 Cameron Road, Tauranga, 3110, New Zealand
RocketRoute Limited (36.00%)[w]	Barttelot Court , Barttelot Road , Horsham, West Sussex, RG12 1DQ, United Kingdom
Romanian Fuelling Services S.R.L. (50.00%)	59 Aurel Vlaicu Street, Otopeni, Ilfov County, Romania
Rosneft Oil Company (19.75%)	26/1 Sofiyskaya Embankment, 115035, Moscow, Russian Federation
Routex B.V. (25.00%)	Strawinskylaan 1725, 1077XX Amsterdam, Netherlands
Rudeis Oil Company "RUDOCO" (50.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
Rundel Mineraloelvertrieb GmbH (50.00%)	Am Güterbahnhof 4, 78224 Singen, Germany
S&JD Robertson North Air Limited (49.00%)	1 Wellheads Avenue, Dyce, Aberdeen, AB21 7PB, United Kingdom
SABA- Sociedade Abastecedora de Aeronaves, Lda (25.00%)	Grupo Operacional de Combustiveis do Aeroporto de Lisboa, Edificio 19, 1.º Sala Saba, Lisboa, Portugal
SAFCO SA (33.33%)	International airport "El. Venizelos", Athens, Greece
Salzburg Fuelling GmbH (33.00%)[a]	Innsbrucker Bundesstraße 95, 5020 Salzburg, Austria
Saraco SA (20.00%)	route de Pré-Bois 17, 1216, Cointrin, Switzerland
SeaPort Midstream Partners, LLC (49.00%)[a]	Cogency Global Inc., 850 New Burton road, Suite 201, Dover, Delaware, 19904, Uunited States
Servicios Logísticos de Combustibles de Aviación, S.L (50.00%)	Vía de los Poblados1, Madrid, Spain
Sharjah Aviation Services Co. LLC (49.00%)[s]	P O Box- 97, Sharjah, United Arab Emirates
Sharjah Pipeline Company LLC (49.00%)	Sharjah 42244, Sharjah, UAE, Sharjah, United Arab Emirates
Shell and BP South African Petroleum Refineries (Pty) Ltd (37.50%)[b]	1 Refinery Road, Prospecton, 4110, South Africa
Shell Mex and B.P. Limited (40.00%)[s]	Shell Centre, London, SE1 7NA, United Kingdom
Shenzhen Cheng Yuan Aviation Oil Company Limited (25.00%)[a]	Fu Yong Town, Bao An county, ShenZhen Airport, Guangdong Province, China
Shenzhen Dapeng LNG Marketing Company Limited (30.00%)[a]	Room 316 Excellence Mansion, No.98 Fuhua 1Rd, Futian District, Shenzhen, China
Sherbino I Wind Farm LLC (50.00%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
SKA ENERGY HOLDINGS LIMITED (50.00%)	LOB 16, Suite #309, Jebel Ali Free Zone, Dubai, PO BOX 262794, United Arab Emirates
SM Realisations Limited (In Liquidation) (40.00%)	Shell International Petroleum, Co Ltd, Shell Centre, 8 York Road, London, SE1 7NA , United Kingdom
Société d'Avitaillement et de Stockage de Carburants Aviation "SASCA" (40.00%)[a]	1 Place Gustave Eiffel, 94150, Rungis, France
Société de Gestion de Produits Pétroliers- SOGEPP (37.00%)	27 Route du Bassin Numéro 6, 92230, Gennevilliers, France
South Caucasus Pipeline Company Limited (28.83%)[s]	P.O. Box 309, Ugland House, 113 South Church Street, George Town, Grand Cayman, Cayman Islands
South Caucasus Pipeline Holding Company Limited (28.83%)	P.O. Box 309, Ugland House, 113 South Church Street, George Town, Grand Cayman, Cayman Islands
South Caucasus Pipeline Option Gas Company Limited (28.83%)	P.O. Box 309, Ugland House, 113 South Church Street, George Town, Grand Cayman, Cayman Islands
South China Bluesky Aviation Oil Company Limited (24.50%)[a]	Baiyun Internation Airport, Guangzhou, China
Stansted Intoplane Company Limited (20.00%)	Causeway House, 1 Dane Street, Bishop's Stortford, Hertfordshire, CM23 3BT, United Kingdom
STDG Strassentransport Dispositions Gesellschaft mbH (50.00%)	Holstenhofweg 47, 22043 Hamburg, Germany

The parent company financial statements of BP p.l.c. on pages 219-245 do not form part of BP's Annual Report on Form 20-F as filed with the SEC.

14. Related undertakings of the group – continued

Stockholm Fuelling Services Aktiebolag (25.00%)	Box 7, 190 45 Arlanda, Sweden
Stonewall Resources Ltd. (50.00%)	Palm Grove House, P.O. Box 438, Road Town, Tortola, British Virgin Islands
Sunrise Oil Sands Partnership (50.00%)[g]	c/o Husky Oil Operations Limited, 707- 8th Avenue SW, Calgary AB T2P 1H5, Canada
Tankanlage AG Mellingen (33.33%)	Birmenstorferstrasse 2, 5507, Mellingen, Switzerland
TAR- Tankanlage Ruemlang AG (27.32%)	Zwüscheteich, 8153, Rümlang, Switzerland
TAU Tanklager Auhafen AG (50.00%)	Auhafenstrasse 10a, 4132, Muttenz, Switzerland
Team Terminal B.V. (22.80%)	Rijndwarsweg 3, 3198 LK Europoort, Rotterdam, Netherlands
Tecklenburg GmbH (50.00%)	Wesermünder Straße 1, 27729 Hambergen, Germany
Tecklenburg GmbH & Co. Energiebedarf KG (50.00%)[g]	Wesermünder Straße 1, 27729 Hambergen, Germany
Terminales Canarios, S.L. (50.00%)	Carretera de San Andréss/n, La Jurada-María Jiménez, Santa Cruz de Tenerife, Spain
TFSS Turbo Fuel Services Sachsen GbR (20.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
TGFH Tanklager-Gesellschaft Frankfurt-Hahn GbR (50.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
TGH Tankdienst-Gesellschaft Hamburg GbR (33.33%)[g]	Sportallee 6, 22335 Hamburg, Germany
TGHL Tanklager-Gesellschaft Hannover-Langenhagen GbR (50.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
TGK Tanklagergesellschaft Koln-Bonn (25.00%)[g]	Sportallee 6, 22335 Hamburg, Germany
The Baku-Tbilisi-Ceyhan Pipeline Company (30.10%)[z]	P.O. Box 309, Ugland House, 113 South Church Street, George Town, Grand Cayman, Cayman Islands
The Consolidated Petroleum Company Limited (50.00%)[s]	Shell Centre, London, SE1 7NA, United Kingdom
The Consolidated Petroleum Supply Company Limited (50.00%)	Shell Centre, London, SE1 7NA, United Kingdom
The Sullom Voe Association Limited (33.33%)[s]	Town Hall, Lerwick, Shetland, ZE1 0HB, United Kingdom
TLM Tanklager Management GmbH (49.00%)[a]	Am Tankhafen 4, 4020 Linz, Austria
TLS Tanklager Stuttgart GmbH (45.00%)	Zum Ölhafen 49, 70327 Stuttgart, Germany
Torsina Oil Company "TORSINA" (37.50%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
TRaBP GbR (75.00%)[g]	Huestraße 25, 44787, Bochum, Germany
Trafineo GmbH & Co. KG (75.00%)[g]	Wittener Straße 56, Bochum, Germany
Trafineo Verwaltungs-GmbH (75.00%)	Wittener Straße 56, Bochum, Germany
TransTank GmbH (50.00%)	Am Stadthafen 60, 45881 Gelsenkirchen, Germany
Tricoya Ventures UK Limited (35.56%)	Brettenham House, 19 Lancaster Place, London, WC2E 7EN, United Kingdom
United Gas Derivatives Company "UGDC" (33.33%)	55 Road 18, Maadi, Cairo, Egypt
United Kingdom Oil Pipelines Limited (33.50%)	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS, United Kingdom
Ursa Oil Pipeline Company LLC (22.69%)[a]	Corporation Trust Center, 1209 Orange Street, Wilmington DE 19801, United States
VIC CBM Limited (50.00%)	Eni House, 10 Ebury Bridge Road, London, SW1W 8PZ, United Kingdom
Virginia Indonesia Co. CBM Limited (50.00%)	Eni House, 10 Ebury Bridge Road, London, SW1W 8PZ, United Kingdom
Walton-Gatwick Pipeline Company Limited	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS, United Kingdom
West London Pipeline and Storage Limited (30.50%)	5-7 Alexandra Road, Hemel Hempstead, Hertfordshire, HP2 5BS, United Kingdom
West Morgan Petroleum Company (PETROMORGAN) (50.00%)	4 Palestine Road, 4th District, New Maadi, Cairo, Egypt
Wiri Oil Services Limited (27.78%)	303 Parnell Rd, Parnell, Auckland, New Zealand
Xact Downhole Telemetry Inc (27.00%)[w]	906 55th Avenue NE, Calgary AB, Canada
Yangtze River Acetyls Co., Ltd (51.00%)[a]	97 Weijiang Road (in the Petrochemical Park), Changshou District, Chongqing, China
Yermak Neftegaz LLC (49.00%)[a]	Kosmodamianskaya nab, 52/3, 115035, Moscow, Russian Federation

[a] Member interest
[b] A shares
[c] A and B shares
[d] Ordinary, B shares, preference shares
[e] Common stock and preference shares
[f] Ordinary shares and preference shares
[g] Partnership interest
[h] A, B and D shares
[i] Interest held directly by BP p.l.c.
[j] 99% held directly by BP p.l.c.
[k] 1% held directly by BP p.l.c.
[l] Ordinary, A and B shares
[m] 0.008% held directly by BP p.l.c.
[n] Ordinary shares and cumulative redeemable preference shares
[o] 79.93% ordinary shares and 99.06% preference shares
[p] 93.59% ordinary shares and 81.01% preference shares
[q] Subsidiary in which the group does not hold a majority of the voting rights but exercises control over it
[r] Ordinary shares and redeemable preference shares
[s] B shares
[t] Subsidiary undertaking pursuant to sections 1162(2), 1162(3)(b) and Paragraph 6 of Schedule 7 of the Companies Act 2006
[u] 100% ordinary shares and 58.63% preference shares
[v] 92.31% B shares and 78.43% D shares
[w] Preference shares
[x] Unlimited redeemable shares
[y] 96.52% C shares
[z] 1.89% A shares and 40.80% B shares

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