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Group Income Statement
For the year ended 31 December 2018

	Note	2018 US$m	2017 (restated) US$m
Continuing operations			
Revenue	2.1	**410.3**	33.3
Cost of sales	2.1	**(131.4)**	(5.9)
Depletion and amortisation	2.3	**(171.2)**	(20.8)
Gross profit		**107.7**	6.6
Pre-award costs	4.2	**(25.4)**	(43.8)
Unsuccessful exploration costs	2.2	**(48.2)**	(60.7)
Loss on disposal of intangible exploration/appraisal assets		**(4.5)**	–
Other operating income		**5.0**	2.4
Administrative expenses	4.3	**(50.4)**	(32.7)
(Impairment)/Reversal of impairment of property, plant & equipment – development/producing assets	2.3	**(166.3)**	23.0
Operating loss		**(182.1)**	(105.2)
Loss on derecognition of financial assets at fair value through profit or loss	3.1	**(713.1)**	(33.0)
(Loss)/Gain on financial assets at fair value through profit or loss	3.1	**(352.2)**	449.1
Finance income	4.5	**19.2**	77.0
Exceptional provision against finance income receivable		**–**	(104.7)
Finance costs	4.6	**(37.8)**	(10.4)
(Loss)/Profit before taxation from continuing operations		**(1,266.0)**	272.8
Taxation			
Tax credit/(charge)	5.2	**130.5**	(55.0)
(Loss)/Profit for the year attributable to equity holders of the Parent		**(1,135.5)**	217.8
(Loss)/Profit per ordinary share – basic (cents)	4.7	**(195.59)**	37.72
(Loss)/Profit per ordinary share – diluted (cents)	4.7	**(195.59)**	36.84

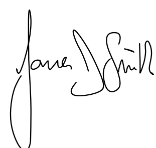
Group Statement of Comprehensive Income
For the year ended 31 December 2018

	Note	2018 US$m	2017 (restated) US$m
(Loss)/Profit for the year		**(1,135.5)**	217.8
Other Comprehensive Income – items that may be recycled to the Income Statement			
Fair value on hedge options	3.6	**36.1**	(2.9)
Hedging loss recycled to the Income Statement	2.1	**7.8**	–
Currency translation differences		**(15.6)**	76.1
Other Comprehensive Income for the year		**28.3**	73.2
Total Comprehensive (Expense)/Income for the year attributable to equity holders of the Parent		**(1,107.2)**	291.0

Group Balance Sheet
As at 31 December 2018

	Note	2018 US$m	2017 (restated) US$m
Non-current assets			
Intangible exploration/appraisal assets	2.2	**595.1**	619.4
Property, plant & equipment – development/producing assets	2.3	**1,022.9**	1,206.5
Intangible assets – goodwill	2.6	**125.8**	128.2
Other property, plant & equipment and intangible assets		**7.9**	10.8
Financial assets at fair value through profit or loss	3.1	**–**	1,072.2
Derivative financial instruments	3.6	**7.7**	–
		1,759.4	3,037.1
Current assets			
Inventory	2.1	**8.2**	10.4
Financial assets at fair value through profit or loss	3.1	**6.9**	–
Cash and cash equivalents	3.2	**66.3**	86.5
Trade and other receivables	3.5	**91.2**	83.1
Derivative financial instruments	3.6	**36.7**	–
Income tax asset	5.3	**32.8**	38.4
		242.1	218.4
Total assets		**2,001.5**	3,255.5
Current liabilities			
Loans and borrowings	3.3	**26.2**	29.8
Finance lease liability	3.4	**18.5**	1.5
Derivative financial instruments	3.6	**–**	1.4
Trade and other payables	3.7	**103.1**	197.8
Deferred revenue	3.8	**22.0**	24.3
Provisions – other		**2.8**	2.8
		172.6	257.6
Non-current liabilities			
Provisions – decommissioning	2.4	**119.1**	121.1
Loans and borrowings	3.3	**75.5**	–
Finance lease liability	3.4	**146.9**	168.2
Deferred revenue	3.8	**30.8**	49.7
Deferred tax liabilities	5.4	**66.5**	164.4
		438.8	503.4
Total liabilities		**611.4**	761.0
Net assets		**1,390.1**	2,494.5
Equity attributable to equity holders of the Parent			
Called-up share capital	6.1	**12.6**	12.5
Share premium	6.1	**489.7**	488.0
Shares held by ESOP/SIP Trusts	6.1a,b	**(19.6)**	(10.2)
Foreign currency translation	6.1c	**(190.5)**	(174.9)
Capital reserves – non-distributable	6.1d	**40.8**	40.8
Merger reserve	6.1d	**255.9**	255.9
Hedge reserve	6.1e	**41.0**	(2.9)
Retained earnings		**760.2**	1,885.3
Total equity		**1,390.1**	2,494.5

The Financial Statements on pages 125 to 177 were approved by the Board of Directors on 11 March 2019 and signed on its behalf by:



James Smith
Chief Financial Officer

Simon Thomson
Chief Executive

Group Statement of Cash Flows
For the year ended 31 December 2018

	Note	2018 US$m	2017 (restated) US$m
Cash flows from operating activities			
(Loss)/Profit before taxation from continuing operations		**(1,266.0)**	272.8
Adjustments for non-cash income and expense and non-operating cash flow:			
Release of deferred revenue		**(21.2)**	(3.0)
Unsuccessful exploration costs		**48.2**	60.7
Depreciation, depletion and amortisation		**174.9**	23.4
Share-based payments charge		**14.7**	17.5
Impairment/(Reversal of impairment) of property, plant & equipment – development/producing assets		**166.3**	(23.0)
Loss on derecognition of financial assets at fair value through profit or loss		**713.1**	33.0
Loss/(Gain) on financial assets at fair value through profit or loss		**352.2**	(449.1)
Loss on disposal of intangible exploration/appraisal assets		**4.5**	–
Finance income		**(19.2)**	(77.0)
Exceptional provision against finance income receivable		**–**	104.7
Finance costs		**37.8**	10.4
Adjustments for cash flow movements in assets and liabilities:			
Income tax refund received relating to operating activities	5.3	**20.4**	2.8
Inventory movement		**2.2**	(10.4)
Trade and other receivables movement	3.5	**(41.6)**	(10.5)
Trade and other payables movement	3.7	**22.7**	2.5
Deferred revenue received	3.8	**–**	74.6
Net cash flows from operating activities		**209.0**	29.4
Cash flows from investing activities			
Expenditure on intangible exploration/appraisal assets	2.2	**(188.0)**	(186.6)
Expenditure on property, plant & equipment – development/producing assets	2.3	**(109.5)**	(145.6)
Proceeds on disposal of intangible exploration/appraisal assets		**3.6**	–
Income tax refund received relating to investing activities	5.3	**16.4**	27.6
Purchase of other property, plant & equipment and intangible assets		**(2.9)**	(7.9)
Interest received and other finance income		**2.0**	15.3
Net cash flows used in investing activities		**(278.4)**	(297.2)
Cash flows from financing activities			
Debt arrangement fees	3.3	**(10.4)**	–
Other interest and charges		**(12.6)**	(8.9)
Proceeds from borrowings	3.3	**117.4**	29.2
Repayment of borrowings	3.3	**(31.2)**	–
Proceeds from issue of shares		**1.7**	–
Cost of shares purchased	6.1a	**(13.6)**	(3.9)
Finance lease payments	3.4	**(7.4)**	–
Finance lease reimbursements	3.4	**4.7**	1.4
Net cash flows from financing activities		**48.6**	17.8
Net decrease in cash and cash equivalents		**(20.8)**	(250.0)
Opening cash and cash equivalents at beginning of year		**86.5**	334.9
Foreign exchange differences		**0.6**	1.6
Closing cash and cash equivalents	3.2	**66.3**	86.5

Group Statement of Changes in Equity
For the year ended 31 December 2018

	Equity share capital and share premium US$m	Shares held by ESOP/SIP Trusts US$m	Foreign currency translation US$m	Merger and capital reserves US$m	Hedge reserve (restated) US$m	Available-for-sale reserve (restated) US$m	Retained earnings (restated) US$m	**Total equity US$m**
At 1 January 2017	500.4	(10.2)	(250.1)	296.7	–	272.1	1,381.0	2,189.9
Change in accounting policy*	–	–	–	–	–	(272.1)	272.1	–
At 1 January 2017 (restated)*	500.4	(10.2)	(250.1)	296.7	–	–	1,653.1	2,189.9
Profit for the year	–	–	–	–	–	–	217.8	217.8
Fair value on hedge options	–	–	–	–	(2.9)	–	–	(2.9)
Currency translation differences recycled on disposal of subsidiary	–	–	(0.9)	–	–	–	0.9	–
Currency translation differences	–	–	76.1	–	–	–	–	76.1
Total comprehensive income	–	–	75.2	–	(2.9)	–	218.7	291.0
Share-based payments	–	–	–	–	–	–	17.5	17.5
Shares issued for cash	0.1	(0.1)	–	–	–	–	–	–
Cost of shares purchased	–	(3.9)	–	–	–	–	–	(3.9)
Cost of shares vesting	–	4.0	–	–	–	–	(4.0)	–
At 31 December 2017 (restated)*	500.5	(10.2)	(174.9)	296.7	(2.9)	–	1,885.3	**2,494.5**
Loss for the year	–	–	–	–	–	–	(1,135.5)	**(1,135.5)**
Fair value on hedge options	–	–	–	–	36.1	–	–	**36.1**
Hedging loss recycled to the Income Statement	–	–	–	–	7.8	–	–	**7.8**
Currency translation differences	–	–	(15.6)	–	–	–	–	**(15.6)**
Total comprehensive expense	**–**	**–**	**(15.6)**	**–**	**43.9**	**–**	**(1,135.5)**	**(1,107.2)**
Share-based payments	–	–	–	–	–	–	14.7	**14.7**
Shares issued for cash	0.1	(0.1)	–	–	–	–	–	**–**
Cost of shares purchased	–	(13.6)	–	–	–	–	–	**(13.6)**
Exercise of employee share options	1.7	–	–	–	–	–	–	**1.7**
Cost of shares vesting	–	4.3	–	–	–	–	(4.3)	**–**
At 31 December 2018	**502.3**	**(19.6)**	**(190.5)**	**296.7**	**41.0**	**–**	**760.2**	**1,390.1**

* See notes 1.1b and 1.3 for details of changes in accounting policy as a result of the adoption of IFRS 9

Section 1 – Basis of Preparation

This section contains the Group's going concern statement and significant accounting policies that relate to the Financial Statements as a whole. Significant accounting policies specific to one note are included within the note itself. Accounting policies have been consistently applied to all years presented.

This section also includes details on new EU endorsed accounting standards, amendments and interpretations and their expected impact on the financial performance of the Group, specifically the impact of IFRS 16.

1.1 Significant Accounting Policies

a) Basis of preparation

The consolidated Financial Statements of Cairn Energy PLC ('Cairn' or 'the Group') for the year ended 31 December 2018 were authorised for issue in accordance with a resolution of the Directors on 11 March 2019. Cairn is a limited company incorporated and domiciled in the United Kingdom whose shares are publicly traded. The registered office is located at 50 Lothian Road, Edinburgh, Scotland, EH3 9BY. The registered company number is SC226712.

Cairn prepares its Financial Statements on a historical cost basis, unless accounting standards require an alternate measurement basis. Where there are assets and liabilities calculated on a different basis, this fact is disclosed either in the relevant accounting policy or in the notes to the Financial Statements. The Financial Statements comply with the Companies Act 2006 as applicable to companies using International Financial Reporting Standards ('IFRS').

The Group's Financial Statements are prepared on a going concern basis.

b) Accounting standards

Cairn prepares its Financial Statements in accordance with applicable IFRS, issued by the International Accounting Standards Board ('IASB') as adopted by the EU, and interpretations issued by the International Financial Reporting Interpretations Committee ('IFRIC'), and Companies Act 2006 applicable to companies reporting under IFRS. The Group's Financial Statements are also consistent with IFRS as issued by the IASB as they apply to accounting periods ended 31 December 2018.

Effective 1 January 2018, Cairn has adopted the following amendments to standards:
- Amendments to IAS 28 'Investments in Associates and Joint Ventures'
- Amendments to IFRS 2 'Share Based Payments'
- IFRS 9 'Financial Instruments'
- IFRS 15 'Revenue from Contracts with Customers'

In addition, Cairn has early adopted the following interpretation issued by IFRIC:
- IFRIC 23 'Uncertainty over Income Tax Treatments'

The following standard, issued by the IASB and endorsed by the EU has yet to be adopted by the Group:
- IFRS 16 'Leases' (effective 1 January 2019)

IFRS 9 'Financial Instruments'

The adoption of IFRS 9 'Financial Instruments' on 1 January 2018 resulted in the re-classification of the Group's available-for-sale financial assets as financial assets held at fair value through profit or loss. Fair value gains and losses on the financial assets are now reflected through the Income Statement rather than Other Comprehensive Income. IFRS 9 also required the change in fair value relating to the time value of an option, designated for hedge accounting, to be recorded in Other Comprehensive Income; previously Cairn had recorded such movements through the Income Statement. Both these changes have been applied fully retrospectively and result in the restatement of comparative information, details of which can be found in note 1.3.

Other standards and amendments effective 1 January 2018

The other changes to IFRS effective 1 January 2018, including the adoption of IFRS 15 'Revenue from Contracts with Customers', have no significant impact on Cairn's Financial Statements. Relevant accounting policies have been reviewed and updated to reflect adoption of IFRS 15 but given that Cairn's customers are clearly identified, the performance obligations easily identifiable and the price readily determinable, the changes to policies have no impact on the resulting accounting.

IFRIC 23 'Uncertainty over Income Tax Treatments'

Cairn has chosen to adopt IFRIC 23 in advance of its effective date of 1 January 2019. This interpretation provides guidance on how uncertain tax treatments should be addressed and requires an entity to assess the probability of an uncertain tax position being accepted by the relevant taxation authority. The interpretation has been applied in calculating Cairn's unused tax losses disclosed in the notes to the Financial Statements. The prior year impact of adoption is not material and comparative disclosure has not been amended.

Section 1 – Basis of Preparation continued

1.1 Significant Accounting Policies continued

b) Accounting standards continued

IFRS 16 'Leases'

IFRS 16 introduces a single lessee accounting model and requires a lessee to recognise assets and liabilities for all leases with a term of more than 12 months, unless the underlying asset is of low value. A lessee is required to recognise a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments.

In assessing the impact of IFRS 16, Cairn has identified the following assets where right-of-use assets and lease liabilities will be recognised on adoption:
- Accounting for the FPSO on the UK Catcher development/producing asset; and
- Accounting for non-cancellable leases of the Group's office premises in Edinburgh, London, Stavanger and Mexico City.

All other leases are either for periods of less than one year or have less than one year remaining on the date of adoption or are for low-value items which have no material impact on the Group's Financial Statements. Additional disclosure will be provided in the 2019 Financial Statements relating to these leases where material.

The Catcher FPSO is classified as an operating lease under the current accounting standard (see significant accounting judgements in section 3). Under IFRS 16 Cairn will recognise a right-of-use asset and lease liability for the vessel based on the minimum lease commitment over the expected charter period. On initial adoption of IFRS 16, Cairn will recognise a lease liability of US$147.5m and a corresponding right-of-use asset. Forecast minimum lease payments of US$33.9m in 2019 will reduce the lease liability rather than be charged against profit as a lease charge. Forecast finance lease interest charges on the Catcher FPSO for 2019 are US$7.2m. Variable lease charges in excess of the minimum commitment will continue to be charged against profit. The right-of-use asset will be amortised on a unit-of-production basis consistent with the Group's other development/producing assets. In the Cash Flow Statement, minimum lease payments relating to the Catcher FPSO will be classified as financing cash flows; currently they are included in operating cash flows. Variable lease payments shall remain in operating cash flows.

There is no change in accounting for the Kraken FPSO which is currently accounted for as a finance lease.

The Group's leasehold property will be measured based on the lease liability remaining on adoption of IFRS 16. The Group expects to recognise lease liabilities of US$10.0m and corresponding right-of-use assets for the same amount. The assets will be amortised on a straight-line basis over the remaining life of the lease. Again, cash flows will be re-classified as financing rather than operating cash flows.

Cairn are continuing to assess accounting for leases held through joint operations, particularly where the operator enters into a lease agreement on behalf of the joint operation but where the joint operators are not direct parties to the lease agreement. Assessing whether such contracts will be treated as a lease by Cairn, as a non-operator, is likely to be highly judgemental with assumptions and other considerations based on the right of substitution by the operator and the reasonable certainty of leases being extended beyond an initial period.

Details of current finance leases can be found in note 3.4, while current operating lease commitments are disclosed in notes 2.1, 2.5 and 4.3 as they relate to operating costs, intangible exploration/appraisal assets and property, plant & equipment – development/producing assets, and administrative expenses respectively. A reconciliation of operating lease commitments at 31 December 2018 to the opening lease liabilities on adoption of IFRS 16 is as follows:

	Production costs US$m	Exploration/ Appraisal assets US$m	Development/ Producing assets US$m	Administrative expenses US$m	**Total US$m**
Operating lease commitments	171.6	21.2	13.4	11.5	**217.7**
Attributable to:					
Leases yet to commence	–	(20.7)	(9.5)	–	**(30.2)**
Short-term leases	–	(0.5)	(3.9)	–	**(4.4)**
Lease of low value items	–	–	–	(0.3)	**(0.3)**
Gross lease liability	**171.6**	**–**	**–**	**11.2**	**182.8**
Interest implicit in lease	(24.1)	–	–	(1.2)	**(25.3)**
Opening lease liability	**147.5**	**–**	**–**	**10.0**	**157.5**

c) Basis of consolidation

The consolidated Financial Statements include the results of Cairn Energy PLC and its subsidiary undertakings to the balance sheet date. Where subsidiaries follow differing accounting policies from those of the Group, those accounting policies have been adjusted to align with those of the Group. Intercompany balances and transactions between Group companies are eliminated on consolidation, though foreign exchange differences arising on intercompany balances between subsidiaries with differing functional currencies are not offset.

The results of subsidiaries acquired or incorporated in any year are included in the Income Statement and Statement of Cash Flows from the effective date of acquisition while the results of subsidiaries disposed of or liquidated during the year are included in the Income Statement and Statement of Cash Flows to the date at which control passes from the Group.

1.1 **Significant Accounting Policies** continued

d) Joint arrangements

Cairn is a partner (joint operator) in oil and gas exploration and development licences which are unincorporated joint arrangements. All of the Group's current interests in these arrangements are determined to be joint operations. A full list of oil and gas licence interests can be found on page 178.

Costs incurred relating to an interest in a joint operation are capitalised in accordance with the Group's accounting policies for oil and gas assets as appropriate (notes 2.2 and 2.3). All the Group's intangible exploration/appraisal assets and property, plant & equipment – development/producing assets relate to interests in joint operations.

Cairn's working capital balances relating to joint operations are included in trade and other receivables (note 3.5) and trade and other payables (note 3.7). Any share of finance income or costs generated or incurred by the joint operation is included within the appropriate income statement account.

e) Foreign currencies

These Financial Statements continue to be presented in US dollars (US$), the functional currency of the Parent.

In the financial statements of individual Group companies, Cairn translates foreign currency transactions into the functional currency at the rate of exchange prevailing at the transaction date (or an approximation thereof where not materially different). Monetary assets and liabilities denominated in foreign currency are translated into the functional currency at the rate of exchange prevailing at the balance sheet date. Exchange differences arising are taken to the Income Statement except for those incurred on borrowings specifically allocable to development projects, which are capitalised as part of the cost of the asset, though there were none in either the current or preceding year.

The Group maintains the Financial Statements of the Parent and subsidiary undertakings in their functional currency. Where applicable, the Group translates subsidiary financial statements into the presentation currency, US$, using the closing rate method for assets and liabilities which are translated at the rate of exchange prevailing at the balance sheet date and rates at the date of transactions for income statement accounts. Cairn takes exchange differences arising on the translation of net assets of Group companies whose functional currency is non-US$ directly to reserves.

Rates of exchange to US$1 were as follows:

	Closing 2018	**YTD Average 2018**	Closing 2017	YTD Average 2017
GBP	**0.784**	**0.749**	0.740	0.776
NOK	**8.641**	**8.133**	8.209	8.263

Effective 1 January 2018, the functional currency of the Group's subsidiary undertaking Nautical Petroleum Limited, which holds the Group's interests in the UK Catcher and Kraken producing assets, changed from GBP to US$. This change reflects the significant revenue streams now being generated by the entity which are receivable in US$. Changes in functional currency are accounted for prospectively, therefore there is no adjustment to comparative information.

f) Exceptional items

Cairn does not present any items of income and expense as extraordinary items. However, where items have a significant impact on profit or loss, occur infrequently and are not part of the Group's normal operating cycle, such items may be disclosed as exceptional items on the face of the Income Statement.

Section 1 – Basis of Preparation continued

1.2 Going Concern

The Directors have considered the factors relevant to support a statement of going concern.

In assessing whether the going concern assumption is appropriate, the Board and Audit Committee considered the Group cash flow forecasts under various scenarios, identifying risks and mitigants and ensuring the Group has sufficient funding to meet its current commitments as and when they fall due for a period of at least 12 months from the date of signing these Financial Statements.

The Directors have a reasonable expectation that the Group will continue in operational existence for this 12-month period and have therefore used the going concern basis in preparing the Financial Statements.

The Board and Audit Committee assessments of risk and mitigants to the Group's operational existence beyond this 12-month period is included in the Viability Statement on page 33.

1.3 Restatement of Comparative Financial Statements on Adoption of IFRS 9

Year ended 31 December 2017	Issued Financial Statements US$m	IFRS 9 restatement – financial assets US$m	IFRS 9 restatement – hedge options US$m	Restated 31 December 2017 US$m
Income Statement				
(Loss)/Gain on derecognition of financial assets	402.6	(435.6)	–	(33.0)
Gain on fair value of financial assets	–	449.1	–	449.1
Finance costs	(13.3)	–	2.9	(10.4)
Profit before taxation from continuing operations	256.4	13.5	2.9	272.8
Tax credit/(charge)	6.7	(61.7)	–	(55.0)
Profit for the year attributable to equity holders of the Parent	263.1	(48.2)	2.9	217.8
Profit per ordinary shares – basic (cents)	45.58	(8.37)	0.51	37.72
Profit per ordinary shares – diluted (cents)	44.52	(8.17)	0.49	36.84
Group Statement of Comprehensive Income				
Profit for the year	263.1	(48.2)	2.9	217.8
Surplus on valuation of financial assets	449.1	(449.1)	–	–
Deferred tax charge on valuation of financial assets	(96.5)	96.5	–	–
Surplus on valuation recycled to the Income Statement	(435.6)	435.6	–	–
Deferred tax charge on surplus on valuation recycled to the Income Statement	34.8	(34.8)	–	–
Fair value on hedge options	–	–	(2.9)	(2.9)
Other Comprehensive (Expense)/Income for the year	27.9	48.2	(2.9)	73.2
Total Comprehensive Income for the year	291.0	–	–	291.0
Balance Sheet				
Hedge reserve	–	–	(2.9)	(2.9)
Available-for-sale reserve	223.9	(223.9)	–	–
Retained earnings	1,658.5	223.9	2.9	1,885.3
Total equity	2,494.5	–	–	2,494.5

Opening balances at 1 January 2017	Issued Financial Statements US$m	IFRS 9 restatement – financial assets US$m	IFRS 9 restatement – hedge options US$m	Restated 1 January 2017 US$m
Balance Sheet				
Available-for-sale reserve	272.1	(272.1)	–	–
Retained earnings	1,381.0	272.1	–	1,653.1
Total equity	2,189.9	–	–	2,189.9

At 1 January 2017, the opening available-for-sale reserve has been transferred to retained earnings following the change in accounting policy for financial assets. The adoption of IFRS 9 has no other impact on the assets or liabilities recorded and presented in the Group's 2016 year end Balance Sheet.

Section 2 – Oil and Gas Assets and Operations

This section focuses on revenue generated during the year, related cost of sales and the assets in the Balance Sheet which form the core of Cairn's business. This section quantifies the financial impact of exploration/appraisal and development/producing activities fully described in the Operational Review on pages 18 to 31.

Included are details of the impairment reviews and tests performed on the Group's assets, including goodwill, and related sensitivity analysis.

Significant accounting judgements in this section:

Impairment testing of oil and gas assets and related goodwill

Hydrocarbon reserves on the UK Kraken producing asset have been downgraded at the year end, reflecting the performance of the field to the balance sheet date which was below expectations. Goodwill relating to the UK & Norway segments is also tested for impairment annually and as such all development/producing assets in the region have been tested for impairment.

Cairn maintained its long-term oil price assumption at US$70 per boe which it believes reflects current market conditions. The Group's three-year short-term assumption remains linked to the forward curve. Full details are included in note 2.3.

Key estimates and assumptions in this section:

Estimation of hydrocarbon reserves

Oil and gas reserve volumes and related production profiles are estimated based on Cairn's internal process manual which follows industry best-practice. This represents Cairn's best estimate of reserves as at the reporting date. Cairn's Reserves and Resources Reporting Committee, which provides oversight, advice and guidance whilst providing senior level review, reports to the Group's Audit Committee before ultimately requesting approval of annual reserve volumes by the PLC Board.

Third-party audits of Cairn's reserves and resources are conducted annually.

A change in reserve volumes could impact depletion and decommissioning charges, impairment testing, release of deferred revenue and related deferred tax assets and liabilities.

Impairment testing of intangible exploration/appraisal assets and property, plant & equipment – development/producing assets

Where an indicator of impairment is identified on an intangible exploration/appraisal asset or a development/producing asset, an impairment test is conducted in accordance with the Group's accounting policies. The test compares either the carrying value of the asset or the carrying value of the cash-generating unit ('CGU') containing the asset, to the recoverable amount of that asset or CGU.

The recoverable amount of an asset represents its fair value less costs of disposal. This is based on either a verifiable third-party arm's length transaction from which a fair value can be obtained or, where there is no such transaction, the fair value less costs of disposal of an asset is calculated using a discounted post-tax cash flow model over the field life of the asset. Cairn do not believe that the value in use of the asset would materially exceed its fair value less cost of disposal.

The key assumptions used in the Group's discounted cash flow models reflect past experience and take account of external factors. These assumptions include:
- Short/medium-term oil price based on a three-month average forward curve for three years from the balance sheet date;
- Long-term oil price of US$70 per boe (2017: US$70 per boe) escalated at 2.0% (2017: 2.0%) per annum;
- Reserve estimates of discovered resource (2P and 2C) based on P50 reserve estimates;
- Production profiles based on Cairn's internal estimates including assumptions on performance of assets;
- Cost profiles for the development of the field and subsequent operating costs supplied by the operator and escalated at 2.0% (2017: 2.0%) per annum; and
- Post-tax discount rates of 10% (2017: 10%).

Impairment testing of goodwill

The goodwill arising from past corporate transactions in the UK & Norway region is tested for impairment by comparing the recoverable amount against the carrying value of the underlying oil and gas assets in the UK & Norway operating segment. As with individual assets, fair value less costs of disposal are based on discounted post-tax cash flow models where no recent third-party transactions exist on which a reliable market-based fair value can be established. The key assumptions are therefore consistent with those for testing intangible exploration/appraisal assets.

Where resource is prospective, fair value represents the expected net present value of the prospect, risk-weighted for future exploration success. Given the inherent risk associated with exploration activities, valuations of prospective resource are highly subjective.

Decommissioning estimates

Provisions for decommissioning are based on the latest estimates provided by operators, subject to review by Cairn and adjustment where deemed necessary. Costs provided to date are an estimate of the cost that would be incurred to remove and decommission facilities that existed at the year end and to plug and abandon development wells drilled to that date. Costs are escalated at 2.0% per annum (2017: 2.0%) and discounted at a risk-free rate of 2.0% (2017: 2.0%).

Section 2 – Oil and Gas Assets and Operations continued

2.1 Gross Profit: Revenue and Cost of Sales

Accounting policies

Revenue

Revenue from oil sales represents the Group's share of sales, on a liftings basis, from its producing interests in the UK North Sea, at the point in time where ownership of the oil or gas has been passed to the buyer. This occurs when the customer takes delivery of a cargo of oil from the FPSO as this is the point in time that the consideration due is unconditional as only the passage of time is required before payment is due. Revenue is measured using the Brent (or estimated Brent) oil price plus or minus the applicable discount based on the quality of the oil.

Revenue from the sale of gas is recorded based on the volume of gas accepted each day by customers at the delivery point.

Revenue from royalties is calculated on production from fields in Mongolia.

Commodity price hedging

Cairn may hedge oil production for the Group's assets in line with hedging policies approved by the Board. Where a hedging instrument has been formally designated as a hedge for hedge accounting, changes in the intrinsic value of the hedged item and the time value of the option are recognised within Other Comprehensive Income (where the hedge is effective) based on fair value and are reclassified to the Income Statement when the hedged production itself affects profit or loss. Hedge effectiveness is assessed on a prospective basis at commencement and throughout the life of the option. Any hedge ineffectiveness identified is immediately charged to the Income Statement.

A change in the fair value of an option that is either not designated as a hedging instrument for hedge accounting or does not qualify for hedge accounting is recognised in the Income Statement.

Cost of sales

Production costs include Cairn's share of costs incurred by the joint operation in extracting oil and gas. Also included are marketing and transportation costs and loss-of-production insurance costs payable over the year.

Adjustments for overlift (where liftings taken by Cairn exceed the Group's working interest share), underlift (where liftings taken by Cairn are less than the Group's working interest share) and movements in inventory are included in cost of sales. Oil inventory is measured at market value in accordance with established industry practice.

Variable lease charges represent lease payments made on finance leases over and above the minimum lease commitment. Operating lease costs are charged directly to the Income Statement.

	2018 US$m	2017 US$m
Oil sales	393.2	19.9
Gas sales	2.5	–
Loss on hedge options	(7.8)	–
Release of deferred revenue (see note 3.8)	21.2	3.0
Revenue from oil and gas sales	409.1	22.9
Royalty income	1.2	10.4
Revenue	**410.3**	33.3
Production and other costs	(64.2)	(15.3)
Oil inventory and underlift adjustment	(7.7)	16.4
Variable and operating lease charges	(59.5)	(7.0)
Cost of sales	**(131.4)**	(5.9)
Depletion and amortisation (see note 2.3)	**(171.2)**	(20.8)
Gross profit	**107.7**	6.6

Revenue

Cairn receives revenue from its producing assets in the UK North Sea, Kraken and Catcher. Both assets commenced production during 2017. On Kraken, where only oil is sold, Cairn takes a full lifting of crude on a scheduled basis to reflect the Group's working interest. On Catcher, Cairn receives its working interest percentage share of each lifting of crude and the Group's working interest share of gas sales. Payment terms are within 30 days.

Sales volumes during the year averaged ~16,000 boepd for the two assets combined, realising an average sales price of US$67.99/bbl.

2.1 Gross Profit: Revenue and Cost of Sales continued

Commodity price hedging

During 2018, Cairn realised losses on hedge options of US$8.0m through the first 10 months of the year as the oil price exceeded the ceiling on several hedge contracts. This was offset by gains of US$0.2m as the oil price fell back in November and December below the US$60/bbl floor on one hedging contract. Hedging losses are recycled to the Income Statement from Other Comprehensive Income when the option matures.

Details on the Group's hedging position at 31 December can be found in note 3.6.

Cost of sales

Inventory of oil held at the year end is recorded at a market value of US$8.2m (2017: US$10.4m). Underlift adjustments on Kraken production volumes were US$0.1m (2017: US$5.6m) at 31 December 2018. Variable finance lease costs on the Kraken FPSO of US$22.7m (2017: US$6.0m), see note 3.4, are charged to the Income Statement with US$36.8m (2017: US$1.0m) of operating lease charges on the Catcher FPSO.

Operating lease commitment

At the year end, Cairn had the following operating lease commitment relating to the Catcher FPSO:

	2018 US$m	2017 US$m
Production costs – operating lease charges		
Not later than one year	**33.9**	33.9
After one year but no more than five years	**114.7**	124.0
After five years	**23.0**	47.4
	171.6	205.3

Following adoption of IFRS 16 on 1 January 2019, accounting for the Catcher FPSO will change with a lease liability and right-of-use asset being recorded on the Balance Sheet. See note 1.1b for further detail.

Section 2 – Oil and Gas Assets and Operations continued

2.2 Intangible Exploration/Appraisal Assets

Accounting policy

Cairn follows a successful-efforts based accounting policy for oil and gas assets.

Costs incurred prior to obtaining the legal rights to explore an area are expensed immediately to the Income Statement as pre-award costs.

Expenditure incurred on the acquisition of a licence interest is initially capitalised on a licence-by-licence basis. Costs are held, undepleted, within intangible exploration/appraisal assets until such time as the exploration phase on the licence area is complete or commercial reserves have been discovered and a field development plan approved.

Exploration expenditure incurred in the process of determining oil and gas exploration targets is capitalised initially within intangible exploration/appraisal assets and subsequently allocated to drilling activities. Costs are recognised following a cost accumulation model where any contingent future costs on recognition of an asset are recognised only when incurred. This includes where Cairn has entered into a 'farm-in' agreement to either acquire or part-dispose of an exploration interest.

A farm-in is an agreement in which a party agrees to acquire from one or more of the existing licencees, an interest in an exploration licence, for a consideration which may consist of the performance of a specified work obligation on behalf of the existing licencees. This obligation may be subject to a monetary cap. Refund of full or partial costs incurred to date may also be included in a farm-in agreement. Where Cairn has part-disposed of an exploration licence interest through a farm-in arrangement, a 'farm-down', the contingent consideration payable by the third party on Cairn's behalf is not recognised in the Financial Statements. The future economic benefit which Cairn will receive as a result of the farm-down will be dependent upon future success of any exploration drilling.

Exploration/appraisal drilling costs are capitalised on a well-by-well basis until the success or otherwise of the well has been established. The success or failure of each exploration/appraisal effort is judged on a well-by-well basis. Drilling costs are written off on completion of a well unless the results indicate that hydrocarbon reserves exist and there is a reasonable prospect that these reserves are commercial and work to confirm the commercial viability of such hydrocarbons is intended to be carried out in the foreseeable future. Where results of exploration drilling indicate the presence of hydrocarbons which are ultimately not considered commercially viable, all related costs are written off to the Income Statement.

Following appraisal of successful exploration wells, if commercial reserves are established and technical feasibility for extraction demonstrated and approved in a field development plan, then the related capitalised intangible exploration/appraisal costs are transferred into a single field cost centre within property, plant & equipment – development/producing assets, after testing for impairment (see below).

Proceeds from the disposal or farm-down of part or all of an exploration/appraisal asset are credited initially to that interest with any excess being credited to the Income Statement.

Impairment

Intangible exploration/appraisal assets are reviewed regularly for indicators of impairment and tested for impairment where such indicators exist. An indicator that one of the Group's assets may be impaired is most likely to be one of the following:

- There are no further plans to conduct exploration activities in the area;
- Exploration drilling in the area has failed to discover commercial reserve volumes;
- Changes in the oil price or other market conditions indicate that discoveries may no longer be commercial; or
- Development proposals for appraisal assets in the pre-development stage indicate that it is unlikely that the carrying value of the exploration/appraisal asset will be recovered in full.

In such circumstances the intangible exploration/appraisal asset is allocated to any property, plant & equipment – development/producing assets within the same CGU and tested for impairment. Any impairment arising is recognised in the Income Statement for the year. Where there are no development assets within the CGU, the excess of the carrying amount of the exploration/appraisal asset over its recoverable amount is charged immediately to the Income Statement.

2.2 Intangible Exploration/Appraisal Assets continued

	Senegal US$m	UK & Norway US$m	International US$m	Total US$m
Cost				
At 1 January 2017	330.3	172.6	32.7	535.6
Foreign exchange	–	12.0	0.7	12.7
Additions	104.2	33.7	63.1	201.0
Unsuccessful exploration costs	–	(8.1)	(59.1)	(67.2)
At 31 December 2017	434.5	210.2	37.4	**682.1**
Foreign exchange	–	(0.6)	–	**(0.6)**
Additions	28.5	102.2	17.7	**148.4**
Disposals	–	(8.2)	–	**(8.2)**
Transfer to development/producing assets	–	(115.7)	–	**(115.7)**
Unsuccessful exploration costs	–	(62.6)	14.4	**(48.2)**
At 31 December 2018	**463.0**	**125.3**	**69.5**	**657.8**
Impairment				
At 1 January 2017	–	43.9	20.4	64.3
Foreign exchange	–	4.2	0.7	4.9
Unsuccessful exploration costs	–	–	(6.5)	(6.5)
At 31 December 2017 and 2018	**–**	**48.1**	**14.6**	**62.7**
Net book value				
At 31 December 2016	330.3	128.7	12.3	471.3
At 31 December 2017	434.5	162.1	22.8	619.4
At 31 December 2018	**463.0**	**77.2**	**54.9**	**595.1**

Senegal

All costs relating to Cairn's exploration and appraisal drilling in Senegal remain capitalised within intangible exploration/appraisal assets pending the Final Investment Decision expected during 2019.

Additions in the year, all funded through cash and working capital, include US$24.3m on exploitation and pre-development costs, with the remaining US$4.2m relating to exploration activities. The phased Field Development and Exploitation Plan has been submitted to the Government of Senegal, with first production targeted in 2022. Woodside have assumed the role of development operator as planned.

UK & Norway

In October 2018 approval was received, from the Norwegian Ministry of Petroleum and Energy, for the development and operation plan ('PDO') for the Nova development. Costs of US$115.7m were transferred from intangible exploration/appraisal assets to property, plant & equipment – development/producing assets during the year.

Additions in the current year of US$102.2m include US$25.9m incurred on Nova pre-development activities prior to re-classification as a development asset. Well costs incurred in the year were US$18.2m for the P1863 Agar-Plantain well and US$16.7m for the P2184 Ekland well in the UK North Sea. In the Norwegian North Sea US$17.1m was incurred for the PL682 Tethys well and US$6.2m for the PL790 Raudåsen well. Further costs of US$18.1m were incurred across the Group's other licences in the UK & Norway region. Total additions funded through cash and working capital were US$104.9m, offset by a release of US$2.7m of provisions for well abandonment costs.

The Tethys, Ekland and Raudåsen wells were unsuccessful and related costs of US$27.5m, US$14.6m and US$8.3m respectively were charged to the Income Statement in 2018. Remaining unsuccessful costs of US$12.2m include US$8.0m relating to the P2077 Sunbeam licence where the well commitment has been transferred and the joint operators plan to relinquish.

Portfolio turnover in the UK & Norway during the year has resulted in the addition of three new licences in Norway, with three relinquished and one disposed of; and six new licences in the UK, with two relinquished. Cairn has also entered into a farm-out agreement for a 40% non-operated interest in Licence P2312 containing the Chimera prospect. This is conditional upon regulatory consent.

The net book value of exploration/appraisal assets remaining capitalised at the year end of US$77.2m includes costs of US$35.9m relating to discovered resource across two fields: the current year Agar discovery (US$18.2m) and the Laverda discovery (US$17.7m), both in the UK North Sea. The remaining US$41.3m of costs have been incurred across further exploration licences in the UK and Norwegian North Sea, the Norwegian Sea and the Barents Sea.

Section 2 – Oil and Gas Assets and Operations continued

2.2 Intangible Exploration/Appraisal Assets continued

International
All additions in the year were funded through cash and working capital.

Ireland
During 2018 exploration additions of US$6.1m were incurred principally across two licences; LO16/18 and LO16/19. Unsuccessful costs of US$0.9m were incurred on other licences in Ireland. Total costs capitalised at the year end were US$14.8m.

Mexico
Three exploration wells are planned in shallow water in the Gulf of Mexico commencing in the second half of 2019. Two wells are planned in Block 9, with costs of US$11.9m incurred in 2018. The third well is planned to be drilled in Block 7, with costs of US$3.4m incurred during the year. A further US$2.6m was incurred on Block 15 during 2018. Total costs capitalised in Mexico were US$31.0m at the balance sheet date.

Western Sahara
Following the close out of licences, remaining accruals for US$15.4m have been released and are credited against additions and reverse prior-years' unsuccessful exploration costs charges. No costs remain capitalised.

Others
The remaining additions and carrying value within International assets of US$9.1m relates to licence acquisition and seismic costs on new licences.

Impairment review
At the year end, Cairn reviewed its intangible exploration/appraisal assets for indicators of impairment. Indicators were identified where future exploration plans remain uncertain or where the carrying value of assets relating to discovered resource may not be fully recovered through future development and production. Subsequent impairment tests performed did not identify any impairment.

2.3 Property, Plant & Equipment – Development/Producing Assets

Accounting policy
Costs
All costs incurred after the technical feasibility and commercial viability of producing hydrocarbons has been demonstrated and a development plan approved, are capitalised within development/producing assets on a field-by-field basis. Subsequent expenditure is capitalised only where it either enhances the economic benefits of the development/producing asset or replaces part of the existing development/producing asset. Any remaining costs associated with the part replaced are expensed.

Costs of borrowings relating to the ongoing construction of development/producing assets and facilities are capitalised during the development phase of the project. Capitalisation ceases once the asset is ready to commence production.

Net proceeds from any disposal, part-disposal or farm-down of development/producing assets are credited against the appropriate portion of previously capitalised cost. A gain or loss on disposal of a development/producing asset is recognised in the Income Statement to the extent that the net proceeds, measured at fair value, exceed or are less than the appropriate portion of the net capitalised costs.

Depletion
Depletion is charged on a unit-of-production basis, based on proved and probable reserves on a field-by-field basis. Fields within a single development area may be combined for depletion purposes. Where production commences prior to completion of the development, costs to be depleted include the costs-to-complete of the facility required to extract the volume of reserves recorded.

Impairment
Development/producing assets are reviewed for indicators of impairment at the balance sheet date. Indicators of impairment for the Group's development assets include:
- Downward revisions of reserve estimates;
- Increases in cost estimates for development projects; or
- A decrease in the oil price or other negative changes in market conditions.

Impairment tests are carried out on each development/producing asset at the balance sheet date where an indicator of impairment is identified. The test compares the carrying value of an asset to its recoverable amount based on the higher of its fair value less costs of disposal or value in use. Where the fair value less costs of disposal supports the carrying value of the asset, no value-in-use calculation is performed.

If it is not possible to calculate the fair value less costs of disposal of an individual asset, the fair value less costs of disposal is calculated for the CGU containing the asset and tested against the carrying value of the assets and liabilities in the CGU for impairment. Where an asset can be tested independently for impairment, this test is performed prior to the inclusion of the asset into a CGU for further impairment tests.

If the carrying amount of the asset or CGU exceeds its recoverable amount, an impairment charge is made.

Where there has been a charge for impairment in an earlier period that charge will be reversed in a later period where there has been a change in circumstances to the extent that the recoverable amount is higher than the net book value at the time. In reversing impairment losses, the carrying amount of the asset will be increased to the lower of its original carrying value or the carrying value that would have been determined (net of depletion) had no impairment loss been recognised in prior years.

2.3 Property, Plant & Equipment – Development/Producing Assets continued

Accounting policy continued

Decommissioning

At the end of the producing life of a field, costs are incurred in plugging and abandoning wells, removing subsea installations and decommissioning production facilities. Cairn recognises the full discounted cost of decommissioning as an asset and liability when the obligation to rectify environmental damage arises. The decommissioning asset is included within property, plant & equipment – development/producing assets with the cost of the related installation. The liability is included within provisions.

Revisions to the estimated costs of decommissioning which alter the level of the provisions required are also reflected in adjustments to the decommissioning asset. The amortisation of the asset is calculated on a unit-of-production basis based on proved and probable reserves. The amortisation of the asset is included in the depletion charge in the Income Statement and the unwinding of discount of the provision is included within finance costs.

	UK & Norway US$m	UK & Norway leased asset US$m	Total US$m
Cost			
At 1 January 2017	756.1	–	756.1
Foreign exchange	81.6	8.9	90.5
Additions	212.5	204.9	417.4
Re-measurement of right-of-use leased asset	–	(36.4)	(36.4)
At 31 December 2017	1,050.2	177.4	**1,227.6**
Foreign exchange	(6.8)	–	**(6.8)**
Additions	56.5	–	**56.5**
Transfer from exploration/appraisal assets	115.7	–	**115.7**
Re-measurement of right-of-use leased asset	–	(11.5)	**(11.5)**
At 31 December 2018	**1,215.6**	**165.9**	**1,381.5**
Depletion, amortisation and impairment			
At 1 January 2017	21.0	–	21.0
Foreign exchange	2.2	0.1	2.3
Depletion and amortisation	17.4	3.4	20.8
Reversal of impairment	(23.0)	–	(23.0)
At 31 December 2017	17.6	3.5	**21.1**
Depletion and amortisation	153.0	18.2	**171.2**
Impairment charge	166.3	–	**166.3**
At 31 December 2018	**336.9**	**21.7**	**358.6**
Net book value			
At 31 December 2016	735.1	–	735.1
At 31 December 2017	1,032.6	173.9	1,206.5
At 31 December 2018	**878.7**	**144.2**	**1,022.9**

Exploration/appraisal costs relating to Nova were transferred to development assets after testing for impairment – see note 2.2. During Q4 further development costs of US$13.6m were incurred in relation to the field.

The UK Kraken and Catcher fields ramped up production during 2018 with gross production of 30,300 and 43,000 boepd respectively. Combined depletion charges for the year were US$153.0m (2017: US$17.4m).

Kraken additions represent development activity spend of US$31.8m (2017: US$100.0m), all funded through cash and working capital, which was offset by a US$23.0m reversal of accruals following the successful renegotiation of the development drilling rig contract. During 2017, there was a further US$9.6m of non-cash decommissioning asset increases. The decommissioning asset remains unchanged in 2018.

On Catcher, additions funded through cash and working capital during the year were US$28.8m (2017: US$83.9m) with further non-cash additions of US$5.3m (2017: US$19.0m) relating to the increase in the Catcher decommissioning asset.

Section 2 – Oil and Gas Assets and Operations continued

2.3 Property, Plant & Equipment – Development/Producing Assets continued

Leased assets

During 2017, US$200.8m, the net present value of future minimum lease payments was recorded on the Balance Sheet for the Kraken FPSO, as a right-of-use producing asset. Further additions in 2017 of US$4.1m represent the recognition of a decommissioning asset associated with the FPSO. Subsequent to initial recognition, the lease agreement was amended which reduced the finance lease liability by US$36.4m and a corresponding reduction to the leased production asset.

In the second half of 2018, the lease agreement was further amended resulting in a reduction of the lease liability and right-of-use asset by US$11.5m – see note 3.4.

Amortisation of US$18.2m (2017: US$3.4m) was charged against the FPSO in the year.

Impairment review

At the year end, impairment tests were conducted on the Group's UK & Norway development/producing assets, resulting in an impairment charge of US$166.3m on the UK Kraken producing asset. No impairment arose on either Catcher or Nova. Sensitivity analysis on the Group's impairment charge can be found in note 2.7. The impairment on Kraken reflects performance of the field to the balance sheet date that is below expectations and has led to a reserves downgrade at the year end.

During 2017, impairments of US$23.0m were reversed due to an increase in the volume of oil reserves estimated to be recoverable through production on Catcher. All previous impairments recorded on the Catcher development/producing asset have been fully reversed.

2.4 Provisions – Decommissioning

	Exploration well abandonment US$m	Development/ producing assets US$m	Total US$m
At 1 January 2017	5.3	74.3	79.6
Foreign exchange	0.4	7.7	8.1
Unwinding of discount	-	2.2	2.2
(Released)/Provided in the year	(1.5)	32.7	31.2
At 31 December 2017	4.2	116.9	121.1
Foreign exchange	(0.2)	(6.7)	(6.9)
Unwinding of discount (note 4.6)	–	2.3	2.3
(Released)/Provided in the year	(2.7)	5.3	2.6
At 31 December 2018	**1.3**	**117.8**	**119.1**

The decommissioning provisions represent the present value of decommissioning costs related to the Kraken and Catcher development/producing assets. The provisions are based on operator cost estimates, subject to internal review and amendment where considered necessary and are calculated using assumptions based on existing technology and the current economic environment, with a discount rate of 2% per annum (2017: 2%). The reasonableness of these assumptions is reviewed at each reporting date to take into account any material changes required. No provision is required at the year end for development activities undertaken on Nova.

The decommissioning provisions represent management's best estimate of the obligation arising based on work undertaken at the balance sheet date. Actual decommissioning costs will depend upon the prevailing market conditions for the work required at the relevant time.

During the year, the decommissioning estimate for Catcher increased by US$5.3m. The Kraken decommissioning estimate remained unchanged.

The decommissioning of the Group's development/producing assets is forecast to occur between 2026 and 2040.

2.5 Capital Commitments

	31 December 2018 US$m	31 December 2017 US$m
Oil and gas expenditure:		
Intangible exploration/appraisal assets	**146.1**	63.2
Property, plant & equipment – development/producing assets	**80.1**	120.8
Contracted for	**226.2**	184.0

Capital commitments represent Cairn's share of obligations in relation to its interests in joint operations. These commitments include Cairn's share of the capital commitments of the joint operations themselves.

The capital commitments for intangible exploration/appraisal assets include US$35.5m for operations in the UK & Norway. The remaining US$110.6m includes US$38.7m of commitments in Senegal and US$71.9m on International assets, predominantly relating to Mexico.

2.5 Capital Commitments continued

The capital commitments for property, plant & equipment – development/producing assets relate principally to Nova and exclude the costs of the Kraken FPSO finance lease obligations, which are disclosed in note 3.4.

Cairn enters into operating leases both at a corporate level and together with partners through its interests in joint operations. Operating lease costs for items directly attributable to oil and gas exploration and development activities, such as drilling rigs, are capitalised within intangible exploration/appraisal assets or property, plant & equipment – development/producing assets as appropriate.

At the year end, Cairn had the following operating lease commitments relating to oil and gas exploration, appraisal and development activities including commitments for leases that are yet to commence. These amounts are also included in total capital commitments above and exclude operating lease commitments relating to producing activities.

	31 December 2018 US$m	31 December 2017 US$m
Intangible exploration/appraisal assets		
Not later than one year	**20.3**	3.1
After one year but no more than five years	**0.9**	–
	21.2	3.1
Property, plant & equipment – development/producing assets		
Not later than one year	**3.9**	34.5
After one year but no more than five years	**9.5**	10.3
	13.4	44.8

The Group has no further material capital expenditure committed at the balance sheet date.

2.6 Intangible Assets – Goodwill

Accounting policy

Cairn allocates the purchase consideration on the acquisition of a subsidiary to the assets and liabilities acquired on the basis of fair value at the date of acquisition. Any excess of the cost of acquisition over the fair value of the assets and liabilities is recognised as goodwill. Any goodwill arising is recognised as an asset and is subject to annual review for impairment. Goodwill is written off where circumstances indicate that the recoverable amount of the underlying CGU including the asset may no longer support the carrying value of goodwill. Any such impairment loss arising is recognised in the Income Statement for the year. Impairment losses relating to goodwill cannot be reversed in future years.

In testing for impairment, goodwill arising on business combinations is allocated from the date of acquisition to the group of CGUs representing the lowest level at which it will be monitored. Cairn's policy is to monitor goodwill at operating segment level. Currently, no operating segments containing goodwill are combined into segments for reporting.

The recoverable amount of a CGU, or group of CGUs, within the segment is based on its fair value less costs of disposal, using estimated cash flow projections over the licence period of the exploration assets risk-weighted for future exploration success. The key assumptions are sensitive to market fluctuations and the success of future exploration drilling programmes. The most likely factor which will result in a material change to the recoverable amount of the CGU is the result of future exploration drilling, which will determine the licence area's future economic potential.

	UK & Norway US$m	Total US$m
Net book value		
At 1 January 2017	118.9	118.9
Foreign exchange	9.3	9.3
At 31 December 2017	128.2	**128.2**
Foreign exchange	(2.4)	**(2.4)**
At 31 December 2018	**125.8**	**125.8**

Goodwill is fully allocated to the UK & Norway operating segment. At 31 December 2018, the goodwill impairment test did not identify any impairment.

Section 2 – Oil and Gas Assets and Operations continued

2.7 Impairment Testing Sensitivity Analysis

UK & Norway

At 31 December 2018, impairment tests were conducted on the Group's development/producing assets, on goodwill and on certain exploration/appraisal assets where indicators of impairment were identified.

The recoverable amount for all assets is based on fair value less costs of disposal estimated using discounted cash flow modelling. The key assumptions used in determining the fair value are often subjective, such as the future long-term oil price assumption, or the operational performance of the assets. With Cairn's two North Sea producing assets completing their first full year of production, reserve estimates have been updated to reflect the performance of fields to the balance sheet date, which have either been in line or exceeded pre-drill estimates for the Catcher asset but have been below expectations for the Kraken asset where performance issues with the FPSO have led to lower than expected daily production volumes. Following a downgrade of recoverable reserves in place at the year end, an impairment charge has been recorded on the Kraken asset of US$166.3m.

Cairn has run sensitivities on its long-term oil price assumption of US$70/boe, using alternate long-term price assumptions of US$65/boe and US$60/boe and a long-term assumption equal to the forward curve price at the end of the Group's three-year short-term assumption period (US$66.3/boe). These are considered to be reasonably possible changes for the purposes of sensitivity analysis.

There was no impairment of the Group's exploration/appraisal assets under any of the sensitivities run. The impact of these changes on the impairment recorded on the Group's development/producing assets together with the impairment that would arise on goodwill at the balance sheet date is summarised below:

Reduction in long-term oil price assumption to:	Forward Curve US$m	US$65 US$m	US$60 US$m
Impairment of development/producing assets	(205.9)	(218.6)	(272.7)
Impairment of goodwill	(18.5)	(23.0)	(42.6)
Total impairment	**(224.4)**	**(241.6)**	**(315.3)**

All impairment arising on development/producing asset sensitivities relates to the Kraken asset and the numbers above would replace the current impairment charge of US$166.3m.

The Group's proved and probable and contingent reserve estimates are based on P50 probabilities. P10 and P90 estimates are also produced but would not provide a reasonable estimate to be used in calculating the fair value of the Group's assets. The reserve estimates are incorporated into production profiles which include assumptions on the performance of the asset. Cairn's current assumptions imply a maximum uptime for producing assets of 85%-90%.

Further sensitivity analysis was performed on the Kraken asset reducing forecast production volumes and associated operating costs by 5% and 10%, as an approximation of a reduction in the uptime of the asset, which are seen as reasonably possible alternatives. With this reduced production, the following impairment charges would arise on development/producing assets (no impairment arises on goodwill):

Reduction in production volumes:	5% reduction in production US$m	10% reduction in production US$m
Impairment of development/producing assets	(219.9)	(271.3)

No sensitivities have been performed on Catcher production volumes where performance has been either in line or ahead of expectations. Therefore there is no evidence to suggest that reduced production levels would be a reasonably possible alternative assumption to apply.

Senegal

The Group's exploration assets in Senegal have been tested for impairment as a single cash generating unit. No impairment was recorded. Downside sensitivity analysis performed on reasonably possible changes in assumptions, including the Group's oil price assumption using the sensitivities above, did not identify an impairment.

Section 3 – Financial Assets, Working Capital and Long-term Liabilities

This section includes details of the Group's cash resources and the loans and borrowings drawn in the year, together with details of the finance lease liability recognised on the Kraken FPSO.

Key accounting issues in this section include the impact on Cairn's financial assets of the sale by the IITD of the majority of Cairn's shares in Vedanta Limited.

Significant accounting judgements in this section:

Lease classification of Kraken and Catcher FPSO lease agreements

Cairn is party to lease agreements on its North Sea producing assets for the charter of an FPSO on each licence. In determining whether each lease should be classified as either a finance lease or an operating lease, Cairn has considered the substance of both transactions individually, including the term of each lease in relation to the expected life of the asset and whether options to purchase the FPSO at the end of the lease term are reasonably certain to be exercised.

Cairn concluded that the lease agreement for the Kraken FPSO, where it is considered reasonably certain that the FPSO will be purchased by the joint operation toward the end of the initial term, should be classified as a finance lease. By contrast, the Catcher FPSO, with a shorter initial lease term and with no current expectation that the joint operation shall purchase the FPSO at the end of that lease term, was determined to be an operating lease, with substantially all risks and rewards of ownership remaining with the lessor.

The new accounting standard, IFRS 16 'Leases', is effective for Cairn's financial year beginning 1 January 2019 and will require the Catcher FPSO operating leased asset to be recognised on the Balance Sheet as a right-of-use asset. Further details are provided in note 1.1b.

Key estimates and assumptions in this section:

Measurement of Kraken FPSO finance lease

The measurement of the Kraken FPSO lease liability of US$200.8m on initial recognition was:

- Calculated from the date the lease agreement became effective which was on commencement of the lease in June 2017;
- Based on minimum lease commitments of 50% from the end of the 'ramp-up period' (the period from first oil production to the FPSO operating at contracted performance levels) in the original lease term, with no adjustment for a contingent Interim Production Period agreement;
- Inclusive of the final optional purchase price of US$56.6m;
- Inclusive of refunds due after commencement of the lease resulting from delays in delivering the FPSO; and
- Calculated using an interest rate based on the Group's incremental borrowing rate at commencement rather than a rate determined in the lease agreement which could not be readily determined.

Post initial recognition, adjustments of US$36.4m in 2017 and US$11.5m in 2018 have reduced the lease liability and right-of-use asset following amendments to the lease agreement. The revised liability is computed based on updated minimum lease commitments using an interest rate calculated at the date of the modification. Minimum lease payments were reduced to nil during an interim production period which ran from the end of the ramp-up period in 2017 through to September 2018 when the partners in the joint operation agreed a further amendment to the original lease agreement.

Section 3 – Financial Assets, Working Capital and Long-term Liabilities continued

3.1 Financial Assets at Fair Value through Profit or Loss

Accounting policy
The Group's financial assets at fair value through profit or loss represents listed equity shares and redeemable preference shares which are, or were, held at fair value (the quoted market price). Movements in the fair value of the financial assets during the year and gains or losses on derecognition of the assets are recognised directly in the Income Statement.

	Listed equity shares US$m	7.5% Redeemable preference shares of INR10 US$m	Total US$m
Fair value			
At 1 January 2017	656.1	–	656.1
Surplus on valuation of Cairn India Limited shares prior to merger	163.6	–	163.6
Disposal of shares in Cairn India Limited on merger	(819.7)	–	(819.7)
Addition of shares in Vedanta Limited on merger	671.8	114.9	786.7
Surplus on valuation of Vedanta Limited shares after merger	279.7	5.8	285.5
At 31 December 2017	951.5	120.7	**1,072.2**
Deficit on valuation of Vedanta Limited shares	(335.8)	(16.4)	**(352.2)**
Derecognition of shares in Vedanta Limited	(608.8)	(104.3)	**(713.1)**
At 31 December 2018	**6.9**	**–**	**6.9**

Following adoption of IFRS 9 on 1 January 2018, fair value movements during the period are recognised in the Income Statement and comparative information has been restated accordingly, see note 1.3. There is no change to the valuation of the asset following the adoption of IFRS 9.

In April 2017, Cairn India Limited underwent a merger with Vedanta Limited as a result of which the Group held both equity shares and redeemable preference shares in Vedanta Limited. Prior to that date the Group held a 9.8% stake in Cairn India Limited via equity shares, the market value of which at the time of the merger was US$819.7m. The market value of the Vedanta shares on the merger date was US$786.7m, resulting in a loss on derecognition of financial assets of US$33.0m.

Between May and October 2018 the IITD instructed sales of 99% of Cairn's equity shareholding in Vedanta Limited and seized the proceeds of US$608.8m. Shares were sold in multiple transactions at prices ranging from INR 286.83 (US$4.25) per share down to INR 229.68 (US$3.23) per share. The IITD also seized the proceeds of US$104.3m on the redemption of the preference shares in October 2018. Cairn is currently restricted from selling its remaining shares in Vedanta Limited. See note 5.5.

The remaining listed equity shares held at 31 December 2018 in the ordinary share capital of Vedanta Limited, listed in India, have by their nature no fixed maturity or coupon rate. These listed equity securities present the Group with an opportunity for return through dividend income and trading gains and are Level 1 assets measured at fair value.

3.2 Cash and Cash Equivalents

	31 December 2018 US$m	31 December 2017 US$m
Cash at bank	**9.1**	24.7
Money market funds	**57.2**	19.5
Short-term bank deposits	**–**	24.0
Tri-party repurchase transactions	**–**	18.3
Cash and cash equivalents	**66.3**	86.5

Cash and cash equivalents earn interest at floating rates. Short-term investments are made for varying periods ranging from instant access to unlimited, but generally not more than three months depending on the cash requirements of the Group.

Cairn invests surplus funds into high-quality liquid investments, including money market funds, short-term bank deposits and tri-party repurchase transactions ('repos'). Cairn limits the placing of such funds and other investments to banks or financial institutions that have ratings of A- or above from at least two of Moody's, Standard & Poor's or Fitch, unless a sovereign guarantee is available from a AAA-rated government. The counterparty limits vary between US$50.0m and US$200.0m depending on the ratings of the counterparty. No investments are placed with any counterparty with a five-year credit default swap exceeding 250 bps. Investments in money market liquidity funds are only made with AAA rated liquidity funds and the maximum holding in any single fund is 5% of total investments. Where investments are made in repos, collateral is fixed income debt securities with a minimum rating of BBB- which is managed by Euroclear. No adjustment is made to the counterparty credit rating to reflect the collateral held when assessing investment options. The Group's Treasury function manages the credit risk associated with such investments as detailed in note 3.10.

3.3 Loans and Borrowings

Cairn has two loan facilities at the year end; the Reserve-Based Lending ('RBL') facility available to several Group companies and the Norwegian Exploration Finance Facility ('EFF').

Reconciliation of opening and closing liabilities to cash flow movements:	2018 US$m	2017 US$m
Opening liability	**29.8**	–
Loans advanced recognised in the Cash Flow Statement		
RBL advances in the year	**85.0**	–
EFF advances in the year	**32.4**	29.2
	117.4	29.2
Loans repaid recognised in the Cash Flow Statement		
EFF repayments in the year	**(31.2)**	–
	(31.2)	–
Debt arrangement fees	**(10.4)**	–
Foreign exchange differences	**(3.9)**	0.6
Closing liabilities	**101.7**	29.8
Amounts due less than one year:		
Exploration Financing Facility	**26.2**	29.8
Amounts due greater than one year:		
Reserve-Based Lending facility	**75.5**	–
	101.7	29.8

Debt arrangement fees relate to both the RBL (US$9.5m) and the EFF (US$0.9m). Foreign exchange differences related entirely to the EFF.

RBL

The Group's RBL facility had cash drawings of US$85.0m at 31 December 2018, all advanced in the year.

Cairn has signed an extension to its existing RBL facility with a syndicate of international banks. The extension became effective on 20 December 2018 and brought the Nova asset into the borrowing base. Interest on outstanding debt is charged at the appropriate LIBOR for the currency drawn plus an applicable margin. The facility remains subject to bi-annual redeterminations, has a market standard suite of covenants and is cross-guaranteed by all Group companies' party to the facility. Debt is repayable in line with the amortisation of bank commitments over the period from 1 July 2022 to the extended final maturity date of 31 December 2025.

Under IFRS 9, the extension of the facility to December 2025 constitutes substantially different terms from the original and as such the financial liability relating to the original facility was extinguished on the date of the extension and replaced with a new liability based on the revised terms. This resulted in the acceleration of the amortisation of borrowing costs relating to the previous facility, resulting in a charge of US$15.1m to the Income Statement in the year.

Total commitments remain unchanged at US$575.0m under the revised facility, but an accordion feature permits additional future commitments of up to US$425.0m. The maximum available drawdown is currently forecast to be US$478.0m during the life of the facility. The facility can also be used for general corporate purposes and may also be used to issue letters of credit and performance guarantees for the Group of up to US$250.0m.

EFF

As at 31 December 2018, US$27.1m (NOK 233.8m) was drawn under the Norwegian EFF. The maximum available amount is currently forecast to be US$59.0m (NOK 446.3m). During the year, US$32.4m was drawn under the facility and US$31.2m repaid following receipt of the tax refund.

Cairn signed an extension to its existing EFF in December 2018. The extension became effective 31 December 2018 and increased total commitments to NOK 700.0m, with an accordion feature permitting additional future commitments of up to NOK 300.0m. The extension of this facility has no material impact on the results for the year.

Interest on outstanding debt is charged at the appropriate NIBOR plus an applicable margin. Debt is repayable by the final maturity date, which is now the earlier of 31 December 2022 or the date of receipt of the tax refund relating to exploration spend for 2021.

Details of guarantees granted under these facilities can be found in note 6.3.

Section 3 – Financial Assets, Working Capital and Long-term Liabilities continued

3.4 Finance Lease Liability

Accounting policy
Finance lease liabilities are measured at inception and recorded on commencement of the asset being brought in to use. Measurement is based on the lower of fair value of the asset or the net present value of minimum lease commitments. Lease payments made in excess of the minimum commitment are charged direct to the Income Statement as variable lease costs.

Lease payments are allocated between capital and interest based on the rate implicit in the lease agreement. Where this is not practical to determine, the Group's incremental borrowing rate is used.

Where there are changes subsequent to initial recognition, adjustments are made to both the lease liability and the capitalised asset. The interest rate used where the rate implicit in the lease is not determinable is updated at the date of the remeasurement.

	Minimum lease payments		Present value of minimum lease payments	
	31 December 2018 US$m	31 December 2017 US$m	31 December 2018 US$m	31 December 2017 US$m
Not later than one year	18.9	1.6	18.5	1.5
After one year but no more than five years	88.7	88.5	76.9	77.2
After five years	100.6	130.5	70.0	91.0
Total future minimum rentals payable	208.2	220.6	165.4	169.7
Less future finance charges	(42.8)	(50.9)		
Present value of minimum lease payments	165.4	169.7		

Reconciliation of opening and closing liability to cash flow movements:	2018 US$m	2017 US$m
Opening liability	169.7	–
Leases commenced and revisions to leases in the year:		
Finance lease liability recognised on commencement	–	200.8
Revision to finance lease liability	(11.5)	(36.4)
	(11.5)	164.4
Finance lease payments in the Cash Flow Statement:		
Lease payments	(30.1)	(6.0)
Variable lease payments through cost of sales (note 2.1)	22.7	6.0
	(7.4)	–
Finance lease reimbursements in the Cash Flow Statement:		
Reimbursements received from lessor	4.7	1.4
Other non-cash finance lease movements:		
Reimbursement due transferred to other receivables	2.1	1.4
Finance lease interest (note 4.6)	7.8	2.5
	9.9	3.9
Closing liability	165.4	169.7

On 20 December 2013, the Group entered into a bareboat charter agreement with Armada Kraken PTE Limited (a subsidiary of Bumi Armada) for the lease of an FPSO vessel for the Kraken field. The lease agreement became effective on commencement. This agreement is considered to be a finance lease and commenced on the date of first oil production on 23 June 2017.

Subsequent to initial recognition, the lease agreement was amended to incorporate an interim production period, commencing in November 2017 and which concluded on commencement of a second amendment agreement in September 2018. During this interim period, minimum lease payments were reduced to nil, with all lease payments dependent upon the availability and performance of the FPSO. The second amendment agreement provided additional compensation to the joint venture partners for ongoing performance issues with the FPSO and also introduced a zero hire rate effective after 72 hours of a period of shutdown.

Amounts due to Cairn from the lessor of US$3.0m (2017: US$1.4m) have been offset by the lessor against outstanding invoices disputed by the operator. Cairn fully expects to recover this amount, and the receivable is recognised within other receivables.

3.5 Trade and Other Receivables

Accounting policy

Trade receivables represent amounts due from the sale of oil and gas from the Group's UK producing assets and royalty payments receivable from producing fields in Mongolia. Other receivables primarily represent recharges to joint operations. Joint operation receivables are receivables that relate to Cairn's interest in its oil and gas joint arrangements, including Cairn's participating interest share of the other receivables of the joint arrangements themselves.

Trade receivables, other receivables and joint operation receivables, which are financial assets, are measured initially at fair value and subsequently recorded at amortised cost.

A loss allowance is recognised, where material, for expected credit losses on all financial assets held at the balance sheet date. Expected credit losses are the difference between the contractual cash flows due to Cairn, and the discounted actual cash flows that are expected to be received. Where there has been no significant increase in credit risk since initial recognition, the loss allowance is equal to 12-month expected credit losses. Where the increase in credit risk is considered significant, lifetime credit losses are provided. For trade receivables a lifetime credit loss is recognised on initial recognition where material.

Prepayments, which are not financial assets, are measured at historic cost.

	31 December 2018 US$m	31 December 2017 US$m
Trade receivables	**39.0**	0.2
Other receivables	**12.7**	12.7
Accrued income – underlift (see note 2.1)	**0.1**	5.6
Prepayments	**4.4**	18.8
Joint operation receivables	**35.0**	45.8
	91.2	83.1

Trade receivables are measured at amortised cost. Revenue is recognised at the point in time where title passes to the customer and payment becomes unconditional.

Following the draw-down on the RBL facility in 2018, facility fees of US$15.1m held in prepayments at 31 December 2017, were netted against the loan balance and then amortised over the useful life of the loan. See note 3.3.

US$50.6m of dividends receivable from Cairn India Limited were accrued to 31 December 2016. In April 2017, on the merger of Cairn India Limited with Vedanta Limited, a further dividend of US$52.4m was declared, which increased the total due to Cairn to US$104.7m, after exchange adjustments. Post declaration of the April 2017 dividend, the IITD has seized the funds due to Cairn from Vedanta Limited in part-settlement of the assessment order issued relating to the disputed retrospective tax demand. See note 5.5. Consequently a loss allowance was recognised in 2017 against the dividends receivable. No further dividend income due to Cairn, but seized by the IITD, has since been recognised. As at 31 December 2018, following the declaration of further dividends, the total of dividends receivable by Cairn, seized by the IITD is US$164.2m.

Where material Cairn has assessed the recoverability of trade and other receivables and no further loss allowance is recognised for expected credit losses on all financial assets held at the balance sheet date.

Reconciliation of opening and closing receivables to cash flow movements:	**2018 US$m**	2017 US$m
Opening trade and other receivables	**83.1**	113.7
Closing trade and other receivables	**(91.2)**	(83.1)
(Increase)/Decrease in trade and other receivables	**(8.1)**	30.6
Movements in joint operation receivables relating to investing activities	**(20.8)**	11.3
Movements in prepayments and other receivables relating to other non-operating activities	**(12.4)**	(53.9)
Foreign exchange	**(0.3)**	1.5
Trade and other receivables movement recorded in operating cash flows	**(41.6)**	(10.5)

The movements in joint operation receivables relating to investing activities, relate to the Group's share of the receivables of joint operations in respect of exploration, appraisal and development activities. Movements relating to production activities are included in amounts through operating cash flows.

Other non-operating cash flow movements for 2018 primarily relate to the release of prepaid facility fees. The 2017 non-cash movement mainly relates to the loss allowance recognised on the dividends receivable from Vedanta Limited.

The increase in trade and other receivables movements through operating cash flows primarily reflects the increase in trade receivables held at the year end.

Section 3 – Financial Assets, Working Capital and Long-term Liabilities continued

3.6 Derivative Financial Instruments

	31 December 2018 US$m	31 December 2017 US$m
Non-current assets		
Financial assets – hedge options maturing after one year	7.7	–
Current assets		
Financial assets – hedge options maturing within one year	36.7	–
Current liabilities		
Financial liabilities – hedge options maturing within one year	–	(1.4)
	44.4	(1.4)

Cairn currently has an active commodity price hedging programme in place to protect debt capacity and support committed capital programmes. Mark-to-market gains on oil price hedge options are recorded as financial assets at 31 December 2018.

At 31 December 2018 the Group had hedged ~2.7m barrels of 2019 Kraken and Catcher oil production, using collar structures. The weighted average floor and ceiling prices are US$67.07/bbl and US$83.08/bbl respectively (all prices quoted relate to dated Brent). In addition, at 31 December 2018, the Group had hedged ~500,000 barrels of 2020 oil production using a collar with floor and ceiling prices of US$67.50/bbl and US$87.50/bbl respectively. Further hedging of 2020 production has continued post the balance sheet date.

The collar structures have been designated as hedges for hedge accounting. Hedge effectiveness is assessed at commencement of the option and prospectively thereafter. At the year end, the closing Brent oil price was US$50.70/bbl, below the floor price of all collars entered into. Fair value movements on the cost of the option are recorded in the Statement of Comprehensive Income in the year, with fair value gains of US$43.9m being offset by a loss of US$7.8m (2017: nil) on options that matured in the year (2017 restated: fair value loss of US$2.9m). The loss on matured options is recycled to the Income Statement.

Effects of hedge accounting on financial position and loss for the year	31 December 2018	31 December 2017 (restated)
Volume of oil production hedged	3.2mmbbls	1.4mmbbls
Weighted average floor price of options	US$67.14	US$57.30
Weighted average ceiling price of options	US$83.81	US$67.50
Maturity dates	January 2019 – March 2020	January 2018 – December 2018
	US$m	US$m
Financial assets	44.4	–
Financial liabilities	–	(1.4)
Hedging gains/(loss) recorded in Other Comprehensive Income	36.1	(2.9)
Hedging loss recycled to Income Statement	7.8	–
Hedging loss recorded in Income Statement against revenue (note 2.1)	(7.8)	–

Sensitivity analysis has been performed on equity movements that would arise from changes in the year end oil price forward curve and the resulting impact on the fair value of open hedge options at the year end. The sensitivity analysis considers only the impact on line items directly relating to hedge accounting (being financial assets and fair value gains through Other Comprehensive Income) and not the impact of the change of other balance sheet items where valuation is based on the year end oil price, such as inventory.

	Increase/ (decrease) in equity US$m
Change in year end oil price forward curve	
Decrease of 10%	15.3
Decrease of 20%	31.5
Increase of 10%	(13.5)
Increase of 20%	(25.4)

3.7 Trade and Other Payables

Accounting policy
Trade payables and other creditors are non-interest bearing and are measured at fair value initially then amortised cost subsequently.

Joint operation payables are payables that relate to Cairn's interest in its oil and gas joint arrangements, including Cairn's participating interest share of the trade and other payables of the joint arrangements themselves. Where Cairn is operator of the joint operation, joint operation payables also include amounts that Cairn will settle to third parties on behalf of joint operation partners. The amount to be recovered from partners for their share of such liabilities are included within joint operation receivables.

	31 December 2018 US$m	31 December 2017 US$m
Trade payables	9.7	6.9
Other taxation and social security	1.4	2.5
Accruals and other payables	30.9	22.6
Joint operation payables	61.1	165.8
	103.1	197.8

Joint operation payables include US$16.4m (2017: US$68.8m), US$24.3m (2017: US$82.8m) and US$20.4m (2017: US$14.2m) relating to exploration/appraisal assets, development/producing assets and production costs respectively. The reduction in payables for exploration/appraisal assets includes the release of accruals relating to Western Sahara of US$15.4m (see note 2.2) and US$34.1m settlement of liabilities relating to Senegal following the 2017 drilling campaign. Joint operation payables on development/producing assets have reduced reflecting the completion of development activities on Kraken and Catcher and includes the release of rig accruals of US$23.3m.

Reconciliation of opening and closing payables to cash flow movements:	2018 US$m	2017 US$m
Opening trade and other payables	(197.8)	(123.0)
Closing trade and other payables	103.1	197.8
(Decrease)/Increase in trade and other payables	(94.7)	74.8
Movement in joint operation payables relating to investing activities	111.7	(67.1)
Movement in trade payables relating to investing activities	4.3	1.6
Movements in accruals and other payables relating to non-operating activities	(0.9)	1.2
Foreign exchange	2.3	(8.0)
Trade and other payables movement recorded in operating cash flows	22.7	2.5

Movements above for investing activities relate to exploration, appraisal and development activities through the Group's joint operations. Movements relating to production activities are included in amounts through operating cash flows.

The movement in trade and other payables recorded in the Cash Flow Statement through operating cash flows primarily arise on production activities in the UK North Sea.

Section 3 – Financial Assets, Working Capital and Long-term Liabilities continued

3.8 Deferred Revenue

Accounting policy
Deferred revenue, arising from a streaming agreement, is treated as cash received in advance of future oil sales. Revenue is recorded at the fair value of the consideration received and is amortised to the Income Statement on a unit-of-production basis, based on expected future volumes to which the stream provider is entitled.

FlowStream deferred revenue	Note	2018 US$m	2017 US$m
Opening deferred revenue		74.0	–
Fair value of proceeds received		–	74.6
Released during the year	2.1	(21.2)	(3.0)
Foreign exchange differences		–	2.4
Closing deferred revenue		52.8	74.0
Amounts expected to be released within one year		22.0	24.3
Amounts expected to be released after one year		30.8	49.7
		52.8	74.0

Deferred revenue of US$52.8m relates to the stream agreement with FlowStream. Under the initial stream agreement, Cairn received US$74.6m in June 2017 with FlowStream receiving 4.5% of future Kraken production. FlowStream's entitlement to Kraken production reduces to 1.35% after FlowStream achieves a 10% return and would further reduce to 0.675% if FlowStream achieves a 15% return.

3.9 Financial Instruments

Set out below is the comparison by category of carrying amounts and fair values of all the Group's financial instruments that are carried in the Financial Statements.

Financial assets

Carrying amount and fair value	31 December 2018 US$m	31 December 2017 US$m
Financial assets at amortised cost		
Cash and cash equivalents	66.3	86.5
Trade receivables	39.0	0.2
Other receivables	12.7	12.7
Joint operation receivables	35.0	45.8
Accrued underlift	0.1	5.6
Financial assets at fair value through profit or loss		
Listed equity and preference shares	6.9	1,072.2
Derivative financial instruments		
Financial assets – hedge options	44.4	–
	204.4	1,223.0

Due to the short-term nature of financial assets held at amortised cost, their carrying amount is considered to be the same as the fair value.

The Group fully impaired US$97.2m of dividends receivable from Vedanta Limited which were recognised up to April 2017 – see note 3.5. There are no other material impairments of financial assets.

All the Group's financial assets are expected to mature within one year other than hedge options which extend into 2020. See note 3.6.

3.9 Financial Instruments continued

Financial liabilities

Carrying amount and fair value	31 December 2018 US$m	31 December 2017 US$m
Financial liabilities at amortised cost		
Trade payables	9.7	6.9
Joint operation payables	61.1	165.8
Accruals and other payables	30.9	22.6
Loans and borrowings	101.7	29.8
Derivative financial instruments		
Financial liabilities – hedge options	–	1.4
	203.4	226.5

The fair value of financial assets and liabilities, other than the listed equity shares and hedge options, has been calculated by discounting the expected future cash flows at prevailing interest rates.

Maturity analysis
The expected financial maturity of the Group's financial liabilities at 31 December 2018 is as follows:

	<1 year US$m	1-2 years US$m	2-5 years US$m	>5 years US$m
Financial liabilities at amortised cost				
Trade payables	9.7	–	–	–
Joint operation payables	61.1	–	–	–
Accruals and other payables	30.9	–	–	–
Loans and borrowings	26.2	–	–	75.5
	127.9	–	–	75.5

As at 31 December 2017, all the Group's financial liabilities were expected to mature within one year.

Fair value

Cairn holds listed equity shares as a financial asset at fair value through profit or loss. The Group determines and discloses the fair value of these by reference to the quoted (unadjusted) prices in active markets for those shares at the measurement date. The equity shares and redeemable preference shares were previously recorded as available for sale financial assets. The measurement of the assets remains unchanged.

The Group also holds hedge options which are held at fair value determined by models which have observable inputs.

The Group held the following financial instruments measured at fair value:

	31 December 2018 US$m	31 December 2017 US$m
Assets measured at fair value – Level 1		
Financial assets at fair value through profit or loss		
Equity shares – listed	6.9	951.5
Redeemable preference shares – listed	–	120.7
Assets measured at fair value – Level 2		
Derivative financial instruments		
Financial assets – hedge options	44.4	–
Liabilities measured at fair value – Level 2		
Derivative financial instruments		
Financial liabilities – hedge options	–	(1.4)
	51.3	1,070.8

Section 3 – Financial Assets, Working Capital and Long-term Liabilities continued

3.10 Financial Risk Management: Objectives and Policies

The main risks arising from the Group's financial instruments are commodity price risk, liquidity risk, credit risk and foreign currency risk. The Board of Cairn Energy PLC, through the Treasury Sub-Committee, reviews and agrees policies for managing each of these risks and these are summarised below.

The Group's Treasury function and Executive Team as appropriate are responsible for managing these risks, in accordance with the policies set by the Board. Management of these risks is carried out by monitoring of cash flows, investment and funding requirements using a variety of techniques. These potential exposures are managed whilst ensuring that the Company and the Group have adequate liquidity at all times in order to meet their immediate cash requirements. There are no significant concentrations of risks unless otherwise stated. The Group does not enter into or trade financial instruments, including derivatives, for speculative purposes.

The primary financial assets and liabilities comprise cash, short and medium-term deposits, notice accounts, tri-party purchase transactions ('repos'), certificates of deposit, money market liquidity funds, listed equity shares, intra-group loans and other receivables and financial liabilities held at amortised cost. The Group's strategy has been to finance its operations through a mixture of retained profits, bank borrowings and other production related streaming agreements. Other alternatives such as equity issues and other forms of non-investment-grade debt finance are reviewed by the Board, when appropriate.

Commodity price risk

Commodity price risk arises principally from the Group's North Sea production, which could adversely affect revenue and debt availability due to changes in commodity prices.

The Group measures commodity price risk through an analysis of the potential impact of changing commodity prices. Based on this analysis and considering materiality and the potential business impact, the Group may choose to hedge.

Linked to production in the UK North Sea, the Group continued to hedge during 2018 in order to protect debt capacity and support committed capital programmes. Details of current hedging arrangements, together with oil price sensitivity analysis, can be found in note 3.6.

Transacted derivatives are designated, where possible, in cash flow hedge relationships to minimise accounting income statement volatility. The Group is required to assess the likely effectiveness of any proposed cash flow hedging relationship and demonstrate that the hedging relationship is expected to be highly effective prior to entering into a hedging instrument and at subsequent reporting dates.

Liquidity risk

The Group closely monitors and manages its liquidity risk using both short and long-term cash flow projections, supplemented by debt and equity financing plans and active portfolio management. Cash forecasts are regularly produced and sensitivities run for different scenarios including, but not limited to, changes in asset production profiles and cost schedules. The Group's forecasts show that the Group will be able to operate within its current debt facilities and have financial headroom for the 12 months from the date of approval of the 2018 Annual Report and Accounts.

Details of the Group's debt facilities can be found in note 3.3. The Group is subject to quarterly forecast liquidity tests as part of the RBL facility agreement. The Group has complied with the liquidity requirements of this test at all times during the year. The Group runs various sensitivities on its liquidity position on a quarterly basis throughout the year. Further details are noted in the Viability Statement provided on page 33.

The Group invests cash in a combination of money market liquidity funds, repos, notice accounts and term deposits with a number of international and UK financial institutions, ensuring sufficient liquidity to enable the Group to meet its short and medium-term expenditure requirements.

Credit risk

Credit risk arises from cash and cash equivalents, investments with banks and financial institutions, trade receivables and joint operation receivables.

Customers and joint operation partners are subject to a risk assessment using publicly available information and credit reference agencies, with follow-up due diligence and monitoring if required.

Investment credit risk for investments with banks and other financial institutions is managed by the Group Treasury function in accordance with the Board-approved policies of Cairn Energy PLC. These policies limit counterparty exposure, maturity, collateral and take account of published ratings, market measures and other market information. The limits are set to minimise the concentration of risks and therefore mitigate the risk of financial loss through counterparty failure.

Where investments are made in repos, collateral is fixed income debt securities with a minimum rating of BBB- which is managed by Euroclear. No adjustment is made to the counterparty credit rating to reflect the collateral held when assessing investment options.

It is Cairn's policy to invest with banks or other financial institutions that firstly offer the greatest degree of security in the view of the Group and, secondly the most competitive interest rates. Repayment of principal is the overriding priority and this is achieved by diversification and shorter maturities to provide flexibility. The Board continually re-assesses the Group's policy and updates as required.

At the year end the Group does not have any significant concentrations of bad debt risk. As at 31 December 2018 the Group had investments with 7 counterparties (2017: 9) to ensure no concentration of counterparty investment risk. The reduction in the number of counterparties holding investments reflects the Group's reduced cash balance. At 31 December 2018 all of these investments were instant access. At 31 December 2017 the investments ranged from instant access to one month.

The maximum credit risk exposure relating to financial assets is represented by the carrying value as at the balance sheet date.

3.10 Financial Risk Management: Objectives and Policies continued

Foreign currency risk

Cairn manages exposures that arise from non-functional currency receipts and payments by matching receipts and payments in the same currency and actively managing the residual net position.

The Group also aims where possible to hold surplus cash, debt and working capital balances in the functional currency of the subsidiary, thereby matching the reporting currency and functional currency of most companies in the Group. This minimises the impact of foreign exchange movements on the Group's Balance Sheet.

Where residual net exposures do exist and they are considered significant, the Company and Group may from time to time opt to use derivative financial instruments to minimise exposure to fluctuations in foreign exchange and interest rates.

The following table demonstrates the sensitivity to movements in the US$:GBP and US$:NOK exchange rates, with all other variables held constant, on the Group's monetary assets and liabilities. These are considered to be reasonably possible changes for the purposes of sensitivity analysis. The Group's exposure to foreign currency changes for all other currencies is not material.

	2018		2017	
	Effect on loss before tax US$m	Effect on equity US$m	Effect on loss before tax US$m	Effect on equity US$m
10% increase in GBP to US$	(55.1)	(14.2)	(45.2)	105.4
10% decrease in GBP to US$	55.1	14.2	(5.0)	(105.4)
10% increase in NOK to US$	0.1	13.2	–	15.3
10% decrease in NOK to US$	(0.1)	(13.2)	–	(15.3)

The reduced sensitivity to changes in the US$:GBP exchange rate on equity in 2018 is due to the change in functional currency of Nautical Petroleum Limited from GBP to US$, which took place on 1 January 2018. The effect on the loss before tax is due to inter-group loans between subsidiaries with differing functional currencies.

Section 4 – Income Statement Analysis

This section contains further Income Statement analysis, including details of employee benefits payable in the year and finance income and costs.

Significant accounting judgements in this section:
There are no significant accounting judgements in this section.

Key estimates and assumptions in this section:
There are several key estimates and assumptions used in the calculation of the Group's share-based payment charges. These are detailed in note 4.4 (b).

4.1 Segmental Analysis

Operating segments
Cairn's strategy is to create, add and realise value from a balanced portfolio within a self-funding business model.

Each business unit is headed by a regional director (a regional director may be responsible for more than one business unit) and the Board monitors the results of each segment separately for the purposes of making decisions about resource allocation and performance assessment.

Having completed the exploration and appraisal phase, the Senegal business is now geared towards development. The Final Investment Decision is expected to be approved by the Government during 2019, with first oil forecast in 2022. The UK & Norway business unit includes exploration activities in the North Sea, Norwegian Sea and Barents Sea and management of the Group's development and producing assets in the UK and Norwegian North Sea. The International business unit consists of all other regions where Cairn currently holds (or held during the year) exploration licences or conducted new venture activities, including Mexico, Ireland, South and Central America and West Africa.

The Other Cairn Energy Group segment exists to accumulate the activities and results of the Parent and other holding companies together with other unallocated expenditure and net assets/liabilities including amounts of a corporate nature not specifically attributable to any of the business units.

Non-current assets as analysed on a segmental basis consist of: intangible exploration/appraisal assets; property, plant & equipment – development/producing assets; intangible assets – goodwill; and other property, plant & equipment and intangible assets.

Geographical information: non-current assets	2018 US$m	2017 US$m
Senegal	**463.0**	434.5
UK	**941.9**	1,236.3
Norway	**160.3**	134.9
Goodwill (allocated to segment)	**125.8**	128.2
UK & Norway	**1,228.0**	1,499.4
Ireland	**14.8**	9.7
Mexico	**31.0**	13.1
Mauritania	**7.4**	–
Suriname	**1.7**	–
International	**54.9**	22.8
Other UK	**5.8**	8.2
Total non-current assets	**1,751.7**	1,964.9

4.1 **Segmental Analysis** continued

Operating segments continued

The segment results for the year ended 31 December 2018 are as follows:

	Senegal US$m	UK & Norway US$m	International US$m	Other Cairn Energy Group US$m	Group adjustment for segments US$m	Total US$m
Revenue	–	409.1	–	1.2	–	410.3
Cost of sales	–	(131.4)	–	–	–	(131.4)
Depletion and amortisation	–	(171.2)	–	–	–	(171.2)
Gross profit	–	106.5	–	1.2	–	107.7
Pre-award costs	–	(6.8)	(11.4)	(7.2)	–	(25.4)
Unsuccessful exploration costs	–	(62.6)	14.4	–	–	(48.2)
Loss on disposal of intangible exploration/ appraisal assets	–	(4.5)	–	–	–	(4.5)
Other operating income	–	–	5.0	–	–	5.0
Depreciation	–	(0.4)	–	(0.6)	–	(1.0)
Amortisation of other intangible assets	–	(0.4)	–	(2.3)	–	(2.7)
Other administrative expenses	–	(1.7)	(0.6)	(44.4)	–	(46.7)
Impairment of property, plant and equipment – development/producing assets	–	(166.3)	–	–	–	(166.3)
Operating (loss)/profit	–	(136.2)	7.4	(53.3)	–	(182.1)
Loss on derecognition of financial assets	–	–	–	(713.1)	–	(713.1)
Loss on fair value of financial assets	–	–	–	(352.2)	–	(352.2)
Interest income	0.1	0.1	–	1.5	–	1.7
Other finance income and costs	–	(21.9)	–	1.6	–	(20.3)
Profit/(Loss) before taxation	0.1	(158.0)	7.4	(1,115.5)	–	(1,266.0)
Tax credit	–	41.1	–	89.4	–	130.5
Profit/(Loss) for the year	0.1	(116.9)	7.4	(1,026.1)	–	(1,135.5)
Capital expenditure	28.5	147.7	17.7	0.9	–	194.8
Total assets	470.5	1,532.7	82.4	82.2	(166.3)	2,001.5
Total liabilities	16.9	585.6	4.6	170.6	(166.3)	611.4
Non-current assets	463.0	1,228.0	54.9	5.8	–	1,751.7

All revenue in the UK & Norway segment is attributable to the sale of oil and gas in the UK. 48.7% of the Group's sales of oil and gas are to a single customer that markets the crude on Cairn's behalf and delivers it to the ultimate buyers.

Cairn has a cash pooling arrangement which is used to offset overdrafts in some subsidiaries with cash balances in other subsidiaries. For segmental disclosure, the overdraft in each segment is shown as a liability and the offset is shown in the Group adjustment column.

All transactions between the segments are carried out on an arm's length basis, other than where inter-group loans are made interest-free or at interest rates below market value.

Section 4 – Income Statement Analysis continued

4.1 Segmental Analysis continued

The segment results for the year ended 31 December 2017 after restatement (see note 1.3) were as follows:

	Senegal US$m	UK & Norway US$m	International US$m	Other Cairn Energy Group US$m	Group adjustment for segments US$m	Total US$m
Revenue	–	22.9	10.4	–	–	33.3
Cost of sales	–	(5.9)	–	–	–	(5.9)
Depletion and amortisation	–	(20.8)	–	–	–	(20.8)
Gross (loss)/profit	–	(3.8)	10.4	–	–	6.6
Pre-award costs	–	(30.2)	(8.5)	(5.1)	–	(43.8)
Unsuccessful exploration costs	–	(8.1)	(52.6)	–	–	(60.7)
Depreciation	–	(0.6)	–	(0.5)	–	(1.1)
Amortisation of other intangible assets	–	–	–	(1.5)	–	(1.5)
Other operating income	–	–	–	2.4	–	2.4
Administrative expenses	–	(2.2)	0.3	(28.2)	–	(30.1)
Reversal of impairment of oil and gas assets	–	23.0	–	–	–	23.0
Operating loss	–	(21.9)	(50.4)	(32.9)	–	(105.2)
Loss on derecognition of financial assets	–	–	–	(33.0)	–	(33.0)
Gain on fair value of financial assets	–	–	–	449.1	–	449.1
Interest income	0.1	0.6	–	3.2	–	3.9
Other finance income and costs	(0.7)	0.7	–	62.7	–	62.7
Exceptional provision against finance income receivable	–	–	–	(104.7)	–	(104.7)
(Loss)/Profit before taxation	(0.6)	(20.6)	(50.4)	344.4	–	272.8
Tax credit	–	34.4	–	(89.4)	–	(55.0)
(Loss)/Profit for the year	(0.6)	13.8	(50.4)	255.0	–	217.8
Capital expenditure	104.2	416.8	63.1	8.6	–	592.7
Total assets	463.3	1,674.2	40.3	1,145.4	(67.7)	3,255.5
Total liabilities	34.6	592.4	26.5	175.2	(67.7)	761.0
Non-current assets	434.5	1,499.4	22.8	8.2	–	1,964.9

All revenue in the UK & Norway segment was attributable to the sale of oil and gas in the UK. 100% of the Group's sales of oil and gas were to a single customer that marketed the crude on Cairn's behalf and delivered it to the ultimate buyers.

Revenue in the international segment related to royalty interests receivable from producing fields in Mongolia.

4.2 Pre-Award Costs

	2018 US$m	2017 US$m
UK & Norway	6.8	30.2
International	11.4	8.5
Other	7.2	5.1
	25.4	43.8

Pre-award costs represent time costs, legal fees and other direct charges incurred in pursuit of new opportunities in regions which complement the Group's current licence interests and risk appetite.

2017 pre-award costs in the UK & Norway segment included US$23.2m costs for purchase of seismic data, mostly in the Barents Sea. The 2017 International segment costs included US$5.0m relating to Mexico.

4.3 Administrative Expenses

	2018 US$m	2017 US$m
Administrative expenses – recurring departmental expenses and corporate projects	27.5	24.6
Administrative expenses – Indian tax arbitration costs (see note 5.5)	22.9	8.1
	50.4	32.7

Operating lease commitments

Administration costs include operating lease charges for land and buildings representing the costs of Cairn's head office in Edinburgh and subsidiary offices globally. Operating lease commitments at the year end shown below are disclosed prior to recovery of costs through the Group's timewriting recharges.

	31 December 2018 US$m	31 December 2017 US$m
Administrative costs – land and buildings		
Not later than one year	2.9	1.8
After one year but no more than five years	8.6	5.5
After five years	–	2.0
	11.5	9.3

4.4 Employee Benefits: Staff Costs, Share-Based Payments and Directors' Emoluments

(a) Staff costs

	2018 US$m	2017 US$m
Wages and salaries	35.9	32.1
Social security costs	3.5	5.5
Other pension costs	2.2	2.1
Share-based payments charge	14.7	17.5
	56.3	57.2

Staff costs are shown gross before amounts recharged to joint operations. The share-based payments charge represents amounts in respect of equity-settled options.

The monthly average number of full-time equivalent employees, including Executive Directors and individuals employed by the Group working on joint operations, was:

	Number of employees	
	2018	2017
UK	148	139
Norway	32	26
Mexico	3	–
Senegal	5	5
Morocco	–	1
Group	188	171

(b) Share-based payments

Income Statement charge

	2018 US$m	2017 US$m
Included within gross staff costs:		
SIP	0.7	0.7
Share Options – Unapproved Plan	0.1	0.4
LTIP	11.7	11.5
Employee Share Scheme	2.2	4.9
	14.7	17.5

Section 4 – Income Statement Analysis continued

4.4 Employee Benefits: Staff Costs, Share-Based Payments and Directors' Emoluments continued

(b) Share-based payments continued

Details of those awards with a significant impact on the results for the current and prior year are given below together with a summary of the remaining awards.

Share-based payment schemes and awards details

The Group operates a number of share award schemes for the benefit of its employees.

The number of share awards made by the Company during the year is given in the table below together with their weighted average fair value ('WAFV') and weighted average grant or exercise price ('WAGP/WAEP'):

	2018 WAFV £	2018 WAGP/ WAEP £	2018 Number of shares	2017 WAFV £	2017 WAGP/ WAEP £	2017 Number of shares
SIP – free shares	2.16	2.16	251,415	2.10	2.10	242,097
SIP – matching shares	2.23	2.23	183,664	1.96	1.96	206,638
LTIP	0.98	2.11	7,828,845	1.09	2.17	7,231,230
Employee Share Scheme	1.26	2.09	1,131,222	1.81	2.08	2,682,204
			9,395,146			10,362,169

The awards existing under the LTIP with the weighted average grant price ('WAGP') are as follows:

	2018 Number	2018 WAGP £	2017 Number	2017 WAGP £
Outstanding at 1 January	28,567,535	1.95	27,071,190	1.89
Granted during the year	7,828,845	2.11	7,231,230	2.17
Exercised during the year	(5,005,033)	1.82	(4,336,496)	1.98
Lapsed during the year	(4,054,501)	1.88	(1,398,389)	1.81
Outstanding at 31 December	27,336,846	2.03	28,567,535	1.95
Weighted average remaining contractual life of outstanding awards		1.0 years		1.0 years

The awards existing under all share schemes other than the LTIP with the weighted average of the grant price, exercise price and notional exercise prices ("WAGP/WAEP") are as follows:

	2018 Number	2018 WAGP/WAEP £	2017 Number	2017 WAGP/WAEP £
Outstanding at 1 January	9,550,872	1.99	12,703,723	1.84
Granted during the year	1,566,301	2.12	3,130,939	2.07
Exercised during the year	(1,270,878)	1.96	(745,665)	2.03
Lapsed during the year	(251,097)	2.85	(5,538,125)	1.69
Outstanding at 31 December	9,595,198	1.99	9,550,872	1.99
Weighted average remaining contractual life of outstanding awards		7.3 years		7.9 years

Assumptions and inputs

The fair value of the Cairn Energy PLC LTIP scheme awards was calculated using a Monte Carlo model. The primary inputs to the model are consistent with those of the other share award schemes, though vesting percentages for LTIPs can be above 100%. For details on the vesting conditions attached to the LTIPs refer to the Directors' Remuneration Report on page 107.

The other Cairn Energy PLC share awards during 2018 were also valued using a Monte Carlo model. Awards in prior years were valued similarly. Cairn Energy PLC share options were exercised on a regular basis throughout the year, subject to the normal employee dealing bans imposed by the Company at certain times. The weighted average share price during the year was £2.14 (2017: £2.01).

The main inputs to the models include the number of options, share price, leaver rate, trigger points, discount rate and volatility.

- Leaver rate assumptions are based on past history of employees leaving the Company prior to options vesting and are revised to equal the number of options that ultimately vest.
- Trigger points are based on the length of time after the vesting periods for awards in 2018, further details are below.
- The risk-free rate is based on the yield on a zero-coupon government bond with a term equal to the expected term on the option being valued.
- Volatility was determined as the annualised standard deviation of the continuously compounded rates of return on the shares of a peer group of similar companies selected from the FTSE, as disclosed in the Directors' Remuneration Report on page 109, over a 3-year period to the date of award.

4.4 Employee Benefits: Staff Costs, Share-Based Payments and Directors' Emoluments continued

(b) Share-based payments continued

The following assumptions and inputs apply:

Scheme name	Volatility	Risk-free rate per annum	Lapse due to withdrawals per annum
SIP	0% – 29%	0% – 1.20%	0% – 5%
Approved and Unapproved Plans	29%	0.78% – 1.54%	5%
LTIP	29% – 37%	0.25% – 1.41%	0%
Employee Share Scheme	0% – 37%	0% – 1.30%	5%

Employee exercise trigger point assumptions

For 2018 awards, the assumption used for the Employee Share Scheme and the majority of the LTIP awards is that employees will exercise 35% in the year following the three-year anniversary of the award, and the same in the subsequent year, then 10% in each of the three subsequent years. The LTIP awards exercise assumption for Directors and more senior employees is that awards shall be exercised 50% at the end of the two-year holding period, being the five-year anniversary date, and the remaining 50% on the six-year anniversary date.

(c) Directors' emoluments and remuneration of key management personnel

Details of each Director's remuneration, pension entitlements, share options and awards pursuant to the LTIP are set out in the Directors' Remuneration Report on pages 87 to 113. Directors' remuneration, their pension entitlements and any share awards vested during the year are provided in aggregate in note 7.9.

Remuneration of key management personnel

The remuneration of the Directors of the Company and of the members of the management and corporate teams who are the key management personnel of the Group is set out below in aggregate.

	2018 US$m	2017 US$m
Short-term employee benefits	6.9	6.3
Post-employment benefits	0.4	0.4
Share-based payments	4.0	3.7
	11.3	10.4

In addition employer's national insurance contributions for key management personnel in respect of short-term employee benefits were US$0.9m (2017: US$0.9m).

Share-based payments shown above represent the cost to the Group of key management personnel's participation in the Company's share schemes, measured under IFRS 2.

During 2018, 1,460,908 shares awarded to key management personnel vested under the LTIP (2017: 2,526,328).

4.5 Finance Income

	2018 US$m	2017 US$m
Bank and other interest receivable	1.7	3.9
Other finance income	–	8.1
Dividend income	–	52.4
Gain on mark-to-market financial instruments	0.3	–
Exchange gain	17.2	12.6
	19.2	77.0

Section 4 – Income Statement Analysis continued

4.6 Finance Costs

	2018 US$m	2017 (restated) US$m
Loan interest and facility fee amortisation	24.4	0.6
Other finance charges	3.3	4.8
Loss on mark-to-market financial instruments	–	0.3
Unwinding of discount – provisions	2.3	2.2
Finance lease interest	7.8	2.5
	37.8	10.4

Loan interest and facility fee amortisation includes US$15.1m of facility fees relating to the RBL facilities, which are amortised over the expected useful life of each facility. Following the extension to the facility (see note 3.3) all costs of the initial facility have been amortised in the year.

4.7 Earnings per Ordinary Share

Basic and diluted earnings per share are calculated using the following measures of (loss)/profit:

	2018 US$m	2017 (restated) US$m
(Loss)/Profit and diluted (loss)/profit attributable to equity holders of the Parent	(1,135.5)	217.8

Refer to note 1.3 concerning the restatement of comparatives on adoption of IFRS 9.

The following reflects the share data used in the basic and diluted earnings per share computations:

	2018 '000	2017 '000
Weighted average number of shares	588,032	582,134
Less weighted average shares held by ESOP and SIP Trusts	(7,502)	(4,933)
Basic weighted average number of shares	580,530	577,201
Potential dilutive effect of shares issuable under employee share plans:		
LTIP awards	–	11,027
Approved and unapproved plans	–	346
Employee share awards	–	2,442
Diluted weighted average number of shares	580,530	591,016
Potentially issuable shares not included above:		
LTIP awards	27,337	16,665
Approved and unapproved plans	3,341	169
Employee share awards	4,174	842
Number of potentially issuable shares	34,852*	17,676

* 2018 potentially issuable shares were all anti-dilutive due to the loss for the year.

Section 5 – Taxation

This section highlights the Group's taxation policies, including both the accounting policy and wider strategy and governance policies. Analysis is provided of the Group's Income Statement tax charges and credits and deferred tax movements through the Balance Sheet.

This section also includes details of the contingent liability relating to the Indian Tax dispute where final international arbitration proceedings were held during the year.

Significant accounting judgements in this section:

Deferred taxation

At each reporting date, Cairn reviews unused tax losses and allowances to assess whether it is probable that taxable profits will be available against which the Group can utilise these losses and allowances and whether or not a deferred tax asset should be recognised.

At 31 December 2017 and 2018, Cairn concluded that no deferred tax asset should be recognised.

Contingent liability – Indian tax

Cairn continue to resolutely defend the Group's position in India following the tax assessment order and demand notice issued by the Indian Income Tax Department. Final hearings in the international arbitration proceedings were held in 2018 with the award of the arbitration panel expected in 2019. Cairn remains confident that the Group will be successful in the arbitration and therefore no provision is made in the Financial Statements for any amount demanded by the Indian Income Tax Department. Full details on the contingent liability are given in note 5.5.

Key estimates and assumptions in this section:

Future taxable profits used in determining whether it is appropriate to recognise a deferred tax asset are based on the key assumptions used in impairment testing, detailed in section 2. Downside sensitivities are used to determine the extent to which future taxable profits are probable.

Accounting policy

The total tax charge or credit represents the sum of current tax and deferred tax.

The current tax credit is based on the taxable loss for the year. Taxable profit or loss differs from net profit or loss as reported in the Income Statement because it excludes items of income or expense that are taxable or deductible in other years and it further excludes items that are never taxable or deductible. In Norway, tax refunds may be claimed on qualifying exploration activities and related overhead costs; the tax refundable is included as a tax credit in the period in which the qualifying expenditure is incurred. Where there are uncertain tax positions, Cairn assess whether it is probable that the position adopted in tax filings will be accepted by the relevant tax authority, with the results of this assessment determining the accounting that follows.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the Financial Statements and the corresponding tax bases used in the computation of taxable profit or loss.

Deferred tax assets are recognised for deductible temporary differences that exist only where it is probable that taxable profits will be generated against which the carrying value of the deferred tax asset can be recovered.

Deferred tax liabilities are recognised for all taxable temporary differences except in respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint operations where the timing of the reversal of the temporary difference can be controlled and it is probable that the temporary difference will not reverse in the foreseeable future.

A deferred tax asset or liability is not recognised if a temporary difference arises on 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 the accounting profit nor taxable profit or loss. However, where the recognition of an asset is associated with an interest in a joint operation, which applies to all Cairn's intangible exploration/appraisal asset and property, plant & equipment – development/producing asset additions, and Cairn is not able to control the timing of the reversal of the temporary difference or the temporary difference is expected to reverse in the foreseeable future, a deferred tax asset or liability shall be recognised.

Current and deferred tax is calculated using tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Section 5 – Taxation continued

5.1 Tax Strategy and Governance

The Group's tax strategy is fully aligned with its overarching business objectives and principles. In its approach to tax Cairn aims to be a good corporate citizen, managing its tax affairs in a transparent and responsible manner in all the jurisdictions in which it operates. Cairn is committed to having open and constructive relationships with all tax authorities.

For the past several years, the Group's UK activities have been focused on assets at exploration, appraisal and development stages with no production; but from 2017, receipt of production income recommenced. Due to the level of costs incurred in developing the fields which came on-stream in 2017, there are no taxable profits in 2018 and it is unlikely that any taxable profits will be realised for several years. Taxable profits in other jurisdictions, where Cairn's assets are at various stages of the value creation cycle, are also minimal and as a result there were no cash payments of corporation taxes made during the year (2017:US$nil).

Cairn undertakes tax planning that supports the business and reflects commercial and economic activity. The Group's policy is to not enter into any artificial tax avoidance schemes but to build and maintain strong collaborative working relationships with all relevant tax authorities based on transparency and integrity. The Group aims for certainty in relation to the tax treatment of all items; however, it is acknowledged that this will not always be possible, for example where transactions are complex or there is a lack of maturity in the tax regime in the relevant jurisdiction in which the Group is operating. In such circumstances Cairn will seek external advice where appropriate and ensure that the approach adopted in any relevant tax return includes full disclosure of the position taken.

5.2 Tax (Credit)/Charge on (Loss)/Profit for the Year

Analysis of tax (credit)/charge on (loss)/profit for the year

	2018 US$m	2017 (restated) US$m
Current tax:		
Norwegian tax refunds receivable	**(35.5)**	(39.9)
	(35.5)	(39.9)
Deferred tax (credit)/charge:		
Norwegian deferred tax (credit)/charge	**(5.6)**	9.0
Deferred tax on valuation of financial assets at fair value through profit or loss	**(89.4)**	96.5
Deferred tax liability on recognition of financial assets at fair value through profit or loss	**–**	(7.1)
Release of provision on carried interests due to change in tax rate	**–**	(0.7)
UK deferred tax credits realised	**–**	(2.8)
Total deferred tax (credit)/charge	**(95.0)**	94.9
Total tax (credit)/charge on (loss)/profit	**(130.5)**	55.0

The tax charge for 2017 has been restated following the adoption of IFRS 9 (see note 1.3) which has resulted in tax previously included in Other Comprehensive Income now included in the tax charge in the Income Statement.

The Norwegian deferred tax (credit)/charge includes a charge of US$4.4m (2017: charge of US$12.4m) on temporary differences in respect of non-current assets and a credit of US$10.0m (2017: credit of US$3.4m) on losses and other temporary differences.

Deferred tax movements through the Income Statement on the recognition and valuation of financial assets represent the deferred tax impact of movements in the year in respect of the shares that the Group holds in Vedanta Limited (Cairn India Limited prior to April 2017) detailed in note 3.1. The credit on the valuation of financial assets of US$89.4m results in a closing deferred tax liability of US$nil (2017: US$89.4m) relating to the financial assets held at 31 December 2018.

5.2 Tax (Credit)/Charge on (Loss)/Profit for the Year continued

Factors affecting tax (credit)/charge for the year

A reconciliation of the income tax (credit)/charge applicable to the (loss)/profit before income tax to the UK statutory rate of income tax is as follows:

	2018 US$m	2017 (restated) US$m
(Loss)/Profit before taxation	**(1,266.0)**	272.8
(Loss)/Profit before tax multiplied by the UK statutory rate of corporation tax of 19% (2017: 19.25%)	**(240.5)**	52.5
Effect of:		
Special tax rates and reliefs applying to oil and gas activities	**(62.9)**	(50.3)
Temporary differences not recognised	**46.8**	40.8
Disposal of financial assets held at fair value through profit or loss	**135.5**	–
Impact of exceptional provision against finance income	**–**	20.1
Other	**(9.4)**	(8.1)
Total tax (credit)/charge on (loss)/profit	**(130.5)**	55.0

The reconciliation shown above has been based on the average UK statutory rate of corporation tax for 2018 of 19% (2017: 19.25%).

The UK main rate of corporation tax is currently 19% (20% prior to 1 April 2017).

The applicable UK statutory tax rate applying to North Sea oil and gas activities is 40% (2017: 40%).

The applicable Norwegian rate applying to oil and gas activities is 78% (2017: 78%).

The effect of special tax rates and reliefs applying to oil and gas activities of US$62.9m (2017: US$50.3m) comprises US$52.0m (2017: US$38.1m) in respect of differences between the average UK statutory rate and the special rates applying to oil and gas activities in the UK & Norway, US$9.5m (2017: US$12.2m) in respect of the UK ring fence expenditure supplement ('RFES') claimed in the year, and US$1.4m (2017: US$nil) in respect of the uplift in Norway on capital development expenditure

The effect of temporary differences not recognised of US$46.8m (2017: US$40.8m) includes:
- a US$58.7m (2017: US$28.3m) movement in the year in respect of the unrecognised deferred tax asset on UK ring fence trading losses and the deferred tax liability on UK Ring Fence temporary differences in respect of non-current assets; and
- a US$2.4m (2017: US$(3.4)m) movement in respect of the carry forward of, or the use in the year of brought forward UK non-trading losses on which no deferred tax asset was recognised.

These are offset by
- a US$11.6m (2017: US$(5.8)m) movement in the unrecognised deferred tax asset brought forward at the start of the year in respect of the shares that the Group held in Vedanta Limited (previously Cairn India Limited); and
- a US$2.7m (2017: US$(10.1)m) movement in respect of unsuccessful exploration costs on which future tax relief is available but the expenditure has been expensed through the Income Statement.

5.3 Income Tax Asset

The income tax asset of US$32.8m (2017: US$38.4m) relates to cash tax refunds due from the Norwegian authorities on the tax value of exploration and other qualifying expenses incurred in Norway during the year. This refund will be received in 2019.

During 2018, a cash tax refund of US$36.8m (2017: US$30.4m) was received on prior year qualifying expenditure on exploration activities, new venture costs and administrative expenses. US$20.4m (2017: US$2.8m) of the refund is allocated against operating activities in the Cash Flow Statement where it relates to pre-award and administrative costs and the remaining US$16.4m (2017: US$27.6m) included as a refund in investing activities where it relates to costs initially capitalised within intangible assets – exploration/appraisal assets.

Section 5 – Taxation continued

5.4 Deferred Tax Assets and Liabilities

Reconciliation of movement in deferred tax assets/(liabilities):

	Temporary difference in respect of non-current assets US$m	Losses US$m	Other temporary differences US$m	Total US$m
Deferred tax assets				
At 1 January 2017	(205.6)	205.6	–	–
Exchange differences arising	(27.5)	27.5	–	–
Deferred tax credit through the Income Statement	(112.4)	115.9	–	3.5
Deferred tax movement on additions to development assets in respect of carried interests	(3.5)	–	–	(3.5)
At 31 December 2017	(349.0)	349.0	–	–
Deferred tax credit through the Income Statement	105.9	(105.9)	–	–
At 31 December 2018	**(243.1)**	**243.1**	**–**	**–**
Deferred tax liabilities				
At 1 January 2017	(74.3)	11.6	–	(62.7)
Exchange differences arising	(3.9)	0.6	–	(3.3)
Deferred tax charge through the Income Statement (restated)	(101.7)	3.1	0.2	(98.4)
At 31 December 2017	(179.9)	15.3	0.2	**(164.4)**
Exchange differences arising	5.1	(1.9)	(0.3)	**2.9**
Deferred tax credit through the Income Statement	85.0	8.5	1.5	**95.0**
At 31 December 2018	**(89.8)**	**21.9**	**1.4**	**(66.5)**

	31 December 2018 US$m	31 December 2017 US$m
Deferred tax liabilities analysed by country		
India	**–**	(89.4)
Norway	**(66.5)**	(75.0)
Total deferred tax liability	**(66.5)**	(164.4)

There is an unrecognised deferred tax asset of US$0.9m at the year end in respect of the shares the Group holds in Vedanta Limited as a result of the disposal/redemption of part of the shares, combined with the fall in the share price. In 2017 there was a deferred tax liability in respect of the shares of US$89.4m.

Recognised deferred tax assets
As at the balance sheet date, no net deferred tax asset or liability has been recognised in the UK (2017: no net deferred tax asset or liability recognised) as other temporary differences and tax losses are only recognised to the extent that they offset the UK deferred tax liability arising on business combinations and carried interests attributable to UK Ring-Fence trading activity, as it is not considered probable that future profits will be available to recover the value of the asset given the detrimental change in market conditions continuing to impact the oil and gas industry.

A deferred tax asset has been recognised in respect of Norwegian tax losses of US$21.9m (2017: US$15.3m) against a Norwegian deferred tax liability arising from business combinations and expenditure on assets for which current tax refunds have been claimed.

5.4 Deferred Tax Assets and Liabilities continued

Unrecognised deferred tax assets

No deferred tax asset has been recognised on the following as it is not considered probable that it will be utilised in future periods:

	31 December 2018 US$m	31 December 2017 US$m
UK fixed asset temporary differences	383.2	386.5
UK Ring Fence Corporation Tax trading losses	118.0	138.0
UK Supplementary Charge Tax trading losses	855.9	138.0
UK other Ring Fence temporary differences	117.8	116.9
UK non-Ring-Fence trading losses	3.7	3.7
UK non-Ring-Fence pre-trade losses	2.9	3.3
UK excess management expenses	318.7	66.3
UK non-trade deficits	52.7	297.7
UK temporary differences on share-based payments	10.6	33.9
UK other temporary differences	0.1	0.1
Senegal fixed asset temporary differences	5.3	3.2
Temporary differences on financial assets held at fair value through profit or loss	0.9	–
Greenlandic tax losses	1,088.3	1,143.1

The applicable UK statutory tax rate applying to North Sea oil and gas activities of 40% is made up of Ring Fence Corporation Tax (RFCT) of 30% and Supplementary Charge Tax (SCT) of 10%. At the balance sheet date the Group has US$928.3m RFCT losses which can be offset against RFCT of 30% on future Ring Fence trading profits and US$855.9m SCT losses which can be offset against SCT of 10% on future Ring Fence trading profits.

In 2017 the Group had US$1,010.5m of both RFCT and SCT losses carried forward to offset against RFCT and SCT on future Ring Fence trading profits.

A deferred tax asset has been recognised in respect of US$810.3m of the RFCT losses and none of the SCT losses, offsetting in full a deferred tax liability on Ring Fence temporary differences in respect of non-current assets. No deferred tax asset has been recognised on RFCT losses of US$118.0m, any of the SCT losses of US$855.9m, or on other ring fence temporary differences of US$117.8m (2017: US$116.9m) relating to decommissioning liabilities as it is not considered probable that these amounts will be utilised in future periods.

In 2017 a deferred tax asset was recognised in respect of US$872.5m of both RFCT and SCT losses, offsetting in full the deferred tax liability on Ring Fence temporary differences in respect of non-current assets. No deferred tax asset was recognised in 2017 on the remaining RFCT and SCT losses of US$138.0m.

The deferred tax liability recognised on UK Ring Fence fixed asset temporary differences of US$243.1m (2017: US$349.0m) includes temporary differences in respect of investment allowances (previously field allowances) of US$759.5m (2017: US$759.5m) on the Catcher and Kraken developments which will reduce future Ring Fence profits subject to supplementary charge.

Section 5 – Taxation continued

5.5 Contingent Liability – Indian Tax Assessment

In January 2014 Cairn UK Holdings Limited ('CUHL'), a direct subsidiary of Cairn Energy PLC, received notification from the IITD that it was restricted from selling its shareholding in Cairn India Limited ('CIL'); at that time the shareholding was approximately 10% and had a market valuation of INR 60bn (US$1.0bn). In that notification, the IITD claimed to have identified unassessed taxable income resulting from certain intra-group share transfers undertaken in 2006 (the '2006 Transactions'), such transactions having been undertaken in order to facilitate the IPO of CIL in 2007. The notification made reference to retrospective Indian tax legislation enacted in 2012, which the IITD was seeking to apply to the 2006 Transactions. Following the merger in April 2017 of CIL and Vedanta Limited, CUHL's shareholding in CIL was replaced by a shareholding of approximately 5% in Vedanta Limited issued together with preference shares.

In addition to attaching CUHL's shares in Vedanta Limited, the IITD seized dividends due to CUHL from those shareholdings totalling INR 11.4bn (US$164.2m). The IITD has also notified Cairn that a tax refund of INR 15.9bn (US$249.0m) due to CUHL as a result of overpayment of capital gains tax on a separate matter in 2011, has been applied as partial payment of the tax assessment of the 2006 Transactions. This tax refund was previously classified in Cairn's accounts as a contingent asset where the inflow of economic benefits was considered less than probable.

The IITD holds CUHL as an assessee in default in respect of tax demanded on the 2006 transactions, and as such has pursued enforcement against CUHL's assets in India. To date these enforcement actions have included attachment of CUHL's shareholding in Vedanta Limited and sale of 181,764,297 shares and seizure of the proceeds, seizure of the proceeds from the redemption of the preference shares, seizure of the US$164.2m dividends due to CUHL as described above, and offset of a US$249.0m tax refund due to CUHL in respect of another matter. To date 99% of CUHL's shareholding has been liquidated by the IITD (see note 3.1).

The assessment by the IITD of principal tax due on the 2006 Transactions is INR 102bn (US$1.6bn), plus applicable interest and penalties. Interest is currently being charged on the principal at a rate of 12% per annum from February 2017, although this is potentially subject to the IITD's Indian court appeal that interest should be back-dated to 2007. Penalties are currently assessed as 100% of the principal tax due, although this is subject to appeal by CUHL that penalties should not be charged given the retrospective nature of the tax levied.

The Group has legal advice confirming that the maximum amount that could ultimately be recovered from Cairn by the IITD, in excess of the assets already seized, is limited to the value of CUHL's assets, principally the remaining ordinary shares in Vedanta Limited.

In March 2015 Cairn filed a Notice of Dispute under the UK-India Bilateral Investment Treaty (the 'Treaty') in order to protect its legal position and seek restitution of the value effectively seized by the IITD in and since January 2014. Cairn's principal claims are that the assurance of fair and equitable treatment and protections against expropriation afforded by the Treaty have been breached by the actions of the IITD, which is seeking to apply retrospective taxes to historical transactions already closely scrutinised and approved by the Government of India. The IITD has attached and seized assets to try to enforce such taxation. Cairn's plea is therefore that the effects of the tax assessment should be nullified and that Cairn should receive recompense from India for the loss of value resulting from the 2014 attachment of CUHL's shares in CIL and the withholding of the tax refund, which together total approximately US$1.4bn.

The Treaty proceedings formally commenced in January 2016 following agreement between Cairn and the Republic of India on the appointment of a panel of three international arbitrators under the terms of the Treaty. Cairn's statement of claim was submitted to the arbitral tribunal in June 2016 and the Republic of India submitted its statement of defence in February 2017. Further submissions and document production took place in 2017 and 2018. The main evidentiary hearing of Cairn's claim under the Treaty took place in August 2018 in The Hague with a final hearing in December 2018. All formal hearings and submissions have now been made and the tribunal is in the process of drafting its award.

Based on detailed legal advice, Cairn remains confident that it will be successful in this arbitration and accordingly no provision has been made for any of the tax or penalties assessed by the IITD.

Section 6 – Capital Structure and Other Disclosures

This section includes details of Cairn's issued share capital and equity reserves.

Other disclosures include details on auditor's remuneration. Details on the Group's policy on the award of non-audit work to the auditor can be found in the Report of the Audit Committee.

Significant accounting judgements in this section:
There are no significant accounting judgements in this section.

Key estimates and assumptions in this section:
There are no key estimates or assumptions in this section.

6.1 Issued Capital and Reserves

Called-up share capital

	Number 231/169p ordinary '000	231/169p ordinary US$m
Allotted, issued and fully paid ordinary shares		
At 1 January 2017	577,236	12.4
Issued and allotted to ESOP trust	6,000	0.1
At 31 December 2017	**583,236**	**12.5**
Issued and allotted to ESOP trust	**5,650**	**0.1**
Issued and allotted for employee share options	**616**	**–**
At 31 December 2018	**589,502**	**12.6**

Share premium

	2018 US$m	2017 US$m
At 1 January	**488.0**	488.0
Arising on shares issued for employee share options	**1.7**	–
At 31 December	**489.7**	488.0

a) Shares held by ESOP Trust
The cost of shares held by the ESOP Trust at 31 December 2018 was US$11.7m (2017: US$1.9m). The number of shares held by the Trust at 31 December 2018 was 6,744,138 (2017: 2,704,555) and the market value of these shares was £10.1m/US$12.9m (2017: £5.8m/US$7.8m).

In anticipation of future vestings forecast under the Group's share-based payment schemes, during the year the Group purchased 4,322,325 (2017: 1,450,000) shares on market at a cost of US$13.6m (2017: US$3.9m). In addition 5,650,000 (2017: 6,000,000) new shares were allotted to the ESOP Trust. In 2018 5,532,742 (2017: 5,016,359) shares vested and 400,000 (2017: 400,000) shares were transferred from the ESOP Trust to the SIP trust.

b) Shares held by SIP Trust
The cost of shares held by the SIP Trust at 31 December 2018 was US$7.9m (2017: US$8.3m). The number of shares held by the Trust at 31 December 2018 was 2,195,930 (2017: 1,923,089) and the market value of these shares was £3.3m/US$4.2m (2017: £4.1m/US$5.6m).

c) Foreign currency translation
Unrealised foreign exchange gains and losses arising on consolidation of non-US$ functional currency subsidiary undertakings are taken directly to reserves. Foreign exchange differences arising on intra-group loans are not eliminated on consolidation; this reflects the exposure to currency fluctuations where the subsidiaries involved have differing functional currencies. These intra-group loans are not considered to be an investment in a foreign operation.

d) Merger and capital reserves
The merger reserve of US$255.9m arose in 2012 on shares issued by Cairn on the acquisition of Capricorn Norge AS. Capital reserves – non-distributable of US$40.8m, of which US$0.7m relates to Cairn Energy PLC, the Company, include non-distributable amounts arising on various Group acquisitions and the capital redemption reserve arising from the 2013/2014 share buy-back programme.

e) Hedge reserve
The hedge reserve at 31 December 2018 of US$41.0m (2017 restated: US$(2.9)m) has arisen on commodity price hedging, see note 3.6 for full details. The hedge reserve is used to recognise the effective portion of gains or losses on the derivatives that are designated for, and qualify as, cash flow hedges.

Section 6 – Capital Structure and Other Disclosures continued

6.2 Capital Management

The objective of the Group's capital management structure is to ensure that there remains sufficient liquidity within the Group to carry out committed work programme requirements. The Group monitors the long-term cash flow requirements of the business in order to assess the requirement for changes to the capital structure to meet that objective and to maintain flexibility. The Group is subject to quarterly forecast liquidity tests as part of the RBL facility. The Group has complied with the capital requirements of this test at all times during the year.

Cairn manages the capital structure and makes adjustments to it in light of changes to economic conditions. To maintain or adjust the capital structure, Cairn may buy back shares, make a special dividend payment to shareholders, return capital, issue new shares for cash, repay debt, put in place new debt facilities (see note 3.3) or undertake other such restructuring activities as appropriate. No significant changes were made in the objectives, policies or processes during the year ended 31 December 2018.

Capital and net debt, including finance lease liabilities, was as follows:

	31 December 2018 US$m	31 December 2017 US$m
Continuing operations		
Loans and borrowings	101.7	29.8
Finance lease liability	165.4	169.7
Less cash and cash equivalents	(66.3)	(86.5)
Net debt	200.8	113.0
Equity	1,390.1	2,494.5
Capital and net funds less payables	1,590.9	2,607.5
Gearing ratio	13%	4%

6.3 Guarantees

It is normal practice for the Group to issue guarantees in respect of obligations during the normal course of business.

Details of the Group's RBL facility can be found in note 3.3. On entering into the facility certain subsidiaries granted cross-guarantees to each of the lenders.

The Group also provided the following guarantees at 31 December 2018:
- Various guarantees under the borrowing facility for the Group's operational commitments for the current year of US$49.5m (2017: US$48.5m)
- Parent Company Guarantees for the Group's obligations under joint operating agreements and other contracts.

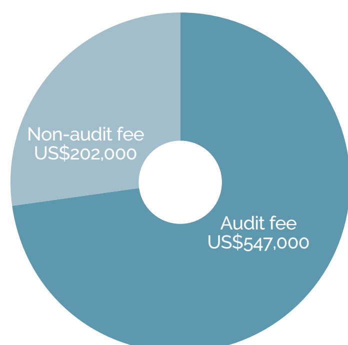
6.4 Auditor's Remuneration

	2018 US$'000	2017 US$'000
Fees payable to the Group's external auditor (including associate firms) for:		
Audit fees:		
Auditing of the Financial Statements of the Group and the Company	**315**	290
Auditing of the Financial Statements of subsidiaries	**232**	208
	547	498
Non-audit fees:		
Audit-related assurance services	**60**	120
Other assurance services relating to corporate finance transactions	**134**	103
Non-audit services not included above	**8**	105
	202	328
Total fees	**749**	826

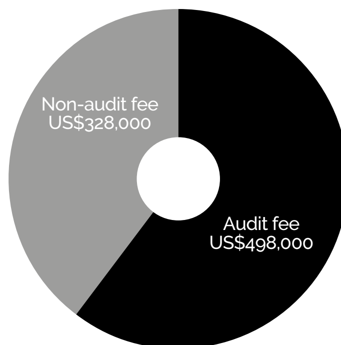
The Group has a policy in place for the award of non-audit work to the auditor which requires audit committee approval (see the Audit Committee Report on pages 80 to 84).

The split of audit fees to non-audit fees payable to the auditor is as follows:

2018 Fees to Auditor



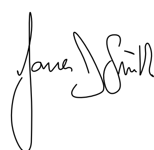
2017 Fees to Auditor



Company Balance Sheet
As at 31 December 2018

	Note	2018 US$m	2017 US$m
Non-current assets			
Derivative financial instruments	7.4	**7.7**	–
Investments in subsidiaries	7.7	**2,521.8**	2,812.0
		2,529.5	2,812.0
Current assets			
Cash and cash equivalents	7.2	**6.3**	0.6
Other receivables	7.3	**7.3**	18.5
Derivative financial instruments	7.4	**36.7**	1.4
		50.3	20.5
Total assets		**2,579.8**	2,832.5
Current liabilities			
Derivative financial instruments	7.4	**36.7**	1.4
Trade and other payables	7.5	**88.1**	67.7
		124.8	69.1
Non-current liabilities			
Derivative financial instruments	7.4	**7.7**	–
Total liabilities		**132.5**	69.1
Net assets		**2,447.3**	2,763.4
Equity			
Called-up share capital	6.1	**12.6**	12.5
Share premium	6.1	**489.7**	488.0
Shares held by ESOP/SIP Trusts	6.1a,b	**(19.6)**	(10.2)
Capital reserves – non-distributable	6.1d	**0.7**	0.7
Merger reserve	6.1d	**255.9**	255.9
Retained earnings:			
At 1 January		**2,016.5**	2,007.9
Loss for the year		**(318.9)**	(4.9)
Other movements in retained earnings		**10.4**	13.5
		1,708.0	2,016.5
Total equity		**2,447.3**	2,763.4

The Financial Statements on pages 170 to 177 were approved by the Board of Directors on 11 March 2019 and signed on its behalf by:



James Smith
Chief Financial Officer

Simon Thomson
Chief Executive

Company Statement of Cash Flows
For the year ended 31 December 2018

	Note	2018 US$m	2017 US$m
Cash flows from operating activities			
Loss before taxation		**(318.9)**	(4.9)
Share-based payments charge		**5.2**	5.9
Impairment of investment in subsidiary	7.7	**299.7**	–
Finance income		**(2.9)**	(11.2)
Finance costs		**7.2**	7.7
Other receivables movement	7.3	**(3.9)**	(2.3)
Trade and other payables movement	7.5	**20.4**	6.4
Net cash generated from operating activities		**6.8**	1.6
Cash flows from investing activities			
Interest received		**2.8**	8.0
Net cash flows from investing activities		**2.8**	8.0
Cash flows from financing activities			
Facility fees, arrangement fees and bank charges		**(7.1)**	(4.7)
Facility fees reimbursed by subsidiary undertaking	7.3	**15.1**	–
Cost of shares purchased	6.1a	**(13.6)**	(3.9)
Proceeds from exercise of share options		**1.7**	–
Net cash flows used in financing activities		**(3.9)**	(8.6)
Net increase in cash and cash equivalents		**5.7**	1.0
Opening cash and cash equivalents at beginning of year		**0.6**	(0.4)
Closing cash and cash equivalents	7.2	**6.3**	0.6

Company Statement of Changes in Equity
For the year ended 31 December 2018

	Equity share capital and share premium US$m	Shares held by ESOP/SIP Trusts US$m	Merger and capital reserves US$m	Retained earnings US$m	**Total equity US$m**
At 1 January 2017	500.4	(10.2)	256.6	2,007.9	2,754.7
Loss for the year	–	–	–	(4.9)	(4.9)
Total comprehensive expense	–	–	–	(4.9)	(4.9)
Share-based payments	–	–	–	17.5	17.5
Shares issued for cash	0.1	(0.1)	–	–	–
Exercise of employee share options	–	(3.9)	–	–	(3.9)
Cost of shares vesting	–	4.0	–	(4.0)	–
At 31 December 2017	500.5	(10.2)	256.6	2,016.5	**2,763.4**
Loss for the year	–	–	–	(318.9)	**(318.9)**
Total comprehensive expense	**–**	**–**	**–**	**(318.9)**	**(318.9)**
Share-based payments	–	–	–	14.7	**14.7**
Shares issued for cash	0.1	(0.1)	–	–	**–**
Cost of shares purchased	–	(13.6)	–	–	**(13.6)**
Exercise of employee share awards	1.7	–	–	–	**1.7**
Cost of shares vesting	–	4.3	–	(4.3)	**–**
At 31 December 2018	**502.3**	**(19.6)**	**256.6**	**1,708.0**	**2,447.3**

Section 7 – Notes to the Company Financial Statements

This section contains the notes to the Company Financial Statements.

The issued capital and reserves of the Company are largely consistent with Cairn Energy PLC Group Financial Statements. Refer to note 6.1 of the Group Financial Statements.

Key estimates and assumptions in this section:
Impairment testing of investments in subsidiaries
The Company's investment in Capricorn Oil Limited has been tested for impairment by comparison against the underlying value of exploration/appraisal and development/producing assets, held within the Capricorn Oil sub-group, based on fair value less costs of disposal. The fair values are calculated using the same assumptions as noted in section 2.

7.1 Basis of Preparation

The Financial Statements have been prepared in accordance with IFRS as adopted by the EU.

The Company applies accounting policies consistent with those applied by the Group. To the extent that an accounting policy is relevant to both Group and Company Financial Statements, refer to the Group Financial Statements for disclosure of the accounting policy. Material policies that apply to the Company only are included as appropriate.

Cairn has used the exemption granted under s408 of the Companies Act 2006 that allows for the non-disclosure of the Income Statement of the Parent company.

The net assets in the Company Balance Sheet remain in excess of the Group's total net assets as a result of historic impairment tests. The Group Balance Sheet reflects past impairments charged against UK & Norway exploration assets included in past business combinations. The Company's direct investment in subsidiaries have not suffered the same impairment as the fall in value of the UK & Norway assets is offset by the increase in the value of Senegal assets.

7.2 Cash and Cash Equivalents

	31 December 2018 US$m	31 December 2017 US$m
Cash at bank	6.3	0.6
	6.3	0.6

7.3 Other Receivables

	31 December 2018 US$m	31 December 2017 US$m
Prepayments	0.3	15.3
Amounts receivable from subsidiary undertakings	2.5	1.1
Other receivables	4.5	2.1
	7.3	18.5

Following the draw-down on the RBL facility in 2018, facility fees of US$15.1m held in prepayments at 31 December 2017, were recharged to the subsidiary entity drawing on the facility. The reimbursement of costs by the subsidiary is disclosed in the Cash Flow Statement.

7.4 Derivative Financial Instruments

	31 December 2018 US$m	31 December 2017 US$m
Non-current assets		
Financial assets – hedge options maturing after more than one year	7.7	–
Current assets		
Financial assets – hedge options maturing within one year	36.7	1.4
Current liabilities		
Financial liabilities – hedge options maturing within one year	(36.7)	(1.4)
Non-current liabilities		
Financial liabilities – hedge options maturing after more than one year	(7.7)	–
	–	–

Mark-to-market gains and losses on oil price options are recorded as financial assets and liabilities at 31 December 2018. Cairn Energy PLC enters into option contracts with third-parties and back-to-back contracts with a subsidiary on the same date, with the same terms. Therefore there are equal financial assets and liabilities. Details of Group hedging can be found in note 3.6.

Section 7 – Notes to the Company Financial Statements continued

7.5 Trade and Other Payables

	31 December 2018 US$m	31 December 2017 US$m
Trade and other payables	**0.2**	0.2
Amounts payable to subsidiary undertakings	**83.2**	64.3
Accruals	**4.7**	3.2
	88.1	67.7

7.6 Financial Instruments

Set out below is the comparison by category of carrying amounts and fair values of all the Company's financial instruments that are carried in the Financial Statements.

Financial assets: carrying amount and fair value	31 December 2018 US$m	31 December 2017 US$m
Financial assets at amortised cost		
Cash and cash equivalents	**6.3**	0.6
Amounts receivable from subsidiary undertakings	**2.5**	1.1
Other receivables	**4.5**	2.1
Derivative financial instruments		
Financial assets – hedge options	**44.4**	1.4
	57.7	5.2

All of the above financial assets are current and unimpaired, other than those relating to hedge options which extend into 2020 (2017: all less than one year). Due to the short-term nature of the financial assets held at amortised cost, their carrying amount is considered to be the same as the fair value.

Financial liabilities: carrying amount and fair value	31 December 2018 US$m	31 December 2017 US$m
Financial liabilities at amortised cost		
Trade and other payables	**0.2**	0.2
Accruals	**4.7**	3.2
Amounts payable to subsidiary undertakings	**83.2**	64.3
Derivative financial instruments		
Financial liabilities – hedge options	**44.4**	1.4
	132.5	69.1

The fair value of financial assets and liabilities, other than those relating to hedge options, has been calculated by discounting the expected future cash flows at prevailing interest rates. Hedge options are valued using models with observable inputs.

Maturity analysis

All of the Company's financial liabilities have a maturity of less than one year other than hedge options which extend into 2020 (2017: all less than one year).

Financial risk management: risk and objectives

The Company's financial risk management policies and objectives are consistent with those of the Group detailed in note 3.10.

The Company is not exposed to material foreign currency exchange rate risk.

7.7 Investments in Subsidiaries

Accounting policy

The Company's investments in subsidiaries are carried at cost less provisions resulting from impairment. In testing for impairment the carrying value of the investment is compared to its recoverable amount, being its fair value less costs of disposal. The fair value is based on the discounted future net cash flows of oil and gas assets held by the subsidiary, using estimated cash flow projections over the licence period. For exploration assets, estimated discounted cash flows are risk-weighted for future exploration success.

Discounted future net cash flows are calculated using an estimated short-term oil price based on the forward curve and long-term oil price of US$70 per boe (2017: long-term oil price of US$70 per boe), escalation for prices and costs of 2.0% (2017: 2.0%) and a discount rate of 10% (2017: 10%). Full details on the assumptions used for valuing oil and gas assets can be found in section 2.

	Subsidiary undertakings US$m	Total US$m
Cost		
At 1 January 2017	3,664.8	3,664.8
Additions	11.6	11.6
At 31 December 2017	3,676.4	3,676.4
Additions	9.5	9.5
At 31 December 2018	**3,685.9**	**3,685.9**
Impairment		
At 1 January and 31 December 2017	864.4	864.4
Impairment charge	299.7	299.7
At 31 December 2018	**1,164.1**	**1,164.1**
Net book value		
At 31 December 2016	2,800.4	2,800.4
At 31 December 2017	2,812.0	2,812.0
At 31 December 2018	**2,521.8**	**2,521.8**

Additions during the year of US$9.5m (2017: US$11.6m) relate to the Company's investment in Capricorn Oil Limited. These represent the award of share options of the Company to the employees of Capricorn Energy Limited (a principal subsidiary of Capricorn Oil Limited).

At the year end, investments in subsidiaries were reviewed for indicators of impairment and impairment tests conducted where indicators were identified. Following this review, the Company's investment in Capricorn Oil Limited was impaired to reflect the fair value of the underlying assets of the Capricorn Oil Group. A charge of US$299.7m was made to the Income Statement in 2018 (2017: US$nil). The fall in the value of the underlying assets of the Capricorn Oil Group reflects a fall in the value of UK producing assets and revised economic workings for the planned development of the Senegal exploration/appraisal asset.

Section 7 – Notes to the Company Financial Statements continued

7.7 Investments in Subsidiaries continued

The Company's subsidiaries as at the balance sheet date are set out below. The Company holds 100% of the voting rights and beneficial interests in the ordinary shares of the following companies:

Direct holdings

	Business	Country of incorporation	Country of operation	Registered office address
Capricorn Oil Limited	Holding company	Scotland	Scotland	50 Lothian Road, Edinburgh, EH3 9BY
Cairn UK Holdings Limited	Holding company	Scotland	Scotland	50 Lothian Road, Edinburgh, EH3 9BY

Indirect holdings – Capricorn Oil Limited Group

	Business	Country of incorporation	Country of operation	Registered office address
Agora Oil and Gas (UK) Limited	Exploration	Scotland	UK	50 Lothian Road, Edinburgh, EH3 9BY
Alba Resources Limited	Exploration	Scotland	UK	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Americas Limited	Holding company	Scotland	Scotland	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Americas Mexico S. de R.L. de C.V.	Exploration	Mexico	Mexico	Torre Mayor, Av. Paseo de la Reforma 505, Cuauhtémoc, CP 06500, CDMX, México
Capricorn Brasil Petróleo e Gás Ltda	Exploration	Brazil	Brazil	Praia de Botafogo 228, 16th floor, suite 1601 Zip Code 22250-040 Rio de Janeiro, Brazil
Capricorn Côte d'Ivoire Onshore Limited	Exploration	Scotland	Côte d'Ivoire	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Energy Limited	Holding company	Scotland	Scotland	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Energy Mexico S. de R.L. de C.V.	Exploration	Mexico	Mexico	Av. Paseo de la Reforma 295, Cuauhtémoc, CP 06500, CDMX, México
Capricorn Energy Search Limited	Exploration	Scotland	Scotland	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Exploration and Development Company Limited	Exploration	Scotland	Morocco	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Exploration Limited	Non-trading	Scotland	Non-trading	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Ghana Limited	Exploration	Scotland	Non-trading	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Greenland Exploration 1 Limited+	Holding company	Scotland	Scotland	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Greenland Exploration A/S	Exploration	Greenland	Greenland	Qullilerfik 2, 6, Box 1718, 3900 Nuuk, Greenland
Capricorn Ireland Limited	Exploration	Scotland	Republic of Ireland	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Malta Limited	Exploration	Scotland	Malta	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Mauritania Limited	Exploration	Scotland	Mauritania	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Nicaragua BV	Exploration	The Netherlands	Non-trading	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Norge AS	Exploration and development	Norway	Norway	Jåttåvågveien 7, 4020 Stavanger, Norway
Capricorn Oil and Gas Tunisia GmbH	Non-trading	Switzerland	Non-trading	Gubelstrasse 5, Postfach 1524, CH-6301 Zug, Switzerland
Capricorn Petroleum Limited	Holding company	Scotland	Scotland	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Resources Management Limited	Royalty interest	Scotland	Mongolia	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Senegal Limited	Exploration	Scotland	Senegal	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Spain Limited	Exploration	Scotland	Spain	50 Lothian Road, Edinburgh, EH3 9BY
Capricorn Suriname BV	Exploration	The Netherlands	Suriname	50 Lothian Road, Edinburgh, EH3 9BY
Nautical Holdings Limited+	Holding company	England	UK	Wellington House 4th Floor, 125 The Strand, London, WC2R 0AP
Nautical Italia SRL^	Non-trading	Italy	Italy	Piazza Pietro Merolli n. 2, 00151 Roma, Italy
Nautical Petroleum AG	Production	Switzerland	UK	Baarerstrasse 8, 6300 Zug, Switzerland
Nautical Petroleum Limited	Exploration and Production	England	UK	Wellington House 4th Floor, 125 The Strand, London, WC2R 0AP
Transunion Petroleum Italia SRL^	Non-trading	Italy	Italy	Piazza Pietro Merolli n. 2, 00151 Roma, Italy
UAH Limited+	Holding company	England	UK	Wellington House 4th Floor, 125 The Strand, London, WC2R 0AP

+ Exempt from audit under Section 480 of the Companies Act
^ Company is in the process of liquidation

7.8 Capital Management

Capital and net debt were made up as follows:

	31 December 2018 US$m	31 December 2017 US$m
Amounts payable to subsidiary undertakings	83.2	64.3
Less cash and cash equivalents	(6.3)	(0.6)
Net debt	76.9	63.7
Equity	2,447.3	2,763.4
Capital and net debt	2,524.2	2,827.1
Gearing ratio	3%	2%

7.9 Related Party Transactions

The Company's subsidiaries are listed in note 7.7. The following table provides the Company's balances which are outstanding with subsidiary companies at the balance sheet date:

	31 December 2018 US$m	31 December 2017 US$m
Amounts payable to subsidiary undertakings	(83.2)	(64.3)
Amounts receivable from subsidiary undertakings	2.5	1.1
	(80.7)	(63.2)

The amounts outstanding are unsecured and repayable on demand and will be settled in cash.

The following table provides the Company's transactions with subsidiary companies recorded in the loss for the year:

	2018 US$m	2017 US$m
Amounts invoiced to subsidiaries	37.2	14.0
Amounts invoiced by subsidiaries	5.8	4.7

Directors' remuneration

The remuneration of the Directors of the Company is set out below. Further information about the remuneration of individual Directors is provided in the audited part of the Directors' Remuneration Report on pages 87 to 113.

	2018 US$m	2017 US$m
Emoluments	3.4	3.4
Share-based payments	2.4	3.6
	5.8	7.0

Pension contributions were made on behalf of Directors in 2018 of US$0.2m (2017: US$0.2m).

820,131 LTIP share awards to Directors vested during 2018 (2017: 1,438,565). Share-based payments shown above represent the market value at the vesting date of these awards.

Other transactions

During the year the Company did not make any purchases in the ordinary course of business from an entity under common control (2017: US$nil).

Licence List
As at 31 December 2018

Country	Asset name	Licence	Block(s)	Operator	Cairn interest (%)
Republic of Ireland					
Republic of Ireland	SPANISH POINT	FEL 2/04	35/8, 35/9	CAPRICORN IRELAND	38
Republic of Ireland	DRUID DROMBEG	FEL 2/14	52/5, 52/10, 52/15, 53/1, 53/6, 53/11	TOTAL E&P IRELAND	30
Republic of Ireland	16/18	LO 16/18	34/29, 34/30, 35/26, 43/4, 43/5, 44/1	CAPRICORN IRELAND	100
Republic of Ireland	16/19	LO 16/19	44/6	CAPRICORN IRELAND	70
Latin America					
Mexico	BLOCK 7	CNH-R02-L01-A7. CS-2017	7	ENI	30
Mexico	BLOCK 9	CNH-R02-L01-A9. CS-2017	9	CAPRICORN ENERGY MEXICO	65
Mexico	BLOCK 15	CNH-R03-L01-G-TMV-01-2018	15	CAPRICORN ENERGY MEXICO	50
Suriname	BLOCK 61	BLOCK 61	61	CAPRICORN SURINAME B.V.	100
Senegal					
Senegal	RUFISQUE OFFSHORE, SANGOMAR OFFSHORE, SANGOMAR DEEP OFFSHORE	SANGOMAR-RUFISQUE	N/A	Woodside Pet Ltd (35%)	40
UK and Norway					
UK	KRAKEN	P1077	9/2b	Enquest Heather Ltd (70.5%)	29.5
UK	CATCHER	P1430	28/9a	Premier Oil UK Ltd (50%)	20
UK	AGAR-PLANTAIN	P1763	9/9d, 9/14a	Apache Beryl Ltd (50%)	25
UK	LAVERDA	P2070	28/4a	Premier Oil UK Ltd (54%)	36
UK	CHIMERA	P2312	3/16a, 3/17a	Nautical Petroleum	60*
UK	WOODSTOCK	P2379	22/11b, 22/12b, 22/16b, 22/17c	Nautical Petroleum	40
UK	MANHATTAN	P2381	22/13c, 22/18d	Nautical Petroleum	40
UK	PEPPERMINT	P2393	28/10a	Nautical Petroleum	60
UK	BONNEVILLE	P2453	28/9c	PMO UK Ltd (50%)	20
UK	LAVERDA TEMPLATE	P2454	28/9d	PMO UK Ltd (54%)	36
Norway	TERAKO UPDIP	PL248J	Part of 35/11	Capricorn Norge AS (60%)	60
Norway	SKARFJELL SOUTH	PL378	35/12	Wintershall Norge AS (75.76%)	24.24
Norway	NOVA	PL418	35/8, 35/9	Wintershall Norge AS (35%)	20
Norway	TETHYS	PL682	35/9	Spirit Energy AS (30%)	30
Norway	INCA	PL722	7322/6, 7323/4	Equinor Energy AS (45%)	15
Norway	OFTENASEN	PL748	34/2, 34/5	Aker BP ASA (50%)	20
Norway	OFTENASEN EXTENSION	PL748B	34/5	Aker BP ASA (50%)	20
Norway	LYNGHAUG	PL758	6508/1, 6608/10, 6608/11	Capricorn Norge AS (50%)	50
Norway	RAUDASEN	PL790	34/2, 34/5	Aker BP ASA (30%)	25
Norway	GRANNES	PL800	6508/1, 6508/2	Capricorn Norge AS (50%)	50
Norway	HAVHEST	PL828	36/4	Equinor Energy AS (50%)	40
Norway	DOMPAP	PL840	6608/7, 6608/8	Equinor Energy AS (40%)	20
Norway	GODALEN	PL842	6608/10, 6608/11, 6608/12	Capricorn Norge AS (40%)	40
Norway	BYHAUGEN	PL844	6609/5, 6609/6, 6609/8, 6609/9	INEOS E&P Norge AS (40%)	20
Norway	ROSSI	PL853	7322/9	Lundin Norway AS (60%)	40
Norway	FLIPPER	PL854	7322/3, 7323/1	Equinor Energy AS (40%)	40
Norway	HENG	PL875	29/9, 30/7	Suncor Energy Norge AS (60%)	40
Norway	HENG EXTENSION	PL875B		Suncor Energy Norge AS (60%)	40
Norway	SEIL	PL877	30/3, 31/1,4,5	Capricorn Norge AS (60%)	60
Norway	DUNCAN	PL880	35/8	Capricorn Norge AS (60%)	60
Norway	AGAT	PL884	35/3	Wellesley Petroleum AS (40%)	30
Norway	STJERNESKUDD	PL885	35/3, 36/1	Equinor Energy AS (30%)	30
Norway	CARAMEL	PL927	35/7, 35/10	Wintershall Norge AS (50%)	50
Norway	SATURN EXTENSION	PL928		Spirit Energy AS (50%)	50
Norway	SUNSTONE	PL943	6507/1, 6507/2, 6607/10, 6607/11, 6607/12	Equinor Energy AS (40%)	30

* Subject to regulatory approval following farm-down.

Group Reserves and Resources
As at 31 December 2018

Net 2P reserves

	Reserves year end 2017 mmboe	Net 2018 production mmboe	Revisions year end 2018 mmboe	Reserves year end 2018 mmboe
UK	53.8	(6.4)	(6.4)	41.1
Norway	–	–	15.2	15.2
Total	**53.8**	**(6.4)**	**8.8**	**56.3**

Net 2C resources

	Resources year end 2017 mmboe	Net 2018 production mmboe	Revisions year end 2018 mmboe	Resources year end 2018 mmboe
Senegal	190.8	–	(4.5)	186.3
UK	3.0	–	(0.5)	2.5
Norway	21.3	–	(21.3)	–
Total	**215.1**	**–**	**(26.3)**	**188.8**

For more information please see Operational Review on page 28.

Glossary

The following are the main terms and abbreviations used in this report:

1P	Proved reserves, denotes low estimate scenario
2P	Proved plus probable reserves, denotes best estimate scenario
3P	Proved plus probable plus possible reserves, denotes high estimate scenario
1C	Denotes low estimate scenario of contingent resources
2C	Denotes best estimate scenario of contingent resources
3C	Denotes high estimate scenario of contingent resources
P90	Value with a 90% probability of being equal or exceeded, high degree of certainty
P50	Value with a 50% probability of being equal or exceeded, medium degree of certainty
P10	Value with a 10% probability of being equal or exceeded, low degree of certainty
3Rs	Cairn core values: Respect, Relationships and Responsibility
ABC	anti bribery and corruption
AQI	Audit Quality Inspection
bbl	barrel
bbls	barrels
boe	barrels of oil equivalent
bopd	barrels of oil per day
boepd	barrels of oil equivalent per day
bps	basis points
bn	billion
BST	British Standard Time
Capex	capital expenditure
CDS	credit default swap
CEO	Chief Executive Officer
CERT	Crisis and Emergency Response Team
CFO	Chief Financial Officer
CIL	Cairn India Limited
COO	Chief Operating Officer
COP21	2015 Paris Climate Conference
CR	corporate responsibility
CRMS	Corporate Responsibility Management System
CSL	Capricorn Senegal Limited
CSR	corporate social responsibility
CUHL	Cairn UK Holdings Limited
ERP	enterprise resource platform
EU	European Union
EY	Ernst & Young LLP
E&A	exploration and appraisal
ESIA	Environmental and Social Impact Assessment
ESOP	employee share option plan
EITI	Extractive Industries Transparency Initiative
FAN	FAN oil discovery, Senegal
FDP	field development plan
FEED	front end engineering design
FlowStream	FlowStream Thruer Ltd
FPSO	floating production storage and offloading facility
FRC	Financial Reporting Council
Ft	foot
G&G	geology and geophysics
GBP	Great British Pound
GHGs	greenhouse gases
GRI	Global Reporting Initiative
H1/2	first/second half (of a year)
HR	Human Resources
HRIA	human rights impact assessment
HSSE	health, safety, security and environment
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
IMT	Incident Management Team
INR	Indian rupee
IOGP	International Association of Oil and Gas Producers
IPIECA	International Petroleum Industry Environmental Conservation Association
IS	Information Systems
IASB	International Accounting Standards Board
IFC	International Finance Corporation
IIP	Investors in People
IITD	Indian Income Tax Department
IP	investment proposal
IPCC	intergovernmental panel on climate change conference
INDC	intended national determined contribution
IPO	initial public offering
ITT	invitation to tender
JV	joint venture
KPI	key performance indicator
LATAM	Latin America
LIBOR	London Interbank Offered Rate
LTIF	lost time injury frequency
LTIP	long term incentive plan
m	million
mmbbls	million barrels of oil
mmboe	million barrels of oil equivalent
mmbopd	million barrels of oil per day
MSA	Modern Slavery Act
MSG	multi stakeholder group
MT	Management Team
NIBOR	Norwegian Interbank Offered Rate
NOK	Norwegian Krone
opex	operating expenditure
OSPAR	Oslo/Paris convention (for the Protection of the Marine Environment of the North-East Atlantic)
PDP	project delivery process
PSC	Production Sharing Contract
PwC	PricewaterhouseCoopers LLP
PDMR	person discharging managerial responsibility
RBL	reserves based lending
RMC	Risk Management Committee
SDGs	United Nations sustainable development goals
SIP	share incentive plan
SNE	SNE development, Senegal
THP	The Hunger Project
TSR	total shareholder return
UK	United Kingdom
UKCS	United Kingdom continental shelf
UN	United Nations
UNGC	United Nations Global Compact
US$	United States Dollar
WI	working interest
Woodside	Woodside Energy Ltd.
YE	year end
YTD	year to date