Financial Statements

Independent Auditor's Report

Report on the audit of the financial statements

1. Opinion

In our opinion:

- the financial statements of Centrica plc (the 'Company') and its subsidiaries (the 'Group') give a true and fair view of the state of the Group's and of the Company's affairs as at 31 December 2022 and of the Group's loss for the year then ended;
- the Group financial statements have been properly prepared in accordance with United Kingdom adopted international accounting standards;
- the Company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, including Financial Reporting Standard 101 'Reduced Disclosure Framework'; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements which comprise:

- the Group Income Statement;
- the Group Statement of Comprehensive Income;
- the Group and Company Statements of Changes in Equity;
- the Group and Company Balance Sheets;
- the Group Cash Flow Statement; and
- the related notes 1 to 26 and the supplementary notes S1 to S11 of the Group financial statements and notes I to XVI of the Company financial statements.

The financial reporting framework that has been applied in the preparation of the Group financial statements is applicable law and United Kingdom adopted international accounting standards. The financial reporting framework that has been applied in the preparation of the Company financial statements is applicable law and United Kingdom Accounting Standards, including FRS 101 'Reduced Disclosure Framework' (United Kingdom Generally Accepted Accounting Practice).

2. Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the Group and the Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the Financial Reporting Council's (the 'FRC's') Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. The non-audit services provided to the Group for the year are disclosed in note S9 to the financial statements. We confirm that we have not provided any non-audit services prohibited by the FRC's Ethical Standard to the Group or the Company.

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

3. Summary of our audit approach

Key audit matters

The key audit matters that we identified in the current year were:

- judgements associated with accounting for energy supply arrangements to British Gas Energy and Centrica Business Solution customers;
- impairment reversal in respect of the Group's investment in Nuclear;
- valuation of complex energy derivative contracts; and
- judgements associated with going concern assumptions.

Energy supply arrangements
In the prior year, the key audit matter covered judgements associated with the supply of energy including the billed debt provision, the risk of onerous supply contracts and accounting for transactions under the SoLR mechanism.

While commodity prices were consistently high for the majority of 2022, a significant drop towards the end of the year saw prices retreat to lower levels, albeit more elevated than they had been in 2021. This drop meant that the derivative contracts to procure energy for residential supply contracts were in a liability position at 31 December 2022. Given the expected gain on subsequent unwind of these derivative liabilities, residential energy supply contracts were not considered onerous at year-end and thus the previously recorded onerous contract provisions, which had totalled £0.9bn at 31 December 2021, were fully reversed during December 2022. The remaining onerous contract provision of £1bn relates to the business energy supply contracts which are of a reduced level of judgement and estimation uncertainty and accordingly not identified as a key audit matter.

Similarly, transfers of customers to British Gas Energy under the Supplier of Last Resort ('SOLR') mechanism during 2022 were less material than those in 2021. Since the appropriate accounting for these was agreed in 2021 and remains consistent this year, we removed accounting for transactions under the SoLR mechanism as a key audit matter.

In the current year this key audit matter includes judgements associated with determining expected credit losses in respect of customer receivables as a result of the higher trend of commodity prices and the resultant price cap revisions during the year which have led to increased levels of judgement around the recoverability of trade receivables given the inherent higher risk of customer defaults. In addition, accounting considerations in relation to payments and vouchers to customers and credits to customers' accounts in respect of the UK government's Energy Bill Relief Scheme (EBRS), Energy Bills Support Scheme (EBSS) and Energy Price Guarantee (EPG) were also considered as a key audit matter. Given the material number of customers migrated onto the new Energy billing platform (ENSEK) during the year and the developing nature of the controls environment, we also consider the accuracy and completeness of consumption data and unbilled revenue methodology in relation to ENSEK to be a key audit matter.

Nuclear impairment reversal
Higher commodity prices in 2022 as explained above, coupled with the UK Government introducing the Electricity Generators Levy (EGL), impacted the forecast future cashflows of the Group's Nuclear assets. Whilst the recoverable amount was lower at year-end, the carrying value of the Group's investment was also adversely impacted due to a higher-than-expected defined benefit actuarial loss allocation by EDF (Nuclear asset operator). As a result, primarily due to high commodity prices in 2022, the Group has recorded an impairment reversal of £195m in the year. Given the significant impairment movement on the investment in Nuclear in the current year, we identified a key audit matter around the valuation of these assets.

Complex energy derivative contracts valuation
For other own-use contracts, these contracts are not at risk of breaching the own-use designation. The reduced risk associated with LNG and own-use contracts means that these were not identified as key audit matters in the current year.

The key audit matter in the current year is focused on valuation of complex energy derivative contracts. We have identified a fraud risk, being the potential risk of management bias in the modelling of complex energy derivative contracts.

Going concern assumption
The going concern assumption, specifically margin liquidity risk, has been a source of significant audit effort this year driven by the high price environment and volatility experienced in the year in liquidity demands on the business. Given that this required increased and focused senior audit involvement, we have identified the audit of the going concern assumption as a key audit matter.

Other matters
The Group's Exploration and Production (E&P) assets exhibited reduced impairment risk due to significant headroom and commodity price rises over 2022 when compared to 2021, despite the impact of the Energy Price Levy (Group's E&P business now taxed at 75%) and the commodity price drop near the end of the year. Given the reduced risk of E&P asset impairment, the key audit matter for impairment in the current year is solely focused on the judgements associated with the Nuclear asset impairment reversal.

The first half of 2022 witnessed the completion of the disposal of Spirit Energy's Norwegian portfolio and Statfjord fields. We have therefore removed the key audit matter for 'Presentation and accounting for the planned disposal of Spirit Norway and Statfjord'.

Within this report, key audit matters are identified as follows:

! Newly identified

△ Increased level of risk

◁▷ Similar level of risk

▽ Decreased level of risk

Materiality

The materiality that we used for the audit of the Group financial statements is £158m (2021: £35m). This materiality was determined on the basis of adjusted profit before tax. Adjusted profit before tax is the pre-tax business performance profit adjusted for the impact of exceptional items and certain re-measurements. The significant increase in materiality in 2022 reflects higher commodity prices contributing to higher adjusted profit for the Upstream and Trading segments.

The materiality of £158m represents 0.5% (2021: 0.2%) of business performance revenue, 0.5% (2021: 0.1%) of total assets, and 6.4% (2021: 0.9%) of free cash flow.

Scoping	All components of the Group were subject to a full scope audit other than those below which were subject to specified audit procedures: • Bord Gáis; • non-regulated parts of British Gas Services and Solutions segment; and • Centrica Storage (within the Upstream segment). New Energy Services (within the Centrica Business Solutions segment) was subject to review procedures as compared to an audit of specified account balances in the prior year given the current year qualitative and quantitative insignificance to the group. Component materiality levels were set based on the size and audit risk associated with each component on a range of applicable metrics. Our risk assessment procedures resulted in a reduction in the group reporting scope for British Gas Services and Solutions given the limited volume of activities with limited profit compared to the Upstream (including Nuclear) and Trading segments which are designated as full scope audits.
Significant changes in our approach	Other than the changes in key audit matters discussed above, there were no other significant changes in our audit approach when compared to 2021.

4. Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Our evaluation of the directors' assessment of the Group's and Company's ability to continue to adopt the going concern basis of accounting is discussed in section 5.4.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's and Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In relation to the reporting on how the Group has applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

5. Key audit matters

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

These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

5.1 Judgements associated with accounting for energy supply arrangements to British Gas Energy and Centrica Business Solutions customers ▽

Key audit matter description

The Group supplies gas and power to residential and business customers in the UK through its British Gas Energy and Centrica Business Solutions segments.

The impact of key events, including current macroeconomic factors, high commodity prices, the Ukraine-Russia conflict and the resultant cost-of-living crisis has increased the level of judgement regarding recoverability of customer debt within the Group's British Gas and Centrica Business Solutions energy supply businesses, increasing the risk of material misstatement in the determination of expected credit losses at 31 December 2022. Credit losses of £809m (2021: £584m) have been recognised on amounts due of £3,106m (2021: £2,013m) from the supply of energy to customers, including £125m (2021: £30m) of additional provisions to reflect the cost-of-living crisis. Further details on credit losses relating to trade receivables can be found in notes 3b and 17.

Recognising the growing pressure on the cost of living in form of higher energy and other household or business costs, the UK Government introduced various schemes to provide support to customers as part of a suite of cost-of-living and business support measures. These are EBRS, EBSS and EPG. The Group is the initial recipient of cash under these schemes. The Group recognised £2,883m (2021: nil) of revenue and amounts received under various government support schemes with further details shown in notes 1b and 4b. At year-end, the Group held trade receivables in relation to government schemes of £284m as at 31 December 2022.

British Gas Energy continued the migration of customers onto its new digital energy platform (ENSEK) during the year. As at 31 December 2022, £2.1bn of revenue (2021: £0.4bn) was recognised from customers on this platform. Revenue from customers on the ENSEK platform is presented within the overall revenue figure in note 4.

These matters are also considered by the Audit and Risk Committee in its report on pages 75 to 79.

Expected credit losses in respect of customer receivables

The key assumptions in the determination of expected credit losses in British Gas Energy and Centrica Business Solutions include the methodology used to determine the impact that macroeconomic factors will have on the future cash collection and the resultant need to record additional provisions, over and above the 'business-as-usual' provisions.

Given the level of judgement and the impact of provisioning on key performance indicators of the Group, we identified a risk of material misstatement due to fraud in the recording of credit losses within British Gas Energy and Centrica Business Solutions.

Accounting for customer support schemes

Government support schemes include EBSS where residential customers have directly received a cash or credit amount, EPG which protects residential customers from increases in energy costs by limiting the amount suppliers can charge per unit of energy used and EBRS which protects business customers by capping the amount charged by energy suppliers for energy consumption. There is judgement in determining whether this revenue meets the definition of revenue under IFRS 15 Revenue from contracts with customers.

ENSEK revenue

Customer migration to the ENSEK platform has continued throughout 2022. Given the significant quantum of revenue, the developing controls environment and the difference from legacy SAP systems in the methodology used to derive unbilled revenue related to customers on ENSEK, there is a risk, including a fraud risk over the accuracy and completeness of the revenue recognised.

How the scope of our audit responded to the key audit matter

Expected credit losses in respect of customer receivables

- We tested and relied upon controls relevant to the calculation of billed debt provisions, where applicable.
- With involvement of our IT and data analytics specialists, we tested the accuracy of the underlying debt books, including the age of debt, and recalculated management's provision rates based on historic cash collection.
- We assessed how amounts receivable at 31 December 2021 were collected over 2022 in order to estimate an expected profile of the recovery of 31 December 2022 balances, on a 'business as usual basis'. We applied this profile to 31 December 2022 debt and then assessed:
  - the impact and sensitivity of this profile based on external forecasts such as household disposable income and inflation forecasts and the impact on billed debt provisions as the economic situation changes; and
  - management's accounting for the impact of these changes in the billed debt provision estimate.
- We considered the extent to which the provision on a 'business as usual basis' factors in the change the current macroeconomic environment.
- We understood and challenged the methodology and relevant controls over the determination and recording of the additional macroeconomic provision, with reference to available third-party analysis.
- Given the significant increase in provision (including an additional macroeconomic provision) in 2022 and considering that the provision as a percentage of gross debt has reduced, we performed procedures to challenge the completeness and the appropriateness of the provision.
- We assessed the appropriateness of the disclosures provided relating to this key source of estimation uncertainty, and the range of sensitivities disclosed.

Accounting for customer support schemes

- We assessed whether the revenue recognised under EBSS, EBRS and EPG falls within the scope of IFRS 15 'Revenue from Contracts with Customers'. This included assessing the reasonableness of the accounting treatment adopted including the methodology and controls associated with recording the revenue.
- We evaluated the expected revenue under various government support schemes with the actual amounts recorded in the books of accounts, investigating differences above a pre-determined threshold.
- We assessed the appropriateness of the disclosures and the presentation of the revenue recognised in the Group income statement from the various government support schemes within the 'Business performance group revenue' line item of the Group income statement.

ENSEK revenue

- We obtained an understanding of the relevant controls over the recognition of revenue from customers within the ENSEK system, including those regarding the completeness and accuracy of consumption data within ENSEK.
- We understood and tested controls associated with the migration exercise, including validating the accuracy and completeness of the balance migrated from the legacy SAP systems.
- We evaluated the accuracy of amounts recorded as revenue by testing the consumption data against supporting documentation.
- We challenged the methodology used to calculate the ENSEK unbilled revenue, through comparison with the legacy SAP approach and calculating an expectation of unbilled revenue, investigating differences above a pre-determined threshold.

Key observations

We are satisfied that the Group's billed debt provisions of £812m (2021: £587m), including £125m (2021: £30m) of additional provisions to reflect macroeconomic uncertainty, and the associated methodology to calculate this adjustment, are appropriate. We consider the additional manual provision recognised to be appropriate and close to the mid-point of a calculated reasonable range.

We are satisfied that the amounts recognised under various government schemes meet the definition of revenue under IFRS 15 'Revenue from Contracts with Customers' and are satisfied that the revenue has been appropriately presented within the 'Business performance group revenue' line item of the Group income statement.

We are satisfied that the accuracy and completeness of the Group's ENSEK energy revenue, including the methodology to generate unbilled revenue is appropriate. Whilst improvements were made to controls during the year in relation to revenue recognition, they were not yet at a stage where we were able to rely on them.

5.2. Impairment reversal in the Group's investment in Nuclear ◁▷

Key audit matter description

As highlighted in section 3 above, commodity prices were consistently high in 2022 before witnessing a significant drop towards the end of the year, albeit higher than 2021 levels. The decrease in future forecast cashflows in the assessment of investment in Nuclear was offset by the decrease in carrying value as a result of a pension actuarial loss allocated by the operator. The total pre-impairment book value of the investment in Nuclear was £1,560m (2021: £1,625m) with a pre-tax impairment reversal of £195m (2021: £747m) recorded as at 31 December 2022.

The details on the key sources of estimation uncertainty underpinning the impairment reversal for these assets can be found in note 3(b). Details on the sensitivity of the above impairment reviews to changes in key assumptions such as commodity prices are disclosed in note 7(c). This includes sensitivities associated with the Group's commodity price curves if these curves were aligned with the net zero scenario ('net zero curve') which assumes governmental policies are put in place to achieve the temperature and net zero goals by 2050. The matter is also considered by the Audit and Risk Committee in its report on page 77.

Given the significant impairment movement in the investment in Nuclear in the current year, we identified a key audit matter around the valuation of these assets for impairment testing purposes. The underlying impairment reversal has been recorded within the exceptional items and certain re-measurements column of the Group income statement.

The key assumptions and judgements underpinning the impairment testing of the investment in Nuclear include:

- forecast future commodity prices, including the likely impact of the Paris Accord and climate change on those prices;
- forecast future generation profiles of the assets;
- forecast future cash flows for the assets;
- availability forecasts in respect of the nuclear power stations;
- useful life estimates;
- impact of the Electricity Generator levy on the future forecast of cashflows; and
- the discount rate.

How the scope of our audit responded to the key audit matter

Procedures on the overall impairment reversal review:

- We understood management's process for identifying indicators of impairment and impairment reversal and for performing their impairment assessment.
- We obtained an understanding of the relevant controls relating to the asset impairment models, the underlying forecasting process and the impairment reviews performed.
- We evaluated and challenged the key assumptions and inputs into the impairment models, which included performing sensitivity analysis, to evaluate the impact of selecting alternative assumptions. We evaluated changes in key assumptions and assessed retrospectively whether prior year assumptions were appropriate.
- We involved our internal valuation specialists to evaluate management's discount rates, which involved benchmarking against available market views and analysis.
- We tested the arithmetical accuracy of the impairment models.
- We assessed the appropriateness of management's disclosures of the key assumptions and sensitivities including the presentation of the impairment reversals within the exceptional items and certain re-measurements column of the Group income statement.

Procedures relating to forecast future cash flows:

- We confirmed that forecast cash flows were consistent with the operator approved forecasts, where relevant, and analysed reasonably possible downside sensitivities.
- We assessed the reasonableness of the plants' forecast outage rates by looking at recent historic outage rates and sensitised the impact of a change in assumptions on the overall impairment reversal.
- We evaluated the Group's estimation of future commodity prices, benchmarked against externally available future commodity price estimates and performed sensitivity analysis with alternative future prices. This includes a scenario which assumes governmental policies are put in place to achieve the temperature and net zero goals by 2050. We recalculated management's disclosures relating to the sensitivity of the Group's impairment tests to reduced commodity prices, including the net zero curves.
- We involved our tax specialist to adjudge the reasonableness of implementation of the Electricity Generators Levy and as a result, aiding the audit team's subsequent impact assessment on the forecasted future cash outflows.

Key observations

We are satisfied that the key assumptions used to determine the value in use of the Group's investment in Nuclear is appropriate, including production and availability forecasts. We are also satisfied that the Group's discount rate assumptions are determined based on acceptable valuation methodologies.

The Group's future commodity price estimates are in the middle of the acceptable range of external sources, consistent with the prior year. We observed that generally, the forecasts from acceptable external sources for gas and baseload prices were above the assumed prices in the net zero scenario. We considered the sensitivity disclosures relating to the impact on the Group's impairment reviews of future commodity price estimates arising from climate change to be acceptable.

We are satisfied that the Group's impairment reversal is appropriate and the presentation under the exceptional items and certain re-measurements column of the Group income statement is consistent with Group policy.

5.3. Valuation of complex energy derivative contracts △

Key audit matter description	As disclosed in note 7 to the financial statements, a re-measurements loss of £5,160m (2021: gain of £1,289m) on energy derivative contracts has been recognised in the year. Details on the Group's energy contracts can be found in note 19 and note S3(a). The key sources of estimation uncertainty associated with energy contracts can be found in note 3(b) with further details on the presentation of certain re-measurement arising on derivatives disclosed in note 2(b). The matter is also considered by the Audit and Risk Committee in its report on page 75. The Group undertakes proprietary trading activities and also enters into forward commodity contracts to optimise the value of its production and generation assets as well as to meet the future needs of its customers. Certain of these arrangements are accounted for as derivative financial instruments and are recorded at fair value. We identified a key audit matter relating to valuation of complex derivative trades performed internally by management's valuation specialists. There is judgement required in valuing complex energy derivative contracts, particularly where there is modelling complexity and bespoke contractual terms (level 3 in accordance with IFRS 13 'Fair Value Measurement'). Given the judgement and potential of management bias in the modelling, we have identified a potential risk of fraud. Whilst the value of complex energy derivative contracts increased through the year due to the significant rise in commodity prices, the drop in prices in December 2022 has reduced the valuation to early 2022 levels. Given the continued and heightened level of risk as well as the complexity associated with disclosures, the valuation of these contracts is identified as a key audit matter.
How the scope of our audit responded to the key audit matter	• We understood the Group's processes and tested controls, including the user access and segregation of duties controls, for authorising and recording commodity trades. • We have understood management's process and tested the relevant controls relating to the valuation of complex energy derivatives within the Group's Energy, Marketing and Trading ('EM&T') business. We also assessed the competence, capability and objectivity of management's own internal valuation specialists. • With involvement of financial instrument specialists, we assessed the value of material complex trades, either by creating an independent valuation or by testing how management developed their estimate. Particular emphasis was made to assess any new material models and material changes to relevant models including additional procedures to assess the reasonableness and appropriateness of these. • We assessed the movement in the fair values based on the change in significant inputs, while testing these inputs, where relevant. • We considered the appropriateness of the relevant complex derivative energy contracts disclosure, including the key source of estimation uncertainty disclosures.
Key observations	We are satisfied that complex derivative energy contracts are valued on an appropriate basis.

5.4. Judgements associated with going concern assumption !

Key audit matter description	During 2022, high and volatile commodity prices resulted in increased requirements for the Group and its counterparties to post and receive more significant cash margin collateral than was historically the case. To respond to this increased liquidity risk, the Group established enhanced processes in the trading businesses and in respect of Upstream to plan for and manage possible increased cash margin requirements. The enhanced governance processes included establishing a Liquidity Working Group to monitor and respond to volatile market conditions, trading activity, and the ability of counterparties to pay margin calls. To monitor reasonably possible margin requirements, the Group used modelling and analysis of the volatile market conditions over the last two years to determine severe but plausible scenarios of the possible liquidity requirements. Additionally, the Group took active steps to both increase liquidity facilities available, and to reduce and mitigate margin requirements as a result of trading activity. Further details in relation to the Group's measures are described in note 24(b) and the viability statement on pages 34 to 36. Given the impact of commodity price volatility on forecast liquidity headroom in the current year, the directors calculated minimum headroom under high, low and base price case scenarios. As such, this required increased and focused senior audit involvement and has led to the audit of the going concern assumption being identified as a key audit matter.
How the scope of our audit responded to the key audit matter	The key procedures to evaluate the directors' assessment of the Group's and Company's ability to continue to adopt the going concern basis of accounting included: • assessing the Group's future cash flow forecasts, by considering actual cash flow performance in 2022, the volatile commodity price environment, historical accuracy of the Group forecasts and key assumptions underpinning management's going concern assessment; • agreeing the level of committed undrawn facilities of £4.0bn to signed facility agreements, along with support from our treasury specialists, where relevant, to review the key terms of the facility agreements; • testing the clerical accuracy of the model used to prepare the cash flow forecasts and assessing the sophistication of the model used to prepare the forecasts; • assessing the sensitivities run by the directors and the linkage of these sensitivities to the Group's principal risks disclosed on pages 30 to 33 of the Annual Report & Accounts. These sensitivities include the impact of margin cash volatility, a reduction in the Group's credit rating, a reduction in commodity prices, or the risk of adverse weather and the resultant impact on cashflows; and • assessing the appropriateness of management's going concern disclosures in light of the above assessment. Given the high degree of judgement required to determine appropriate scenarios, including the range of possible unanticipated volatility in commodity prices, our audit response to this risk was focused on: • understanding management's process in determining the severe but plausible margin call scenarios and stressing the other drivers of liquidity demand in the trading businesses; • challenging management's assessment and rationale for each scenario, including the severity of the scenarios with respect to historical commodity prices and the probabilistic assessments of how elevated commodity prices may become in the future; • assessing the consistency of the margin call scenarios between the going concern model and that used to assess the viability of the Group; • testing the assumptions and detailed model methodology underpinning the scenarios, including using the expertise of complex modelling specialists; and • assessing the reasonability of the margin liquidity scenarios, available mitigations and whether management's approach of incorporating these scenarios into the Group going concern and viability reasonable worst case analysis was appropriate.
Key observations	The Group's key assumptions, methodology and the severity of the Group margin call scenarios were concluded to be appropriate in the context of current market conditions. We observed that the scenarios included modelling market conditions which were significantly more severe than were experienced in both 2021 and 2022. These scenarios included assessing statistically to a 95% confidence level the market conditions that may arise in the future, however they are not necessarily a predictor of all future conditions given the volatility of commodity markets. We are satisfied the management's disclosures regarding preparation of the financial statements on a going concern basis are appropriate.

6. Our application of materiality

6.1 Materiality

We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

Based on our professional judgement, we determined the materiality of the financial statements as a whole as follows:

	Group financial statements	Company financial statements
Materiality	£158 million (2021: £35 million)	£150 million (2021: £33 million)
Basis for determining materiality	We determined materiality on the basis of 5% of adjusted profit before tax. Adjusted profit before tax is the pre-tax profit adjusted for the impact of exceptional items and certain re-measurements. The significant increase in materiality in 2022 reflects higher commodity prices contributing to higher adjusted profits for the Upstream and Trading segments. The materiality of £158m represents 0.5% of business performance revenue, 0.5% of total assets, and 6.4% of free cash flow. In the prior year, materiality was based on a range of applicable metrics including free cash flow, shareholders' equity and pre-tax profit adjusted for exceptional items and certain re-measurements. This represented 4.6% of final adjusted profit before tax.	We determined Company materiality based on 3.0% (2021: 1.0%) of estimated net assets but capped materiality at 95% (2021: 95%) of Group materiality. Our final materiality constituted 2.8% of net assets (2021: 0.6% of net assets). The percentage applied in determining Company materiality has been adjusted in the current year to reflect our historical audit experience.
Rationale for the benchmark applied	We considered adjusted profit before tax to be the most appropriate benchmark to measure the performance of the Group. We consider it appropriate to adjust for exceptional items and re-measurements as these items are volatile and not reflective of the underlying performance of the Group. We have reverted to this historical benchmark as it has become a more stable measure of performance following the impact of COVID-19 on pre-tax adjusted profit, which previously would have reduced materiality to a level which would not have reflected the size and scale of the Group. Notwithstanding the significant increase in year-on-year materiality, we challenged the appropriateness of using 5% of adjusted profit before tax for our assessment of materiality by looking at a range of alternative benchmarks. Given that the determined materiality was within the range of alternative benchmarks, we have concluded it to be appropriate. We considered our established materiality against the final audit results and considered that it remained appropriate in the context of the financial statements as a whole.	We considered net assets to be the most appropriate benchmark given the primary purpose of the Company is a holding company.

6.2. Performance materiality

We set performance materiality at a level lower than materiality to reduce the probability that, in aggregate, uncorrected and undetected misstatements exceed the materiality for the financial statements as a whole.

	Group financial statements	Company financial statements
Performance materiality	70% (2021: 70%) of Group materiality	70% (2021: 70%) of Company materiality)
Basis and rationale for determining performance materiality	The factors we considered in setting performance materiality at 70% of Group and Company materiality included: • The overall quality of the control environment and that we were able to rely on controls in certain of the Group's businesses. • The nature, size and number of uncorrected misstatements identified in previous audits and management's willingness to correct those adjustments.	

6.3 Error reporting threshold

The significant increase in materiality has led to an increase in the error reporting threshold, which stands at £7.9m (2021: £1.8m). We have however, at the Audit and Risk Committee's request continued to report individual audit differences in excess of £5m (2021: £5m), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. We also reported to the Audit and Risk Committee on disclosure matters that we identified when assessing the overall presentation of the financial statements.

7. An overview of the scope of our audit

7.1 Identification and scoping of components

The Group is organised into segments as outlined in note 4. These segments contain a number of individual businesses, and we use these businesses as the basis for identifying and scoping components. In the current year, Aalborg was identified as a component of the Group given the significant contribution to the Group's adjusted profit before tax. Other changes in scoping have been outlined in section 3 above.

Our audit was scoped by obtaining an understanding of the Group and its environment, including Group-wide controls, and assessing the risks of material misstatement at the Group level. Having performed this assessment, we established the following audit scope for each of the Group's businesses.

Segment	Business	Audit scope
British Gas Energy	British Gas Energy	Full scope audit
British Gas Services and Solutions	British Gas Services and Solutions	Audit of specified account balances
Bord Gáis Energy	Bord Gáis Energy	Audit of specified account balances
Energy, Marketing & Trading	Energy, Marketing & Trading (London)	Full scope audit
	Aalborg	Full scope audit
Centrica Business Solutions	New Energy Services	Review procedures
	Energy supply	Full scope audit
Upstream	Nuclear	Full scope audit
	Spirit Energy	Full scope audit
	Centrica Storage	Audit of specified account balances

This scoping resulted in 99% of Group revenue, 100% of Group adjusted profit before tax and 89% of Group shareholders' equity being subject to audit excluding those where we performed review procedures. The equivalent figures in 2021 were 96% of Group revenue, 98% of final pre-tax profit adjusted for exceptional items and 92% of shareholders' equity.

7.2. Our consideration of the control environment

- Our audit strategy is to rely on controls over certain processes within the more established businesses of the Group. These included revenue within British Gas Energy, British Gas Services and Solutions, CBS Energy and Bord Gáis Energy; credit loss provisions in British Gas; and the Group's central payroll and expenditure processes.
- The use of data analytics in Energy, Marketing and Trading means the need for controls reliance is reduced as we are able to test close to 100% of all transactions.
- Given the importance of IT to the recording of financial information and transactions, we assessed the design and implementation of general IT controls, and placed reliance on those controls in certain areas. The key IT systems we included in scope include the Group's SAP general ledger and consolidation financial reporting systems, the SAP and ENSEK revenue reporting systems in British Gas Energy and CBS Energy, the SAP reporting system in Bord Gáis Energy, the Endur trading system in Energy, Marketing and Trading, and Workday which is used to manage the Group's payroll processes.
- We adopted a non-controls reliance approach to test the ENSEK revenue given the dependency on manual checks and reviews.

7.3. Our consideration of climate-related risks

- Management has performed an assessment of the resilience of its annual strategic and financial planning process in the face of climate-related issues. This included assessing the potential impact of the material risks and opportunities and its Climate Transition Plan on both the current balance sheet position and its accounting policies.
- Management identified higher risks of material misstatement on the impact of the net zero price scenario on the non-current long-life asset Upstream impairment tests. In response, management has performed further sensitivities based on forecast prices aligned to net zero price curves. The net zero price curves for E&P and Nuclear consider prices from International Energy Agency and Aurora respectively.
- We reviewed management's climate change risk assessment and evaluated the completeness of the identified risks and impact on the financial statements. We also considered climate change within our audit risk assessment process in conjunction with our assessment of the balances.
- To mitigate the net zero price scenario risk for the Exploration and Production (E&P) assets and the Group's investment in Nuclear, we performed the following procedures:
  - Assessed the reasonableness of management's net zero prices by comparing these to the market net zero prices.
  - Engaged a financial advisory specialist to assess the appropriateness of the price providers utilised by the Group to assess whether net zero price curves are representative of the market view.
  - Verified the mathematical accuracy of the conversion to Nominal 2022 prices by adjusting the raw external price forecast data for inflation.
- With the involvement of our climate specialists, we:
  - evaluated the financial statement disclosures to assess whether climate risk assumptions underpinning specific account balances were appropriately disclosed; and
  - read the climate change-related statements (as disclosed in the People and Planet section in the Strategic Report) and considered whether the information included in the narrative reporting is materially consistent with the financial statements and our knowledge obtained in the audit.

7.4. Working with other auditors

- All components except for Bord Gáis Energy and Aalborg are audited from the UK and we oversee all component audits through regular meetings and direct supervision. Whilst we visited Aalborg during the year, the oversight procedures on Bord Gáis were performed virtually.
- The Group audit team was directly involved in overseeing the component audit planning and execution, through frequent conversations, virtual and in person meetings, debate, challenge and review of reporting and underlying work papers. We held a two-day planning meeting with all component teams and specialists to discuss audit execution and our risk assessment, including risks of material misstatement due to fraud. In addition to our direct interactions and detailed instructions to our component audit teams, Jane Boardman has taken on the Lead Audit Partner and British Gas & Centrica Business Solutions Energy Supply partner roles. This enables direct group supervision on two of the most significant components.
- We are satisfied that the level of involvement of the lead audit partner and Group audit team in the component audits has been extensive and has enabled us to conclude that sufficient appropriate audit evidence has been obtained in support of our opinion on the Group financial statements as a whole.

8. Other information

The other information comprises the information included in the annual report other than the financial statements and our auditor's report thereon. This information comprises the Strategic report, the Directors' and Corporate Governance report, the Committee reports, the Remuneration Report and the Other Statutory Information. The directors are responsible for the other information contained within the annual report.

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

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated.

If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

9. Responsibilities of directors

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

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

10. Auditor's responsibilities for the audit of the financial statements

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

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

11. Extent to which the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

11.1. Identifying and assessing potential risks related to irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, we considered the following:

- the nature of the industry and sector, control environment and business performance including the design of the Group's remuneration policies, key drivers for directors' remuneration, bonus levels and performance targets;
- the Group's own assessment of the risks that irregularities may occur either as a result of fraud or error including the Group's fraud risk programme;
- results of our enquiries of management, internal audit and the Audit and Risk Committee about their own identification and assessment of the risks of irregularities;
- any matters we identified having obtained and reviewed the Group's documentation of their policies and procedures relating to:
  - identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;
  - detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged fraud; and
  - the internal controls established to mitigate risks of fraud or non-compliance with laws and regulations.
- the matters discussed among the audit engagement team including the component audit teams and relevant internal specialists, including tax, valuations, pensions, climate change, treasury and IT, regarding how and where fraud might occur in the financial statements and any potential indicators of fraud.

As a result of these procedures, we considered the opportunities and incentives that may exist within the organisation for fraud and identified the greatest potential for fraud in the following areas:

- the valuation of expected credit losses in respect of customer receivables;
- the accuracy and completeness of ENSEK revenue;
- the valuation of complex energy derivative contracts; and
- the valuation of decommissioning provisions.

In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override.

We also obtained an understanding of the legal and regulatory framework that the Group operates in, focusing on provisions of those laws and regulations that:

- had a direct effect on the determination of material amounts and disclosures in the financial statements. The key laws and regulations we considered in this context included the UK Companies Act, the UK Listing Rules, pensions and tax legislation; and
- do not have a direct effect on the financial statements but compliance with which may be fundamental to the Group's ability to operate or to avoid a material penalty. These included the Office of Gas and Electricity Markets (Ofgem) and Regulations levied by the UK Financial Conduct Authority and Prudential Regulatory Authority.

11.2. Audit response to risks identified

As a result of performing the above, we identified the following as key audit matters related to the potential risk of fraud: (1) valuation of complex energy derivative contracts; (2) accuracy and completeness of ENSEK revenue; and (3) valuation of expected credit losses in respect of customer receivables. The key audit matters section of our report explains the matters in more detail and also describes the specific procedures we performed in response to those key audit matters.

Our procedures to respond to risks identified included the following:

- reviewing the financial statement disclosures and testing the supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the financial statements;
- enquiring of management, the Audit and Risk Committee, in-house legal counsel and the Group's ethics team concerning actual and potential litigation and claims;
- reviewing the reporting to the Audit and Risk Committee, on matters relating to fraud and potential non-compliance with laws and regulations including the Group's whistleblowing programme;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with HMRC, Ofgem, the FCA and the PRA;
- in addressing the risk of fraud associated with decommissioning provisions, we used data analytics to identify the assumptions to which the decommissioning model is most sensitive and performed focused audit procedures, including corroborating and benchmarking these inputs to independent documentation (such as project management cost, wells cost and norms and rates) and external industry reports; and
- in addressing the risk of fraud through management override of controls, testing the appropriateness of journal entries and other adjustments; assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members including internal specialists and component audit teams, and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Report on other legal and regulatory requirements

12. Opinions on other matters prescribed by the Companies Act 2006

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

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

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

In the light of the knowledge and understanding of the Group and the Company and their environment obtained in the course of the audit, we have not identified any material misstatements in the Strategic Report or the Directors' Report.

13. Corporate Governance Statement

The Listing Rules require us to review the directors' statement in relation to going concern, longer-term viability and that part of the Corporate Governance Statement relating to the Group's compliance with the provisions of the UK Corporate Governance Code specified for our review.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the Corporate Governance Statement is materially consistent with the financial statements and our knowledge obtained during the audit:

- the directors' statement with regards to the appropriateness of adopting the going concern basis of accounting and any material uncertainties identified set out on page 106;
- the directors' explanation as to its assessment of the Group's prospects, the period this assessment covers and why the period is appropriate set out on pages 34 to 36;
- the directors' statement on fair, balanced and understandable set out on page 73;
- the Board's confirmation that it has carried out a robust assessment of the emerging and principal risks set out on page 29;
- the section of the annual report that describes the review of effectiveness of risk management and internal control systems set out on page 73; and
- the section describing the work of the Audit and Risk Committee set out on pages 72 to 79.

14. Matters on which we are required to report by exception

14.1. Adequacy of explanations received and accounting records

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the Company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Company financial statements are not in agreement with the accounting records and returns.

We have nothing to report in respect of these matters.

14.2. Directors' remuneration

Under the Companies Act 2006 we are also required to report if in our opinion certain disclosures of directors' remuneration have not been made or the part of the Directors' Remuneration Report to be audited is not in agreement with the accounting records and returns.

We have nothing to report in respect of these matters.

15. Other matters which we are required to address

15.1. Auditor tenure

Following the recommendation of the Audit and Risk Committee, we were reappointed by the shareholders on 10 June 2022 to audit the financial statements for the year ending 31 December 2022 and subsequent financial periods. The period of total uninterrupted engagement including previous renewals and reappointments of the firm is six years, covering the years ending 31 December 2017 to 31 December 2022.

15.2. Consistency of the audit report with the additional report to the Audit & Risk Committee

Our audit opinion is consistent with the additional report to the Audit and Risk Committee we are required to provide in accordance with ISAs (UK).

16. Use of our report

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

As required by the Financial Conduct Authority (FCA) Disclosure Guidance and Transparency Rule (DTR) 4.1.14 R, these financial statements form part of the European Single Electronic Format (ESEF) prepared Annual Financial Report filed on the National Storage Mechanism of the UK FCA in accordance with the ESEF Regulatory Technical Standard ('ESEF RTS'). This auditor's report provides no assurance over whether the annual financial report has been prepared using the single electronic format specified in the ESEF RTS.

Jane Boardman FCA (Senior statutory auditor)

For and on behalf of Deloitte LLP
Statutory Auditor

London, United Kingdom
15 February 2023

Group Income Statement

		2022			2021		
Year ended 31 December	Notes	Business performance £m	Exceptional items and certain re-measurements £m	Results for the year £m	Business performance £m	Exceptional items and certain re-measurements £m	Results for the year £m
Continuing operations							
Group revenue	4,7	**33,637**	**(9,896)**	**23,741**	18,300	(3,556)	14,744
Cost of sales [(i)]	5,7	**(28,198)**	**14,986**	**(13,212)**	(15,430)	2,749	(12,681)
Re-measurement and settlement of derivative energy contracts	7	**—**	**(8,484)**	**(8,484)**	—	(434)	(434)
Gross profit	4,7	**5,439**	**(3,394)**	**2,045**	2,870	(1,241)	1,629
Operating costs before exceptional items and credit losses on financial assets	5	**(1,872)**	**—**	**(1,872)**	(1,703)	—	(1,703)
Credit losses on financial assets	5,17	**(351)**	**—**	**(351)**	(116)	—	(116)
Exceptional items – net impairment reversals	7	**—**	**207**	**207**	—	1,218	1,218
Exceptional items – net loss on significant disposals	7	**—**	**(362)**	**(362)**	—	—	—
Exceptional items – net restructuring cost reversals	7	**—**	**—**	**—**	—	29	29
Operating costs	5	**(2,223)**	**(155)**	**(2,378)**	(1,819)	1,247	(572)
Share of profits/(losses) of joint ventures and associates, net of interest and taxation	6	**92**	**1**	**93**	(103)	—	(103)
Group operating profit/(loss)	4	**3,308**	**(3,548)**	**(240)**	948	6	954
Net finance cost	8	**(143)**	**—**	**(143)**	(187)	—	(187)
Profit/(loss) from continuing operations before taxation		**3,165**	**(3,548)**	**(383)**	761	6	767
Taxation on profit/(loss) from continuing operations	7,9	**(1,046)**	**793**	**(253)**	(454)	236	(218)
Profit/(loss) from continuing operations after taxation		**2,119**	**(2,755)**	**(636)**	307	242	549
Discontinued operations [(ii)]	7	**—**	**—**	**—**	—	624	624
Profit/(loss) for the year		**2,119**	**(2,755)**	**(636)**	307	866	1,173
Attributable to:							
Owners of the parent		**2,050**	**(2,832)**	**(782)**	237	973	1,210
Non-controlling interests		**69**	**77**	**146**	70	(107)	(37)

Earnings per ordinary share		**Pence**	Pence
From continuing and discontinued operations			
Basic	10	**(13.3)**	20.7
Diluted	10	**(13.3)**	20.5
From continuing operations			
Basic	10	**(13.3)**	10.0
Diluted	10	**(13.3)**	9.9
Interim dividend paid per ordinary share	11	**1.0**	—
Final dividend proposed per ordinary share	11	**2.0**	—

(i) Cost of sales includes a £1,766 million credit (2021: £2,530 million charge) relating to a reversal of the onerous energy supply contract provision within the certain re-measurements column. See note 7.

(ii) Profit from the disposal of Direct Energy reflected in discontinued operations is entirely attributable to equity holders of the parent. See note 7.

The notes on pages 126 to 224 form part of these Financial Statements.

Group Statement of Comprehensive Income

Year ended 31 December	Notes	2022 £m	2021 £m
(Loss)/profit for the year		**(636)**	1,173
Other comprehensive income			
Items that will be or have been reclassified to the Group Income Statement:			
Impact of cash flow hedging (net of taxation)	S4	**(20)**	(6)
Exchange differences on translation of foreign operations [(i)]	S4	**(90)**	(49)
Exchange differences reclassified to Group Income Statement on disposal [(i)]	12,S4	**272**	(20)
Net investment hedging gains reclassified to Group Income Statement (net of taxation)	S4	**–**	(40)
Items that will not be reclassified to the Group Income Statement:			
Net actuarial (losses)/gains on defined benefit pension schemes (net of taxation)	S4	**(124)**	144
Gains on revaluation of equity instruments measured at fair value through other comprehensive income (net of taxation)	S4	**–**	3
Share of other comprehensive (loss)/income of associates, net of taxation	14,S4	**(293)**	152
Other comprehensive (loss)/income, net of taxation		**(255)**	184
Total comprehensive (loss)/income for the year		**(891)**	1,357
Attributable to:			
Owners of the parent		**(1,042)**	1,397
Non-controlling interests	S11	**151**	(40)
Total comprehensive (loss)/income attributable to owners of the parent arises from:			
Continuing operations		**(1,042)**	833
Discontinued operations		**–**	564
		(1,042)	1,397

(i) Exchange differences on translation of foreign operations includes £95 million (2021: £46 million) of losses attributable to the equity holders of the parent, and £5 million of gains (2021: £3 million of losses) attributable to non-controlling interests. Exchange differences reclassified to Group Income Statement on disposal includes a £272 million loss (2021: £20 million gain) attributable to the equity holders of the parent, and £nil (2021: £nil) attributable to non-controlling interests. See note S4.

The notes on pages 126 to 224 form part of these Financial Statements.

Group Statement of Changes in Equity

	Share Capital £m	Share Premium £m	Retained Earnings £m	Other Equity £m	**Total £m**	Non-controlling Interests £m	**Total equity £m**
1 January 2021	361	2,347	(836)	(915)	957	425	1,382
Profit/(loss) for the year	—	—	1,210	—	1,210	(37)	1,173
Other comprehensive income/(loss)	—	—	—	187	187	(3)	184
Total comprehensive income/(loss)	—	—	1,210	187	1,397	(40)	1,357
Employee share schemes and other share transactions	2	30	3	(24)	11	—	11
31 December 2021	363	2,377	377	(752)	2,365	385	2,750
(Loss)/profit for the year	—	—	(782)	—	**(782)**	146	**(636)**
Other comprehensive (loss)/income	—	—	—	(260)	**(260)**	5	**(255)**
Total comprehensive (loss)/income	—	—	(782)	(260)	**(1,042)**	151	**(891)**
Employee share schemes and other share transactions	2	17	(2)	(14)	**3**	—	**3**
Share buyback programme [(i)]	—	—	—	(250)	**(250)**	—	**(250)**
Dividends paid to equity holders	—	—	(59)	—	**(59)**	—	**(59)**
Distributions to non-controlling interests (note 12)	—	—	—	—	**—**	(273)	**(273)**
31 December 2022	365	2,394	(466)	(1,276)	**1,017**	263	**1,280**

(i) See note S4 for further details of the share buyback programme

The notes on pages 126 to 224 form part of these Financial Statements.

Group Balance Sheet

	Notes	31 December 2022 £m	31 December 2021 £m
Non-current assets			
Property, plant and equipment	13	**1,748**	1,985
Interests in joint ventures and associates	14	**1,580**	1,628
Other intangible assets	15	**707**	760
Goodwill	15	**409**	401
Deferred tax assets	16	**1,709**	823
Trade and other receivables, and contract-related assets	17	**129**	233
Derivative financial instruments	19	**1,393**	1,005
Retirement benefit assets	22	**150**	231
Securities	24	**525**	135
		8,350	7,201
Current assets			
Trade and other receivables, and contract-related assets	17	**8,450**	5,881
Inventories	18	**1,269**	644
Derivative financial instruments	19	**6,034**	6,545
Current tax assets		**93**	83
Cash and cash equivalents	24	**4,842**	5,060
		20,688	18,213
Assets of disposal groups classified as held for sale		**—**	1,672
		20,688	19,885
Total assets		**29,038**	27,086
Current liabilities			
Derivative financial instruments	19	**(8,841)**	(4,929)
Trade and other payables, and contract-related liabilities	20	**(10,176)**	(7,513)
Current tax liabilities		**(472)**	(333)
Provisions for other liabilities and charges	21	**(1,213)**	(2,769)
Bank overdrafts, loans and other borrowings	24	**(1,009)**	(1,204)
		(21,711)	(16,748)
Liabilities of disposal groups classified as held for sale		**—**	(1,228)
		(21,711)	(17,976)
Non-current liabilities			
Deferred tax liabilities	16	**(8)**	(36)
Derivative financial instruments	19	**(1,310)**	(1,080)
Trade and other payables, and contract-related liabilities	20	**(165)**	(120)
Provisions for other liabilities and charges	21	**(1,446)**	(1,454)
Retirement benefit obligations	22	**(110)**	(231)
Bank loans and other borrowings	24	**(3,008)**	(3,439)
		(6,047)	(6,360)
Total liabilities		**(27,758)**	(24,336)
Net assets		**1,280**	2,750
Share capital	25	**365**	363
Share premium		**2,394**	2,377
Retained earnings		**(466)**	377
Other equity	S4	**(1,276)**	(752)
Total shareholders' equity		**1,017**	2,365
Non-controlling interests	S11	**263**	385
Total shareholders' equity and non-controlling interests		**1,280**	2,750

The Financial Statements on pages 121 to 224, of which the notes on pages 126 to 224 form part, were approved and authorised for issue by the Board of Directors on 15 February 2023 and were signed below on its behalf by:

Chris O'Shea
Group Chief Executive

Kate Ringrose
Group Chief Financial Officer

Centrica plc Registered No: 03033654

Group Cash Flow Statement

Year ended 31 December	Notes	2022 £m	2021 £m
Group operating (loss)/profit including share of results of joint ventures and associates		**(240)**	954
(Deduct)/add back share of (profits)/losses of joint ventures and associates, net of interest and taxation	6	**(93)**	103
Group operating (loss)/profit before share of results of joint ventures and associates		**(333)**	1,057
Add back/(deduct):			
Depreciation and amortisation	13,15	**669**	768
Write-downs, impairments and write-backs	4,7	**(99)**	(1,183)
Loss on disposals	12	**343**	28
(Decrease)/increase in provisions		**(1,903)**	2,434
Cash contributions to defined benefit schemes in excess of service cost income statement charge		**(184)**	(388)
Employee share scheme costs		**10**	12
Unrealised losses/(gains) arising from re-measurement of energy contracts		**4,095**	(1,159)
Exceptional charges reflected directly in operating profit		**—**	12
Operating cash flows before movements in working capital relating to business performance and payments relating to taxes and exceptional charges		**2,598**	1,581
Increase in inventories		**(593)**	(361)
Increase in trade and other receivables and contract-related assets relating to business performance		**(2,302)**	(3,358)
Increase in trade and other payables and contract-related liabilities relating to business performance		**2,239**	3,965
Operating cash flows before payments relating to taxes and exceptional charges		**1,942**	1,827
Taxes paid	9	**(574)**	(140)
Operating interest paid	8	**(30)**	—
Payments relating to exceptional charges in operating costs	7	**(24)**	(76)
Net cash flow from operating activities		**1,314**	1,611
Continuing operations:			
Purchase of businesses, net of cash acquired	12	**12**	(14)
Sale of businesses	12	**92**	70
Purchase of property, plant and equipment and intangible assets	4	**(371)**	(420)
Sale of property, plant and equipment and intangible assets		**11**	36
(Investments in)/disposal of joint ventures and associates	14	**(18)**	2
Dividends received from joint ventures and associates	14	**60**	2
Interest received		**46**	2
Settlement of securities	24	**150**	—
Purchase of securities	24	**(548)**	(3)
Net cash flow from continuing investing activities		**(566)**	(325)
Net cash flow from discontinued investing activities		**—**	2,588
Net cash flow from investing activities		**(566)**	2,263
Payments for own shares	S4	**(5)**	—
Share buyback programme	S4	**(43)**	—
Cash inflow from short-term borrowings	24	**1,220**	—
Proceeds from sale of forfeited share capital		**—**	1
Distributions to non-controlling interests	12	**(273)**	—
Financing interest paid	24	**(172)**	(233)
Repayment of borrowings and capital element of leases	24	**(1,585)**	(706)
Equity dividends paid	11	**(59)**	—
Net cash flow from financing activities		**(917)**	(938)
Net (decrease)/increase in cash and cash equivalents		**(169)**	2,936
Cash and cash equivalents including overdrafts, and cash classified as held for sale at 1 January		**4,328**	1,393
Effect of foreign exchange rate changes	24	**83**	(1)
Cash and cash equivalents including overdrafts at 31 December	24	**4,242**	4,328
Included in the following line of the Group Balance Sheet:			
Cash and cash equivalents	24	**4,842**	5,060
Overdrafts included within current bank overdrafts, loans and other borrowings	24	**(600)**	(750)
Assets of disposal groups classified as held for sale		**—**	18

The notes on pages 126 to 224 form part of these Financial Statements.

Notes to the Financial Statements

Notes to the Financial Statements provide additional information required by statute, accounting standards or Listing Rules to explain a particular feature of the consolidated Financial Statements.

The notes to these Financial Statements focus on areas that are key to understanding our business. Additional information that we are required to disclose by accounting standards or regulation is disclosed in the Supplementary Information (notes S1 to S11).

In addition, for clarity, notes begin with a simple introduction outlining its purpose.

1. Basis of preparation and summary of significant new accounting policies and reporting changes

This section details new accounting standards, amendments to standards and interpretations, whether these are effective in 2022 or later years, and if and how these are expected to impact the financial position and performance of the Group.

The principal accounting policies applied in the preparation of these consolidated Financial Statements are set out below and in the Supplementary Information (note S2). Unless otherwise stated, these policies have been consistently applied to the years presented.

(a) Basis of preparation

The consolidated Financial Statements have been prepared in accordance with the United Kingdom adopted International Accounting Standards, with International Financial Reporting Standards as issued by the IASB and in conformity with the requirements of the Companies Act 2006.

The consolidated Financial Statements have been prepared on the historical cost basis except for: certain gas inventory, derivative financial instruments, financial instruments required to be measured at fair value through profit or loss or other comprehensive income, and those financial instruments so designated at initial recognition, and the assets of the Group's defined benefit pension schemes that have been measured at fair value; the liabilities of the Group's defined benefit pension schemes that have been measured using the projected unit credit valuation method; and the carrying values of recognised assets and liabilities qualifying as hedged items in fair value hedges that have been adjusted from cost by the changes in the fair values attributable to the risks that are being hedged.

The Directors have, at the time of approving the financial statements, a reasonable expectation that the Company and Group have adequate resources to continue in operational existence for the foreseeable future, which reflects a period of twelve months from the date of approval of the accounts, with modelled analysis extending to 31 December 2024. The scenarios considered as part of the going concern assessment are consistent with those used in the longer-term viability statement. In particular, cash forecasts for the Group have been stress-tested for different scenarios including reasonably possible increases/decreases in commodity prices and the risk scenarios described in the viability statement, assessing reasonably possible combinations of risks, the largest of which is the increased margin outflows in our trading and upstream businesses. Risks considered also include the impact of significant adverse weather events, increased bad debt charges due to the cost of living crisis, the risk of financial loss due to counterparty default and production falls in the Group's upstream business. Due to the elevated and more volatile commodity prices in 2022, the Group has established enhanced processes in the trading business and in respect of Upstream to plan for and manage possible increases in margin cash requirements. The largest margin outflow modelled in the going concern scenarios is significantly in excess of actual margin requirements experienced in 2021 and 2022. Following this work, the level of undrawn committed bank facilities and available cash resources has enabled the Directors to conclude that there are no material uncertainties relating to going concern. As a result, the Group continues to adopt the going concern basis of accounting in preparing the financial statements. Further information on the Group's strong liquidity position, including its indebtedness and available committed facilities is provided in note 24.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It requires management to exercise its judgement in the process of applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity and areas where assumptions and estimates are significant to the consolidated Financial Statements are described in notes 2 and 3.

(b) New accounting policies, standards, amendments and interpretations effective or adopted in 2022

From 1 January 2022, the following standards and amendments are effective in the Group's consolidated Financial Statements:

- Amendments to IAS 37 'Provisions, Contingent Liabilities and Contingent Assets', costs of fulfilling a contract;
- Amendments to IAS 16: 'Property, Plant and Equipment', sale proceeds before intended use;
- Amendments to IFRS 3 'Business Combinations', reference to the Conceptual Framework; and
- Annual improvements to IFRS 2018-2020.

These changes and other amendments effective during the year did not materially impact the consolidated Financial Statements.

Customer Support Schemes

During the year the UK Government announced three new support schemes to provide support for customers during the cost-of-living crisis.

The Energy Bill Support Scheme (EBSS) requires energy suppliers to provide electricity customers with a £400 benefit spread over the six-month winter period. The Group is providing this support to customers as either a cash benefit, or a credit to their energy account depending on their payment type. Energy suppliers are receiving funding monthly in advance from the Government. Cash is restricted until the payment, or account credit, is applied to customers' accounts. Since the beginning of the EBSS scheme on 1 October 2022, the Group has received funding of £1,565 million from the Government. £440 million of this balance primarily relates to funding received in December and is disclosed as restricted cash. A corresponding liability is recognised on the Group's balance sheet until the EBSS support is applied to customer accounts in January 2023, see note 24 for further details.

1. Basis of preparation and summary of significant new accounting policies and reporting changes

The Energy Price Guarantee (EPG) scheme sets a government supported unit price for both gas and electricity for domestic customers at a level below the quarterly-calculated price cap. The EPG tariff rates are expected to reduce the average annual domestic household bill for the period from 1 October 2022 to 31 March 2023 to approximately £2,500 per annum. EPG rates will increase to approximately £3,000 per annum from 1 April 2023 and are expected to remain in place until 31 March 2024. The Government is compensating energy suppliers for the difference between the previously expected price cap and the reduced EPG rates with payments made in arrears. Since the start of the EPG scheme in October, the Group has recognised £706 million of revenue relating to the supply of electricity and £833 million relating to the supply of gas from the Government, of which a total of £153 million is recognised as a trade receivable on the balance sheet at the year-end date. The Group estimates and recognises revenue in accordance with existing Group policy and then applies the EPG discounts. Charges are recoverable from customers based on the net figure, with the EPG discount recoverable from the Government.

The Energy Bill Relief Scheme (EBRS) scheme has been introduced for non-domestic customers, providing government supported unit rates at £211/MWh for electricity and £75/MWh for gas. EBRS support is calculated on the differential between the EBRS rate, and the wholesale price of electricity or gas at either the inception of a customer's fixed price contract, or the date of delivery for variable, deemed and all other contracts, subject to a maximum discount. Since the EBRS scheme became effective from October 2022, the Group has recognised £219 million of revenue from the Government of which £131 million is recognised as a trade receivable on the balance sheet at the year-end date. The EBRS scheme is expected to end on 31 March 2023. Similar to the EPG, the Group recognises revenue based on existing estimation and measurement processes with the EBRS discount applied and subsequently recovered from the Government.

The Group has determined that it is appropriate to apply the requirements of IFRS 15 'Revenue from Contracts with Customers' where the Government is effectively settling a portion of customers' energy bills. This is on the basis that the Group remains entitled to receive consideration for the supply of electricity and gas based on either the existing price cap structure or customers' fixed or variable priced contracts and the transaction price is unchanged. The trade receivable arising from the supply of energy is settled both by the customer, and the Government. The Group observes that the alternative application of IAS 20 'Government Grants' would have resulted in a similar accounting outcome.

Pension Scheme Loan Arrangement

As a result of the turbulence in longer-dated UK Government debt markets during the second half of the year, the Group provided a loan facility to the Group's three defined benefit pension schemes. The facility amounted to £550 million, of which £400 million remained outstanding at the reporting date. Interest on the loan is calculated based on the Bank of England base rate plus 1%; interest accrues over the two-year term of the loan and is paid by the pension schemes at maturity. See note 22 for further details.

The Group has recognised the loan as a financial asset under IFRS 9 'Financial Instruments' measured at amortised cost and classified the receivable within securities on the Group's balance sheet. Correspondingly, the loan liability has been deducted from plan assets on the basis that the loan does not relate to employee benefits (scheme liabilities) in accordance with IAS 19.

(c) Standards and amendments that are issued but not yet applied by the Group

At the date of authorisation of these consolidated Financial Statements, the Group has not applied the following new and revised standards and amendments that have been issued but are not yet effective:

The following standard has been issued, endorsed and will be applied to the Group in future periods:

- IFRS 17 'Insurance Contracts', effective from 1 January 2023.

The following standards and amendments have been issued, endorsed and will be applied to the Group in future periods, subject to UK endorsement:

- Amendments to IAS 1 'Presentation of Financial Statements':
  - Disclosure of accounting policies and materiality judgements, effective 1 January 2023;
  - Classification of liabilities as current or non-current, effective 1 January 2024; and
  - Non-current liabilities with covenants, effective 1 January 2024.
- Amendments to IAS 8 'Accounting policies, Changes in Accounting Estimates and Errors'; effective from 1 January 2023;
- Amendments to IAS 12 'Income Taxes'; effective from 1 January 2023; and
- Amendments to IFRS 16 'Leases'; effective from 1 January 2024.

IFRS 17 will be effective from 1 January 2023. The Group currently has fixed-fee service contracts that it accounts for as insurance contracts under IFRS 4 'Insurance Contracts'. The Group has completed its assessment of IFRS 17 and expects these contracts to fall within the scope of IFRS 17 where the Group reflects an assessment of the risk associated with an individual customer in setting the price of the contract. The Group will apply the simplified 'Premium Allocation Approach' to its contracts on the basis that the coverage period of the Group's insurance contracts is not greater than one year. The Group does not expect a material impact from the application of this standard.

Management does not expect other issued but not effective amendments or standards, or standards not discussed above to have a material impact on the consolidated Financial Statements.

2. Centrica specific accounting measures

This section sets out the Group's specific accounting measures applied in the preparation of the consolidated Financial Statements. These measures enable the users of the accounts to understand the Group's underlying and statutory business performance separately.

(a) Use of adjusted performance measures

The Directors believe that reporting adjusted measures (revenue, margin, profit, earnings per share and cash flow) provides additional useful information on business performance and underlying trends. These measures are used for internal performance purposes, are not defined terms under IFRS and may not be comparable with similarly titled measures reported by other companies.

Management uses adjusted revenue, adjusted gross margin and adjusted operating profit to evaluate segment performance. They are defined as revenue/gross margin/operating profit before:

- exceptional items; and
- certain re-measurements.

Exceptional items and certain re-measurements are excluded because these items are considered by the Directors to distort the Group's underlying business performance. See section (b) of this note for further details. Similarly, for Segmental adjusted operating profit, the impact of the Group's profit share is excluded because management considers it unrelated to Segmental business performance.

Adjusted earnings is defined as earnings before:

- exceptional items net of taxation; and
- certain re-measurements net of taxation.

A reconciliation of adjusted earnings and adjusted earnings per share is provided in note 10.

Free cash flow is used by management to assess the cash generating performance of each segment. Segmental free cash flow is defined as net cash flow from operating and investing activities before:

- deficit reduction payments made to the UK defined benefit pension schemes;
- movements in variation margin and collateral;
- interest received;
- sale, settlement and purchase of securities; and
- taxes paid and refunded.

Segmental free cash flow as assessed by management excludes cash flows relating to tax. This is because the effect of Group relief and similar reliefs could distort the measure of segment performance. As a Group-wide measure, free cash flow includes taxes paid and refunded.

Free cash flow gives a measure of the cash generation performance of the business after taking account of the need to maintain its capital asset base. By excluding deficit reduction payments and movements in variation margin and collateral, which are predominantly triggered by wider market factors and, in the case of collateral and margin movements, represent timing differences, free cash flow gives a measure of the underlying performance of the Group.

Interest received and cash flows from the sale, settlement and purchase of securities are excluded from free cash flow as these items are included in the Group's adjusted net cash/debt measure and are therefore viewed by the Directors as related to the manner in which the Group finances its operations.

Adjusted net cash/(debt) is used by management to assess the underlying indebtedness of the business. Adjusted net cash/(debt) is defined as cash and cash equivalents, net of bank overdrafts, borrowings, leases, interest accruals and related derivatives. This is adjusted for:

- securities; and
- sub-lease assets.

(b) Exceptional items and certain re-measurements

The Group reflects its underlying financial results in the business performance column of the Group Income Statement. To be able to provide users with this clear and consistent presentation, the effects of 'certain re-measurements' of financial instruments, and 'exceptional items', are reported in a different column in the Group Income Statement.

The Group is an integrated energy business. This means that it utilises its knowledge and experience across the gas and power (and related commodity) value chains to make profits across the core markets in which it operates. As part of this strategy, the Group enters into a number of forward energy trades to protect and optimise the value of its underlying production, generation, storage and transportation assets and contracts (and similar capacity or off-take arrangements), as well as to meet the future needs of its customers (downstream demand). These trades are designed to reduce the risk of holding such assets, contracts or downstream demand and are subject to strict risk limits and controls.

Primarily because some of these trades include terms that permit net settlement, they are prohibited from being designated as 'own use' and so IFRS 9 'Financial Instruments' requires them to be individually fair valued.

Fair value movements on these commodity derivative trades do not reflect the underlying performance of the business because they are economically related to our upstream assets, capacity/off-take contracts or downstream demand, which are typically not fair valued. Similarly, where our downstream customer supply contracts have become onerous as a result of significant market price movements (and the fact any associated commodity hedges have separately been recognised at fair value under IFRS 9 and therefore the onerous supply contract assessment must reflect the reversal of those gains in subsequent periods), movements in the required provision are also reflected as a certain re-measurement in the 'Cost of sales' line item and separately disclosed in note 7.

Movements in this provision do not reflect the underlying performance of the business because they are economically related to both the hedges and forecast future profitability of the supply contracts. Therefore, these certain re-measurements are reported separately and are subsequently reflected in business performance when the underlying transaction or asset impacts profit or loss.

The effects of these certain re-measurements are presented within either revenue or cost of sales when recognised in business performance depending on the nature of the contract. They are managed separately from proprietary energy trading activities where trades are entered into speculatively for the purpose of making profits in their own right. These proprietary trades are included in revenue in the business performance column of the Group Income Statement.

2. Centrica specific accounting measures

The Group's result for the year presents both realised and unrealised fair value movements on all derivative energy contracts within the 'Re-measurement and settlement of derivative energy contracts' line item. The Group's result for the year presents the unrealised onerous supply contract provision movements within the 'Cost of sales' line item.

Exceptional items are those items that, in the judgement of the Directors, need to be disclosed separately by virtue of their nature, size or incidence. Again, to ensure the business performance column reflects the underlying results of the Group, these exceptional items are also reported in the separate column in the Group Income Statement. Items that may be considered exceptional in nature include disposals of businesses or significant assets, business restructurings, debt repurchase costs, certain pension past service credits/costs, asset impairments/write-backs, the tax effects of these items and the effect of changes in UK upstream tax rates.

The Group distinguishes between business performance asset impairments/write-backs and exceptional impairments/write-backs on the basis of the underlying driver of the impairment, as well as the magnitude of the impairment. Drivers that are deemed to be outside of the control of the Group (e.g. commodity price changes) give rise to exceptional impairments. Additionally, impairment charges that are of a one-off nature (e.g. reserve downgrades or one-time change in intended use of an asset) and significant enough value to distort the underlying results of the business are considered to be exceptional. Other impairments that would be expected in the normal course of business, such as unsuccessful exploration activity (dry holes), are reflected in business performance.

3. Critical accounting judgements and key sources of estimation uncertainty

This section sets out the key areas of judgement and estimation that have the most significant effect on the amounts recognised in the consolidated Financial Statements.

(a) Critical judgements in applying the Group's accounting policies

In addition to the judgements described above, management has made the following key judgements in applying the Group's accounting policies that have the most significant effect on the consolidated Group Financial Statements.

Spirit Energy consolidation

During 2017, the Group acquired Bayerngas Norge's exploration and production business and combined this with the Group's existing exploration and production business to form the Spirit Energy business (SE). The Group, through its Board majority, can control decisions that represent Board Reserved Matters and the Directors consider that these rights provide control over the relevant activities that most significantly influence the variable returns of the SE business. The Group has concluded that it controls SE and consequently SE is fully consolidated with a non-controlling interest of 31%.

Metering contracts

As part of the ongoing smart meter roll-out, the Group periodically renews meter rental arrangements with third parties. The last renegotiation took place in 2021. The Group assessed that these were not leases under IAS 17 and IFRIC 4 because at inception of the contract there were no specified assets, the Group did not have the right to physically or operationally control the smart meters and other parties took more than an insignificant amount of the output from the assets. This assessment was grandfathered on adoption of IFRS 16.

A reassessment of the contracts was performed in accordance with IFRS 16, following renegotiations of the meter rental arrangements. On the basis that the asset has a predetermined use and the Group neither has the right to operate the asset, nor was involved in its design, the conclusion that these arrangements are not leases continues to be appropriate.

LNG contracts

The Group is active in the liquified natural gas (LNG) market, both procuring long-term LNG supply arrangements and transacting in shorter-term LNG cargoes. As part of its operations in the market, the Group optimises its contractual positions in order to meet customer demand for physical commodity. In response to the continuing development of the global LNG market which, consistent with prior years, is not considered to be active, the Group has reviewed its portfolio of LNG transactions and contracts. It has judged that its activities are carried out for the purpose of receipt or delivery of physical commodity in accordance with its expected purchase and sale requirements. As a result, the Group's contracts to buy and sell LNG are outside the scope of IFRS 9 and are accounted for on an accruals basis.

Assets held for sale and discontinued operations

On 8 December 2021 the Group announced that it had agreed to sell Spirit Energy's entire Norwegian portfolio plus the Statfjord field to Sval Energi and Equinor. The transaction completed in the first half of 2022. See note 12.

The disposal group did not represent a separate major line of business or geographical operations, because the Upstream segment retains other European producing fields, and hence the Group concluded that the disposal group did not constitute a discontinued operation.

Supplier of Last Resort (SoLR)

During 2021, the Group was appointed as the Supplier of Last Resort (SoLR) to eight suppliers who ceased trading during the year and one further appointment was made in January 2022. Under Ofgem's licence conditions, the Group was entitled to make a Last Resort Supplier Payment (LRSP) claim for the shortfall between costs reasonably incurred in supplying gas and electricity to premises under the Last Resort Supply Direction, and the charges recovered from customers.

The Group submitted an initial claim in 2021, covering a six-month period from the date of appointment, and received confirmation of Ofgem's acceptance in December 2021. The claim primarily covered estimated incremental commodity costs, incurred as a result of procuring gas and electricity to supply affected customers. The initial claim is currently being settled in 12 monthly instalments ending in April 2023 and a total of £258 million has been received during 2022. The Group submitted a second claim to Ofgem in Autumn 2022, recognising both actual commodity costs incurred, and additional costs which were not included in the initial claim. This includes the recovery of customer credit balances, where the Group had not waived the right to do so. The second claim was accepted by Ofgem in December 2022 and will be settled between April 2023 and April 2024. The value recognised for the SoLR receivable at 31 December 2022 is £275 million (31 December 2021: £234 million). In 2022, the Group incurred a further £241 million of incremental costs (31 December 2021: £185 million) and an additional £58 million of cost relating to customer credit balances (31 December 2021: £49 million).

The Group has concluded that the LRSP process represents an Ofgem support mechanism, enabling energy suppliers to provide stability to the customers of failed suppliers. The Group determines that the LRSP is within the scope of IAS 20 'Government Grants' and amounts receivable under the mechanism are recognised as a credit within cost of sales and operating costs, as the related expenses are incurred.

Share buyback

On 10th November 2022, the Group announced an intention to undertake a share buyback of £250 million, expected to complete by 31 May 2023. The Group entered into contracts with third parties to undertake this repurchase programme and, as at 31 December 2022, £43 million of shares had been purchased. The Group judges that the terms and conditions of the contracts meant that, at the 31 December 2022, it was unable to cancel the remaining obligation. Accordingly, the Group has recorded a financial liability of £207 million for this remaining obligation, in accordance with IFRS 9: 'Financial Instruments'. See note S4.

3. Critical accounting judgements and key sources of estimation uncertainty

(b) Key sources of estimation uncertainty

The sections below detail the assumptions the Group makes about the future and other major sources of estimation uncertainty when measuring its assets and liabilities at the reporting date. The information given relates to the sources of estimation uncertainty that have a significant risk of resulting in a material adjustment to those assets and liabilities in the next financial year.

Estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, including current and expected economic conditions, and, in some cases, actuarial techniques. Although these estimates and associated assumptions are based on management's best knowledge of current events and circumstances, actual results may differ.

British Gas Energy and Centrica Business Solutions Onerous Supply Contracts

The Group operates and manages a hedging strategy to ensure that the future costs of supplying customers of the British Gas Energy and Centrica Business Solutions portfolios are appropriately managed.

Hedges are measured at fair value under IFRS 9 and are recognised as certain re-measurements in the Group's income statement until the point at which the related costs to purchase electricity and gas are incurred. Fair value movements on energy purchase contracts entered to meet the future needs of customers are economically related to customer demand; the supply contracts for which are measured on an accrual basis.

Gains and losses arising from hedges have been recognised in the income statement (within certain re-measurements) in accordance with the requirements of IFRS 9. Because of this hedge value recognition, the assessment of whether the supply contracts are onerous must include the contracted energy purchase costs and those mark-to-market reversals. In 2021, the Group determined that at the reporting date, the future costs to fulfil customer contracts, including those mark-to-market reversals, exceeded the charges recoverable from customers because the associated hedging gains had already been recognised in the income statement. As a result the Group recognised an onerous supply contract provision.

Throughout 2022, commodity prices have been elevated and volatile and the reversal of gains and losses arising from hedges has had a significant impact on the Group's onerous contract supply provision. Commodity prices have declined at year end and the overall provision has similarly reduced. If commodity prices increase, a further provision may be required in the future. Commodity price movements typically affect the Group's residential portfolio more immediately than non-domestic customers, because the residential hedging strategy reflects the more variable nature of the portfolio's pricing structure compared to Centrica Business Solutions customers who are typically on longer-term fixed contracts. The decrease in the onerous supply contract provision is partially offset by the corresponding losses on the related derivatives recognised in certain re-measurements. Further disclosures relating to movements in certain re-measurements are provided in note 7.

Due to the sharp decline in commodity prices at the end of 2022, fair value movements on energy purchase contracts entered to meet the future needs of British Gas Energy residential customers resulted in losses rather than gains being recognised as certain re-measurements in the Group's income statement. As a result, the Group determined that at the reporting date, the future costs to fulfil British Gas residential customer contracts fell below charges recoverable from customers and the onerous supply contract provision previously recognised in relation to the fulfilment of British Gas Energy customer contracts has been reversed in full.

Fair value movements on energy purchase contracts in relation to the Group's non-domestic customers have similarly resulted in the recognition of losses as a result of declining wholesale prices during December 2022. The hedging strategy for this portfolio differs from the residential portfolio, and the Group has determined that at the reporting date, the reversal of the cumulative fair value movements on this portfolio still results in future costs which exceed charges recoverable from customers. As a result, the Group continues to recognise an onerous supply contract provision for the Group's non-domestic customers.

The total onerous contract supply provision recognised by the Group is £999 million (31 December 2021: £2,530 million). This has been calculated by estimating the expected margins from energy supply customers, and deducting from this margin the expected costs to fulfil those arrangements, including energy purchase costs reflecting the mark-to-market gains, and directly attributable overhead costs.

In the prior year, key sources of estimation uncertainty related to the expected future tenure of the Group's customer portfolio, and the estimated gross margin attributable to them. Estimations were based on historic experience, adjusted to reflect non-recurring costs. The British Gas Energy residential element of the provision was particularly sensitive to movements in tenure and gross margin assumptions.

At 31 December 2022, the onerous supply contract provision only relates to non-domestic customers and is much less sensitive to the assumptions made.

Credit provisions for trade and other receivables

The economic effects of the significant increase in wholesale gas and electricity costs, and resultant increase in consumer tariffs alongside wider inflationary and cost-of-living pressures may impact the ability of the Group's customers to pay amounts due. Gas and electricity customers are benefitting from customer support schemes implemented by the Government, but prices are still significantly higher than in previous years and the level of estimation uncertainty in determining the credit provisions required for customers is heightened.

The methodology for determining provisions for credit losses on trade and other receivables and the level of such provision, along with associated sensitivities, is set out in note 17. Although the provisions recognised are considered appropriate, the use of different assumptions or changes in economic conditions could lead to movements in the provisions and therefore impact the Group Income Statement.

Impairment and impairment reversals of long-lived assets

The Group makes judgements in considering whether the carrying amounts of its long-lived assets (principally Upstream gas assets, Nuclear investment (20% economic interest accounted for as an investment in associate) and goodwill) or cash-generating units (CGUs) are recoverable and estimates their recoverable amounts.

2021 and 2022 have seen significant year-on-year increases in forward commodity prices, both in terms of observable market prices and forecast forward prices. As a result impairment reversals were booked in 2021 related to our retained assets. During 2022, the announcement of the Energy Profits Levy and Electricity Generator Levy has also impacted the recoverable amounts of our assets.

3. Critical accounting judgements and key sources of estimation uncertainty

Upstream gas assets

Forward prices for gas are a key input in the determination of the recoverable amount of the Group's gas assets. 2022 has seen continued increases in the prices for this commodity, both in terms of observable market prices and forecast forward prices. This increase, primarily due to higher commodity prices, has been partially offset by the implementation of the Energy Profits Levy. At 31 December 2022, impairment headroom remains for all significant fields. The recoverable amounts of the Group's gas assets are capped at depreciated historic cost; accordingly no material impairment reversals have been recorded during the period. As at 31 December 2022, this remains a key source of estimation uncertainty due to potential future price decreases. Sensitivities are provided in note 7.

Further details of the assumptions used in determining the recoverable amounts and sensitivities to the assumptions are provided in note 7.

Nuclear investment

The recoverable amount of the Nuclear investment is based on the value of the existing UK nuclear fleet operated by EDF. The existing fleet value is calculated by discounting pre-tax cash flows derived from the stations based on forecast power generation and power prices, whilst taking account of outages and the likely operational lives of the stations. During the period, the recoverable amount has improved as a result of increases in commodity prices more than offsetting the effect of the announcement of the Electricity Generator Levy. This, coupled with the impact of the actuarial loss from the associate's pension scheme, has resulted in an impairment reversal of £195 million.

The key source of estimation uncertain is commodity price forecasts, other input assumptions include production levels and station lives. Further details of these uncertainties, together with the methodology, assumptions and impairment reversal booked during the year are provided in note 7, together with related sensitivities.

Revenue recognition – unread gas and electricity meters

Revenue for energy supply activities includes an assessment of energy supplied to customers between the date of the last meter reading and the year-end (known as unread revenue). Unread gas and electricity comprises both billed and unbilled revenue. It is estimated through the billing systems, using historical consumption patterns, on a customer-by-customer basis, taking into account weather patterns, load forecasts and the differences between actual meter readings being returned and system estimates. Actual meter readings continue to be compared to system estimates between the balance sheet date and the finalisation of the accounts.

An assessment is also made of any factors that are likely to materially affect the ultimate economic benefits that will flow to the Group, including bill cancellation and re-bill rates. Estimated revenue is restricted to the amount the Group expects to be entitled to in exchange for energy supplied. The judgements applied, and the assumptions underpinning these judgements, are considered to be appropriate. However, a change in these assumptions would have an impact on the amount of revenue recognised. The primary source of estimation uncertainty relating to unread revenue arises in the respect of gas and electricity sales to UK downstream customers in British Gas Energy and Centrica Business Solutions, including where changes in customer behaviour in response to elevated prices, affects estimated consumption. At 31 December 2022 unread revenue arising from these customers amounted to £2,893 million (2021: £1,740 million). A change in these assumptions of 2% would impact revenue and profit by £58 million.

Decommissioning costs

The estimated cost of decommissioning at the end of the producing lives of gas fields is reviewed periodically and is based on reserves, price levels and technology at the balance sheet date. Provision is made for the estimated cost of decommissioning at the balance sheet date. The payment dates of total expected future decommissioning costs are uncertain and dependent on the lives of the facilities, but are currently anticipated to be predominantly incurred by 2030.

The level of provision held is also sensitive to the discount rate used to discount the estimated decommissioning costs. The real discount rate used to discount the decommissioning liabilities at 31 December 2022 is 1% (2021: 0%). There are a number of variable inputs into the calculation of discount rates including risk-free interest rates and debt and equity risk premium. As a result of changes in yields on government gilts appropriate to the forecast profile of the decommissioning expenditure, it has been deemed appropriate to increase the decommissioning rate. A 1% change in this discount rate would change the decommissioning liability by approximately £75 million.

Gas and liquids reserves

The volume of proven and probable (2P) gas and liquids reserves is an estimate that affects the unit of production method of depreciating producing gas and liquids property, plant and equipment (PP&E) as well as being a significant estimate affecting decommissioning and impairment calculations.

The impact of a change in estimated 2P reserves is dealt with prospectively by depreciating the remaining book value of producing assets over the expected future production. If 2P reserves estimates are revised downwards, earnings could be affected by higher depreciation expense or an immediate write-down (impairment) of the asset's book value. A change in reserves estimates could also change the timing of decommissioning activity, which could change the carrying value of the Group's provisions. The complex interaction of field-specific factors means that it is not possible to give a meaningful sensitivity of the Group's financial position or performance to gas and liquids reserves estimates. The factors impacting gas and liquids estimates, the process for estimating reserve quantities and reserve recognition and details of the Group's 2P reserves are given on page 237. Details of impairments of exploration and production fields and goodwill, along with associated sensitivities, are given in note 7.

Determination of fair values – energy derivatives

The fair values of energy derivatives classified as Level 3 in accordance with IFRS 13 'Fair Value Measurement' are determined to be a key source of estimation uncertainty as they are not actively traded and their values are estimated by reference in part to published price quotations in active markets and in part by using complex valuation techniques. The key source of estimation uncertainty is future commodity prices and their inclusion in the reliable estimation of the unobservable components of the Group's Level 3 derivatives in an elevated and volatile commodity price environment. More detail on the assumptions used in determining fair valuations of energy derivatives is provided in note S6 and on the sensitivities to these assumptions in note S3.

3. Critical accounting judgements and key sources of estimation uncertainty

Climate change

In preparing the financial statements, the Directors have considered the impact of climate change in the context of the risks and opportunities identified in the TCFD disclosures on pages 46 to 54. There has been no material impact identified on the financial reporting judgements and estimates. The Directors specifically considered the impact of climate change in the following areas:

- cash flow forecasts used in the impairment assessment of non-current assets, including goodwill;
- carrying value and useful economic lives of property, plant and equipment;
- recoverability of deferred tax assets; and
- going concern and viability of the Group over the next three years.

Whilst there is no short-term impact expected from climate change, the Directors are aware of the risks and regularly assess these risks against judgements and estimates made in preparation of the Group's financial statements.

Further detail is provided in the Climate change note below.

3. Critical accounting judgements and key sources of estimation uncertainty

(c) Climate change

The Group's assessment of how climate-related issues might affect the business has been integrated into its annual strategic and financial planning process. At the same time, the Group reviews the potential impact of the material risks and opportunities and its Climate Transition Plan on both the current balance sheet position and its accounting policies (including the useful economic lives of its assets).

Summary of our most material risks & opportunities

TCFD category	Climate-related trend	Potential impact
Transition: Policy, Markets and Technology	Transition away from fossil fuelled heating	Risk: Reduced gross margin (GM) from the sale and servicing of natural gas residential boilers and commercial Combined Heat and Power (CHP)
Transition: Policy, Markets and Technology	Growth in low carbon heating market	Opportunity: Increased sales and servicing of electric and hydrogen fuelled heating systems
Transition: Policy, Markets and Technology	Transition away from natural gas	Risk: Reduced GM from the sale of natural gas and energy efficiency
Transition: Policy, Markets and Technology	Growth in low carbon heating market	Opportunity: Increased sales of electricity and green/low carbon hydrogen
Transition: Markets	Growth of EV transport market	Opportunity: Access to new and growing value pools related to EV charging installs, operation and maintenance (O&M), and energy supply
Transition: Energy Source	Growth in demand for renewable energy	Opportunity: Strong growth in the market for low carbon and transition assets driven by decarbonisation
Physical: Chronic	Rising mean temperatures	Risk: Reduced sales of natural gas and electricity for heat

IFRS dictates how each asset or liability should be accounted for (e.g. cost, fair value or other measurement criteria) and accordingly, there is a fundamental difference between the holistic forward-looking risk and opportunities business analysis (see TCFD disclosure on pages 46 to 54), and the possible sensitivity of current accounting carrying values to these risks and opportunities.

For example, whilst the activity of supplying gas to customers or servicing/installing gas boilers is clearly subject to climate-related risks (and opportunities), the balance sheet does not reflect an overall value of those businesses (aside from an element of goodwill). Instead, accounting balances related to these businesses generally manifest themselves in short-term working capital assets and liabilities associated with procuring and selling gas or servicing/installing boilers; with those balances generally settled within six months and so specifically less exposed to climate risks.

In a similar vein, Upstream assets are tested for impairment in accordance with relevant IFRS accounting standards. These generally require the recoverable amount of the asset to be calculated based on a best estimate of long-term forecast commodity prices, which the Group estimates based on current market prices and the consensus of reputable commodity pricing consultants forecasts. However, these estimates are not consistent with net zero scenarios from the consultants (as they do not factor in any prospective, yet to be announced legislative or market changes that would be required to meet temperature targets) and hence impairment reviews are not based on net zero scenario forward prices. The Group instead discloses the impact on the carrying value of Upstream assets by way of sensitivity analysis (see note 7(c)).

3. Critical accounting judgements and key sources of estimation uncertainty

Accordingly, the Group is mindful of these dynamics when it considers which areas of the balance sheet are exposed to key estimation uncertainty from climate-related issues. The Group considers which assets are most exposed to impairment from climate risks and similarly whether there are any liabilities that are either currently unrecognised or might increase as a result of those risks.

The Group's assets/liabilities have been segmented into three tranches, grading each balance's exposure to climate risks/opportunities:

(i) Higher risk – As the consumption of gas and power is intrinsically linked to carbon emissions, their pricing is consequently exposed to climate and legislative risk. Accordingly, where assets or contract values have a key dependency on commodity price assumptions, those assets (or contracts) are deemed higher risk.

(ii) Medium risk – Gross margin energy transition considerations and their potential impact on forward-looking balances (e.g. Supply and Services and Energy Trading goodwill) and decommissioning balances in E&P.

(iii) Lower risk – No significant risk identified on the basis that positions are short-term in nature or are specifically linked to the energy transition or are immaterial.

The key non-current asset (and decommissioning provision) balance sheet items have been presented in more granular detail below, together with the groupings into the above risks and with rationale set out below the table:

As at 31 December 2022 related to (£m):	Goodwill	Intangibles	Investment in associates	Property, plant & equipment	Deferred tax assets	Decommissioning provision
Energy Supply	197					
Customer relationships		16				
Emission certificates		271				
Application software		146				
Energy Services	63					
Customer relationships		6				
Brand (mainly Dyno)		57				
Application software		128				
Battery storage				40		
Electric vehicles (vans/cars)				45		
Non-electric vehicles (vans/cars)				22		
Energy Trading	149					
Customer relationships		18				
Emission certificates		9				
Application software		29				
LNG vessel leases				124		
Gas Assets (E&P and Storage)	–					
E&P fields (Spirit)				1,124	(256)	(1,175)
E&P tax losses (Spirit)					214	
Gas storage facility (Rough)				71	131	(324)
Power Generation	–					
Nuclear investment			1,560			
Gas-fired power stations/engines				95		(15)
Combined heat and power (CHP)/fuel cell				45		
Solar				14		
Group/Other	–					
Application software		27				
Land & buildings (i)				104		
Derivatives deferred tax (i)					1,713	
Other (i)			20	64	(93)	
Total (notes 13-16 and 21)	409	707	1,580	1,748	1,709	(1,514)

(i) Land & buildings, Derivatives deferred tax and Other property, plant & equipment/Associates/Deferred tax have not been allocated out across business type.

Higher
Medium
Lower

3. Critical accounting judgements and key sources of estimation uncertainty

All items noted above may be impacted by climate-related risks but are not currently considered to be key areas of judgement or sources of estimation uncertainty in the current financial year.

Higher risk

E&P field valuations are dependent on forecast commodity prices. Climate change risk means that there is uncertainty over gas demand and forecast prices. This is not currently a key source of estimation uncertainty because current liquid commodity prices mean that there is significant impairment headroom over current carrying values. Nonetheless, valuation sensitivity information based on a net zero price forecast has been provided in note 7(c) to show field values can move significantly. (Note that the Group's intention is to run-off remaining fields with most production forecast in the next five years. Decommissioning obligations will be substantively met by the early 2030s, whilst further investment in exploring for new gas fields has ceased.) Recoverability of E&P deferred tax assets associated with historic losses is dependent on future field profitability and so is subject to climate change risk.

The valuation of the investment in Nuclear is also highly dependent on forecast commodity prices. Climate change risks and opportunities means there is uncertainty over electricity demand and forecast prices. The underlying Nuclear stations, which produce electricity with no carbon emissions, have different useful economic lives, with the last station forecast to cease operating in 2055. Valuation sensitivity information based on a net zero price forecast has been provided in note 7(c).

Medium risk

The Group's small number of gas-fired power stations and engines are exposed to climate change risk, with valuations dependent on forecast gas and electricity prices and electricity demand. However, they are deemed medium risk as they do not have a significant carrying value in the context of the Group.

Similarly the Group's investment in CHP and Fuel Cell assets are also exposed to climate risk. They have useful economic lives of up to 15 years but they do not, individually or in total, have material carrying values.

LNG Vessels on the balance sheet are exposed to risk from climate change, but as they are leased assets with the current term remaining less than five years, this risk is reduced to medium.

The Group is in the process of transitioning to an electrified vehicle fleet. Non-electric vehicles are deemed medium risk because their remaining useful economic lives are generally quite short.

Decommissioning provisions are generally longer-term but this could be brought forward for E&P assets if the energy transition accelerates. However, as the decommissioning discount rate is only 1% (real) the balance sheet and income statement impact of earlier decommissioning would not be material.

Deferred tax associated with field accelerated capital allowances and decommissioning in E&P and Storage is not considered high risk due to the length of carry-back rules for decommissioning and the mechanical unwind of other temporary differences. Deferred tax assets associated with derivatives are considered medium risk as the derivatives generally realise within 2 years.

Energy Supply, Energy Services and Energy Trading Goodwill, Customer Relationships and Application Software are categorised as medium risk because the businesses are exposed to energy transition risk as a result of climate change. However, there are also significant opportunities for these businesses and the carrying values are not material.

Lower risk

All other assets denoted in the table above are considered lower risk because they are either specifically related to the energy transition (e.g. electric vehicles, battery storage, emission certificates) or are immaterial.

Other contracts

The Group also has long-term LNG supply contracts with Cheniere and Mozambique. These are not reflected on the balance sheet but the Group has certain purchase commitments (see note 23). The contracts currently have significant value because of gas price locational spreads but are exposed to climate-change risk and therefore could ultimately become onerous in net zero scenarios. The commitments note provides detail of the length of the contracts and commodity purchase commitments.

4. Segmental analysis

The Group's reporting segments are those used internally by management to run the business and make decisions. The Group's segments are based on products and services as well as the major factors that influence the performance of these products and services across the geographical locations in which the Group operates.

(a) Segmental structure

The types of products and services from which each reportable segment derived its income during the year are detailed below. Income sources are reflected in Group revenue unless otherwise stated:

Segment	Description
British Gas Services & Solutions	(i) The installation, repair and maintenance of domestic central heating and related appliances, and the provision of fixed-fee maintenance/breakdown service and insurance contracts in the UK; and (ii) the supply of new technologies and energy efficiency solutions in the UK.
British Gas Energy	(i) The supply of gas and electricity to residential and small business customers in the UK.
Bord Gáis Energy	(i) The supply of gas and electricity to residential, commercial and industrial customers in the Republic of Ireland; (ii) the installation, repair and maintenance of domestic central heating and related appliances in the Republic of Ireland; and (iii) power generation in the Republic of Ireland [(i)].
Centrica Business Solutions	(i) The supply of gas and electricity to business customers in the UK [(i)]; and (ii) the supply of energy services and solutions to large organisations in all geographies in which the Group operates, and the development and operation of large-scale power assets in the UK.
Energy Marketing & Trading	(i) The procurement, trading and optimisation of energy in the UK and Europe [(i)]; (ii) the global procurement and sale of LNG; and (iii) the generation of power from the Spalding combined cycle gas turbine tolling contract (the contract ended in 2021).
Upstream	(i) The production and processing of oil and gas principally within Spirit Energy [(i)]; and (ii) the sale of power generated from nuclear assets in the UK.

(i) Where income is generated from contracts in the scope of IFRS 9, this is included in re-measurement and settlement of derivative energy contracts.

4. Segmental analysis

(b) Revenue

Gross segment revenue includes revenue generated from the sale of products and services to other reportable segments of the Group. Group revenue reflects only the sale of products and services to third parties. Sales between reportable segments are conducted on an arm's length basis.

	2022			2021		
Year ended 31 December	Gross segment revenue £m	Less inter-segment revenue £m	Group revenue £m	Gross segment revenue £m	Less inter-segment revenue £m	Group revenue £m
British Gas Services & Solutions	1,527	(50)	1,477	1,513	(53)	1,460
British Gas Energy	13,096	—	13,096	7,513	—	7,513
Bord Gáis Energy	1,771	—	1,771	1,111	—	1,111
Centrica Business Solutions	3,000	(19)	2,981	1,981	(28)	1,953
Energy Marketing & Trading	14,441	(219)	14,222	6,082	(214)	5,868
Upstream	3,351	(3,261)	90	2,282	(1,887)	395
Group revenue included in business performance	37,186	(3,549)	33,637	20,482	(2,182)	18,300
Less: revenue arising on contracts in scope of IFRS 9 included in business performance			(9,896)			(3,556)
Group Revenue			23,741			14,744

The table below shows the Group revenue arising from contracts with customers, and therefore in the scope of IFRS 15, and revenue arising from contracts in the scope of other standards. The key economic factors impacting the nature, timing and uncertainty of revenue and cash flows are considered to be driven by the type and broad geographical location of the customer. The analysis of IFRS 15 revenue below reflects these factors.

	2022				
Year ended 31 December	Revenue from contracts with customers in scope of IFRS 15 (i) £m	Revenue from fixed-fee service and insurance contracts in scope of IFRS 4, and leasing contracts in scope of IFRS 16 £m	Group revenue £m	Revenue in business performance arising from contracts in scope of IFRS 9 £m	Group revenue included in business performance £m
Energy services and solutions	625				
British Gas Services & Solutions	625	852	1,477	—	1,477
Energy supply – UK	13,096				
British Gas Energy	13,096	—	13,096	—	13,096
Energy supply – Republic of Ireland	1,323				
Bord Gáis Energy	1,323	—	1,323	448	1,771
Energy supply – UK	1,465				
Energy services	249				
Centrica Business Solutions	1,714	14	1,728	1,253	2,981
Energy sales to trading and energy procurement counterparties	5,639				
Energy Marketing & Trading	5,639	16	5,655	8,567	14,222
Gas and liquid production	462				
Upstream	462	—	462	(372)	90
	22,859	882	23,741	9,896	33,637

(i) The Group has recognised £1,539 million of revenue from the Government in relation to the Energy Price Guarantee scheme for domestic customers in the British Gas Energy segment. A further £219 million of revenue has been recognised in respect of the Energy Bill Relief Scheme. £175 million of this total relates to Centrica Business Solutions customers and £44 million relates to non-domestic customers in the British Gas Energy segment. A further £1,125 million was received, and provided to customers of the British Gas Energy segment in respect of the Government's Energy Bill Support Scheme resulting in a net £nil presentation in the Group's income statement, see note 1.

4. Segmental analysis

Year ended 31 December	Revenue from contracts with customers in scope of IFRS 15 £m	Revenue from fixed-fee service and insurance contracts in scope of IFRS 4, and leasing contracts in scope of IFRS 16 £m	Group revenue £m	Revenue in business performance arising from contracts in scope of IFRS 9 £m	Group revenue included in business performance £m
	2021				
Energy services and solutions	554				
British Gas Services & Solutions	554	906	1,460	—	1,460
Energy supply – UK	7,513				
British Gas Energy	7,513	—	7,513	—	7,513
Energy supply – Republic of Ireland	903				
Bord Gáis Energy	903	—	903	208	1,111
Energy supply – UK	944				
Energy services	297				
Centrica Business Solutions	1,241	7	1,248	705	1,953
Energy sales to trading and energy procurement counterparties	2,825				
Energy Marketing & Trading	2,825	35	2,860	3,008	5,868
Gas and liquid production	760				
Upstream	760	—	760	(365)	395
	13,796	948	14,744	3,556	18,300

Geographical analysis of revenue and non-current assets

The Group monitors and manages performance by reference to its operating segments and not solely on a geographical basis. However, provided below is an analysis of revenue and certain non-current assets by geography.

Year ended 31 December	Group revenue (based on location of customer) 2022 £m	Group revenue (based on location of customer) 2021 £m	Non-current assets (based on location of assets) (i) 2022 £m	Non-current assets (based on location of assets) (i) 2021 £m
Continuing operations				
UK	**17,480**	10,891	**3,827**	4,203
Republic of Ireland	**1,323**	903	**152**	139
Scandinavia (including Denmark)	**1,473**	894	**181**	173
North America	**867**	413	**14**	25
Rest of the world	**2,598**	1,643	**353**	332
	23,741	14,744	**4,527**	4,872

(i) Non-current assets comprise goodwill, other intangible assets, PP&E, interests in joint ventures and associates and non-financial assets within trade and other receivables, and contract-related assets. Assets of disposal groups held for sale are not included.

4. Segmental analysis

(c) Adjusted gross margin and adjusted operating profit

The measure of profit used by the Group is adjusted operating profit. Adjusted operating profit is operating profit before exceptional items and certain re-measurements. This includes business performance results of equity-accounted interests.

This note also details adjusted gross margin. Both measures are reconciled to their statutory equivalents.

	Adjusted gross margin		Adjusted operating profit	
Year ended 31 December	**2022 £m**	2021 £m	**2022 £m**	2021 £m
British Gas Services & Solutions	**504**	574	**(9)**	121
British Gas Energy	**1,114**	849	**72**	118
Bord Gáis Energy	**160**	136	**31**	28
Centrica Business Solutions	**238**	143	**44**	(52)
Energy Marketing & Trading	**1,558**	242	**1,400**	70
Upstream	**1,874**	926	**1,793**	663
Segmental adjusted gross margin/adjusted operating profit	**5,448**	2,870	**3,331**	948
Reconciling items to Group Income Statement:				
Profit share (i)	**(9)**	—	**(23)**	—
Total Group adjusted gross margin/adjusted operating profit	**5,439**	2,870	**3,308**	948
Certain re-measurements:				
Onerous energy supply contract provision movement	**1,766**	(2,530)	**1,766**	(2,530)
Derivative contracts	**(5,160)**	1,289	**(5,160)**	1,289
Share of re-measurement of certain associates' energy contracts (net of taxation)	**—**	—	**1**	—
Gross profit	**2,045**	1,629		
Exceptional items in operating profit			**(155)**	1,247
Operating (loss)/profit after exceptional items and certain re-measurements			**(240)**	954

(i) The impact of the Group's profit share is excluded because management considers it unrelated to segmental business performance.

4. Segmental analysis

(d) Included within adjusted operating profit

Presented below are certain items included within adjusted operating profit, including a summary of impairments of property, plant and equipment and write-downs relating to exploration and evaluation assets.

	Depreciation and impairments of property, plant and equipment		Amortisation, write-downs and impairments of intangibles	
Year ended 31 December	**2022 £m**	2021 £m	**2022 £m**	2021 £m
British Gas Services & Solutions	**(31)**	(29)	**(16)**	(14)
British Gas Energy	**(3)**	(5)	**(79)**	(91)
Bord Gáis Energy	**(8)**	(5)	**(13)**	(13)
Centrica Business Solutions	**(13)**	(14)	**(32)**	(34)
Energy Marketing & Trading	**(31)**	(38)	**(15)**	(11)
Upstream	**(481)**	(461)	**—**	(25)
Other (i)	**(31)**	(31)	**(24)**	(28)
	(598)	(583)	**(179)**	(216)

(i) The Other segment includes corporate functions, subsequently recharged.

Impairments and write-downs of PP&E

During 2022, £88 million of impairments of PP&E (2021: £3 million) were recognised within business performance – £84 million in the Upstream segment and £4 million in the Other segment. Included in the Upstream segment write-down was £64 million related to an infill well that was dry, and a £20 million impairment associated with a producing field whose recoverable amounts reduced during the year due to worsening economics.

Write-downs and impairments of intangible assets

During 2022, there were no write-downs relating to exploration and evaluation asset dry holes (2021: £25 million) recognised in the Upstream segment. All such prior year write-downs were recognised within business performance as they were not deemed exceptional in nature. During 2022, £20 million of other intangible assets were impaired within business performance (2021: £3 million).

The recoverable amount of these assets was £nil.

4. Segmental analysis

(e) Capital expenditure

Capital expenditure represents additions, other than assets acquired as part of business combinations, to property, plant and equipment and intangible assets. Capital expenditure has been reconciled to the related cash outflow.

	Capital expenditure on property, plant and equipment		Capital expenditure on intangible assets other than goodwill	
Year ended 31 December	**2022 £m**	2021 £m	**2022 £m**	2021 £m
British Gas Services & Solutions	**52**	32	**25**	20
British Gas Energy	**—**	—	**582**	474
Bord Gáis Energy	**3**	40	**4**	6
Centrica Business Solutions	**47**	17	**205**	166
Energy Marketing & Trading	**—**	—	**14**	34
Upstream	**124**	238	**13**	51
Other	**26**	8	**—**	—
Capital expenditure	**252**	335	**843**	751
Capitalised borrowing costs	**—**	(8)	**—**	—
Inception of new leases and movements in payables and prepayments related to capital expenditure	**(49)**	(49)	**5**	24
Capital expenditure cash outflow subsequent to transfer to held for sale	**109**	21	**10**	—
Purchases of emissions allowances and renewable obligation certificates (note 15) (i)	**—**	—	**(799)**	(654)
Net cash outflow	**312**	299	**59**	121

(i) Purchases of emissions allowances and renewable obligation certificates of £578 million (2021: £472 million) in British Gas Energy, £203 million (2021: £155 million) in Centrica Business Solutions, £13 million (2021: £nil) in Upstream, and £5 million (2021: £27 million) in Energy Marketing & Trading.

4. Segmental analysis

(f) Free cash flow

Free cash flow is used by management to assess the cash generating performance of each segment, after taking account of the need to maintain its capital asset base. By excluding deficit reduction payments and movements in collateral and margin cash, which are predominantly triggered by wider market factors, and in the case of collateral and margin movements, represent timing movements, free cash flow is used by management as an adjusted measure of the cash generation of the business. Free cash flow excludes investing cash flows that are related to adjusted net debt/cash. This measure is reconciled to the net cash flow from operating and investing activities.

Year ended 31 December	2022 £m	2021 £m
Continuing operations		
British Gas Services & Solutions	**(19)**	170
British Gas Energy (i)	**1,283**	16
Bord Gáis Energy	**81**	3
Centrica Business Solutions	**(48)**	22
Energy Marketing & Trading (ii)	**199**	206
Upstream (iii)	**1,539**	835
Other (iv)	**26**	62
Segmental free cash flow excluding tax	**3,061**	1,314
Discontinued operations		
Direct Energy	**—**	2,597
Group total segmental free cash flow excluding tax	**3,061**	3,911
Taxes paid from continuing operations (iii)	**(574)**	(140)
Taxes paid from discontinued operations	**—**	(9)
Group total free cash flow	**2,487**	3,762
Less Discontinued operations free cash flow (including tax)	**—**	(2,588)
Free cash flow from continuing operations	**2,487**	1,174
UK Pension deficit payments (note 22)	**(214)**	(368)
Movements in variation margin and collateral (note 24)	**(1,173)**	481
Interest received	**46**	2
Purchase and settlement of securities (v)	**(398)**	(3)
	748	1,286
Net cash flow from continuing operating activities	**1,314**	1,611
Net cash flow used in continuing investing activities	**(566)**	(325)
Total cash flow from continuing operating and investing activities	**748**	1,286

(i) The Group has received £440 million under the Energy Bill Support Scheme during December 2022, which is disclosed as restricted cash (see note 1), and accelerated cash flows of approximately £700 million under the Energy Price Guarantee, when compared to the normal payment profile.

(ii) Energy Marketing & Trading free cash flow in 2022 includes cash outflows associated with increased gas in storage, and working capital movements of approximately £500 million. Energy Marketing & Trading adjusted operating profit includes a significant portion of unrealised derivative positions.

(iii) Upstream free cash flow in 2022 includes inflows of £630 million relating to the Norwegian disposal groups, including its disposal cash flows. Realised hedge cash outflows of £161 million (including £88 million realising post completion) have been incurred relating to the Norwegian assets but were held outside the disposal groups. £300 million of taxes paid relate to the Norwegian disposal groups.

(iv) The Other segment includes corporate functions.

(v) Purchase and settlement of securities includes outflows of £400 million of loans to the pension schemes. See note 22 for further details on pensions loans.

5. Costs

This section details the types of costs the Group incurs and the number of employees in each of our operations.

(a) Analysis of costs by nature

Year ended 31 December	2022 Cost of sales and settlement of certain energy contracts £m	2022 Operating costs £m	2022 Total costs £m	2021 Cost of sales and settlement of certain energy contracts £m	2021 Operating costs £m	2021 Total costs £m
Transportation, distribution, capacity market and metering costs	**(4,694)**	**—**	**(4,694)**	(3,702)	—	(3,702)
Commodity costs [(i)]	**(20,748)**	**—**	**(20,748)**	(9,302)	—	(9,302)
Depreciation, amortisation, impairments and write-downs	**(441)**	**(336)**	**(777)**	(497)	(302)	(799)
Employee costs	**(704)**	**(753)**	**(1,457)**	(464)	(749)	(1,213)
Other direct costs [(i)]	**(1,611)**	**(783)**	**(2,394)**	(1,465)	(652)	(2,117)
Costs included within business performance before credit losses on financial assets	**(28,198)**	**(1,872)**	**(30,070)**	(15,430)	(1,703)	(17,133)
Credit losses on financial assets (net of recovered amounts) (note 17)	**—**	**(351)**	**(351)**	—	(116)	(116)
Total costs included within business performance	**(28,198)**	**(2,223)**	**(30,421)**	(15,430)	(1,819)	(17,249)
Adjustment for gross cost of settled energy contracts in the scope of IFRS 9 and onerous energy supply contract provision	**14,986**	**—**	**14,986**	2,749	—	2,749
Exceptional items and re-measurement and settlement of derivative energy contracts (note 7)	**(8,484)**	**(155)**	**(8,639)**	(434)	1,247	813
Total costs within Group operating profit	**(21,696)**	**(2,378)**	**(24,074)**	(13,115)	(572)	(13,687)

(i) Commodity costs include a credit of £241 million recoverable under the Last Resort Supplier Payment claim (2021: £182 million), a further credit of £nil is included in other direct operating costs (2021: £3 million). These credits offset costs incurred as a result of the Group's appointment as Supplier of Last Resort to customers of energy suppliers who ceased trading during the year. See note 3.

(b) Employee costs

The below employee costs exclude the costs of redundancy and similar termination benefits.

Year ended 31 December	2022 £m	2021 £m
Wages and salaries	**(1,159)**	(965)
Social security costs	**(100)**	(104)
Pension and other post-employment benefits costs	**(171)**	(166)
Share scheme costs (note S4)	**(10)**	(12)
	(1,440)	(1,247)
Capitalised employee costs	**10**	19
Employee costs included in exceptional items	**—**	15
Repayment of Coronavirus government support programmes	**(27)**	—
Employee costs recognised in business performance in the Group Income Statement	**(1,457)**	(1,213)

5. Costs

(c) Average number of employees during the year

Year ended 31 December	2022 Number	2021 Number
British Gas Services & Solutions	**12,470**	12,178
British Gas Energy	**3,257**	3,006
Bord Gáis Energy	**320**	323
Centrica Business Solutions	**1,444**	1,706
Energy Marketing & Trading	**573**	478
Upstream	**670**	863
Group Functions	**1,220**	1,150
	19,954	19,704

6. Share of results of joint ventures and associates

Share of results of joint ventures and associates represents the results of businesses where we exercise joint control or significant influence and generally have an equity holding of up to 50%.

Share of results of joint ventures and associates

The Group's share of results of joint ventures and associates principally arises from its interest in Nuclear – Lake Acquisitions Limited, an associate, reported in the Upstream segment.

	2022			2021		
Year ended 31 December	Share of business performance £m	Share of exceptional items and certain re-measurements £m	Share of results for the year £m	Share of business performance £m	Share of exceptional items and certain re-measurements £m	Share of results for the year £m
Income	**592**	**—**	**592**	334	—	334
Expenses before exceptional items and certain re-measurements	**(472)**	**—**	**(472)**	(459)	—	(459)
Exceptional items and re-measurement of certain contracts	**—**	**1**	**1**	—	—	—
Operating profit/(loss)	**120**	**1**	**121**	(125)	—	(125)
Financing income	**3**	**—**	**3**	1	—	1
Taxation on profit/(loss)	**(31)**	**—**	**(31)**	21	—	21
Share of post-taxation results of joint ventures and associates	**92**	**1**	**93**	(103)	—	(103)

Further information on the Group's investments in joint ventures and associates is provided in notes 14 and S10.

7. Exceptional items and certain re-measurements

(a) Certain re-measurements

Certain re-measurements are the fair value movements on energy contracts entered into to meet the future needs of our customers or to sell the energy produced from our upstream assets. These contracts are economically related to our upstream assets, capacity/off-take contracts or downstream demand, which are typically not fair valued, and are therefore separately identified in the current period and reflected in business performance in future periods when the underlying transaction or asset impacts the Group Income Statement.

If the future costs to fulfil customer supply contracts, including the mark-to-market reversal of any energy hedging contracts entered into to meet this demand, exceed the charges recoverable from customers, an onerous contract provision will be recognised. Because the associated hedging gains or losses will be recognised in certain re-measurements, the movements in the onerous provision will also be recognised in certain re-measurements.

Year ended 31 December	2022 £m	2021 £m
Certain re-measurements recognised in relation to energy contracts:		
Net losses arising on delivery of contracts	**(1,403)**	(259)
Net (losses)/gains arising on market price movements and new contracts	**(3,757)**	1,548
Net re-measurements included within gross profit before onerous supply contract provision	**(5,160)**	1,289
Onerous energy supply contract provision movement (i)	**1,766**	(2,530)
Net re-measurements included within gross profit	**(3,394)**	(1,241)
Net gain arising on re-measurement of certain associates' contracts (net of taxation)	**1**	—
Net re-measurements included within Group operating profit	**(3,393)**	(1,241)
Taxation on certain re-measurements (note 9) (ii)	**1,000**	486
Certain re-measurements after taxation	**(2,393)**	(755)

(i) The onerous supply contract provision represents the future costs to fulfil customer contracts on a current market price basis. The associated hedging gains or losses are separately recognised within the losses/gains arising on market price movements and new contracts. The movement in the onerous provision is detailed in note 3(b).
(ii) Taxation on onerous energy supply contracts amounted to a £(295) million debit (2021: £481 million credit) and taxation on other certain re-measurements amounted to £1,295 million credit (2021: £5 million credit), including £473 million associated with re-basing deferred tax on certain relevant derivatives for the Energy Profits Levy.

Year ended 31 December	2022 £m	2021 £m
Total re-measurement and settlement of derivative energy contracts excluding:	**(8,484)**	(434)
IFRS 9 business performance revenue	**(9,896)**	(3,556)
IFRS 9 business performance cost of sales	**13,220**	5,279
Unrealised certain re-measurements recognised in relation to energy contracts included in gross profit	**(5,160)**	1,289
Onerous contract provision movement (cost of sales)	**1,766**	(2,530)
Total certain re-measurements	**(3,394)**	(1,241)

The table below reflects the certain re-measurement derivative movements by business segment:

Year ended 31 December	2022 £m	2021 £m
UK Energy Supply (British Gas Energy and Centrica Business Solutions)	**(6,364)**	3,917
Upstream/Energy Marketing & Trading/Bord Gáis	**1,204**	(2,628)
Unrealised certain re-measurements recognised in relation to energy contracts included in gross profit	**(5,160)**	1,289

7. Exceptional items and certain re-measurements

(b) Exceptional items

Exceptional items are those items that, in the judgement of the Directors, need to be disclosed separately by virtue of their nature, size or incidence. Items which may be considered exceptional in nature include disposals of businesses or significant assets, business restructurings, pension change costs or credits, significant debt repurchase costs and asset write-downs/impairments and write-backs.

Year ended 31 December	2022 £m	2021 £m
Exceptional items recognised in continuing operations		
Loss on disposal of E&P Norway (i)	(362)	—
Impairment of E&P Norway disposal group assets (including disposal related costs) and related asset write-downs	—	(244)
Write-back of other exploration and production assets (including completed field disposals) (ii)	—	838
Write-back of power assets (iii)	207	747
Impairment of Centrica Business Solutions goodwill and other assets	—	(123)
Fair value uplift on minority investment prior to transfer to asset held for sale	—	15
Restructuring credit	—	14
Exceptional items included within Group operating profit (iv)	(155)	1,247
Net exceptional item taxation (note 9) (v)	(207)	(250)
Net exceptional items recognised in continuing operations after taxation	(362)	997
Net exceptional items recognised in discontinued operations after taxation	—	624
Total exceptional items recognised after taxation	(362)	1,621

Exceptional items recognised in discontinued operations		
Profit on disposal of Direct Energy (including disposal related costs)	—	613
Exceptional items before taxation	—	613
Net exceptional item taxation	—	11
Net exceptional items recognised in discontinued operations after taxation	—	624

(i) The disposal of E&P Norway completed on 31 May 2022. See note 12 for further details.

(ii) Despite the increase in near-term liquid commodity prices (offset by the Energy Profit Levy implementation) no material impairment write-backs have been recorded for exploration and production assets because field carrying values have now reached depreciated historic cost. In 2021, impairment write-backs of £829 million (post-tax £476 million) were booked, alongside a field disposal and decommissioning provision reduction of £9 million (post-tax £2 million).

(iii) In the Upstream segment, a write-back of the nuclear investment of £195 million (post-tax £195 million) has been recorded predominantly as a result of the improvement in forecast commodity prices and changes to the associate's pension position (offset by the announcement of the Electricity Generator Levy, applicable from 1 January 2023). In the Centrica Business Solutions segment, a write-back of £12 million (post-tax £9 million) has been recorded, predominantly related to a gas engine, also following improvements in forecast commodity prices. See note 7(c).

(iv) Exceptional items for 2022 are non-cash, except for the disposal consideration received for E&P Norway (see note 12) which is reflected in the Sale of businesses line item in the Group Cash Flow Statement. The cash flows recorded as payments relating to exceptional charges of £24 million in the Group Cash Flow Statement relate to previous year exceptional restructuring costs.

(v) Exceptional item taxation includes a credit of £121 million associated with net deferred tax asset recognition related to exploration and production tax losses, investment allowance and decommissioning carrying back, due to the increase in forecast commodity prices. Also included is a debit of £325 million from the recognition of higher deferred tax liability balances associated with exploration and production accelerated capital allowances, due to the implementation of the Energy Profits Levy. These two items are unrelated to the other exceptional items.

7. Exceptional items and certain re-measurements

(c) Impairment accounting policy, process and sensitivities

The information provided below relates to the assets and CGUs (or groups of CGUs) that have been subject to impairment write-backs during the year.

Exceptional impairments/write-back assessments of assets measured on a Value-in-use (VIU) basis

Segment	Asset/CGU	Basis for write-back assessment	Recoverable amount £m	Write-back £m
Upstream	Nuclear	The year-on-year increase in short-term baseload power prices, together with the actuarial changes to the associate's pension position has more than offset the announcement of the implementation of the Electricity Generator Levy from 1 January 2023	1,560	195

Nuclear

A VIU calculation has been used to determine the recoverable amount of the Group's investment in Nuclear. The cash flows incorporated in the valuation are based on detailed business forecasts in the short term, extrapolated to future years to account for the expected generation profile of the fleet for its remaining life. Assumptions include forward commodity prices, capacity rates, fuel and network costs, and operating and capital expenditure requirements. Price assumptions are based on liquid market prices for 2023 to 2026 which are then blended over a one-year period to long-term price forecasts. Long-term price assumptions derived from third-party market comparator median curves are used due to alignment with pricing that a reasonable market participant would use.

The recently announced Electricity Generator Levy, applying a 45% tax rate to revenues generated over £75/MWh from 1 January 2023 to 31 March 2028, based on the above price assumptions, has also been included in the assessment.

The VIU calculation assumes that the Sizewell plant operates until 2055, reflecting a 20-year extension beyond its original design life. In the absence of this extension, the carrying value of the Group's investment in Nuclear would be reduced by £178 million. All other stations' life assumptions are aligned to lifetime closure dates announced by the operator (being between March 2024 and March 2028).

The VIU calculation is also sensitive to changes in outage assumptions, and the base level generation volumes assumed for the fleet were increased during the period based on a review of outage levels in recent years. A reduction of 5% in the unplanned outage rate applied to volumes across the nuclear fleet would lead to a write-back movement of £141 million.

The future pre-tax cash flows generated by the investment in the associate are discounted using a pre-tax nominal discount rate of 24.8% (2021: 14.7%). This equated to a post-tax rate of 8.0% (2021: 5.75%). The post-tax discount rate is initially derived from the Group weighted average cost of capital as adjusted for the risks associated with the asset and with reference to comparator companies. The pre-tax rate is then back-calculated by removing tax cash flows and assessing the rate that would give the same result as the post-tax rate. Due to the elevated near-term power prices which results in significantly elevated cash flows in the near-term, the pre-tax discount rate has significantly increased. A 2% increase in the post-tax discount rate would lead to an impairment of £113 million (when compared with the closing year-end carrying value). Similarly, a 2% reduction in the post-tax discount rate would lead to an increased write-back of £150 million.

The asset is particularly sensitive to changes in commodity price and the table below details average prices for the first 5- and 10-year periods and associated sensitivities. Note that the asset is valued for its entire economic life and not just this 15-year period.

	Five-year liquid and blended-period price (i)		10-year long-term average price (i)		Change in pre/post-tax write-back/(impairment) (ii)			
					+10%		-10%	
	2023-2027	2022-2026	2028-2037	2027-2036				
	31 December 2022 £/MWh	31 December 2021 £/MWh	**31 December 2022 £/MWh**	31 December 2021 £/MWh	**31 December 2022 £m**	31 December 2021 £m	**31 December 2022 £m**	31 December 2021 £m
Baseload power	**150**	93	**63**	49	**198**	319	**(198)**	(317)
							-50% Five-year liquid and blended-period only	
							(565)	

(i) Prices are shown in 2021 real terms.

(ii) A 10% change was historically deemed to represent a reasonably possible variation across the entire period covered by the liquid market and comparator curves used in the nuclear impairment test. Given the increases in commodity prices during 2021 and 2022, a further sensitivity has been included based on a 50% fall in liquid and blend-period commodity prices only.

Furthermore, there is also uncertainty due to climate change and international governmental intervention to reduce CO_2 emissions and the likely impact this will have on both power demand and forecast prices. As a result, a further sensitivity is disclosed below based on forecast prices aligned to the net zero price curve issued by Aurora (a power analytics provider), which assumes governmental policies are put in place to achieve the temperature and net zero goals by 2050. This sensitivity retains the prices for the liquid period (four years) but replaces the longer term thereafter with Aurora's forecast prices for net zero.

7. Exceptional items and certain re-measurements

	10-year long-term average price (i)	Change in pre/post-tax impairment (ii)
	2028-2037	
	2022	£m
Baseload power (£/MWh)	**59**	**(93)**

(i) Prices shown in 2021 real terms.
(ii) Change would lead to an impairment of the carrying value.

Exceptional impairments/write-back of assets measured on a FVLCD basis

Fair value less costs of disposal (FVLCD) is determined by discounting the post-tax cash flows expected to be generated by the assets or CGU, net of associated selling costs, taking into account those assumptions that market participants would use in estimating fair value. Post-tax cash flows used in the FVLCD calculation are based on the Group's Board-approved business plans and strategic shape assumptions, together with, where relevant, long-term production and cash flow forecasts.

No exceptional impairments or write-backs have been recorded in 2022 for assets measured on a FVLCD basis. Nonetheless, the Upstream gas assets still have a significant carrying value on the balance sheet and accordingly further sensitivities are provided in the paragraph below:

Upstream gas assets

For Upstream gas assets post-tax cash flows are derived from projected production profiles of each field, taking into account forward prices for gas and liquids over the relevant period. Where forward market prices are not available (i.e. outside the active period for each commodity), prices are determined based on the median of third-party market comparator curves. The date of cessation of production depends on the interaction of a number of variables, such as the recoverable quantities of hydrocarbons, production costs, the contractual duration of the licence area and the selling price of the gas and liquids produced. As each field has specific reservoir characteristics and economic circumstances, the post-tax cash flows for each field are computed using individual economic models. Price assumptions are critical and use liquid market prices for 2023 to 2026, blended over a one-year period to long-term price forecasts. Long-term price assumptions derived from third-party market comparator median curves are deemed best aligned with pricing that a reasonable market participant would use. Following the implementation of the Energy Profits Levy, the increased tax rates have been included in the FVLCD calculations until the sunset date of 31 March 2028.

The future post-tax cash flows are discounted using a post-tax nominal discount rate of 10.5% (2021: 10.0%).

As forward commodity prices are a key assumption in these valuations, average prices and associated impairment sensitivities for the Group's upstream gas assets are shown below. Note that the fields are valued over their respective economic lives and the 5- and 10-year pricing information shown below is just to provide context. Note also that following the disposal of the Norwegian and Statfjord fields (see note 12), the asset portfolio reserves are predominantly gas (rather than liquids) and therefore only NBP figures have been shown below.

	Five-year liquid and blended-period price (i)		10-year long-term average price (i)		Change in post-tax write-back/(impairment) (ii)			
					+10%		-10%	
	2023-2027	2022-2026	2028-2037	2027-2036				
	31 December 2022	31 December 2021	31 December 2022	31 December 2021	31 December 2022 £m	31 December 2021 £m	31 December 2022 £m	31 December 2021 £m
NBP (p/th)	**142**	83	**69**	44	**—**	8	**—**	(7)

-50% Five-year liquid and blended-period only
(130)

(i) Prices are shown in 2021 real terms.
(ii) Sensitivity relates to Upstream exploration and production assets and CGUs. A 10% change was historically deemed to represent a reasonably possible variation across the entire period covered by both the liquid market and longer-term comparator curves used in upstream gas impairment tests. Given the increases in commodity prices during 2021 and 2022, a further sensitivity has been included based on a 50% fall in liquid and blend-period commodity prices only. The changes shown relate to further write-backs or impairments and are restricted because the most material fields have already been written back to their depreciated historic cost and have excess impairment headroom. The post-tax net present value (NPV) movements of the fields in +/-10% scenario are £150 million/£(144) million and in the -50% liquid price period scenario are £(711) million.

7. Exceptional items and certain re-measurements

Furthermore, there is also uncertainty due to climate change and international governmental intervention to reduce CO_2 emissions and the likely impact this will have on gas demand and forecast prices. As a result, a further sensitivity is disclosed below based on forecast prices aligned to the International Energy Agency's (IEA) Net Zero Emissions by 2050, which assumes governmental policies are put in place to achieve the temperature and net zero goals by 2050. This sensitivity retains the prices for the liquid period (four years) but replaces the longer term thereafter with the IEA's forecast prices for Net Zero Emissions by 2050.

	10-year long-term average price (i)	Change in post-tax write-back/ (impairment) (ii)	Change in post-tax NPV (iii)
	2028-2037		
	2022	£m	£m
NBP (p/th)	38	—	(72)

(i) Prices shown in 2021 real terms.
(ii) Change in impairment restricted due to the most material fields having already been written back to their depreciated historic cost and having excess impairment headroom.
(iii) Despite no change to the carrying value of the assets, the net present value (NPV) of the fields would reduce under net zero scenarios.

8. Net finance cost

Financing costs mainly comprise interest on bonds and bank debt, the results of hedging activities used to manage foreign exchange and interest rate movements on the Group's borrowings and notional interest arising from the discounting of decommissioning provisions and pensions. An element of financing cost is capitalised on qualifying projects.

Investment income predominantly includes interest received from short-term investments in money market funds, bank deposits and government bonds.

Continuing operations

	2022			2021		
Year ended 31 December	Financing costs £m	Investment income £m	Total £m	Financing costs £m	Investment income £m	Total £m
Cost of servicing net debt:						
Interest income	—	52	52	—	5	5
Interest cost on bonds, bank loans and overdrafts	(184)	—	(184)	(189)	—	(189)
Interest cost on lease liabilities	(6)	—	(6)	(6)	—	(6)
	(190)	52	(138)	(195)	5	(190)
Net gains on revaluation	—	22	22	—	4	4
Notional interest arising from discounting	(3)	3	—	(7)	—	(7)
	(193)	77	(116)	(202)	9	(193)
Other interest charges (i)	(31)	—	(31)	(2)	—	(2)
Capitalised borrowing costs (ii)	4	—	4	8	—	8
Financing (cost)/income	(220)	77	(143)	(196)	9	(187)

(i) Other interest charges includes interest charged on cash collateral, and fees for letters of credit. The cash flow associated is £30 million.
(ii) Borrowing costs have been capitalised using an average rate of 5.57% (2021: 4.49%). The capitalised borrowing costs in 2022 relate entirely to the Norwegian assets held for sale, and subsequently disposed of.

9. Taxation

The taxation note details the different tax charges and rates, including current and deferred tax arising in the Group. The current tax charge is the tax payable on this year's taxable profits together with amendments in respect of tax provisions made in earlier years. This tax charge excludes the Group's share of taxation on the results of joint ventures and associates. Deferred tax represents the tax on differences between the accounting carrying values of assets and liabilities and their tax bases. These differences are temporary and are expected to unwind in the future.

(a) Analysis of tax charge

	2022			2021		
Year ended 31 December	Business performance £m	Exceptional items and certain re-measurements £m	Results for the year £m	Business performance £m	Exceptional items and certain re-measurements £m	Results for the year £m
Continuing operations:						
Current tax						
UK corporation tax	**(385)**	**(241)**	**(626)**	(7)	(80)	(87)
UK petroleum revenue tax	**2**	**—**	**2**	24	—	24
Non-UK tax	**(477)**	**32**	**(445)**	(386)	(21)	(407)
Adjustments in respect of prior years – UK	**(47)**	**24**	**(23)**	(1)	18	17
Adjustments in respect of prior years – non-UK	**(8)**	**—**	**(8)**	6	—	6
Total current tax	**(915)**	**(185)**	**(1,100)**	(364)	(83)	(447)
Deferred tax						
Origination and reversal of temporary differences – UK	**(105)**	**755**	**650**	(63)	520	457
UK petroleum revenue tax	**6**	**(19)**	**(13)**	(9)	(129)	(138)
Origination and reversal of temporary differences – non-UK	**(89)**	**32**	**(57)**	(63)	(45)	(108)
Change in UK tax rate	**(7)**	**242**	**235**	6	(9)	(3)
Adjustments in respect of prior years – UK	**49**	**(27)**	**22**	36	(18)	18
Adjustments in respect of prior years – non-UK	**15**	**(5)**	**10**	3	—	3
Total deferred tax	**(131)**	**978**	**847**	(90)	319	229
Total taxation on profit/(loss) from continuing operations (i)	**(1,046)**	**793**	**(253)**	(454)	236	(218)
Discontinued operations:						
Current tax – non-UK	**—**	**—**	**—**	—	11	11
Total taxation on profit from discontinued operations	**—**	**—**	**—**	—	11	11
Total taxation on profit/(loss) for the year	**(1,046)**	**793**	**(253)**	(454)	247	(207)

(i) Total taxation on profit/(loss) excludes taxation on the Group's share of profits of joint ventures and associates.

UK tax rates

Most activities in the UK are subject to the standard rate for UK corporation tax of 19% (2021: 19%). Upstream gas production activities are taxed at a rate of 30% (2021: 30%), a supplementary charge of 10% (2021: 10%), plus, with effect from 26 May 2022, the Energy Profits Levy of 25% to give an overall tax rate of 65% (2021: 40%). Certain upstream gas production assets in the UK are subject to the UK petroleum revenue tax (PRT) regime at the current tax rate of 0% (2021: 0%).

The rate of Energy Profits Levy will increase to 35% from 25% with effect from 1 January 2023. The increase in rate was substantively enacted on 30 November 2022 and therefore the upstream gas deferred tax balances included in these financial statements at 31 December 2022 have been re-measured at the higher rate.

The UK corporation tax rate will increase to 25% with effect from 1 April 2023. At 31 December 2022, the relevant UK deferred tax assets and liabilities included in these consolidated Group Financial Statements were based on the increased rate having regard to their reversal profiles.

Non-UK tax rates

Norwegian upstream profits are taxed at the standard rate of 22% (2021: 22%) plus a special tax of 56% (2021: 56%) resulting in an aggregate tax rate of 78% (2021: 78%).

Taxation in other jurisdictions, where the Group has a substantial presence, is calculated at the rate prevailing in those respective jurisdictions. Jurisdictions and rates include the Republic of Ireland 12.5%, and Denmark 22%.

Prior year adjustments reflect changes made to estimates or to judgements when further information becomes available.

Movements in deferred tax liabilities and assets are disclosed in note 16. Tax on items taken directly to equity is disclosed in note S4.

9. Taxation

(b) Factors affecting the tax charge

The Group is expected to continue carrying out most of its business activities in the UK and accordingly considers the standard UK rate to be the appropriate reference rate.

The differences between the total taxation shown above and the amount calculated by applying the standard rate of UK corporation tax to the profit/(loss) before taxation are as follows:

	2022			2021		
Year ended 31 December	Business performance £m	Exceptional items and certain re-measurements £m	Results for the year £m	Business performance £m	Exceptional items and certain re-measurements £m	Results for the year £m
Profit/(loss) before taxation from continuing operations	3,165	(3,548)	(383)	761	6	767
(Deduct)/add back share of (profits)/losses of joint ventures and associates, net of interest and taxation	(92)	(1)	(93)	103	—	103
	3,073	(3,549)	(476)	864	6	870
Tax on profit/(loss) at standard UK corporation tax rate of 19% (2021: 19%)	(584)	674	90	(164)	(1)	(165)
Effects of:						
Depreciation/impairment on non-qualifying assets	1	37	38	(20)	39	19
Higher rates applicable to Upstream profits/losses	(429)	(112)	(541)	(347)	98	(249)
Energy profits levy charge for the year	(31)	(212)	(243)	—	—	—
Energy profits levy re-measurement of deferred tax balances	—	148	148	—	—	—
Non-UK tax rates (excluding Upstream)	(28)	(32)	(60)	(14)	8	(6)
Upstream investment incentives	32	—	32	30	—	30
Movements in uncertain tax provisions	(13)	—	(13)	1	—	1
Disposal of Norway business	—	(69)	(69)	—	—	—
Changes in UK tax rate	(7)	242	235	6	(9)	(3)
(Impairment)/write-back of deferred tax assets relating to Upstream losses and decommissioning (note 7)	(1)	121	120	(8)	178	170
Petroleum revenue tax	1	—	1	11	(77)	(66)
Prior year adjustment	9	(8)	1	44	—	44
Other	4	4	8	7	—	7
Taxation on profit/(loss) from continuing operations	(1,046)	793	(253)	(454)	236	(218)
Less: movement in deferred tax	131	(978)	(847)	90	(319)	(229)
Total current tax from continuing operations	(915)	(185)	(1,100)	(364)	(83)	(447)
Current tax from discontinued operations	—	—	—	—	11	11
Total current tax on profit/(loss) for the year	(915)	(185)	(1,100)	(364)	(72)	(436)

The Group is subject to taxation in a number of jurisdictions. The complexity of applicable rules may result in legitimate differences of interpretation between the Group and taxing authorities (or between different taxing authorities) especially where an economic judgement or valuation is involved. Resolution of these differences typically takes many years. The uncertain tax provisions represent multiple layers of estimation for different time periods and different jurisdictions.

The Group has applied IFRIC 23: 'Uncertainty over Income Tax Treatments'. The interpretation requires consideration of the likelihood that the relevant taxing authority will accept an uncertain tax treatment in order to determine the measurement basis. The value is calculated in accordance with the rules of the relevant tax authority when acceptance is deemed probable.

The Group's uncertain tax provision relates to differences in the interpretation of tax legislation in the UK and Canada. Due to the uncertainty associated with such tax items, there is a possibility that, on conclusion of open tax matters at a future date, the final outcome may differ. The uncertain tax provision represents management's assessment of the likely outcome of each issue.

As at 31 December 2022 the provision for uncertain tax items was £42 million (2021: £157 million). The reduction in the Group's uncertain tax provision in the period predominantly relates to the sale of Spirit Energy's Norwegian business and transfer of the legal liabilities in respect of the open tax disputes to the buyer, Sval Energi. The Group has provided an indemnity to Sval Energi in respect of open tax disputes, currently valued at £129 million. See note 12.

9. Taxation

(c) Factors that may affect future tax charges

The Group's effective tax rates are impacted by changes to the mix of activities and profitability across the territories in which it operates.

Effective tax rates may also fluctuate where profits and losses cannot be offset for tax purposes. For example, losses arising in one territory cannot be offset against profits in another.

The headline rate of tax on the ring fence profits from gas production in the UK was 40% (consisting of ring fence corporation tax of 30% and supplementary charge of 10%) versus 19% UK statutory corporation tax rate. On 26 May 2022, the UK Government introduced with immediate effect an Energy Profits Levy, which is an additional 25% tax on UK gas production profits on top of the existing 40% headline rate of tax. As such, the Energy Profits Levy increases the headline rate of tax from 40% to 65% on the UK gas production profits from 26 May 2022.

In the Autumn Statement published on 22 November 2022, the UK Government further increased the Energy Profits Levy from 25% to 35%, increasing the headline rate of tax from 65% to 75% on gas production profits with effect from 1 January 2023.

The Energy Profits Levy is intended to be a temporary measure and applies to gas production profits during the period from 26 May 2022 to 31 March 2028. The rate of 25% applies from 26 May until 31 December 2022 and the rate of 35% applies from 1 January 2023 until 31 March 2028.

PRT is set at 0% but may still give rise to historic refunds from the carry-back of excess reliefs (for example, from decommissioning).

The UK Government also announced in the Autumn Statement its intention to introduce an Electricity Generator Levy applicable to the revenues generated from renewable and nuclear sources. If enacted, the Electricity Generator Levy will apply at the tax rate of 45% to electricity generation revenues, which will be determined by reference to revenue from sales exceeding a benchmark price of £75/MWh. The Electricity Generator Levy once enacted will apply from 1 January 2023 to 31 March 2028.

The Group's effective tax rate is dependent on the proportion of Group profits and losses arising from its UK upstream and nuclear activities relative to lower taxed UK and other jurisdictions profits and losses.

The Group monitors income tax developments in all the jurisdictions in which the Group operates, including the OECD Base Erosion and Profit Shifting (BEPS) initiative, which may affect the Group's tax liabilities. On 8 October 2021, more than 135 countries of the OECD Inclusive Framework on BEPS committed to fundamental changes to the international corporate tax system. This includes a proposed global minimum corporation tax rate set at 15% for financial years beginning in 2023 and 2024. Steps to introduce a global minimum corporation tax have either been enacted or are under serious consideration in the jurisdictions in which the Group operates. The Group does not expect its tax liabilities to be materially increased as a result of the minimum corporate tax.

(d) Relationship between current tax charge and taxes paid

	2022			2021		
Year ended 31 December	UK £m	Non-UK £m	Total £m	UK £m	Non-UK £m	Total £m
Current tax charge/(credit): (continuing and discontinuing activities)						
Corporation tax	**649**	**453**	**1,102**	70	390	460
Petroleum revenue tax	**(2)**	**–**	**(2)**	(24)	–	(24)
Total tax on results for the year (per note 9(b))	**647**	**453**	**1,100**	46	390	436
Current tax included in other comprehensive income (i)	**(29)**	**–**	**(29)**	(16)	–	(16)
Total tax charge	**618**	**453**	**1,071**	30	390	420
Taxes paid/(refunded):						
Corporation tax	**261**	**331**	**592**	113	85	198
Petroleum revenue tax	**(18)**	**–**	**(18)**	(49)	–	(49)
	243	**331**	**574**	64	85	149
Included in the following lines of the Group Cash Flow Statement:						
Taxes paid in net cash flows from continuing operating activities			**574**			140
Net cash flow from discontinued investing activities			**–**			9

(i) Current tax movements relating to pension deficit payments are reported in other comprehensive income. See note 1 for further details.

Differences between current tax charged and taxes paid arose principally due to the following factors:

- Corporation tax payments are generally made by instalment, based on estimated taxable profits, or the prior period's profits. Fluctuations in profits from year to year, one-off items and mark-to-market movements within the year may therefore give rise to divergence between the charge for the year and the taxes paid. In certain jurisdictions advance tax payments are required (based on estimated tax liabilities) which can result in overpayments. These are included as tax assets, to be refunded in a subsequent period; and
- PRT refunds are based on results in the preceding six-monthly PRT period, therefore PRT cash movements will reflect refunds on a six-month delay.

10. Earnings per ordinary share

Earnings per share (EPS) is the amount of profit or loss attributable to each share. Basic EPS is the amount of profit or loss for the year divided by the weighted average number of shares in issue during the year. Diluted EPS includes the impact of outstanding share options.

Basic earnings per ordinary share has been calculated by dividing the loss attributable to equity holders of the Company for the year of £782 million (2021: profit of £1,210 million) by the weighted average number of ordinary shares in issue during the year of 5,869 million (2021: 5,836 million). The number of shares excludes 32 million ordinary shares (2021: 35 million), being the weighted average number of the Company's own shares held in the employee share trust and treasury shares repurchased during the year by the Group as part of the share repurchase programme. These 32 million shares do not include shares expected to be repurchased as part of the Group's share buyback scheme during 2023. See note S4.

The Directors believe that the presentation of adjusted basic earnings per ordinary share, being the basic earnings per ordinary share adjusted for certain re-measurements and exceptional items, assists with understanding the underlying performance of the Group, as explained in note 2.

Information presented for diluted and adjusted diluted earnings per ordinary share uses the weighted average number of shares as adjusted for 68 million (2021: 69 million) potentially dilutive ordinary shares as the denominator, unless it has the effect of increasing the profit or decreasing the loss attributable to each share.

Continuing and discontinued operations

	2022		2021	
Year ended 31 December	£m	Pence per ordinary share	£m	Pence per ordinary share
Earnings – basic	(782)	(13.3)	1,210	20.7
Net exceptional items after taxation (notes 2 and 7) (i)	279	4.8	(1,521)	(26.0)
Certain re-measurement losses after taxation (notes 2 and 7) (i)	2,553	43.4	548	9.4
Earnings – adjusted basic	2,050	34.9	237	4.1
Earnings – diluted (ii)	(782)	(13.3)	1,210	20.5
Earnings – adjusted diluted	2,050	34.5	237	4.0

Continuing operations

	2022		2021	
Year ended 31 December	£m	Pence per ordinary share	£m	Pence per ordinary share
Earnings – basic	(782)	(13.3)	586	10.0
Net exceptional items after taxation (notes 2 and 7) (i)	279	4.8	(897)	(15.3)
Certain re-measurement losses after taxation (notes 2 and 7) (i)	2,553	43.4	548	9.4
Earnings – adjusted basic	2,050	34.9	237	4.1
Earnings – diluted (ii)	(782)	(13.3)	586	9.9
Earnings – adjusted diluted	2,050	34.5	237	4.0

Discontinued operations

	2022		2021	
Year ended 31 December	£m	Pence per ordinary share	£m	Pence per ordinary share
Earnings – basic	—	—	624	10.7
Net exceptional items after taxation (notes 2 and 7)	—	—	(624)	(10.7)
Earnings – adjusted basic	—	—	—	—
Earnings – diluted	—	—	624	10.6
Earnings – adjusted diluted	—	—	—	—

(i) Net exceptional items after taxation and certain re-measurement losses after taxation are adjusted to reflect the share attributable to non-controlling interests.

(ii) Potential ordinary shares are not treated as dilutive when they would decrease a loss per share.

10. Earnings per ordinary share

The Group's May and November 2022 trading updates mentioned that the 2022 adjusted basic earnings per ordinary share would be towards the top end of the range of sell-side analyst expectations, which at the time were 6.7 pence to 10.8 pence in May and 15.1 pence to 26.0 pence in November. In the July interim results it was confirmed that the interim period adjusted basic earnings per ordinary share was 11.0 pence and in the Group's January 2023 trading update, it was noted that the 2022 full year adjusted basic earnings per ordinary share was expected to be above 30.0 pence. For the purposes of Listing Rules LR 9.2.18(c), it is noted that the increase in reported adjusted basic earnings per ordinary share was predominantly due to the continued impact of elevated and volatile commodity prices throughout the year leading to greater than forecast profits in the Energy Marketing & Trading and Upstream businesses.

11. Dividends

Dividends represent the return of profits to shareholders. Dividends are paid as an amount per ordinary share held. The Group retains part of the profits generated to meet future investment plans or to fund share repurchase programmes.

	2022			2021		
	£m	Pence per share	Date of payment	£m	Pence per share	Date of payment
Prior year final dividend	—	—	—	—	—	—
Interim dividend	59	1.00	17 Nov 2022	—	—	—
	59			—		

The Directors propose a final dividend of 2.00 pence per ordinary share (totalling £118 million) for the year ended 31 December 2022.

The Company has sufficient distributable reserves to pay dividends to its ultimate shareholders. Distributable reserves are calculated on an individual legal entity basis and the ultimate parent company, Centrica plc, currently has adequate levels of realised profits within its retained earnings to support dividend payments. Refer to the Centrica plc Company Balance Sheet on page 226. At 31 December 2022, Centrica plc's company-only distributable reserves were c.£2.9 billion (2021: c.£2.5 billion). On an annual basis, the distributable reserve levels of the Group's subsidiary undertakings are reviewed and dividends paid up to Centrica plc as appropriate to replenish its reserves.

12. Acquisitions, disposals and disposal groups classified as held for sale

This section details business combinations, asset acquisitions and disposals made by the Group.

(a) Business combinations and asset acquisitions

On 1 October 2022 the Group acquired the UK B2B customer book and associated assets of AvantiGas ON Limited ('Avanti') including the hedging book in respect of the customers acquired. On acquisition, an onerous contract provision of £284 million and a derivative asset of £254 million have been separately recognised representing the expected losses and associated hedges of acquired customers who are expected to remain on their existing fixed price tariffs before anticipated renewals onto a standard variable tariff. The derivative asset reflects the increase in prices since contracts to purchase commodity for the acquired customers were entered into. Based on a small unhedged element and movement in forward prices the acquisition resulted in a net consideration received of £16 million. The transaction has been accounted for as an asset acquisition on the basis that the assets and liabilities acquired did not constitute a business.

Provisional fair value of the identifiable assets and liabilities

	AvantiGas ON Limited £m
Balance Sheet items	
Intangible assets	11
Derivative asset	254
Trade and other receivables	3
Onerous contract provision	(284)
Net identifiable liabilities acquired	(16)
Total cash consideration received	16
Income Statement items	
Revenue recognised since the acquisition date in the Group Income Statement	9
Profit since the acquisition date in the Group Income Statement	1

Pro forma information

The pro forma consolidated results of the Group, assuming the acquisitions had been made at the beginning of the year, would show revenue of £23,801 million (compared to reported revenue of £23,741 million) and loss after taxation of £632 million (compared to reported loss after taxation of £636 million).

During the year, the Group was appointed by Ofgem as the Supplier of Last Resort (SoLR) to one energy company who had ceased trading. This was in addition to the eight appointments that were made in 2021. These have not been accounted for as business combinations or asset acquisitions as the incremental costs associated with supplying the affected customers will be recoverable through the established Last Resort Supplier Payment (LRSP) claim mechanism under Ofgem supplier licence conditions. Cash outflows of £4 million were incurred in respect of prior year SoLR appointments. A customer relationship intangible asset of £10 million was recognised in 2021 in respect of certain customer credit balances that the Group did not include in their LRSP claims.

(b) Disposals

On 8 December 2021 the Group announced that it had agreed to sell Spirit Energy's entire Norwegian portfolio excluding the Statfjord fields to Sval Energi for a headline consideration of $1,026 million (£758 million), and the Statfjord fields to Equinor for a headline consideration of $50 million (£37 million).

The sales had a commercial effective date of 1 January 2021, and the consideration receivable at legal completion of 31 May 2022 has been reduced by the net cash flows generated by the business being disposed and interest since 1 January 2021. Net consideration receivable (including costs to dispose) reduced to £195 million from Sval Energi, with a net consideration payable to Equinor of £(126) million. This includes a deferred commodity price linked receivable, and a tax indemnity provided by Spirit Energy Norway. The deferred commodity price linked receivable is currently valued at £33 million from Sval Energi and £26 million from Equinor. The tax indemnity provided to Sval Energi is currently valued at £(129) million. Distribution of the net consideration and net cash flows generated will be pro-rata to the ownership share, with 31% attributable to the non-controlling interests. In the year ended 31 December 2022, £273 million (2021: £nil) was distributed to SWM Bayerische E&P Beteiligungsgesellschaft mbH upon completion of the Spirit Energy Norway sale.

In applying IFRS 5 'Non-current Assets Held for Sale and Discontinued Operations', the Group has judged that there are two separate disposal groups, being the Statfjord fields and the remainder of the Norwegian portfolio. The assets and liabilities comprising the disposal groups were classified as held for sale as at 8 December 2021. This is on the basis that at that point, the disposal groups were available for immediate sale, subject only to terms that are customary for sales of such assets, and the sale was highly probable. However, the disposal groups do not represent a separate major line of business of geographical operations and hence the Group has concluded that they do not constitute discontinued operations.

Details of the assets and liabilities of the disposal group at 31 May 2022 are shown below.

12. Acquisitions, disposals and disposal groups classified as held for sale

	Statfjord £m	Norway portfolio excluding Statfjord £m	Total £m
Non-current assets			
Property, plant and equipment	315	975	1,290
Other intangible assets	—	69	69
Goodwill (i)	19	191	210
Deferred tax assets (ii)	71	—	71
Other non-current financial assets	—	8	8
	405	1,243	1,648
Current assets			
Trade and other receivables, and contract-related assets	5	149	154
Inventories	17	14	31
Cash and cash equivalents	—	30	30
	22	193	215
Assets of disposal groups classified as held for sale	**427**	**1,436**	**1,863**
Current liabilities			
Trade and other payables, and contract-related liabilities	(61)	(129)	(190)
Current tax liabilities	(60)	(393)	(453)
Provisions for other liabilities and charges	(3)	(1)	(4)
Lease liabilities	—	(3)	(3)
	(124)	(526)	(650)
Non-current liabilities			
Deferred tax liabilities (ii)	140	(425)	(285)
Provisions for other liabilities and charges	(527)	(239)	(766)
Lease liabilities	—	(3)	(3)
	(387)	(667)	(1,054)
Liabilities of disposal groups classified as held for sale	**(511)**	**(1,193)**	**(1,704)**
Net (liabilities)/assets of disposal groups classified as held for sale	**(84)**	**243**	**159**
Consideration (payable)/receivable (net of transaction costs of £16 million)	**(126)**	**195**	**69**
Loss on disposal before recycling of foreign currency translation reserve	**(42)**	**(48)**	**(90)**
Recycling of foreign currency translation reserve on disposal			**(272)**
Loss on disposal before and after taxation			**(362)**

(i) The proposed divestment of the entire Norwegian portfolio, and attributing exploration and production goodwill of £408 million, resulted in an impairment of £198 million in 2021, before transfer of the remaining balance of £210 million to assets of disposal groups classified as held for sale.
(ii) Deferred tax assets of £71 million represents tax attributable to Statfjord UK, part of a UK tax group. Deferred tax liabilities are categorised between Statfjord Norway and the portfolio excluding Statfjord purely for presentation purposes.

The results of the disposal groups during 2022 reported in business performance are as follows:

	Statfjord £m	Norway portfolio excluding Statfjord £m	Total £m
Operating profit	142	416	558
Taxation on profit	(87)	(351)	(438)
Profit after taxation	**55**	**65**	**120**

Commodity derivatives previously entered into outside of the disposal group to hedge the future production of the disposal group assets have been volumetrically closed prior to the completion date. These derivatives have previously been recognised as a loss of £121 million within certain re-measurements. In accordance with the Group's policy, these losses will not be subsequently reflected in the business performance column of the income statement because the underlying performance to which they relate (i.e. the asset production disposal group) will no longer occur. Cash flows associated with these derivatives will occur through to September 2023.

In the period to legal completion of 31 May 2022, £73 million pre-tax (£48 million post-tax) realised losses were recognised in business performance.

12. Acquisitions, disposals and disposal groups classified as held for sale

Breakdown of consideration:

	Statfjord £m	Norway portfolio excluding Statfjord £m	Total £m
December 2021 payment	—	39	39
May 2022 completion payment	(156)	278	122
2022 contingent consideration (including tax indemnity)	30	(106)	(76)
Total consideration	(126)	211	85
Less cost to dispose	—	(16)	(16)
	(126)	**195**	**69**

A reconciliation of the completion amounts received in 2022 to the cash flow statement is presented below:

	Statfjord £m	Norway portfolio excluding Statfjord £m	Total £m
May 2022 completion payment	(156)	278	122
2022 contingent consideration paid	4	(10)	(6)
Cash and cash equivalents included with disposal group	—	(30)	(30)
Disposal fees incurred	—	(16)	(16)
Cash flow statement	**(152)**	**222**	**70**

Additionally, within the Other segment the disposal of a minority investment made by the former Centrica Innovations business unit in Driivz (an electric vehicle charging software provider) has completed, with cash flow of £20 million received in the second half of the year.

All other disposals undertaken by the Group were immaterial, both individually and in aggregate. These amounted to a gain on disposal of £19 million, and cash inflow of £2 million.

13. Property, plant and equipment

PP&E includes significant investment in power stations, storage assets and gas and liquid production assets. Once operational, all assets are depreciated over their useful lives.

(a) Carrying amounts

	2022					2021				
	Land and buildings £m	Plant, equipment and vehicles £m	Power generation £m	Gas production and storage £m	Total £m	Land and buildings £m	Plant, equipment and vehicles £m	Power generation £m	Gas production and storage £m	Total £m
Cost										
1 January	259	575	205	11,339	**12,378**	303	576	843	15,296	17,018
Additions and capitalised borrowing costs	—	117	12	123	**252**	3	42	53	237	335
Disposals/retirements	(33)	(21)	(27)	(29)	**(110)**	(28)	(37)	(687)	(7)	(759)
Write-downs	—	—	—	(64)	**(64)**	—	—	—	—	—
Transfers	—	—	—	—	**—**	—	—	—	10	10
Transfers to disposal groups held for sale	—	—	—	—	**—**	(11)	(6)	—	(4,017)	(4,034)
Decommissioning liability and dilapidations revisions and additions (note 21)	1	—	—	67	**68**	2	—	—	(12)	(10)
Lease modifications and re-measurements	—	(7)	—	—	**(7)**	(8)	1	—	(2)	(9)
Exchange adjustments	8	27	9	81	**125**	(2)	(1)	(4)	(166)	(173)
31 December	**235**	**691**	**199**	**11,517**	**12,642**	259	575	205	11,339	12,378
Accumulated depreciation and impairment										
1 January	131	329	63	9,870	**10,393**	113	257	707	13,298	14,375
Charge for the year	22	81	15	392	**510**	27	83	18	452	580
Impairments/(write-backs)	4	(2)	(10)	20	**12**	8	1	8	(829)	(812)
Disposals/retirements	(28)	(19)	(25)	(29)	**(101)**	(9)	(23)	(666)	(5)	(703)
Transfers to disposal groups held for sale	—	—	—	—	**—**	(5)	(6)	—	(2,903)	(2,914)
Exchange adjustments	2	7	2	69	**80**	(3)	17	(4)	(143)	(133)
31 December	**131**	**396**	**45**	**10,322**	**10,894**	131	329	63	9,870	10,393
NBV at 31 December	**104**	**295**	**154**	**1,195**	**1,748**	128	246	142	1,469	1,985

13. Property, plant and equipment

(b) Assets in the course of construction included in above carrying amounts

31 December	2022 £m	2021 £m
Plant, equipment and vehicles	**33**	8
Gas production and storage	**61**	26
Power generation	**27**	11

(c) Additional information relating to right-of-use assets included in the above

	2022					2021				
	Land and buildings £m	Plant, equipment and vehicles £m	Power generation £m	Gas production and storage £m	Total £m	Land and buildings £m	Plant, equipment and vehicles £m	Power generation £m	Gas production and storage £m	Total £m
Additions	**—**	**54**	**—**	**—**	**54**	3	31	—	6	40
Depreciation charge for the year	**(21)**	**(66)**	**—**	**(12)**	**(99)**	(25)	(62)	(8)	(21)	(116)
NBV at 31 December (i)	**86**	**207**	**—**	**16**	**309**	106	208	—	28	342

(i) In 2022 £nil (2021: £5 million) of transfers to held for sale have taken place, in addition to other movements relating to right-of-use assets not disclosed individually.

Further information on the Group's leasing arrangements is provided in note 23.

14. Interests in joint ventures and associates

Investments in joint ventures and associates represent businesses where we exercise joint control or significant influence and generally have an equity holding of up to 50%. These include the investment in Lake Acquisitions Limited, which owns the existing EDF UK nuclear power station fleet.

(a) Interests in joint ventures and associates

	2022 Investments in joint ventures and associates £m	2021 Investments in joint ventures and associates £m
1 January	**1,628**	843
Additions (i)	**18**	—
Write-backs (ii)	**195**	747
Share of profit/(loss) for the year	**93**	(103)
Share of other comprehensive (loss)/income (iii)	**(293)**	152
Dividends	**(60)**	(2)
Disposals (iv)	**—**	(2)
Other movements	**(1)**	(7)
31 December	**1,580**	1,628

(i) The £18 million in 2022 relates to cash injections into Greener Ideas Limited.
(ii) The £195 million in 2022 relates to nuclear investment write-back (2021: £747 million). See note 7 for further details.
(iii) Share of other comprehensive (loss)/income mainly relates to actuarial changes on pension schemes within the nuclear investment.
(iv) In 2021, the Group sold its 50% equity stake in Barrow Shipping Limited.

(b) Share of joint ventures' and associates' assets and liabilities

	2022			2021
31 December	Associates Nuclear £m	Other £m	**Total £m**	Total £m
Share of non-current assets	4,175	21	**4,196**	5,113
Share of current assets	842	—	**842**	706
	5,017	21	**5,038**	5,819
Share of current liabilities	(348)	—	**(348)**	(359)
Share of non-current liabilities	(2,612)	(1)	**(2,613)**	(3,140)
	(2,960)	(1)	**(2,961)**	(3,499)
Cumulative impairment	(497)	—	**(497)**	(692)
Interests in joint ventures and associates	**1,560**	**20**	**1,580**	1,628
Net cash included in share of net assets	112	—	**112**	50

Further information on the Group's investments in joint ventures and associates is provided in notes 6 and S10.

15. Other intangible assets and goodwill

The Group Balance Sheet contains significant intangible assets. Goodwill, customer relationships and brands usually arise when we acquire a business. Goodwill is attributable to enhanced geographical presence, cost savings, synergies, growth opportunities, the assembled workforce and also arises from items such as deferred tax. Goodwill is not amortised but is assessed for recoverability each year.

The Group uses European Union Allowances (EUAs) and Renewable Obligation Certificates/Renewable Energy Certificates (ROCs/RECs) to satisfy its related obligations.

Upstream exploration and evaluation expenditure is capitalised as an intangible asset until development of the asset commences, at which point it is transferred to PP&E or is deemed not commercially viable and is written down.

(a) Carrying amounts

	2022						2021					
	Customer relationships and brands £m	Application software(i)(ii) £m	EUA/ ROC/ REC £m	Exploration and evaluation expenditure £m	Goodwill £m	Total £m	Customer relationships and brands £m	Application software(i)(ii) £m	EUA/ ROC/ REC £m	Exploration and evaluation expenditure £m	Goodwill £m	Total £m
Cost												
1 January	**201**	**1,584**	**213**	**121**	**665**	**2,784**	203	1,752	208	352	1,651	4,166
Additions and capitalised borrowing costs	**—**	**44**	**799**	**—**	**—**	**843**	—	46	654	51	—	751
Acquisitions	**11**	**—**	**—**	**—**	**—**	**11**	13	—	—	—	—	13
Disposals/retirements and surrenders	**(9)**	**(129)**	**(732)**	**—**	**—**	**(870)**	(9)	(215)	(648)	(26)	—	(898)
Write-downs	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	(58)	—	(58)
Transfers	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	(10)	—	(10)
Transfers to disposal groups held for sale	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	(187)	(968)	(1,155)
Exchange adjustments	**5**	**11**	**—**	**—**	**15**	**31**	(6)	1	(1)	(1)	(18)	(25)
31 December	**208**	**1,510**	**280**	**121**	**680**	**2,799**	201	1,584	213	121	665	2,784
Accumulated amortisation												
1 January	95	1,143	—	121	264	1,623	91	1,166	—	247	722	2,226
Amortisation (iii)	17	142	—	—	—	159	13	175	—	—	—	188
Disposals/retirements and surrenders	(9)	(129)	—	—	—	(138)	(9)	(211)	—	—	—	(220)
Impairments	5	15	—	—	—	20	—	17	—	—	301	318
Transfers to disposal groups held for sale	—	—	—	—	—	—	—	—	—	(124)	(758)	(882)
Exchange adjustments	3	9	—	—	7	19	—	(4)	—	(2)	(1)	(7)
31 December	111	1,180	—	121	271	1,683	95	1,143	—	121	264	1,623
NBV at 31 December	97	330	280	—	409	1,116	106	441	213	—	401	1,161

(i) Application software includes assets under construction with a cost of £83 million (2021: £71 million).

(ii) The remaining amortisation period of individually material application software assets, which had a carrying value of £100 million (2021: £171 million), is between 0 and 4 years. Additionally, there is £61 million (2021: £43 million) of individually material software assets under construction.

(iii) Amortisation of £159 million (2021: £188 million) has been recognised in operating costs from continuing operations before exceptional items.

15. Other intangible assets and goodwill

(b) Carrying amount of goodwill and intangible assets with indefinite useful lives allocated to CGUs

Goodwill acquired through business combinations, and indefinite-lived intangible assets, have been allocated for impairment testing purposes to individual CGUs or groups of CGUs, each representing the lowest level within the Group at which the goodwill or indefinite-lived intangible asset is monitored for internal management purposes.

		2022			2021		
31 December	Principal acquisitions to which goodwill and intangibles with indefinite useful lives relate	**Carrying amount of goodwill £m**	**Carrying amount of indefinite-lived intangible assets (i) £m**	**Total £m**	Carrying amount of goodwill £m	Carrying amount of indefinite-lived intangible assets (i) £m	Total £m
CGUs							
British Gas Services & Solutions	AlertMe/Dyno-Rod	**63**	**57**	**120**	63	57	120
British Gas Energy	Enron Direct/Electricity Direct	**121**	**—**	**121**	121	—	121
Centrica Business Solutions							
– Energy solutions	ENER-G/Panoramic Power/REstore/SmartWatt	**—**	**—**	**—**	—	—	—
– Energy supply	Enron Direct/Electricity Direct	**60**	**—**	**60**	60	—	60
Bord Gáis Energy	Bord Gáis Energy	**16**	**—**	**16**	15	—	15
Energy Marketing & Trading	Neas Energy	**149**	**—**	**149**	142	—	142
Upstream	Newfield/Heimdal/Venture/Bayerngas	**—**	**—**	**—**	—	—	—
		409	**57**	**466**	401	57	458

(i) The indefinite-lived intangible assets relate mainly to the Dyno-Rod brand.

The Group has considered the impact of climate change on the carrying value of goodwill, including the impact of the risks and opportunities. See note 3(c).

16. Deferred tax liabilities and assets

Deferred tax is an accounting adjustment to provide for tax that is expected to arise in the future as a result of differences in the accounting and tax bases of assets and liabilities. The principal deferred tax assets and liabilities recognised by the Group relate to capital investments, decommissioning assets and provisions, tax losses, fair value movements on derivative financial instruments, PRT and pensions.

	Accelerated tax depreciation (corporation tax) £m	Net decommissioning (i) £m	Losses carried forward (ii) £m	Other timing differences £m	Marked to market positions £m	Net deferred PRT (iii) £m	Retirement benefit obligation and other provisions £m	Total £m
1 January 2021	(662)	876	136	72	(64)	125	4	487
(Charge)/credit to income	(383)	109	51	(36)	601	(83)	(30)	229
Credit/(charge) to equity	—	—	—	—	8	—	(90)	(82)
Transferred to held for sale	582	(428)	—	(6)	—	—	—	148
Exchange and other adjustments	5	(1)	—	1	—	—	—	5
31 December 2021	(458)	556	187	31	545	42	(116)	**787**
(Charge)/credit to income (iv)	(136)	(101)	29	(93)	1,160	(13)	1	**847**
Credit/(charge) to equity	—	—	—	—	8	—	(6)	**2**
Transferred within held for sale	—	—	—	70	—	—	—	**70**
Exchange and other adjustments	(1)	—	—	(4)	—	—	—	**(5)**
31 December 2022	**(595)**	**455**	**216**	**4**	**1,713**	**29**	**(121)**	**1,701**

(i) Net decommissioning includes deferred tax assets of £596 million (2021: £638 million) in respect of decommissioning provisions.

(ii) The losses arise principally from accelerated allowances for upstream investment expenditure, for which equivalent deferred tax liabilities are included under accelerated tax depreciation.

(iii) The deferred PRT amounts include the effect of deferred corporation tax as PRT is chargeable to corporation tax.

(iv) The increase in forecast commodity prices has enabled previously unrecognised exploration and production deferred assets to be recognised, and reduced recognised deferred tax assets. As a result a net credit of £121 million has been made to exceptional items and certain re-measurements (see note 7).

Certain deferred tax assets and liabilities have been offset where there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes relate to the same fiscal authority.

	2022		2021	
31 December	**Assets £m**	**Liabilities £m**	Assets £m	Liabilities £m
Gross deferred tax balances	**2,481**	**(780)**	1,404	(617)
Offsetting deferred tax balances	**(772)**	**772**	(581)	581
Net deferred tax balances (after offsetting for financial reporting purposes)	**1,709**	**(8)**	823	(36)

Deferred tax assets arise typically on decommissioning provisions, trading losses carried forward, retirement benefit obligations and marked to market positions. Forecasts indicate that there will be suitable taxable profits to utilise those deferred tax assets not offset against deferred tax liabilities. Specific legislative provisions applicable to gas production provide assurance that deferred tax assets relating to decommissioning costs and certain trading losses will be utilised.

The UK upstream deferred tax assets and liabilities were measured at the headline rate of tax of 40% applicable to the UK gas profits, consisting of 30% ring fence corporation tax and 10% supplementary charge. Following the introduction of the additional 25% Energy Profits Levy on top of the existing 40% headline rate of tax on 26 May 2022, the UK upstream deferred tax assets and liabilities were re-measured at the rate of 65%.

In the Autumn Statement published on 22 November 2022, the UK Government increased the Energy Profits Levy from 25% to 35% with effect from 1 January 2023. Following substantive enactment on 30 November 2022, the UK upstream deferred tax balances at 31 December 2022 were re-measured at the rate of 75%. A net credit of £148 million has been recognised in exceptional items and certain re-measurements (see note 7) on the re-measurement of deferred tax balances as at 26 May 2022 and 31 December 2022. The net credit comprises a £325 million tax charge in respect of accelerated capital allowances and other timing differences offset by a tax credit of £473 million in respect of derivatives.

At the balance sheet date, the Group had certain £802 million (2021: £1,762 million) unrecognised deductible temporary differences related to carried forward tax losses available for utilisation against future taxable profits.

At the balance sheet date, no taxable temporary differences existed in respect of the Group's overseas investments (2021: £nil).

17. Trade and other receivables and contract-related assets

Trade and other receivables include accrued income, and are amounts owed by our customers for goods we have delivered or services we have provided. These balances are valued net of expected credit losses. Other receivables include payments made in advance to our suppliers. Contract-related assets are balances arising as a result of the Group's contracts with customers in the scope of IFRS 15.

31 December	2022 Current £m	2022 Non-current £m	2021 Current £m	2021 Non-current £m
Financial assets:				
Trade receivables	2,207	–	1,546	–
Unbilled downstream energy income	1,281	–	726	–
Trading and energy procurement accrued income [(i)]	3,179	–	2,546	–
Other accrued energy income	234	–	175	–
Other accrued income	90	–	108	–
Cash collateral posted	1,154	–	888	–
Supplier of Last Resort receivables	253	22	124	110
Government scheme receivables	284	–	–	–
Other receivables (including contract assets)	346	24	209	25
	9,028	46	6,322	135
Less: provision for credit losses	(872)	–	(633)	–
	8,156	46	5,689	135
Non-financial assets: prepayments, other receivables and costs to obtain or fulfil a contract with a customer	294	83	192	98
	8,450	129	5,881	233

(i) Trading and energy procurement counterparty receivables are typically with customers with external, published credit ratings. Such receivables have typically much lower credit risk than downstream counterparties, are settled in a short period of time and expected credit losses are not significant.

The amounts above include gross amounts receivable arising from the Group's IFRS 15 contracts with customers of £2,325 million (2021: £1,419 million). Additionally, accrued income of £1,371 million (2021: £797 million) arising under IFRS 15 contracts is included.

Trade and other receivables include financial assets representing the contractual right to receive cash or other financial assets from residential customers, business customers and treasury, trading and energy procurement counterparties as follows:

31 December	2022 Current £m	2022 Non-current £m	2021 Current £m	2021 Non-current £m
Financial assets by business type:				
Residential customers [(i)]	2,755	22	1,664	110
Business customers	1,750	22	1,019	21
Treasury, trading and energy procurement counterparties	4,523	2	3,639	4
	9,028	46	6,322	135
Less: provision for credit losses	(872)	–	(633)	–
	8,156	46	5,689	135

(i) Residential customers include current other receivables of £253 million (2021: £124 million) and non-current other receivables of £22 million (2021: £110 million) in relation to SoLR claims, see note 3(a) for further details.

17. Trade and other receivables and contract-related assets

Credit loss charge for trade and other receivables

The impairment charge in trade receivables is stated net of credits for the release of specific provisions made in previous years, which are no longer required. These relate primarily to residential and business customers in the UK. Movements in the provision for credit losses by business type are as follows:

	2022				2021			
	Residential customers £m	Business customers £m	Treasury, trading and energy procurement counterparties £m	**Total £m**	Residential customers £m	Business customers £m	Treasury, trading and energy procurement counterparties £m	Total £m
1 January	(426)	(207)	—	**(633)**	(400)	(187)	(4)	(591)
Increase in impairment of trade receivables (predominantly related to credit impaired trade receivables) (i) (ii) (iii)	(234)	(124)	—	**(358)**	(84)	(39)	—	(123)
Receivables written off (iv)	93	26		**119**	58	19	4	81
31 December	(567)	(305)	—	**(872)**	(426)	(207)	—	(633)

(i) Includes £348 million (2021: £107 million) of credit losses related to trade receivables resulting from contracts in the scope of IFRS 15.

(ii) All loss allowances reflect the lifetime expected credit losses on trade receivables and contract assets.

(iii) Excludes recovery of previously written-off receivables of £7 million (2021: £7 million). Due to the large number of individual receivables and the matrix approach employed, any reduction in provision is reflected in a reduced charge for the relevant period, rather than in separately identifiable reversals of previous provisions.

(iv) Materially all write-offs relate to trade receivables where enforcement activity is ongoing. The gross carrying value of write-offs related to trade receivables where enforcement activity is ongoing was £105 million (2021: £88 million).

Year ended 31 December	**2022 £m**	2021 £m
Increase in impairment provision for trade receivables (per above)	**(358)**	(123)
Less recovery of previously written-off receivables	**7**	7
Credit losses on financial assets (per Group Income Statement)	**(351)**	(116)

Enforcement activity continues in respect of balances that have been written off unless there are specific known circumstances (such as bankruptcy) that render further action futile.

17. Trade and other receivables and contract-related assets

Credit loss charge for trade and other receivables

Receivables from residential and business customers are generally considered to be credit impaired when the payment is past the contractual due date. The Group applies different definitions of default for different groups of customers, ranging from sixty days past the due date to six to twelve months from the issuance of a final bill. Receivables are generally written off only once a period of time has elapsed since the final bill. Contractual due dates range from falling due upon receipt to falling due in thirty days from receipt.

The table below shows credit impaired balances in gross receivables (those that are past due) and those that are not yet due and therefore not considered to be credit impaired.

Gross trade and other receivables

31 December	2022 £m	2021 £m (ii)
Balances that are not past due	**7,414**	5,155
Balances that are past due (i)	**1,614**	1,167
	9,028	6,322

(i) The majority of balances that are past due relate to residential and business customers, ageing of these receivables is included in the credit risk tables in the sections below.
(ii) The prior year has been re-presented to reclassify £123 million of balances that are past due to balances that are not past due.

The IFRS 9 impairment model is applicable to the Group's financial assets including trade receivables, contract assets and other financial assets using the simplified approach as described in note S3. As the majority of the relevant balances are trade receivables and contract assets to which the simplified model applies, this disclosure focuses on these balances.

The provision for credit losses for trade receivables and contract assets is based on an expected credit loss model that calculates the expected loss applicable to the receivable balance over its lifetime. Expected credit losses on receivables due from treasury, trading and energy procurement counterparties are not significant (see note S3 for further analysis of this determination). For residential and business customers default rates are calculated initially by considering historical loss experience and applied to trade receivables within a provision matrix. The matrix approach allows application of different default rates to different groups of customers with similar characteristics. These groups are determined by a number of factors including; the nature of the customer, the payment method selected and, where relevant, the sector in which they operate. The characteristics used to determine the groupings of receivables are the factors that have the greatest impact on the likelihood of default. The rate of default increases once the balance is thirty days past due.

Concentration of credit risk in trade and other receivables

Treasury, trading and energy procurement counterparty receivables are typically with customers with external, published credit ratings. Such receivables have typically much lower credit risk than downstream counterparties, and that risk is assessed primarily by reference to the credit ratings rather than to the ageing of the relevant balance. Counterparty credit rating information is given in note S3.

In 2021, the Group was appointed as a Supplier of Last Resort to a number of energy suppliers who have ceased to trade and one further appointment was made in January 2022. Under Ofgem licence conditions, the Group is entitled to make a Last Resort Supplier Payment claim for incremental costs reasonably incurred to supply affected customers; a total of £275 million (2021: £234 million) has been recognised in other receivables at 31 December 2022. This is being recovered as part of a two-step claim process. An initial levy claim, based on expected commodity costs, was submitted and approved by Ofgem in 2021, and is being settled in twelve monthly instalments ending in April 2023. A second claim, truing up the initial claim to reflect both actual costs incurred and customer credit balances was submitted to Ofgem and approved in December 2022. The second claim will be recovered between April 2023 and April 2024. The claims are settled by network operators, to whom the Group separately pays transmission and distribution charges. The risk of default is considered low. In addition, Ofgem has the power under licensing conditions to take enforcement action against default in accordance with its statutory duties and its enforcement guidelines.

The Group's cash collateral balance has increased to £1,154 million in 2022 (2021: £888 million) as a result of higher commodity prices. Collateral counterparties typically have strong credit ratings and accordingly have low credit risk; the Group does not expect credit losses to arise on these balances. See note S3.

The majority of the Group's credit exposure arises in the British Gas Energy and Centrica Business Solutions segments and relates to residential and business energy customers. The credit risk associated with these customers is assessed as described above, using a combination of the age of the receivable in question, internal ratings based on a customer's payment history, and external data from credit rating agencies and wider macroeconomic information. The disclosures below reflect the information that is reported internally for credit risk management purposes in these segments.

17. Trade and other receivables and contract-related assets

British Gas Energy credit risk

Of the Group total of £2,207 million (2021: £1,546 million) billed trade receivables, the British Gas Energy reporting segment contributes £1,531 million (2021: £1,033 million). British Gas Energy now includes small business customers on the basis that their profile closely matches those of residential customers. As described above, credit risk is concentrated in receivables from energy customers who pay in arrears. Gross receivables from British Gas Energy residential customers amount to £992 million (2021: £601 million) and are analysed below.

Trade receivables due from British Gas residential energy customers as at 31 December (i)	2022					2021				
Days beyond invoice date (ii)	<30 days £m	30-90 days £m	>90 days £m	**Total £m**	Percentage of credit risk	<30 days £m	30-90 days £m	>90 days £m	Total £m	Percentage of credit risk
Risk profile										
Direct debits (iii)										
Gross receivables	216	51	66	**333**		55	28	53	136	
Provision	—	—	(23)	**(23)**		—	—	(2)	(2)	
Net	216	51	43	**310**	**7%**	55	28	51	134	1%
Payment on receipt of bill (iii)										
Gross receivables	118	54	286	**458**		87	22	194	303	
Provision	(4)	(7)	(180)	**(191)**		(3)	(4)	(102)	(109)	
Net	114	47	106	**267**	**42%**	84	18	92	194	36%
Final bills (iv)										
Gross receivables	12	13	176	**201**		7	8	147	162	
Provision	(3)	(6)	(140)	**(149)**		(2)	(4)	(122)	(128)	
Net	9	7	36	**52**	**74%**	5	4	25	34	79%
Total net British Gas residential energy customers trade receivables	**339**	**105**	**185**	**629**	**37%**	144	50	168	362	40%

(i) The receivables information presented in this table relates to downstream customers who pay energy bills using the methods presented. It excludes low residual credit risk amounts, such as balances in the process of recovery through pay-as-you-go energy (PAYGE) arrangements and amounts receivable from PAYGE energy vendors. Gross amounts in the process of recovery through PAYGE arrangements at 31 December 2022 are £203 million (2021: £201 million), against which a provision of £138 million is held (2021: £136 million).

(ii) This ageing analysis is presented relative to invoicing date and presents receivables according to the oldest invoice outstanding with the customer. There are a range of payment terms extended to residential energy customers. Amounts paid on receipt of a bill (PORB), which are settled using bank transfers, cash or cheques are typically due within fourteen days of invoicing. Direct debit customers typically pay in equal instalments over a twelve-month period.

(iii) Receivables settled by direct debit are deemed to present a lower credit risk than PORB amounts. This is reflected in the relative level of provision held for these types of receivables.

(iv) Final bill customers are those who are no longer customers of the Group and have switched energy supplier. These balances are deemed to have the highest credit risk.

17. Trade and other receivables and contract-related assets

Gross receivables from British Gas Energy small business customers amount to £336 million (2021: £232 million) and are analysed below.

Trade receivables due from British Gas small business energy customers as at 31 December	2022					2021				
Days beyond invoice date (i)	<30 days £m	30-90 days £m	>90 days £m	**Total £m**	Percentage of credit risk	<30 days £m	30-90 days £m	>90 days £m	Total £m	Percentage of credit risk
Risk profile										
Small businesses										
Gross receivables	64	21	251	**336**		48	18	166	232	
Provision	(1)	(2)	(191)	**(194)**		—	(1)	(128)	(129)	
Total net British Gas small business energy customers trade receivables	**63**	**19**	**60**	**142**	**58%**	48	17	38	103	56%

(i) This ageing analysis is presented relative to invoicing date and presents receivables according to the oldest invoice outstanding with the customer. There are a range of payment terms extended to business energy customers. Average credit terms for small business customers are ten working days.

Unbilled downstream energy income at 31 December 2022 includes gross balances of £880 million in respect of British Gas energy customers (2021: £535 million), against which a provision of £36 million is held (2021: £21 million).

Centrica Business Solutions energy credit risk

Of the Group total of £2,207 million (2021: £1,546 million) billed trade receivables, the Centrica Business Solutions reporting segment contributes £390 million (2021: £299 million). As described above, credit risk is concentrated in receivables from business energy customers who pay in arrears, the remaining balances being immaterial in disaggregation. Gross receivables from these customers amount to £346 million (2021: £251 million) and are analysed below.

Trade receivables due from Centrica Business Solutions business energy customers as at 31 December	2022					2021				
Days beyond invoice date (i)	<30 days £m	30-90 days £m	>90 days £m	**Total £m**	Percentage of credit risk	<30 days £m	30-90 days £m	>90 days £m	Total £m	Percentage of credit risk
Risk profile										
Commercial and industrial (ii)										
Gross receivables	170	9	31	**210**		116	3	47	166	
Provision	—	—	(15)	**(15)**		—	—	(18)	(18)	
Net	170	9	16	**195**	**7%**	116	3	29	148	11%
Medium-sized entities (ME)										
Gross receivables	47	15	74	**136**		22	7	56	85	
Provision	—	—	(49)	**(49)**		—	—	(36)	(36)	
Net	47	15	25	**87**	**36%**	22	7	20	49	42%
Total net Centrica Business Solutions business energy customers trade receivables	**217**	**24**	**41**	**282**	**18%**	138	10	49	197	22%

(i) This ageing analysis is presented relative to invoicing date and presents receivables according to the oldest invoice outstanding with the customer. There are a range of payment terms extended to business energy customers. Average credit terms for ME customers are ten working days. Credit terms for Commercial and Industrial customers are bespoke and are set based on the commercial agreement with each customer.
(ii) This category includes low credit risk receivables, including those from public sector and customers with high turnover (greater than £100 million).

Unbilled downstream energy income at 31 December 2022 includes gross balances of £349 million in respect of Centrica Business Solutions business energy customers (2021: £193 million), against which a provision of £14 million is held (2021: £5 million).

The remaining reporting segments which are not shown above are not considered to have material credit risk.

17. Trade and other receivables and contract-related assets

Sensitivity to changes in assumptions

Typically, the most significant assumption included within the expected credit loss provisioning model that gives rise to estimation uncertainty is that future performance will be reflective of past performance and that there will be no significant change in the payment profile or recovery rates within each identified group of receivables. To address this risk, the Group reviews and updates default rates, by group, on a regular basis to ensure they incorporate the most up to date assumptions along with forward-looking information where available and relevant. The Group also considers regulatory changes and customer segment specific factors that may have an impact, now or in the future, on the recoverability of the balance.

The specific consideration of forward-looking information in the impairment model does not usually give rise to significant changes in the levels of credit losses. However, inflationary pressures and increasing wholesale gas and electricity costs continue to cause uncertainty in economic outlook. The economic recovery remains vulnerable and there remains a level of estimation uncertainty inherent in determining credit loss provisions for the Group's trade receivables.

Where customers experience difficulties in settling balances, the increased ageing of these amounts results in an increase in provisions held in respect of them under the provision matrix approach employed. The Group has also considered changes in customer payment patterns, the specific circumstances of the customers and the economic impacts of the factors identified above, on the sectors in which they operate. Whilst economic recovery is expected, a level of unpredictability remains apparent.

Customers are facing increases in their cost of living, including increased energy bills, higher inflation and higher interest rates. The Group has considered macroeconomic forecasts and sensitivities, as well as disposable income analysis from a credit rating agency, to model and determine the level of provisions for credit losses.

During 2022 the Group recognised impairment charges of £351 million (2021: £116 million) in respect of financial assets, representing 1.5% of Group revenue (2021: 0.8%) and 1.0% of Group revenue from business performance (2021: 0.6%). As described above, the majority of the Group's credit exposure arises in respect of downstream energy receivables in British Gas Energy and Centrica Business Services. Credit losses in respect of these assets amounted to £331 million (2021: £104 million). This represents 2.1% (2021: 1.1%) of total UK downstream energy supply revenue from these segments of £15,814 million (2021: £9,162 million). Further details of segmental revenue are provided in note 4.

Due to the different level of risks presented by billed and unbilled receivables, these asset groups are considered separately in the analysis below.

Billed trade receivables

	31 December 2022 £m	31 December 2021 £m
Trade receivables (i)	**2,207**	1,546
Provision	**(822)**	(607)
Net balance	**1,385**	939

	31 December 2022 %	31 December 2021 %
Provision coverage	**37**	39
Sensitivity	**£m**	£m
Impact on billed receivables/operating profit from 1 percentage point (increase)/decrease in provision coverage (ii)	**(22)/22**	(16)/16

(i) Excludes the Government receivables under the Energy Price Guarantee (EPG) and Energy Bill Relief Scheme (EBRS) schemes of £284 million (2021: £nil) which are not provided for.
(ii) Credit risk in the Group is impacted by a large number of interacting factors.

17. Trade and other receivables and contract-related assets

Cash collection relative to billing has marginally deteriorated throughout the second half of 2022, driven by higher customer billings and credit terms having a lagged impact on conversion. Despite overall billed debt levels increasing significantly, the recovery rates are not showing significant decline and provision rates for customers in the Group's downstream operations have fallen slightly. The drop in provision rates is driven by the mix of customer debt, including a higher proportion of direct debit debt and payment on receipt of bills debt in residential which are considered lower risk and attract a lower rate of bad debt provision.

The macroeconomic environment, however, remains challenging with higher inflation, higher interest rates, lower growth projections and more limited government support measures. There remains significant uncertainty around the possible increase in bad debt as a result of these factors. Also leading debt indicators including the number of new customers going into debt, insolvency volumes in business and direct debit cancellation rates in residential have deteriorated during 2022. High commodity prices and the delayed impact on customer payments (including the recent changes in the residential price cap levels), have not yet been fully reflected in the underlying matrix output model used to record provision coverage. Therefore, as part of management's assessment of adequacy of bad debt provisions, a £95 million increase to the macroeconomic provision has been recorded, the provision now totals £125 million across billed and unbilled debt and is included in the tables both above and below (2021: £30 million). Management considers the impact of specific cohorts of customers when making this assessment, recognising the different credit terms and different risk profiles that exist. This assessment also utilises a range of factors, both internal and external, historic and forward-looking, and considers the sensitivities of these to help management estimate the likely recovery of debt.

It remains uncertain as to when and how these factors will reduce the collectability of debt and at what scale. The impact of future changes in commodity prices and government intervention, including for the Energy Price Guarantee (EPG) and the Energy Bill Relief Scheme (EBRS), may also impact this. The table above and the unbilled section below provide details of the sensitivity of moving the debt provision by a further 1%.

The Group's services, upstream and trading operations are less susceptible to credit risk. No significant deterioration of credit risk has been experienced or is expected in the relevant segments in respect of billed trade receivables recognised at 31 December 2022, taking into account cash collection cycles in those areas of the Group and credit rating information (see note S3).

Unbilled downstream energy income

The table below shows the IFRS 15 unbilled downstream energy income for the Group as a whole.

	31 December 2022 £m	31 December 2021 £m
Gross unbilled receivables	1,281	726
Provision	(50)	(26)
Net balance	1,231	700

	31 December 2022 %	31 December 2021 %
Provision coverage	4	4
Sensitivity	£m	£m
Impact on unbilled receivables/operating profit from 1 percentage point (increase)/decrease in provision coverage (i)	(13)/13	(7)/7

(i) Credit risk in the Group is impacted by a large number of interacting factors.

Unbilled downstream energy income is typically provided at a significantly lower rate than billed debt. This is because a large proportion of this debt once billed will be subject to the very short cash collection cycles of the Group's downstream energy supply businesses.

18. Inventories

Inventories represent assets that we intend to use in future periods, either by selling the asset itself (for example gas in storage) or by using it to provide a service to a customer.

31 December	2022 £m	2021 £m
Gas in storage and transportation (i)	1,076	486
Other raw materials and consumables	114	99
Finished goods and goods for resale	79	59
	1,269	644

(i) Includes gas in storage held at fair value of £539 million (2021: £331 million).

The Group consumed £3,508 million of inventories (2021: £560 million) during the year. Write-downs amounting to £6 million (2021: £23 million) were charged to the Group Income Statement in the year. Reversals of write-downs amounted to £9 million (2021: £nil) during the year.

19. Derivative financial instruments

The Group generally uses derivative financial instruments to manage the risk arising from fluctuations in the value of certain assets or liabilities associated with treasury management and energy sales and procurement, and for proprietary energy trading purposes. The Group also uses derivatives to hedge exchange risk.

For accounting purposes, derivatives are either classified as held for trading, in which case changes in their fair value are recognised in the Group Income Statement, or they are designated in hedging relationships. Where derivatives are in hedging relationships, the treatment of changes in their fair value depends on the nature of that relationship, and whether it represents a fair value hedge, a cash flow hedge, or a net investment hedge. Note S5 provides further detail on the Group's hedge accounting. The table below gives a high-level summary of the Group's accounting for its derivative contracts.

Purpose	Classification	Accounting treatment
Proprietary energy trading and treasury management.	Held for trading and fair value hedges.	Changes in fair value recognised in the Group's business performance results for the year.
Treasury management and hedging of exchange risk on net assets of US dollar Direct Energy subsidiaries up to date of disposal in 2021.	Cash flow and net investment hedges.	Effective portion of hedge initially recognised in the Group Statement of Other Comprehensive Income. Gains and losses are recycled to the Group Income Statement when the hedged item impacts profit or loss. Ineffective portions of the hedge are recognised immediately in the Group's business performance results for the year.
Energy procurement and optimisation.	Held for trading.	Changes in fair value recognised in the Group's exceptional items and certain re-measurements results for the year.

The carrying values of derivative financial instruments by product type for accounting purposes are as follows:

31 December	2022 Assets £m	2022 Liabilities £m	2021 Assets £m	2021 Liabilities £m
Derivative financial instruments – held for trading under IFRS 9:				
Energy derivatives – for procurement/optimisation	**1,723**	**(5,400)**	3,611	(2,203)
Energy derivatives – for proprietary trading	**5,355**	**(4,256)**	3,775	(3,749)
Interest rate derivatives	**—**	**—**	4	—
Foreign exchange derivatives	**275**	**(268)**	60	(50)
Derivative financial instruments in hedge accounting relationships:				
Interest rate derivatives	**37**	**(221)**	67	—
Foreign exchange derivatives	**37**	**(6)**	33	(7)
Total derivative financial instruments	**7,427**	**(10,151)**	7,550	(6,009)
Included within:				
Derivative financial instruments – current	**6,034**	**(8,841)**	6,545	(4,929)
Derivative financial instruments – non-current	**1,393**	**(1,310)**	1,005	(1,080)

The contracts included within energy derivatives are subject to a wide range of detailed specific terms, but comprise the following general components, analysed on a net carrying value basis:

31 December	2022 £m	2021 £m
Short-term forward market purchases and sales of gas and electricity:		
UK and Europe	**(214)**	69
Other derivative contracts including structured gas sale and purchase arrangements	**(2,364)**	1,365
Net total	**(2,578)**	1,434

Net (losses)/gains on derivative financial instruments due to re-measurement

31 December	2022 Income Statement £m	2022 Equity £m	2021 Income Statement £m	2021 Equity £m
Financial assets and liabilities measured at fair value:				
Derivative financial instruments – held for trading	**(4,568)**	**—**	1,263	—
Derivative financial instruments in hedge accounting relationships	**(228)**	**(10)**	(95)	(42)
	(4,796)	**(10)**	1,168	(42)

20. Trade and other payables and contract liabilities

Trade and other payables include accruals and are principally amounts we owe to our suppliers. Financial deferred income represents monies received from customers in advance of the delivery of goods or services that may be returned to the customer if future delivery does not occur. For example, downstream customers with a credit balance may request repayment of the outstanding amount in cash, rather than taking delivery of commodity. By contrast, contract liabilities and non-financial deferred income arise when the Group receives consideration from a customer in advance of performance, and has a non-financial liability to deliver future goods or services in return.

	2022		2021	
31 December	Current £m	Non-current £m	Current £m	Non-current £m
Financial liabilities:				
Trade payables	(561)	(4)	(542)	(2)
Deferred income (i)	(538)	—	(281)	—
Capital payables	(158)	—	(85)	—
Cash collateral received	(601)	—	(1,185)	—
Other payables (ii)	(479)	(150)	(164)	(100)
Accruals:				
Commodity costs	(5,371)	—	(3,462)	—
Transportation, distribution and metering costs	(377)	—	(258)	—
Operating and other accruals	(845)	—	(775)	—
	(6,593)	—	(4,495)	—
	(8,930)	(154)	(6,752)	(102)
Non-financial liabilities:				
Other payables and accruals	(701)	(1)	(661)	(3)
Contract liabilities	(37)	(7)	(33)	(15)
Deferred income (iii)	(508)	(3)	(67)	—
	(10,176)	(165)	(7,513)	(120)

(i) Includes downstream customer credit balances for amounts billed in advance of energy supply.
(ii) Other payables includes share buyback liability of £207 million (2021: £nil).
(iii) Deferred income includes £440 million from the Energy Bill Support Scheme, expected to be applied to customer accounts in January 2023.

Maturity profile of financial liabilities within current trade and other payables

31 December	2022 £m	2021 £m
Less than 90 days	(8,543)	(6,531)
90 to 182 days	(217)	(134)
183 to 365 days	(170)	(87)
	(8,930)	(6,752)

21. Provisions for liabilities & charges

Provisions are recognised when an obligation exists that can be reliably measured, but where there is uncertainty over the timing and/or amount of the payment. The main provisions relate to decommissioning costs for upstream assets we own, or have owned, which require restoration or remediation, along with onerous supply contracts. Further provisions relate to restructuring costs, and legal and regulatory matters.

	1 January 2022 £m	Acquisitions and disposals £m	Charged in the year £m	Notional interest £m	Unused and reversed in the year £m	Utilised £m	Revisions and additions £m	Transfers (v) £m	Exchange adjustments £m	**31 December 2022 £m**
Current										
Restructuring costs	(29)	—	(3)	—	5	20	—	(7)	(1)	**(15)**
Decommissioning costs (i) (ii)	(149)	—	—	—	1	98	(14)	(151)	(1)	**(216)**
Onerous contracts provision (iii)	(2,535)	(215)	—	—	—	1,815	—	(2)	—	**(937)**
Other (iv)	(56)	—	(29)	—	9	37	2	(8)	—	**(45)**
Total	**(2,769)**	**(215)**	**(32)**	**—**	**15**	**1,970**	**(12)**	**(168)**	**(2)**	**(1,213)**

	1 January 2022 £m	Acquisitions and disposals £m	Charged in the year £m	Notional interest £m	Unused and reversed in the year £m	Revisions and additions £m	Transfers (v) £m	Exchange adjustments £m	**31 December 2022 £m**
Non-current									
Restructuring costs	(12)	—	—	—	—	—	7	—	**(5)**
Decommissioning costs (i) (ii)	(1,372)	—	(60)	—	42	(53)	151	(6)	**(1,298)**
Onerous contracts provision (iii)	(24)	(69)	(8)	—	—	—	2	—	**(99)**
Other (iv)	(46)	—	(6)	—	1	(3)	8	2	**(44)**
Total	**(1,454)**	**(69)**	**(74)**	**—**	**43**	**(56)**	**168**	**(4)**	**(1,446)**

Included within the above liabilities are the following financial liabilities:

	2022		2021	
31 December	**Current £m**	**Non-current £m**	Current £m	Non-current £m
Restructuring costs	**(15)**	**(5)**	(29)	(12)
Provisions other than restructuring costs	**(973)**	**(132)**	(2,580)	(57)
	(988)	**(137)**	(2,609)	(69)

(i) Provision has been made for the estimated net present cost of decommissioning gas production facilities at the end of their useful lives. The estimate has been based on 2P reserves, price levels and technology at the balance sheet date. The payment dates of decommissioning costs are dependent on the lives of the facilities, but utilisation of the provision is expected to occur until the 2040s. The maturity profile of total decommissioning provisions is analysed below:

Maturity profile of decommissioning provisions

31 December	**2022 £m**
2023-2027	**(559)**
2028-2032	**(795)**
2033-2037	**(146)**
2038-2042	**(9)**
2043-2047	**(5)**
	(1,514)

The rate used to discount decommissioning provisions is 1% (2021: 0%). See note 3.

(ii) Included in the provision balance as at 31 December 2022 is £1,174 million held in Spirit Energy, £324 million in relation to the Rough field, and £16 million in the remainder of the business.

(iii) Primarily includes the onerous supply contract provision of £999 million (2021: £2,530 million), including £284 million recognised upon acquisition of the AvantiGas customer book, see notes 3 and 12.

(iv) Other provisions have been made for dilapidations, insurance, legal, warranty and various other claims.

(v) Relates to amounts transferred between current and non-current provisions.

22. Post-retirement benefits

The Group manages a number of final salary and career average defined benefit pension schemes. It also has defined contribution schemes. The majority of these schemes are in the UK.

(a) Summary of main post-retirement benefit schemes

Name of scheme	Type of benefit	Status	Country	Number of active members as at 31 December 2022	Total membership as at 31 December 2022
Centrica Engineers	Defined benefit final salary pension	Closed to new members in 2006	UK	**1,615**	**8,433**
Pension Scheme	Defined benefit career average pension	Closed to new members in 2003	UK	**3,198**	**7,237**
Centrica Pension Plan	Defined benefit final salary pension		UK	**1,471**	**8,441**
Centrica Pension Scheme	Defined benefit final salary pension	Closed to new members in 2003	UK	**1**	**10,197**
	Defined benefit career average pension	Closed to new members in 2008	UK	**750**	**4,191**
	Defined contribution pension	Open to new members	UK	**10,243**	**20,789**
Bord Gáis Energy Company Defined Benefit Pension Scheme	Defined benefit final salary pension	Closed to new members in 2014	Republic of Ireland	**94**	**170**
Bord Gáis Energy Company Defined Contribution Pension Plan	Defined contribution pension	Open to new members	Republic of Ireland	**270**	**392**

The Centrica Engineers Pension Scheme (CEPS), Centrica Pension Plan (CPP) and Centrica Pension Scheme (CPS) form the significant majority of the Group's defined benefit obligation and are referred to below as the 'Registered Pension Schemes'. The other schemes are individually, and in aggregate, immaterial.

Independent valuations

The Registered Pension Schemes are subject to independent valuations at least every three years, on the basis of which the qualified actuary certifies the rate of employer contributions, which together with the specified contributions payable by the employees and proceeds from the schemes' assets, are expected to be sufficient to fund the benefits payable under the schemes.

The latest full actuarial valuations agreed and finalised with the Pension Trustees were carried out at the following dates: the Registered Pension Schemes at 31 March 2021 and the Bord Gáis Energy Company Defined Benefit Pension Scheme at 1 January 2020. For the Registered Pension Schemes, the full actuarial valuation as at 31 March 2021 was agreed during the year. These valuations have been updated to 31 December 2022 for the purpose of meeting the requirements of IAS 19. Investments held in all schemes have been valued for this purpose at market value.

Governance

The Registered Pension Schemes are managed by trustee companies whose boards consist of both company-nominated and member-nominated Directors. Each scheme holds units in the Centrica Combined Common Investment Fund (CCCIF), which holds the majority of the combined assets of the Registered Pension Schemes. The board of the CCCIF is currently comprised of nine directors: three independent directors, three directors appointed by Centrica plc (including the Chairman) and one director appointed by each of the three Registered Pension Schemes.

Under the terms of the Pensions Act 2004, Centrica plc and each trustee board must agree the funding rate for its defined benefit pension scheme and a recovery plan to fund any deficit against the scheme-specific statutory funding objective. This approach was first adopted for the triennial valuations completed at 31 March 2006, and has been reflected in subsequent valuations, including the 31 March 2021 valuation.

22. Post-retirement benefits

(b) Risks

The Registered Pension Schemes expose the Group to the following risks:

Asset volatility

The pension liabilities are calculated using a discount rate set with reference to AA corporate bond yields. If the growth in plan assets is lower than this, this will create an actuarial loss within other equity. The CCCIF is responsible for managing the assets of each scheme in line with the risk tolerances that have been set by the trustees of the schemes, and invests in a diversified portfolio of assets. The schemes are relatively young in nature (the schemes' opened in 1997 on the formation of Centrica plc on demerger from BG plc (formerly British Gas plc)), and only took on past service liabilities in respect of active employees.

The trustees significantly reduced their tolerance to scheme valuation risk in 2019, increasing inflation and interest rate hedges from one third to two thirds, and further de-risked thereafter such that there was an 85% hedge level (in relation to assets) at 2021 year-end. This de-risking included the use of collateralised gilt holdings in the Schemes' Liability-Driven Investment (LDI) portfolio (shown in the Pension scheme asset table in section (f) of this note within Liability matching assets).

Throughout 2022 and in particular during September, there were significant increases and volatility in gilt yields. This led to a significant fall in the value of assets invested in the UK Registered Pension Schemes' Liability-Driven Investment (LDI) funds, thereby driving collateral calls and temporarily reducing the hedge position. All liquid credit mandates were placed into redemption with proceeds directed to the LDI portfolio to increase collateral and reduce leverage.

In October 2022, the Group agreed to provide the Schemes with a £400 million two-year revolving, unsecured, interest bearing credit facility, and a short-term £150 million loan. This money was immediately drawn down to purchase physical gilts to reduce the extent of interest rate and inflation risk. The short-term loan was repaid in December 2022 and the remaining £400 million credit facility is scheduled for repayment in 2024. At the 2022 year-end, the £400 million loan (together with unpaid interest) is recorded in Securities from a Centrica plc Group perspective and as a reduction to scheme assets for the UK Registered Pension Schemes.

At the 2022 year-end, the inflation and interest rate hedge level in relation to assets is around 92%. This has resulted in a reduction of return-seeking assets within the portfolio, as well as a higher weighting to assets that better manage downside risk.

Interest rate

A decrease in bond interest rates will increase the net present value of the pension liabilities. The relative immaturity of the schemes means that the duration of the liabilities is longer than average for typical UK pension schemes, resulting in a relatively higher exposure to interest rate risk. This risk is reduced via the hedging referred to in the Asset volatility section.

Inflation

Pensions in deferment, pensions in payment and pensions accrued under the career average schemes increase in line with the Retail Prices Index (RPI) and the Consumer Prices Index (CPI). Therefore, scheme liabilities will increase if inflation is higher than assumed, although in some cases caps are in place to limit the impact of significant movements in inflation. Furthermore, a pension increase exchange (PIE) option implemented in 2015 is available to future retirees, which gives the choice to receive a higher initial pension in return for giving up certain future increases linked to RPI, again limiting the impact of significant movements in inflation. Inflation risk is reduced via the hedging referred to in the Asset volatility section.

Longevity

The majority of the schemes' obligations are to provide benefits for the life of scheme members and their surviving spouses; therefore increases in life expectancy will result in an increase in the pension liabilities. The relative immaturity of the schemes means that there is comparatively little observable mortality data to assess the rates of mortality experienced by the schemes, and means that the schemes' liabilities will be paid over a long period of time, making it particularly difficult to predict the life expectancy of the current membership. Furthermore, pension payments are subject to inflationary increases, resulting in a higher sensitivity to changes in life expectancy.

Salary

Pension liabilities are calculated by reference to the future salaries of active members, and hence salary rises in excess of assumed increases will increase scheme liabilities. During 2011, changes were introduced to the final salary sections of CEPS and CPP such that annual increases in pensionable pay are capped to 2%, resulting in a reduction in salary risk. During 2016, a salary cap on pensionable pay for the CPS career average and CPP schemes was implemented, and in 2019 a similar change took place for CEPS. All of the 2011, 2016 and 2019 changes result in a reduction in salary risk.

Foreign exchange

Certain assets held by the CCCIF are denominated in foreign currencies, and hence their values are subject to exchange rate risk.

The CCCIF has long-term hedging policies in place to manage interest rate, inflation and foreign exchange risks.

The table below analyses the total liabilities of the Registered Pension Schemes, calculated in accordance with accounting principles, by type of liability, as at 31 December 2022.

22. Post-retirement benefits

Total liabilities of the Registered Pension Schemes

31 December	2022 %
Actives – final salary – capped	11
Actives – final salary – uncapped and crystallised benefits	5
Actives – career average	4
Deferred pensioners	38
Pensioners	42
	100

(c) Accounting assumptions

The accounting assumptions for the Registered Pension Schemes are given below:

Major assumptions used for the actuarial valuation

31 December	2022 %	2021 %
Rate of increase in employee earnings:		
Subject to 2% cap	1.5	1.8
Other not subject to cap	2.9	2.6
Rate of increase in pensions in payment	3.3	3.1
Rate of increase in deferred pensions:		
In line with CPI capped at 2.5%	2.5	2.4
In line with RPI	3.0	3.1
Discount rate	4.7	1.8

The assumptions relating to longevity underlying the pension liabilities at the balance sheet date have been based on a combination of standard actuarial mortality tables, scheme experience and other relevant data, and include an allowance for future improvements in mortality. The longevity assumptions for members in normal health are as follows:

Life expectancy at age 65 for a member

	2022		2021	
31 December	Male Years	Female Years	Male Years	Female Years
Currently aged 65	22.4	23.9	22.5	24.0
Currently aged 45	23.6	25.0	23.8	25.1

The other demographic assumptions have been set having regard to the latest trends in scheme experience and other relevant data. The assumptions are reviewed and updated as necessary as part of the periodic actuarial valuations of the pension schemes.

For the Registered Pension Schemes, marginal adjustments to the assumptions used to calculate the pension liability, or significant swings in bond yields or stock markets, can have a large impact in absolute terms on the net assets of the Group. Reasonably possible changes as at 31 December to one of the actuarial assumptions would have affected the scheme liabilities as set out below:

Impact of changing material assumptions

	2022		2021	
31 December	Increase/ decrease in assumption (i)	Indicative effect on scheme liabilities %	Increase/ decrease in assumption	Indicative effect on scheme liabilities %
Rate of increase in employee earnings subject to 2% cap	1.00%	+1/-2	0.25%	+/-0
Rate of increase in pensions in payment and deferred pensions	1.00%	+14/-12	0.25%	+/-4
Discount rate	1.00%	-15/+19	0.25%	-/+5
Inflation assumption	1.00%	+15/-12	0.25%	+/-5
Longevity assumption	1 year	+/-2	1 year	+/-4

(i) 1% has been used for sensitivity analysis this year as opposed to 0.25% in the prior year, due to the quantum of market rate movements during the year which mean it is considered that 1% is a more appropriate measure for 2022.

The indicative effects on scheme liabilities have been calculated by changing each assumption in isolation and assessing the impact on the liabilities. For the reasonably possible change in the inflation assumption, it has been assumed that a change to the inflation assumption would lead to corresponding changes in the assumed rates of increase in uncapped pensionable pay, pensions in payment and deferred pensions.

The remaining disclosures in this note cover all of the Group's defined benefit schemes.

22. Post-retirement benefits

(d) Amounts included in the Group Balance Sheet

31 December	2022 £m	2021 £m
Fair value of plan assets	**6,312**	10,666
Present value of defined benefit obligation	**(6,272)**	(10,666)
Recognised in the Group Balance Sheet	**40**	—
Presented in the Group Balance Sheet as:		
Retirement benefit assets	**150**	231
Retirement benefit liabilities	**(110)**	(231)

The Trust Deed and Rules for the Registered Pension Schemes provide the Group with a right to a refund of surplus assets assuming the full settlement of scheme liabilities. No asset ceiling restrictions have been applied in the consolidated Financial Statements.

(e) Movements in the year

	2022		2021	
	Pension liabilities £m	Pension assets £m	Pension liabilities £m	Pension assets £m
1 January	**(10,666)**	**10,666**	(10,671)	10,070
Items included in the Group Income Statement:				
Current service cost	**(84)**	**—**	(85)	—
Contributions by employer in respect of employee salary sacrifice arrangements [(i)]	**(21)**	**—**	(20)	—
Total current service cost	**(105)**	**—**	(105)	—
Past service credit	**—**	**—**	1	—
Interest (expense)/income	**(193)**	**196**	(155)	150
Termination benefit	**4**	**—**	52	—
Items included in the Group Statement of Comprehensive Income:				
Returns on plan assets, excluding interest income	**—**	**(4,559)**	—	301
Actuarial gain/(loss) from changes to demographic assumptions	**34**	**—**	(12)	—
Actuarial gain from changes in financial assumptions	**4,803**	**—**	123	—
Actuarial loss from experience adjustments	**(425)**	**—**	(194)	—
Items included in the Group Cash Flow Statement:				
Employer contributions	**—**	**264**	—	420
Contributions by employer in respect of employee salary sacrifice arrangements	**—**	**21**	—	20
Other movements:				
Benefits paid from schemes	**278**	**(278)**	297	(297)
Other	**(2)**	**2**	(2)	2
31 December	**(6,272)**	**6,312**	(10,666)	10,666

(i) A salary sacrifice arrangement was introduced on 1 April 2013 for pension scheme members. The contributions paid via the salary sacrifice arrangement have been treated as employer contributions and included within the current service cost, with a corresponding reduction in salary costs.

In addition to current service cost on the Group's defined benefit pension schemes, the Group also charged £66 million (2021: £61 million) to operating profit in respect of defined contribution pension schemes. This included contributions of £20 million (2021: £15 million) paid via a salary sacrifice arrangement.

22. Post-retirement benefits

(f) Pension scheme assets

The market values of plan assets were:

	2022			2021		
31 December	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m
Equities	**19**	**486**	**505**	20	462	482
Corporate bonds	**24**	**—**	**24**	2,393	31	2,424
High-yield debt	**106**	**1,331**	**1,437**	2,720	1,197	3,917
Liability matching assets	**2,835**	**1,343**	**4,178**	1,963	1,356	3,319
Property	**—**	**366**	**366**	—	439	439
Cash pending investment	**205**	**—**	**205**	85	—	85
Loan and interest	**—**	**(403)**	**(403)**	—	—	—
	3,189	**3,123**	**6,312**	7,181	3,485	10,666

Unquoted private equity, liability matching assets and debt funds are valued at fair value as calculated by the investment manager at the latest valuation date in accordance with generally accepted guidelines, adjusted for cash flow in the intervening period. Investment properties are valued in accordance with guidelines by independent valuers. These valuations are reviewed annually as part of the CCCIF audit and receive greater scrutiny now that unquoted assets make up a greater proportion of the scheme portfolio. Included within equities are £nil of ordinary shares of Centrica plc (2021: £nil) via pooled funds that include a benchmark allocation to UK equities. Included within corporate bonds are £nil (2021: £nil) of bonds issued by Centrica plc, albeit minor exposure may be held within pooled funds over which the CCCIF has no ability to direct investment decisions. Apart from the investment in the Scottish Limited Partnerships which form part of the asset-backed contribution arrangements described in section (g) of this note, no direct investments are made in securities issued by Centrica plc or any of its subsidiaries or property leased to or owned by Centrica plc or any of its subsidiaries. The corporate bond, high-yield debt and liability matching asset categories headings above have segregated portfolio mandates which include the cash, cash funds and derivatives associated with the mandates.

At 31 December 2021 the aggregate gilts portfolio, the quoted element of the Liability matching assets line, was approximately 3 times leveraged (1 times being unleveraged). At 31 December 2022 the aggregate gilts portfolio was significantly less exposed to collateral movements, at approximately 1.3 times leveraged.

Included within the Group Balance Sheet within non-current securities are £95 million (2021: £111 million) of investments, held in trust on behalf of the Group, as security in respect of the Centrica Unfunded Pension Scheme. Of the pension scheme liabilities above, £49 million (2021: £66 million) relate to this scheme. More information on the Centrica Unapproved Pension Scheme is included in the Remuneration Report on pages 84 to 103.

(g) Pension scheme contributions

The Group estimates that it will pay £54 million of ordinary employer contributions during 2023 for its defined benefit schemes, at an average rate of 21% of pensionable pay, together with £26 million of contributions paid via a salary sacrifice arrangement.

For the Registered Pension Schemes the last actuarial valuation, agreed during the year with the Pension Trustees, was as at 31 March 2021. As at that date, the weighted average duration of the liabilities of the Registered Pension Schemes was 22 years and the technical provisions deficit (funding basis) was £944 million. The Group committed to additional annual cash contributions to fund this pension deficit. The overall deficit contributions, including the previously disclosed asset-backed contribution arrangements, totalled £175 million in 2021 (of which £99 million was after 31 March 2021), and £204 million in 2022; and will amount to £175 million per annum from 2023 to 2025, with a balancing payment of £127 million in 2026. Separately, a pension strain payment of £10 million associated with employee redundancies was also contributed in 2022 (2021: £193 million).

On a pure roll-forward basis, from 31 March 2021, using the same methodology and consequent assumptions, the technical provisions deficit (funding basis) would be c.£850 million on 31 December 2022. Note that the valuation methodology and assumptions used for future assessments may differ from those previously used.

In previous years, the Registered Pension Schemes also held a security package over the Group's equity shareholding in the Direct Energy business, amounting to £1,235 million, enforceable in the unlikely event the Group was unable to meet its obligations. In January 2021, as part of the Direct Energy disposal, this security package was released by the Pension Trustees. In exchange, the Group provided replacement security of £745 million of letters of credit and £250 million cash in escrow.

In October 2022, as part of the £400 million loan arrangement from Centrica plc to the Registered Pension Schemes (described in part (b) above), this security was reduced by £545 million, so that only £450 million of letters of credit remained at the year-end. When this loan is repaid, replacement security may be required (dependent on the funding position) and the form of security will be at the Group's discretion.

23. Leases, commitments and contingencies

(a) Commitments and leases

Commitments are not held on the Group's Balance Sheet as these are executory arrangements, and relate to amounts that we are contractually required to pay in the future as long as the other party meets its contractual obligations.

The Group's commitments in relation to commodity purchase contracts disclosed below are stated net of amounts receivable under commodity sales contracts where there is a right of offset with the counterparty, and are based on the expected minimum quantities of gas and other commodities that the Group is contracted to buy at estimated future prices.

The commitments in this note differ in scope and in basis from the maturity analysis of energy derivatives disclosed in note S3, as only certain procurement and sales contracts are within the scope of IFRS 9 and included in note S3 and the volumes used in calculating the maturity analysis in note S3 are estimated using valuation techniques, rather than being based on minimum contractual quantities.

The Group's 20-year agreement with Cheniere to purchase 89bcf per annum of LNG volumes for export from the Sabine Pass liquefaction plant in the US commits the Group to capacity payments of £3.6 billion (included in 'LNG capacity' below) between 2022 and 2039. It also allows the Group to make up to £6.0 billion of commodity purchases based on market gas prices and foreign exchange rates as at the balance sheet date.

During 2019, the Group signed a 20-year agreement to purchase LNG volumes from Mozambique LNG1 Company. The commercial start date is 2025 and under this agreement the Group is committed to make commodity purchases expected to amount to £8.0 billion based on market gas and oil prices at the reporting date.

These LNG contracts are deemed to be own use and therefore are accounted for on an accruals basis. Based on forecast gas spreads, they are predicted to be profitable but due to their duration are exposed over a long period of time to the impact of climate change governmental policy decisions.

The Group has numerous renewable power purchase arrangements where renewable obligation certificates are purchased as power is produced. This gives rise to the commitments below.

31 December	2022 £m	2021 £m
Commitments in relation to the acquisition of PP&E	**75**	255
Commitments in relation to the acquisition of intangible assets:		
Renewable obligation certificates	**3,642**	3,289
Other intangible assets	**194**	250
Other commitments:		
Commodity purchase contracts	**69,824**	44,443
LNG capacity	**3,894**	3,892
Transportation capacity	**320**	292
Other long-term commitments (i)	**459**	526

(i) Other long-term commitments include amounts in respect of executory contracts and the smart meter roll-out programme.

The maturity analysis for commodity purchase contract commitments at 31 December is given below:

	Commodity purchase contract commitments			
	Fixed price commodity commitments		Commodity commitments that float with indices	
31 December	2022 £billion	2021 £billion	2022 £billion	2021 £billion
<1 year	**13.0**	6.8	**15.4**	9.2
1–2 years	**2.3**	1.5	**10.9**	7.3
2–3 years	**0.9**	0.3	**7.5**	4.4
3–4 years	**0.1**	0.1	**2.3**	3.1
4–5 years	**—**	—	**1.8**	1.3
>5 years	**0.1**	—	**15.5**	10.4
	16.4	8.7	**53.4**	35.7

23. Leases, commitments and contingencies

The Group enters into lease arrangements for assets including property, vehicles, vessels and assets used within the exploration and production business.

The carrying amount, additions and depreciation charge associated with right-of-use assets is disclosed in note 13 and the interest expense arising on the Group's lease liability is disclosed in note 8. The total Group cash outflow in the year for capital and interest from lease arrangements was £107 million (2021: £203 million), and the maturity analysis of cash flows associated with the Group's lease liability at the reporting date is shown in note S3.

The table below provides further information on amounts not included in the lease liability and charged to the Group Income Statement during the year.

Year ended 31 December	2022 £m	2021 £m
Expense related to short-term leases	82	9
Expense related to variable lease payments	9	26

During the year, the Group's expense related to short-term lease commitments predominantly related to the hire of LNG vessels and exploration and production drilling rigs. The commitment at the balance sheet date also relates to assets of a similar nature. The Group has £17 million operating sub-lease arrangements mainly for LNG vessels. The Group does not have any material arrangements in which it acts as a lessor.

(b) Guarantees and indemnities

This section discloses any guarantees and indemnities that the Group has given, where we may have to provide security in the future against existing and future obligations that will remain for a specific period.

In connection with the Group's energy trading, transportation and upstream activities, certain Group companies have entered into contracts under which they may be required to prepay, provide credit support or provide other collateral in the event of a significant deterioration in creditworthiness. The extent of credit support is contingent upon the balance owing to the third party at the point of deterioration.

As at 31 December 2022, £84 million (2021: £525 million) of letters of credit and on-demand payment bonds have been issued in respect of decommissioning obligations included in the Group Balance Sheet. The reduction is predominantly as a result of the disposal of the Norwegian and Statfjord fields - see note 12.

(c) Contingent liabilities

The Group has no material contingent liabilities.

24. Sources of finance

(a) Capital structure

The Group seeks to maintain an efficient capital structure with a balance of adjusted net cash and equity as shown in the table below:

31 December	2022 £m	2021 £m
Adjusted net cash	**(1,199)**	(680)
Shareholders' equity	**1,017**	2,365
Capital	**(182)**	1,685

Debt levels are restricted to limit the risk of financial distress and, in particular, to maintain a strong credit profile. The Group's credit standing is important for several reasons: to maintain a low cost of debt, limit collateral requirements in energy trading, hedging and decommissioning security arrangements, and to ensure the Group is an attractive counterparty to energy producers and long-term customers.

The Group monitors its current and projected capital position on a regular basis, considering a medium-term view of at least three years, and different stress case scenarios, including the impact of changes in the Group's credit ratings and significant movements in commodity prices. A number of financial ratios are monitored, including those used by the credit rating agencies.

The level of debt that can be raised by the Group is restricted by the Company's Articles of Association. Borrowing is limited to the higher of £10 billion and a gearing ratio of three times Shareholder's equity. The Group funds its long-term debt requirements through issuing bonds in the capital markets and taking bank debt. Short-term debt requirements are met primarily through commercial paper or short-term bank borrowings. The Group maintains substantial committed facilities and uses these to provide liquidity for general corporate purposes, including short-term business requirements and back-up for commercial paper.

British Gas Insurance Limited (BGIL) is required to hold a minimum capital amount under PRA regulations and has complied with this requirement since its inception. BGIL's capital management policy and plan are subject to review and approval by the BGIL board. Reporting processes provide relevant and timely capital information to management and the board. A medium-term capital management plan forms part of BGIL's planning and forecasting process, embedded into approved timelines, management reviews and board approvals.

The Group's January 2023 trading update noted that the 2022 closing net cash position was expected to be above £1 billion and the Group's final net position is £1,199 million at the year-end.

24. Sources of finance

(b) Liquidity risk management and going concern

The Group has a number of treasury and risk policies to monitor and manage liquidity risk. Cash forecasts identifying the Group's liquidity requirements are produced regularly and are stress tested for different scenarios, including, but not limited to, reasonably possible increases or decreases in commodity prices and the potential cash implications of a credit rating downgrade. The Group seeks to ensure that sufficient financial headroom exists for at least a 12-month period to safeguard the Group's ability to continue as a going concern, and as at the reporting date, the analysis performed by the Group extends to 31 December 2024. It is the Group's policy to maintain committed facilities and/or available surplus cash resources of at least £1,200 million, raise at least 75% of its gross debt (excluding non-recourse debt) in the capital market and to maintain an average term to maturity in the recourse long-term debt portfolio greater than five years.

In response to the extremely volatile commodity market conditions witnessed during 2022, the Group proactively increased the level of committed credit bank facilities to ensure additional liquidity was available, if required, as the business entered the winter period.

At 31 December 2022 the Group had undrawn committed credit facilities of £3,951 million (2021: £3,006 million) and £3,687 million (2021: £3,875 million) of unrestricted cash and cash equivalents, net of outstanding overdrafts. 82% (2021: 89%) of the Group's gross debt has been raised in the long-term debt market and the average term to maturity of the long-term debt portfolio was 9.9 years (2021: 10.9 years). The completion of the disposal of the Direct Energy business on 5 January 2021 led to a cash receipt of $3.6 billion (£2.7 billion), significantly improving the Group's adjusted net debt position.

The Group's liquidity is impacted by the cash posted or received under margin and collateral agreements. The terms and conditions of these agreements depend on the counterparty and the specific details of the transaction. Margin/collateral is generally posted or received to support energy trading and procurement activities. It is posted when contracts with marginable counterparties are out of the money and received when contracts are in the money. Cash is generally returned to the Group or by the Group within two days of trade settlement. At 31 December 2022 the collateral position was as follows:

31 December	2022 £m	2021 £m
Collateral (received)/posted included within:		
Trade and other payables	**(601)**	(1,185)
Trade and other receivables	**1,154**	888
Collateral posted/(received) extinguishing:		
Net derivative liabilities/(assets) (i)	**270**	(114)
Net collateral posted/(received) (ii)	**823**	(411)

(i) Variation margin on daily settled derivatives results in the extinguishment of the net derivative asset/liability. These contracts remain outstanding until a future delivery date, and therefore the cumulative daily settlement is considered collateral until that fulfilment date.
(ii) In-year movements of net collateral posted/(received) include exchange adjustments of £61 million (2021: £4 million).

Commodity prices were very volatile throughout 2022. During the year, the peak month-end net collateral posted (i.e. outflow) was in August and amounted to £1.9 billion. The Group utilises initial margin waiver facilities to help manage its liquidity and working capital position in relation to derivative trading. For certain types of trade, initial margin is a requirement before entering into a transaction, as it provides credit assurance for the exchange. As initial margin is not a liability of the Group and is refundable, it is reflected as a margin asset on the Group's balance sheet. Accordingly, where counterparties waive any requirement to post initial margin, the Group has no liability.

The level of undrawn committed bank facilities and available cash resources has enabled the Directors to conclude that the Group has sufficient headroom to continue as a going concern. The statement of going concern is included in the Governance section – Other Statutory Information, on page 106.

24. Sources of finance

(c) Adjusted net cash/(debt) summary

Adjusted net cash/(debt) predominantly includes capital market borrowings offset by cash, securities and certain hedging financial instruments used to manage interest rate and foreign exchange movements on borrowings.

Presented in the derivatives and current and non-current borrowings, leases and interest accruals columns shown below are the assets and liabilities that give rise to financing cash flows.

				Other assets and liabilities			
	Current and non-current borrowings, leases and interest accruals £m	Derivatives £m	Gross debt £m	Cash and cash equivalents, net of bank overdrafts (i) (ii) £m	Current and non-current securities (iii) £m	Sub-lease assets £m	Adjusted net (debt)/ cash £m
Group adjusted net debt at 1 January 2021	(4,877)	346	(4,531)	1,393	138	2	(2,998)
Disposal of business (iv)	36	—	36	(132)	(4)	—	(100)
Cash outflow from settlement and purchase of securities	—	—	—	(3)	3	—	—
Cash outflow for payment of capital element of leases	162	—	162	(162)	—	—	—
Cash outflow for repayment of borrowings (vi)	650	(106)	544	(544)	—	—	—
Remaining cash inflow	—	—	—	4,010	—	—	4,010
Revaluation	122	(133)	(11)	—	19	—	8
Financing interest paid	206	(14)	192	(233)	—	—	(41)
Increase in interest payable and amortisation of borrowings	(195)	—	(195)	—	—	—	(195)
New lease agreements and re-measurement of existing lease liabilities	(28)	—	(28)	—	—	—	(28)
Exchange adjustments	25	—	25	(1)	—	—	24
Group adjusted net (debt)/cash at 31 December 2021 (iv)	(3,899)	93	(3,806)	4,328	156	2	680
Disposal of business (iv)	6	—	6	(30)	(21)	—	(45)
Net cash outflow from net purchase of securities	—	—	—	(398)	398	—	—
Cash outflow for payment of capital element of leases	103	—	103	(103)	—	—	—
Cash outflow for repayment of borrowings (vi)	1,482	—	1,482	(1,482)	—	—	—
Cash inflow from short term borrowings (vi)	(1,220)	—	(1,220)	1,220	—	—	—
Remaining cash inflow (iv) (v)	—	—	—	796	—	—	796
Revaluation/interest receivable on securities	240	(238)	2	—	(11)	—	(9)
Financing interest paid	179	(8)	171	(172)	—	—	(1)
Increase in interest payable and amortisation of borrowings	(181)	—	(181)	—	—	—	(181)
New lease agreements and re-measurement of existing lease liabilities	(42)	—	(42)	—	—	—	(42)
Exchange adjustments	(85)	—	(85)	83	3	—	1
Group adjusted net (debt)/cash at 31 December 2022	**(3,417)**	**(153)**	**(3,570)**	**4,242**	**525**	**2**	**1,199**

(i) Cash and cash equivalents includes £555 million (2021: £435 million) of restricted cash, of which £440 million relates to cash received from the Energy Bill Support Scheme. This includes cash totalling £6 million (2021: £31 million) within the Spirit Energy business that is not restricted by regulation but is managed by Spirit Energy's own treasury department.

(ii) Cash and cash equivalents are net of £600 million bank overdrafts (2021: £750 million).

(iii) Securities balances includes £403 million of loans to the pension schemes, measured at amortised cost, £67 million (2021: £83 million) other debt instruments and £55 million (2021: £52 million) equity instruments, both measured at fair value. See note 22 for further details on pension loans provided.

(iv) Group adjusted net cash at 31 December 2021 includes £6 million of lease liabilities and £18 million of cash and cash equivalents held for sale related to the Norwegian disposal group, and current and non-current securities includes £21 million related to the Driivz business held for sale at that date. Disposal of business in 2022 represents the disposal of these items as part of the sale of these businesses, and the cash received for the sale is shown as part of remaining cash inflow. Disposal of business in 2021 relates to the adjusted net cash items disposed of with the sale of Direct Energy in January 2021.

(v) Remaining cash inflow includes financing cash outflows of £59 million relating to equity dividends paid (see note 9), £273 million of distributions to non-controlling interests (see note 12) and £43 million related to the share buyback programme. There is a liability of £207 million recognised at 31 December 2022 related to this programme. See note S4 for further details.

(vi) Bond repayment comprises the scheduled £36 million repayment of a 3.68% HKD bond repaid on 22 February 2022, and £246 million repayment of a 6.375% GBP bond repaid on 10 March 2022. During August 2022 the Group borrowed £1,200 million, which was repaid in September 2022. During December 2022 short-term borrowing of £20 million was obtained. See note 24(b) for collateral volatility. Bond repayment in 2021 comprises £650 million repayment of a 3% Euro bond which the Group had the right to repay at par on 10 April 2021 net of £106 million foreign exchange gain on the associated Euro bond derivative.

(d) Borrowings, leases and interest accruals summary

31 December	Coupon rate %	Principal m	2022 Current £m	2022 Non-current £m	2022 Total £m	2021 Current £m	2021 Non-current £m	2021 Total £m
Bank overdrafts			**(600)**	**—**	**(600)**	(750)	—	(750)
Bank loans (> 5 year maturity)			**—**	**(143)**	**(143)**	—	(137)	(137)
Other borrowings			**(20)**	**—**	**(20)**	—	—	—
Bonds (by maturity date):								
22 February 2022	3.680	HK$450	**—**	**—**	**—**	(43)	—	(43)
10 March 2022	6.375	£246	**—**	**—**	**—**	(241)	—	(241)
16 October 2023 (i)	4.000	US$302	**(246)**	**—**	**(246)**	—	(228)	(228)
4 September 2026 (i)	6.400	£52	**—**	**(49)**	**(49)**	—	(55)	(55)
16 April 2027	5.900	US$70	**—**	**(58)**	**(58)**	—	(51)	(51)
13 March 2029 (i)	4.375	£552	**—**	**(471)**	**(471)**	—	(559)	(559)
5 January 2032 (ii)	Zero	€50	**—**	**(69)**	**(69)**	—	(63)	(63)
19 September 2033 (i)	7.000	£770	**—**	**(684)**	**(684)**	—	(788)	(788)
16 October 2043	5.375	US$367	**—**	**(299)**	**(299)**	—	(267)	(267)
12 September 2044	4.250	£550	**—**	**(539)**	**(539)**	—	(538)	(538)
25 September 2045	5.250	US$50	**—**	**(41)**	**(41)**	—	(36)	(36)
10 April 2075 (i) (iii)	5.250	£450	**—**	**(418)**	**(418)**	—	(455)	(455)
			(246)	**(2,628)**	**(2,874)**	(284)	(3,040)	(3,324)
Obligations under lease arrangements			**(88)**	**(237)**	**(325)**	(102)	(262)	(364)
Interest accruals			**(55)**	**—**	**(55)**	(68)	—	(68)
			(1,009)	**(3,008)**	**(4,017)**	(1,204)	(3,439)	(4,643)

(i) Bonds or portions of bonds maturing in 2023, 2026, 2029, 2033 and 2075 have been designated in a fair value hedge relationship. See note S5 for details of hedge relationships.

(ii) €50 million of zero coupon notes have an accrual yield of 4.2%, which will result in a €114 million repayment on maturity.

(iii) The Group has the right to repay at par on 10 April 2025 and every interest payment date thereafter.

25. Share capital

Ordinary share capital represents the total number of shares issued which are publicly traded. We also disclose the number of own and treasury shares the Company holds, which the Company has bought, principally as part of share repurchase programmes.

Allotted and fully paid share capital of the Company

31 December	2022 £m	2021 £m
5,907,846,138 ordinary shares of $6^{14/81}$ pence each (2021: 5,881,438,431)	365	363

During the year 26 million ordinary shares were issued at an average original purchase price of 70.8 pence for employee share awards.

The closing price of one Centrica ordinary share on 31 December 2022 was 96.5 pence (2021: 71.5 pence). Centrica employee share ownership trusts purchase Centrica ordinary shares from the open market and receive treasury shares to satisfy future obligations of certain employee share schemes. The movements in own and treasury shares during the year are shown below:

	Own shares (i)		Treasury shares (i)	
	2022 million shares	2021 million shares	2022 million shares	2021 million shares
1 January	33.8	59.6	—	—
Shares purchased	6.5	—	—	—
Shares issued and placed into trust	8.4	—	—	—
Shares released to employees on vesting	(18.3)	(25.8)	—	—
Share buyback programme (ii)	—	—	45.7	—
31 December (i)	30.4	33.8	45.7	—

(i) Own shares are shares held in trusts to meet employee share awards. Treasury shares are shares that have been purchased from the open market and have not been cancelled. The closing balance in the treasury and own share reserve of own shares was £20 million (2021: £18 million) and treasury shares was £43 million (2021: £nil).

(ii) See Note S4 for further details of the share buyback programme.

26. Events after the balance sheet date

The Group updates disclosures in light of new information being received, or a significant event occurring, in the period between 31 December 2022 and the date of this report.

The Directors propose a final dividend of 2.00 pence per ordinary share (totalling £118 million) for the year ended 31 December 2022. The dividend will be submitted for formal approval at the Annual General Meeting to be held on 13 June 2023 and, subject to approval will be paid on 20 July 2023 to those shareholders on the register at 9 June 2023.

The Group also announced an intention to extend the existing share buyback programme of £250 million by an additional £300 million.

Supplementary Information

Supplementary information includes additional information and disclosures we are required to make by accounting standards or regulation.

S1. General information

Centrica plc (the 'Company') is a public company limited by shares, domiciled and incorporated in the UK, and registered in England and Wales. The address of the registered office is Millstream, Maidenhead Road, Windsor, Berkshire, SL4 5GD. The Company, together with its subsidiaries comprise the 'Group'. The nature of the Group's operations and principal activities are set out in note 4(a) and on pages 1 to 54.

The consolidated Financial Statements of Centrica plc are presented in pounds sterling. Operations and transactions conducted in currencies other than pounds sterling are included in the consolidated Financial Statements in accordance with the foreign currencies accounting policy set out in note S2.

S2. Summary of significant accounting policies

This section sets out the Group's significant accounting policies in addition to the critical accounting policies applied in the preparation of these consolidated Financial Statements. Unless otherwise stated, these accounting policies have been consistently applied to the years presented.

Basis of consolidation

The Group Financial Statements consolidate the Financial Statements of the Company and entities controlled by the Company. Subsidiaries are all entities (including structured entities) over which the Group has control. Control is exercised over an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases. Transactions with non-controlling interests that relate to their ownership interests and do not result in a loss of control are accounted for as equity transactions.

The results of subsidiaries acquired or disposed of during the year are consolidated from the effective date of acquisition (at which point the Group gains control over a business as defined by IFRS 3, and applies the acquisition method to account for the transaction as a business combination) or up to the effective date of disposal, as appropriate. Where necessary, adjustments are made to the financial statements of subsidiaries, associates and joint ventures to align the accounting policies with those used by the Group.

When the Group ceases to have control, any retained interest in the entity is re-measured to its fair value with the change in carrying amount recognised in profit or loss. This fair value becomes the initial carrying amount for the purposes of subsequently accounting for the retained interest as a joint venture, associate or financial asset.

Segmental reporting

The Group's operating segments are reported in a manner consistent with the internal reporting provided to and regularly reviewed by the Group's Executive Committee (which is the Group's Chief Operating Decision Maker as defined by IFRS 8: 'Operating segments') for the purposes of evaluating segment performance and allocating resources.

Revenue

Energy supply to business and residential customers

The vast majority of contractual energy supply arrangements have no fixed duration, and require no minimum consumption by the customer. No enforceable rights and obligations exist at inception of the contract and arise only once the cooling off period is complete and the Group is the legal supplier of energy to the customer. The performance obligation is the supply of energy over the contractual term; the units of supply represent a series of distinct goods that are substantially the same with the same pattern of transfer to the customer. The performance obligation is considered to be satisfied as the customer consumes based on the units of energy delivered. This is the point at which revenue is recognised. In respect of energy supply contracts, the Group considers that it has the right to consideration from the customer for an amount that corresponds directly with the invoiced value delivered to the customer through their consumption. The Group's assessment of the amount that it has a right to invoice includes an assessment of energy supplied to customers between the date of the last meter reading and the year end (known as unread revenue). Unread gas and electricity comprises both billed and unbilled revenue and is estimated through the billing systems, using historical consumption patterns, on a customer-by-customer basis, taking into account weather patterns, load forecasts and the differences between actual meter readings being returned and system estimates. Actual meter readings continue to be compared to system estimates between the balance sheet date and the finalisation of the accounts.

The Group holds a number of energy supply contracts that specify a minimum consumption volume over a specified contractual term. The transaction price for these contracts is the minimum supply volume multiplied by the contractually agreed price per unit of energy. Revenue from the sale of additional volumes is considered to be variable and not included in the transaction price. Revenue for these contracts continues to be recognised as invoiced.

In making disclosures under IFRS 15, the Group applies the practical expedient in paragraph 121 of IFRS 15 and therefore does not disclose information related to the transaction price allocated to remaining performance obligations on the basis that the Group recognises revenue from the satisfaction of the performance obligations within energy supply contracts in accordance with Paragraph B16.

S2. Summary of significant accounting policies

Energy services provided to business and residential customers

Energy services relate to the installation, repair and maintenance of central heating, ventilation and air conditioning systems.

In the UK, delivery of an item is considered a separate performance obligation to the installation of the item, both satisfied at a point in time. Delivery is the point at which control passes to the customer as the customer takes physical possession of the asset. It is also the point at which the Group has the right to consideration. Delivery and installation usually occur at the same point in time and consequently revenue is recognised for both performance obligations simultaneously.

Sales of LNG

Revenue arising from sales of LNG is recognised when control of the commodity passes to the counterparty, with each cargo representing a separate performance obligation satisfied at a point in time.

Sales of own gas and liquid production

Revenue arising from the sale of produced gas is recognised in a manner consistent with energy supply contracts with the revenue recognition profile reflecting the supply of gas to the customer.

The rights and obligations identifiable within a contract where the Group holds sellers' nomination rights are considered to be enforceable from inception of the contract. The transaction price for the contract will include variable consideration based on forecast production and market prices. The point at which the performance obligation is satisfied and revenue recognised is the point at which control of the commodity passes to the customer according to the contractual trading terms, usually on shipment or delivery to a specified location.

Energy sales to trading and energy procurement counterparties

Revenue arising from the sale of energy procured from generation asset owners to trading and energy procurement counterparties is also recognised in a manner consistent with energy supply contracts. There is a single performance obligation being the supply of energy over the contractual term at spot prices and revenue is recognised at the point at which energy is supplied to the counterparty in accordance with the contractual terms.

Revenue arising from contracts outside the scope of IFRS 15

Revenue from sources other than the Group's contracts with customers is recognised in accordance with the relevant standard, as detailed below:

Fixed-fee service and insurance contracts: revenue from these contracts is recognised in the Group Income Statement with regard to the incidence of risk over the life of the contract, reflecting the seasonal propensity of claims to be made under the contracts and the benefits receivable by the customer, which span the life of the contract as a result of emergency maintenance being available throughout the contract term.

Power generation: revenue is recognised under IFRS 9 where contracts to supply power are measured at fair value.

Cost of sales

Energy supply includes the cost of gas and electricity produced and purchased during the year for own-use contracts, taking into account the industry reconciliation process for total gas and total electricity usage by supplier and related transportation, distribution, royalty costs and bought-in materials and services.

Cost of sales relating to fixed-fee service and insurance contracts includes direct labour and related overheads on installation work, repairs and service contracts in the year.

Cost of sales relating to gas production includes depreciation of assets used in production of gas, royalty costs and direct labour costs.

Cost of sales within power generation businesses includes the depreciation of assets included in generating power, fuel purchase costs, direct labour costs and carbon emissions costs.

Re-measurement and settlement of energy contracts

Re-measurement and settlement of energy contracts includes both realised (settled) commodity sales and purchase contracts in the scope of IFRS 9, as well as unrealised (fair value changes) on active contracts, as detailed further in note 2.

Financing costs

Financing costs that arise in connection with the acquisition, construction or production of a qualifying asset are capitalised and subsequently amortised in line with the depreciation of the related asset. Financing costs not arising in connection with the acquisition, construction or production of a qualifying asset are expensed.

S2. Summary of significant accounting policies

Foreign currencies

The consolidated Financial Statements are presented in pounds sterling, the functional currency of the Company and the Group's presentational currency. Each entity in the Group determines its own functional currency and items included in the financial statements of each entity are measured using that functional currency. Transactions in foreign currencies are initially recorded in the functional currency of the entity at the exchange rate ruling at the date of the transaction.

Monetary assets and liabilities denominated in foreign currencies are retranslated to the functional currency of the relevant entity at the rate of exchange ruling at the balance sheet date and exchange movements included in the Group Income Statement for the period.

Non-monetary items that are measured at historical cost in a currency other than the functional currency of the entity concerned are translated using the exchange rate prevailing at the dates of the initial transaction.

For the purpose of presenting consolidated Financial Statements, the assets and liabilities of the Group's non-sterling functional currency subsidiary undertakings, joint ventures and associates are translated into pounds sterling at exchange rates prevailing at the balance sheet date. The monthly results of these (generally foreign) subsidiary undertakings, joint ventures and associates are translated into pounds sterling each month at the average rates of exchange for that month. The closing exchange rates, and the average of the rates used to translate the results of foreign operations to pounds sterling are shown below.

	Closing rate at 31 December		Average rate for the year ended 31 December	
Exchange rate per pounds sterling (£)	**2022**	2021	**2022**	2021
US dollars	**1.20**	1.35	**1.24**	1.37
Canadian dollars	**1.63**	1.71	**1.61**	1.72
Euro	**1.14**	1.19	**1.17**	1.16
Norwegian krone	**11.89**	11.93	**11.84**	11.85
Danish krone	**8.51**	8.85	**8.73**	8.65

Exchange adjustments arising from the retranslation of the opening net assets and results of non-sterling functional currency operations are transferred to the Group's foreign currency translation reserve, a separate component of equity, and are reported in other comprehensive income. In the event of the disposal of a non-sterling functional currency subsidiary, the cumulative translation difference arising in the foreign currency translation reserve is charged or credited to the Group Income Statement on disposal. Where the Group utilises net investment hedging, changes in the fair value of the hedging instrument are recognised in equity and remain there until the disposal of the specific, related investments, at which point the gains and losses are recycled to profit or loss. The Group previously employed net investment hedging but ceased in 2009, with historic hedging gains and losses remaining in equity until the disposal of the related investment. During 2020 the Group recommenced net investment hedging in respect of the US dollar functional currency subsidiaries in its Direct Energy business up until the date of disposal in January 2021.

Employee share schemes

The Group operates a number of employee share schemes, detailed in the Remuneration Report on pages 84 to 86, under which it makes equity-settled share-based payments to certain employees. Equity-settled share-based payments are measured at fair value at the date of grant (excluding the effect of non-market-based vesting conditions). The fair value determined at the grant date is expensed on a straight-line basis together with a corresponding increase in equity over the vesting period, based on the Group's estimate of the number of awards that will vest, and adjusted for the effect of non-market-based vesting conditions.

The majority of the share-based payment charge arises from the Annual Incentive Plan. This scheme is applicable to senior executives, and senior and middle management. Shares issued under the scheme vest subject to continued employment within the Group in two stages (half after two years and the other half after three years). Employees leaving prior to the vesting date will normally forfeit their rights to unvested share awards. The fair value of the awards is measured using the market value at the date of grant.

More information is included in the Remuneration Report on pages 84 to 86.

Share buyback programme

On 10th November 2022, the Group announced an intention to undertake a share buyback of £250 million, expected to complete by 31 May 2023. The Group entered into contracts with third parties to undertake this repurchase programme and, as at 31 December 2022, £43 million of shares had been purchased. The Group has recognised a financial liability on the basis that the terms and conditions of the contracts mean that, as at the year-end, it was unable to cancel the remaining obligation during the period to the Group's Preliminary Announcement on 16 February 2023. Accordingly, the Group has recorded a financial liability of £207 million for this remaining obligation, in accordance with IFRS 9: 'Financial Instruments'.

S2. Summary of significant accounting policies

Business combinations and goodwill

The acquisition of subsidiaries is accounted for using the acquisition method (at the point the Group gains control over a business as defined by IFRS 3). The cost of the acquisition is measured as the cash paid and the aggregate of the fair values, at the date of exchange, of other assets transferred, liabilities incurred or assumed, and equity instruments issued by the Group in exchange for control of the acquiree. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement at the acquisition date.

Acquisition-related costs are expensed as incurred. The identifiable assets, liabilities and contingent liabilities are recognised at their fair value at the acquisition date, except for non-current assets (or disposal groups) that are classified as held for sale in accordance with IFRS 5. The Group recognises any non-controlling interests in the acquiree either at fair value or at the non-controlling interests' proportionate share of the recognised amounts of the acquiree's identifiable net assets.

Goodwill arising on a business combination represents the excess of the consideration transferred, the amount of the non-controlling interests and the acquisition date fair value of any previously held interest in the acquiree over the Group's interest in the fair value of the identifiable net assets acquired. Goodwill arising on the acquisition of a stake in a joint venture or an associate represents the excess of the consideration transferred over the Group's interest in the fair value of the identifiable assets and liabilities of the investee at the date of acquisition. Goodwill is initially recognised as an asset at cost and is subsequently measured at cost less any accumulated impairment losses. The goodwill arising on an investment in a joint venture or in an associate is not recognised separately, but is shown under 'Interests in joint ventures and associates' in the Group Balance Sheet. If, after reassessment, the Group's interest in the net fair value of the acquiree's identifiable assets, liabilities and contingent liabilities exceeds the cost of the business combination, the excess is recognised immediately in the Group Income Statement.

Acquisitions of joint operations that meet the definition of a business as defined in IFRS 3 are accounted for as business combinations.

On disposal of a subsidiary, associate or joint venture entity, any amount of goodwill attributed to that entity is included in the determination of the profit or loss on disposal. A similar accounting treatment is applied on disposal of assets that represent a business.

Other intangible assets

Intangible assets acquired separately are measured on initial recognition at cost.

Capitalisation begins when expenditure for the asset is being incurred and activities necessary to prepare the asset for use are in progress and ceases when substantially all the activities that are necessary to prepare the asset for use are complete. Amortisation commences at the point of commercial deployment. The cost of intangible assets acquired in a business combination is their fair value as at the date of acquisition.

Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses. Intangible assets with finite lives are amortised over their useful lives and are tested for impairment, as part of the CGU to which they relate where necessary, annually and whenever there is an indication that the asset could be impaired. The amortisation period and method for an intangible asset are reviewed at each financial year end. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are accounted for on a prospective basis by changing the amortisation period or method, as appropriate, and treated as changes in accounting estimates.

Intangible assets are derecognised on disposal, or when no future economic benefits are expected from their use.

Intangible assets with indefinite useful lives are not amortised but tested for impairment annually, and whenever there is an indication that the intangible asset could be impaired, either individually or at the CGU level. The indefinite life assessment is reviewed annually and, if not supportable, the change in the useful life assessment from indefinite to finite is made on a prospective basis.

The useful economic lives for the principal categories of intangible assets are as follows:

Customer relationships and other contractual assets	Up to 20 years
Strategic identifiable acquired brands	Indefinite
Application software	Up to 15 years

Strategic identifiable acquired brands are deemed to have indefinite lives where evidence suggests that the brand will generate net cash inflows for the Group for an indefinite period.

Cloud computing arrangements

The Group has a number of contracts for Software as a Service (SaaS) and Platform as a Service (PaaS) Cloud Computing Arrangements. These contracts permit the Group to access vendor-hosted software and platform services over the term of the arrangement. The Group does not control the underlying assets in these arrangements and costs are expensed as incurred.

The Group also incurs implementation costs in respect of these contracts. Implementation costs are capitalised as intangible assets where costs meet the definition and recognition criteria of an intangible asset under IAS 38. Such costs typically relate to software coding which is capable of providing benefit to the Group on a standalone basis. Other implementation costs, primarily relating to the configuration and customisation of the Cloud software solution, are assessed to determine whether the implementation activity relating to these costs is distinct from the Cloud Arrangement, in which case costs are expensed as the activity occurs. If the configuration and customisation costs relate to activity which is integral to the Cloud Arrangement such that the activity is received over the term of the Cloud Arrangement, costs are recognised as a prepayment and expensed over the term of the Cloud Arrangement.

S2. Summary of significant accounting policies

UK & EU Emissions Trading Scheme

Purchased carbon dioxide emissions allowances are recognised initially at cost (purchase price) within intangible assets. The liability is measured at the cost of purchased allowances up to the level of purchased allowances held, and then at the market price of allowances ruling at the balance sheet date, with movements in the liability recognised in operating profit.

Forward contracts for the purchase or sale of carbon dioxide emissions allowances are measured at fair value with gains and losses arising from changes in fair value recognised in the Group Income Statement. The intangible asset is surrendered and the liability is extinguished at the end of the compliance period. No amortisation is charged up to the date of surrender as the cost and residual value of the intangible asset are deemed to be the same with no consumption of economic benefit.

Renewable certificates

The Group purchases renewable certificates both on a standalone basis, and through Power Purchase Agreements. The main types of renewable certificates acquired are Renewable Energy Guarantees of Origin (REGOs) which are certificates issued by Ofgem certifying that electricity has been produced from renewable sources, Renewable Obligation Certificates (ROCs) which are issued to accredited generators for the eligible renewable electricity they generate and Guarantees of Origin (GoOs) which are the EU equivalent of REGOs. The Group uses renewable certificates to meet its obligations under a number of Ofgem schemes, namely the Feed-in Tariff (FIT), the Contracts for Difference (CFD), the Fuel Mix Disclosure (FMD) and the Renewables Obligation (RO) scheme.

Purchased renewable certificates are recognised initially at cost within intangible assets as an indefinite life asset. A liability for the RO is recognised based on the level of electricity supplied to customers, and is calculated in accordance with percentages set by the UK Government and the renewable obligation certificate buyout price for that period.

The intangible asset is surrendered and the liability is extinguished at the end of the compliance period to reflect the consumption of economic benefits. Any recycling benefit related to the submission of renewable obligation certificates is recognised in the Group Income Statement when received. The Group also recognises supplier obligations for CFD and FIT schemes; renewable certificates are used to offset these liabilities.

Cash flows relating to renewable obligation certificates and similar schemes are recognised within cash flows from operating activities.

Exploration, evaluation, development and production assets

The Group uses the successful efforts method of accounting for exploration and evaluation expenditure. Exploration and evaluation expenditures associated with an exploration well, including acquisition costs related to exploration and evaluation activities are capitalised initially as intangible assets. Certain expenditures such as geological and geophysical exploration costs are expensed. If the prospects are subsequently determined to be successful on completion of evaluation, the relevant expenditure is transferred to PP&E. If the prospects are subsequently determined to be unsuccessful, the associated costs are expensed in the period in which that determination is made.

All field development costs are capitalised as PP&E. Such costs relate to the acquisition and installation of production facilities and include development drilling costs, project-related engineering and other technical services costs. PP&E, including rights and concessions related to production activities, is depreciated from the commencement of production in the fields concerned, using the unit of production method, based on all of the 2P reserves of those fields. Changes in these estimates are dealt with prospectively.

The net carrying value of fields in production and development is compared annually on a field-by-field basis with the likely discounted future net revenues to be derived from the remaining commercial reserves. An impairment loss is recognised where it is considered that recorded amounts are unlikely to be fully recovered from the net present value of future net revenues. Exploration assets are reviewed annually for indicators of impairment and production and development assets are tested annually for impairment.

Interests in joint arrangements and associates

The Group's joint ventures and associates (as defined in note 6) are accounted for using the equity method.

The Group's interests in joint operations (gas exploration and production licence arrangements) are accounted for by recognising its assets (including its share of assets held jointly), its liabilities (including its share of liabilities incurred jointly), its revenue from the sale of its share of the output arising from the joint operation, its share of the revenue from the sale of the output by the joint operation and its expenses (including its share of any expenses incurred jointly).

Where the Group has an equity stake or a participating interest in operations governed by a joint arrangement for which it is acting as operator, an assessment is carried out to confirm whether the Group is acting as agent or principal. As the terms and conditions negotiated between business partners usually provide joint control to the parties over the relevant activities of the gas fields that are governed by joint arrangements, the Group is usually deemed to be an agent when it is appointed as operator and not as principal as the contracts entered into presents gross liabilities and gross receivables of joint operations (including amounts due to or from non-operating partners) in the Group Balance Sheet in accordance with the netting rules of IAS 32: 'Financial instruments – presentation'.

Property, plant and equipment

PP&E is included in the Group Balance Sheet at cost, less accumulated depreciation and any provisions for impairment.

Subsequent expenditure in respect of items of PP&E, such as the replacement of major parts, major inspections or overhauls, are capitalised as part of the cost of the related asset where it is probable that future economic benefits will arise as a result of the expenditure and the cost can be reliably measured. All other subsequent expenditure is expensed as incurred.

S2. Summary of significant accounting policies

Freehold land is not depreciated. Other PP&E, with the exception of upstream production assets (see above), are depreciated on a straight-line basis at rates sufficient to write off the cost, less estimated residual values, of individual assets over their estimated useful lives. The depreciation periods for the principal categories of assets are as follows:

Freehold and leasehold buildings	Up to 50 years
Plant	5 to 20 years
Equipment and vehicles	3 to 10 years
Power generation assets	Up to 30 years

The carrying values of PP&E are tested annually for impairment and are reviewed for impairment when events or changes in circumstances indicate that the carrying value may not be recoverable. Residual values and useful lives are reassessed annually and, if necessary, changes are accounted for prospectively.

Impairment assumptions

The Group tests the carrying amounts of goodwill, PP&E and intangible assets (with the exception of exploration assets) for impairment at least annually. Interests in joint ventures and associates and exploration assets are reviewed annually for indicators of impairment and tested for impairment where such an indicator arises. Where an asset does not generate cash flows that are independent from other assets, the Group estimates the recoverable amount of the CGU to which the asset belongs. The recoverable amount is the higher of value in use (VIU) and fair value less costs of disposal (FVLCD).

At inception, goodwill is allocated to each of the Group's CGUs or groups of CGUs that expect to benefit from the business combination in which the goodwill arose. If the recoverable amount of an asset (or CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or CGU) is reduced to its recoverable amount. Any impairment is expensed immediately in the Group Income Statement. Any CGU impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the CGU and then to the other assets of the CGU pro rata on the basis of the carrying amount of each asset in the CGU.

Further information on the assumptions used in the VIU calculations and FVLCD calculations that resulted in impairment or impairment reversals during the year can be found at note 7.

VIU – Key assumptions used

Pre-tax cash flows used in the VIU calculations are derived from the Group's Board-approved business plans, and assumptions specific to the nature and life of the asset. The Group's business plans and assumptions are based on past experience and adjusted to reflect market trends, economic conditions and key risks. Commodity prices used in the planning process are based in part on observable market data and in part on estimates. Note S6 provides additional detail on the active period of each of the commodity markets in which the Group operates.

(a) VIU – Growth rates and discount rates

Unless stated otherwise in the table below, cash flows beyond the planned period have been extrapolated using long-term growth rates in the market where the CGU operates. Long-term growth rates are determined using a blend of publicly available historical data and long-term growth rate forecasts published by external analysts. Cash flows are discounted using a discount rate specific to each CGU. Discount rates reflect the current market assessments of the time value of money and are based on the estimated cost of capital of each CGU. Additionally, risks specific to the cash flows of the CGUs are reflected within cash flow forecasts. Each CGU's weighted average cost of capital is then adjusted to reflect the impact of tax in order to calculate an equivalent pre-tax discount rate.

Long-term growth rates and pre-tax discount rates used in the VIU calculations for each of the Group's CGUs are shown below.

2022	**British Gas Services & Solutions %**	**British Gas Energy %**	**Centrica Business Solutions Energy Supply %**	**Bord Gáis Energy %**	**Centrica Business Solutions (turbines/ engines/ battery/solar) (i) %**	**Energy Marketing & Trading %**	**Nuclear (i) %**
Growth rate to perpetuity (including inflation)	**2.0**	**2.0**	**2.0**	**1.9**	**N/A**	**2.0**	**N/A**
Pre-tax discount rate	**9.3**	**10.0**	**11.3**	**8.1**	**9.3/8.0 (ii)**	**11.3**	**24.8**

2021	British Gas Services & Solutions %	British Gas Energy %	Centrica Business Solutions Energy Supply %	Bord Gáis Energy %	Centrica Business Solutions (turbines/ engines/ battery/solar) (i) %	Energy Marketing & Trading %	Nuclear (i) %
Growth rate to perpetuity (including inflation)	2.0	2.0	2.0	1.5	N/A	2.0	N/A
Pre-tax discount rate	8.0	8.0	8.7	7.1	6.7/5.3 (ii)	8.7	14.7

(i) Cash flows arising after the plan period have been derived from forecasts to the end of the asset lives. Due to the nature of these finite-lived assets this provides a more appropriate valuation in later years.

(ii) Battery and solar discount rates respectively.

S2. Summary of significant accounting policies

(b) VIU – Inflation rates

Inflation rates used in the business plan were based on a blend of publicly available inflation forecasts and range from 1.9% to 9.6%.

(c) Key operating assumptions by CGUs using VIU

The key operating assumptions across all CGUs are gross margin, revenues and operating costs. These assumptions are tailored to the specific CGU using management's knowledge of the environment, as shown in the table below:

CGU	Gross margin	Revenues	Operating costs
All – base assumptions	Existing customers: based on contractual terms. Losses are forecast based on historic data and future expectations of the market. New customers and renewals: based on gross margins achieved in the period leading up to the date of the business plan. Both adjusted for current market conditions and cost of goods inflation. For the Services business, future sales and related gross margins are based on planned future product sales and contract losses based upon past performance and future expectations of the competitive environment.	Existing customers: based on contractual terms. Losses are forecast based on historic data and future expectations of the market. Adjusted for: growth forecasts which are based on sales and marketing activity, recent customer acquisitions and the current economic environment in the relevant geography. Gas and electricity revenues based on forward market prices. Market share: percentage immediately prior to business plan.	Wages: projected headcount in line with expected efficiency programme. Salary increases based on inflation expectations. Credit losses: historical assumptions regarding realised cash losses have been updated to reflect the current environment.
Energy Marketing & Trading	Existing and new markets: management's estimate of future trading performance.	As above.	Future development: increase in costs to support growth forecasts, adjusted for planned business process efficiencies.
Centrica Business Solutions (turbines/ engines/battery/solar)	Based on forecast revenues, operations and maintenance costs, grid network and balancing system charges for the asset life.	Based on forward and contracted prices for commodity, capacity market and grid ancillary service contracts for the asset life.	Based on run-rate and forecast changes, including expected inflation for the asset life.

Overlift and underlift

Off-take arrangements for gas produced from joint operations are often such that it is not practical for each participant to receive or sell its precise share of the overall production during the period. This results in short-term imbalances between cumulative production entitlement and cumulative sales, referred to as overlift and underlift.

An overlift payable, or underlift receivable, is recognised at the balance sheet date within trade and other payables or trade and other receivables respectively, and is measured at market value, with movements in the period recognised within cost of sales.

S2. Summary of significant accounting policies

Leases

The Group assesses its contractual arrangements to determine whether they are or contain leases based on whether they convey the right to control the use of an identified asset for a period of time in exchange for consideration.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. The estimated useful lives of right-of-use assets are determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain re-measurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. The liabilities for the majority of the Group's lease portfolio are calculated using the incremental borrowing rate. This rate is calculated on a lease-by-lease basis, taking into account the credit rating of the Group at the inception of the lease and the lease term. The credit adjustment used in this calculation is modified to reflect the security implicit in a lease arrangement based on the specific class of asset being leased.

Lease payments included in the measurement of the lease liability comprise: fixed payments (including in-substance fixed payments), variable lease payments that depend on an index or a rate (initially measured using the index or rate as at the commencement date), amounts expected to be payable under a residual value guarantee, the exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early. When considering whether the Group is reasonably certain to exercise extension or termination options, various factors are considered, such as the level of lease payments relative to the market rate, the importance of the specific asset to the Group's operations and the period remaining until the option becomes exercisable. Such judgements are reconsidered when there is a significant event or change of circumstances that is within the control of the Group. Variable lease payments that do not depend on an index or rate are recognised in profit or loss in the period in which the event or condition that triggers those payments occurs.

The lease liability is subsequently measured at amortised cost using the effective interest method. It is re-measured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee, or if the Group changes its assessment of whether it will exercise a purchase, lease-term extension or termination option. Cash flows reflecting payment of capital and interest on leases are shown in cash flows from financing activities.

When the lease liability is re-measured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use of asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

The Group recognises the lease payments associated with short-term leases (leases expiring within twelve months from commencement) and leases of low value assets (underlying asset value less than £5,000) on a straight-line basis over the lease term.

The Group holds interests in a number of joint operations within its exploration and production business. The Group has applied judgement in identifying the customer where a lease arrangement is to be used by a jointly controlled operation.

If the leased asset is dedicated to a specific joint operation and its usage is dictated by the joint operating agreement, the joint operation is deemed the customer. In such instances:

- When the Group signs a lease agreement on behalf of a joint operation and has primary responsibility for payments to the lessor, the Group recognises 100% of the lease liability and a right-of-use asset on its balance sheet. When the partner is obliged to reimburse the Group for its share of lease payments, a sub-lease receivable is recognised and an equal adjustment to the right-of-use asset is made.
- When the partner has the primary responsibility for payments to the lessor and the Group is obliged to reimburse its share of the lease payments, a lease liability due to the partner and equal right-of-use asset are recognised.

If the leased asset is not dedicated to a specific joint operation or its usage is not dictated by the joint operating agreement of a joint operation to which it is dedicated, the signatory to the lease agreement is deemed the customer. If this is the Group, the lease liability and right-of-use asset are recognised in full. If it is the partner, no lease liability or right-of-use asset is recognised.

S2. Summary of significant accounting policies

Inventories

Inventories of finished goods are valued at the lower of cost (using weighted-average cost) or estimated net realisable value after allowance for redundant and slow-moving items. The cost of inventories includes the purchase price plus costs of conversion incurred in bringing the inventories to their present location and condition.

Inventory of gas in storage held for the purpose of the Group's own use is measured on a weighted-average cost basis, whilst gas used for trading purposes is measured at fair value less any costs to sell. Changes in fair value less costs to sell are recognised in the Group Income Statement.

Securities

The Group holds debt and equity securities predominantly in respect of the Centrica Unfunded Pension Scheme (see note 22). Debt securities are required to be measured at fair value through profit or loss under IFRS 9, as the contractual terms of these assets do not give rise to cash flows that are solely payments of principal and interest on the principal amounts outstanding. The Group has elected to recognise the changes in fair value of the equity securities in other comprehensive income. The Group has also elected to recognise the changes in fair value of certain equity trade investments held by Centrica Innovations in other comprehensive income. Further details can be found in the accounting policy on financial instruments.

Government grants

Government grants are transfers of resources to the Group in return for past or future compliance with certain conditions relating to the operating activities of the entity. Government assistance is designed to provide an economic benefit that is specific to an entity qualifying under certain criteria. The Group recognises government grants only when there is reasonable assurance that the Group will comply with the conditions attached to them and the grant will be received. Government grants are recognised in profit and loss on a systematic basis over the periods in which the Group recognises as expenses the related costs for which the grants are intended to compensate. Government grants related to assets are deducted from the carrying amount of the asset.

In 2021 and 2022 the Group recognised a SoLR receivable in relation to amounts recoverable under the Last Resort Supplier Payment mechanism administered by Ofgem, a government body, which is detailed in note 1. This process allows suppliers, appointed as Supplier of Last Resort, to recover costs reasonably incurred in supplying affected customers. The receivable recognised reflects amounts incurred primarily on commodity costs up to the reporting date which are recoverable under the LRSP claim. The associated credit has been recognised in cost of sales and operating costs.

Decommissioning costs

A provision is made for the net present value of the estimated cost of decommissioning gas production facilities at the end of the producing lives of fields and power stations at the end of their useful lives, based on price levels and technology at the balance sheet date.

When this provision relates to an asset with sufficient future economic benefits, a decommissioning asset is recognised and included as part of the associated PP&E and depreciated accordingly. The asset is subject to impairment review as detailed above. Changes in estimates and discount rates are dealt with prospectively and reflected as an adjustment to the provision and corresponding decommissioning asset included within PP&E. The discount rate used to calculate the provision is 1% as discussed in note 3. The unwinding of the discount on the provision is included in the Group Income Statement within financing costs.

Non-current assets and disposal groups held for sale and discontinued operations

Non-current assets and disposal groups classified as held for sale are measured at the lower of carrying amount and fair value less costs of disposal. No depreciation is charged in respect of non-current assets classified as held for sale.

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable, the asset or disposal group is available for immediate sale in its present condition and the Directors are committed to the sale which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

The profits or losses and cash flows that relate to a major component of the Group that has been sold or is classified as held for sale are presented separately from continuing operations as discontinued operations within the Group Income Statement and Group Cash Flow Statement.

Pensions and other post-employment benefits

The Group operates a number of defined benefit and defined contribution pension schemes. The cost of providing benefits under the defined benefit schemes is determined separately for each scheme using the projected unit credit actuarial valuation method. Actuarial gains and losses are recognised in the period in which they occur in other comprehensive income.

The cost of providing retirement pensions and other benefits is charged to the Group Income Statement over the periods benefitting from employees' service. Past service cost is recognised immediately. Costs of administering the schemes are charged to the Group Income Statement. Net interest, being the change in the net defined benefit liability or asset due to the passage of time, is recognised in the Group Income Statement within net finance cost.

The net defined benefit liability or asset recognised in the Group Balance Sheet represents the present value of the defined benefit obligation of the schemes and the fair value of the schemes' assets. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits are paid, and that have terms of maturity approximating to the terms of the related pension liability.

Payments to defined contribution retirement benefit schemes are recognised in the Group Income Statement as they fall due.

S2. Summary of significant accounting policies

In 2022 the Group provided a loan facility to the Group's three defined benefit pension schemes. The Group recognised the loan as a financial asset under IFRS 9 'Financial instruments' measured at amortised cost and classified as a receivable within securities on the Group's balance sheet. The loan liability has been deducted from plan assets on the basis that the loan does not relate to employee benefits in accordance with IAS 19.

Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, that can be measured reliably, and it is probable that the Group will be required to settle that obligation. Provisions are discounted to present value where the effect is material.

Where discounting is used, the increase in the provision due to the passage of time is recognised in the Group Income Statement within interest expense. Onerous contract provisions are recognised where the unavoidable costs of meeting the obligations under a contract exceed the economic benefits expected to be received under it. Contracts to purchase or sell energy are reviewed on a portfolio basis given the fungible nature of energy, whereby it is assumed that the highest priced purchase contract supplies the highest priced sales contract and the lowest priced sales contract is supplied by the lowest priced purchase contract. Since 2021, the Group recognises a material onerous supply contract provision where the future costs to fulfil customer contracts on a current market price basis exceed the charges recoverable from customers because the associated hedging gains have already been recognised in the Group Income Statement. Further detail relating to the key assumptions and sources of estimation uncertainty are provided in note 3.

Taxation

Current tax, including UK corporation tax, UK petroleum revenue tax and foreign tax is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date. From time to time, the Group may have open tax issues with a number of revenue authorities. Where an outflow of funds is believed to be probable and a reliable estimate of the dispute can be made, management provides for its best estimate of the liability. These estimates take into account the specific circumstances of each dispute and relevant external advice as well as the rules and regulations of the relevant tax authority in the jurisdiction of the dispute. Often the Group is unable to predict whether an uncertain tax treatment will be accepted by the relevant authority. In such instances the effects of uncertainty are reflected in management's assessment of the most likely outcome of each issue, as reviewed and updated on a regular basis. Each item is considered separately and on a basis that provides the better prediction of the outcome, unless the Group determines that it is appropriate to group certain items for consideration. See note 9 for further details on uncertain tax provisions.

Deferred tax is recognised in respect of all temporary differences identified at the balance sheet date, except to the extent that the deferred tax arises from the initial recognition of goodwill, or the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction affects neither accounting profit nor taxable profit and loss. Temporary differences are differences between the carrying amount of the Group's assets and liabilities and their tax base.

Deferred tax liabilities may be offset against deferred tax assets within the same taxable entity or qualifying local tax group. Any remaining deferred tax asset is recognised only when, on the basis of all available evidence, it can be regarded as probable that there will be suitable taxable profits, within the same jurisdiction, in the foreseeable future, against which the deductible temporary difference can be utilised.

Deferred tax is provided on temporary differences arising on subsidiaries, joint ventures and associates, except 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.

Deferred tax is measured at the average tax rates that are expected to apply in the periods in which the asset is realised or liability settled, based on tax rates and laws that have been enacted or substantively enacted by the balance sheet date. Measurement of deferred tax liabilities and assets reflects the tax consequences expected from the manner in which the asset or liability is recovered or settled.

S2. Summary of significant accounting policies

Financial instruments

Financial assets and financial liabilities are recognised in the Group Balance Sheet when the Group becomes a party to the contractual provisions of the instrument. Financial assets are derecognised when the Group no longer has the rights to cash flows, the risks and rewards of ownership or control of the asset. Financial liabilities are derecognised when the obligation under the liability is discharged, cancelled or expires.

(a) Trade receivables

Trade receivables are initially recognised at a value based on their transaction price, and are subsequently held at amortised cost using the effective interest method (taking into account the Group's business model, which is to collect the contractual cash flows owing) less an allowance for impairment losses. Balances are written off when recoverability is assessed as being remote. If collection is expected in one year or less, receivables are classified as current assets. If not, they are presented as non-current assets.

(b) Trade payables

Trade payables are initially recognised at fair value, which is usually the original invoice amount and are subsequently held at amortised cost using the effective interest method. If payment is due within one year or less, payables are classified as current liabilities. If not, they are presented as non-current liabilities.

(c) Share capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new shares are shown in equity as a deduction from the proceeds received. Own equity instruments that are reacquired (treasury or own shares) are deducted from equity. No gain or loss is recognised in the Group Income Statement on the purchase, sale, issue or cancellation of the Group's own equity instruments.

(d) Cash and cash equivalents

Cash and cash equivalents comprise cash in hand and current balances with banks and similar institutions and money market deposits, which are readily convertible to known amounts of cash and which are subject to insignificant risk of changes in value and have an original maturity of three months or less. Money market funds are also included in cash and cash equivalents, and are required to be measured at fair value through profit or loss under IFRS 9, as noted in section (g) below. Cash and cash equivalents are presented net of outstanding bank overdrafts where there is a legal right of set off and, for the Group's cash pooling arrangements, to the extent the Group expects to settle its subsidiaries' year-end account balances on a net basis.

For the purpose of the Group Cash Flow Statement, cash and cash equivalents consist of cash and cash equivalents as defined above, net of outstanding bank overdrafts.

(e) Interest-bearing loans and other borrowings

All interest-bearing loans and other borrowings with banks and similar institutions are initially recognised at fair value net of directly attributable transaction costs. After initial recognition, interest-bearing loans and other borrowings are subsequently measured at amortised cost using the effective interest method, except when they are hedged items in an effective fair value hedge relationship where the carrying value is also adjusted to reflect the fair value movements associated with the hedged risks. Such fair value movements are recognised in the Group Income Statement. Amortised cost is calculated by taking into account any issue costs, discount or premium.

(f) Financial instruments at fair value through other comprehensive income

Financial assets at fair value through other comprehensive income are equity instruments that the Group has elected to recognise the changes in fair value of in other comprehensive income. They are recognised initially at fair value in the Group Balance Sheet and are re-measured subsequently at fair value with gains and losses arising from changes in fair value recognised directly in equity and presented in other comprehensive income. Dividends arising on these financial assets are recognised in the Group Income Statement.

If the Group assesses the need to recognise a loss allowance on a financial asset carried at fair value through other comprehensive income, the loss allowance is recognised in other comprehensive income; however, the recognition of a loss allowance does not impact the carrying value of the asset on the Group's Balance Sheet.

Cumulative gains and losses on equity instruments at fair value through other comprehensive income are not recycled to the Group Income Statement.

(g) Financial assets at fair value through profit or loss

The Group previously held investments in gilts which it designated at fair value through profit or loss in order to eliminate asymmetry arising from the measurement of an index-linked derivative. Other debt instruments and money market funds (which are classified as cash equivalents) are required to be measured at fair value through profit or loss under IFRS 9, as the assets are not held solely for the purpose of collecting contractual cash flows related to principal and interest. Both mandatory and designated instruments are measured at fair value on initial recognition and are re-measured to fair value in each subsequent reporting period. Gains and losses arising from changes in fair value are recognised in the Group Income Statement within investment income or financing costs.

S2. Summary of significant accounting policies

(h) Derivative financial instruments

The Group routinely enters into sale and purchase transactions for physical delivery of gas and power. A portion of these transactions take the form of contracts that were entered into and continue to be held for the purpose of receipt or delivery of the physical commodity in accordance with the Group's expected sale, purchase or usage requirements ('own use'), and are not within the scope of IFRS 9. The assessment of whether a contract is deemed to be 'own use' is conducted on a Group basis without reference to underlying book structures, business units or legal entities.

Certain purchase and sales contracts for the physical delivery of gas and power are within the scope of IFRS 9 due to the fact that they net settle or contain written options. Such contracts are accounted for as derivatives under IFRS 9 and are recognised in the Group Balance Sheet at fair value. Gains and losses arising from changes in fair value on derivatives that do not qualify for hedge accounting are taken directly to the Group Income Statement for the year.

The Group uses a range of derivatives for both trading and to hedge exposures to financial risks, such as interest rates, foreign exchange and energy price risks, arising in the normal course of business. Where considered appropriate, the Group may use weather derivatives to protect against earnings volatility arising from unseasonal weather variations. The use of such derivatives did not have a material financial statement impact in 2022 or 2021. The use of derivative financial instruments is governed by the Group's policies which are approved by the Board of Directors. Further detail on the Group's risk management policies is included within the Strategic Report – Principal Risks and Uncertainties on pages 28 to 33 and in note S3.

The accounting treatment of derivatives is dependent on whether they are entered into for trading or hedging purposes. A derivative instrument is considered to be used for hedging purposes when it alters the risk profile of an underlying exposure of the Group in line with the Group's risk management policies and is in accordance with established guidelines. Certain derivative instruments used for hedging purposes are designated in hedge accounting relationships as described by IAS 39 (the Group has not applied the hedge accounting requirements of IFRS 9). In order to qualify for hedge accounting, the effectiveness of the hedge must be reliably measurable and documentation describing the formal hedging relationship must be prepared at the point of designation. The hedge must be highly effective in achieving its objective. The Group also holds derivatives that are used for hedging purposes which are not designated in hedge accounting relationships and are held for trading.

All derivatives are recognised at fair value on the date on which the derivative is entered into and are re-measured to fair value at each reporting date. Derivatives are carried as assets when the fair value is positive and as liabilities when the fair value is negative. Derivative assets and derivative liabilities are offset and presented on a net basis only when there is a currently enforceable legal right of set-off, and the intention to net settle the derivative contracts is present. The disclosure of current and non-current derivative assets and liabilities is determined by the settlement date of the derivative.

The Group enters into certain energy derivative contracts covering periods for which observable market data does not exist. The fair value of such derivatives is estimated by reference in part to published price quotations from active markets, to the extent that such observable market data exists, and in part by using valuation techniques, the inputs to which include data that is not based on or derived from observable markets. Where the fair value at initial recognition for such contracts differs from the transaction price, a fair value gain or fair value loss will arise. This is referred to as a day-one gain or day-one loss. Such gains and losses are deferred (not recognised) and amortised to the Group Income Statement based on volumes purchased or delivered over the contractual period until such time as observable market data becomes available. When observable market data becomes available, any remaining deferred day-one gains or losses are recognised within the Group Income Statement.

Recognition of the gains or losses resulting from changes in fair value depends on the purpose for issuing or holding the derivative. For derivatives that do not qualify for cash flow or net investment hedge accounting, any gains or losses arising from changes in fair value are taken directly to the Group Income Statement and are included within gross profit or investment income and financing costs. Where derivatives qualify for cash flow or net investment hedging, changes in fair value arising from the effective element of the hedge are recognised initially in the Group Statement of Comprehensive Income and are recycled to the Group Income Statement when the hedged item impacts profit or loss. Further details on the treatment of energy derivatives in the Group Income Statement is provided in note 2. Further detail on the treatment of derivatives in hedging relationships is provided in note S5.

Derivatives embedded in other financial instruments or other host contracts are treated as separate derivatives when their risks and characteristics are not closely related to those of the host contracts and the host contracts are not carried at fair value, with gains or losses reported in the Group Income Statement. The closely related nature of embedded derivatives is reassessed when there is a change in the terms of the contract that significantly modifies the future cash flows under the contract. Where a contract contains one or more embedded derivatives, and providing that the embedded derivative significantly modifies the cash flows under the contract, the option to fair value the entire contract may be taken and the contract will be recognised at fair value with changes in fair value recognised in the Group Income Statement. Gains and losses arising from changes in the fair value of energy derivative contracts are recognised within 'Re-measurement and settlement of energy contracts' in the Group's Results for the period under IFRS.

S2. Summary of significant accounting policies

(i) Hedge accounting
The Group continues to apply the hedge accounting requirements of IAS 39 and has not adopted IFRS 9 hedge accounting.

For the purposes of hedge accounting, hedges are classified as either net investment hedges, fair value hedges or cash flow hedges. Note S5 details the Group's accounting policies in relation to derivatives qualifying for hedge accounting under IAS 39.

(j) Financial guarantees
Financial guarantees are contracts that require the Group to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the terms of a debt instrument. The Group accounts for financial guarantee contracts at fair value under IFRS 9.

(k) Impairment of financial assets
In accordance with IFRS 9, the Group has applied the expected credit loss model to financial assets measured at amortised cost and to investments in debt instruments measured at fair value through other comprehensive income.

For trade receivables and contract assets the simplified approach is taken and the lifetime expected credit loss provided for.

For all other in-scope financial assets at the balance sheet date either the lifetime expected credit loss or a 12-month expected credit loss is provided for, depending on the Group's assessment of whether the credit risk associated with the specific asset has increased significantly since initial recognition. As the Group's financial assets are predominantly short-term (less than 12 months), the impairment loss recognised is not materially different using either approach. Further details of the assumptions and inputs used to calculate expected credit losses are shown in note 17.

Nuclear activity
The Group's investment in Lake Acquisitions Limited ('Nuclear') is accounted for as an associate. The following accounting policies are specific to this nuclear activity.

(a) Fuel costs – nuclear front end
Front-end fuel costs consist of the costs of procurement of uranium, conversion and enrichment services, and fuel element fabrication. All costs are capitalised into inventory and charged to the Group Income Statement in proportion to the amount of fuel burnt.

(b) Fuel costs – nuclear back end
Advanced gas-cooled reactors (AGR)

Spent fuel extracted from the reactors is sent for reprocessing and/or long-term storage and eventual disposal of resulting waste products. Back-end fuel costs comprise of a loading-related cost per tonne of uranium and a rebate/surcharge to this cost which is dependent on the out-turn market electricity price and the amount of electricity generated from AGR stations in the year. These costs are capitalised into inventory and charged to the Group Income Statement in proportion to the amount of fuel burnt.

Pressurised water reactor (PWR)

Back-end fuel costs are based on wet storage in station ponds followed by dry storage and subsequent direct disposal of fuel. Back-end fuel costs are capitalised into inventory on loading and are charged to the Group Income Statement in proportion to the amount of fuel burnt.

(c) Nuclear PP&E – depreciation
The majority of the cost of the nuclear fleet is depreciated from the date of the Group acquiring its share of the fleet on a straight-line basis, with remaining depreciable periods currently of up to 33 years.

Other expenditure including amounts spent on major inspections and overhauls of production plant is depreciated over the period until the next outage which for AGR power stations is 2 to 3 years and for the PWR power station is 18 months.

(d) Nuclear Liabilities Fund (NLF) funding arrangements
Under the arrangements in place with the Secretary of State, the NLF will fund, subject to certain exceptions, qualifying uncontracted nuclear liabilities and qualifying decommissioning costs.

In part consideration for the assumption of these liabilities by the Secretary of State and the NLF, the former British Energy Group agreed to pay fixed decommissioning contributions each year and £150,000 (indexed to RPI) for every tonne of uranium in PWR fuel loaded into the Sizewell B reactor after the date of these arrangements.

(e) NLF and nuclear liabilities receivables
The UK Government indemnity is provided to indemnify any future shortfall on NLF funding of qualifying uncontracted nuclear liabilities (including PWR back-end fuel services) and qualifying nuclear decommissioning costs such that the receivable equals the present value of the associated qualifying nuclear liabilities (apart from a small timing difference due to timing of receipts from NLF).

(f) Nuclear liabilities
Nuclear liabilities represent provision for liabilities in respect of the costs of waste management of spent fuel and nuclear decommissioning.

(g) Unburnt fuels at shutdown
Due to the nature of the nuclear fuel process there will be quantities of unburnt fuel in the reactors at station closure. The costs relating to this unburnt fuel (final core) are fully provided for at the balance sheet date. The provision is based on a projected value per tonne of fuel remaining at closure, discounted back to the balance sheet date and recorded as a long-term liability.

S3. Financial risk management

The Group's normal operating, investing and financing activities expose it to a variety of financial risks: market risk (including commodity price risk, currency risk and interest rate risk), credit risk and liquidity risk. The Group's overall financial risk management processes are designed to identify, manage and mitigate these risks.

Further detail on the Group's overall risk management processes is included within the Strategic Report – Principal Risks and Uncertainties on pages 28 to 33.

Commodity price risk management is carried out in accordance with individual business unit policies and directives including appropriate escalation routes.

Treasury risk management, including management of currency risk, interest rate risk and liquidity risk is carried out by a central Group Treasury function in accordance with the Group's financing and treasury policy, as approved by the Board.

The wholesale credit risks associated with commodity trading and treasury positions are managed in accordance with the Group's credit risk policy. Downstream customer credit risk management is carried out in accordance with appropriate group-wide and individual business unit credit policies.

Market risk management

Market risk is the risk of loss that results from changes in market prices (commodity prices, foreign exchange rates and interest rates). The level of market risk to which the Group is exposed at a point in time varies depending on market conditions, expectations of future price or market rate movements and the composition of the Group's physical asset and contract portfolios.

(a) Commodity price risk management

The Group is exposed to commodity price risk in its energy procurement and supply activities, production, generation and trading operations and uses specific limits to manage the exposure to commodity prices associated with the Group's activities to an acceptable level. The Group uses Profit at Risk (PaR) limits to control exposures to market prices. These are complemented by other limits including Value at Risk (VaR), volumetric or stop-loss limits to control risk around trading activities.

(i) Energy price exposed business activities

The Group's price exposed business activities consist of equity gas and liquids production, equity power generation, bilateral procurement and sales contracts, market-traded purchase and sales contracts and derivative positions primarily transacted with the intent of securing gas and power for the Group's supply customers, from a variety of sources at an optimal cost. The Group actively manages commodity price risk by optimising its asset and contract portfolios and making use of volume flexibility.

The Group's commodity price risk exposure within its business activities is driven by the cost of procuring gas and electricity to serve its supply customers and selling gas and electricity from its upstream production and generation, which varies with wholesale commodity prices. The primary risk is that market prices for commodities will fluctuate between the time that sales prices are fixed or tariffs are set and the time at which the corresponding procurement cost is fixed, thereby potentially reducing expected margins or making sales unprofitable.

The Group's supply activities are also exposed to volumetric risk in the form of an uncertain consumption profile arising from a range of factors, including the weather, energy consumption changes, customer attrition and the economic climate. There is also risk associated with ensuring that there is sufficient commodity available to secure supply to customers. The Group's production and generation activities are also exposed to volumetric risk in the form of uncertain production profiles.

In order to manage the exposure to market prices associated with the Group's business operations the Group uses a specific set of risk limits (including VaR and PaR) established by the Board, and sub-delegated downwards through the delegation lines to the commercial leaders.

PaR measures the estimated potential loss in a position or portfolio of positions associated with the movement of a commodity price for a given confidence level, over the remaining term of the position or contract. VaR measures the estimated potential loss for a given confidence level over a predetermined holding period. The standard confidence level used is 95%. In addition, regular stress and scenario tests are performed to evaluate the impact on the portfolio of possible substantial movements in commodity prices.

The Group measures and manages the commodity price risk associated with the Group's entire energy price exposed business portfolio. Only certain of the Group's energy contracts constitute financial instruments under IFRS 9 (see note S6.).

As a result, while the Group manages the commodity price risk associated with both financial and non-financial energy procurement and sales contracts, it is the notional value of energy contracts being carried at fair value that represents the exposure of the Group's energy price exposed business activities to commodity price risk according to IFRS 7 'Financial Instruments: Disclosures'. This is because energy contracts that are financial instruments under IFRS 9 are accounted for on a fair value basis and changes in fair value immediately impact profit. Conversely, energy contracts that are not financial instruments under IFRS 9 are accounted for as executory contracts and changes in fair value do not immediately impact profit and, as such, are not exposed to commodity price risk as defined by IFRS 7. So, whilst the PaR or VaR associated with energy procurement and supply contracts that are outside the scope of IFRS 9 are monitored for internal risk management purposes, only those energy contracts within the scope of IFRS 9 are within the scope of the IFRS 7 disclosure requirements.

S3. Financial risk management

(ii) Proprietary energy trading

The Group's proprietary energy trading activities consist of physical and financial commodity purchases and sales contracts taken on with the intent of benefitting from changes in market prices or differences between buying and selling prices. The Group conducts its trading activities in the over-the-counter market and through exchanges in the UK and continental Europe. The Group is exposed to commodity price risk as a result of its proprietary energy trading activities because the value of its trading assets and liabilities will fluctuate with changes in market prices for commodities.

The Group sets volumetric and VaR limits to manage the commodity price risk exposure associated with the Group's proprietary energy trading activities. VaR measures the estimated potential loss at a 95% confidence level over a one-day holding period. The carrying value of energy contracts used in proprietary energy trading activities at 31 December 2022 is disclosed in note 19.

As with any modelled risk measure, there are certain limitations that arise from the assumptions used in the VaR calculation. VaR assumes that historical price behaviours will continue in the future and that the Group's trading positions can be unwound or hedged within the predetermined holding period. Furthermore, the use of a 95% confidence level, by definition, does not take into account changes in value that might occur beyond this confidence level.

(b) Currency risk management

The Group is exposed to currency risk on foreign currency denominated forecast transactions, firm commitments, monetary assets and liabilities (transactional exposure) and on its net investments in foreign operations (translational exposure). IFRS 7 only requires disclosure of currency risk arising on financial instruments denominated in a currency other than the functional currency of the commercial operation transacting. As a result, for the purposes of IFRS 7, currency risk excludes items that are not financial instruments, such as the Group's net investments in international operations as well as foreign currency denominated forecast transactions and firm commitments.

(i) Transactional currency risk

The Group is exposed to transactional currency risk on transactions denominated in currencies other than the underlying functional currency of the commercial operation transacting. The primary functional currencies remain pounds sterling in the UK, Danish krone in Denmark, Euros in the Netherlands and the Republic of Ireland and US Dollars in the Group's LNG business. The risk is that the functional currency value of cash flows will vary as a result of movements in exchange rates. Transactional exposure arises from the Group's energy procurement, production and generation activities, where many transactions are denominated in foreign currencies. In addition, in order to optimise the cost of funding, the Group has, in certain cases, issued foreign currency denominated debt or entered into foreign currency loans, primarily in US dollars, Euros and Japanese yen.

It is the Group's policy to hedge material transactional exposures using derivatives (either applying formal hedge accounting or economic hedge relationships) to fix the functional currency value of non-functional currency cash flows, except where there is an economic hedge inherent in the transaction. At 31 December 2022, there were no material unhedged non-functional currency monetary assets or liabilities, firm commitments or probable forecast transactions (2021: £nil), other than transactions which have an inherent economic hedge and foreign currency borrowings used to hedge translational exposures.

(ii) Translational currency risk

The Group is exposed to translational currency risk as a result of its net investments in Europe. The risk is that the pounds sterling value of the net assets of foreign operations will decrease with changes in foreign exchange rates. The Group's policy is to protect the pounds sterling book value of its net investments in foreign operations where appropriate, subject to certain parameters, by holding foreign currency debt, entering into foreign currency derivatives, or a mixture of both.

The Group manages translational currency risk taking into consideration the cash impact of any hedging activity as well as the risk to the net asset carrying values in the Group's Financial Statements. The translation hedging programme including the potential cash impact is managed by the Group Treasury function and monitored by the Chief Financial Officer.

(c) Interest rate risk management

In the normal course of business the Group borrows to finance its operations. The Group is exposed to interest rate risk because the fair value of fixed-rate borrowings and the cash flows associated with floating rate borrowings will fluctuate with changes in interest rates. The Group's policy is to manage the interest rate risk on long-term borrowings by ensuring the exposure to floating interest rates remains within a 30% to 70% range, including the impact of interest rate derivatives.

The return generated on the Group's cash balance is also exposed to movements in short-term interest rates. The Group manages cash balances to protect against adverse changes in rates whilst retaining liquidity.

S3. Financial risk management

(d) Sensitivity analysis

IFRS 7 requires disclosure of a sensitivity analysis that is intended to illustrate the sensitivity of the Group's financial position and performance to changes in market variables (commodity prices, foreign exchange rates and interest rates) as a result of changes in the fair value or cash flows associated with the Group's financial instruments. The sensitivity analysis provided discloses the effect on profit or loss and equity at 31 December 2022, assuming that a reasonably possible change in the relevant risk variable had occurred at 31 December 2022, and has been applied to the risk exposures in existence at that date to show the effects of reasonably possible changes in price on profit or loss and equity. Reasonably possible changes in market variables used in the sensitivity analysis are based on implied volatilities, where available, or historical data for energy prices and foreign exchange rates. Reasonably possible changes in interest rates are based on management judgement and historical experience.

The sensitivity analysis has been prepared based on 31 December 2022 balances and on the basis that the balances, the ratio of fixed to floating rates of debt and derivatives, the proportion of energy contracts that are financial instruments, the proportion of financial instruments in foreign currencies and the hedge designations in place at 31 December 2022 are all constant. Excluded from this analysis are all non-financial assets and liabilities and energy contracts that are not financial instruments under IFRS 9. The sensitivity to foreign exchange rates relates only to monetary assets and liabilities denominated in a currency other than the functional currency of the commercial operation transacting, and excludes the translation of the net assets of foreign operations to pounds sterling.

The sensitivity analysis provided is hypothetical only and should be used with caution as the impacts provided are not necessarily indicative of the actual impacts that would be experienced. This is because the Group's actual exposure to market rates is changing constantly as the Group's portfolio of commodity, debt and foreign currency contracts changes. Changes in fair values or cash flows based on a variation in a market variable cannot be extrapolated because the relationship between the change in market variable and the change in fair value or cash flows may not be linear. In addition, the effect of a change in a particular market variable on fair values or cash flows is calculated without considering interrelationships between the various market rates or mitigating actions that would be taken by the Group.

(i) Transactional currency risk

The Group has performed an analysis of the sensitivity of the Group's financial position and performance to changes in foreign exchange rates. The Group deems 10% movements to US dollar and euro currency rates relative to pounds sterling to be reasonably possible.

The material impact of such movements on profit and equity, both before and after taxation, are as follows:

Incremental profit/(loss)	2022 Impact on profit £m	2021 Impact on profit £m
US dollar – increase/(decrease)	**139/(180)**	86/(117)
Euro – increase/(decrease)	**36/(38)**	111/(113)

All other currency sensitivities are not material.

(ii) Interest rate risk

The Group has performed an analysis of the sensitivity of the Group's financial position and performance to changes in interest rates. The Group deems a one percentage point move in UK, US and euro interest rates to be reasonably possible. The impact of such movements on profit and equity, both after taxation, is immaterial.

(iii) Commodity price risk – non proprietary

The impacts of reasonably possible changes in commodity prices on profit and equity, both after taxation, based on the assumptions set out above are as follows:

	2022		2021	
Energy prices	Base price (i)	Reasonably possible change in variable (ii) %	Base price (i)	Reasonably possible change in variable (ii) %
UK gas (p/therm)	**184**	**+/-47**	105	+/-58
European gas (p/therm)	**71**	**+/-47**	103	+/-58
UK power (£/MWh)	**189**	**+/-26**	115	+/-17
UK emissions (€/tonne)	**86**	**+/-7**	82	+/-7
UK oil (US$/bbl)	**84**	**+/-19**	71	+/-7
North American gas (US cents/therm)	**44**	**+/-25**	34	+/-13

S3. Financial risk management

Incremental profit/(loss)	2022 Impact on profit (ii) £m	2021 Impact on profit (ii) £m
UK gas price – increase/(decrease)	**365/(374)**	1,076/(1,053)
UK power price – increase/(decrease)	**540/(544)**	201/(225)
European gas price – (decrease)/increase	**(171)/171**	(690)/691
Other UK energy prices (oil and emissions) – (decrease)/increase	**(32)/32**	(22)/22
UK and European energy prices (combined) – increase/(decrease)	**702/(715)**	565/(565)
North American energy prices (combined) – increase/(decrease)	**60/(60)**	34/(34)

(i) The base price represents the average forward market price over the duration of the active market curve used in the sensitivity analysis provided.
(ii) The reasonably possible change in variable and the impact on profit are calculated using both the active and inactive market curves for energy prices.

The impact on other comprehensive income of such price changes is immaterial.

(iv) Commodity price risk – proprietary trades

As at 31 December 2022 the VaR associated with proprietary trading was £5 million (2021: £13 million). This represents the statistical downside risk associated with the proprietary trade and associated hedging positions. The changes in the year only relate to changes in commodity prices. Intra-day trading positions are monitored using a live time risk management system.

The impacts of reasonably possible changes using probability-based high and low price curves applied to level 3 proprietary trades are as follows:

Incremental profit/(loss)	2022 Impact on profit (i) £m	2021 Impact on profit (i) £m
Level 3 proprietary trades – increase/(decrease) (ii)	**891/(877)**	562/(503)

(i) The reasonably possible change in variable and the impact on profit are calculated using both the active and inactive market curves for energy prices, see note 7(c) for detail on market curves.
(ii) The level 3 proprietary financial instruments' sensitivity has been valued in Secure Environment and excludes associated hedges which would mitigate this impact.

S3. Financial risk management

Credit risk management

Credit risk is the risk of loss associated with a counterparty's inability or failure to discharge its obligations under a contract.

The Group continually reviews its rating thresholds for relevant counterparty credit limits and updates these as necessary, based on a consistent set of principles. It continues to operate within its limits. In respect of trading activities for both the US and Europe there is an effort to maintain a balance between exchange-based trading and bilateral transactions. This allows for a reasonable balance between counterparty credit risk and potential liquidity requirements. In addition, the Group actively manages the trade-off between credit and liquidity risks by optimising the use of contracts with collateral obligations and physically settled contracts without collateral obligations.

The Group is exposed to credit risk in its treasury, trading, energy procurement and downstream activities. The maximum exposure to credit risk for financial instruments at fair value is equal to their carrying value. Gross amounts are shown by counterparty credit rating in the table below. Further details of other collateral and credit security not offset against these amounts is shown in note S6.

	2022					
	Financial assets at amortised cost			Financial assets at fair value		
31 December	Receivables including treasury, trading and energy procurement counterparties (i) £m	Securities (ii) £m	Cash and cash equivalents £m	Cash and cash equivalents £m	Derivative financial instruments with positive fair values £m	Securities £m
AAA to AA	245	—	1,046	2,800	19	95
AA- to A-	914	—	798	178	1,271	—
BBB+ to BBB-	2,727	—	20	—	4,459	—
BB+ to BB-	542	—	—	—	724	—
B+ or lower	112	—	—	—	235	—
Unrated (iii)	4,534	403	—	—	719	27
	9,074	403	1,864	2,978	7,427	122

	2021					
	Financial assets at amortised cost			Financial assets at fair value		
31 December	Receivables including treasury, trading and energy procurement counterparties £m	Securities (ii) £m	Cash and cash equivalents £m	Cash and cash equivalents £m	Derivative financial instruments with positive fair values £m	Securities £m
AAA to AA	444	—	—	3,670	52	111
AA- to A-	615	—	1,278	—	2,128	—
BBB+ to BBB-	1,249	—	60	—	4,453	—
BB+ to BB-	1,051	—	—	—	629	—
B+ or lower	17	—	—	—	128	—
Unrated (iii)	3,081	—	52	—	160	24
	6,457	—	1,390	3,670	7,550	135

(i) The Group holds a provision of £872 million (2021: £633 million) against receivables. The significant majority of this provision is held against amounts due from unrated counterparties. Further analysis of past due trade receivables may be found at note 17.

(ii) Securities held at amortised cost consist of loans to the pension schemes – see note 22.

(iii) The unrated counterparty receivables primarily comprise amounts due from downstream customers, subsidiaries of rated entities, exchanges or clearing houses.

S3. Financial risk management

Details of how credit risk is managed across the asset categories are provided below:

(a) Treasury, trading and energy procurement activities

Wholesale counterparty credit exposures are monitored by individual counterparty and by category of credit rating, and are subject to approved limits. The Group uses master netting agreements to reduce credit risk and net settles payments with counterparties where net settlement provisions exist (see note S6. for details of amounts offset). In addition, the Group employs a variety of other methods to mitigate credit risk: margining, various forms of bank and parent company guarantees and letters of credit.

The vast majority of group credit risk associated with its treasury, trading and energy procurement activities is with counterparties in related energy industries or financial institutions together with smaller exposures to commodity traders and small independent renewable producers. The impairment considerations of IFRS 9 are applicable to financial assets arising from treasury, trading and energy procurement activities that are carried at amortised cost and debt instruments that are carried at fair value through other comprehensive income (FVOCI). Debt instruments measured at FVOCI are not material for further disclosure.

Included in the table above within receivables including treasury, trading and energy procurement counterparties is £4,525 million (2021: £3,643 million) of treasury, trading and energy procurement assets. The Group's risk assessment procedures and counterparty selection process ensure that the credit risk on this type of financial asset is always low at initial recognition.

Included within the table above is information about the exposure to credit risk arising from only certain of the Group's energy procurement contracts – those in the scope of IFRS 9. Whilst the Group manages the credit risk associated with both financial and non-financial energy procurement contracts, it is the carrying value of financial assets within the scope of IFRS 9 (note S6.) that represents the maximum exposure to credit risk in accordance with IFRS 7.

(b) Trade receivables and contract assets

The simplified approach of measuring lifetime expected credit losses has been applied to trade receivables and contract asset balances, which are the focus of this disclosure. Therefore, consideration of the significance of any change in credit risk since initial recognition for the purpose of applying this model is not required for any material component of the receivables balance.

In the case of business customers, credit risk is managed by checking a company's creditworthiness and financial strength both before commencing trade and during the business relationship. For residential customers, creditworthiness is ascertained normally before commencing trade to determine the payment mechanism required to reduce credit risk to an acceptable level. Certain customers will only be accepted on a prepayment basis or with a security deposit. In some cases, an ageing of receivables is monitored and used to manage the exposure to credit risk associated with both business and residential customers. In other cases, credit risk is monitored and managed by grouping customers according to method of payment or profile.

Liquidity risk management and going concern

Liquidity risk is the risk that the Group is unable to meet its financial obligations as they fall due. The Group experiences significant movements in its liquidity position due primarily to the seasonal nature of its business and margin cash arrangements associated with certain wholesale commodity contracts. To mitigate this risk the Group maintains significant committed facilities and holds cash on deposit to ensure that there is sufficient liquidity headroom at all points in the seasonal trading cycle of the business. See note 24 for further information.

S3. Financial risk management

Maturity profiles

Maturities of derivative financial instruments, provisions, borrowings and leases are provided in the following tables (all amounts are remaining contractual undiscounted cash flows):

Due for payment 2022	<1 year £m	1 to 2 years £m	2 to 3 years £m	3 to 4 years £m	4 to 5 years £m	>5 years £m
Energy and interest derivatives in a loss position that will be settled on a net basis (i)	**(1,159)**	**(146)**	**(47)**	**(28)**	**(18)**	**(80)**
Gross energy procurement contracts and other derivative buy trades carried at fair value	**(10,490)**	**(8,525)**	**(4,580)**	**(67)**	**(47)**	**(116)**
Foreign exchange derivatives that will be settled on a gross basis:						
Outflow	**(7,748)**	**(1,244)**	**(73)**	**—**	**—**	**—**
Inflow	**8,027**	**1,207**	**239**	**20**	**1**	**—**
Borrowings (bank loans, bonds, overdrafts and interest)	**(1,016)**	**(157)**	**(595)**	**(185)**	**(186)**	**(3,575)**
	(12,386)	**(8,865)**	**(5,056)**	**(260)**	**(250)**	**(3,771)**
Leases: (ii)						
Minimum lease payments	**(89)**	**(79)**	**(70)**	**(55)**	**(26)**	**(29)**
Capital elements of leases	**(88)**	**(69)**	**(67)**	**(51)**	**(24)**	**(26)**

Due for payment 2021	<1 year £m	1 to 2 years £m	2 to 3 years £m	3 to 4 years £m	4 to 5 years £m	>5 years £m
Energy and interest derivatives in a loss position that will be settled on a net basis (i)	(807)	(77)	(22)	(13)	(8)	(13)
Gross energy procurement contracts and other derivative buy trades carried at fair value	(6,118)	(5,063)	(3,342)	(1,821)	(42)	(122)
Foreign exchange derivatives that will be settled on a gross basis:						
Outflow	(4,068)	(985)	(130)	(22)	(3)	(54)
Inflow	4,500	990	130	22	1	96
Borrowings (bank loans, bonds, overdrafts and interest)	(1,141)	(385)	(154)	(592)	(182)	(3,673)
	(7,634)	(5,520)	(3,518)	(2,426)	(234)	(3,766)
Leases: (ii)						
Minimum lease payments	(103)	(68)	(59)	(55)	(47)	(48)
Capital elements of leases	(102)	(66)	(56)	(52)	(46)	(42)

(i) Proprietary energy trades are excluded from this maturity analysis as the Group does not take physical delivery of volumes traded under these contracts. The associated cash flows are expected to be equal to the contract fair value at the balance sheet date. See note 19 for further details.

(ii) The difference between the total minimum lease payments and the total capital elements of leases is due to future finance charges.

S4. Other equity

This section summarises the Group's other equity reserve movements.

	Cash flow hedging reserve £m	Foreign currency translation reserve £m	Actuarial gains and losses reserve £m	Financial asset at FVOCI reserve £m	Treasury and own shares reserve £m	Share based payments reserve £m	Merger, capital redemption and other reserves £m	Total £m
1 January 2021	16	(198)	(1,308)	—	(31)	79	527	(915)
Actuarial gain	—	—	218	—	—	—	—	218
Employee share schemes:								
Exercise of awards	—	—	—	—	13	(49)	—	(36)
Value of services provided	—	—	—	—	—	12	—	12
Impact of cash flow and net investment hedging	(7)	(49)	—	—	—	—	—	(56)
Taxation on above items	1	9	(74)	—	—	—	—	(64)
Share of other comprehensive income of joint ventures and associates, net of taxation	—	—	152	—	—	—	—	152
Exchange differences on translation of foreign operations	—	(46)	—	—	—	—	—	(46)
Exchange differences reclassified to Group Income Statement on disposal	—	(20)	—	—	—	—	—	(20)
Revaluation of FVOCI securities	—	—	—	3	—	—	—	3
31 December 2021	10	(304)	(1,012)	3	(18)	42	527	(752)
Actuarial loss	—	—	(147)	—	—	—	—	**(147)**
Employee share schemes:								
Exercise of awards	—	—	—	—	10	(22)	—	**(12)**
Value of services provided	—	—	—	—	—	10	—	**10**
Purchase of own shares	—	—	—	—	(5)	—	—	**(5)**
Issue of shares	—	—	—	—	(7)	—	—	**(7)**
Share buyback programme:								
Purchase of Treasury shares	—	—	—	—	(43)	—	—	**(43)**
Accrual for committed share purchases	—	—	—	—	—	—	(207)	**(207)**
Impact of cash flow hedging	(28)	—	—	—	—	—	—	**(28)**
Taxation on above items	8	—	23	—	—	—	—	**31**
Share of other comprehensive loss of joint ventures and associates, net of taxation	—	—	(293)	—	—	—	—	**(293)**
Exchange differences on translation of foreign operations	—	(95)	—	—	—	—	—	**(95)**
Exchange differences reclassified to Group Income Statement on disposal	—	272	—	—	—	—	—	**272**
31 December 2022	**(10)**	**(127)**	**(1,429)**	**3**	**(63)**	**30**	**320**	**(1,276)**

Merger, capital redemption and other reserves

During February 1997, BG plc (formerly British Gas plc) demerged certain businesses (grouped together under GB Gas Holdings Limited (GBGH)) to form Centrica plc. Upon demerger, the share capital of GBGH was transferred to Centrica plc and was recorded at the nominal value of shares issued to BG plc shareholders. In accordance with the Companies Act 1985, no premium was recorded on the shares issued. On consolidation, the difference between the nominal value of the Company's shares issued and the amount of share capital and share premium of GBGH at the date of demerger was credited to a merger reserve.

On 8 December 2017, the Group's existing exploration and production business was combined with that of Bayerngas Norge AS to form the Spirit Energy business. The Group acquired 69% of the Spirit Energy business and Bayerngas Norge's former shareholders acquired 31%. The non-controlling interest established on acquisition has been based on its share of the carrying value of the combined business, with the other reserve representing the difference between the fair value and this carrying value.

In accordance with the Companies Act, the Company has transferred to the capital redemption reserve an amount equal to the nominal value of shares repurchased and subsequently cancelled. Up to 31 December 2022 the cumulative nominal value of shares repurchased and subsequently cancelled was £28 million (2021: £28 million).

During the year, the Group recognised a financial liability of £207 million relating to the Share buyback programme. See treasury and own shares reserve section for more details.

S4. Other equity

Treasury and own shares reserve

The own shares reserve reflects the cost of shares in the Group held in the Centrica employee share ownership trusts to meet the future requirements of the Group's share-based payment plans.

Treasury shares are acquired equity instruments of the Company.

Centrica's current return of capital programme, initially approved by the Board on 9 November 2022, seeks to return up to £250 million to shareholders and is expected to be completed by 31 May 2023.

During the year ended 31 December 2022, the Group purchased 46 million ordinary shares, representing approximately 0.8% of the issued ordinary share capital at an average price of 93.7 pence per share, and an aggregate cost of £43 million under the share buyback programme.

A financial liability of £207 million was recognised at 31 December 2022, representing the difference between purchases to date, and the maximum potential repurchase by 16 February 2023. This liability is included within the Merger, capital redemption and other reserves. The monthly breakdown of all shares purchased and the average price paid per share (excluding expenses) for the year ended 31 December 2022 were as follows:

Period	Number of shares purchased under share buyback programme	Average price paid Pence	Total cost £m	Authorised purchases unutilised at month end £m
November 2022	16,906,393	93.3	16	234
December 2022	28,808,490	93.9	27	207
Total	**45,714,883**	**93.7**	**43**	**207**

S5. Hedge accounting

The Group primarily applies hedge accounting to address interest rate and foreign currency risk on borrowings.

For the purposes of hedge accounting, hedges are classified either as fair value hedges, cash flow hedges or hedges of net investments in foreign operations.

The fair values of derivatives and primary financial instruments in hedge accounting relationships at 31 December were as follows:

		2022			2021		
31 December	Hedge	**Assets £m**	**Liabilities £m**	**Change in fair value £m**	Assets £m	Liabilities £m	Change in fair value £m
Interest rate risk	Fair value	**37**	**(221)**	**(228)**	67	—	(95)
Foreign exchange risk	Cash flow hedge	**37**	**(6)**	**(10)**	33	(7)	(44)
Foreign exchange risk	Net investment hedge	**—**	**—**	**—**	—	—	2

2022	Hedge	Timing of nominal amount	Average rate	Nominal value	Hedged item	Change in fair value of hedged item in year £m	Cumulative amount of fair value hedge adjustments on hedged item £m	Accumulated gains/(losses) in equity [(i)] £m
Interest rate risk	Fair value	**2022-2033**	**Fixed to floating at LIBOR/US IBOR + 1%-5%**	**£50 million-£550 million, $250 million**	**Bonds [(ii)]**	**228**	**158**	**N/A**
Foreign exchange risk	Cash flow hedge	**2032**	**GBP to Euro at 1.171**	**€50 million**	**Euro bonds**	**7**	**N/A**	**26**
	Cash flow hedge	**2036-2038**	**GBP to Yen at 157.33**	**¥20 billion**	**Yen bank loans**	**3**	**N/A**	**(23)**

S5. Hedge accounting

2021	Hedge	Timing of nominal amount	Average rate	Nominal value	Hedged item	Change in fair value of hedged item in year £m	Cumulative amount of fair value hedge adjustments on hedged item £m	Accumulated gains/(losses) in equity [(i)] £m
Interest rate risk	Fair value	2022-2032	Fixed to floating at LIBOR/US IBOR + 1%-5%	£50 million-£550 million, $250 million	Bonds [(ii)]	95	(70)	N/A
Foreign exchange risk	Cash flow hedge	2021-2032	GBP to Euro at 1.356	€50 million, €750 million	Euro bonds	24	N/A	32
	Cash flow hedge	2036-2038	GBP to Yen at 145.43	¥20 billion	Yen bank loans	14	N/A	(21)
Foreign exchange risk	Net investment hedge/Cash flow hedge	2021	GBP to USD at 1.34	$2.3 billion	Carrying value of net assets of subsidiary/ disposal proceeds	4	N/A	—

(i) In the years presented all amounts related to continuing cash flow hedge relationships.
(ii) The carrying amount of bonds designated as hedged items in hedging relationships is disclosed in note 24.

The Group's accounting policies in relation to derivatives qualifying for hedge accounting under IAS 39 are described below.

Fair value hedges

A derivative is designated as a hedging instrument and its relationship to a recognised asset or liability is classified as a fair value hedge when it hedges the exposure to changes in the fair value of that recognised asset or liability. The Group's fair value hedges consist of interest rate swaps used to protect against changes in the fair value of fixed-rate, long-term debt due to movements in market interest rates. Any gain or loss from re-measuring the hedging instrument to fair value is recognised immediately in the Group Income Statement in net finance cost. Any gain or loss on the hedged item attributable to the hedged risk is adjusted against the carrying amount of the hedged item and recognised in the Group Income Statement within net finance cost. The Group discontinues fair value hedge accounting if the hedging instrument expires or is sold, terminated or exercised, the hedge no longer qualifies for hedge accounting or the Group revokes the designation. Any adjustment to the carrying amount of a hedged financial instrument for which the effective interest method is used is amortised to the Group Income Statement. Amortisation may begin as soon as an adjustment exists and begins no later than when the hedged item ceases to be adjusted for changes in its fair value attributable to the risk being hedged.

Impact of interest rate benchmark reform

Phase 2 of the Interest Rate Benchmark Reform became effective on 1 January 2021. Under Phase 2, to the extent that modifications were made to financial instruments that were necessary to implement Interest Rate Benchmark Reform, reliefs from the discontinuation of hedge accounting or immediate recognition of any gains or losses in the income statement on the modification of financial instruments measured at amortised cost were available on transition to alternative rates, as the modification was a direct consequence of the reform and the new basis for calculating cash flows is economically equivalent to the previous basis.

The Group applied the International Swaps and Derivatives Associates (ISDA) fallback protocol to the derivative financial instruments held by the Group affected by the IBOR Reform where the interest rate benchmark was linked to GBP Libor. These instruments primarily comprise interest rate swap agreements designated in fair value hedge relationships. The ISDA fallback rates are derived from the Sterling Overnight Interbank Average (SONIA) rate and are calculated and published by Bloomberg.

The Group amended its hedge designation to reflect changes which are required by IBOR reform to designate movements in Bloomberg Fallback Libor as the hedged risk and to amend the description of both the hedged item and the hedging instrument to reference the alternative rate.

The Group also has interest rate swap agreements designated in fair value hedge relationships which are linked to USD Libor which is expected to remain in place until 2023, when it is expected to be replaced by the Secured Overnight Financing Rate (SOFR).

Cash flow hedges

A derivative is classified as a cash flow hedge when it hedges exposure to variability in cash flows that is attributable to a particular risk associated with a recognised asset, liability or a highly probable forecast transaction. The Group's cash flow hedges consist primarily of:

- forward foreign exchange contracts used to protect against the variability of functional currency denominated cash flows associated with non-functional currency denominated highly probable forecast transactions; and
- cross-currency interest rate swaps and forward foreign exchange contracts used to protect against the variability in cash flows associated with borrowings denominated in non-functional currencies.

S5. Hedge accounting

The portion of the gain or loss on the hedging instrument which is effective is recognised directly in equity while any ineffectiveness is recognised in the Group Income Statement. The gains or losses that are initially recognised in the cash flow hedging reserve through other comprehensive income are transferred to the Group Income Statement in the period in which the hedged item affects profit or loss. Where the hedged item is the cost of a non-financial asset or liability, the amounts taken to equity are transferred to the initial carrying amount of the non-financial asset or liability on its recognition. Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated or exercised without replacement or rollover, no longer qualifies for hedge accounting or the Group revokes the designation. At that point in time, any cumulative gain or loss on the hedging instrument recognised in equity remains in equity until the hedged transaction occurs. If the transaction is no longer expected to occur, the cumulative gain or loss recognised in equity is recognised in the Group Income Statement. Note S4 details movements in the cash flow hedging reserve. The ineffective portion of gains and losses on cash flow hedging is immaterial.

Net investment hedges

Hedges of net investments in foreign operations hedge the exposure of the sterling value of the assets of foreign currency subsidiaries in the consolidated Financial Statements to changes in exchange rates. Such hedges are accounted for similarly to cash flow hedges. Any gain or loss on the effective portion of the hedge is recognised in equity, any gain or loss on the ineffective portion of the hedge is recognised in the Group Income Statement. On disposal of the foreign operation, the cumulative gains or losses recognised directly in equity are transferred to the Group Income Statement. The Group initially ceased any net investment hedging activity in 2009. The Group recommenced this strategy in respect of the US dollar subsidiaries in its Direct Energy business in 2020 until its disposal in 2021.

S6. Fair value of financial instruments

The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Group has documented internal policies for determining fair value, including methodologies used to establish valuation adjustments required for credit risk.

(a) Fair value hierarchy

Financial assets and financial liabilities measured and held at fair value are classified into one of three categories, known as hierarchy levels, which are defined according to the inputs used to measure fair value as follows:

- Level 1: fair value is determined using observable inputs that reflect unadjusted quoted market prices for identical assets and liabilities;
- Level 2: fair value is determined using significant inputs that may be directly observable inputs or unobservable inputs that are corroborated by market data; and
- Level 3: fair value is determined using significant unobservable inputs that are not corroborated by market data and may be used with internally developed methodologies that result in management's best estimate of fair value.

	2022				2021			
31 December	Level 1 £m	Level 2 £m	Level 3 £m	**Total £m**	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Financial assets								
Derivative financial instruments:								
Energy derivatives	—	6,486	592	**7,078**	—	6,906	480	7,386
Interest rate derivatives	—	37	—	**37**	—	71	—	71
Foreign exchange derivatives	—	312	—	**312**	—	93	—	93
Debt instruments	66	—	1	**67**	82	—	1	83
Equity instruments	29	9	17	**55**	29	3	20	52
Cash and cash equivalents	—	2,978	—	**2,978**	—	3,670	—	3,670
Total financial assets at fair value	**95**	**9,822**	**610**	**10,527**	111	10,743	501	11,355
Financial liabilities								
Derivative financial instruments:								
Energy derivatives	—	(8,806)	(850)	**(9,656)**	—	(5,662)	(290)	(5,952)
Interest rate derivatives	—	(221)	—	**(221)**	—	—	—	—
Foreign exchange derivatives	—	(274)	—	**(274)**	—	(57)	—	(57)
Total financial liabilities at fair value	**—**	**(9,301)**	**(850)**	**(10,151)**	—	(5,719)	(290)	(6,009)

S6. Fair value of financial instruments

The reconciliation of the Level 3 fair value measurements during the year is as follows:

	2022		2021	
	Financial assets £m	Financial liabilities £m	Financial assets £m	Financial liabilities £m
Level 3 financial instruments				
1 January	**501**	**(290)**	120	(129)
Disposal of Direct Energy	**—**	**—**	(53)	20
Total realised and unrealised gains/(losses):				
Recognised in Group Income Statement	**10**	**(784)**	453	(181)
Purchases, sales, issuances and settlements (net)	**(4)**	**—**	2	—
Transfer to assets held for sale	**—**	**—**	(21)	—
Transfers from Level 2 to Level 3 [(i)]	**101**	**224**	—	—
Foreign exchange movements	**2**	**—**	—	—
31 December	**610**	**(850)**	501	(290)
Total gains/(losses) for the year for Level 3 financial instruments held at the end of the reporting year	**10**	**(784)**	453	(181)

(i) Transfers between levels are deemed to occur at the beginning of the reporting year.

(b) Valuation techniques used to derive Level 2 and Level 3 fair values and Group valuation process

Level 2 interest rate derivatives and foreign exchange derivatives comprise interest rate swaps and forward foreign exchange contracts. Interest rate swaps are fair valued using forward interest rates extracted from observable yield curves. Forward foreign exchange contracts are fair valued using forward exchange rates that are quoted in an active market, with the resulting market value discounted back to present value using observable yield curves.

Level 2 energy derivatives are fair valued by comparing and discounting the difference between the expected contractual cash flows for the relevant commodities and the quoted prices for those commodities in an active market. The average discount rate applied to value this type of contract during the year was 5% per annum (31 December 2021 average discount rate of 1% per annum).

For Level 3 energy derivatives, the main input used by the Group pertains to deriving expected future commodity prices in markets that are not active as far into the future as some of our contractual terms. This applies to certain contracts within Europe and North America. Fair values are then calculated by comparing and discounting the difference between the expected contractual cash flows and these derived future prices using an average discount rate of 5% (Europe) and 5% (North America) per annum (31 December 2021 average discount rate of 1% (Europe) and 3% (North America) per annum).

Active period of markets	Gas	Power	Coal	Emissions	Oil
UK (years)	**4**	**4**	**3**	**3**	**3**

Because the Level 3 energy derivative valuations involve the prediction of future commodity market prices, sometimes a long way into the future, reasonably possible alternative assumptions for gas, power, coal, emissions or oil prices may result in a higher or lower fair value for Level 3 financial instruments. The impact of reasonably possible changes in commodity prices on profit and loss are included in note S3. Other than commodity prices there are no other unobservable inputs which would have a material impact.

It should be noted that the fair values disclosed in the tables above only concern those contracts entered into that are within the scope of IFRS 9. The Group has numerous other commodity contracts that are outside of the scope of IFRS 9 and are not fair valued. The Group's actual exposure to market rates is constantly changing as the Group's portfolio of energy contracts changes.

The Group's valuation process includes specific teams of individuals that perform valuations of the Group's derivatives for financial reporting purposes, including Level 3 valuations. The Group has an independent team that derives future commodity price curves based on available external data and these prices feed into the energy derivative valuations, subject to adjustments to ensure they are compliant with IFRS 13 'Fair Value Measurement'. The price curves are subject to review and approval by the Group's Executive Committee and valuations of all derivatives, together with other contracts that are not within the scope of IFRS 9, are also reviewed regularly as part of the overall risk management process. The Group adjusts the market value of derivative instruments to account for counterparty credit risk and corresponding possibility of a counterparty default preventing full realisation of the risk-free market value of the derivative. The Group estimates Credit Valuation Adjustments by computing an expected evolution of the market value of a counterpart's derivatives portfolio over the life of the contracts weighted by the probability of a default and an assumption of the market value recoverable in the event of a default. The default probability is calibrated to the price of Credit Default Swaps – a debt instrument reflecting the insurance premium payable to protect against a debtor's default. Debit valuation adjustments are the amount added back to the derivative value to account for the expected gain from the Group's own default and are calculated using a similar methodology with reference to the Group's own probability of default.

S6. Fair value of financial instruments

Where the fair value at initial recognition for contracts which have significant unobservable inputs and the fair value differs from the transaction price, a day one gain or loss will arise. These deferred gains are presented net against respective derivative assets and derivative liabilities. Such gains and losses are deferred and amortised to the Group Income Statement based on volumes purchased or delivered over the contractual period until such time as observable market data becomes available (see note S2 for further detail). The amount that has yet to be recognised in the Group Income Statement relating to the differences between the transaction prices and the amounts that would have arisen had valuation techniques used for subsequent measurement been applied at initial recognition, less subsequent releases, is as follows:

Day-one gains deferred	2022 £m	2021 £m
1 January	90	64
Disposal of Direct Energy	–	(45)
Net gains deferred on transactions in the year	401	70
Net amounts recognised in Group Income Statement	(195)	2
Exchange differences	8	(1)
31 December	304	90

(c) Fair value of financial assets and liabilities held at amortised cost

The carrying value of the Group's financial assets and liabilities measured at amortised cost are approximately equal to their fair value except as listed below:

			2022			2021		
31 December		Notes	Carrying value £m	Fair value £m	Fair value hierarchy	Carrying value £m	Fair value £m	Fair value hierarchy
Bank loans		24(d)	(143)	(143)	Level 2	(137)	(173)	Level 2
Bonds	Level 1	24(d)	(2,805)	(2,840)	Level 1	(3,218)	(3,947)	Level 1
	Level 2	24(d)	(69)	(79)	Level 2	(106)	(136)	Level 2

Bank loans and borrowings
The fair values of bonds classified as Level 1 within the fair value hierarchy are calculated using quoted market prices. The fair values of Level 2 bonds and bank loans have been determined by discounting cash flows with reference to relevant market rates of interest. The fair values of overdrafts and short-term loans are assumed to equal their book values due to the short-term nature of these amounts.

Other financial instruments
Due to their nature and/or short-term maturity, the fair values of trade and other receivables, cash and cash equivalents, trade and other payables and securities held at amortised cost are estimated to approximate their carrying values.

S6. Fair value of financial instruments

(d) Financial assets and liabilities subject to offsetting, master netting arrangements and similar arrangements

31 December 2022	Gross amounts of recognised financial instruments £m	Gross amounts of recognised financial instruments offset in the Group Balance Sheet £m	Net amounts presented in the Group Balance Sheet £m	Related amounts not offset in the Group Balance Sheet (i) Financial instruments £m	Collateral £m	Net amount £m
Derivative financial assets	**28,019**	**(20,592)**	**7,427**	**(956)**	**(601)**	**5,870**
Derivative financial liabilities	**(30,743)**	**20,592**	**(10,151)**	**956**	**1,154**	**(8,041)**
			(2,724)			**(2,171)**
Balances arising from commodity contracts:						
Accrued and unbilled downstream and energy income	**12,751**	**(8,057)**	**4,694**	**(622)**	**–**	**4,072**
Accruals for commodity costs	**(13,428)**	**8,057**	**(5,371)**	**622**	**–**	**(4,749)**
Cash and financing arrangements:						
Cash and cash equivalents	**4,842**	**–**	**4,842**	**(600)**	**–**	**4,242**
Bank loans and overdrafts	**(743)**	**–**	**(743)**	**600**	**–**	**(143)**

31 December 2021	Gross amounts of recognised financial instruments £m	Gross amounts of recognised financial instruments offset in the Group Balance Sheet £m	Net amounts presented in the Group Balance Sheet £m	Related amounts not offset in the Group Balance Sheet (i) Financial instruments £m	Collateral £m	Net amount £m
Derivative financial assets	33,212	(25,662)	7,550	(810)	(1,185)	5,555
Derivative financial liabilities	(31,671)	25,662	(6,009)	810	888	(4,311)
			1,541			1,244
Balances arising from commodity contracts:						
Accrued and unbilled downstream and energy income	8,890	(5,443)	3,447	(242)	–	3,205
Accruals for commodity costs	(8,905)	5,443	(3,462)	242	–	(3,220)
Cash and financing arrangements:						
Cash and cash equivalents	5,060	–	5,060	(750)	–	4,310
Bank loans and overdrafts	(887)	–	(887)	750	–	(137)

(i) The Group has arrangements in place with various counterparties in respect of commodity trades which provide for a single net settlement of all financial instruments covered by the arrangement in the event of default or termination, or other circumstances arising whereby either party is unable to meet its obligations. The above table shows the potential impact of these arrangements being enforced by offsetting the relevant amounts within each Group Balance Sheet class of asset or liability, but does not show the impact of offsetting across Group Balance Sheet classes where the offsetting Group Balance Sheet class is not included within the above table.

S7. Fixed-fee service and insurance contracts

This section includes fixed-fee service (FFS) and insurance contract disclosures for services related to British Gas.

FFS contracts in the UK are entered into with home services customers by British Gas Services Limited (BGSL) and with business customers by British Gas Services (Commercial) Limited. Insurance contracts in the UK are entered into with home services customers by British Gas Insurance Limited (BGIL), authorised by the PRA and regulated by the FCA and the PRA.

Product offerings include central heating, boiler and controls, plumbing and drains and electrical appliance insurance cover.

FFS contracts continue until either party cancels; insurance contracts normally provide cover for twelve months with the option of renewal.

The contracts that protect policyholders against the risk of breakdowns result in risk transfer to the contract provider. Benefits provided to customers vary in accordance with terms and conditions of the contracts entered into. However, they generally include maintenance, repair and/or replacement of the items affected.

The levels of risk exposure and service provision to customers under the contract terms depend on the occurrence of uncertain future events, particularly the nature and frequency of faults, and the cost of repair or replacement of the items affected. Accordingly, the timing and the amount of future cash outflows associated with the contracts is uncertain. As the Group's insurance contract portfolio is comprised of a large number of contracts with small individual values, a high volume of claims with relatively low unit cost results. The characteristics of the business mean that material concentrations or aggregations of risk are relatively remote. The key terms and conditions that affect future cash flows are as follows:

- provision of labour and parts for repairs, dependent on the agreement and associated level of service;
- a specified number of safety and maintenance inspections are carried out as set out in the agreement (usually once a year);
- no limit to the number of call-outs to carry out repair work; and
- limits on certain maintenance and repair costs.

The most significant insurance risk is an extreme weather event for an extended period, which has the propensity to increase claim frequencies. The Group regularly assesses insurance risk sensitivities, the most significant relating to increases in breakdown frequency and increases in the average cost of repair. A reasonably possible increase in either would not have a material impact on the results of the Group.

Revenue is recognised over the life of contracts (usually twelve months) regarding the incidence of risk, in particular the seasonal propensity of claims that span the life of the contract as a result of emergency maintenance being available throughout the contract term. Costs incurred to settle claims represent principally the engineer workforce employed by the Group within home services and the cost of parts utilised in repair or maintenance. Revenue is accounted for over a 12-month period, with adjustments made to reflect the seasonality of workload over a given year.

Weather conditions and the seasonality of repairs both affect the profile of the workload and associated costs incurred across the year.

The risk exposure of these uncertain events is actively managed by undertaking the following risk mitigation activities:

- an initial service visit is provided to customers taking up most central heating contracts and in some instances pre-existing faults may lead to the contract being cancelled and no further cover being provided;
- an annual maintenance inspection is performed as part of most central heating contracts to help identify and prevent issues developing into significant maintenance or breakdown claims; and
- contract limits are applied to certain types of maintenance and repair work considered to be higher risk in terms of frequency and cost.

The costs of FFS claims and insurance claims incurred during the year were £2 million (2021: £3 million) and £290 million (2021: £293 million) respectively and are included in the table below in 'Expenses relating to FFS and insurance contracts'. All claims are settled immediately and in full. Due to the short average lead time between claims occurrence and settlement, no material provisions were outstanding at the balance sheet date in 2022 or 2021.

31 December	2022 £m	2021 £m
Total revenue	**857**	913
Expenses relating to FFS and insurance contracts	**(848)**	(803)
Deferred income	**(39)**	(37)
Accrued income	**29**	31

The Group also considers whether estimated future cash flows under the contracts will be sufficient to meet expected future costs. Any deficiency is charged immediately to the Group Income Statement. Claims frequency is sensitive to the reliability of appliances as well as the impact of weather conditions. The contracts are not exposed to any interest rate risk or significant credit risk and do not contain any embedded derivatives.

S8. Related party transactions

The Group's principal related party is its investment in Lake Acquisitions Limited, which owns the existing EDF UK nuclear fleet. The disclosures below, including comparatives, only refer to related parties that were related in the current reporting period.

During the year, the Group entered into the following arm's length transactions with related parties who are not members of the Group, and had the following associated balances:

31 December	2022 Purchase of goods and services £m	2022 Amounts owed to £m	2021 Purchase of goods and services £m	2021 Amounts owed to £m
Associates:				
Nuclear	**(564)**	**(102)**	(300)	(40)
	(564)	**(102)**	(300)	(40)

During the year, there were no material changes to commitments in relation to joint ventures and associates.

At the balance sheet date, the Group had committed facilities to the Lake Acquisition Group totalling £120 million (2021: £120 million), although nothing has been drawn at 31 December 2022.

Remuneration of key management personnel

Year ended 31 December	2022 £m	2021 £m (i)
Short-term benefits	**4.4**	3.5
Post-employment benefits	**0.1**	0.4
Share-based payments	**4.1**	1.1
	8.6	5.0

Key management personnel comprise members of the Board and Executive Committee, a total of 11 individuals at 31 December 2022 (2021: 10).

Remuneration of the Directors of Centrica plc

Year ended 31 December	2022 £m	2021 £m (i)
Total emoluments (ii)	**3.2**	2.4
Amounts receivable under long-term incentive schemes	**2.3**	—
Contributions into pension schemes	**—**	0.1
	5.5	2.5

(i) 2021 comparatives have been restated.
(ii) These emoluments were paid for services performed on behalf of the Group. No emoluments related specifically to services performed for the Company.

Directors' interests in shares are given in the Remuneration Report on pages 84 to 95.

S9. Auditors' remuneration

Year ended 31 December	2022 £m	2021 £m
Fees payable to the Company's auditors for the audit of the Company's individual and consolidated:		
Financial Statements	**4.8**	5.0
Audit of the Company's subsidiaries	**1.7**	1.7
Total fees related to the audit of the parent and subsidiary entities	**6.5**	6.7
Fees payable to the Company's auditors and its associates for other services:		
Audit-related assurance services (i)	**0.9**	0.8
All other services (ii)	**—**	0.9
Total fees	**7.4**	8.4
Fees in respect of pension scheme audits (iii)	**0.1**	0.1

(i) Predominantly relates to the review of the condensed interim Financial Statements and the audit of the Ofgem Consolidated Segmental Statement.
(ii) Prior year relates to the Class 1 Circular reporting accountant work for the Spirit Energy Norway and Statfjord field disposal.
(iii) The pension scheme audit continues to be performed by PricewaterhouseCoopers LLP.

During 2021, work on the divestment of Spirit Energy Norway and Statfjord field required additional other services from Deloitte in respect of the disposal Class 1 Circular. Approval for this expenditure was sought and received from the Audit and Risk Committee in advance of the work commencing.

S10. Related undertakings

The Group has a large number of related undertakings principally in the UK, US, Canada, Denmark, the Netherlands and the Republic of Ireland. These are listed below.

(a) Subsidiary undertakings

Investments held directly by Centrica plc with 100% voting rights

31 December 2022	Principal activity	Country of incorporation/ registered address key (i)		Class of shares held
Centrica Beta Holdings Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Holdings Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Ireland Holdings Limited (ii)	Holding company	Republic of Ireland	B	Ordinary shares
CH4 Energy Limited (iii)	Dormant	United Kingdom	A	Ordinary shares
Rhodes Holdings HK Limited	Non-trading	Hong Kong	C	Ordinary shares

Investments held indirectly by Centrica plc with 100% voting rights

31 December 2022	Principal activity	Country of incorporation/ registered address key (i)		Class of shares held
Accord Energy (Trading) Limited	Dormant	United Kingdom	A	Ordinary shares
Alertme.com GmbH	In liquidation	Germany	D	Ordinary shares
Astrum Solar, Inc.	Home and/or commercial services	United States	E	Ordinary shares
Bord Gáis Energy Limited	Energy supply and power generation	Republic of Ireland	B	Ordinary shares
Bord Gáis Energy Trustees DAC	Pension trustee company	Republic of Ireland	B	Ordinary shares
British Gas Energy Procurement Limited (iii) (iv)	Dormant	United Kingdom	A	Ordinary shares
British Gas Finance Limited	Vehicle leasing	United Kingdom	A	Ordinary shares
British Gas Insurance Limited	Insurance provision	United Kingdom	A	Ordinary shares
British Gas Limited (iii)	Energy supply	United Kingdom	A	Ordinary shares
British Gas New Heating Limited	Electrical and gas installations	United Kingdom	A	Ordinary shares
British Gas Services (Commercial) Limited	Servicing and installation of heating systems	United Kingdom	A	Ordinary shares
British Gas Services Limited	Home services	United Kingdom	A	Ordinary shares
British Gas Social Housing Limited	Servicing and installation of heating systems	United Kingdom	A	Ordinary shares
British Gas Solar Limited (iv)	Dormant	United Kingdom	A	Ordinary shares
British Gas Trading Limited	Energy supply	United Kingdom	A	Ordinary shares
British Gas X Limited	Dormant	United Kingdom	A	Ordinary shares
Caythorpe Gas Storage Limited	Gas storage	United Kingdom	F	Ordinary shares
CBS Energy Assets Belgium B.V. (ii)	Construction of battery storage	Belgium	G	Ordinary shares
CBS Solar Assets UK Limited (iii)	Building solar farm & connecting to grid	United Kingdom	A	Ordinary shares
CBS US Solar Fund 1, LLC	Distributed Energy & Power	United States	H	Membership interest
Centrica (Lincs) Wind Farm Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Barry Limited	Power generation	United Kingdom	A	Ordinary shares
Centrica Brigg Limited (vi)	Construction of battery storage	United Kingdom	A	Ordinary shares
Centrica Business Holdings Inc.	Holding company	United States	I	Ordinary shares
Centrica Business Solutions (Generation) Limited	Power generation	United Kingdom	A	Ordinary shares
Centrica Business Solutions Asset Management, LLC	Energy management products and services	United States	H	Membership interest
Centrica Business Solutions B.V.	Energy management products and services	Netherlands	J	Ordinary shares
Centrica Business Solutions Belgium NV	Demand response aggregation	Belgium	G	Ordinary shares
Centrica Business Solutions Canada Inc.	Energy management products and services	Canada	K	Ordinary shares
Centrica Business Solutions Deutschland GmbH	Demand response aggregation	Germany	L	Ordinary shares
Centrica Business Solutions France SASU	Demand response aggregation	France	M	Ordinary shares
Centrica Business Solutions International Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Business Solutions Ireland Limited	Energy management products and services	Republic of Ireland	B	Ordinary shares
Centrica Business Solutions Italia Srl	Energy management products and services	Italy	N	Ordinary shares

S10. Related undertakings

31 December 2022	Principal activity	Country of incorporation/ registered address key (i)		Class of shares held
Centrica Business Solutions Management Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Business Solutions Optimize, LLC	Energy management products and services	United States	H	Membership interest
Centrica Business Solutions Romania Srl	Energy management products and services	Romania	O	Ordinary shares
Centrica Business Solutions Services, Inc.	Energy management products and services	United States	H	Ordinary shares
Centrica Business Solutions UK Limited	Energy management products and services	United Kingdom	A	Ordinary shares
Centrica Business Solutions UK Optimisation Limited	Demand response aggregation	United Kingdom	A	Ordinary shares
Centrica Business Solutions US, Inc.	Energy management products and services	United States	H	Ordinary shares
Centrica Business Solutions Zrt	Energy management products and services	Hungary	P	Ordinary shares
Centrica Combined Common Investment Fund Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Directors Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Distributed Generation Limited	Power generation	United Kingdom	A	Ordinary shares
Centrica Energy (Trading) Limited	In liquidation	United Kingdom	A	Ordinary shares
Centrica Energy Limited	Wholesale energy trading	United Kingdom	A	Ordinary shares
Centrica Energy Marketing Limited	Wholesale energy trading	United Kingdom	A	Ordinary shares
Centrica Energy Operations Limited (iv)	Dormant	United Kingdom	A	Ordinary shares
Centrica Energy Renewable Investments Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Energy Trading A/S	Energy services and wholesale energy trading	Denmark	Q	Ordinary shares
Centrica Energy Trading GmbH	Energy services and wholesale energy trading	Germany	R	Ordinary shares
Centrica Energy Trading Pte. Ltd	Energy services and wholesale energy trading	Singapore	S	Ordinary shares
Centrica Engineers Pension Trustees Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Finance (Canada) Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Finance (Scotland) Limited	Holding company	United Kingdom	T	Ordinary shares
Centrica Finance (US) Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Finance Investments Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Finance Norway Limited	Dormant	Jersey	U	Ordinary shares
Centrica Gamma Holdings Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Hive Limited	Energy management products and services	United Kingdom	A	Ordinary shares
Centrica Hive Srl	Energy management products and services	Italy	V	Ordinary shares
Centrica Ignite GP Limited	Investment company	United Kingdom	A	Ordinary shares
Centrica Ignite LP Limited	Investment company	United Kingdom	A	Ordinary shares
Centrica India Offshore Private Limited	Business services	India	W	Ordinary shares
Centrica Infrastructure Limited (iv)	Dormant	United Kingdom	T	Ordinary shares
Centrica Innovations UK Limited	Investment company	United Kingdom	A	Ordinary shares
Centrica Innovations US, Inc.	Investment company	United States	H	Ordinary shares
Centrica Insurance Company Limited	Insurance provision	Isle of Man	H	Ordinary and preference shares
Centrica KPS Limited	Power generation	United Kingdom	A	Ordinary shares
Centrica Lake Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Leasing (KL) Limited (iv)	Dormant	United Kingdom	A	Ordinary shares
Centrica LNG Company Limited	LNG Trading	United Kingdom	A	Ordinary shares
Centrica LNG UK Limited	LNG Trading	United Kingdom	A	Ordinary shares
Centrica Nederland B.V.	Holding company	Netherlands	J	Ordinary shares
Centrica Nigeria Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Nominees No.1 Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Offshore UK Limited	Gas and/or liquid exploration and production	United Kingdom	F	Ordinary shares
Centrica Onshore Processing UK Limited	Dormant	United Kingdom	F	Ordinary shares
Centrica Overseas Holdings Limited	Holding company	United Kingdom	A	Ordinary shares
Centrica Pension Plan Trustees Limited	Dormant	United Kingdom	A	Limited by guarantee

S10. Related undertakings

31 December 2022	Principal activity	Country of incorporation/ registered address key (i)		Class of shares held
Centrica Pension Trustees Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Production Limited	Dormant	United Kingdom	T	Ordinary shares
Centrica Resources (Nigeria) Limited	Non-trading	Nigeria	X	Ordinary shares
Centrica Resources (UK) Limited (iv)	Dormant	United Kingdom	A	Ordinary shares
Centrica Resources Petroleum UK Limited (iv)	Dormant	United Kingdom	A	Ordinary shares
Centrica Secretaries Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Services Limited	Business services	United Kingdom	A	Ordinary shares
Centrica Storage Holdings Limited	Holding company	United Kingdom	F	Ordinary shares
Centrica Storage Limited	Gas production and processing	United Kingdom	F	Ordinary shares
Centrica Titan Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Trinidad and Tobago Limited	Business services	Trinidad and Tobago	Y	Ordinary shares
Centrica Trust (No.1) Limited	Dormant	United Kingdom	A	Ordinary shares
Centrica Upstream Investment Limited (iv)	Dormant	United Kingdom	T	Ordinary shares
Centrica Trading Limited (iii)	Dormant	United Kingdom	A	Ordinary shares
CIU1 Limited (iv)	Dormant	United Kingdom	A	Ordinary shares
DEML Investments Limited	Holding company	Canada	K	Ordinary shares
DER Development No. 10 Ltd.	Holding company	Canada	K	Ordinary shares
Distributed Energy Customer Solutions Limited	Energy management products and services	United Kingdom	A	Ordinary shares
Dyno-Rod Limited	Operation of a franchise network	United Kingdom	A	Ordinary shares
ECL Contracts Limited	Dormant	United Kingdom	A	Ordinary shares
ECL Investments Limited	Dormant	United Kingdom	A	Ordinary shares
Electricity Direct (UK) Limited	Dormant	United Kingdom	A	Ordinary shares
ENER-G Cogen International Limited	Holding company	United Kingdom	A	Ordinary shares
ENER-G Nagykanizsa Kft	Energy management products and services	Hungary	P	Ordinary shares
ENER-G Power2 Limited	Holding company	United Kingdom	A	Ordinary shares
ENER-G Rudox, LLC	Energy management products and services	United States	H	Membership interest
Energy For Tomorrow	Not-for-profit energy services	United Kingdom	A	Limited by guarantee
GB Gas Holdings Limited	Holding company	United Kingdom	A	Ordinary shares
Generation Green Solar Limited	Dormant community benefit society	United Kingdom	A	Ordinary shares
GF One Limited (v)	In liquidation	United Kingdom	Z	Ordinary shares
GF Two Limited (v)	In liquidation	United Kingdom	Z	Ordinary shares
Goldbrand Development Limited	Dormant	United Kingdom	A	Ordinary shares
Home Assistance UK Limited	Dormant	United Kingdom	A	Ordinary shares
Neas Energy Limited	Energy services and wholesale energy trading	United Kingdom	A	Ordinary shares
Neas Invest A/S	Dormant	Denmark	Q	Ordinary shares
North Sea Infrastructure Partners Limited (iv)	Dormant	United Kingdom	T	Ordinary shares
NSIP (Holdings) Limited (iv)	Dormant	United Kingdom	T	Ordinary shares
P.H Jones Group Limited	Holding company	United Kingdom	A	Ordinary shares
Panoramic Power Ltd.	Energy management products and services	Israel	AA	Ordinary shares
Pioneer Shipping Limited	LNG vessel chartering	United Kingdom	A	Ordinary shares
PRP Battery (Dyce) Limited (ii)	Non-trading	United Kingdom	A	Ordinary shares
Solar Technologies Group Limited (iv)	Dormant	United Kingdom	A	Ordinary shares
South Energy Investments, LLC	Investment company	United States	AB	Membership interest
Vista Solar, Inc.	Distributed Energy & Power	United States	AC	Ordinary shares

S10. Related undertakings

Investments held indirectly by Centrica plc with 69% voting rights

31 December 2022	Principal activity	Country of incorporation/ registered address key (i)		Class of shares held
Spirit Norway Holdings AS	Dormant	Norway	AD	Ordinary shares
Spirit Energy Nederland B.V.	Gas and/or liquid exploration and production	Netherlands	AE	Ordinary Shares
Spirit Energy Norway AS	Gas and/or liquid exploration and production	Norway	AF	Ordinary shares
Spirit Infrastructure B.V.	Construction, ownership and exploitation of infrastructure	Netherlands	AE	Ordinary shares
Bowland Resources (No.2) Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Spirit Energy Hedging Holding Limited	Dormant	United Kingdom	AG	Ordinary shares
Spirit Energy Hedging Limited	Dormant	United Kingdom	AG	Ordinary shares
Bowland Resources Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Elswick Energy Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Spirit Energy Limited	Holding company	United Kingdom	AG	Ordinary and deferred shares
Spirit Energy North Sea Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Spirit Energy North Sea Oil Limited	Gas and/or liquid exploration and production	United Kingdom	AH	Ordinary shares
Spirit Energy Production UK Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Spirit Energy Resources Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Spirit Energy Southern North Sea Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Spirit Energy Treasury Limited	Finance company	United Kingdom	AG	Ordinary shares
Spirit Europe Limited	Holding company	United Kingdom	AG	Ordinary shares
Spirit North Sea Gas Limited	Gas and/or liquid exploration and production	United Kingdom	AH	Ordinary shares
Spirit Norway Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares
Spirit Production (Services) Limited	Business services	United Kingdom	AH	Ordinary shares
Spirit Resources (Armada) Limited	Gas and/or liquid exploration and production	United Kingdom	AG	Ordinary shares

(i) For list of registered addresses, refer to note S10(d).
(ii) Incorporated or acquired in 2022.
(iii) The following name changes were made during the year:
- Centrica Trading Limited to CH4 Energy Limited
- CH4 Energy Limited to Centrica Trading Limited
- British Gas Limited to British Gas Energy Procurement Limited
- British Gas Energy Procurement Limited to British Gas Limited
- Pennings Power Limited to CBS Solar Assets UK Limited

(iv) Active proposal to strike off.
(v) GF One Limited and GF Two Limited are 75% indirectly owned by Centrica plc.
(vi) Centrica Brigg Limited change of name to CBS Energy Storage Assets UK Limited as of 15 February 2023.

S10. Related undertakings

(b) Subsidiary undertakings – partnerships held indirectly by Centrica plc with 100% voting rights

31 December 2022	Principal activity	Country of incorporation/ registered address key (i)		Class of shares held
CF 2016 LLP	Group financing	United Kingdom	A	Membership interest
CFCEPS LLP	Group financing	United Kingdom	A	Membership interest
CFCPP LLP	Group financing	United Kingdom	A	Membership interest
Direct Energy Resources Partnership	Holding entity	Canada	AI	Membership interest
Finance Scotland 2016 Limited Partnership	Group financing	United Kingdom	T	Membership interest
Finance Scotland CEPS Limited Partnership	Group financing	United Kingdom	T	Membership interest
Finance Scotland CPP Limited Partnership	Group financing	United Kingdom	T	Membership interest
Ignite Social Enterprise LP	Social enterprise investment fund	United Kingdom	A	Membership interest

(i) For list of registered addresses, refer to note S10(d).

The following partnerships are fully consolidated into the Group Financial Statements and the Group has taken advantage of the exemption (as confirmed by regulation 7 of the Partnerships (Accounts) Regulations 2008) not to prepare or file separate accounts for these entities:

- Finance Scotland 2016 Limited Partnership;
- Finance Scotland CEPS Limited Partnership;
- Finance Scotland CPP Limited Partnership; and
- Ignite Social Enterprise LP.

(c) Joint arrangements and associates

31 December 2022	Principal activity	Country of incorporation/ registered address key (i)		Class of shares held	Indirect interest and voting rights (%)
Joint ventures (ii)					
Allegheny Solar 1, LLC	Energy supply and/or services	United States	AJ	Membership interest	40.0%
C2 Centrica MT, LLC	Energy supply and/or services	United States	AK	Membership interest	50.0%
Eurowind Polska VI Sp z.o.o.	Operation of an onshore windfarm	Poland	AL	Ordinary shares	50.0%
Greener Ideas Limited	Development of flexible power generation sites	Republic of Ireland	B	Ordinary shares	50.0%
Three Rivers Solar 1, LLC	Energy supply and/or services	United States	AJ	Membership interest	40.0%
Three Rivers Solar 2, LLC	Energy supply and/or services	United States	AJ	Membership interest	40.0%
Three Rivers Solar 3, LLC	Energy supply and/or services	United States	AJ	Membership interest	40.0%
Vindpark Keblowo ApS	Operation of an onshore windfarm	Denmark	AM	Ordinary shares	50.0%
Associates (ii)					
Lake Acquisitions Limited	Holding company	United Kingdom	AN	Ordinary shares	20.0%

(i) For list of registered addresses, refer to note S10(d).
(ii) Further information on the principal joint ventures and associate investments held by the Group is disclosed in notes 6 and 14.

All Group companies principally operate within their country of incorporation unless noted otherwise.

S10. Related undertakings

(d) List of registered addresses

Registered address key	Address
A	Millstream, Maidenhead Road, Windsor, SL4 5GD, United Kingdom
B	1 Warrington Place, Dublin 2, Republic of Ireland
C	Level 54, Hopewell Centre, 183 Queens Road East, Hong Kong
D	Thomas-Wimmer-Ring 1-3, 80539, Munich, Germany
E	2 Wisconsin Circle #700, Chevy Chase, MD 20815, United States
F	Woodland House, Woodland Park, Hessle, HU13 0FA, United Kingdom
G	Roderveldlaan 2 bus 2, 2600 Antwerp, Belgium
H	3411 Silverside Road, Suite 104, Tatnall Building. Wilmington, DE 19810, United States
I	3411 Silverside Road, Rodney Building #104, Wilmington, DE 19810, United States
J	Wiegerbruinlaan 2A, 1422 CB Uithoorn, Netherlands
K	550 Burrard Street, Suite 2900, Vancouver BC V6C 0A3, Canada
L	Neuer Wall 10, 20354 Hamburg, Germany
M	60 Avenue Charles de Gaulle, Cs 60016, 92573, Neuilly sur Seine Cedex, France
N	Milan (MI), Via Emilio Cornalia 26, Italy
O	Strada Martir Colonel loan Uță nr.28 camera 1, Municipiul Timisoara judet Timis, Romania
P	H-1106 Budapest Jászberényi út 24-36, Hungary
Q	Skelagervej 1, 9000 Aalborg, Denmark
R	Esplanade 40, 20354 Hamburg, Germany (i)
S	220 Orchard Road, #05-01 Midpoint Orchard, Singapore 238852, Republic of Singapore
T	1 Waterfront Avenue, Edinburgh, Scotland, EH5 1SG, United Kingdom
U	47 Esplanade, St Helier, JE1 0BD, Jersey, Channel Islands
V	Via Paleocapa Pietro 4, 20121, Milano, Italy
W	G-74, LGF, Kalkaji, New Delhi, South Delhi, 110019, India
X	Sterling Towers, 20 Marina, Lagos, Nigeria
Y	48-50 Sackville Street, Port of Spain, Trinidad and Tobago
Z	1 More London Place, London, SE1 2AF, United Kingdom
AA	15 Atir Yeda Street, Kfar Saba, 44643, Israel
AB	6 Landmark Square, 4th floor, Stamford CT 06901, United States
AC	4640 Admiralty Way, 5th floor, Marina del Rey, California 90292, United States
AD	Lilleakerveien 8, 0283 Oslo, Norway
AE	Transpolis Building, Polarisavenue 39, 2132 JH Hoofddorp, Netherlands
AF	Veritasvien 29, 4007 Stavanger, Norway
AG	1st floor, 20 Kingston Road, Staines-upon-Thames, TW18 4LG, United Kingdom
AH	5th floor, IQ Building, 15 Justice Mill Lane, Aberdeen, AB11 6EQ, United Kingdom
AI	350 7th Avenue SW, Suite 3400, Calgary AB T2P 3N9, Canada
AJ	1209 Orange Street, Wilmington, New Castle County, DE 19801, United States
AK	850 New Burton Road, Suite 201, Dover, DE 19904, United States
AL	Ul. Wysogotowska 23, 62-081 Przezmierowo, Wielkpolskie, Poland
AM	Mariagervej 58B, DK 9500 Hobro, Denmark
AN	90 Whitfield Street, London, W1T 4EZ, United Kingdom

(i) Centrica Energy Trading GmbH changed its registered address during the year from Gustav-Mahler-Platz 1, 20354 Hamburg, Germany to the address listed above.

S10. Related undertakings

(e) Summarised financial information

Management has determined that the investment in Lake Acquisitions Limited is sufficiently material to warrant further disclosure on an individual basis. Accordingly, the Group presents summarised financial information, along with reconciliations to the amounts included in the consolidated Group Financial Statements, for this investee.

Lake Acquisitions Limited

Summarised statement of total comprehensive income

	2022				2021			
Year ended 31 December	Associate information reported to Group £m	Unadjusted 20% share £m	Fair value and other adjustments £m	Group share £m	Associate information reported to Group £m	Unadjusted 20% share £m	Fair value and other adjustments £m	Group share £m
Revenue	2,960	592	—	592	1,661	332	—	332
Operating profit/(loss) before interest and tax	737	147	(26)	121	(1,106)	(221)	97	(124)
Profit/(loss) for the year	542	108	(15)	93	(889)	(178)	75	(103)
Other comprehensive (loss)/income	(1,467)	(293)	—	(293)	760	152	—	152
Total comprehensive (loss)/income	(925)	(185)	(15)	(200)	(129)	(26)	75	49

Summarised balance sheet

	2022				2021			
31 December	Associate information reported to Group £m	Unadjusted 20% share £m	Fair value and other adjustments (i) £m	Group share £m	Associate information reported to Group £m	Unadjusted 20% share £m	Fair value and other adjustments (i) £m	Group share £m
Non-current assets	17,121	3,424	751	4,175	21,054	4,211	898	5,109
Current assets	4,212	842	—	842	3,527	705	—	705
Current liabilities	(1,742)	(348)	—	(348)	(1,791)	(358)	—	(358)
Non-current liabilities	(12,405)	(2,481)	(131)	(2,612)	(14,379)	(2,876)	(263)	(3,139)
Net assets	7,186	1,437	620	2,057	8,411	1,682	635	2,317

(i) Before cumulative impairments of £497 million (2021: £692 million) of the Group's associate investment.

During the year, dividends of £60 million (2021: £1 million) were paid by the associate to the Group.

Joint operations - fields/assets

31 December 2022	Location	Percentage holding
Cygnus	UK North Sea	61%

S11. Non-controlling interests

The Group has one subsidiary undertaking with a non-controlling interest: Spirit Energy Limited, through which the Group carries out the majority of its exploration and production activities.

	2022					2021				
31 December	Non-controlling interests %	Profit for the year £m	Total comprehensive income	Total equity £m	Distributions to non-controlling interests £m	Non-controlling interests %	Loss for the year £m	Total comprehensive loss £m	Total equity £m	Distributions to non-controlling interests £m
Spirit Energy Limited	31	146	151	263	(273)	31	(37)	(40)	385	—

Summarised financial information

The summarised financial information disclosed is shown on a 100% basis. It represents the consolidated position of Spirit Energy Limited and its subsidiaries that would be shown in its consolidated financial statements prepared in accordance with IFRS under Group accounting policies before intercompany eliminations.

Summarised statement of total comprehensive income

Year ended 31 December	2022 £m	2021 £m
Revenue	1,667	1,795
Profit/(loss) for the year (i)	371	(118)
Other comprehensive income/(loss) (i)	116	(10)
Total comprehensive income/(loss)	487	(128)

(i) 2022 includes £101 million exchange differences reclassified to the income statement on disposal not attributable to non-controlling interests (2021: £nil).

Summarised balance sheet

31 December	2022 £m	2021 £m
Non-current assets	1,683	2,169
Current assets	1,451	1,649
Assets of disposal groups classified as held for sale	—	1,651
Current liabilities	(1,183)	(1,846)
Liabilities of disposal groups classified as held for sale	—	(1,225)
Non-current liabilities	(1,104)	(1,156)
Net assets	847	1,242

Summarised cash flow

Year ended 31 December	2022 £m	2021 £m
Net (decrease)/increase in cash and cash equivalents	(73)	66

Company Statement of Changes in Equity

	Share capital £m	Share premium £m	Retained earnings £m	Other equity (note II) £m	Total equity £m
1 January 2021	361	2,347	1,611	(5)	4,314
Profit for the year	—	—	976	—	976
Other comprehensive income	—	—	—	10	10
Total comprehensive income	—	—	976	10	986
Employee share schemes and other share transactions	2	30	3	(24)	11
31 December 2021	363	2,377	2,590	(19)	5,311
Profit for the year	—	—	719	—	**719**
Other comprehensive loss	—	—	—	(51)	**(51)**
Total comprehensive income/(loss)	—	—	719	(51)	**668**
Employee share schemes and other share transactions	2	17	(2)	(14)	**3**
Share buyback programme [(i)]	—	—	—	(250)	**(250)**
Dividends paid to equity holders	—	—	(59)	—	**(59)**
31 December 2022	**365**	**2,394**	**3,248**	**(334)**	**5,673**

(i) See note I and note S4 of the Group consolidated Financial Statements for further details of the share buyback programme.

As permitted by section 408(3) of the Companies Act 2006 no Income Statement or Statement of Comprehensive Income is presented.

The Directors propose a final dividend of 2.00 pence per ordinary share (totalling £118 million) for the year ended 31 December 2022. Details of the interim dividends are provided in note 11 to the Group consolidated Financial Statements.

Details of the Company's share capital are provided in the Group Statement of Changes in Equity and note 25 to the Group consolidated Financial Statements.

The notes on pages 227 to 236 form part of these Financial Statements, along with note 25 to the Group consolidated Financial Statements.

Company Balance Sheet

31 December	Notes	2022 £m	2021 (restated) £m
Non-current assets			
Property, plant and equipment	IV	**11**	5
Investments	V	**949**	1,100
Deferred tax assets	XII	**1**	—
Trade and other receivables	VI	**13,089**	12,809
Derivative financial instruments	VII	**101**	86
Retirement benefit assets	XIV	**56**	102
Securities	IX	**498**	110
		14,705	14,212
Current assets			
Trade and other receivables	VI	**1,500**	848
Derivative financial instruments	VII	**217**	87
Cash and cash equivalents		**3,395**	3,627
		5,112	4,562
Total assets		**19,817**	18,774
Current liabilities			
Derivative financial instruments	VII	**(211)**	(73)
Current tax liabilities		**—**	(1)
Trade and other payables	XI	**(9,883)**	(9,160)
Provisions for other liabilities and charges		**(1)**	(1)
Bank overdrafts, loans and other borrowings	XIII	**(905)**	(810)
		(11,000)	(10,045)
Non-current liabilities			
Deferred tax liabilities	XII	**—**	(14)
Derivative financial instruments	VII	**(271)**	(6)
Trade and other payables	XI	**(45)**	(154)
Provisions for other liabilities and charges		**(1)**	(1)
Retirement benefit obligations	XIV	**(49)**	(66)
Bank loans and other borrowings	XIII	**(2,778)**	(3,177)
		(3,144)	(3,418)
Total liabilities		**(14,144)**	(13,463)
Net assets		**5,673**	5,311
Share capital		**365**	363
Share premium		**2,394**	2,377
Retained earnings (i)		**3,248**	2,590
Other equity (ii)	II	**(334)**	(19)
Total shareholders' equity		**5,673**	5,311

(i) Retained earnings includes a net profit after taxation of £719 million (2021: £976 million profit).
(ii) Capital redemption reserve of (£179) million (including opening balance of £28 million) has been merged within 'Other equity' to align with Group consolidated Financial Statements presentation.

The prior year has been restated to reclassify £104 million of expected credit loss provision on financial guarantee contracts from current receivables owed by Group undertakings to current payables and shown as a separate liability as they do not meet IFRS 7 'Financial Instruments: Disclosures' criteria for financial guarantee contracts. See note I for further details.

The Financial Statements on pages 225 to 236, of which the notes on pages 227 to 236 form part, along with note 25 to the Group consolidated Financial Statements, were approved and authorised for issue by the Board of Directors on 15 February 2023 and were signed on its behalf by:

Chris O'Shea
Group Chief Executive

Kate Ringrose
Group Chief Financial Officer

Centrica plc Registered No: 03033654

Notes to the Company Financial Statements

I. General information and principal accounting policies of the Company

General information

The Company is a public company limited by shares, incorporated and domiciled in the UK, and registered in England and Wales. The registered office is Millstream, Maidenhead Road, Windsor, Berkshire, SL4 5GD.

The Company Financial Statements are presented in pounds sterling with all values rounded to the nearest million pounds. Pounds sterling is the functional currency of the Company.

(a) Basis of preparation

The separate financial statements of the Company are presented as required by the Companies Act 2006. The Company meets the definition of a qualifying entity under FRS 100 'Application of Financial Reporting Requirements' issued by the FRC. Accordingly, these financial statements are prepared in accordance with FRS 101 'Reduced Disclosure Framework'.

(b) New accounting policies, standards, amendments and interpretations effective or adopted in 2022

From 1 January 2022, the following standards and amendments are effective in the Company's Financial Statements:

- Amendments to IAS 37 'Provisions, Contingent Liabilities and Contingent Assets', costs of fulfilling a contract;
- Amendments to IAS 16 'Property, Plant and Equipment', sale proceeds before intended use;
- Amendments to IFRS 3 'Business Combinations', reference to the Conceptual Framework; and
- Annual improvements to IFRS 2018-2020.

These changes and other amendments effective during the year did not materially impact the Company's Financial Statements.

Pension Scheme Loan Arrangement

As a result of the turbulence in longer-dated UK government debt during the second half of the year, the Company provided a loan facility to the Company's three defined benefit pension schemes. The facility amounted to £550 million, of which £400 million (2021: £nil) remained outstanding at the reporting date. Interest on the loan is calculated based on the Bank of England base rate plus 1%; interest accrues over the two-year term of the loan and is paid by the pension schemes at maturity. See note 22 of Group consolidated Financial Statements for further details. The Company has recognised the loan as a financial asset under IFRS 9 'Financial Instruments' measured at amortised cost and classified the receivable within Securities on the Company's balance sheet. Correspondingly, the loan liability has been deducted from plan assets on the basis that the loan does not relate to employee benefits (scheme liabilities) in accordance with IAS 19.

(c) Standards and amendments that are issued but not yet applied by the Company

At the date of authorisation of these Company Financial Statements, the Company has not applied the following new and revised standards and amendments that have been issued but are not yet effective:

The following standard has been issued, endorsed and will be applied to the Company in future periods:

- IFRS 17 'Insurance Contracts', effective from 1 January 2023.

The following standards and amendments have been issued, endorsed and will be applied to the Company in future periods, subject to UK endorsement:

- Amendments to IAS 1 'Presentation of Financial Statements':
  - Disclosure of accounting policies and materiality judgements, effective 1 January 2023;
  - Classification of liabilities as current or non-current, effective 1 January 2024; and
  - Non-current liabilities with covenants, effective 1 January 2024.
- Amendments to IAS 8 'Accounting Policies, Changes in Accounting Estimates and Errors'; effective from 1 January 2023;
- Amendments to IAS 12 'Income Taxes'; effective from 1 January 2023; and
- Amendments to IFRS 16 'Leases'; effective from 1 January 2024.

Management does not expect other issued but not effective amendments or standards, or standards not discussed above to have a material impact on the Company's Financial Statements.

As permitted by FRS 101, the Company has taken advantage of the disclosure exemptions available under that standard in relation to:

- the requirements of IAS 7 'Statement of Cash Flows';
- the statement of compliance with Adopted IFRS;
- the effects of new but not yet effective IFRS;
- prior year reconciliations for property, plant and equipment and intangible assets;
- the prior year reconciliation in the number of shares outstanding at the beginning and at the end of the year for share capital;
- disclosures in respect of related party transactions with wholly owned subsidiaries in a group;
- disclosures in respect of the compensation of key management personnel; and
- disclosures in respect of capital management.

As the Group consolidated Financial Statements of Centrica plc, which are available from the registered office, include the equivalent disclosures, the Company has taken the exemptions available under FRS 101 in respect of certain disclosures required by IFRS 13 'Fair Value Measurement' and the disclosures required by IFRS 7 'Financial Instruments: Disclosures'. These disclosures have not been provided apart from those that are relevant for financial instruments held at fair value.

I. General information and principal accounting policies of the Company

Re-presentation of expected credit losses on financial guarantee contracts

In 2022, the Company has presented expected credit losses on financial guarantee contracts of £159 million (2021: £104 million) as separate liabilities under the requirements of IFRS 7 'Financial Instruments: Disclosures'. The Company had previously presented them within receivables as amounts owed by Group undertakings and has restated the prior period accordingly, see notes VI and XI.

Measurement convention

The Company Financial Statements have been prepared on the historical cost basis except for: investments in subsidiaries that have been recognised at deemed cost on transition to FRS 101; derivative financial instruments, financial instruments required to be measured at fair value through profit or loss or other comprehensive income, and those financial assets so designated at initial recognition, and the assets of the defined benefit pension schemes that have been measured at fair value; the liabilities of the defined benefit pension schemes that have been measured using the projected unit credit valuation method; and the carrying values of recognised assets and liabilities qualifying as hedged items in fair value hedges that have been adjusted from cost by the changes in the fair values attributable to the risks that are being hedged.

Going concern

The accounts have been prepared on a going concern basis, as described in the Directors' Report and note 24(b) of the Group consolidated Financial Statements.

Critical accounting judgements – share buyback programme

On 10 November 2022, the Company announced an intention to undertake a share buyback of £250 million, expected to complete by 31 May 2023. The Company entered into contracts with third parties to undertake this repurchase programme and, as at 31 December 2022, £43 million of shares had been purchased. The Company has recognised a financial liability on the basis that the terms and conditions of the contracts mean that, as at the year-end, it was unable to cancel the remaining obligation during the period to the Group's Preliminary Announcement on 16 February 2023. Accordingly, the Company has recorded a financial liability of £207 million for this remaining obligation, in accordance with IFRS 9 'Financial Instruments'.

Key sources of estimation uncertainty – subsidiary investment valuation

The Company is subject to estimation uncertainty related to the valuation of its investments in subsidiaries. Based on an impairment review conducted at 31 December 2022, the carrying value of its investments in Centrica Holdings Limited was in excess of the estimated recoverable amount and as a result, £140 million (2021: £nil) of impairment charge has been reflected as disclosed in note V. The impairment resulted from the payment of a dividend of £1.5 billion (2021: £1.25 billion) to the Company from its immediate subsidiary. This has resulted in an increase in the net assets of the Company but a reduction in the overall value of the remainder of the Group. The key assumption used in determining the recoverable amount of the Company's investments in subsidiaries is the use of an average of third-party analysts' 'sum of the parts' valuations for the Group's business units. For recoverable amount purposes, this valuation is allocated to each of the Company's relevant investments in subsidiaries and then compared with the carrying value of both the investment and any net intercompany receivable position. Where a shortfall exists, the investment carrying value is impaired first. The key source of estimation uncertainty relates to the analysts' 'sum of the parts' valuation of the Group's business units.

Principal accounting policies

The accounting policies set out below have, unless otherwise stated, been applied consistently to all periods presented in these Company Financial Statements.

Employee share schemes

The Group has a number of employee share schemes under which it makes equity-settled share-based payments as detailed in the Remuneration Report on pages 84 to 95 and in note S2 to the Group consolidated Financial Statements. Equity-settled share-based payments are measured at fair value at the date of grant (excluding the effect of non-market-based vesting conditions). The fair value determined at the grant date is expensed on a straight-line basis together with a corresponding increase in equity over the vesting period, based on the Group's estimate of the number of awards that will vest and adjusted for the effect of non-market-based vesting conditions. The issue of share incentives by the Company to employees of its subsidiaries represents additional capital contributions. When these costs are recharged to the subsidiary undertaking, the investment balance is reduced accordingly. Fair value is measured using methods detailed in note S2 to the Group consolidated Financial Statements.

Foreign currencies

The Company's functional and presentational currency is pounds sterling. Transactions in foreign currencies are translated at the rate of exchange ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into pounds sterling at closing rates of exchange. Exchange differences on monetary assets and liabilities are taken to the Income Statement.

Property, plant and equipment

PP&E is included in the Balance Sheet at cost, less accumulated depreciation and any provisions for impairment. The initial cost of an asset comprises purchase price and construction cost and any costs directly attributable to bringing the asset into operation. The purchase price or construction cost is the aggregate amount paid and the fair value of any other consideration given to acquire the asset.

Depreciation is charged so as to write off the cost of assets over their estimated useful lives, on a straight-line basis, over a period of 3 to 10 years.

I. General information and principal accounting policies of the Company

Investments

Fixed asset investments in subsidiaries' shares are held at deemed cost on transition to FRS 101 and at cost in accordance with IAS 27 'Separate Financial Statements', less any provision for impairment as necessary.

Impairment

Impairment of investments in subsidiaries and non-financial assets

The Company's accounting policies in respect of impairment of property, plant and equipment, and intangible assets are consistent with those of the Group.

The carrying values of investments in subsidiary undertakings are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated.

The recoverable amount of an investment in a subsidiary undertaking is the greater of its value in use and its fair value less cost of disposal. In assessing a fair value less cost of disposal, an average of third-party analysts' 'sum of the parts' valuations for the Group's business units is taken and allocated to specific investments. This is then compared with the investment carrying value and net intercompany receivable.

Refer to Critical accounting judgements and key sources of estimation uncertainty within note I and note V for more details on the impairment charge on investments in subsidiaries recognised during the year.

Impairment of other financial assets and credit losses for financial guarantee contracts

The Company's impairment policies in relation to financial assets are consistent with those of the Group, with additional consideration given to amounts owed by Group undertakings. Except for certain loans due in greater than one year, all outstanding receivable balances are repayable on demand and arise from funding provided by the Company to its subsidiaries. Where net receivers of funding are unable to repay loan balances in full at maturity, or if the debt was otherwise called upon, the Company expects that in such circumstances the counterparty would either negotiate extended credit terms with the Company or obtain external financing to repay the balance. As such, this is considered a significant risk of causing material adjustment to the carrying amounts of financial assets within the next financial year. A detailed review of the amounts owed by Group undertakings for the expected credit loss provision is carried out on an annual basis. The model considers whether the receivable is repayable on demand within a 12-month period and the probability of default by the counterparty. As at 31 December 2022, there was a cumulative provision for expected credit losses on current financial assets of £15 million (2021: £97 million) as disclosed in note VI (i) and on non-current financial assets of £872 million (2021:£640 million) as disclosed in note VI (ii).

The Company has applied the impairment requirements of IFRS 9 to financial guarantees issued to its subsidiary undertakings. A financial guarantee contract is measured at fair value at the reporting date and where the expected credit loss is higher than calculated on recognition, an additional liability is recognised. Expected credit losses which arise on such arrangements have been calculated according to the nature of the guarantee and the Company's estimate of potential exposure at the balance sheet date. In 2022, there was a net provision for expected credit losses on financial guarantees contracts of £159 million (2021: £104 million) as disclosed in note XI (iv). The significant increase in the provision is due to the increased short-term derivative liabilities in the market-facing entities which actively trade and are exposed to the risk of market price volatility during the year.

Pensions and other post-employment benefits

The Company's employees participate in a number of the Group's defined benefit pension schemes. The total Group cost of providing benefits under defined benefit schemes is determined separately for each of the Group's schemes under the projected unit credit actuarial valuation method. Actuarial gains and losses are recognised in full in the period in which they occur. The key assumptions used for the actuarial valuation are based on the Group's best estimate of the variables that will determine the ultimate cost of providing post-employment benefits, on which further detail is provided in notes 3(b) and 22 to the Group consolidated Financial Statements.

The Company's share of the total Group surplus or deficit at the end of the reporting period for each scheme is calculated in proportion to the Company's share of ordinary employer contributions to that scheme during the year; ordinary employer contributions are determined by the pensionable pay of the Company's employees within the scheme and the cash contribution rates set by the scheme trustees. Note that as a participant in these multi-employer schemes, the Company could be liable for other entities' obligations (for example under section 75 of the Pensions Act). See note 22 of the Group consolidated Financial Statements for details of the overall scheme obligations. Current service cost is calculated with reference to the pensionable pay of the Company's employees. The Company's share of the total Group interest on scheme liabilities, expected return on scheme assets and actuarial gains or losses is calculated in proportion to ordinary employer contributions in the prior accounting period. Changes in the surplus or deficit arising as a result of the changes in the Company's share of total ordinary employer contributions are also treated as actuarial gains or losses.

I. General information and principal accounting policies of the Company

Taxation

Current tax, including UK corporation tax, is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is recognised in respect of all temporary differences identified at the balance sheet date, except for differences arising on:

- the initial recognition of an asset or liability in a transaction which is not a business combination and which at the time of the transaction affects neither accounting profit nor taxable profit; and
- investments in subsidiaries where the Company is able to control the timing of the reversal of the difference and it is probable that the difference will not reverse in the foreseeable future.

Temporary differences are differences between the carrying amount of the Company's assets and liabilities and their tax base.

Deferred tax assets and liabilities are offset when the Company has a legally enforceable right to offset current tax assets and liabilities and the deferred tax assets and liabilities relate to taxes levied by the same tax authority.

Deferred tax assets that are not eligible for offset against deferred tax liabilities are recognised only when, on the basis of all available evidence, it can be regarded as probable that there will be suitable taxable profits in the foreseeable future, against which the deductible temporary difference can be utilised.

Deferred tax is measured at the average tax rates that are expected to apply in the periods in which the asset is realised or the liability is settled, based on tax rates and laws that have been enacted or substantively enacted by the balance sheet date. Measurement of deferred tax liabilities and assets reflects the tax consequences expected from the manner in which the asset or liability is recovered or settled.

The tax expense for the year comprises current and deferred tax. Tax is recognised in the Income Statement, except to the extent that it relates to items recognised in other comprehensive income or directly in equity. In this case, the tax is also recognised in other comprehensive income or directly in equity, respectively.

Financial instruments

The Company's accounting policies for financial instruments are consistent with those of the Group as disclosed in note S2 to the Group consolidated Financial Statements. The Company's financial risk management policies are consistent with those of the Group and are described in the Strategic Report – Principal Risks and Uncertainties on pages 28 to 33 and in note S3 to the Group consolidated Financial Statements.

Financial guarantees

Financial guarantees are contracts that require the Company to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the terms of a debt instrument. The Company accounts for financial guarantee contracts at fair value under IFRS 9.

Presentation of derivative financial instruments

In line with the Group's accounting policy for derivative financial instruments, the Company has classified those derivatives held for the purpose of treasury management as current or non-current, based on expected settlement dates.

II. Other equity

	Cash flow hedging reserve £m	Actuarial gains and losses reserve £m	Financial asset at FVOCI reserve £m	Treasury and own shares reserve £m	Share-based payments reserve £m	Capital redemption reserve [ii] £m	Total £m
1 January 2021	8	(96)	7	(31)	79	28	(5)
Gains on revaluation of equity investments measured at fair value through other comprehensive income	—	—	4	—	—	—	4
Actuarial gains	—	11	—	—	—	—	11
Employee share schemes:							
Exercise of awards	—	—	—	13	(49)	—	(36)
Value of services provided	—	—	—	—	12	—	12
Impact of cash flow hedging	(1)	—	—	—	—	—	(1)
Taxation on above items	(2)	(2)	—	—	—	—	(4)
31 December 2021	5	(87)	11	(18)	42	28	(19)
Actuarial losses	—	(44)	—	—	—	—	**(44)**
Employee Share Schemes:							
Exercise of awards	—	—	—	10	(22)	—	**(12)**
Value of services provided	—	—	—	—	10	—	**10**
Purchase of own shares	—	—	—	(5)	—	—	**(5)**
Issue of shares	—	—	—	(7)	—	—	**(7)**
Share buyback programme: [i]							
Purchase of Treasury shares	—	—	—	(43)	—	—	**(43)**
Accrual for committed share purchases	—	—	—	—	—	(207)	**(207)**
Impact of cash flow hedging	(26)	—	—	—	—	—	**(26)**
Taxation on above items	8	11	—	—	—	—	**19**
31 December 2022	**(13)**	**(120)**	**11**	**(63)**	**30**	**(179)**	**(334)**

(i) See note I and Note S4 of the Group consolidated Financial Statement for further details of the share buyback programme.
(ii) Capital redemption reserve of £(179) million (including opening balance of £28 million) merged within 'Other equity' to align with Group consolidated Financial Statements presentation.

III. Directors and employees

Employee costs

Year ended 31 December	2022 £m	2021 £m
Wages and salaries	**(7)**	(7)
Other	**(8)**	(8)
	(15)	(15)

Average number of employees during the year

Year ended 31 December	2022 Number	2021 Number
Administration	**138**	107
Power	**8**	19
	146	126

IV. Property, plant and equipment

	Plant, equipment & vehicles 2022 £m
Cost	
1 January	31
Additions	12
Disposals/retirements	(31)
31 December	12
Accumulated depreciation	
1 January	(26)
Charge for the year	(6)
Disposals/retirements	31
31 December	(1)
NBV at 31 December (i)	11

(i) Included within the above are right-of-use assets of £9 million relating to infrastructure services (2021: £5 million), the contract of which was renewed in September 2022, and £2 million of staff salary sacrifice electric vehicles (2021: £nil).

V. Investments in subsidiaries

	2022 (i) £m	2021 (i) £m
Cost		
1 January	2,273	2,290
Employee share scheme net capital movement (ii)	(11)	(17)
31 December	2,262	2,273
Provision		
1 January	(1,173)	(1,173)
Impairment provided in the year (iii)	(140)	—
31 December	(1,313)	(1,173)
NBV at 31 December	949	1,100

(i) Direct investments are held in Centrica Holdings Limited, Centrica Trading Limited and Centrica Beta Holdings Limited, all of which are incorporated in England, and Rhodes Holdings HK Limited, which is incorporated in Hong Kong and Centrica Ireland Holdings Limited, which was incorporated in Ireland in November 2022. Related undertakings are listed in note S10 to the Group consolidated Financial Statements.

(ii) Employee share scheme movement is the net change in shares to be awarded under employee share schemes to employees of Group undertakings.

(iii) An impairment charge was recognised during the year, predominantly in relation to the investment in Centrica Holdings Limited.

The Directors believe that the carrying value of the investments is supported by their realisable value.

VI. Trade and other receivables

	2022		2021 (restated) (iii)	
31 December	Current (i) £m	Non-current (ii) £m	Current (i) £m	Non-current (ii) £m
Amounts owed by Group undertakings	1,496	13,085	645	12,804
Prepayments	4	4	203	5
	1,500	13,089	848	12,809

(i) The amounts receivable by the Company includes a gross balance of £1,424 million (2021: £80 million) that bears interest at a quarterly rate determined by Group treasury and linked to the Group cost of funds. The quarterly rates ranged between 0% and 4.1% per annum during 2022 (2021: 3% and 4.6%). The other amounts receivable from Group undertakings are interest free. All amounts receivable from Group undertakings are unsecured and repayable on demand. Amounts receivable by the Company are stated net of credit loss provisions of £15 million (Restated 2021: £97 million).

(ii) The amounts receivable by the Company includes a gross balance of £14,206 million (2021: £13,335 million) due after more than one year that bears interest at a quarterly rate determined by Group treasury and linked to the Group cost of funds. The quarterly rates ranged between 0% and 4.1% per annum during 2022 (2021: 3% and 4.6%).The other amounts receivable from Group undertakings are interest-free. All amounts receivable from Group undertakings are unsecured and not expected to be repayable within 12 months from the reporting date. Amounts receivable by the Company are stated net of credit loss provisions of £872 million (2021: £640 million).

(iii) The prior year has been restated to reclassify £104 million of expected credit losses on financial guarantee contracts from current receivables owed by Group undertakings to current payables and shown as a separate liability. See note I for further details.

VII. Derivative financial instruments

31 December	2022 Current £m	2022 Non-current £m	2022 Total £m	2021 Current £m	2021 Non-current £m	2021 Total £m
Derivative financial assets	**217**	**101**	**318**	87	86	173
Derivative financial liabilities	**(211)**	**(271)**	**(482)**	(73)	(6)	(79)

VIII Financial instruments
(a) Determination of fair values

The Company's policies for the classification and valuation of financial instruments carried at fair value are consistent with those of the Group, as detailed in note S6 to the Group consolidated Financial Statements.

(b) Financial instruments carried at fair value

31 December	Level 1 £m	Level 2 £m	2022 Total £m	Level 1 £m	Level 2 £m	2021 Total £m
Financial assets						
Derivative financial assets held for trading:						
Foreign exchange derivatives	—	243	**243**	—	70	70
Derivative financial assets in hedge accounting relationships:						
Interest rate derivatives	—	37	**37**	—	71	71
Foreign exchange derivatives	—	38	**38**	—	32	32
Debt instruments	66	—	**66**	82	—	82
Equity instruments designated FVOCI	29	—	**29**	28	—	28
Cash and cash equivalents	—	2,809	**2,809**	—	3,485	3,485
Total financial assets at fair value	**95**	**3,127**	**3,222**	110	3,658	3,768
Financial liabilities						
Derivative financial liabilities held for trading:						
Foreign exchange derivatives	—	(257)	**(257)**	—	(74)	(74)
Derivative financial liabilities in hedge accounting relationships:						
Interest rate derivatives	—	(221)	**(221)**	—	—	—
Foreign exchange derivatives	—	(4)	**(4)**	—	(5)	(5)
Total financial liabilities at fair value	**—**	**(482)**	**(482)**	—	(79)	(79)

IX. Securities

31 December	2022 £m	2021 £m
Debt instruments	**66**	82
Equity instruments	**29**	28
Other	**403**	—
	498	110

£95 million (2021: £110 million) of investments were held in trust, on behalf of the Company, as security in respect of the Centrica Unfunded Pension Scheme (refer to note XIV).

Other securities includes the pension scheme loan arrangement (including interest) of £403 million 2021: £nil) as disclosed in note I(b), note XIV(f) and in note 22(b) to the Group consolidated Financial Statements.

X. Lease liabilities maturity analysis

A maturity analysis of lease liabilities based on undiscounted gross cash flow is reported in the table below:

	2022 £m	2021 £m
Less than one year	**4**	5
2 years	**4**	—
3 years	**3**	—
Total lease liabilities (undiscounted)	**11**	5

Future finance charges are expected to be £0.5 million (2021: £0.02 million).

Analysed as:		
Non-current	**7**	—
Current	**4**	5
	11	5

XI. Trade and other payables

	2022		2021(restated) [iv]	
31 December	Current [i] £m	Non-current [ii] £m	Current [i] £m	Non-current [ii] £m
Amounts owed by Group undertakings	**(9,503)**	**(45)**	(9,044)	(154)
Loss on financial guarantee contracts [iv]	**(159)**	**—**	(104)	—
Accruals and other creditors [iii]	**(221)**	**—**	(12)	—
	(9,883)	**(45)**	(9,160)	(154)

(i) The amounts payable by the Company include £8,577 million (2021: £7,658 million) that bears interest at a quarterly rate determined by Group treasury and linked to the Group cost of funds. The quarterly rates ranged between 0% and 4.1% per annum during 2022 (2021: 3% and 4.6%). Other amounts payable by the Company are interest free, unsecured and repayable on demand. Refer to note I for further details.

(ii) There were no amounts payable by the Company due after more than one year that bear interest at the prevailing SONIA rate less 0.05% (2021: £141 million). The 2021 £141 million loan was fully settled after the obligations to repay were discharged by Centrica Lake Limited in April 2022. Other amounts payable by the Company are interest free, unsecured and repayable on demand.

(iii) During the year, the Company recognised a financial liability of £207 million (2021: £nil) relating to the share buyback programme. See note I and Own and treasury shares reserve section in note S4 of the Group consolidated Financial Statements for more details.

(iv) The prior year has been restated to reclassify £104 million of expected credit losses on financial guarantee contracts from current receivables owed by Group undertakings to current payables and shown as a separate liability. See note I for further details.

XII. Deferred tax

	Retirement benefit obligation £m	Other £m	Total £m
1 January 2021	7	(9)	**(2)**
Charge to income	(7)	(1)	**(8)**
Charge to equity	(2)	(2)	**(4)**
Deferred tax liabilities at 31 December 2021	(2)	(12)	**(14)**
(Charge)/credit to income	(6)	2	**(4)**
Credit to equity	11	8	**19**
Deferred tax assets/(liabilities) at 31 December 2022	**3**	**(2)**	**1**

Other deferred tax liabilities primarily relate to other temporary differences. All deferred tax crystallises in over one year.

XIII. Bank overdrafts, loans and other borrowings

	2022		2021	
31 December	Current £m	Non-current £m	Current £m	Non-current £m
Bank loans and overdrafts	**(600)**	**(143)**	(453)	(137)
Bonds	**(246)**	**(2,628)**	(284)	(3,040)
Interest accruals	**(55)**	**—**	(68)	—
Lease obligations	**(4)**	**(7)**	(5)	—
	(905)	**(2,778)**	(810)	(3,177)

Disclosures in respect of the Group's financial liabilities are provided in notes 24 and S3 to the Group consolidated Financial Statements. With the exception of leases and overdrafts, materially all of the Group's financing activity is carried out through the Company.

XIV. Pensions

(a) Summary of main schemes

The Company's employees participate in the following Group defined benefit pension schemes: Centrica Pension Plan (CPP), Centrica Pension Scheme (CPS) and Centrica Unfunded Pension Scheme. Its employees also participate in the defined contribution section of the Centrica Pension Scheme. Information on these schemes is provided in note 22 to the Group consolidated Financial Statements.

Together with the Centrica Engineers Pensions Scheme (CEPS), CPP and CPS form the significant majority of the Group's and Company's defined benefit obligation and are referred to below and in the Group Financial Statements as the 'Registered Pension Schemes'.

(b) Accounting assumptions, risks and sensitivity analysis

The accounting assumptions, risks and sensitivity analysis for the Registered Pension Schemes are provided in note 22 to the Group consolidated Financial Statements.

(c) Movements in the year

	2022		2021	
	Pension liabilities £m	**Pension assets £m**	Pension liabilities £m	Pension assets £m
1 January	**(1,328)**	**1,364**	(1,611)	1,583
Items included in the Company Income Statement:				
Current service cost	**(6)**	**–**	(5)	–
Contributions by employer in respect of employee salary sacrifice arrangements [(i)]	**(2)**	**–**	(2)	–
Total current service cost	**(8)**	**–**	(7)	–
Expected return on scheme assets	**–**	**–**	–	26
Interest (expense)/income on scheme liabilities/assets	**(24)**	**27**	(23)	–
Termination benefit	**1**	**–**	4	–
Items included in the Company Statement of Comprehensive Income:				
Returns on plan assets, excluding interest income	**–**	**(633)**	–	(250)
Actuarial gain from changes to demographic assumptions	**4**	**–**	–	–
Actuarial gain from changes in financial assumptions	**621**	**–**	288	–
Actuarial loss from experience adjustments	**(36)**	**–**	(27)	–
Other movements:				
Employer contributions	**–**	**17**	–	52
Contributions by employer in respect of employee salary sacrifice arrangements	**–**	**2**	–	1
Benefits paid from schemes	**39**	**(39)**	48	(48)
31 December	**(731)**	**738**	(1,328)	1,364

(i) A salary sacrifice arrangement was introduced on 1 April 2013 for pension scheme members. The contributions paid via the salary sacrifice arrangement have been treated as employer contributions and included within the current service cost, with a corresponding reduction in salary costs.

Presented in the Company Balance Sheet as:

31 December	**2022 £m**	2021 £m
Retirement benefit pension assets	**56**	102
Retirement benefit pension liabilities	**(49)**	(66)

The pension scheme liabilities relate to the Centrica Unfunded Pension Scheme.

XIV. Pensions

(d) Analysis of the actuarial losses recognised in reserves

Year ended 31 December	2022 £m	2021 £m
Actuarial loss (actual return less expected return on pension scheme assets)	**(633)**	(250)
Experience loss arising on the scheme liabilities	**(36)**	(27)
Changes in assumptions underlying the present value of the schemes' liabilities	**625**	288
Actuarial (loss)/gain recognised in reserves before adjustment for taxation	**(44)**	11
Cumulative actuarial losses recognised in reserves at 1 January, before adjustment for taxation	**(108)**	(119)
Cumulative actuarial losses recognised in reserves at 31 December, before adjustment for taxation	**(152)**	(108)

(e) Defined benefit pension scheme contributions

Note 22 to the Group consolidated Financial Statements provides details of the triennial review carried out at 31 March 2021 in respect of the UK Registered Pension Schemes and the future pension scheme contributions, including asset-backed arrangements, agreed as part of this review. Under IAS 19, the Company's contribution and trustee interest in the Scottish Limited Partnerships are recognised as scheme assets.

The Company estimates that it will pay £54 million of employer contributions during 2023 for its defined benefit schemes, at an average rate of 21% of pensionable pay, together with contributions via the salary sacrifice arrangement of £26 million.

For details of the weighted average duration of the liabilities of the Registered Pension Schemes see note 22 of the Group consolidated Financial Statements.

(f) Pension scheme assets

	2022			2021		
31 December	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m
Equities	**19**	**486**	**505**	20	462	482
Corporate bonds	**24**	**—**	**24**	2,393	31	2,424
High-yield debt	**106**	**1,331**	**1,437**	2,720	1,197	3,917
Liability matching assets	**2,835**	**1,343**	**4,178**	1,963	1,356	3,319
Property	**—**	**366**	**366**	—	439	439
Cash pending investment	**205**	**—**	**205**	85	—	85
Loan and interest	**—**	**(403)**	**(403)**	—	—	—
Asset-backed contribution assets	**—**	**527**	**527**	—	600	600
Group pension scheme assets (i)	**3,189**	**3,650**	**6,839**	7,181	4,085	11,266

	2022 £m	2021 £m
Company share of the above	**738**	1,364

(i) Total pension scheme assets, including asset-backed contribution assets not recognised in the Group consolidated Financial Statements.

XV. Commitments

At 31 December 2022, the Company had commitments of £66 million (2021: £71 million) relating to contracts for outsourced services, £177 million (2021: £59 million) relating to the contracts for information services centralised last year and £5 million (2021: £5 million) relating to contracts for property services.

The Company has provided guarantees and letters of credit relating to its subsidiaries' trading activities and decommissioning obligations. At 31 December 2022, the Group has derivative liabilities of £10,151 million (2021: £6,009 million), and decommissioning liabilities of £1,514 million (2021: £1,521 million). See notes 19 and 21 to the Group consolidated Financial Statements for further information on these balances.

XVI. Related parties

During the year the Company accepted cash deposits on behalf of the Spirit Energy group of companies giving rise to a Trade and other payables balance of £1,091 million (2021: £1,161 million). Spirit Energy Limited is a subsidiary of the Company, held indirectly, that is not wholly owned. See note 3 to the Group consolidated Financial Statements for more information.

Gas and Liquids Reserves (Unaudited)

The Group's estimates of reserves of gas and liquids are reviewed as part of the full year reporting process and updated accordingly.

A number of factors affect the volumes of gas and liquids reserves, including the available reservoir data, commodity prices and future costs. Due to the inherent uncertainties and the limited nature of reservoir data, estimates of reserves are subject to change as additional information becomes available.

The Group discloses 2P gas and liquids reserves, representing the central estimate of future hydrocarbon recovery. Reserves for Centrica operated fields are estimated by in-house technical teams composed of geoscientists and reservoir engineers. Reserves for non-operated fields are estimated by the operator but are subject to internal review and challenge.

As part of the internal control process related to reserves estimation, an assessment of the reserves, including the application of the reserves definitions, is undertaken by an independent technical auditor. An annual reserves assessment has been carried out by DeGolyer & McNaughton for the Group's global reserves. Reserves are estimated in accordance with a formal policy and procedure standard.

The Group has estimated 2P gas and liquids reserves in Europe.

The principal retained fields in Spirit Energy are Cygnus, South and North Morecambe, Rhyl and Chiswick. The principal non-Spirit Energy field is Rough. The European reserves estimates are consistent with the guidelines and definitions of the Society of Petroleum Engineers, the Society of Petroleum Evaluation Engineers and the World Petroleum Council's Petroleum Resources Management System using accepted principles.

Estimated net 2P reserves of gas (billion cubic feet)	Spirit Energy – Norway/Statfjord (i)	Spirit Energy – retained fields (i)	Rough	**Total**
1 January 2022	189	296	26	**511**
Revisions of previous estimates (ii)	—	33	8	**41**
Disposals (iii)	(178)	—	—	**(178)**
Production (iv)	(11)	(68)	(18)	**(97)**
31 December 2022	—	261	16	**277**

Estimated net 2P reserves of liquids (million barrels)	Spirit Energy – Norway/Statfjord (i)	Spirit Energy – retained fields (i)	Rough	**Total**
1 January 2022	55	1	—	**56**
Revisions of previous estimates (ii)	—	1	—	**1**
Disposals (iii)	(53)	—	—	**(53)**
Production (iv)	(2)	(1)	—	**(3)**
31 December 2022	—	1	—	**1**

Estimated net 2P reserves (million barrels of oil equivalent)	Spirit Energy – Norway/Statfjord (i)	Spirit Energy – retained fields (i)	Rough	**Total**
31 December 2022 (v)	—	45	3	**48**

(i) The movements represent Centrica's 69% interest in Spirit Energy.
(ii) Revision of previous estimates include those associated with Cygnus
(iii) Disposal of Spirit Energy entire Norwegian portfolio and Statfjord field.
(iv) Represents total sales volumes of gas and oil produced from the Group's reserves.
(v) Includes the total of estimated gas and liquids reserves at 31 December 2022 in million barrels of oil equivalent.

Liquids reserves include oil, condensate and natural gas liquids.

Five Year Summary (Unaudited)

	2018 (restated) (i) (ii) £m	2019 (restated) (ii) £m	2020 (restated) (ii) £m	2021 £m	2022 £m
Group revenue from continuing operations included in business performance (i)	16,465	15,958	14,949	18,300	**33,637**
Operating profit/(loss) from continuing operations before exceptional items and certain re-measurements:					
British Gas Services & Solutions (ii) (iii)	101	187	191	121	**(9)**
British Gas Energy (ii) (iii)	490	117	82	118	**72**
Bord Gáis Energy (ii) (iii)	44	50	42	28	**31**
Centrica Business Solutions (ii) (iii)	(40)	(20)	(132)	(52)	**44**
Energy Marketing & Trading (ii) (iii)	35	138	174	70	**1,400**
Upstream (ii) (iii)	567	178	90	663	**1,793**
Profit share	—	—	—	—	**(23)**
	1,197	650	447	948	**3,308**
Operating profit from discontinued operations before exceptional items and certain re-measurements (ii) (iii)	195	251	252	—	**—**
Exceptional items and certain re-measurements after taxation	(416)	(1,531)	(520)	866	**(2,755)**
Profit/(loss) attributable to equity holders of the parent	183	(1,023)	41	1,210	**(782)**

	Pence	Pence	Pence	Pence	Pence
Earnings per ordinary share	3.3	(17.8)	0.7	20.7	**(13.3)**
Adjusted earnings per ordinary share	11.2	7.3	6.5	4.1	**34.9**
Dividend per ordinary share in respect of the year	12.0	1.5	—	—	**1.0**

Assets and liabilities

31 December (restated) (v)	2018 £m	2019 £m	2020 £m	2021 £m	2022 £m
Goodwill and other intangible assets	4,456	4,033	1,940	1,161	**1,116**
Other non-current assets (iv)	7,435	5,826	4,767	6,040	**7,234**
Net current assets/(liabilities)	284	(696)	622	1,465	**(1,023)**
Non-current liabilities (iv)	(8,227)	(7,474)	(8,072)	(6,360)	**(6,047)**
Net assets of disposal groups held for sale	—	106	2,125	444	**—**
Net assets	3,948	1,795	1,382	2,750	**1,280**
Adjusted net (debt)/cash (v) (note 24)	(2,946)	(3,507)	(2,998)	680	**1,199**

Cash flows

31 December (restated) (v)	2018 £m	2019 £m	2020 £m	2021 £m	2022 £m
Cash flow from operating activities before exceptional payments	2,182	1,548	1,532	1,687	**1,338**
Payments relating to exceptional charges in operating costs	(248)	(298)	(132)	(76)	**(24)**
Net cash flow from investing activities	(1,007)	(503)	(285)	2,263	**(566)**
Cash flow before cash flow from financing activities	927	747	1,115	3,874	**748**

(i) 2018 Group revenue included in business performance has been restated to include the net result of certain commodity purchases and sales trades that are deemed to be speculative in nature.

(ii) Results have been restated to reflect the new operating structure of the Group, effective during 2021.

(iii) Adjusted operating profit has been restated to include the impact of business performance interest and taxation of joint ventures and associates.

(iv) Results from the 2018 figures have not been presented in line with IFRS 16 'Leases'.

(v) Results have been restated to reflect the change in definition of adjusted net debt/cash in 2021.

Ofgem Consolidated Segmental Statement

Independent Auditor's Report to the Directors of Centrica plc and its Licensees

In our opinion the accompanying statement (the 'Consolidated Segmental Statement' or 'CSS') of Centrica plc and its Licensees for the year ended 31 December 2022 is prepared, in all material respects, in accordance with:

- the requirements of Ofgem's Standard Condition 19A of the Gas and Electricity Supply Licences and Standard Condition 16B of the Electricity Generation Licences established by the regulator Ofgem; and
- the basis of preparation on pages 246 to 249.

We have audited the Consolidated Segmental Statement of Centrica plc and its Licensees (as listed in footnote (i)) (the Group) for the year ended 31 December 2022 in accordance with the terms of our engagement letter dated 15 February 2023. The Consolidated Segmental Statement has been prepared by the Directors of Centrica plc and its Licensees based on the requirements of Ofgem's Standard Condition 19A and the Gas and Electricity Supply Licences and Standard Condition 16B of the Electricity Generation Licences (together, the 'Licences') and the basis of preparation on pages 246 to 249.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the CSS section of our report.

We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the CSS in the United Kingdom, including the Financial Reporting Council's (the 'FRC's') Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of matter – basis of accounting

We draw attention to pages 246 to 249 of the CSS which describes the basis of accounting. The CSS is prepared to assist the Company in complying with the requirements of Ofgem's Standard Condition 19A of the Gas and Electricity Supply Licences and Standard Condition 16B of the Electricity Generation Licences established by the regulator Ofgem. The basis of preparation is not the same as segmental reporting under IFRS and/or statutory reporting. As a result, the CSS may not be suitable for another purpose. Our opinion is not modified in respect of this matter.

Conclusions relating to going concern

In auditing the CSS, we have concluded that the Directors' use of the going concern basis of accounting in the preparation of the CSS is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's ability to continue as a going concern for a period of at least twelve months from when the CSS is authorised for issue. Our responsibilities and the responsibilities of the Directors with respect to going concern are described in the relevant sections of this report.

Other information

The other information comprises the information included in the Annual Report, other than the CSS and our auditor's report thereon. The Directors are responsible for the other information contained within the annual report. Our opinion on the CSS does not cover the other information and we do not express any form of assurance conclusion thereon.

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

We have nothing to report in this regard.

Responsibilities of the Directors

The Directors are responsible for the preparation of the CSS in accordance with the Licences and the basis of preparation on pages 246 to 249 and for such internal control as the Directors determine is necessary to enable the preparation of the CSS that are free from material misstatement, whether due to fraud or error.

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

Auditor's responsibilities for the audit of the CSS

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

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

Independent Auditor's Report to the Directors of Centrica plc and its Licensees

Extent to which the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

We considered the nature of the Group's industry and its control environment, and reviewed the Group's documentation of their policies and procedures relating to fraud and compliance with laws and regulations. We also enquired of management, the directors and internal audit about their own identification and assessment of the risks of irregularities including those that are specific to Centrica's business sector.

We obtained an understanding of the legal and regulatory frameworks that the Group operates in, and identified the key laws and regulations that:

- had a direct effect on the determination of material amounts and disclosures in the CSS. These included UK Companies Act and Ofgem's Standard Condition 19A of the Electricity and Gas Supply Licences and Standard Condition 16B of the Electricity Generation Licences; and
- do not have a direct effect on the CSS but compliance with which may be fundamental to the Group's ability to operate or to avoid a material penalty.

We discussed among the audit engagement team including significant component audit teams regarding the opportunities and incentives that may exist within the organisation for fraud and how and where fraud might occur in the CSS.

As a result of performing the above, we identified the greatest potential for fraud in the following area, and our specific procedures performed to address it are described below:

- Credit losses on financial assets within the Group's energy supply businesses ('Bad debt provisions'). Our audit approach for bad debt provisions was a combination of data analytics, substantive audit procedures and tests of internal control.
- Accuracy and completeness of customer revenue processed through the ENSEK platform. Given the significant quantum of revenue, the developing controls environment and the difference from legacy SAP systems in the methodology used to derive unbilled revenue related to customers on ENSEK, there is a risk, including a fraud risk over the accuracy and completeness of the revenue recognised.

In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override. In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments; assessed whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluated the business rationale of any significant transactions that are unusual or outside the normal course of business.

In addition to the above, our procedures to respond to the risks identified included the following:

- reviewing financial statement disclosures by testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the CSS;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- enquiring of management, internal audit and in-house legal counsel concerning actual and potential litigation and claims, and instances of non-compliance with laws and regulations; and
- reading minutes of meetings of those charged with governance, and reviewing internal audit reports.

Use of this report

This report is made solely to the Group's Directors, as a body, in accordance with our engagement letter dated 15 February 2023 and solely for the purpose of assisting the Directors in reporting on the CSS to the regulator Ofgem. We permit this report to be displayed on the Centrica plc website centrica.com and within the December 2022 Annual Report & Accounts (see footnote (ii)) to enable the Directors to show they have addressed their governance responsibilities by obtaining an independent assurance report in connection with the CSS. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Directors as a body and Centrica plc, for our work or this report, or for the opinions we have formed. The materiality level we used in planning and performing our audit was £50 million.

The engagement partner on the audit resulting in this independent auditor's report is Jane Boardman.

Deloitte LLP
15 February 2023
London

(i) British Gas Trading Limited, Neas Energy Limited, Centrica Brigg Limited (which changed its name to CBS Energy Storage Assets UK Limited on 15 February 2023), Centrica Distributed Generation Limited, Centrica KPS Limited, and EDF Energy Nuclear Generation Limited.

(ii) The maintenance and integrity of Centrica plc's website is the responsibility of the Directors of Centrica plc; the work carried out by the auditors does not involve consideration of these matters and accordingly, the auditors accept no responsibility for any changes that may have occurred to the CSS since it was initially presented on the website.

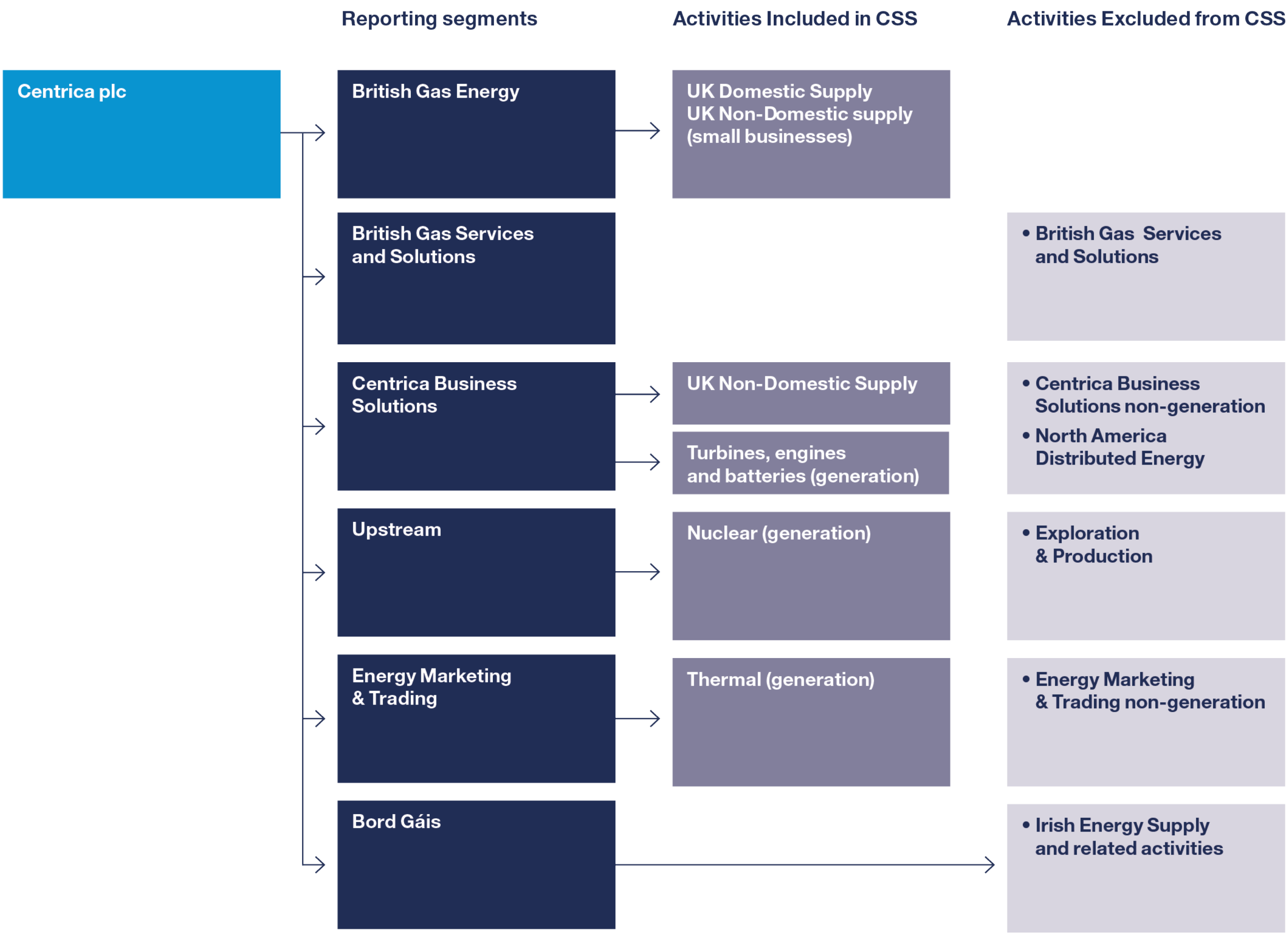
Introduction

The Ofgem Consolidated Segmental Statement (CSS) and required regulatory information on pages 241 to 251 are provided in order to comply with Standard Condition 16B of the Electricity Generation Licences and Standard Condition 19A of the Electricity and Gas Supply Licences.

The CSS and supporting information is prepared by the Directors in accordance with the Segmental Statements Guidelines issued by Ofgem. The CSS has been derived from and reconciled to the Centrica plc Annual Report and Accounts for the year ended 31 December 2022, which have been prepared in accordance with the United Kingdom adopted International Accounting Standards, with International Financial Reporting Standards as issued by the IASB and in conformity with the requirements of the Companies Act 2006.

Centrica plc operational reporting structure

Below is a summary of the Centrica plc Group's (Group) operational reporting structure. The CSS financial data has been extracted from the Centrica plc Annual Report and Accounts 2022 operating segments rather than with reference to specific legal entities. Certain activities included in the Group's operating segments have been excluded from the Generation and Supply segments of the CSS on the basis they are non-licensed activities (for example Services and Solutions and other trading activity unrelated to Generation or Supply) as illustrated below. The Centrica plc Annual Report and Accounts 2022 provides operating segment results in note 4. A full reconciliation between the relevant operating segment results and those disclosed for 'Domestic Supply', 'Non-Domestic Supply' and 'Generation' in this CSS is provided at the end of the report.



Centrica plc operational reporting structure

Centrica plc is the ultimate parent company of all 100% owned licensees. The individual supply and generation licences are held in legal entities whose licensed activities are reported as part of the Centrica plc Annual Report and Accounts 2022 within the operating segments shown above. The individual supply and generation licences held in subsidiaries, joint ventures or associates of Centrica plc at 31 December 2022 are detailed below:

Licensee	Licence	Ownership
British Gas Trading Limited	Supply	100%
Neas Energy Limited (i)	Supply	100%
Centrica Brigg Limited (ii)	Exempt	100%
Centrica KPS Limited	Generation	100%
Centrica Distributed Generation Limited	Exempt	100%
EDF Energy Nuclear Generation Limited (iii)	Generation	20% Associate

(i) Neas Energy Limited holds supply licences but currently does not supply any UK customers.
(ii) Centrica Brigg Limited changed its name to CBS Energy Storage Assets UK Limited on 15th February 2023.
(iii) The Group holds a 20% investment in Lake Acquisitions Limited which indirectly owns 100% of EDF Energy Nuclear Generation Limited.

Ofgem Consolidated Segmental Statement

Year ended 31 December 2022

	Unit	Electricity Generation Nuclear	Electricity Generation Thermal	Aggregate Generation Business	Electricity Supply Domestic	Electricity Supply Non-Domestic	Gas Supply Domestic	Gas Supply Non-Domestic	Aggregate Supply Business
Total revenue	**£m**	**1,231.4**	**27.0**	**1,258.4**	**5,904.9**	**2,902.2**	**5,879.7**	**1,124.8**	**15,811.6**
Sales of electricity & gas	£m	1,203.7	24.7	**1,228.4**	5,900.0	2,902.2	5,876.0	1,124.8	**15,803.0**
Other revenue	£m	27.7	2.3	**30.0**	4.9	—	3.7	—	**8.6**
Total operating costs	**£m**	**(321.6)**	**(20.2)**	**(341.8)**	**(5,799.1)**	**(2,838.2)**	**(5,886.1)**	**(1,048.7)**	**(15,572.1)**
Direct fuel costs	£m	(78.0)	(10.2)	**(88.2)**	(3,351.3)	(1,609.0)	(3,832.4)	(828.4)	**(9,621.1)**
Direct costs	£m	(206.2)	(6.6)	**(212.8)**	(1,911.9)	(1,023.4)	(1,390.0)	(134.4)	**(4,459.7)**
Transportation costs	£m	(85.9)	(1.1)	**(87.0)**	(1,136.6)	(548.5)	(1,200.4)	(99.7)	**(2,985.2)**
Environmental and social obligation costs	£m	—	(2.2)	**(2.2)**	(682.0)	(415.6)	(103.4)	—	**(1,201.0)**
Other direct costs	£m	(120.3)	(3.3)	**(123.6)**	(93.3)	(59.3)	(86.2)	(34.7)	**(273.5)**
Indirect costs	£m	(37.4)	(3.4)	**(40.8)**	(535.9)	(205.8)	(663.7)	(85.9)	**(1,491.3)**
WACOF/E/G (i)	**£/MWh, P/th**	**(9.1)**	**(259.9)**	**N/A**	**(192.6)**	**(141.1)**	**(160.3)**	**(137.6)**	**N/A**
EBITDA	£m	**909.8**	**6.8**	**916.6**	**105.8**	**64.0**	**(6.4)**	**76.1**	**239.5**
DA	£m	(156.7)	(1.7)	(158.4)	(37.5)	(12.3)	(43.0)	(5.2)	**(98.0)**
EBIT	£m	**753.1**	**5.1**	**758.2**	**68.3**	**51.7**	**(49.4)**	**70.9**	**141.5**
Volume	TWh, MThms	8.7	—	N/A	17.4	11.4	2,390.3	601.9	N/A
Average customer numbers/sites	'000s	N/A	N/A	N/A	5,883.7	433.6	6,733.6	183.4	N/A

	Unit	Electricity Supply Domestic	Electricity Supply Non-Domestic	Gas Supply Domestic	Gas Supply Non-Domestic	Aggregate Supply Business
Supply EBIT	margin	**1.2%**	**1.8%**	**(0.8)%**	**6.3%**	**0.9%**
Supply PAT	£m	**52.2**	**40.0**	**(37.6)**	**55.0**	**109.6**
Supply PAT	margin	**0.9%**	**1.4%**	**(0.6)%**	**4.9%**	**0.7%**

2021 Summarised CSS

Year ended 31 December 2021

	Unit	Electricity Generation Nuclear	Electricity Generation Thermal	Aggregate Generation Business	Electricity Supply Domestic	Electricity Supply Non-Domestic	Gas Supply Domestic	Gas Supply Non-Domestic	Aggregate Supply Business
Total revenue	£m	415.5	187.3	602.8	3,410.3	1,872.1	3,253.7	621.9	9,158.0
EBIT	£m	(59.5)	18.2	(41.3)	(106.9)	(43.4)	222.2	46.1	118.0

	Unit	Electricity Supply Domestic	Electricity Supply Non-Domestic	Gas Supply Domestic	Gas Supply Non-Domestic	Aggregate Supply Business
Supply EBIT	margin	(3.1)%	(2.3)%	6.8%	7.4%	1.3%
Supply PAT	£m	(85.8)	(35.1)	178.4	37.1	94.6
Supply PAT	margin	(2.5)%	(1.9)%	5.5%	6.0%	1.0%

Notes:

(i) WACOF/E/G is calculated using Volumes to 2 decimal places.

Glossary of terms

- 'WACOF/E/G' is weighted average cost of fuel (nuclear), electricity (supply) and gas (thermal and supply) calculated by dividing direct fuel costs by volumes. For the Thermal sub-segment, the cost of carbon emissions is added to direct fuel costs before dividing by the generated volume.
- 'EBITDA' is earnings before interest, tax, depreciation and amortisation, and is calculated by subtracting total operating costs from revenue.
- 'DA' is depreciation and amortisation.
- 'EBIT' is earnings before interest and tax, and is calculated by subtracting total operating costs, depreciation and amortisation from total revenue.
- 'Supply EBIT margin' is a profit margin expressed as a percentage and calculated by dividing EBIT by total revenue and multiplying by 100 for the Supply segment.
- 'Supply PAT' is profit after tax but before interest and is calculated by subtracting Group adjusted tax from EBIT for the Supply segment.
- 'Supply PAT margin' is a profit margin expressed as a percentage and calculated by dividing Supply PAT by total revenue and multiplying by 100 for the Supply segment.
- 'Volume' for Supply is supplier volumes at the meter point (i.e. net of losses); Generation volume is the volume of power that can actually be sold in the wholesale market (i.e. generation volumes after losses up to the point where power is received under the Balancing and Settlement Code but before subsequent losses).
- 'Average customer numbers/sites' are calculated by adding average monthly customer numbers/sites (as defined in the basis of preparation) and dividing by 12.
- 'Scheduling decisions' means the decision to run individual generation units.
- 'Responsible for interactions with the Balancing Market' means interactions with the Balancing Mechanism in electricity.
- 'Interacts with wider market participants to buy/sell energy' means the business unit is responsible for interacting with wider market participants to buy/sell energy, not the entity responsible for the buy/sell decision itself, which falls under 'Responsible for implementing hedging policy/makes decisions to buy/sell energy'.
- 'Matches own generation with own supply' means where there is some internal matching of generation and supply before either generation or supply interact with the wider market.
- 'Forecasts total system demand' means forecasting total system electricity demand or total system gas demand.
- 'Forecasts customer demand' means forecasting the total demand of own supply customers.
- 'Bears shape risk after initial hedge until market allows full hedge' means the business unit which bears financial risk associated with hedges made before the market allows fully shaped hedging.
- 'Bears short-term risk for variance between demand and forecast' means the business unit which bears financial risk associated with too little or too much supply for own customer demand.

Business functions table

Year ended 31 December 2022 – analysis of business functions (i)

The table below illustrates where the business functions reside.

	Generation	Supply	Another part of business
Operates and maintains generation assets	✓	–	–
Responsible for scheduling decisions	✓	–	–
Responsible for interactions with the Balancing Market	✓	✓	–
Responsible for determining hedging policy	✓ (output)	✓ (demand)	–
Responsible for implementing hedging policy/makes decision to buy and sell energy	✓ (output)	✓ (demand)	–
Interacts with wider market participants to buy/sell energy	✓ (bilateral)	✓ (market and bilateral)	✓ (market and bilateral) (ii)
Holds unhedged positions (either short or long)	✓	✓	✓ (ii)
Procures fuel for generation	✓	–	–
Procures allowances for generation	✓	–	–
Holds volume risk on positions sold (either internal or external)	✓	✓	–
Matches own generation with own supply	–	–	✓ (ii) (iii)
Forecasts total system demand	–	✓	–
Forecasts wholesale price	✓ (iv)	✓ (iv)	✓ (iv)
Forecasts customer demand	–	✓	–
Determines retail pricing and marketing strategies	–	✓	–
Bears shape risk after initial hedge until market allows full hedge	✓	✓	–
Bears short-term risk for variance between demand and forecast	–	✓	–

(i) The table reflects the business functions that impact our UK segments.

(ii) The Group's Supply and Generation businesses are separately managed. Both businesses independently enter into commodity purchases and sales with the market via Centrica Energy Limited (CEL), our market-facing legal entity. CEL forms part of our non-licensed element of Energy Marketing & Trading function and also conducts trading for the purpose of making profits in its own right. The Supply segment is also able to enter into market trades directly as part of its within day balancing activities (as well as external bilateral contracts).

(iii) 'Matches own generation with own supply' is undertaken in 'Another part of the business' (by CEL at market referenced prices), outside of the Generation and Supply segments.

(iv) A separate team forecasts the wholesale price for the benefit and use of the entire Group. This team does not formally reside in any particular segment but their costs are recharged across the Group.

Key:

- ✓ Function resides and profit/loss recorded in segment.
- – Neither function nor profit/loss reside in segment.

Basis of preparation

The following notes provide a summary of the basis of preparation of the 2022 submission.

The Ofgem CSS segments our Supply and Generation activities and provides a measure of profitability, weighted average cost of fuel, and volumes, in order to increase energy market transparency for consumers and other stakeholders.

These statements have been prepared by the Directors of Centrica plc and its Licensees in accordance with Standard Condition 16B of the Electricity Generation Licences and Standard Condition 19A of the Electricity and Gas Supply Licences and the basis of preparation. Throughout the basis of preparation the first paragraph number relates to the generation licence and the second to the supply licence conditions respectively.

The financial data provided has been taken from the relevant licensee's and affiliate's financial information for the year ended 31 December 2022, included in the Centrica plc Annual Report and Accounts 2022 which have been prepared under IFRS as adopted by the United Kingdom (in accordance with paragraph 3/19A.3).

The CSS has been prepared on a going concern basis, as described in the Directors' Report and notes 1 and 24 in the Centrica plc Annual Report and Accounts 2022.

For the Generation segment, we have included the financial results from all activities that relate to our generation licences. For clarity, the following judgements have been made:

- the Group has a 20% equity interest in Lake Acquisitions Limited, which owns eight nuclear power stations (through its indirect investment in EDF Energy Nuclear Generation Limited), of which five were operational at year-end. Although we do not specifically hold a generation licence for any of the nuclear stations, our gross share of the financial result from this business (including any contractual arrangements) has been included in the Nuclear sub-segment and hence within the Generation segment;
- Brigg and Roosecote power stations had their licences revoked on 2 July 2015 (at their request) because they no longer required an electricity generation licence and are now exempt. Whilst we do not specifically hold a generation licence for these power stations (and note that Roosecote is now a battery storage site), the financial results from these businesses have been included in the Thermal sub-segment and hence within the Generation segment; and
- where power is purchased from third parties (for example from wind farms, power stations or other bilateral arrangements) and we do not have an equity interest in, or a leasing arrangement (from an IFRS perspective) over the assets that generate this power, the result related to these activities is excluded from the Generation segment. In all cases, the Generation segment reports direct fuel costs and generation volumes on a consistent basis (if the purchase cost is a direct fuel cost, then the electricity generated is reported in volume).

Domestic Supply represents the revenue and associated costs in supplying gas and electricity to residential customers in the UK. Non-Domestic Supply represents the revenue and associated costs in supplying gas and electricity to business customers in the UK.

As a voluntary disclosure, to aid comparability, a summarised 2021 CSS with margins has been included within the report.

Revenues

Revenues, costs and profits of the Licensees have been defined below and prepared in compliance with the Group's accounting policies as detailed in notes 2, 3 and S2 of the Centrica plc Annual Report and Accounts 2022, except for joint ventures and associates which are presented gross (in accordance with paragraph 4(a)/19A.4(a)).

- Revenue from sales of electricity and gas for the Supply segment is recognised on the basis of electricity and gas supplied during the year to both domestic and non-domestic customers.
- Revenue from sales of electricity and gas includes an assessment of energy supplied to customers between the date of the last meter reading and the year end (unread). For the respective Supply segments this means electricity and gas sales. Revenue for domestic supply is after deducting dual fuel discounts where applicable, with the discount split evenly between electricity and gas. Government mandated social tariffs and discounts, such as the Warm Home Discount, and other social discounts, have also been deducted from Domestic Supply revenues directly, charged specifically to each fuel.
- Revenue from sales of electricity and gas for the Supply segment include revenues ultimately due from the Government support schemes (Energy Price Guarantee and Energy Bill Relief Scheme). In 2022, these amount to: Domestic Electricity Supply of £705.7 million and Domestic Gas Supply of £832.6 million; Non-Domestic Electricity Supply of £164.2 million and Non-Domestic Gas Supply of £55.2 million
- Revenue from sales of electricity for the Generation segment is recognised on the basis of power supplied during the year. Power purchases and sales entered into to optimise the performance of each of the power Generation segments are presented net within revenue.

Basis of preparation

- The financial risks and rewards of owning and using the Group's power stations reside entirely in the reported Generation segment.
- Other respective segmental revenues not related to the sale of gas or power have been separately disclosed. Other revenues include:
  - £4.9 million (2021: £6.4 million) in Domestic Electricity Supply and £3.7 million (2021: £5.8 million) in Domestic Gas Supply primarily relating to New Housing Connections and smart meter installations;
  - £2.3 million (2021: £22.0 million) in Thermal principally relating to Supplementary Balancing Reserve (SBR), Short Term Operating Reserve (STOR), Triad revenue and Capacity Market income; and
  - £27.7 million (2021: £32.1 million) revenue in Nuclear not directly related to energy sales, such as capacity market income and provision of miscellaneous services.

Direct fuel costs

Direct fuel costs for both Generation and Supply include electricity, gas, nuclear fuel and imbalance costs.

- Energy supply to Domestic and Non-Domestic energy customers is procured at a market referenced price, through a combination of bilateral, over-the-counter (OTC) and exchange-based trades/contracts (see table below). Where energy is procured from within the Group it is also at a market referenced price on an OTC basis. The market referenced prices used are those prevailing at the time of procurement, which may differ from the price prevailing at the time of supply.
- Domestic and Non-Domestic fixed price products are hedged based upon anticipated demand at the start of the contract period. The majority of the gas and power for Non-Domestic energy and Domestic energy tariff products is purchased in advance (see table below).
- The exact Domestic and Non-Domestic purchasing patterns vary in response to the outlook for commodity markets and commercial factors.
- The Generation segment purchases gas and sells all of its energy at market referenced prices. Gas for turbines/engines is procured at market referenced prices through a combination of OTC and exchange-based trades/contracts. The cost to the power stations will reflect market referenced prices at the time of procurement, and so may differ from the price prevailing at the time of physical supply.

How we procure electricity, gas and carbon:

Long form bilateral contracts ('bilateral')	Individually negotiated contracts with non-standardised terms and conditions which may relate to size, duration or flexibility. Pricing is predominantly indexed to published market referenced prices, adjusted for transfer of risks, cost of carry and administration.
OTC	Broker supported market of standardised products, predominantly performed via screen-based trading. These transactions are between two parties, leaving both parties exposed to the other's default with no necessary intermediation of any exchange. An internal OTC price may be provided where market liquidity prevents external trading, with prices that are reflective of market conditions at the time of execution.
Exchange	Regulated electronic platform (notably ICE, APX, and N2EX) where standardised products are traded on exchange through the intermediary of the clearing house which becomes the counterparty to the trade. Membership of a clearing house is required which entails posting of cash or collateral as margin.

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- For Generation this represents a proxy for the weighted average input cost of gas, carbon and nuclear fuel, shown as £/MWh, used by the Generation business. Gas for turbines/engines is procured at market referenced prices through a combination of OTC and exchange-based trades/contracts. The cost to the power stations will reflect market referenced prices at the time of procurement, and so may differ from the price prevailing at the time of physical supply.
- For Supply this covers the wholesale energy cost, the energy element of reconciliation by difference (RBD) costs and balancing and shaping costs incurred by the Supply licensees. Again, gas and electricity is procured at market referenced prices through a combination of bilateral, OTC and exchange-based trades/contracts. The cost for the Supply business will reflect market referenced prices at the time of procurement, and so may differ from the price prevailing at the time of physical supply. Where gas is procured using (predominantly indexed) bilateral contracts, the fuel cost is then allocated between Domestic and Non-Domestic Supply using annually updated fixed percentages based on the historical split of tariff book volumes. Gas and Electricity balancing costs are allocated between Domestic and Non-Domestic Supply based on their respective volumes multiplied by an appropriate industry referenced price (for example APX or SAP).
- For electricity Supply the weighted average cost of electricity is shown as £/MWh. For gas Supply, the weighted average cost of gas is shown as p/th.

Basis of preparation

Direct costs

Direct costs for Supply and Generation are broken down into transportation (network) costs, environmental and social obligation costs and other direct costs.

- Transportation costs for Supply and Generation include network transportation costs, BSUOS and the transport element of RBD costs. Supply transportation costs include transportation and LNG costs, including £37.1 million (2021: £37.5 million) incurred by Gas Domestic Supply, which enables the segment to secure supply by giving the ability to bring gas into the UK from overseas.
- Environmental and social obligation costs for Domestic Supply include ROCs, FIT, ECO and UK Capacity Market costs. Non-Domestic Supply includes the cost of LECs, ROCs, FIT and UK Capacity Market costs. Within the Domestic and Non-Domestic segments, the costs of LECs, FIT, ROCs and UK Capacity Market costs are included within Electricity, and ECO is allocated between Electricity and Gas based on the relevant legislation. Environmental and social obligation costs for the Generation segment relate to EU ETS carbon emission costs and carbon tax.
- Other direct costs for Generation include employee and maintenance costs.
- Other direct costs for Supply include brokers' costs and sales commissions when the costs have given rise directly to revenue, that is, producing a sale. They also include Elexon and Xoserve market participation and wider smart metering programme costs.

Indirect costs

Indirect costs for Supply and Generation include operating costs such as sales and marketing, bad debt, costs to serve, IT, HR, finance, property, staffing and billing and metering costs (including smart meter costs).

- Indirect costs for the Generation, Domestic and Non-Domestic Supply segments (including corporate and business unit recharges) are allocated based on relevant drivers, which include turnover, headcount, operating profit, net book value of fixed assets and proportionate use/benefit. For Supply, indirect costs (including corporate recharges but excluding bad debt costs) are primarily allocated between Electricity and Gas on the basis of customer numbers (Domestic) and sites (Non-Domestic). Bad debt costs are allocated between Electricity and Gas on the basis of actual bad debt cost by individual contract in the billing system (Domestic) and on the basis of revenues (Non-Domestic).

Other

- For Supply, depreciation and amortisation is allocated between Electricity and Gas on the basis of customer numbers (Domestic) and sites (Non-Domestic).
- For the purposes of Supply PAT, tax is allocated between Gas and Electricity within both Domestic and Non-Domestic Supply based on their relative proportions of EBIT.
- For the Domestic Supply segment, customer numbers are stated based on the number of district meter point reference numbers (MPRNs) and meter point administration numbers (MPANs) in our billing system (for gas and electricity respectively), where it shows an active point of delivery and a meter installation. As a result, our customer numbers do not include those meter points where a meter may recently have been installed but the associated industry registration process has yet to complete, as the meter information will not be present in our billing system.
- For the Non-Domestic Supply segment, sites are based on the number of distinct MPRNs and MPANs in our billing system for gas and electricity respectively.

Basis of preparation

Transfer pricing for electricity, gas and generation licensees in accordance with paragraph 4(d)/19A.4(d)

There are no specific energy supply agreements between the Generation and Supply segments.

The Group continues to ensure transfer pricing methodologies are appropriate and up to date. In order to meet this requirement, the Group ensured all transfer pricing and cost allocation methodologies were internally reviewed, updated and collated in a central repository.

Treatment of joint ventures and associates

The share of results of joint ventures and associates for the year ended 31 December 2022 principally arises from the Group's interests in the entities listed on page 242.

Under paragraph 5 of the Conditions, the information provided in the CSS includes our gross share of revenues, costs, profits and volumes of joint ventures and associates. In preparing the CSS, joint ventures and associates (which hold a UK generation licence or exemption) are accounted for as follows:

- our proportionate share of revenues of joint ventures and associates has been included within revenue;
- our proportionate share of the profit before tax of joint ventures and associates has been included within EBIT and EBITDA; and
- our proportionate share of the generation volumes of joint ventures and associates has been included within the generation volumes.

For each of the above items, our share of the income and expenses of the joint ventures or associates has been combined line-by-line within the relevant item of the CSS.

Exceptional items and certain re-measurements

Impairment reversals that have been identified as exceptional items, and mark-to-market adjustments (alongside onerous supply contract provisions) in the Centrica plc Annual Report and Accounts 2022, are excluded from the CSS. For further details of excluded exceptional items and certain re-measurements see note 7 in the Centrica plc Annual Report and Accounts 2022.

A reconciliation of the Segmental Statement revenue, EBIT and depreciation to the 2022 audited Centrica plc Annual Report and Accounts has been included in accordance with paragraphs 4(b) & (c)/19A.4 (b) & (c) and 6/19A.6.

Reconciliation to Centrica plc Annual Report and Accounts

The reconciliation refers to the segmental analysis of the 2022 Centrica plc Annual Report and Accounts in note 4.

			Supply segment			
			Domestic		Non-Domestic	
		Generation segment	Electricity	Gas	Electricity	Gas
	Notes	2022	2022	2022	2022	2022
Revenue (£m)						
Centrica plc Annual Report and Accounts Segmental Analysis (i)		Upstream	British Gas Energy		Centrica Business Solutions	
Segment revenue		3,351.0	13,096.0		3,000.0	
Less non-UK and non-Generation/Supply	1	(2,147.3)	—		(257.4)	
Segment revenue after non-UK and non-Generation/Supply		1,203.7	13,096.0		2,742.6	
Reallocate British Gas Non-Domestic Supply element	2	—	(1,311.4)		1,311.4	
Reallocate Centrica Business Solutions Generation element	2	27.0	—		(27.0)	
Segment revenue after non-UK and non-Generation/Supply and reallocation of Generation element from Centrica Business Solutions to Upstream		1,230.7	11,784.6		4,027.0	
Electricity and Gas allocation	3	—	5,904.9	5,879.7	2,902.2	1,124.8
Include share of JVs and associates	4	592.0	—	—	—	—
Exclude intra-segment revenues	5	(564.3)	—	—	—	—
Ofgem Consolidated Segmental Statement		**1,258.4**	**5,904.9**	**5,879.7**	**2,902.2**	**1,124.8**

			Supply segment			
			Domestic		Non-Domestic	
		Generation segment	Electricity	Gas	Electricity	Gas
	Notes	2022	2022	2022	2022	2022
EBIT (£m)						
Centrica plc Annual Report and Accounts Segmental Analysis (i)						
Segment EBIT		1,793.0	72.0		44.0	
Less non-UK and non-Generation/Supply	1	(1,068.5)	—		36.8	
Segment EBIT after non-UK and non-Generation/Supply		724.5	72.0		80.8	
Reallocate British Gas Non-Domestic Supply element	2	—	(48.4)		48.4	
Reallocate Centrica Business Solutions Generation element	2	5.2	—		(5.2)	
Less Employee Profit share excluded from Segment EBIT			(4.7)		(1.4)	
Segment EBIT after non-UK and non-Generation/Supply and reallocation of Generation element from Centrica Business Solutions to Upstream		729.7	18.9		122.6	
Electricity and Gas allocation	3	—	68.3	(49.4)	51.7	70.9
Exclude share of JVs' and associates' interest and tax	4	28.5	—	—	—	—
Ofgem Consolidated Segmental Statement		**758.2**	**68.3**	**(49.4)**	**51.7**	**70.9**

Reconciliation to Centrica plc Annual Report and Accounts

Depreciation and amortisation (£m)

	Notes	Generation segment	Supply segment: Domestic Electricity	Supply segment: Domestic Gas	Supply segment: Non-Domestic Electricity	Supply segment: Non-Domestic Gas
		2022	2022	2022	2022	2022
Centrica plc Annual Report and Accounts Segmental Analysis [(i)]		Upstream	British Gas Energy		Centrica Business Solutions	
Segment depreciation and amortisation		(481.0)	(82.0)		(45.0)	
Less non-UK and non-Generation/Supply	1	481.0	—		27.3	
Segment depreciation and amortisation after non-UK and non-Generation/Supply		—	(82.0)		(17.7)	
Reallocate British Gas Non-Domestic Supply element	2	—	1.5		(1.5)	
Reallocate Centrica Business Solutions Generation element	2	(1.7)	—		1.7	
Segment depreciation and amortisation after non-UK and non-Generation/Supply and reallocation of Generation element from Centrica Business Solutions to Upstream		(1.7)	(80.5)		(17.5)	
Electricity and Gas allocation	3	—	(37.5)	(43.0)	(12.3)	(5.2)
Include share of JVs and associates	4	(156.7)	—	—	—	—
Ofgem Consolidated Segmental Statement		**(158.4)**	**(37.5)**	**(43.0)**	**(12.3)**	**(5.2)**

(i) The tables reconcile the Generation segment to Upstream, the Domestic Supply segment to British Gas and the Non-Domestic Supply segment to Centrica Business Solutions from note 4 to the 2022 Centrica plc Annual Report and Accounts. Also included in note 4 is a reconciliation to the IFRS compliant statutory result reported by the Centrica plc Group.

Notes:

1. Centrica Business Solutions includes Business Services and Solutions and Upstream includes Exploration and Production, which are non-licensed activities and have been deducted to reconcile these CSS numbers.
2. British Gas Energy includes supply activity to certain companies fulfilling the Non-Domestic definition. Centrica Business Solutions includes generation activity from the Group's turbines, engines and battery assets.
3. The share of Domestic and Non-Domestic Revenues, Operating Profit (EBIT) and Depreciation (including amortisation) as provided in note 4 of the Centrica plc Annual Report and Accounts 2022, has been split between Electricity and Gas.
4. £592.0 million of revenues relating to the Group's share of joint ventures and associates in Generation are included in the CSS for Nuclear revenues. £120.5 million of EBIT in the Generation segment relates to profits from associates for Nuclear. Additionally, costs relating to the Group's share of joint ventures and associates: £78.0 million direct fuel costs, £194.4 million direct costs, £42.4 million indirect costs and £156.7 million depreciation and amortisation are included. Also, note that financing costs and tax of £(28.5) million are initially included in the Upstream segmental EBIT associated with nuclear. The results of joint ventures and associates are shown separately in the Centrica plc Annual Report and Accounts 2022 in notes 6 and 14. (Note that overall Nuclear indirect costs are less than the Nuclear associate indirect costs as a result of credits from recharges and provision releases in the non-associate books.)
5. £564.3 million of intra-segment revenues between the joint ventures and associates and the Generation segment (included in the £592.0 million of joint venture and associate revenues) are excluded from the CSS.