

26. Financial instruments continued**Risks**

In the normal course of business, financial instruments of various kinds are used for the purposes of managing exposure to interest rate, foreign exchange and commodity price movements.

Treasury standards are applicable to all subsidiaries and each subsidiary is required to adopt a treasury policy consistent with these standards. These policies cover: financing structure; interest rate and foreign exchange risk management; insurance; counterparty risk management; and use of derivative contracts. Wherever possible, treasury operations are carried out through specialist regional organisations without removing from each subsidiary the responsibility to formulate and implement appropriate treasury policies.

Apart from forward foreign exchange contracts to meet known commitments, the use of derivative contracts by most subsidiaries is not permitted by their treasury policy.

Other than in exceptional cases, the use of external derivative contracts is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems.

Shell's operations expose it to market, credit and liquidity risk, as described below.

Market risk

Market risk is the possibility that changes in interest rates, foreign exchange rates or commodity prices will adversely affect the value of assets, liabilities or expected future cash flows.

Interest rate risk

Most debt is raised from central borrowing programmes. Shell's policy is to have debt principally denominated in dollars and to retain a balanced exposure to fixed and floating rates over time. Shell has issued a significant amount of fixed rate debt in recent years, taking advantage of historically low interest rates. As a result, the majority of the debt portfolio at December 31, 2024, is fixed.

The financing of most subsidiaries is structured on a floating-rate basis, and any further interest rate risk management is only applied under exceptional circumstances.

On the basis of the floating-rate net cash position at December 31, 2024, (both issued and hedged), and assuming other factors (principally foreign exchange rates and commodity prices) remained constant and that no further interest rate management action was taken, an increase in interest rates of 1% would have increased 2024 income before taxation by \$268 million (2023: \$226 million increase).

The carrying amounts and maturities of debt and borrowing facilities are presented in Note 21. Interest expense is presented in Note 10.

Foreign exchange risk

Many of the markets in which Shell operates are priced, directly or indirectly, in dollars. As a result, the functional currency of most Integrated Gas and Upstream entities and those with significant cross-border business is the dollar. For Chemicals and Products entities, the functional currency is typically the local currency. Consequently, Shell is exposed to varying levels of foreign exchange risk: when an entity enters into transactions that are not denominated in its functional currency; when foreign currency monetary assets and liabilities are translated at the balance sheet date; and as a result of holding net investments in operations that are not dollar-functional. Each entity is required to adopt treasury policies that are designed to measure and manage its foreign exchange exposures by reference to its functional currency.

26. Financial instruments continued

Foreign exchange gains and losses arise in the normal course of business from the recognition of receivables and payables and other monetary items in currencies other than an entity's functional currency. Foreign exchange risk may also arise in connection with capital expenditure. For major projects, an assessment is made at the final investment decision stage of whether to hedge any resulting exposure.

Assuming other factors (principally interest rates and commodity prices) remained constant and that no further foreign exchange risk management actions were taken, a 10% appreciation against the dollar at December 31 of the main currencies to which Shell is exposed would have had the following effects:

	Increase/(decrease) in income before taxation		Increase in net assets	
	2024	2023	2024	2023
10% appreciation against the dollar of:				
Sterling	(69)	(270)	789	1,022
Euro	98	(46)	2,410	2,434
Malaysian ringgit	34	49	274	279
Australian dollar	(103)	(129)	625	780
Canadian dollar	20	9	1,353	1,392

The above sensitivity information was calculated by reference to carrying amounts of assets and liabilities at December 31 only. The effect on income before taxation arises in connection with monetary balances denominated in currencies other than an entity's functional currency; the effect on net assets arises principally from the translation of assets and liabilities of entities that are not dollar-functional.

Foreign exchange gains and losses included in income are presented in Note 9.

Commodity price risk

Certain subsidiaries have a mandate to trade crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates, and to use commodity derivative contracts (forwards, futures, swaps and options) as a means of managing price and timing risks arising from this trading activity. In effecting these transactions, the entities concerned operate within procedures and policies designed to ensure that risks are managed within authorised limits. A department that is independent from Shell's traders monitors market risk exposures daily.

Value-at-risk (VAR) techniques based on variance/covariance or Monte Carlo simulation models are used to make a statistical assessment of the market risk arising from possible future changes in market values for commodity positions held by these subsidiaries over a 1-day holding period and within a 95% confidence level. The calculation of potential changes in fair value takes into account positions, the history of price movements and the correlation of these price movements. Models are regularly reviewed against actual fair value movements to ensure integrity is maintained. The VAR average and year-end positions in respect of commodities traded in liquid markets, which are presented in the table below, are calculated on a diversified basis in order to reflect the effect of offsetting risk within combined portfolios.

Value-at-risk (pre-tax)

	2024		2023	
	Average	Year-end	Average	Year-end
Global oil	29	22	43	25
North America gas and power	15	16	13	10
Europe gas and power	13	13	31	12
Australia gas and power	3	3	4	2
Environmental certificates	5	2	9	4

Furthermore, commodity derivative hedge contracts are used to partially mitigate price volatility on future LNG sales and purchases.

As contracts to buy and sell physical LNG are accounted for on an accrual basis (see Note 2) and commodity derivatives are accounted for on a fair-value basis, this creates an accounting mismatch over periods. The fair value accounting of commodity derivatives can result in gains or losses in the Consolidated Statement of Income. These derivative contracts are based on a mix of European and North American gas price indices, global crude price indices and Asian LNG price indices. In previous years, Shell has seen high volatility in these markets. On that basis, a sensitivity analysis has been performed for a 50% price increase or decrease of this basket of derivative contracts at year-end 2024, which would result in a pre-tax loss or gain of \$0.6 billion in the Consolidated Statement of Income (2023: \$1.5 billion pre-tax gain or loss), whereas the same sensitivity analysis applied to the average exposures for the period was a gain or loss of \$0.3 billion (2023: \$0.8 billion pre-tax).

26. Financial instruments continued**Credit risk**

Comprehensive policies are in place to ensure that credit risk is appropriately managed and remains within risk appetite. These policies include requirements for assessment of internal credit ratings, the assignment of credit limits based on counterparty creditworthiness, and monitoring of exposure against these credit limits. Credit information is regularly shared between business and finance functions, with dedicated teams in place to quickly identify and respond to cases of credit deterioration. Mitigation measures are defined and implemented for higher-risk business partners and customers, and include shortened payment terms, collateral, credit insurance, or other security posting and timely collections.

Surplus cash is invested in a range of short-dated, secure and liquid instruments including short-term bank deposits, money market funds, reverse repos and similar instruments. The portfolio of these investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Management monitors the investments regularly and adjusts the investment portfolio in light of new market information where necessary to ensure credit risk is effectively diversified.

In commodity trading, additional requirements are established to manage credit risk. Credit checks are performed by a department independent of traders, and are undertaken before contractual commitment. In addition, a defined portfolio credit risk appetite is in place to manage credit risk concentrations. It includes a set of thresholds and alerts set at different portfolio levels (e.g. country, industry sector, creditworthiness). Utilisation against these thresholds, including identification of credit risk concentrations with particular counterparties, is actively monitored, and actions are taken to ensure compliance where appropriate. There were no material concentrations of credit risk, with individual customers or geographically, at December 31, 2024.

Shell routinely enters into offsetting, master netting and similar arrangements with trading and other counterparties to manage credit risk. Where there is a legally enforceable right of offset under such arrangements and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously, the net asset or liability is recognised in the Consolidated Balance Sheet, otherwise assets and liabilities are presented gross. These amounts, as presented net and gross within trade and other receivables, trade and other payables and derivative financial instruments in the Consolidated Balance Sheet at December 31, were as follows:

2024

	\$ million					
			Amounts offset		Amounts not offset	
	Gross amounts before offset	Amounts offset	Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	Net amounts
Assets:						
Within trade receivables	18,569	11,452	7,117	58	227	6,832
Within derivative financial instruments	12,200	4,490	7,710	951	1,730	5,029
Liabilities:						
Within trade payables	17,106	11,449	5,657	121	227	5,309
Within derivative financial instruments	12,760	4,490	8,270	2,049	1,730	4,491

2023

	\$ million					
			Amounts offset		Amounts not offset	
	Gross amounts before offset	Amounts offset	Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	Net amounts
Assets:						
Within trade receivables	20,810	12,350	8,460	18	356	8,086
Within derivative financial instruments	26,166	13,140	13,026	1,688	2,616	8,722
Liabilities:						
Within trade payables	18,423	12,351	6,072	69	356	5,647
Within derivative financial instruments	23,037	13,163	9,874	2,040	2,636	5,198

Amounts not offset principally relate to contracts where the intention to settle on a net basis was not clearly established at December 31.

26. Financial instruments continued

The carrying amount of financial assets pledged as collateral for liabilities or contingent liabilities at December 31, 2024, presented within trade and other receivables, was \$2,519 million (2023: \$3,437 million). The carrying amount of collateral held at December 31, 2024, presented within trade and other payables, was \$581 million (2023: \$1,404 million). In addition, Shell has utilised guarantees and letters of credit as non-cash collateral to cover margining requirements of \$1,359 million as at December 31, 2024 (2023: \$1,506 million). Collateral mainly relates to initial margins held with commodity exchanges/brokers and over-the-counter counterparty variation margins. Some derivative contracts are fully cash collateralised, thereby eliminating both counterparty risk and the Group's own non-performance risk.

Liquidity risk

Liquidity risk is the risk that suitable sources of funding for Shell's business activities may not be available. Management believes that it has access to sufficient cash and cash equivalents, debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements. Information about borrowing facilities is presented in Note 21.

Derivative contracts and hedges

Derivative contracts such as forwards, futures, options and swaps are used principally to hedge or mitigate risks arising from interest rate changes, currency fluctuations and commodity price volatility. However, hedge accounting is not always applied, therefore, movements in the carrying amounts of derivative contracts that are recognised in income may not be matched in the same period by the recognition of the income effects of the related hedged items.

In the course of trading operations, certain contracts are entered into for delivery of commodities that are accounted for as derivatives. The resulting price exposures are managed by entering into related derivative contracts.

Derivative contracts classified below as "other contracts" include certain contracts for the sale or purchase of commodities and others containing embedded derivatives. These contracts are required to be recognised at fair value because of pricing or delivery conditions, even though they were entered into to meet operational requirements.

For certain commodity derivatives contracts, carrying amounts cannot be derived from quoted market prices or other observable inputs, in which case fair value is estimated using valuation techniques, such as Black-Scholes; option spread models; and extrapolation, using quoted spreads with assumptions developed internally based on observable market activity.

Carrying amounts, maturities and hedges

The carrying amounts of derivative contracts at December 31, designated and not designated as hedging instruments for hedge accounting purposes, were as follows:

2024

							\$ million
	Assets			Liabilities			
	Designated	Not designated	Total	Designated	Not designated	Total	Net
Interest rate swaps	7	1	8	64	—	64	(56)
Forward foreign exchange contracts	—	682	682	—	379	379	303
Currency swaps and options	33	5	38	2,447	42	2,489	(2,451)
Commodity derivatives	—	9,204	9,204	—	6,630	6,630	2,574
Other contracts	—	115	115	—	14	14	101
Total	40	10,007	10,047	2,511	7,065	9,576	471

2023

							\$ million
	Assets			Liabilities			
	Designated	Not designated	Total	Designated	Not designated	Total	Net
Interest rate swaps	14	2	16	98	—	98	(82)
Forward foreign exchange contracts	—	697	697	—	592	592	105
Currency swaps and options	177	—	177	1,959	13	1,972	(1,795)
Commodity derivatives	—	14,783	14,783	—	9,161	9,161	5,622
Other contracts	—	226	226	—	7	7	219
Total	191	15,708	15,899	2,057	9,773	11,830	4,069

26. Financial instruments continued

Net gains before tax on derivative contracts, excluding those designed as hedges, were \$1,314 million in 2024 (2023: \$5,189 million gains; 2022: \$1,331 million gains).

Certain contracts, mainly to hedge price risk relating to forecast commodity transactions, were designated in cash flow hedging relationships and are presented after the offset of related margin balances with exchanges. Contracts to hedge foreign exchange risks were also designated in cash flow hedging relationships and the net carrying amount of these contracts at December 31, 2024, was a liability of \$579 million (2023: \$373 million liability). See Note 29 for the accumulated balance recognised within other comprehensive income.

Certain interest rate and currency swaps were designated in fair value hedges, principally in respect of debt for which the net carrying amount of the related derivative contracts, net of accrued interest, at December 31, 2024, was a liability of \$1,872 million (2023: \$1,441 million liability).

At December 31, 2024, no debt instruments (2023: nil) were designated as hedges of net investments in foreign operations, relating to the foreign exchange risk arising between certain intermediate holding companies and their subsidiaries. See Note 29 for the accumulated balance recognised within other comprehensive income.

The following table compares contractual maturities of derivative liabilities at December 31 with their carrying amounts in the Consolidated Balance Sheet.

2024

\$ million

	Contractual maturities						Difference from carrying amount [A]	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later		
Interest rate swaps	20	16	16	16	—	—	(4)	64
Forward foreign exchange contracts	393	84	3	(3)	—	—	(98)	379
Currency swaps and options	925	693	627	423	316	1,008	(1,503)	2,489
Commodity derivatives	4,345	1,088	524	326	184	458	(295)	6,630
Other contracts	6	5	2	—	—	—	1	14
Total	5,689	1,886	1,172	762	500	1,466	(1,899)	9,576

[A] Mainly related to the effect of discounting.

2023

\$ million

	Contractual maturities						Difference from carrying amount [A]	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later		
Interest rate swaps	78	9	3	3	5	—	—	98
Forward foreign exchange contracts	465	77	25	1	—	(3)	27	592
Currency swaps and options	551	609	521	392	186	859	(1,146)	1,972
Commodity derivatives	5,767	1,902	799	381	225	597	(510)	9,161
Other contracts	2	4	2	—	—	—	(1)	7
Total	6,863	2,601	1,350	777	416	1,453	(1,630)	11,830

[A] Mainly related to the effect of discounting.

26. Financial instruments continued**Fair value measurements**

The net carrying amounts of derivative contracts held at December 31 categorised according to the predominant source and nature of inputs used in determining the fair value of each contract were as follows:

2024

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
	\$ million			
Interest rate swaps	–	(56)	–	(56)
Forward foreign exchange contracts	–	303	–	303
Currency swaps and options	–	(2,451)	–	(2,451)
Commodity derivatives	44	487	2,043	2,574
Other contracts	–	107	(6)	101
Total	44	(1,610)	2,037	471

2023

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total
	\$ million			
Interest rate swaps	–	(82)	–	(82)
Forward foreign exchange contracts	–	105	–	105
Currency swaps and options	–	(1,795)	–	(1,795)
Commodity derivatives	(39)	3,191	2,470	5,622
Other contracts	–	223	(4)	219
Total	(39)	1,642	2,466	4,069

Net carrying amounts of derivative contracts measured using predominantly unobservable inputs

	2024	2023
	\$ million	
At January 1	2,466	1,909
Net (losses)/gains recognised in revenue	(191)	576
Purchases	310	271
Sales	(363)	(185)
Settlements	–	(125)
Recategorisations (net)	(127)	25
Currency translation differences	(58)	(5)
At December 31	2,037	2,466

Included in net losses recognised in revenue in 2024 were unrealised net gains totalling \$591 million relating to assets and liabilities held at December 31, 2024 (2023: \$797 million gains).

Unrecognised day one gains or losses

Certain long-term commodity contracts extend to periods where observable pricing data are limited and their value may include estimates. Where this is more than an insignificant part of the overall contract valuation, any gains or losses will be deferred. Valuation techniques are further described in Note 2. The unrecognised gains on these derivative contracts at December 31, 2024, were as follows:

	2024	2023
	\$ million	
At January 1	1,607	1,620
Movements	(862)	(13)
At December 31	745	1,607

27. Share capital

Issued and fully paid ordinary shares of €0.07 each

	Number of shares	Nominal value \$ million
At January 1, 2024	6,524,109,049	544
Repurchases of shares	(409,077,891)	(34)
At December 31, 2024	6,115,031,158	510
At January 1, 2023	7,003,503,393	584
Repurchases of shares	(479,394,344)	(40)
At December 31, 2023	6,524,109,049	544

At the Company's Annual General Meeting (AGM) on May 21, 2024, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of approximately €150 million (representing approximately 2,147 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 20, 2025, and the end of the AGM to be held in 2025, unless previously renewed, revoked or varied by the Company in a general meeting.

At the May 21, 2024, AGM, shareholders granted the Company the authority to repurchase (i) up to 644.2 million ordinary shares "on-market" (excluding any treasury shares), less the number of ordinary shares purchased or committed to be purchased in terms of the buyback contracts ("off-market"), made under the authority in (ii); and (ii) up to 644.2 million ordinary shares off-market, less any on-market purchases made under the authority in (i).

In the case of both on-market and off-market purchases of the ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off-market purchases of the ordinary shares will expire at the earlier of the close of business on August 20, 2025, and the end of the AGM of the Company to be held in 2025. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself.

28. Share-based compensation plans and shares held in trust

Share-based compensation expense

	2024	2023	2022
Equity-settled [A]	732	700	807

[A] On an incidental basis awards may be cash-settled, where an equity settlement is not possible under local regulations.

The principal share-based employee compensation plans are the PSP and LTIP. Awards of shares and American Depositary Shares (ADS) of the Company under the PSP and LTIP are granted upon certain conditions to eligible employees. The actual number of shares that may vest ranges from 0% to 200% of the awards, depending on the outcomes of prescribed performance conditions over a three-year period beginning on January 1 of the award year.

Share awards

	Number of ordinary shares (million)	Number of ADSs (million)	Weighted average remaining contractual life (years)
At January 1, 2024	58	10	0.9
Granted	20	3	
Vested	(26)	(4)	
Forfeited	(3)	—	
At December 31, 2024	49	9	0.9
At January 1, 2023	58	10	1.1
Granted	19	3	
Vested	(17)	(3)	
Forfeited	(2)	—	
At December 31, 2023	58	10	0.9

28. Share-based compensation plans and shares held in trust continued

Other plans offer eligible employees opportunities to acquire shares and ADSs of the Company or receive cash benefits measured by reference to the Company's share price.

Shell employee share ownership trusts and trust-like entities purchase the Company's shares in the open market to meet delivery commitments under employee share plans. At December 31, 2024, they held a total of 22.6 million ordinary shares (2023: 24.2 million) and 4.1 million ADS (2023: 6.8 million).

29. Other reserves**Other reserves attributable to Shell plc shareholders**

					\$ million	
	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Accumulated other comprehensive income	Total
At January 1, 2024	37,298	154	236	1,308	(17,851)	21,145
Other comprehensive income attributable to Shell plc shareholders	—	—	—	—	(1,715)	(1,715)
Transfer from other comprehensive income	—	—	—	—	193	193
Repurchases of shares	—	—	34	—	—	34
Share-based compensation	—	—	—	109	—	109
At December 31, 2024	37,298	154	270	1,417	(19,373)	19,766
At January 1, 2023	37,298	154	196	1,140	(17,656)	21,132
Other comprehensive income attributable to Shell plc shareholders	—	—	—	—	(83)	(83)
Transfer from other comprehensive income	—	—	—	—	(112)	(112)
Repurchases of shares	—	—	40	—	—	40
Share-based compensation	—	—	—	168	—	168
At December 31, 2023	37,298	154	236	1,308	(17,851)	21,145
At January 1, 2022	37,298	154	139	964	(19,646)	18,909
Other comprehensive loss attributable to Shell plc shareholders	—	—	—	—	2,024	2,024
Transfer from other comprehensive income	—	—	—	—	(34)	(34)
Repurchases of shares	—	—	57	—	—	57
Share-based compensation	—	—	—	176	—	176
At December 31, 2022	37,298	154	196	1,140	(17,656)	21,132

The merger reserve and share premium reserve were established as a consequence of the Company becoming the single parent company of Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, plc, now The Shell Transport and Trading Company Limited, in 2005. The merger reserve increased in 2016 following the issuance of shares for the acquisition of BG Group plc.

The capital redemption reserve was established in connection with repurchases of shares of the Company.

The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 28). The movement comprises the net of the charge for the year and the release as a result of vested awards.

29. Other reserves continued

Accumulated other comprehensive income comprises the following:

Accumulated other comprehensive income attributable to Shell plc shareholders

\$ million

	Currency translation differences	Equity instruments remeasurements	Debt instruments remeasurements	Cash flow hedging (losses)/ gains	Net investment hedging (losses)/ gains	Deferred cost of hedging	Retirement benefits remeasurements	Total
At January 1, 2024	(11,213)	73	(34)	(451)	(2,008)	(174)	(4,044)	(17,851)
Recognised in other comprehensive income	(4,574)	(7)	20	211	—	(137)	1,854	(2,633)
Reclassified to income	1,256	—	16	29	—	24	—	1,325
Reclassified to the balance sheet	—	—	(11)	32	—	—	—	21
Reclassified to retained earnings	—	(182)	—	—	—	—	375	193
Tax on amounts recognised/reclassified	70	35	(20)	(56)	—	40	(447)	(378)
Total, net of tax	(3,248)	(154)	5	216	—	(73)	1,782	(1,472)
Share of joint ventures and associates	(42)	43	—	(76)	—	—	4	(71)
Other comprehensive (loss)/income for the period	(3,290)	(111)	5	140	—	(73)	1,786	(1,543)
Less: non-controlling interest	21	(2)	—	—	—	—	2	21
Attributable to Shell plc shareholders	(3,269)	(113)	5	140	—	(73)	1,788	(1,522)
At December 31, 2024	(14,482)	(40)	(29)	(311)	(2,008)	(247)	(2,256)	(19,373)
At January 1, 2023	(12,590)	487	(75)	(524)	(1,964)	(26)	(2,964)	(17,656)
Recognised in other comprehensive income	1,393	(67)	33	(196)	(44)	(273)	(1,088)	(242)
Reclassified to income	1	—	9	162	—	61	—	233
Reclassified to the balance sheet	—	—	(1)	117	—	1	—	117
Reclassified to retained earnings	—	(112)	—	—	—	—	—	(112)
Tax on amounts recognised/reclassified	3	(32)	—	(12)	—	63	5	27
Total, net of tax	1,397	(211)	41	71	(44)	(148)	(1,083)	23
Share of joint ventures and associates	16	(202)	—	2	—	—	1	(183)
Other comprehensive income/(loss) for the period	1,413	(413)	41	73	(44)	(148)	(1,082)	(160)
Less: non-controlling interest	(36)	(1)	—	—	—	—	2	(35)
Attributable to Shell plc shareholders	1,377	(414)	41	73	(44)	(148)	(1,080)	(195)
At December 31, 2023	(11,213)	73	(34)	(451)	(2,008)	(174)	(4,044)	(17,851)
At January 1, 2022	(9,563)	1,294	3	(536)	(2,144)	(226)	(8,474)	(19,646)
Recognised in other comprehensive income	(3,422)	(524)	(90)	426	180	64	6,982	3,616
Reclassified to income	437	—	12	(636)	—	81	—	(106)
Reclassified to the balance sheet	—	—	—	(81)	—	—	—	(81)
Reclassified to retained earnings	—	(32)	—	—	—	—	(2)	(34)
Tax on amounts recognised/reclassified	(1)	33	—	59	—	55	(1,516)	(1,370)
Total, net of tax	(2,986)	(523)	(78)	(232)	180	200	5,464	2,025
Share of joint ventures and associates	30	(283)	—	244	—	—	30	21
Other comprehensive income/(loss) for the period	(2,956)	(806)	(78)	12	180	200	5,494	2,046
Less: non-controlling interest	(71)	(1)	—	—	—	—	16	(56)
Attributable to Shell plc shareholders	(3,027)	(807)	(78)	12	180	200	5,510	1,990
At December 31, 2022	(12,590)	487	(75)	(524)	(1,964)	(26)	(2,964)	(17,656)

30. Dividends

Interim dividends

	\$ per share			\$ million		
	2024	2023	2022	2024	2023	2022
Cash:						
March	0.344	0.2875	0.24	2,210	2,030	1,829
June	0.344	0.2875	0.25	2,177	1,984	1,850
September	0.344	0.3310	0.25	2,169	2,179	1,818
December	0.344	0.3310	0.25	2,112	2,196	1,786
Total	1.376	1.237	0.99	8,668	8,389	7,283

On January 30, 2025, the Directors announced a further interim dividend in respect of 2024 of \$0.3580 per ordinary share. The total dividend is payable on March 24, 2025, to shareholders on the register at February 14, 2025.

Shareholders will be able to elect to receive their dividends in US dollars, sterling or euros.

31. Earnings per share

	2024	2023	2022
Income attributable to Shell plc shareholders (\$ million)	16,094	19,359	42,309
Weighted average number of shares used as the basis for determining:			
Basic earnings per share (million of shares)	6,299.6	6,733.5	7,347.5
Diluted earnings per share (million of shares)	6,363.7	6,799.8	7,410.5

Basic earnings per share are calculated by dividing the income attributable to Shell plc shareholders for the year by the weighted average number of shares outstanding during the year. The weighted average number of shares outstanding excludes shares held in trust.

Diluted earnings per share are based on the same income figures. The weighted average number of shares outstanding during the year is increased by dilutive shares related to share-based compensation plans. If the inclusion of potentially issuable shares could decrease diluted loss per share, the potentially issuable shares are excluded from the weighted average number of shares outstanding used to calculate diluted earnings per share.

32. Legal proceedings and other contingencies

General

In the ordinary course of business, Shell subsidiaries are subject to a number of contingencies arising from litigation and claims brought by governmental authorities, including tax authorities and private parties. The operations and earnings of Shell subsidiaries continue, from time to time, to be affected to varying degrees by political, legislative, fiscal and regulatory developments, including those relating to the protection of the environment and indigenous groups in the countries where they operate. The industries in which Shell subsidiaries are engaged are also subject to physical risks of various types.

The amounts claimed in relation to such events and, if such claims against Shell were successful, the costs of implementing the remedies sought in the various cases could be substantial. Based on information available to date and taking into account that in some cases it is not practicable to estimate the possible magnitude or timing of any resultant payments, management believes that the foregoing are not expected to have a material adverse impact on Shell's Consolidated Financial Statements. However, there remains a high degree of uncertainty around these contingencies, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Costs in respect of decommissioning and restoration obligations are subject to uncertain timing and amount, and are dependent on various factors that are not always within management's control (see Note 25). In certain divestment transactions, liabilities related to decommissioning and restoration are de-recognised upon transfer of these obligations to the buyer. In certain cases, Shell retains a secondary obligation for decommissioning activities, either via reversionary legislation or the issuance of guarantees, in case the primary obligor is not able to meet its obligation. These exposures are actively monitored, and the likelihood of a liability arising in respect of these obligations is not considered probable.

Decommissioning and restoration of manufacturing facilities

For long-lived manufacturing facilities, where decommissioning would generally be more than 50 years away, while there is a present obligation that has arisen from past events, the amount of the obligation cannot be reliably measured. This is because the settlement dates are indeterminate; and other estimates, such as extremely long-term discount rates for which there is no observable measure, cannot be reliably determined. Consequently, the decommissioning and restoration obligation that exists for such long-lived manufacturing facilities cannot be reliably quantified and is disclosed as a contingent liability. There remains a high degree of uncertainty concerning such obligations and their potential effects on future operations, earnings, cash flows, reputation and Shell's financial condition.

32. Legal proceedings and other contingencies continued**Pesticide litigation**

Shell, along with another agricultural chemical pesticide manufacturer and several distributors, has been sued by public and quasi-public water purveyors, water storage districts and private landowners alleging responsibility for groundwater contamination caused by applications of chemical pesticides. There are approximately nine such cases currently pending, four claims made but not yet filed, and an active subpoena for records. These matters assert various theories of strict liability and negligence, seeking to recover actual damages, including drinking well treatment and remediation costs. Most assert claims for punitive damages. Shell continues to vigorously defend these actions. Based on the claims asserted and Shell's history regarding amounts paid to resolve varying actions, management does not expect the outcome of the matters pending at December 31, 2024, to have a material adverse impact on Shell USA. However, there remains a high degree of uncertainty regarding the potential outcome of some of these pending lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Climate change litigation

In the USA, energy companies (including Shell), industry associations, and others have been named in several matters alleging responsibility for the impacts of climate change due to the use of fossil fuels. These matters assert various theories of liability for a wide variety of harms, including but not limited to, impacts to public and private infrastructure, natural resources, and public health and services. As of December 31, 2024, 31 lawsuits naming Shell as a defendant were pending.

In the Netherlands, in a case against Shell brought by a group of environmental non-governmental organisations and individual claimants (referred to herein as "Milieudefensie"), the Hague District Court in 2021 found that while Shell was not acting unlawfully, Shell had the obligation to reduce the aggregate annual volume of CO₂ emissions of Shell operations and energy-carrying products sold across Scope 1, 2 and 3 by 45% (net) by the end of 2030 relative to its 2019 emissions levels. For Scopes 2 and 3, this was a significant best-efforts obligation. Shell appealed that ruling. On November 12, 2024, the Hague Court of Appeal upheld Shell's appeal and dismissed the claim against Shell. In doing so, the Court of Appeal annulled the earlier judgment of the District Court in its entirety with immediate effect. On February 11, 2025, Milieudefensie filed an appeal to the Supreme Court of the Netherlands.

Management believes the outcome of these matters should be resolved in a manner favourable to Shell, but there remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

NAM (Groningen gas field) litigation

Since 1963, NAM – a joint venture between Shell and ExxonMobil (50%:50%) – has been producing gas from the Groningen field, the largest gas field in Western Europe. After smaller tremors in the 1990s and the late 2000s, an earthquake measuring 3.6 on the Richter scale occurred in 2012, causing damage to properties in the affected area. NAM has successfully settled close to 80,000 claims for physical damage to property. The Dutch State has taken over the damage-claim-handling from NAM for all claim categories, and the strengthening operation in the region, while NAM remains financially responsible insofar as the costs corresponded to NAM's liability. In 2022, NAM started arbitrations with the Dutch government to have its financial liability determined for costs which the Dutch government compensated to claimants and subsequently charged to NAM. These claims include but are not limited to physical damage to property, housing value loss, emotional damage, and loss of living enjoyment. Arbitral awards in the strengthening and damages arbitrations are expected to be rendered in March and Summer 2025 respectively.

Shell is seeking to reach a final, all-encompassing settlement with the Dutch government on the new design of the Dutch "Gasgebouw" earthquake costs and the wind-down of natural gas production in Groningen. Shell, ExxonMobil and the Dutch government reached agreements in 2018 (Heads of Agreement) and 2019 (Interim Agreement) and subsequently have been engaged in discussions on the interpretation and implementation of these agreements and on a final and all-encompassing settlement. As these discussions have not led to such a settlement, in December 2023, the NAM shareholders asked an independent arbitration panel to rule on the interpretation and implementation of the agreements made in 2018/2019. The purpose of this arbitration is for a neutral third party to assess the situation and provide clarity. The arbitration is expected to take several years, and the judgement will be binding. The arbitration does not preclude a final and all-encompassing settlement, provided Shell, ExxonMobil and the Dutch government agree to pursue such a settlement.

There remains a high degree of uncertainty concerning the ultimate outcome of these disputes and their potential effect on future operations, earnings, cash flows, reputation and Shell's financial condition.

32. Legal proceedings and other contingencies continued**Kazakhstan**

Shell has several matters in dispute involving the Republic of Kazakhstan. One litigation matter involving a Shell NOV relates to a Sulphur permitting inspection outcome. An unfavourable ruling was issued by the Administrative Collegium of Astana City Court in February 2024. The Shell NOV filed an appeal in March 2024 to the Kazakhstan Supreme Court which is pending.

The other matters are ongoing disputes involving two Shell NOVs under the applicable production-sharing contracts.

At this time, it is not possible to reliably estimate the magnitude and timing of any possible obligations or payments in respect of the matters above or whether any payments will be due. There remains a high degree of uncertainty regarding the ultimate outcomes, as well as the potential effect on future operations, earnings, cash flows and Shell's financial condition.

Nigerian litigation

Shell (in its capacity as previous owner of SPDC) and various subsidiaries and associates operating in Nigeria are parties to various environmental, non-environmental and contractual disputes brought in the courts of Nigeria, the USA and England. These disputes are at different stages in arbitration and litigation, including at the appellate stage, where judgements have been rendered against Shell entities in some of these disputes. If taken at face value, the aggregate amount of these judgements could be seen as material. Management, however, believes that the outcomes of these disputes, once determined, will be favourable to Shell. However, there remains a high degree of uncertainty regarding these cases, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

OPL 245

In March 2017, criminal charges alleging official corruption and conspiracy to commit official corruption were filed against SNEPCO, one then current now former Shell employee and third parties including ENI SpA and one of its subsidiaries. Those charges were struck out for want of diligent prosecution and the proceedings have been dismissed. However, they can be refiled. In March 2017, parties alleging to be shareholders of Malabu Oil and Gas Company Ltd. (Malabu) filed two actions to challenge the 2011 settlement of litigation pertaining to Oil Prospecting Licence 245 (OPL 245) with regard to potential anti-bribery, anti-corruption and anti-money laundering laws and the award of OPL 245 to SNEPCO and an ENI SpA subsidiary by the Federal Government of Nigeria. Both actions are currently stayed awaiting the outcome of appeals filed against procedural decisions. Those appeal proceedings are ongoing. On May 8, 2018, Human Environmental Development Agenda (HEDA) sought permission from the Federal High Court of Nigeria to apply for an order to direct the Attorney General of the Federation to revoke OPL 245 on grounds that the entire Malabu transaction in relation to the OPL is unconstitutional, illegal and void as it was obtained through fraudulent and corrupt practice. On July 3, 2019, the Nigerian Federal High Court upheld objections from SNEPCO and NAE and struck the lawsuit filed by HEDA. The suit was struck because of the statute of limitations and lack of jurisdiction to hear the matter. HEDA has appealed the judgement, which is ongoing.

On July 21, 2022, the Dutch Public Prosecutor's office announced it had dismissed its investigation into bribery allegations related to OPL 245. On October 24, 2022, Re:Common, HEDA and The Corner House announced that they filed a complaint at the Court of Appeal in The Hague, pursuant to Article 12 of the Dutch Code for Criminal Procedure, challenging the decision by the Dutch Public Prosecutor to dismiss its investigation. On March 20, 2025, the Court of Appeal in The Hague dismissed this complaint. There remains a high degree of uncertainty around the OPL 245 matters and contingencies discussed above, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition. Accordingly, at this time, it is not possible to reliably estimate the possible obligations and timing of any payments. Any violation of anti-bribery, anti-corruption or anti-money laundering legislation could have a material adverse effect on Shell plc's earnings, cash flows and financial condition.

Russia

On October 2, 2024, the Russian prosecutor filed a Moscow court claim against eight Shell-group entities (including Shell plc and Shell Energy Europe Limited ("SEEL")). The prosecutor seeks (i) declarations that Shell illegally abandoned in support of Sakhalin Energy Investment Company ("Sakhalin"); (ii) monetary relief of approximately €1.5 billion from SEEL to Gazprom Export ("GPE") for alleged unpaid gas deliveries in 2022; and (iii) a declaration that GPE can take 94P billion purportedly set aside for Shell for Sakhalin equity compensation from a Type-C account to net off against part of the alleged debt owed by SEEL to GPE. On January 30, 2025, SEEL filed a written postponement motion in the Moscow court proceedings regarding SEEL's non-payment of GPE gas invoices and Sakhalin. At a court hearing on February 14, 2025, the judge postponed the proceedings until the next hearing, which is scheduled for April 14, 2025.

At this time, it is not possible to reliably estimate the magnitude and timing of any possible obligations or payments in respect of the matters above or whether any payments will be due. There remains a high degree of uncertainty regarding the ultimate outcomes, as well as the potential effect on future operations, earnings, cash flows and Shell's financial condition.

33. Employees

Employee costs

	2024	2023	\$ million 2022
Remuneration	10,928	10,648	10,509
Social security contributions	983	957	860
Retirement benefits (see Note 24)	809	1,324	1,795
Share-based compensation (see Note 28)	732	700	807
Total [A]	13,452	13,629	13,971

[A] Excludes employees seconded to joint ventures and associates.

Average employee numbers [A]

	2024	2023	Thousand 2022
Integrated Gas	6	6	6
Upstream	13	11	12
Marketing	24	26	17
Chemicals and Products	22	22	21
Renewables and Energy Solutions	3	5	4
Corporate [B]	30	30	27
Total [C]	98	100	87

[A] The employee numbers are based on headcount.

[B] Includes 23,000 employees (2023: 23,000; 2022: 20,000) working in business service centres irrespective of the segment they support.

[C] Excludes employees seconded to joint ventures and associates (2024: 1,000 employees; 2023: 2,000 employees; 2022: 2,000 employees).

34. Directors and Senior Management

Remuneration of Directors of the Company

	2024	2023	\$ million 2022
Emoluments	13	12	12
Value of released awards under long-term incentive plans	10	4	7
Employer contributions to pension plans	1	1	1

Emoluments comprise salaries and fees, annual bonuses (for the period for which performance is assessed) and other benefits. The value of released awards under long-term incentive plans for the period is in respect of the performance period ending in that year. In 2024, no Director accrued retirement benefits in respect of qualifying services under defined benefit plans.

Directors and Senior Management expense

	2024	2023	\$ million 2022
Short-term benefits	33	31	33
Retirement benefits	2	2	2
Share-based compensation	11	17	17
Termination and related amounts	—	7	1
Total	46	57	53

Directors and Senior Management comprise members of the Executive Committee and the Non-executive Directors of the Company.

Short-term benefits comprise salaries and fees, annual bonuses delivered in cash and shares (for the period for which performance is assessed), other benefits and employer social security contributions.

35. Auditor's remuneration

	\$ million		
	2024	2023	2022
Fees in respect of the audit of the Consolidated and Parent Company Financial Statements, including audit of consolidation returns	41	42	45
Other audit fees, principally in respect of audits of accounts of subsidiaries	19	19	18
Total audit fees	60	61	63
Audit-related fees	3	3	3
Fees in respect of other non-audit services	3	2	3
Total	66	66	69

In addition, the auditor provided audit services to retirement benefit plans for employees of subsidiaries. Remuneration paid by those benefit plans amounted to \$1 million in 2024 (2023: \$1 million; 2022: \$1 million).

36. Post-balance sheet events

On January 23, 2025, and March 4, 2025, Shell announced changes to the Executive Committee. As per the announcements, with effect from April 1, 2025, the most senior leadership structure will be delayed to reflect the three primary areas of business value – Integrated Gas; Upstream; and Downstream, Renewables and Energy Solutions, while elevating Trading and Supply. These changes will not affect Shell's reporting segments as the changes do not impact how the Chief Executive Officer, who serves as the Chief Operating Decision Maker, makes decisions about allocating resources and assessing performance.

On January 30, 2025, Shell announced the commencement of a \$3.5 billion share buyback programme (the "programme") covering an aggregate contract term of approximately three months. The purpose of the programme is to reduce the issued share capital of the Company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's first quarter 2025 results announcement, scheduled for May 2, 2025. The Company has entered into an arrangement with a single broker consisting of two irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.

On March 13, 2025, Shell completed the sale of The Shell Petroleum Development Company of Nigeria Limited (SPDC) to Renaissance, as announced on January 16, 2024. The divestment of SPDC aligns with Shell's intent to simplify its presence in Nigeria through an exit of onshore oil production in the Niger Delta and a focus of future disciplined investment in its deep-water and integrated gas positions. As part of the transaction, Shell has also provided loan facilities. No significant impairments are expected as a result of completion of the transaction.

Supplementary information – oil and gas (unaudited)

About this section

The purpose of this section is to comply with the requirements of the Financial Accounting Standards Board (FASB) "Extractive Activities – Oil and Gas (Topic 932)". Extractive activities for this purpose include exploration and production activities to extract oil, condensates, natural gas liquids, oil sands and natural gas from their natural reservoirs.

In Shell, extractive activities, or oil and gas exploration and production activities, are undertaken within the Integrated Gas, Upstream and the Chemicals and Products (includes oil sands) segments. Shell's extractive activities do not represent the full extent of Integrated Gas, Upstream and Chemicals and Products activities, and exclude GTL processing, some LNG activities, trading and optimisation, as well as other non-extractive activities. As a result, the information in this extractive activities section is not suitable for modelling Shell's integrated businesses, for which we refer to the segment information. Full segment information to the Consolidated Financial Statements is available on pages 268-273.

The information set out on pages 313-332 is referred to as "unaudited" as a means of clarifying that it is not covered by the audit opinion of the independent registered public accounting firm that has audited and reported on the Consolidated Financial Statements.

Proved reserves

Proved reserves estimates are calculated pursuant to the US Securities and Exchange Commission (SEC) Rules and the FASB's Topic 932. Proved reserves can be either developed or undeveloped. The definitions used are in accordance with the SEC Rule 4-10 (a) of Regulation S-X. We include proved reserves associated with future production that will be consumed in operations.

Proved reserves shown are net of any quantities of crude oil or natural gas that are expected to be (or could be) taken as royalties in kind. Proved reserves outside North America include quantities that will be settled as royalties in cash. Proved reserves include certain quantities of crude oil or natural gas that will be produced under arrangements that involve Shell subsidiaries, joint ventures and associates in risks and rewards but do not transfer title of the product to those entities.

Subsidiaries' proved reserves at December 31, 2024, were divided into 78% developed and 22% undeveloped on a barrel of oil equivalent (boe) basis. For the Shell share of joint ventures and associates, the proved reserves at December 31, 2024, were divided into 35% developed and 65% undeveloped on a boe basis.

Proved reserves are recognised under various forms of contractual agreements. Shell's proved reserves volumes at December 31, 2024, present in agreements such as production-sharing contracts (PSC), tax/variable royalty contracts or other forms of economic entitlement contracts, where the Shell share of reserves can vary with commodity prices, were 2,153 million barrels of liquids, and 10,240 thousand million standard cubic feet (scf) of natural gas.

Proved reserves cannot be measured exactly because estimation of reserves involves subjective judgement (see "Risk factors" on page 136 and our "Proved reserves assurance process" below). These estimates remain subject to revision and are unaudited supplementary information.

Proved reserves assurance process

A central group of reserves experts, who on average have around 28 years' experience in the oil and gas industry, undertake the primary assurance of the proved reserves bookings. This group of experts is part of the Resources Assurance and Reporting (RAR) organisation within Shell. A Vice President with 39 years' experience in the oil and gas industry currently heads the RAR organisation. He is a member of the Society of Petroleum Engineers, Society of Petroleum Evaluation Engineers and holds a BA in mathematics from Oxford University and an MEng in Petroleum Engineering from Heriot-Watt University. The RAR organisation reports directly to an Executive Vice President of Finance, who is a member of the Upstream Reserves Committee (URC). The URC is a multidisciplinary committee consisting of senior representatives from the Finance, Legal, Integrated Gas and Upstream organisations. The URC reviews and endorses all major (larger than 30 million barrels of oil equivalent) proved reserves bookings and debookings and endorses the total aggregated proved reserves. Final approval of all proved reserves bookings remains with Shell's CEO, and all proved reserves bookings are reviewed by Shell's Audit and Risk Committee. The Internal Audit function also provides secondary assurance through audits of the control framework.

Crude oil, natural gas liquids, synthetic crude oil and bitumen

Shell subsidiaries' proved reserves of crude oil, natural gas liquids (NGLs), synthetic crude oil and bitumen at the end of the year; their share of the proved reserves of joint ventures and associates at the end of the year; and the changes in such reserves during the year are set out on pages 314-318. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited), where "revisions and reclassifications" are changes based on new information that resulted from development drilling, production history and changes in economic factors.

Proved reserves 2024–2023

Shell subsidiaries

Asia

- The increase of 115 million barrels in revisions and reclassifications was mainly in Oman and Kazakhstan.

USA

- The increase of 92 million barrels in revisions and reclassifications was mainly in Vito, Appomattox, Kaikias and Mars.

South America

- The increase of 162 million barrels in revisions and reclassifications was mainly due to an FID of an additional FPSO in Atapu, Brazil.

Proved reserves 2023–2022

Shell subsidiaries

Asia

- The increase of 149 million barrels in revisions and reclassifications was mainly in Oman.

Africa

- The increase of 79 million barrels in revisions and reclassifications was mainly in Bonga, Nigeria.

USA

- The increase of 69 million barrels in extensions and discoveries was due to an FID of Sparta.
- The increase of 46 million barrels in revisions and reclassifications was mainly in Appomattox.
- The decrease of 110 million barrels in sales in place was in Aera.

South America

- The increase of 165 million barrels in revisions and reclassifications was mainly in Mero and Atapu, Brazil.

Proved developed and undeveloped reserves 2024

Million barrels

	North America								Total		
	Europe	Asia	Oceania	Africa	USA	Canada	South America				
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	160	1,392	79	259	439	5	757	1,178	3,512	757	4,269
Revisions and reclassifications	32	115	(2)	13	92	(4)	(13)	162	408	(13)	395
Improved recovery	—	9	—	39	—	—	—	—	48	—	48
Extensions and discoveries	—	5	—	24	14	—	—	9	52	—	52
Purchases of minerals in place	—	1	—	—	—	—	16	12	13	16	29
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production [A]	(34)	(161)	(12)	(41)	(108)	(1)	(19)	(150)	(507)	(19)	(526)
At December 31	158	1,361	65	294	437	—	741	1,211	3,526	741	4,267
Shell share of joint ventures and associates											
At January 1	2	390	—	—	—	—	—	—	392	—	392
Revisions and reclassifications	—	(5)	—	—	—	—	—	—	(5)	—	(5)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	—	—	—	—
Purchases of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production	(1)	(23)	—	—	—	—	—	—	(24)	—	(24)
At December 31	1	362	—	—	—	—	—	—	363	—	363
Total [B] [C] [D]	159	1,723	65	294	437	—	741	1,211	3,889	741	4,630
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	370	—	—	370	370

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

[B] On March 13, 2025, Shell completed the sale of its Nigerian onshore subsidiary The Shell Petroleum Development Company of Nigeria Limited (SPDC) which holds a 30% interest in the SPDC JV to Renaissance. As of December 31, 2024, Shell had proved reserves of 134 million barrels in crude oil in SPDC.

[C] Pursuant to Shell's 2017 agreement with Canadian Natural Resources Limited, its remaining mining interest and associated synthetic crude oil reserves will be swapped for an additional 10% interest in the Scotford Upgrader and Quest CCS project. The transaction is expected to close by the end of the first half of 2025, subject to regulatory approvals. The associated proved reserves as of December 31, 2024 were 741 million barrels in synthetic crude oil (of which 50% attributable to non-controlling interest).

[D] On December 5, 2024, Shell along with Equinor ASA, announced the combination of their UK offshore oil and gas assets and expertise to form a new company which will be the UK North Sea's biggest independent producer. On deal completion, the new independent producer will be jointly owned by Equinor (50%) and Shell (50%) and 112 million barrels crude oil (as of December 31, 2024) of Shell's proved reserves will be contributed to the new joint venture alongside proved reserves contributed by Equinor. Subsequently, Shell will report 50% of the proved reserves of the new joint venture as part of Shell's share of proved reserves from joint ventures and associates.

Proved developed reserves 2024

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	122	985	53	230	305	2	757	841	2,538	757	3,295
At December 31	115	1,183	43	216	285	–	741	886	2,728	741	3,469
Shell share of joint ventures and associates											
At January 1	2	113	–	–	–	–	–	–	115	–	115
At December 31	1	135	–	–	–	–	–	–	136	–	136

Proved undeveloped reserves 2024

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	38	407	26	29	134	3	–	337	974	–	974
At December 31	43	178	22	78	152	–	–	325	798	–	798
Shell share of joint ventures and associates											
At January 1	–	277	–	–	–	–	–	–	277	–	277
At December 31	–	227	–	–	–	–	–	–	227	–	227

Proved developed and undeveloped reserves 2023

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	192	1,411	106	218	543	4	731	1,138	3,612	731	4,343
Revisions and reclassifications	2	149	(17)	79	46	1	35	165	425	35	460
Improved recovery	—	3	—	—	—	—	—	—	3	—	3
Extensions and discoveries	—	2	—	—	69	1	—	25	97	—	97
Purchases of minerals in place	—	—	1	—	3	—	11	—	4	11	15
Sales of minerals in place	—	(11)	—	—	(110)	—	—	—	(121)	—	(121)
Production [A]	(34)	(162)	(11)	(38)	(112)	(1)	(20)	(150)	(508)	(20)	(528)
At December 31	160	1,392	79	259	439	5	757	1,178	3,512	757	4,269
Shell share of joint ventures and associates											
At January 1	3	327	—	—	—	—	—	7	337	—	337
Revisions and reclassifications	—	—	—	—	—	—	—	(7)	(7)	—	(7)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	—	—	—	—
Purchases of minerals in place	—	85	—	—	—	—	—	—	85	—	85
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production	(1)	(22)	—	—	—	—	—	—	(23)	—	(23)
At December 31	2	390	—	—	—	—	—	—	392	—	392
Total	162	1,782	79	259	439	5	757	1,178	3,904	757	4,661
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	378	—	—	378	378

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

Proved developed reserves 2023

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	140	999	73	187	356	3	731	831	2,589	731	3,320
At December 31	122	985	53	230	305	2	757	841	2,538	757	3,295
Shell share of joint ventures and associates											
At January 1	3	154	—	—	—	—	—	7	164	—	164
At December 31	2	113	—	—	—	—	—	—	115	—	115

Proved undeveloped reserves 2023

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	52	412	33	31	187	1	—	307	1,023	—	1,023
At December 31	38	407	26	29	134	3	—	337	974	—	974
Shell share of joint ventures and associates											
At January 1	—	173	—	—	—	—	—	—	173	—	173
At December 31	—	277	—	—	—	—	—	—	277	—	277

Proved developed and undeveloped reserves 2022

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	208	1,521	80	265	610	5	533	1,131	3,820	533	4,353
Revisions and reclassifications	16	34	11	(18)	48	(1)	(25)	47	137	(25)	112
Improved recovery	—	—	—	—	—	—	—	32	32	—	32
Extensions and discoveries	5	13	24	—	7	1	—	11	61	—	61
Purchases of minerals in place	—	12	—	—	—	—	240	55	67	240	307
Sales of minerals in place	—	(1)	—	—	—	—	—	—	(1)	—	(1)
Production [A]	(37)	(168)	(9)	(29)	(122)	(1)	(17)	(138)	(504)	(17)	(521)
At December 31	192	1,411	106	218	543	4	731	1,138	3,612	731	4,343
Shell share of joint ventures and associates											
At January 1	7	217	—	—	—	—	—	4	228	—	228
Revisions and reclassifications	(3)	(23)	—	—	—	—	—	1	(25)	—	(25)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	4	4	—	4
Purchases of minerals in place	—	159	—	—	—	—	—	—	159	—	159
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production	(1)	(26)	—	—	—	—	—	(2)	(29)	—	(29)
At December 31	3	327	—	—	—	—	—	7	337	—	337
Total [B]	195	1,738	106	218	543	4	731	1,145	3,949	731	4,680
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31							365			365	365

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

[B] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which held a 51.8% membership interest in Aera Energy LLC, to IKAV. As of December 31, 2022, Shell had proved reserves of 112 million barrels in crude oil.

Proved developed reserves 2022

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	140	1,348	71	218	397	2	533	786	2,962	533	3,495
At December 31	140	999	73	187	356	3	731	831	2,589	731	3,320
Shell share of joint ventures and associates											
At January 1	7	197	—	—	—	—	—	4	208	—	208
At December 31	3	154	—	—	—	—	—	7	164	—	164

Proved undeveloped reserves 2022

	Million barrels										
	Europe	Asia	Oceania	Africa	North America			South America	Total		
					USA	Canada	Synthetic crude oil		Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	68	173	9	47	213	3	—	345	858	—	858
At December 31	52	412	33	31	187	1	—	307	1,023	—	1,023
Shell share of joint ventures and associates											
At January 1	—	20	—	—	—	—	—	—	20	—	20
At December 31	—	173	—	—	—	—	—	—	173	—	173

Natural gas

Shell subsidiaries' proved reserves of natural gas at the end of the year, their share of the proved reserves of joint ventures and associates at the end of the year, and the changes in such reserves during the years are set out on pages 319-322. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited).

Volumes are not adjusted to standard heat content. Apart from integrated projects, volumes of gas are reported on an "as-sold" basis. The price used to calculate future revenue and cash flows from proved gas reserves is the contract price or the 12-month average on "as-sold" volumes. Volumes associated with integrated projects are those measured at a designated transfer point between the upstream and downstream portions of the integrated project. Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Proved reserves 2024–2023**Shell subsidiaries****Europe**

- The increase of 280 thousand million scf in revisions and reclassifications was mainly in Troll, Norway.

Asia

- The increase of 490 thousand million scf in revisions and reclassifications was mainly in Malaysia.

Canada

- The decrease of 1,329 thousand million scf in revisions and reclassifications was mainly due to the low year-average AECO (Alberta Energy Company) price in 2024 in Groundbirch, Canada.

South America

- The increase of 1,664 thousand million scf in extensions and discoveries was mainly due to an FID on Manatee, Trinidad and Tobago.

Proved reserves 2023–2022**Shell subsidiaries****Asia**

- The increase of 952 thousand million scf in revisions and reclassifications was mainly in Oman.

Oceania

- The increase of 1,043 thousand million scf in revisions and reclassifications was mainly in Surat QGC and Gorgon, Australia.

Canada

- The increase of 443 thousand million scf in revisions and reclassifications was mainly in Groundbirch, Canada.

Proved developed and undeveloped reserves 2024

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,508	9,168	6,229	1,847	485	1,483	1,556	23,276
Revisions and reclassifications	280	490	232	89	77	(1,329)	79	(82)
Improved recovery	—	—	—	7	—	—	—	7
Extensions and discoveries	4	37	51	181	46	—	1,664	1,983
Purchases of minerals in place	—	86	—	—	—	—	15	101
Sales of minerals in place	(1)	—	—	—	—	—	—	(1)
Production [A]	(284)	(890)	(817)	(172)	(110)	(154)	(299)	(2,726)
At December 31	2,507	8,891	5,695	1,952	498	—	3,015	22,558
Shell share of joint ventures and associates								
At January 1	122	6,103	228	—	—	—	—	6,453
Revisions and reclassifications	5	84	59	—	—	—	—	148
Improved recovery	—	—	—	—	—	—	—	—
Extensions and discoveries	—	1	148	—	—	—	—	149
Purchases of minerals in place	—	—	—	—	—	—	—	—
Sales of minerals in place	—	—	—	—	—	—	—	—
Production [B]	(38)	(288)	(40)	—	—	—	—	(366)
At December 31	89	5,900	395	—	—	—	—	6,384
Total [C] [D]	2,596	14,791	6,090	1,952	498	—	3,015	28,942
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	—	—

[A] Includes 238 thousand million standard cubic feet consumed in operations.

[B] Includes 27 thousand million standard cubic feet consumed in operations.

[C] On March 13, 2025, Shell completed the sale of its Nigerian onshore subsidiary The Shell Petroleum Development Company of Nigeria Limited (SPDC) which holds a 30% interest in the SPDC JV to Renaissance. As of December 31, 2024, Shell had proved reserves of 1,850 thousand million standard cubic feet in natural gas in SPDC.

[D] On December 5, 2024, Shell along with Equinor ASA, announced the combination of their UK offshore oil and gas assets and expertise to form a new company which will be the UK North Sea's biggest independent producer. On deal completion, the new independent producer will be jointly owned by Equinor (50%) and Shell (50%) and 262 thousand million standard cubic feet in natural gas (as of December 31, 2024) of Shell's proved reserves will be contributed to the new joint venture alongside proved reserves contributed by Equinor. Subsequently, Shell will report 50% of the proved reserves of the new joint venture as part of Shell's share of proved reserves from joint ventures and associates.

Proved developed reserves 2024

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
	USA	Canada						
Shell subsidiaries								
At January 1	2,205	7,348	4,870	875	268	706	1,273	17,545
At December 31	2,054	7,693	4,521	1,072	226	–	1,120	16,686
Shell share of joint ventures and associates								
At January 1	120	1,936	228	–	–	–	–	2,284
At December 31	88	1,855	265	–	–	–	–	2,208

Proved undeveloped reserves 2024

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
	USA	Canada						
Shell subsidiaries								
At January 1	303	1,820	1,359	972	217	777	283	5,731
At December 31	453	1,198	1,174	880	272	–	1,895	5,872
Shell share of joint ventures and associates								
At January 1	2	4,167	–	–	–	–	–	4,169
At December 31	1	4,045	130	–	–	–	–	4,176

Proved developed and undeveloped reserves 2023

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,884	9,078	5,949	1,841	521	956	1,819	23,048
Revisions and reclassifications	(103)	952	1,043	139	64	443	64	2,602
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	–	55	–	–	43	224	14	336
Purchases of minerals in place	–	–	14	–	2	–	–	16
Sales of minerals in place	–	(82)	–	–	(31)	–	–	(113)
Production [A]	(273)	(835)	(777)	(133)	(114)	(140)	(341)	(2,613)
At December 31	2,508	9,168	6,229	1,847	485	1,483	1,556	23,276
Shell share of joint ventures and associates								
At January 1	175	5,008	169	–	–	–	7	5,359
Revisions and reclassifications	3	(141)	60	–	–	–	(6)	(84)
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	–	–	30	–	–	–	–	30
Purchases of minerals in place	–	1,516	–	–	–	–	–	1,516
Sales of minerals in place	–	–	–	–	–	–	–	–
Production [B]	(56)	(280)	(31)	–	–	–	(1)	(368)
At December 31	122	6,103	228	–	–	–	–	6,453
Total	2,630	15,271	6,457	1,847	485	1,483	1,556	29,729
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	–	–

[A] Includes 233 thousand million standard cubic feet consumed in operations.

[B] Includes 27 thousand million standard cubic feet consumed in operations.

Proved developed reserves 2023

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,460	6,698	4,111	984	275	712	1,582	16,822
At December 31	2,205	7,348	4,870	875	268	706	1,273	17,545
Shell share of joint ventures and associates								
At January 1	175	2,261	129	–	–	–	7	2,572
At December 31	120	1,936	228	–	–	–	–	2,284

Proved undeveloped reserves 2023

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	424	2,380	1,838	857	246	244	237	6,226
At December 31	303	1,820	1,359	972	217	777	283	5,731
Shell share of joint ventures and associates								
At January 1	–	2,747	40	–	–	–	–	2,787
At December 31	2	4,167	–	–	–	–	–	4,169

Proved developed and undeveloped reserves 2022

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,991	9,573	5,307	2,016	615	1,540	1,753	23,795
Revisions and reclassifications	131	(906)	959	15	22	(540)	288	(31)
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	64	581	453	–	10	81	81	1,270
Purchases of minerals in place	–	682	–	–	–	–	33	715
Sales of minerals in place	–	(53)	–	–	–	–	–	(53)
Production [A]	(302)	(799)	(770)	(190)	(126)	(125)	(336)	(2,648)
At December 31	2,884	9,078	5,949	1,841	521	956	1,819	23,048
Shell share of joint ventures and associates								
At January 1	312	3,560	71	–	–	–	6	3,949
Revisions and reclassifications	(3)	(776)	45	–	–	–	1	(733)
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	–	–	77	–	–	–	3	80
Purchases of minerals in place	–	2,549	–	–	–	–	–	2,549
Sales of minerals in place	–	–	–	–	–	–	–	–
Production [B]	(134)	(325)	(24)	–	–	–	(3)	(486)
At December 31	175	5,008	169	–	–	–	7	5,359
Total [C]	3,059	14,086	6,118	1,841	521	956	1,826	28,407
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	–	–

[A] Includes 228 thousand million standard cubic feet consumed in operations.

[B] Includes 31 thousand million standard cubic feet consumed in operations.

[C] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which held a 51.8% membership interest in Aera Energy LLC, to IKAV. As of December 31, 2022, Shell had proved reserves of 31 thousand million standard cubic feet.

Proved developed reserves 2022

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,532	8,789	4,089	981	373	757	1,301	18,822
At December 31	2,460	6,698	4,111	984	275	712	1,582	16,822
Shell share of joint ventures and associates								
At January 1	265	3,097	71	–	–	–	6	3,439
At December 31	175	2,261	129	–	–	–	7	2,572

Proved undeveloped reserves 2022

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	459	784	1,218	1,035	242	783	452	4,973
At December 31	424	2,380	1,838	857	246	244	237	6,226
Shell share of joint ventures and associates								
At January 1	47	463	–	–	–	–	–	510
At December 31	–	2,747	40	–	–	–	–	2,787

Standardised measure of discounted future cash flows

SEC Form 20-F requires the disclosure of a standardised measure of discounted future net cash flows, relating to proved reserves quantities and based on a 12-month unweighted arithmetic average sales price, calculated on a first-day-of-the-month basis, with cost factors based on those at the end of each year, currently enacted tax rates and a 10% annual discount factor. In our view, the information so calculated does not provide a reliable measure of future cash flows from proved reserves, nor does it permit a realistic comparison to be made of one entity with another because the assumptions used cannot reflect the varying circumstances within each entity. In addition, a substantial but unknown proportion of future real cash flows from oil and gas production activities is expected to derive from reserves which have already been discovered, but which cannot yet be regarded as proved.

Standardised measure of discounted future cash flows relating to proved reserves at December 31**2024 – Shell subsidiaries**

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	37,955	123,846	55,232	28,879	32,916	48,952	102,670	430,450
Future production costs	11,866	29,048	24,991	10,232	12,472	19,831	46,858	155,298
Future development costs	6,522	13,124	8,866	5,971	9,953	4,905	18,146	67,487
Future tax expenses	16,295	35,843	3,306	6,345	1,710	5,492	10,910	79,901
Future net cash flows	3,272	45,831	18,069	6,331	8,781	18,724	26,756	127,764
Effect of discounting cash flows at 10%	703	19,582	6,456	2,793	1,386	13,675	11,592	56,187
Standardised measure of discounted future net cash flows	2,569	26,249	11,613	3,538	7,395	5,049	15,164	71,577
Non-controlling interest included	–	–	–	–	–	2,525	–	2,525

2024 – Shell share of joint ventures and associates

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	1,068	68,554	2,542	–	–	–	–	72,164
Future production costs	571	26,367	1,697	–	–	–	–	28,635
Future development costs	608	8,260	491	–	–	–	–	9,359
Future tax expenses	132	23,786	–	–	–	–	–	23,918
Future net cash flows	(243)	10,141	354	–	–	–	–	10,252
Effect of discounting cash flows at 10%	(151)	5,338	81	–	–	–	–	5,268
Standardised measure of discounted future net cash flows	(92)	4,803	273	–	–	–	–	4,984

2023 – Shell subsidiaries

	\$ million							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	47,840	130,018	61,283	25,740	34,456	54,604	96,804	450,745
Future production costs	13,367	29,098	28,065	10,844	14,506	23,944	43,320	163,144
Future development costs	6,013	13,744	8,902	3,446	8,771	6,633	15,862	63,371
Future tax expenses	23,310	37,566	3,562	6,805	1,561	5,485	11,674	89,963
Future net cash flows	5,150	49,610	20,754	4,645	9,618	18,542	25,948	134,267
Effect of discounting cash flows at 10%	1,351	21,769	7,594	1,392	1,644	13,453	9,320	56,523
Standardised measure of discounted future net cash flows	3,799	27,841	13,160	3,253	7,974	5,089	16,628	77,744
Non-controlling interest included	–	–	–	–	–	2,544	–	2,544

2023 – Shell share of joint ventures and associates

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	1,885	71,003	1,478	–	–	–	–	74,366
Future production costs	792	27,725	1,136	–	–	–	–	29,653
Future development costs	601	8,267	155	–	–	–	–	9,023
Future tax expenses	386	24,495	–	–	–	–	–	24,881
Future net cash flows	106	10,516	187	–	–	–	–	10,809
Effect of discounting cash flows at 10%	(83)	6,539	(59)	–	–	–	–	6,397
Standardised measure of discounted future net cash flows	189	3,977	246	–	–	–	–	4,412

2022 – Shell subsidiaries

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	82,513	157,030	67,551	28,054	52,231	66,059	115,529	568,967
Future production costs	16,781	32,416	22,764	9,762	23,546	28,520	46,947	180,736
Future development costs	6,125	15,240	8,696	3,004	7,720	5,269	15,917	61,971
Future tax expenses	43,626	50,771	6,917	9,670	3,821	7,004	15,074	136,883
Future net cash flows	15,981	58,603	29,174	5,618	17,144	25,266	37,591	189,377
Effect of discounting cash flows at 10%	5,193	25,770	10,529	1,580	4,056	17,478	13,104	77,710
Standardised measure of discounted future net cash flows	10,788	32,833	18,645	4,038	13,088	7,788	24,487	111,667
Non-controlling interest included	–	–	–	–	–	3,314	–	3,314

2022 – Shell share of joint ventures and associates

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	6,576	86,464	1,227	–	–	–	577	94,844
Future production costs	3,626	31,569	760	–	–	–	162	36,117
Future development costs	778	7,139	536	–	–	–	15	8,468
Future tax expenses	2,257	34,551	–	–	–	–	81	36,889
Future net cash flows	(85)	13,205	(69)	–	–	–	319	13,370
Effect of discounting cash flows at 10%	85	6,152	(130)	–	–	–	67	6,174
Standardised measure of discounted future net cash flows	(170)	7,053	61	–	–	–	252	7,196

Change in standardised measure of discounted future net cash flows relating to proved reserves**2024**

	Shell subsidiaries	Shell share of joint ventures and associates	\$ million Total
At January 1	77,744	4,412	82,156
Net changes in prices and production costs	(6,032)	813	(5,219)
Revisions of previous reserves estimates	16,196	2,180	18,376
Extensions, discoveries and improved recovery	6,559	277	6,836
Purchases and sales of minerals in place	475	0	475
Development cost related to future production	(12,193)	(668)	(12,861)
Sales and transfers of oil and gas, net of production costs	(40,034)	(3,767)	(43,801)
Development cost incurred during the year	11,298	1,260	12,558
Accretion of discount	11,892	1,144	13,036
Net change in income tax	5,672	(667)	5,005
At December 31	71,577	4,984	76,561

2023

	Shell subsidiaries	Shell share of joint ventures and associates	\$ million Total
At January 1	111,667	7,196	118,863
Net changes in prices and production costs	(57,249)	(8,991)	(66,240)
Revisions of previous reserves estimates	17,624	(1,507)	16,117
Extensions, discoveries and improved recovery	5,007	60	5,067
Purchases and sales of minerals in place	(4,039)	3,365	(674)
Development cost related to future production	(8,339)	(2,011)	(10,350)
Sales and transfers of oil and gas, net of production costs	(41,345)	(1,976)	(43,321)
Development cost incurred during the year	9,797	1,337	11,134
Accretion of discount	17,482	1,855	19,337
Net change in income tax	27,139	5,084	32,223
At December 31	77,744	4,412	82,156

2022

	Shell subsidiaries	Shell share of joint ventures and associates	\$ million Total
At January 1	70,465	5,058	75,523
Net changes in prices and production costs	107,637	10,441	118,078
Revisions of previous reserves estimates	12,378	(5,544)	6,834
Extensions, discoveries and improved recovery	7,422	439	7,861
Purchases and sales of minerals in place	3,187	10,374	13,561
Development cost related to future production	(11,233)	(1,619)	(12,852)
Sales and transfers of oil and gas, net of production costs	(54,486)	(7,029)	(61,515)
Development cost incurred during the year	10,079	1,545	11,624
Accretion of discount	9,796	888	10,684
Net change in income tax	(43,578)	(7,357)	(50,935)
At December 31	111,667	7,196	118,863

Oil and gas exploration and production activities capitalised costs

The aggregate amount of property, plant and equipment and intangible assets, excluding goodwill, relating to oil and gas exploration and production activities, and the aggregate amount of the related depreciation, depletion and amortisation at December 31 are shown in the tables below. Furthermore, long-lived assets that are classified as held for sale are presented separately in the balance sheet and are not included in the capitalised costs for oil and gas producing activities.

Shell subsidiaries

	\$ million	
	2024	2023
Cost		
Proved properties [A]	247,001	260,979
Unproved properties	7,214	8,711
Support equipment and facilities	12,164	11,767
	266,379	281,457
Depreciation, depletion and amortisation		
Proved properties [A]	159,802	164,860
Unproved properties	3,106	3,400
Support equipment and facilities	7,658	6,953
	170,566	175,213
Net capitalised costs	95,813	106,244

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

Shell share of joint ventures and associates

	\$ million	
	2024	2023
Cost		
Proved properties [A]	50,270	48,424
Unproved properties	1,309	1,372
Support equipment and facilities	4,752	4,673
	56,331	54,469
Depreciation, depletion and amortisation		
Proved properties [A]	38,068	36,844
Unproved properties	452	452
Support equipment and facilities	3,213	3,053
	41,733	40,349
Net capitalised costs	14,598	14,120

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

Oil and gas exploration and production activities costs incurred

Costs incurred during the year in oil and gas property acquisition, exploration and development activities, whether capitalised or charged to income currently, are shown in the tables below. Development costs include capitalised asset decommissioning and restoration costs (including increases or decreases arising from changes to cost estimates or to the discount rate applied to the obligations) and exclude costs of acquiring support equipment and facilities, but include depreciation thereon.

Shell subsidiaries**2024**

								\$ million
					North America			
	Europe	Asia	Oceania	Africa	USA	Other [A]	South America	Total
Acquisition of properties								
Proved	1			1				2
Unproved				9	68	1	19	97
Exploration	264	187	91	398	499	85	342	1,866
Development	1,728	1,812	1,904	1,002	4,302	402	2,568	13,718

[A] Comprises Canada, Mexico and Barbados.

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Acquisition of properties								
Proved	1	–	–	–	3	–	–	4
Unproved	–	–	–	(6)	18	34	45	91
Exploration	352	201	62	536	1,159	293	365	2,968
Development	1,431	1,701	1,039	353	3,265	309	1,982	10,080

[A] Comprises Canada, Mexico and Barbados.

2022

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Acquisition of properties								
Proved	(1)	–	–	102	–	–	184	285
Unproved	–	–	–	(1)	66	8	27	100
Exploration	422	141	21	259	721	140	591	2,295
Development	981	1,001	547	727	1,951	213	3,966	9,386

[A] Comprises Canada and Mexico.

Shell share of joint ventures and associates

Joint ventures and associates did not incur costs in the acquisition of oil and gas properties in 2024, 2023, and 2022.

2024

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other		Total
Exploration		43	10					53
Development	34	2,746	96					2,876

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other		Total
Exploration	–	65	5	–	–	–	–	70
Development	2	2,809	189	–	–	–	–	3,000

2022

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other		Total
Exploration	–	50	3	–	–	–	51	104
Development	(8)	2,250	246	–	–	–	87	2,575

Oil and gas exploration and production activities earnings

The earnings disclosed in this "extractive activities" section are only a subset of Shell's total earnings and as a result are not suitable for modelling Shell's integrated businesses, for which we refer to the full segment earnings and descriptions of Integrated Gas, Upstream and Chemicals and Products. These are available on pages 31, 38, and 60 respectively. The earnings disclosed in this "extractive activities" section are not adjusted for items such as impairment charges, restructuring charges and charges for onerous contract provisions. Full segment information to the Consolidated Financial Statements is available on pages 268-273.

The results of operations for oil and gas producing activities are shown in the tables below. Taxes other than income tax include royalties in cash to governments, without option to pay in kind outside USA and Canada.

Shell subsidiaries**2024**

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Revenue								
Third parties	1,263	3,166	591	1,535	181	1,322	1,963	10,021
Sales between businesses	6,663	11,905	7,596	2,667	8,261	1,907	10,093	49,092
Total	7,926	15,071	8,187	4,202	8,442	3,229	12,056	59,113
Production costs excluding taxes	1,389	1,878	1,097	817	1,269	565	1,488	8,503
Taxes other than income tax	82	176	405	332	–	–	2,911	3,906
Exploration	707	152	13	503	533	34	469	2,411
Depreciation, depletion and amortisation	1,249	1,551	2,309	831	4,371	347	3,930	14,588
Other costs/(income)	2,302	1,583	303	(33)	541	2,126	1,400	8,222
Earnings before taxation	2,197	9,731	4,060	1,752	1,728	157	1,858	21,483
Taxation charge/(credit)	2,119	5,920	1,145	1,280	345	56	507	11,372
Earnings after taxation	78	3,811	2,915	472	1,383	101	1,351	10,111

[A] Comprises Canada, Mexico and Barbados

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Revenue								
Third parties	1,328	2,967	754	1,431	123	827	1,934	9,364
Sales between businesses	7,452	11,717	7,113	2,344	8,711	2,382	10,663	50,382
Total	8,780	14,684	7,867	3,775	8,834	3,209	12,597	59,746
Production costs excluding taxes	1,655	1,827	1,181	659	1,259	677	1,514	8,772
Taxes other than income tax	102	165	412	284	–	–	3,307	4,270
Exploration	146	256	13	317	446	336	236	1,750
Depreciation, depletion and amortisation	1,687	1,324	2,760	1,471	4,330	1,094	4,100	16,766
Other costs/(income)	1,846	1,350	118	(32)	886	1,595	1,774	7,537
Earnings before taxation	3,344	9,762	3,383	1,076	1,913	(493)	1,666	20,651
Taxation charge/(credit)	2,362	5,544	976	343	330	(13)	1,088	10,630
Earnings after taxation	982	4,218	2,407	733	1,583	(480)	578	10,021

[A] Comprises Canada, Mexico and Barbados.

2022

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Revenue								
Third parties	1,986	3,832	1,394	2,173	257	888	2,459	12,989
Sales between businesses	11,115	14,503	8,457	2,013	12,221	2,713	12,107	63,129
Total	13,101	18,335	9,851	4,186	12,478	3,601	14,566	76,118
Production costs excluding taxes	2,151	1,956	1,331	825	1,556	731	1,331	9,881
Taxes other than income tax	102	831	688	238	(3)	–	3,837	5,693
Exploration	274	121	74	233	621	92	297	1,712
Depreciation, depletion and amortisation	1,468	2,090	(211)	1,090	4,462	403	1,722	11,024
Other costs/(income)	3,772	1,089	135	(336)	629	1,557	1,030	7,876
Earnings before taxation	5,334	12,248	7,834	2,136	5,213	818	6,349	39,932
Taxation charge/(credit)	5,151	7,561	3,025	527	739	229	1,681	18,913
Earnings after taxation	183	4,687	4,809	1,609	4,474	589	4,668	21,019

[A] Comprises Canada, Mexico and Barbados.

Shell share of joint ventures and associates**2024**

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Canada		Total
Third-party revenue	1,607	3,849	313	–	–	–	–	5,769
Total	1,607	3,849	313	–	–	–	–	5,769
Production costs excluding taxes	200	625	132	–	–	–	–	957
Taxes other than income tax	3	876	22	–	–	–	–	901
Exploration	2	23	–	–	–	–	–	25
Depreciation, depletion and amortisation	51	630	59	–	–	–	1	741
Other costs/(income)	102	77	(20)	–	–	–	(1)	158
Earnings before taxation	1,249	1,618	120	–	–	–	–	2,987
Taxation charge	630	751	–	–	–	–	–	1,381
Earnings after taxation	619	867	120	–	–	–	–	1,606

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Canada		Total
Third-party revenue	433	3,801	239	–	–	–	52	4,525
Total	433	3,801	239	–	–	–	52	4,525
Production costs excluding taxes	255	634	109	–	–	–	7	1,005
Taxes other than income tax	26	872	17	–	–	–	7	922
Exploration	–	9	–	–	–	–	–	9
Depreciation, depletion and amortisation	105	501	45	–	–	–	29	680
Other costs/(income)	(2)	29	17	–	(7)	–	(10)	27
Earnings before taxation	49	1,756	51	–	7	–	19	1,882
Taxation charge	25	868	–	–	2	–	(20)	875
Earnings after taxation	24	888	51	–	5	–	39	1,007

2022

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Third-party revenue	2,899	5,997	190	–	–	–	219	9,305
Total	2,899	5,997	190	–	–	–	219	9,305
Production costs excluding taxes	289	617	97	–	–	–	23	1,026
Taxes other than income tax	231	1,402	18	–	–	–	25	1,676
Exploration	1	26	–	–	–	–	–	27
Depreciation, depletion and amortisation	155	2,910	46	–	–	–	47	3,158
Other costs/(income)	(2,061)	184	14	–	(2)	–	18	(1,847)
Earnings before taxation	4,284	858	15	–	2	–	106	5,265
Taxation charge	2,958	1,437	–	–	1	–	22	4,418
Earnings after taxation	1,326	(579)	15	–	1	–	84	847

Acreeage and wells

The tables below reflect acreage and wells of Shell subsidiaries, joint ventures and associates. The term "gross" refers to the total activity in which Shell subsidiaries, joint ventures and associates have an interest. The term "net" refers to the sum of the fractional interests owned by Shell subsidiaries plus the Shell share of joint ventures and associates' fractional interests. Data below are rounded to the nearest whole number.

Oil and gas acreage (at December 31)

Thousand Acres

	2024				2023				2022			
	Developed		Undeveloped		Developed		Undeveloped		Developed		Undeveloped	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	5,916	1,915	5,578	3,075	5,913	1,854	4,230	2,105	6,008	1,873	6,121	3,095
Asia	20,664	7,365	32,009	16,445	20,654	7,360	34,782	18,515	20,678	7,370	33,382	18,524
Oceania	2,394	885	7,492	4,262	2,381	879	7,618	4,337	2,368	854	8,978	4,940
Africa	3,086	1,141	51,735	24,210	3,086	1,141	57,376	28,471	3,086	1,141	71,934	37,199
North America - USA	427	264	1,650	1,264	388	242	1,984	1,318	486	286	2,180	1,457
North America - Mexico	–	–	4,870	3,067	–	–	5,406	3,335	–	–	5,406	3,335
North America - Canada	390	217	1,150	649	385	213	1,147	646	379	209	1,126	626
South America	1,687	767	37,825	22,532	1,678	761	31,164	20,183	1,669	755	26,156	14,393
Total	34,564	12,554	142,309	75,504	34,485	12,450	143,707	78,910	34,674	12,488	155,283	83,569

Number of productive wells [A] (at December 31)

	2024				2023				2022			
	Oil		Gas		Oil		Gas		Oil		Gas	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	693	187	801	255	754	201	930	295	749	199	963	306
Asia	9,160	3,169	369	236	8,536	2,959	374	238	8,164	2,843	316	201
Oceania	–	–	3,776	2,240	–	–	3,579	2,127	–	–	3,382	1,964
Africa	324	107	92	36	328	108	83	33	321	106	84	34
North America – USA	178	107	21	15	172 [B]	108 [B]	23	16	13,021	6,617	26	18
North America – Canada	–	–	579	512	–	–	545	472	–	–	530	459
South America	418	204	69	44	345	170	63	39	293	144	58	35
Total	10,773	3,774	5,707	3,338	10,135 [C]	3,546 [C]	5,597	3,220	22,548	9,909	5,359	3,017

[A] The number of productive wells with multiple completions at December 31, 2024 was 313 Gross (125 Net); December 31, 2023: 346 Gross (142 Net); December 31, 2022: 869 Gross (400 Net).

[B] Corrected From 173 Gross (109 Net).

[C] Corrected From 10,136 Gross (3,547 Net).

Number of net productive wells and dry holes drilled [A]

	2024		2023		2022	
	Productive	Dry	Productive	Dry	Productive	Dry
Exploratory						
Europe	–	4	–	1	5	2
Asia	14	11	1	4	4	5
Oceania	4	0	24	–	20	1
Africa	3	4	–	2	–	2
North America - USA	1	1	2	5	–	5
North America - Canada	2	1	3	–	–	–
South America	8	2	10	–	18	2
Total	32	23	40	12	47	17
Development						
Europe	3	–	2	–	3	–
Asia	262	–	255	3	217	–
Oceania	102	1	166	25	84	1
Africa	2	–	2	–	5	–
North America - USA	5	1	12	–	54	–
North America - Canada	39	2	10	1	22	–
South America	24	–	20	–	23	–
Total	437	4	467	29	408	1

[A] Productive wells are wells with proved reserves allocated. Wells in the process of drilling are excluded and presented separately below.

Number of wells in the process of exploratory drilling [A]

2024

	At January 1		Wells in the process of drilling at January 1 and allocated proved reserves during the year		Wells in the process of drilling at January 1 and determined as dry during the year		New wells in the process of drilling at December 31		At December 31	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	11	7	–	–	(4)	(4)	4	3	11	5
Asia	61 [B]	24 [B]	(34)	(12)	(7)	(4)	12	5	32	13
Oceania	30	11	(8)	(4)	–	–	5	5	27	12
Africa	26	15	(4)	(2)	(7)	(4)	–	–	15	9
North America - USA	6 [C]	5 [C]	(1)	(1)	(2)	(1)	2	–	5	3
North America - Canada	6	6	–	–	–	–	–	–	6	6
South America	34 [D]	16 [D]	(14)	(7)	(5)	(2)	30	12	45	20
Total	174 [E]	84 [E]	(61)	(26)	(25)	(15)	53	25	141	68

[A] Wells in the process of exploratory drilling includes wells pending further evaluation.

[B] Corrected from 62 Gross (26 Net).

[C] Corrected from 7 Gross (5 Net).

[D] Corrected from 26 Gross (12 Net).

[E] Corrected from 168 Gross (82 Net).

Number of wells in the process of development drilling

2024

	At January 1		At December 31	
	Gross	Net	Gross	Net
Europe	5	2	9	6
Asia	127	20	141	14
Oceania	165	94	80	41
Africa	3	1	4	1
North America - USA	5	3	16	9
North America - Canada	–	–	7	7
South America	26	6	32	11
Total	331	126	289	89

In addition to the present activities mentioned above, the following recovery methods are operational in the following countries: water flooding (Brazil (including water alternating gas), Brunei, Malaysia, Nigeria, Oman, the UK and the USA); gas injection (Brazil, Brunei, Kazakhstan, Malaysia, Nigeria and Oman); steam injection (the Netherlands, Oman and the USA), and polymer flooding (Oman).

Parent Company Financial Statements

The Parent Company Financial Statements have not been audited in accordance with the standards of the Public Company Accounting Oversight Board (United States of America).

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Statement of Income
for the year ended December 31, 2024

		\$ million	
	Notes	2024	2023
Dividend income		18,499	28,498
Interest and other income	4	322	321
Administrative expenses		(329)	(340)
Income before taxation		18,492	28,479
Taxation credit/(charge)	8	1	(14)
Income for the period		18,493	28,465

Statement of Comprehensive Income
for the year ended December 31, 2024

		\$ million	
		2024	2023
Income for the period		18,493	28,465
Comprehensive income for the period		18,493	28,465

Balance Sheet
as at December 31, 2024

		\$ million	
	Notes	Dec 31, 2024	Dec 31, 2023
Assets			
Non-current assets			
Investments in subsidiaries	5	257,697	257,694
Deferred tax asset	8	4	2
		257,701	257,696
Current assets			
Accounts receivable	6	7,340	11,638
Tax receivables		6	35
Cash and cash equivalents		—	—
		7,346	11,673
Total assets		265,047	269,369
Liabilities			
Current liabilities			
Accounts payable and accrued liabilities	7	1,351	1,874
Total liabilities		1,351	1,874
Equity			
Share capital	10	510	544
Other reserves	11	236,072	235,929
Retained earnings		27,114	31,022
Total equity		263,696	267,495
Total liabilities and equity		265,047	269,369

Signed on behalf of the Board

/s/ Sinead Gorman

Sinead Gorman
 Chief Financial Officer
 March 25, 2025

Statement of Changes in Equity
for the year ended December 31, 2024

					\$ million
	Notes	Share capital	Other reserves	Retained earnings	Total equity
At January 1, 2024		544	235,929	31,022	267,495
Comprehensive income for the period		—	—	18,493	18,493
Dividends	12	—	—	(8,668)	(8,668)
Repurchases of shares	10	(34)	34	(14,057)	(14,057)
Share-based compensation	11	—	109	324	433
At December 31, 2024		510	236,072	27,114	263,696
At January 1, 2023		584	235,721	25,175	261,480
Comprehensive income for the period		—	—	28,465	28,465
Dividends	12	—	—	(8,387)	(8,387)
Repurchases of shares	10	(40)	40	(14,571)	(14,571)
Share-based compensation	11	—	168	340	508
At December 31, 2023		544	235,929	31,022	267,495

Statement of Cash Flows
for the year ended December 31, 2024

			\$ million
	Notes	2024	2023
Income before taxation for the period		18,492	28,479
Adjustment for:			
Dividend income		(18,499)	(28,498)
Interest income		(320)	(320)
Share-based compensation		11	13
(Increase)/decrease in net working capital		(659)	(185)
Cash flow from operating activities		(975)	(511)
Dividends received		18,499	28,498
Decrease/(increase) in deposits with subsidiary undertakings	15	4,293	(5,559)
Interest received		320	320
Share-based compensation		429	256
Cash flow from investing activities		23,541	23,515
Cash dividends paid	12	(8,668)	(8,387)
Shares repurchased		(13,898)	(14,617)
Cash flow from financing activities		(22,566)	(23,004)
Change in cash and cash equivalents		—	—
Cash and cash equivalents at beginning of the year		—	—
Cash and cash equivalents at end of the year		—	—

Notes to the Parent Company Financial Statements

1. Basis of preparation

The Financial Statements of Shell plc (the "Company") have been prepared in accordance with UK-adopted international accounting standards and with the requirements of the UK Companies Act 2006 as applicable to companies reporting under those standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the material accounting policies in Note 2, the Financial Statements have been prepared under the historical cost convention, except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Financial Statements have been prepared on the going concern basis of accounting, as set out in Note 1 to the Consolidated Financial Statements (see page 245).

The preparation of financial statements in conformity with IFRS requires the use of certain accounting estimates. It also requires management to exercise its judgement in the process of applying the Company's accounting policies. Actual results may differ from those estimates.

The financial results of the Company are included in the Consolidated Financial Statements on pages 240-312. The financial results of the Company incorporate the results of the Royal Dutch Shell Dividend Access Trust (the "Trust").

The Company's principal activity is being the parent company for Shell, as described in Note 1 to the Consolidated Financial Statements (see page 245).

2. Material accounting policies, judgements and estimates

The Company's accounting policies follow those of Shell as set out in Note 2 to the Consolidated Financial Statements on pages 245-255. The following are Company-specific policies.

Presentation and functional currency

The Company's presentation and functional currency is US dollars (dollars).

Investments

Investments in subsidiaries are stated at cost, net of any impairment. Investments are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those investments may not be recoverable. For the purposes of determining whether impairment of investments in subsidiaries has occurred, and the extent of any impairment loss or its reversal, management performs an assessment of value in use or fair value less costs of disposal. Management's conclusion may be determined by using one or both of these methodologies as appropriate. For key judgements applied in reaching management's conclusion, please see Note 5.

The original cost of the Company's investment in Royal Dutch Petroleum Company (Royal Dutch) was based on the fair value of the shares transferred to the Company by the former shareholders of Royal Dutch in exchange for A shares in the Company during the public exchange offer in 2005. The original cost of the Company's investment in The "Shell" Transport and Trading Company p.l.c., now The Shell Transport and Trading Company Limited (Shell Transport), was the fair value of the shares held by the former shareholders of The "Shell" Transport and Trading Company p.l.c., transferred in consideration for the issuance of B shares as part of the Scheme of Arrangement in 2005. The Company's investments in Royal Dutch and Shell Transport subsequently became an investment in Shell Petroleum N.V., now Shell Petroleum B.V. (Shell Petroleum); this change had no impact on the cost of investments in subsidiaries. On February 15, 2016, the Company acquired all the voting rights in BG Group plc via the issuance of shares and cash payments of a total fair value of \$53,086 million. In September 2016, the Company's shares in BG Group Limited (BG), formerly BG Group plc, were exchanged for an increased investment in Shell Petroleum. This change had no impact on the cost of investments in subsidiaries.

On October 16, 2023, the Company contributed its investment in Shell Petroleum to another subsidiary, Shell Group Holding Limited, in exchange for the issuance of 99 shares with a nominal value of \$1 issued at a premium of \$257,493 million, reflecting the carrying amount of the Company's investment in Shell Petroleum. This transaction had no impact on the cost of investments in subsidiaries.

Dividend income

Dividends are recognised on a paid basis unless the dividend has been confirmed by a general meeting of Shell Group Holding Limited, in which case income is recognised on the date at which receipt is deemed virtually certain.

Share-based compensation plans

The fair value of share-based compensation for equity-settled plans granted to employees of subsidiaries under the Company's plans is recognised as an investment in subsidiaries from the date of grant over the vesting period with a corresponding increase in equity.

In the year of vesting of a plan, the costs for the actual deliveries are charged to the relevant employing subsidiaries. This is recognised as a realisation of the investment originally booked. If the actual vesting costs are higher than the cumulatively recognised share-based compensation charge, the difference is recognised in income.

See Note 28 to the Consolidated Financial Statements on pages 305-306 for information on the Company's principal plan.

2. Material accounting policies, judgements and estimates continued**Taxation**

The Company is tax-resident in the UK (see Note 8).

3. Changes to IFRS not yet adopted**IFRS 18 Presentation and Disclosure in Financial Statements ("IFRS 18")**

IFRS 18 was issued in April 2024 and will replace IAS 1 Presentation of Financial Statements. IFRS 18 will be effective from reporting periods beginning on or after January 1, 2027. This standard sets out requirements for the presentation and disclosure of information in financial statements, particularly the Statement of Income. From Shell's initial impact assessment of IFRS 18, it is expected that the implementation will have very limited impact on the Company financial statements.

4. Interest and other income

	\$ million	
	2024	2023
Interest and other income:		
Interest income	320	320
Foreign exchange gains	2	1
Total	322	321

5. Investments in subsidiaries

	\$ million	
	2024	2023
At January 1	257,694	257,455
Share-based compensation	739	705
Recovery of vested share-based compensation	(736)	(466)
At December 31	257,697	257,694

As at December 31, 2024, the market capitalisation of the Company and its subsidiaries (collectively referred to as the "Group") was less than the Company's carrying value of its investment in the Group. Management has therefore performed an impairment test to determine whether recoverable amount exceeded the cost of investment recognised.

Recoverable amount was assessed by reference to fair value less costs of disposal. This was calculated by comparing the cost of investment with the Group's market capitalisation, adjusted to reflect a control premium. In determining the premium and costs of disposal, available data from recent market transactions in comparable industries, conducted at arm's length for similar assets, have been taken into account.

This resulted in a recoverable amount exceeding the cost of investment recognised and is consistent with management's expectation of the future recoverability of the Company's investment in the Group. As fair value less costs of disposal exceeded cost, no separate value in use calculation was undertaken.

The recoverability of the Company's investment in the Group may be influenced by the risk factors of the Group, including commodity prices, market supply and demand, expected production volumes and developments related to climate change and the energy transition (see Note 4 to the Consolidated Financial Statements on pages 255-265).

6. Accounts receivable

	\$ million	
	Dec 31, 2024	Dec 31, 2023
Amounts due from subsidiaries (see Note 15)	7,335	11,633
Other receivables	5	5
Total	7,340	11,638

7. Accounts payable and accrued liabilities

	\$ million	
	Dec 31, 2024	Dec 31, 2023
Amounts due to subsidiaries (see Note 15)	239	920
Accruals and other liabilities	1,101	943
Unclaimed dividends	11	11
Total	1,351	1,874

Accruals and other liabilities at December 31, 2024, principally comprise commitments for share repurchases undertaken on the Company's behalf under irrevocable, non-discretionary arrangements of \$1,061 million (2023: \$904 million).

8. Taxation

Reconciliation of applicable tax charge at statutory tax rate to taxation charge

	\$ million	
	2024	2023
Income before taxation	18,492	28,479
Applicable tax charge at the statutory tax rate of 25% (2023: 23.52%)	4,623	6,698
Derecognition of deferred tax assets	–	–
Tax effects of:		
Income not subject to tax at statutory rates	(4,625)	(6,703)
Expenses not deductible for tax purposes	–	1
Controlled Foreign Companies charge	–	19
Adjustments in respect of prior periods	(2)	(1)
Taxes booked against Pillar 2 liabilities	3	–
Taxation (credit)/charge	(1)	14

The UK corporate income tax rate applicable for the year ended December 31, 2024, is 25%. Deferred taxes on the Balance Sheet have been measured at 25%, which represents the future corporate income tax rate that was enacted at the balance sheet date. The Finance Act 2021 (enacted on May 24, 2021) increased the main rate of UK corporate income tax to 25% with effect from April 1, 2023.

On June 20, 2023, the UK substantively enacted Pillar Two Model Rules, effective as from January 1, 2024. The Pillar Two rules are designed to ensure large multinational enterprises (meeting certain conditions) pay a minimum level of tax on the income arising in each jurisdiction where they operate. Shell has applied the exception, as set out in the amendments to IAS 12 Income Taxes, to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes.

9. Financial instruments

Financial assets and liabilities measured at amortised cost in the Company's Balance Sheet comprise amounts due from subsidiaries (see Note 15) and certain amounts reported within accounts payable and accrued liabilities (see Note 7). The fair value of financial assets and liabilities measured at amortised cost at December 31, 2024, and December 31, 2023, approximates their carrying amount.

Information on financial risk management is presented in Note 26 to the Consolidated Financial Statements (see pages 299-302). Foreign currency derivatives are used by the Company to manage foreign exchange risk, which arises when certain transactions are denominated in a currency that is not the Company's functional currency. No derivative financial instruments were held at December 31, 2024, or December 31, 2023.

10. Share capital

Issued and fully paid ordinary shares of €0.07 each

	Number of shares	Nominal value \$ million
	Ordinary shares	Ordinary shares
At January 1, 2024	6,524,109,049	544
Repurchases of shares	(409,077,891)	(34)
At December 31, 2024	6,115,031,158	510
At January 1, 2023	7,003,503,393	584
Repurchases of shares	(479,394,344)	(40)
At December 31, 2023	6,524,109,049	544

At the Company's Annual General Meeting (AGM) on May 21, 2024, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of approximately €150 million (representing approximately 2,147 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 20, 2025, and the end of the AGM to be held in 2025, unless previously renewed, revoked or varied by the Company in a general meeting.

At the May 21, 2024 AGM, shareholders granted the Company the authority to repurchase (i) up to 644.2 million ordinary shares "on-market" (excluding any treasury shares), less the number of ordinary shares purchased or committed to be purchased under the buyback contracts ("off-market"), made under the authority in (ii); and (ii) up to 644.2 million ordinary shares off-market, less any on-market purchases made under the authority in (i).

10. Share capital continued

In the case of both on-market and off-market purchases of the ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off-market purchases of the ordinary shares will expire at the earlier of the close of business on August 20, 2025, and the end of the AGM of the Company to be held in 2025. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself.

All shares repurchased in 2024 under the Company's share buyback programme were cancelled except for repurchases on December 30 and December 31 which were cancelled in January 2025.

For information on the number of shares in the Company held by Shell employee share ownership trusts and trust-like entities to meet delivery commitments under employee share plans, see Note 28 to the Consolidated Financial Statements (see page 305-306).

Assimilation of A and B shares

On January 29, 2022, the Company completed the assimilation of A and B shares into a single class of share, following the change in tax residence to the UK with effect from December 31, 2021. After this date, dividend payments made by the Company with the use of the dividend access mechanism were restricted to the settlement of amounts unclaimed in respect of dividends declared on Class B shares prior to assimilation.

At December 31, 2024 unclaimed dividends of £3 million (December 31, 2023: £4 million) remain in respect of dividends declared on Class B shares prior to assimilation.

At the Company's Annual General Meeting (AGM) on May 23, 2023, the Articles of Association were amended to reduce the period after which unclaimed dividends are forfeited, from 12 years to 6 years.

11. Other reserves

					\$ million
	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Total
At January 1, 2024	234,231	154	236	1,308	235,929
Repurchases of shares	—	—	34	—	34
Share-based compensation	—	—	—	109	109
At December 31, 2024	234,231	154	270	1,417	236,072
At January 1, 2023	234,231	154	196	1,140	235,721
Repurchases of shares	—	—	40	—	40
Share-based compensation	—	—	—	168	168
At December 31, 2023	234,231	154	236	1,308	235,929

The merger reserve was established as a consequence of the Company becoming the single parent company of Royal Dutch and Shell Transport and represented the difference between the cost of the investment in those companies and the nominal value of shares issued in exchange for those investments as required by the prevailing legislation at that time, section 131 of the Companies Act 1985. On February 15, 2016, the Company acquired all shares in BG Group plc by means of a Scheme of Arrangement under Part 26 of the Act, via the issuance of 218.7 million A shares and 1,305.1 million B shares and cash payments. This resulted in an increase in the merger reserve, representing the difference between the fair value and the nominal value of the shares issued by the Company.

On January 6, 2006, loan notes were converted into 4,827,974 A shares. The difference between the carrying value of the loan notes and the nominal value of the new shares issued was credited to the share premium reserve. The capital redemption reserve was established in connection with repurchases of shares of the Company. The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 28 to the Consolidated Financial Statements) and movement in share-based compensation for the year is the net of the charge to equity and the release as a result of vested awards.

12. Dividends

See Note 30 to the Consolidated Financial Statements (see page 308).

13. Legal proceedings and other contingencies

See Note 32 to the Consolidated Financial Statements (see pages 308-310).

14. Directors and Senior Management

See Note 34 to the Consolidated Financial Statements (see page 311) for the remuneration of Directors of the Company. In 2024, the Company recognised \$14 million (2023: \$14 million) in administrative expenses for the compensation of Directors and Senior Management.

15. Related parties

Information about the Company's subsidiaries, and whether these are held directly or indirectly, and other related undertakings (all of which are held indirectly), at December 31, 2024, is set out in "Appendix 1: Significant subsidiaries and other related undertakings (audited)".

	Amounts due from subsidiaries (see Note 6)		Amounts due to subsidiaries (see Note 7)	
	2024	2023	2024	2023
Shell Petroleum	–	–	122	820
Shell Treasury Centre Limited	7,332	11,625	–	–
The Shell Petroleum Company Limited	–	–	103	–
The Shell Transport and Trading Company Limited	1	–	–	94
Other	2	8	14	6
Total	7,335	11,633	239	920

The amount due from Shell Treasury Centre Limited (STCL) comprises call deposits and overdrafts in dollars, sterling and euros. Interest is calculated using arm's-length benchmark 3-day median quotes on dollar, sterling and euro balances. Net interest income in 2024 from STCL was \$320 million (2023: \$320 million). During the year, the Company was recharged costs from The Shell Petroleum Company Limited of \$264 million (2023: nil) and The Shell Transport and Trading Company Limited of \$37 million (2023: \$304 million).

Other transactions and balances

The Company periodically enters into forward and spot foreign currency contracts with Treasury companies, which are subsidiaries. There were no open foreign currency contracts at December 31, 2024, or December 31, 2023.

The Company settles general and administrative expenses of the Trust, including the auditor's remuneration.

The Company has guaranteed contractual payments totalling \$31,778 million at December 31, 2024 (December 31, 2023: \$48,356 million), and related interest, in respect of listed debt issued by Shell International Finance B.V. The fair value of this guarantee was considered to be immaterial at initial recognition and since the likelihood of default is considered remote no subsequent expected credit losses have been recognised.

On January 11, 2023, the Company guaranteed contractual payments totalling \$2,825 million at December 31, 2024 (December 31, 2023: \$2,932 million), and related interest, in respect of listed debt issued by BG Energy Capital plc, in place of the previous guarantor, BG Energy Holdings Limited. Both entities are subsidiaries of the Company. The fair value of this guarantee was considered to be immaterial at initial recognition and since the likelihood of default is considered remote no subsequent expected credit losses have been recognised.

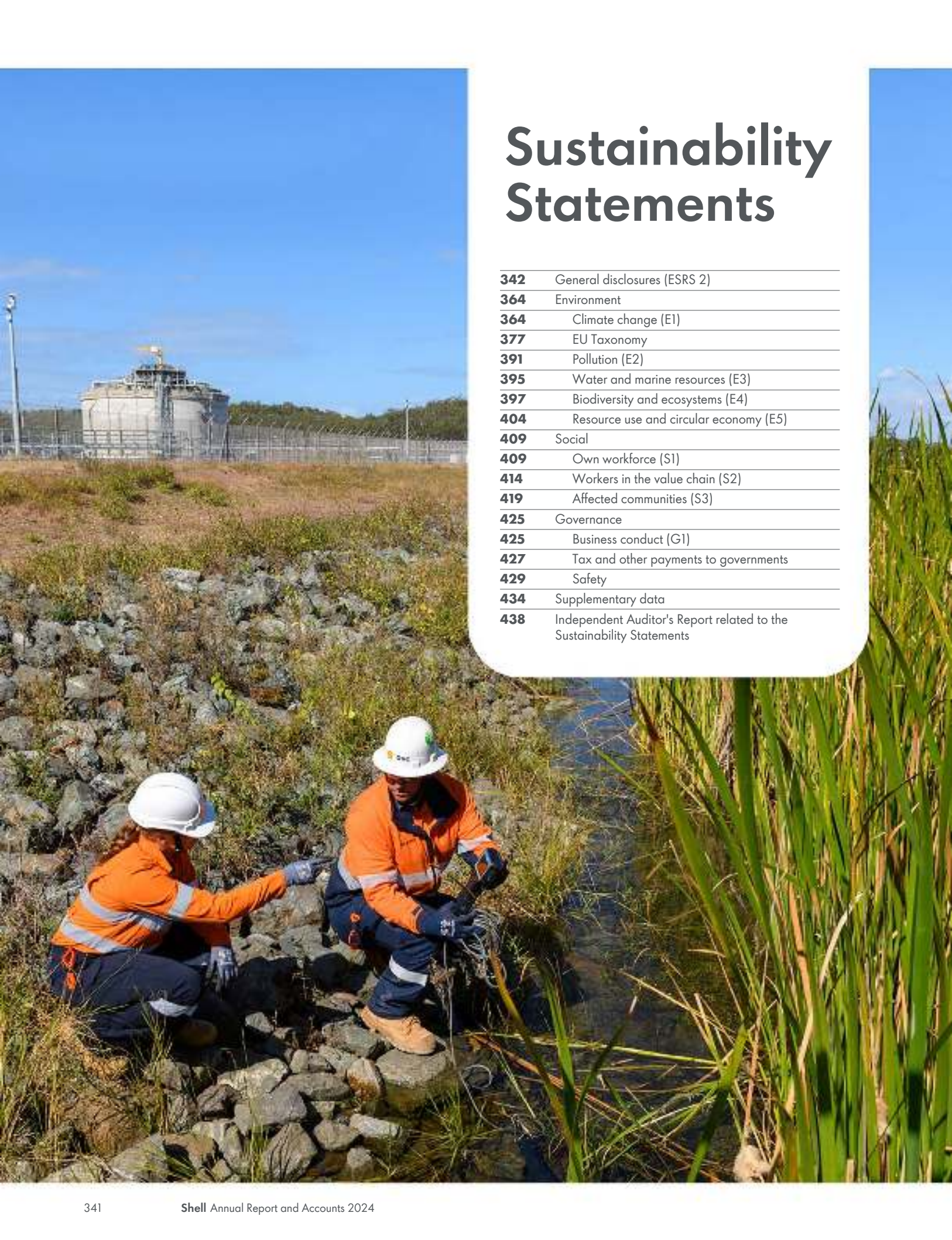
On October 4, 2024, the Company guaranteed contractual payments totalling \$11,443 million at December 31, 2024, and related interest, in respect of listed debt issued by Shell Finance US Inc. This entity is a subsidiary of the Company. The fair value of this guarantee was considered to be immaterial at initial recognition and since the likelihood of default is considered remote no subsequent expected credit losses have been recognised.

16. Auditor's remuneration

See Note 35 to the Consolidated Financial Statements (see page 312).

17. Post-balance sheet events

On January 30, 2025, Shell announced the commencement of a \$3,500 million share buyback programme covering an aggregate contract term of approximately three months (the "programme"). The purpose of the programme is to reduce the issued share capital of the Company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's first quarter 2025 results announcement, scheduled for May 2, 2025. The Company has entered into an arrangement with a single broker consisting of two irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.



Sustainability Statements

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General disclosures (ESRS 2)

General basis for preparation of Sustainability Statements (BP-1)

In anticipation of the transposition by the Netherlands of the EU Corporate Sustainability Reporting Directive (CSRD) into national law, Shell's Sustainability Statements for the year ended December 31, 2024, are presented on a voluntary basis. The Sustainability Statements have been prepared in accordance with the requirements of the CSRD and the European Sustainability Reporting Standards (ESRS).

Owing to differences in the timing and nature of the transposition of the CSRD into national law across European Economic Area (EEA) members, there is an absence of uniform practice upon which regulators, professional bodies, preparers and auditors can draw. Differences in the timing of transposition by different jurisdictions, coupled with the lack of a standardised approach to evaluating the Sustainability Statements, may impact comparability between entities.

Section headers in the Sustainability Statements follow the structure of the ESRS. Terms and definitions used in the text are defined by Shell unless explicitly stated otherwise.

The Sustainability Statements are prepared on a consolidated basis. The scope of assets subject to consolidation is consistent with that of the "Consolidated Financial Statements" on pages 241-312. The basis of consolidation specified by the ESRS varies per topic and is not consistent with Shell's historical reporting, which is informed by industry standards and the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.

In line with industry practice, Shell has historically reported sustainability data using the operational control boundary, whereby data are reported on a 100% basis for assets under operational control. This approach reflects the prevalence of joint operations in the oil and gas sector and the common industry practice of designating an operating partner to create and apply operating policies and standards.

For individual environmental and social topics, the ESRS specify an applicable reporting boundary. This includes reporting on a financial control basis (for water and resource use and circular economy), reporting based on relationships (for own workforce, workers in the value chain and affected communities) and reporting based on a combination of operational and financial control in a new "ESRS boundary" (for greenhouse gas emissions, pollution and biodiversity). Many of these boundaries differ from Shell's historical reporting.

The table below illustrates the key differences between reporting on an operational control or financial control basis and the "ESRS boundary" that applies to the environmental topics mentioned above.

Understanding differences in reporting boundaries [A]

Boundary	Accounting treatment	Operated venture	Non-operated venture
Operational control	Subsidiaries	100%	0%
	Joint operations	100%	0%
	JVs and associates	100%	0%
Financial control	Subsidiaries	100%	100%
	Joint operations	Shell share	Shell share
	JVs and associates	0%	0%
ESRS	Subsidiaries	100%	100%
	Joint operations	100%	Shell share
	JVs and associates	100%	0%

[A] Shell reports Scope 3 emissions using an equity boundary. Under this approach, we report the Shell share of emissions from energy products sold, including those sourced from third parties.

For the E1 Climate change standard, we report in 2024 against all required boundaries, as shown in the table "Scope of Consolidation" below. This includes the new ESRS boundary applied to greenhouse gas emissions that differs from the financial statements, industry standards and the Greenhouse Gas Protocol. For the remaining environmental standards, we report data against an operational control boundary as well as the boundaries required by the ESRS, making use of estimates where actual data from non-operated ventures is unavailable. For social and governance topics we report data in line with the ESRS. Further details are provided below.

Greenhouse gas (GHG) emissions

The GHG Protocol Corporate Accounting and Reporting Standard, published in 2004, provides global requirements and guidance on how to report emissions through standardised approaches and principles. ESRS E1 Climate change requires consideration of the GHG Protocol when preparing information for reporting GHG emissions. For Scope 1 and 2 emissions, the Greenhouse Gas Protocol recognises three reporting boundaries: operational control (reporting on a 100% basis for assets under operational control), financial control (reporting on a 100% basis for fully consolidated subsidiaries and percentage interest for joint operations) and equity share (reporting according to the ownership share).

The GHG Protocol recognises that in many industries, operational and financial control are the same with the "notable exception being the oil and gas industry". As a result, when oil and gas companies choose to report against a control boundary, the GHG Protocol requires that they make a choice between reporting on the basis of operational control or financial control. Shell has reported GHG emissions against an operational control boundary in prior periods, and again in 2024, because this best reflects our ability to directly control operations by applying our own policies and standards.

The ESRS E1 Climate change standard establishes a fourth boundary that combines the operational control and financial control boundaries. This "ESRS boundary" is intended to present a full span of control from both a financial and operational perspective. In doing so, however, it results in a divergence from the three consolidation methods provided by the GHG Protocol. The ESRS boundary also results in partial double counting of emissions across the industry, as the operator will report 100% of the emissions and partners may report their share of the same emissions.

For GHG emissions, Shell reports against an operational control, equity and ESRS boundary for operated and non-operated ventures.

Other environmental, social and governance data

To report environmental, social and governance data against either a financial control or ESR5 boundary requires access to data from non-operated ventures. More than half of the ventures in which Shell is a partner are non-operated, with partners comprising both state-owned and international companies. Shell has more than 50 joint operations not under operational control that fall within the ESR5 boundary, of which 85% operate outside the European Economic Area. These ventures are not subject to the CSRD, nor are they contractually obliged under the operator agreement to provide the volume and granularity of data required by the ESR5.

The feasibility of obtaining information from non-operated ventures has been additionally impacted by the short adoption period, with publication of the final ESR5 occurring in the second half of 2023 for first reporting on January 1, 2024, and guidance on reporting boundaries being published several months subsequent to that date.

For environmental metrics other than greenhouse gas contained in the E2–E5 standards, Shell sample-tested data availability from non-operated ventures and observed gaps in availability, quality and completeness. We have therefore, in accordance with the ESR5, estimated the data for non-operated ventures, covering approximately 60 metrics across more than 50 non-operated ventures. See "Supplementary data for pollution, water, biodiversity and waste, including estimates for non-operated assets" on pages 434-437 for a presentation of this information along with details of the estimation methodologies, limitations and uncertainties.

Shell does not have operational control over how non-operated ventures embed sustainability in their operations. This risk of having less control while still being exposed to risks associated with these operations, including environmental risks, is described in our Risk factors. See "Portfolio risks" on pages 135-137 for more information. The risk associated with non-operated ventures is managed by appointing Shell representatives whose responsibility is to manage performance, and create and protect value for Shell. These representatives seek to influence operators and other partners to adopt appropriate practices to drive value and to mitigate risk. This includes regular assessments of how the non-operated venture's standards align with Shell's and seek to influence closure of any identified gaps.

We continue to engage with peers, joint venture partners, standard setters and others on the topic of reporting boundaries. We advocate a common approach through global and interoperable reporting standards, combined with adequate multi-year transition timelines, to access non-operated venture data through industry-wide collaboration.

Boundaries applied in 2024

For the 2024 Sustainability Statements, Shell applies the consolidation scopes set out below. Further details of how these boundaries are applied and any exceptions for individual topics or subtopics are explained in the topical ESR5.

Scope of consolidation

ESRS	Topic	ESRS boundaries	Boundary applied by Shell in 2024
E1	Scope 1 & 2 emissions	ESRS boundary	ESRS boundary [A] Equity boundary [B] Operational control [C]
E1	Scope 3 emissions	Undertaking determines	Equity boundary [B]
E2	Pollution	ESRS boundary	Operational control [C] ESRS boundary [A] [D]
E3	Water and marine resources	Financial control	Operational control [C] Financial control [D]
E4	Biodiversity and ecosystems	ESRS boundary	Operational control [C] ESRS boundary [A] [D] [E]
E5	Resource use and circular economy	Financial control	Operational control [C] Financial control [D]
S1	Own workforce	Based on contractual relationships [F]	Based on contractual relationships [F]
S2	Workers in the value chain	Based on contractual relationships [F]	Based on contractual relationships [F]
S3	Affected communities	Based on relationships	Based on relationships
G1	Business conduct	Specified per topic	Specified per topic

[A] New ESR5 boundary that combines operational and financial control. Data are provided for the consolidated accounting group (the parent and subsidiaries) and jointly controlled operations, plus investees such as associates or joint ventures for which Shell has operational control.

[B] Data are provided in accordance with Shell's share of ownership in the asset or activity.

[C] Data are provided on a 100% basis for companies and joint ventures where we are the operator unless otherwise stated, in line with historical reporting and industry practice.

[D] Data for non-operated ventures in scope of this boundary are estimated.

[E] Sites impacting biodiversity sensitive areas only.

[F] Based on the contractual relationship between Shell as the reporting entity and the workers within the scope of these standards.

Assets and activities that we acquired or divested during 2024 are included only for the period in which we operated or owned them, unless otherwise stated.

Some EU member states have not yet transposed the CSRD into national law. As of December 31, 2024, none of Shell's subsidiaries included in the scope of consolidation had an individual or consolidated reporting obligation in 2024 pursuant to Articles 19a(9) or 29a(8) of the EU Accounting Directive. One Shell subsidiary in Spain, Shell España, S.A., would be exempted from the obligation to report individually in the event that Spain, which has not yet adopted the CSRD, were to do so and require retroactive application for 2024.

Value chain

For the purposes of our 2024 Sustainability Statements, a simplified version of Shell's value chain is shown below. This classification is used to guide our assessment of material topics and decisions about the content of our disclosures under the ESR5.

We follow the general classification of value chain provided in ESR5, which distinguishes between own operations, upstream value chain and downstream value chain.

Own operations and value chain



Shell's own operations comprise companies, joint operations, joint ventures and associates where we are the operator and exercise operational control and/or where the activities are reported under financial control. Our own operations span activities related to the production of hydrocarbons and power, processing, trading, sales and distribution. Our upstream value chain consists of direct and indirect suppliers of hydrocarbons, power, biomass, and other goods and services that we transform into energy and non-energy products that benefit our customers. Our downstream value chain consists of customers and their use of our sold products. References to "upstream value chain" and "downstream value chain" in the Sustainability Statements have the meaning given above and do not refer to our Upstream business segment or to our Downstream, Renewables and Energy Solutions directorate.

Actors in our value chain are individuals or entities in our upstream or downstream value chain. An actor is considered upstream from Shell when it provides goods or services used in the production of our own products or services. An actor is considered downstream from Shell when it receives products or services from us.

Actors in our upstream value chain include direct and indirect suppliers, strategic partners and non-operated ventures, among others. Actors in our downstream value chain include retail consumers, business customers, non-operated ventures and business partners who distribute or market our products.

We extend the scope of the Sustainability Statements on a topic-by-topic basis to cover material impacts in Shell's value chain where we have existing data, policies or actions.

The most significant value chain topic for Shell is Scope 3 emissions. More than 90% of the total emissions we include within our net carbon intensity (NCI) boundary are indirect emissions associated with third-party products and end-use emissions of energy products we sell.

Within the 15 categories of Scope 3 emissions, we assess four categories as significant: Category 1 Purchased goods and services, Category 3 Fuel and energy-related activities, Category 9 Downstream transport and distribution and Category 11 Emissions from the use of sold products. These categories cover value chain emission impacts for the purchase, transport and use of energy products by the customer.

Our policies often have direct or indirect application for actors in our value chain, such as suppliers and non-operated ventures. Our qualitative disclosures indicate how our policies are applied in Shell companies and operated joint ventures, as well as our expectation that non-operated ventures adopt appropriate and acceptable policies to manage their risks. Our qualitative disclosures also cover policies covering actors in our upstream value chain, such as the Shell Supplier Principles, our standards for worker welfare, and our approach to enhanced value chain due diligence.

In 2024, we made efforts to obtain additional value chain information for selected topics, such as seeking deeper insight from suppliers into potential human rights impacts in our upstream value chain. We use provisions in the ESRS to phase in certain value chain related disclosures during this transitional period. We generally use this phase-in provision when we are still assessing the nature of potential value chain impacts and the associated data needed for reporting, where regulatory requirements are uncertain, or where it is not yet possible to obtain reliable information owing to contractual restrictions or other factors. We aim to deepen our understanding and enhance our reporting on the value chain.

Use of other exemptions

We have not used the option to omit information corresponding to intellectual property, know-how or the results of innovation. We have not used the exemption from disclosure of impending developments or matters in the course of negotiation, as provided for in articles 19a(3) and 29a(3) of the EU Accounting Directive.

Disclosures in relation to specific circumstances (BP-2) Time horizons

The time horizons prescribed by the ESRS for reporting on the short, medium and long term differ from those used in Shell for strategy, business planning and risk management purposes.

Because of the inherent uncertainty and pervasive risks across our strategy and business model, we monitor sustainability-related impacts, risks and opportunities across the following time horizons:

- Short term (up to three years): we develop detailed financial projections and use them to manage performance and expectations on a three-year cycle. These projections incorporate decarbonisation measures required to meet our short-term targets.
- Medium term (generally 3–10 years): these are embedded within our business plan, with our continued focus on the customer, the investments and portfolio shifts required in the medium term that will reshape Shell's portfolio.
- Long term (generally beyond 10 years): our portfolio and product mix is expected to evolve over time with changing customer demand.

For the purposes of our disclosures in the Sustainability Statements, we adjust the time horizons described above to follow the ESRS definition of "short term" as referring to one year from the end of the current reporting period. Owing to the long-term nature of capital investment in our industry, we use the option afforded by the ESRS to specify different periods for the medium and long term. For the purposes of our disclosures in the Sustainability Statements, we therefore define "medium term" as generally between 2 and 10 years and "long term" as generally beyond 10 years. Many of our impacts, risks and opportunities are long term in nature, and therefore we consider the differences between the time horizons for reporting under the ESRS and those used internally for strategy, business planning and risk management to be of limited practical significance.

Value chain estimation

We may use estimates based on indirect sources for reporting certain quantitative metrics. Where applicable, further information is provided in the notes accompanying the presentation of metrics.

Sources of estimation and outcome uncertainty

Certain quantitative metrics disclosed in the Sustainability Statements may be subject to measurement uncertainty. Preparation of environmental, social and governance data requires us to apply judgement or make use of estimates. We make these judgements or estimates based on industry standards, applicable regulatory requirements, established operating practices, subject matter expertise and other information believed to be reasonable under the circumstances. Consequently, there is an inherent uncertainty in our calculations.

Estimates and underlying assumptions are reviewed on an ongoing basis to improve accuracy, with any revisions potentially impacting the reported amounts. Where applicable, information about estimates, judgements and assumptions is provided in the notes accompanying the presentation of metrics.

Topics involving a level of measurement uncertainty where we apply either key estimates or judgements are indicated below, together with the level of potential impact on the reported data.

Estimates and judgements

Page(s)	Key estimates and judgements	Estimate/ judgement	Uncertainty impact
100	Scope 3, Category 1: Purchased goods and services	Estimate	Low
394	Emissions to air	Estimate	Low
394	Discharges to water	Estimate	Low
397	Water consumption	Estimate	Low
408	Waste	Estimate	Low
434-437	Pollution, water, biodiversity and waste data for non-operated ventures	Estimate	High

Low impact Medium impact High impact

Shell has established a system of risk management and internal control over sustainability reporting to minimise the risk of reporting errors, including in areas requiring the application of judgement or estimates. See "Risk management and internal controls over sustainability reporting (GOV-5)" on page 347 for information.

Disclosures stemming from other legislation or generally accepted sustainability reporting pronouncements

Shell is subject to sustainability disclosure requirements in multiple jurisdictions, including the European Union and the United Kingdom. In some cases, these requirements may overlap with one another, fully or in part. To avoid unnecessary duplication, our disclosures are designed to address these requirements in an integrated manner where possible.

Our disclosures in the Sustainability Statements do not include information stemming from other legislation that is additional to the requirements prescribed by the ESRs. Our disclosures incorporate by reference information from outside the Sustainability Statements which address an ESRs requirement while also satisfying a similar requirement under the regulations of other jurisdictions.

Incorporation by reference

We have chosen to incorporate some of the disclosures required by the ESRs by reference to other parts of the Annual Report and Accounts. We generally do this to avoid duplication or when the required disclosure is best read in conjunction with these sections.

For details of information incorporated in the Sustainability Statements by reference to other parts of the Annual Report and Accounts, see "Disclosure requirements covered by the Sustainability Statements" on pages 358-364.

The role of the administrative, management and supervisory bodies (GOV-1)

Members of the administrative, management and supervisory bodies consist of the Board of Directors and the Executive Committee (EC) of Shell plc.

The Board consists of 12 members, including two executive members and 10 non-executive members. No members of the Board or EC are representatives of employees or other workers. See "The Board of Shell plc" on pages 152-156 and "Executive Committee" on pages 157-158 for information about the skills and experience of members of the Board and EC.

The Board's gender diversity, calculated as an average ratio of female to male Board members as at December 31, 2024, is 0.7. Women made up 42% of the Board as at December 31, 2024. See "Board diversity" on page 156 and "Executive Committee diversity" on page 157 for other aspects of diversity relevant to the Board and EC.

All non-executive Directors are considered by the Board to be independent in character and judgement, and the percentage of independent Board members is 83% as at December 31, 2024.

Our governance framework is designed to effectively deliver our strategy, which seeks to deliver more value with less emissions. The Board is supported by four standing committees: the Sustainability Committee (SUSCO), the Remuneration Committee (REMCO), the Audit and Risk Committee (ARC) and the Nomination and Succession Committee (NOMCO). Sustainability-related matters are considered as appropriate by the Board or the relevant committee.

Three management-level committees with representatives from across Shell also play a critical role in driving sustainability-related elements of our strategy. These include the Capital Investment Committee (CIC), the Carbon Reporting Committee (CRC) and the Sustainability Management Committee (SMC).

See "Our approach to sustainability" on page 127 for a description of governance bodies responsible for sustainability, the role of management, procedures for managing sustainability-related impacts, risks and opportunities, and reporting lines and controls.

At Group level, the potential impacts of the energy transition on our business model and strategy are discussed and assessed by the Board and the Executive Committee as part of the annual strategic and business planning cycle. This assessment allows us to challenge accepted ways of thinking, identify material risks and opportunities, and identify key tensions and trade-offs.

See "Our approach to sustainability" on pages 127-133 for information about how the Board oversees the delivery of Shell's strategy and monitors performance against longer-term targets.

The NOMCO leads the process for appointments to the Board and Senior Management positions (defined as the Executive Committee and the Company Secretary), ensures plans are in place for orderly, well-planned succession, and oversees the development of a diverse succession pipeline of candidates. Consideration of skills and experience relevant to sustainability matters is integrated into this process. Members of the Board and EC have access to internal and external expertise on environmental, social and governance matters.

Leaders at all levels play an essential role with respect to safety, ethics and compliance, making it clear through their actions and expectations that all business plans and activities must be undertaken in a responsible, safe, ethical and compliant manner.

Accountability for ethics and compliance in Shell lies with the Chief Executive Officer and the Executive Committee. The Audit and Risk Committee assists the Board in fulfilling its responsibilities in relation to risk management and internal control, including with respect to ethics and compliance-related matters.

We have a Group-wide ethics and compliance programme that focuses on embedding our core values and business principles into Shell's culture. The programme is directed by Shell's Chief Ethics and Compliance Officer (CECO). The CECO heads Shell's Ethics and Compliance Office and reports to the Legal Director. The CECO also provides regular updates to the EC and the ARC.

See "The Board of Shell plc" on pages 152-156 and "Executive Committee" on pages 157-158 for information on the expertise of management and the Board.

Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies (GOV-2)

The Board and EC are informed of and address sustainability matters throughout the year. Sustainability matters are reviewed and considered on an integrated basis alongside other business issues.

See "Board oversight of sustainability including climate-related impacts, risks and opportunities" on page 127 and "Processes by which management is informed about sustainability-related issues" on page 130 for information.

The Board has primary oversight of the delivery of Shell's strategy, including the management of sustainability-related impacts, risks and opportunities. The Board oversaw the setting of our longer-term targets announced at Capital Markets Day in June 2023 and our Energy Transition Strategy 2024.

There is no fixed number of times that the Board may meet in one year. During 2024, the Board met nine times.

The Sustainability Committee (SUSCO) met four times in 2024, with sustainability-related matters discussed at each meeting. The Remuneration Committee (REMCO) met five times during 2024, with sustainability-related matters relevant to remuneration being regularly addressed. The ARC met six times with sustainability-related matters regularly addressed. After each meeting, committee chairs provide updates to the Board.

The Board and EC consider sustainability matters on an integrated basis when overseeing strategy, decisions on major investments and

risk management. Trade-offs and stakeholder interests are considered as part of this process.

See "Supporting governance committees" on page 128 and "Principal decisions and stakeholders" on pages 145-148 for examples of how sustainability matters are integrated into decision-making and risk management processes.

See "Board activities" on page 161-164 for information about the nature of the sustainability matters addressed by the Board in 2024.

As part of the annual planning cycle, the Board and EC assess how climate change and GHG emissions may affect the pace of the energy transition, business emission reduction plans and the implications for Shell's portfolio.

Integration of sustainability-related performance in incentive schemes (GOV-3)

Our remuneration schemes are designed to support Shell in achieving its corporate strategy. We have established remuneration structures to support us in reducing our operational emissions and to support customers in reducing their emissions.

The majority of employees participate in the annual bonus scheme. Executive Directors and other nominated employees receive long-term share awards, which aim to support employee retention and provide a stake in Shell's future.

See "Directors' Remuneration Report" on pages 188-190 for information about remuneration schemes linked to sustainability.

This section includes details of the schemes, including the sustainability-linked measures and targets and metrics used in the performance assessment, the proportion of variable remuneration dependent on sustainability-related performance and the role of the Remuneration Committee in approving and updating the Directors' Remuneration Policy.

See "Linking Shell's emissions targets to remuneration" on page 104 for information about how climate-related considerations are factored into remuneration for the Executive Directors.

Statement on due diligence (GOV-4)

Due diligence is the process by which companies identify, prevent, mitigate and account for how they address the actual and potential negative impacts on the environment and people connected with their business.

This process is described in the international instruments of the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises.

For a mapping of the content of the Sustainability Statements to the main aspects and steps of the due diligence process, see the table "Mapping of the main aspects and steps of the due diligence process the Sustainability Statements" below.

Mapping of main aspects and steps of the due diligence process to the Sustainability Statements

Core elements of due diligence	Pages
a) Embedding due diligence in governance, strategy and business model	346, 346, 348, 350, 369, 391, 395, 400, 405, 409, 415, 420, 425, 425, 427, 429
b) Engaging with affected stakeholders in all key steps of the due diligence	346, 350, 354, 410, 416, 421, 425
c) Identifying and assessing adverse impacts	351, 354, 367, 397, 409, 414, 419
d) Taking actions to address those adverse impacts	370, 392, 395, 402, 405, 411, 417, 422, 427, 428, 430
e) Tracking the effectiveness of these efforts and communicating	371, 393, 399, 404, 407, 412, 419, 424, 427, 428, 430

Risk management and internal controls over sustainability reporting (GOV-5)

Shell has established a system of risk management and internal control over sustainability reporting in line with the risk management processes set out in the Shell Performance Framework, which provides the overall framework we use to deliver our strategy and sets out how we manage risks in Shell. See "Risk management and risk factors" on pages 134-144 for more information.

The scope of these internal controls covers preparation of the Sustainability Statements as well as the underlying data gathering and reporting processes for our environmental, social and governance metrics.

The main risks identified and their mitigation strategy and controls are shown below.

Responsibility for these processes is distributed across several internal functions, including Finance, Human Resources, and Safety, Environment and Asset Management (SEAM).

We assess the risk of material misstatements based on factors such as the maturity and complexity of the reporting process, the potential for error, the use of judgements and estimates, and the effectiveness of existing controls. Our approach focuses on strengthening data gathering and reporting processes, implementing controls and assessing effectiveness as part of a continuous improvement cycle.

Sustainability reporting risks, mitigation strategies and controls

Risk	Mitigation strategies and controls
Inaccurate or incomplete disclosure of quantitative metrics	Further development of a risk-based reporting control framework for sustainability data. Components include governance, process documentation, risk identification, and design and embedding of controls and assurance activities in reporting processes.
Inaccurate or incomplete disclosure of qualitative information	Multi-layered review and sign-off of qualitative disclosures by subject matter experts and accountable senior managers.
Non-compliance with regulatory requirements due to lack of clarity on regulatory interpretation and/or application of accounting and reporting policies	Establishment of a cross-functional team to interpret and apply sustainability accounting and reporting policies on a consistent basis, informed by external engagement with regulators and third parties.
Inconsistency with other disclosures	Use of incorporation by reference with other sections of the Annual Report and Accounts and development of a reporting control framework for disclosures on sustainability matters that occur outside the Annual Report and Accounts.

To ensure our system of risk management and internal control is integrated into relevant internal processes, management committees have been established with representatives of our Finance function and other functional process owners to oversee implementation of the reporting control framework.

The Audit and Risk Committee (ARC) reviews and monitors the effectiveness of Shell's system of risk management and internal control. The ARC receives regular reports from management and the external auditor on sustainability reporting, accounting and reporting policies, use of judgements and estimates, and other reporting matters. Internal control practices related to sustainability reporting are being strengthened further. The "Plan-Do-Check-Adjust" approach set out in the Shell Performance Framework has been, and will continue to be, used as our reporting control framework develops.

Control incidents and audit findings, both internal and external, are subject to a monitoring and remediation process overseen by senior management and supported by functional experts as required.

The findings of sustainability reporting risk assessments and internal controls, including internal and external assurance reviews, are communicated to the ARC and members of the Executive Committee as required.

The External Reporting Control Committee assists the Executive Committee and the Audit and Risk Committee in fulfilling their responsibilities in relation to internal control over external reporting as it pertains to financial reporting and environmental, social and governance reporting in the Annual Report and Accounts and quarterly results announcements.

External assurance of sustainability information

In addition to the statutory audit of the financial statements, limited assurance is performed for the Sustainability Statements by Shell's independent auditor. See "The Independent Auditor's Report related to the Sustainability Statements" on page 438.

Our sustainability performance data are not subject to additional validation at a Group level by an external body.

Strategy, business model and value chain (SBM-1)

Shell is a global group of energy and petrochemical companies that aims to meet the world's growing need for more and sustainable energy solutions in ways that are economically, environmentally and socially responsible.

Our products and customers

Shell's product offerings comprise energy and non-energy products. Energy products include crude oil, natural gas, natural gas liquids, oil products, gas-to-liquids (GTL) products, biofuels and electricity. Non-energy products include chemicals, lubricants, bitumen, sulphur and convenience retail items. We serve more than 1 million business customers across the industrial, commercial road transport, mobility, marine, aviation and commercial sectors. We also serve around 33 million retail customers a day at more than 44,000 Shell-branded mobility sites, including service stations.

Our business

Our business directorates in 2024 comprise Integrated Gas and Upstream, and Downstream, Renewables and Energy Solutions.

Integrated Gas and Upstream

Integrated Gas includes liquefied natural gas (LNG) and the conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas and liquids exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver these to market. Integrated Gas also includes the marketing, trading and optimisation of LNG.

The Upstream segment includes exploration and extraction of crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market. Shell has activities in deep water and conventional oil and gas.

Downstream, Renewables and Energy Solutions

Marketing comprises the Mobility, Lubricants, and Sectors and Decarbonisation businesses. Mobility operates Shell's retail network, including electric vehicle charging services and the wholesale commercial fuels business, which provides fuels for transport, industry and heating. The Lubricants business produces, markets and sells lubricants for road transport, and machinery used in manufacturing, mining, power generation, agriculture and construction. The Sectors and Decarbonisation business sells fuels, speciality products and services including low-carbon energy solutions to commercial customers including the aviation, marine, and agricultural sectors.

Chemicals and Products includes chemical manufacturing plants with their own marketing network, and refineries which turn crude oil and other feedstocks into a range of oil products which are moved and marketed around the world for domestic, industrial and transport use. The segment also includes the pipeline business, trading and optimisation of crude oil, oil products and petrochemicals, and the extraction of bitumen from mined oil sands and its conversion into synthetic crude oil.

Renewables and Energy Solutions (R&ES) includes activities such as renewable power generation, the marketing and trading and optimisation of power and pipeline gas, as well as carbon credits and digitally enabled customer solutions. It also includes the production and marketing of hydrogen, development of commercial carbon capture and storage hubs, investment in nature-based projects that avoid or reduce carbon emissions, and Shell Ventures, which invests in companies that work to accelerate the energy and mobility transformation.

Employees and revenues

Shell employed around 96,000 people as of December 31, 2024, including portfolio companies. We have operations in more than 70 countries. See "Our people" on page 115 for a headcount of employees by geographical area.

Shell is active in the fossil fuel sector and in chemical production. We seek to comply with applicable laws and regulations governing our products and services offered, including products and services banned in certain markets, such as end-use restrictions on chemicals.

Revenues derived from these activities are shown below.

Revenue from fossil fuels and chemicals [A]	
	\$ million
	2024
Revenue from fossil fuel activities	220,411
Oil-related activities [B]	170,179
Gas-related activities [C]	50,232
Taxonomy-aligned economic activities related to fossil gas [D]	—
Chemical production [E]	8,529
Other	55,372
Total revenue	284,312

- [A] Revenue is calculated based on the operating revenue and represents total revenue from customer contracts and other sources.
[B] Revenue from oil-related activities comprises revenue from crude oil and oil products.
[C] Revenue from gas-related activities comprises revenue from natural gas, NGL and LNG.
[D] See "The EU Taxonomy" on pages 377-390 for information on our taxonomy-eligible and aligned activities.
[E] Revenue from chemical production comprises revenue from chemicals and plastics.

Our vision [A] is to be the world's leading integrated energy company and our strategy is to deliver more value with less emissions. We are positioning Shell to become the investment case and partner of choice through the energy transition.

- [A] A vision statement defines the desired future state of a company rather than a series of firm, binding commitments.

More value

We are committed to enhancing value for our investors through disciplined investments, enhanced shareholder distributions and maintaining a strong balance sheet. Our focus remains on providing secure and reliable products, both now and throughout the energy transition, to meet the evolving needs of our customers. At Capital Markets Day 2023 (CMD23), we outlined our specific targets, and the progress we have made against these targets is presented on page 14.

Less emissions

We are committed to becoming a net-zero emissions energy business by 2050. We have set climate targets and an ambition, outlined in our Energy Transition Strategy 2024 (ETS24), to help us reach net zero. ETS24 was approved by 78% of shareholders who voted at our Annual General Meeting (AGM) in May. Progress against our climate targets and ambition is presented on page 93.

Shell aims to lead in the energy transition where we have competitive strengths, see strong customer demand, and identify clear regulatory support from governments. We will continue to provide our customers with the energy and other products they need, and we will provide this affordably and reliably, while also increasingly offering them low-carbon energy solutions to help them decarbonise their activities.

Moving forward

In 2024, we delivered our strategy against the four themes of generating shareholder value, achieving net-zero emissions, respecting nature and powering lives. These themes are presented on pages 12-13.

Like all businesses, we will continue to adapt how we implement our strategy as the world evolves. This adaptability is crucial for navigating the dynamic energy landscape enabling long-term success.

Capital Markets Day on March 25, 2025, presents an update to our financial targets for investors. See pages 16-17.

We will deliver more value with less emissions by:

- Growing our integrated gas and LNG business
- Sustaining liquids production
- Focusing Downstream, Renewables and Energy Solutions.

Growing our integrated gas and LNG business

We are investing in our gas production and growing our LNG business to deliver the secure energy the world needs. LNG is a critical fuel for the energy transition because it is a lower-carbon alternative to coal in power generation and can be easily transported to where it is needed.

Sustaining liquids production

We aim to sustain liquids production of at least 1.4 million barrels a day through to 2030 with increasingly lower carbon intensity. We are focusing our exploration activities in locations where hydrocarbons have already been discovered.

Focusing Downstream, Renewables and Energy Solutions

We are expanding our premium marketing businesses while streamlining our portfolio with a focus on value over volume. We will build on the options we have invested in for low-carbon growth through the energy transition. Our global customer reach and our supply and trading capabilities position us well to deliver the low-carbon solutions people and businesses need.

We are seeking to change the mix of energy products we sell to our customers as their needs for energy change. We believe we can make the greatest contribution to the energy transition by helping to enable our customers to switch to low-carbon energy products and services.

This is reflected in Shell's strategy to build a portfolio that seeks to:

- develop low- and zero-carbon alternatives to traditional fuel, including biofuels, and other low- and zero-carbon gases;
- provide more renewable power solutions to customers in select markets;
- work with customers across different sectors to help them decarbonise their use of energy, for example by substituting the use of coal with LNG; and
- address any remaining emissions from conventional fuels with solutions such as CCS and high-quality carbon credits.

As we implement our strategy, we will continue to focus on performance, discipline and simplification. This applies not only to our financial and operational outcomes, but also to safety and sustainability. Our Goal Zero ambition is fundamental to the success of our company.

We believe that no business can succeed without an unwavering commitment to respecting the environment and the communities within

which it works. At Shell, we seek to protect the environment, increase our reuse and recycling, make a positive contribution to biodiversity and use water and other resources efficiently. We also work to make a positive impact on people around the world, and power lives through our products and activities, and by supporting an inclusive society.

See "Our strategy" on pages 10-13 for more information.

Sustainability in our strategy

We believe that no business can succeed without an unwavering commitment to respecting the environment and the communities within which it works. In addition to generating shareholder value, our strategy is built on achieving net-zero emissions, powering lives and respecting nature. For each, we discuss key challenges and how we are responding in the relevant topical ESRs.

- Achieving net-zero emissions: We have a target to become a net-zero emissions energy business by 2050 and will work with customers to help them decarbonise. See "Climate change (E1)" on page 364.
- Powering lives: We power lives through our products and activities, and by supporting an inclusive society. See "Own workforce (S1)" on page 409, "Workers in the value chain (S2)" on page 414 and "Affected communities (S3)" on page 419.
- Respecting nature: We seek to protect the environment, increase our reuse and recycling, make a positive contribution to biodiversity and use water and other resources efficiently. See "Pollution (E2)" on page 391, "Water and marine resources (E3)" on page 395, "Biodiversity and ecosystems (E4)" on page 397 and "Resource use and circular economy (E5)" on page 404.

Our strategy is underpinned by our core values of honesty, integrity and respect for people; our culture of performance, discipline and simplification; and our Goal Zero ambition to do no harm to people and to have no leaks across our operations.

See "Business conduct (G1)" on page 425 and "Safety" on page 429 for more information.

How we create value

For more than a century, Shell has connected people and energy. We provide the energy people need to fuel their homes, hospitals, schools, vehicles, machinery and factories. Our purpose is to power progress together, by working with each other, our customers and our partners. Our vision [B] is to be the world's leading integrated energy company – delivering impact at scale, connecting energy and people, matching supply to demand.

[B] A vision statement defines the desired future state of a company rather than a series of firm, binding commitments.

Our value creation process shows how we link our inputs to our strategic objectives. Our inputs include financial capital, operations, human capital, relationships, intellectual capital and natural resources. We gather, develop and secure these inputs through our business relationships with investors, strategic partners and suppliers, and governments.

Through our production, processing, trading, sales and distribution activities, we transform our inputs into energy and non-energy products that benefit our customers by offering more low-carbon solutions to meet their needs in a world on its way to net zero. These activities depend on employees, suppliers, value chain workers and communities, as well as other stakeholders.

Our outcomes are generating value for shareholders and transforming Shell into a net-zero emissions energy business by 2050, while powering lives and respecting nature. Our upstream value chain consists of direct and indirect suppliers of goods and services which

form an input to our products. Examples include suppliers of hydrocarbons, biofuels and biomass, power, non-fuel products sold in our retail sites and a wide variety of goods and services procured for use in our projects and operations, such as engineering, construction and maintenance services and materials.

Our downstream value chain consists of customers and their use of our sold products. Examples include retail customers who consume oil products, biofuels, non-fuel retail products or electric vehicle charging solutions. Other examples include business customers who consume natural gas, crude oil or oil products, as well as customers who consume non-energy products such as chemicals.

References to "upstream value chain" and "downstream value chain" in the Sustainability Statements have the meaning given above and do not refer to our Upstream business segment or to our Downstream, Renewables and Energy Solutions directorate.

See "How we create value" on pages 8-9 for information on our value creation model.

Interests and views of stakeholders (SBM-2)

Shell recognises the important role it has in many societies and is committed to public collaboration and stakeholder engagement. Working with stakeholders is crucial to drive the collaboration needed between governments, companies and consumers to advance the energy transition.

Shell's key stakeholders can be categorised into seven groups. Where appropriate, each group is considered to include both current and potential stakeholders. We seek to understand the needs and expectations of key stakeholder groups and take their views and interests into account in our decision-making.

Key stakeholder groups and how we engage with them

Stakeholder group	How we engage [A]	Why we engage	How outcomes are taken into account
Customers	- Direct engagement (B2B and B2C) - Sustainability criteria in tenders (B2B) - Customer loyalty programmes (B2C) - Customer feedback procedures (B2C) - Partnerships for collective action (B2B)	- Understand customer needs and priorities - Identify new customer value propositions - Maintain our competitive advantages and customer reach - Help customers decarbonise and accelerate the energy transition	- Considered in business strategy - Improving products and services
Investor community	- Annual General Meeting - Capital markets days - Investor Relations calls and questions - Investor roadshows - ESG ratings	- Understand investor views on strategy and performance, including the energy transition - Generate value for shareholders and provide an attractive investment case	- Strategic decisions and direction-setting - Considered in management decision-making
Employees, contractors and pensioners	- Direct engagement - Representative bodies - Employee forums and resource groups - Shell People Survey - Shell Global Helpline - Grievance mechanisms	- Understand expectations and experiences - Maintain a culture aligned to our strategy - Attract and retain talent - Enhance safety and productivity - Receive and address concerns	- People and culture strategy - Considered in management decision-making - People development - Improvement and action plans
Strategic partners and suppliers	- Direct engagement - Contractor leadership forums - Supplier due diligence processes - Supplier contract management reviews - Partnerships for collective action - Shell Global Helpline - Grievance mechanisms	- Build mutually beneficial relationships - Develop new technologies and innovations - Align with Shell Supplier Principles - Promote safe and efficient operations	- Considered in business strategy - Supplier selection - Improvement and action plans
Communities	- Direct engagement - Public meetings and consultations - Community liaison teams - Community forums - Community feedback mechanisms - Shell Global Helpline	- Identify and manage environmental and social impacts - Minimise negative impacts and enhance benefits - Address questions, concerns and feedback	- Considered in impact assessment, project design and operating practices - Improvement and action plans
Non-governmental organisations, civil society, academia and think tanks	- Direct engagement - Strategic partnerships - Joint research projects - Partnerships for collective action	- Understand societal expectations and strategic trends affecting Shell - Promote public policies that encourage the energy transition - Encourage research and innovation - Learn and share best practices	- Considered in business strategy - Considered in public policy positions - Considered in advocacy approaches
Regulators and governments	- Direct engagement - Public consultations - Regulated reports and submissions - Industry groups and other partnerships	- Understand policy needs and priorities - Understand resource holder perspectives - Ensure compliant operations - Advocate policy positions, including with respect to the energy transition	- Considered in business strategy - Regulatory compliance - Value creation opportunities

[A] Business to business (B2B), Business to consumer (B2C).

Stakeholder engagement is governed by the Shell General Business Principles (SGBP), which set out how we recognise our responsibilities to stakeholders. They set the standard for how we engage, guided by the principles of listening, respect and honesty.

Stakeholder engagement is a continuous process of dialogue. Our business engages with key stakeholder groups on a regular basis at multiple levels. We may undertake more frequent or structured engagement during projects, activities, acquisitions, divestments and other significant decisions. Stakeholder engagement is fundamental to how we identify, assess and manage actual and potential impacts associated with our business. It is also an integral part of how we respect human rights and provide access to remedy.

Shell's strategy and business model are informed by the views, interests and rights of key stakeholder groups, including customers, investors, employees, strategic partners and suppliers, affected communities, civil society and governments. Value chain workers are a key stakeholder group for our strategic partners and suppliers. Our success in the energy transition depends on our people, our contractors and suppliers, and the communities in which we operate.

We recognise there are differing societal views about our operations and the intricacies associated with the evolving energy transition. These differences are also reflected in our key stakeholder groups. Management weighs up all relevant factors and considers which course of action best enables delivery of our strategy in the long-term interests of the Company, taking into consideration the effect on stakeholders. It is not always possible to balance the Company's interests with those of other stakeholders.

See "Principal decisions and stakeholders" on pages 145-148 for information on how the interests of stakeholders are taken into account in the Board's decision-making process. See "Our approach to sustainability" on pages 127-133, "Understanding and engaging with our stakeholders" on pages 165-166 and "Workforce engagement" on pages 167-168 for information about how the Board and EC are informed about the views and interests of affected stakeholders with regard to sustainability-related impacts.

Material impacts, risks and opportunities and their interaction with strategy and business model (SBM-3)

Shell has conducted an assessment of its material sustainability-related impacts, risks and opportunities as the basis for determining its disclosures in the Sustainability Statements in 2024.

Within the Sustainability Statements, the term "impacts" refers to actual and potential sustainability-related impacts on people and the environment connected with our business. Such impacts can be positive or negative. "Risks and opportunities" refers to sustainability-related financial risks and opportunities, including those derived from dependencies on natural, human and social resources.

When the terms impact, risk and opportunity are used within the Sustainability Statements, they generally have the meaning given to them by the ESRS unless the context indicates otherwise.

Our assessment of impacts, risks and opportunities is based on the double materiality principle. This requires us to consider sustainability matters from the perspective of Shell's actual or potential impact on the environment and society, as well as whether such matters trigger or could reasonably be expected to trigger material financial effects for Shell. These perspectives are sometimes referred to as "impact materiality" and "financial materiality". A matter is material for reporting purposes if it meets the criteria for impact materiality, financial materiality or both.

Impacts

We consider actual and potential impacts over the short, medium and long term. Impacts include those connected with our own operations, our value chain and business relationships. We have the ability to control Shell companies and Shell-operated joint ventures by applying our own policies and standards. Shell does not control non-operated joint ventures.

Our influence over value chain and business relationships is indirect, depending on factors such as our line of sight into potential impacts and the nature of our contractual rights and obligations, if any.

Risks and opportunities

We consider risks or opportunities that could have a material effect on Shell's earnings, cash flows and financial condition over the short, medium or long term.

Outcome

Our double materiality assessment has identified 23 material impacts. Sixteen were assessed as negative and seven as positive. One of the negative impacts, greenhouse gas emissions, corresponds to both a risk and an opportunity (see "Climate change and the energy transition" on page 137 and "Climate related opportunities" on page 84 respectively). The remaining impacts do not constitute a risk or opportunity in their own right, although many are considered an element of a larger principal risk factor.

Our impacts, risks and opportunities are summarised in the table "Material sustainability topics" on pages 352-353. We indicate the reasonably expected time horizon in which effects could materialise. We also indicate whether impacts, risks or opportunities concentrate in our own operations or value chain.

Information about our approach to managing individual impacts, risks and opportunities through policies, actions, metrics and targets can be found in the topical sections.

For further topic-specific information, see "Material impacts, risks and opportunities and their interaction with strategy and business model (ESRS 2 SBM-3)" on page 367 for climate change, page 409 for own workforce, page 414 for workers in the value chain and page 419 for affected communities.

The double materiality assessment process uses qualitative and/or quantitative thresholds to determine which impacts, risks and opportunities are identified and addressed by Shell as material and to determine which sustainability matters are material for reporting purposes. Therefore, the Sustainability Statements may not include every impact, risk and opportunity or additional entity-specific disclosure that each individual key stakeholder group may consider important in its own particular assessment.

Material sustainability topics

Topic	Subtopic	Impact description	Risk/ opportunity	Value chain (VC)			Timeframe			Pages	ESRS/ entity-specific
				Upstream VC	Own operations	Downstream VC	Short term	Medium term	Long term		
Climate change	Greenhouse gas emissions	Our activities result in direct and indirect emissions of greenhouse gases to the atmosphere (Scope 1 and 2). Consumption of products by our customers results in emissions of greenhouse gases to the atmosphere (Scope 3).	Risk:  Opportunity: 	•	•	•	•	•	•	364-376	E1
Pollution	Emissions to air	Our activities emit pollutants to air, subject to limits established by local regulations or Shell standards, whichever are most stringent. Unplanned events can result in temporary exceedance of emission limits.	Element of risk factor 	•	•		•	•	•	391-394	E2
	Discharges to water	Our activities discharge pollutants to water, subject to limits established by local regulations or Shell standards, whichever are most stringent. Unplanned events can result in temporary exceedance of discharge limits.	Element of risk factor 	•	•		•	•	•	391-394	E2
	Soil and groundwater	Our activities are designed to prevent emission of pollutants to soil and groundwater. Losses of containment resulting in adverse impacts to soil or groundwater can occur due to asset integrity failures, unplanned events or sabotage.	Element of risk factor 	•	•		•	•	•	391-394	E2
	Nigeria spills	Our activities in Nigeria are designed to avoid the emission of pollutants to soil and groundwater. Spills caused by operational incidents, sabotage or crude oil theft can result in adverse impacts to the environment and communities.	Element of risk factor 		•		•	•	•	391-394, 433	E2, Entity-specific
	Hazardous substances	Our activities and products involve substances that are hazardous to human health and the environment. We implement systems of product stewardship to manage actual and potential impacts.	Element of risk factor 	•	•	•	•	•	•	391-394	E2
Water	Water consumption	Our activities are designed to use water as efficiently as possible. Our use of fresh water, particularly in areas of high water stress, can result in adverse impacts on the environment and other water users, including communities.	Element of risk factor 	•	•		•	•	•	397-404	E3
Biodiversity	Biodiversity loss	Our activities are designed to minimise our impact on nature. Residual impacts have the potential to contribute directly or indirectly to drivers of biodiversity loss such as climate change, pollution, land use change, sea use change and fresh-water use change.	Element of risk factor 	•	•		•	•	•	397-404	E4
	Sensitive areas and species	Our activities are designed to minimise our impact on nature. Residual impacts have the potential to adversely impact protected areas, critical habitats and biodiversity sensitive areas.	Element of risk factor 	•	•		•	•	•	397-404	E4
	Ecosystem services	Our activities are designed to minimise our impact on nature. Residual impacts have the potential to contribute directly or indirectly to changes from natural to modified habitats, which can affect the quality or availability of ecosystem services used by local communities.	Element of risk factor 	•	•		•	•	•	397-404	E4
Circularity	Waste management	Our activities are designed to use resources as efficiently as possible. We generate hazardous and non-hazardous waste, which is disposed of in accordance with regulations and our standards. If not properly managed, waste has the potential to cause adverse impacts to people and the environment.	Element of risk factor 	•	•		•	•	•	404-409	E5
Own workforce	Working conditions [P]	Shell's labour practices contribute to employee engagement, attraction and retention and safe and fair working conditions.	Element of risk factor 	•	•		•	•	•	409-414	S1
	Equal treatment and opportunities [P]	We aim to provide equal opportunities irrespective of race, colour, religion, age, gender, sexual orientation, gender identity, marital status, disability, ethnic origin or nationality.	Element of risk factor 	•	•		•	•	•	409-414	S1
Workers in the value chain	Welfare of value chain workers	Our activities are designed to respect the human rights of our employees and supplier staff. If not properly managed, there is potential for these rights to be affected. Improper arrangements for access to remedy have the potential to result in people being unable to seek redress.	Element of risk factor 	•	•		•	•	•	414-419	S2

Topic	Subtopic	Impact description	Risk/ opportunity	Value chain (VC)			Timeframe			Pages	ESRS/ entity-specific
				Upstream VC	Own operations	Downstream VC	Short term	Medium term	Long term		
Affected communities	Social impacts	Our activities are designed to minimise negative impacts on communities. Residual impacts involving Indigenous Peoples, involuntary resettlement, cultural heritage or other social or environmental impacts have the potential to result in adverse impacts to people or affect their human rights.	Element of risk factor 	●	●		●	●	●	419-424	S3
	Community engagement	We engage with communities impacted by our activities and provide channels for them to seek access to remedy. If stakeholder engagement is not managed properly, it has the potential to result in ineffective management of socio-economic impacts or access to remedy, affecting people and their human rights.	Element of risk factor 	●	●		●	●	●	419-424	S3
	Security and human rights	Our activities are designed to protect people and assets from security threats and prevent impacts on human rights. Improper use of force by public or private security has the potential to result in harm to people or affect their human rights.	Element of risk factor 	●	●		●	●	●	419-424	S3
	Social investment and benefits [P]	Our activities deliver socio-economic benefits to communities through employment, local content (including local procurement and supplier development) and social investment programmes.		●	●		●	●	●	419-424	S3
	Energy provision [P]	Our activities produce energy and non-energy products that benefit our customers and contribute to improved standards of living in the societies in which we operate.				●	●	●	●	419-424	
Governance	Tax and other payments to governments [P]	Our activities generate taxes and payments to governments that fund public services and other expenses. Our participation in relevant initiatives contributes to greater transparency.			●		●	●	●	427-428	Entity-specific
	Culture of integrity [P]	Our policies are designed to encourage people to raise concerns without fear of repercussions and to ensure appropriate action is taken. This contributes to a safe and healthy organisational culture.	Element of risk factor 	●	●		●	●	●	425-427	G1
	Responsible sourcing [P]	Our activities are designed to ensure that procurement of goods and services complies with applicable laws while meeting social, environmental and human rights standards. This has the potential to drive higher standards in our supply chain.	Element of risk factor 	●	●		●	●	●	425-427	G1
	Safety	Our activities are designed to prevent personal and process safety incidents. Should such incidents occur, they can have an adverse impact on people or the environment.	Element of risk factor 	●	●	●	●	●	●	429-438	S1 and entity-specific

[P] Positive impact.

Risk factors

-  Climate change and the energy transition (see pages 137-138).
-  Country risks (see pages 138-139).
-  Health, safety, security and the environment (see pages 140-141).
-  Litigation and regulatory compliance (see pages 142-143).
-  Reputation and risks to our licence to operate (see page 143).
-  Our people and culture (see page 144).

Climate-related risks and opportunities

-  Climate-related commercial risks (see page 81).
-  Climate-related regulatory risks (see page 81).
-  Climate-related societal risks (including litigation) (see page 82).
-  Climate-related physical risks (see page 83).
-  Climate-related opportunities (see page 84).

We assessed seven of the eight topical standards of the ESRS as material for Shell in 2024, with some individual subtopics, sub-subtopics or data points assessed as non-material. The eighth standard, "S4 Consumers and end-users", was assessed as non-material. The topics of most relevance to customers, Scope 3 greenhouse gas emissions and product stewardship, are covered in "Climate change (E1)" on pages 364-376 and "Pollution (E2)" on pages 391-394, respectively.

Current and anticipated effects on business model, value chain, strategy and decision-making

The "Risk factors" section on pages 135-144 provides an overview of the principal risks Shell is exposed to in its operations, their potential effects and how they are managed.

Our double materiality assessment has identified GHG emissions as a material impact and climate change and energy transition as a sustainability-related risk. The current and anticipated effects of this risk on our business model, value chain, strategy and decision-making are described in "Our strategy" on pages 10-13, "Risk factors" on pages 135-144 and "Our journey to net zero" on pages 76-108.

The remaining impacts are not a material risk or opportunity for Shell in their own right. However, many are considered elements of one or more risk factors. The current and anticipated effects of these impacts on our business model, value chain, strategy and decision-making are described in "Our strategy" on pages 10-13, "Risk factors" on pages 135-144, and alongside the disclosures provided under the corresponding topical ESRS.

Current and anticipated financial effects

See Note 4 to the "Consolidated Financial Statements" on pages 255-265 for information about financial effects as well as other key insights, including sensitivities related to climate change and the energy transition.

Resilience of strategy and business model

See "Resilience of Shell's strategy to different climate-related scenarios" on pages 86-88 for information about the resilience of our strategy and business model in the context of climate change and the energy transition.

The resilience of our strategy and business model in the context of material impacts that are elements of one or more risk factors is described in "Our strategy" on pages 10-13, "Risk factors" on pages 135-144, and alongside the disclosures provided under the corresponding topical ESRS.

Changes compared to previous periods

The current reporting period is the first in which Shell has conducted a double materiality assessment in accordance with ESRS requirements. Accordingly, there are no changes to our material impacts, risks or opportunities compared to the previous reporting period.

Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)

Shell has developed a process to identify and assess material sustainability-related impacts, risks and opportunities as the basis for determining our disclosures in the Sustainability Statements.

Our double materiality process follows five steps. We start by establishing our business context, activities, value chain and stakeholders. Next, we consider potential sustainability matters and identify actual and potential impacts, risks and opportunities. We then assess impacts for actual and potential severity, and risks and opportunities for potential financial effects. Finally, we determine material matters for reporting. Each step is discussed below.

1. Establish the business context

We begin by establishing the scope of the assessment. To provide a common framework for analysis, we review our principal activities, business relationships and key stakeholder groups. We consider Shell's dependence on key resources including financial capital, operations, human capital, relationships, intellectual capital and natural resources. We also adopt guidelines for assessing our own operations and our upstream and downstream value chain.

2. Identify impacts, risks and opportunities

Next, we review the list of sustainability-related topics, subtopics and sub-subtopics provided by the ESRS and industry-specific lists developed by Ipeca and the Global Reporting Initiative (GRI). Where relevant, we also consider Shell-specific topics.

Based on this review, internal experts prepare an inventory of impacts, risks and opportunities. When performing this exercise for our own operations, we are informed by various sources of information, such as operating data, internal and external studies, and stakeholder views. For our upstream and downstream value chain, we focus on areas where there is sufficient information to allow us to make an informed assessment. This may include our own operating data or information provided by suppliers, business partners or other third parties.

We focus our assessment on aspects of our own operations with the most potential for negative impacts on people or the environment based on industry experience. We also focus on business relationships with high potential for negative impacts, such as non-operated ventures, governments and suppliers.

We consider actual and potential impacts, both positive and negative. For risks and opportunities, we consider uncertain environmental, social or governance events or conditions that, if they occurred, could have material financial effects on Shell. Impacts, risks and opportunities are considered over the short, medium and long term.

3. Assess actual and potential impacts

We adopt criteria to assess the likelihood and magnitude of impacts. These criteria are based on Shell's existing risk assessment tools for health, safety, security, environment and social performance (HSSE & SP), modified where necessary to meet the requirements of the ESRS.

Our assessment matrix is based on a five-point scale for likelihood. Magnitude is also based on a five-point scale, taking into account the scale, scope and remediability of the impact.

For actual impacts, we treat the effect as already occurring and do not assign a rating for likelihood. We assign a rating for magnitude based on actual impacts after implementation of standard control measures. We exclude from this analysis measures that compensate for residual impacts, such as the use of carbon credits or biodiversity offsets.

For potential impacts, we assign a rating for likelihood and magnitude. In line with ESRS requirements, we assess potential magnitude on a gross basis, assuming no mitigation in consequences due to control measures. For potential human rights impacts, magnitude takes precedence over likelihood.

4. Assess risks and opportunities

We adopt criteria to assess the likelihood and magnitude of potential financial effects. These are based on our existing enterprise risk management framework, modified where necessary to ensure consistency with our approach to assessing impacts. Our assessment matrix is based on a five-point scale for likelihood. Magnitude is also based on a five-point scale, taking into account the potential ways in which financial effects could materialise, including through Shell's dependence on natural, human and social resources.

To ensure connectivity with existing disclosures, we consider whether potential risks have been identified previously as a principal risk factor or as an element of a principal risk factor. Where applicable, these linkages are highlighted in our disclosure. See "Risk management and risk factors" on pages 134-144 for information about how sustainability matters are integrated with our risk factors.

5. Determine material disclosures

In the final step of the process, we apply the outcome of the double materiality assessment to determine our material disclosures for the Sustainability Statements. A consolidated list of impacts, risks and opportunities is reviewed with internal experts and managers. Reporting thresholds for actual impacts are based on magnitude. For potential impacts, reporting thresholds are based on a combination of likelihood and magnitude. For risks that are material on a stand-alone basis, reporting thresholds follow existing definitions of financial materiality. Opportunities are assessed based on qualitative thresholds. The final results of the assessment are reviewed and endorsed by an internal management committee consisting of senior business and functional managers. See "Risk management and internal controls over sustainability reporting (GOV-5)" on page 347 for information about control procedures for sustainability reporting.

We map our material impacts, risks and opportunities to ESRS disclosure requirements. Disclosure requirements with at least one corresponding impact, risk or opportunity are deemed to be material. The remainder are deemed to be non-material. We omit individual data points deemed to be non-material based on the process for determining data point materiality laid out in the ESRS. This process takes into consideration the significance of the information in relation to the matter it purports to explain or depict and the relevance of the data point to meeting the decision-making needs of users.

How our management systems inform the assessment

Sustainability is integrated into our existing risk management processes, as set out in the Shell Performance Framework. Our double materiality assessment, undertaken for the purpose of determining our disclosures in the Sustainability Statements, is informed by these processes but does not replace them.

Details of how existing risk management processes inform our assessment of specific topics are set out below. See "How we manage risks" on page 134 and "Policies and standards" on page 130 for information about how sustainability is integrated into Shell's overall approach to risk management.

HSSE & SP and Asset Management

Our standards require a systematic approach to managing health, safety, security, environment and social performance (HSSE & SP). The foundation of this approach is our management system.

Our approach to identifying and assessing impacts, risks and opportunities related to emissions, pollution, water, biodiversity, circularity and waste and affected communities is governed by our internal risk management process and our SEAM Standards. We expect non-operated joint ventures to adopt appropriate and acceptable policies to manage their risks.

We use various processes to identify, assess and manage health, safety, environmental and social impacts, risks and opportunities. Two of the most important are impact assessment and the hazards and effects management process.

Impact assessment

Our standards require projects, assets or businesses to identify the need for an impact assessment process in the early stages of a project with the potential for new or changed impacts on the environment, communities and community health. Impact assessment is a methodology to identify and assess the environmental, social and health impacts of a proposed project. It involves evaluating alternatives and identifying measures to mitigate negative impacts or enhance positive impacts, as well as management and monitoring arrangements. Our standards require the impact assessment to be performed in alignment with international standards, which are generally defined as local legal requirements in high-income OECD countries at a minimum and the IFC Performance Standards elsewhere.

Hazards and effects management

Our standards require assets, projects and activities to establish and maintain systematic risk identification and management processes such as the hazards and effects management process (HEMP). This approach starts by identifying potential hazards and evaluating their likelihood and potential impact. We then implement controls to reduce the risks to as low as reasonably practicable (ALARP), which is the point at which the cost in time, money and effort of further risk reduction is grossly disproportionate to the reduction achieved. In doing so, we apply a hierarchy of controls, which prioritises the elimination, substitution and isolation of hazards, before implementing engineered safeguards or other solutions. We monitor the effectiveness of these controls via regular assurance activities.

Community engagement

We engage with affected communities on a range of topics related to our operations, including issues related to pollution, water, biodiversity and waste. In some locations, permitting processes may also require statutory public consultations or hearings. See "Affected Communities (S3)" on page 419 and "Interests and views of stakeholders (SBM-2)" on page 350 for information.

How our approach to individual topics inform the assessment

The application of our management systems with respect to individual environmental, social and governance topics is explained below.

Climate change

Our approach to identifying and assessing climate-related impacts, risks and opportunities is integrated into the risk management, performance management, learning and improvement cycle that sits at the heart of the Shell Performance Framework.

Climate-related matters are considered from a strategic, operational, conduct and culture perspective to help us maintain a comprehensive view of our impacts, risks and opportunities and the time horizons in which they could materialise.

GHG emissions

We identify, assess and manage actual and potential GHG emissions from activities under our operational control as part of our SEAM Standards. We expect non-operated joint ventures to adopt appropriate and acceptable policies to manage their risks.

We identify sources of Scope 1, 2 and 3 GHG emissions based on operating data, design and engineering practices, and analysis of products manufactured and sold. We assess the actual and potential GHG emissions inventory from these sources in line with internationally recognised standards and industry-specific guidelines [A].

[A] Assessments of GHG emissions associated with our business activities are prepared in accordance with ISO 14064-1:2018 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals and the GHG Protocol Corporate Accounting and Reporting Standard (2004). Industry-specific guidance is also applied, including the API Compendium of Greenhouse Gas Emissions Methodologies for the Natural Gas and Oil Industry (November 2021), Ipieca Sustainability Reporting Guidance for the Oil and Gas Industry (4th edition, 2020) and other standards and guidance.

Our standards require assets and projects to forecast their future emission levels and to prepare an annual plan which demonstrates planned delivery of their allotment of business-level carbon targets. The aim of this requirement is to ensure that assets or projects with material GHG emissions have plans to contribute emission reductions in line with Shell's GHG reduction targets and ambition.

Each business and function regularly reviews its risk profile, risk responses and assurance activities throughout the year to ensure climate-related risks are managed effectively. These insights are used to provide management with updates on the operational management of greenhouse gas emissions and climate-related risks and opportunities.

During these updates, management reviews whether our risk responses are effective in addressing the components of climate-related risks and opportunities. These reviews help us to update Shell's plans and guide our day-to-day operational decisions such as maintenance schedules and our risk response plans. See "Material impacts, risks and opportunities and their interaction with strategy and business model (ESRS 2 SBM-3)" on page 351.

The management teams are supported by a combination of carbon-management-related standards and frameworks, forums at various levels of the organisation, and capability development programmes. We use risk management processes to identify and respond to emerging risks to the safe, compliant and efficient operation of our assets, including climate-related risk.

Our risk management processes are carried out at the Group, business, function and asset level, which includes projects.

Climate-related physical risks

See "Physical risks" on page 83 for information on Shell's approach to identifying and assessing climate-related physical hazards in our operations and value chain, our use of high-emission climate scenarios, and our exposure to climate-related physical risk.

Climate-related transition risks and opportunities

We monitor climate-related transition risks across four components: commercial, regulatory, societal (including litigation) and physical, as well as monitoring climate-related opportunities. We are continually enhancing our approach to identifying, assessing and managing risks and opportunities resulting from climate change. This includes considering different time horizons in which risks and opportunities could materialise and their relevance for business planning.

Shell has identified climate change and the energy transition as a material risk. The risk could potentially result in changes to the demand for our products, supply chains and markets; further changes to the regulatory environment in which we operate; and increased litigation. See Note 32 to the Consolidated Financial Statements "Legal proceedings and other contingencies" on page 308.

In assessing this risk, we have considered a range of climate scenarios including those in which the rise in global average temperature this century is limited to 1.5°C above pre-industrial levels.

We actively monitor societal developments such as regulation-driven carbon pricing and customer-driven product preferences. Where relevant, we incorporate these developments into potential scenarios which provide insights into how the energy transition may unfold in the medium and long term. These insights, along with those provided by external scenarios such as those prepared for the IPCC's Sixth Assessment Report, guide how we set our strategic direction, capital allocation and climate-related targets and ambition.

The transformation of the energy system to net-zero emissions will require simultaneous action in three areas: an unprecedented improvement in the efficiency with which energy is used; a sharp reduction in the carbon intensity of the energy mix; and the mitigation of residual emissions through the use of technology and natural sinks. While it is difficult to predict the exact combination of actions that will deliver the net-zero goal, scenarios help us to consider the variables and the potential direction and pace of the transition needed. Scenarios are not intended to be predictions of likely future events or outcomes and, therefore, are not the basis for Shell's operating plans, outlook and financial statements.

Key aspects of Shell's financial resilience in the context of climate-related impacts are assessed and described in more detail in Note 4 to the "Consolidated Financial Statements" on pages 255-265. This describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities. Shell's financial statements are based on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that may exist in the foreseeable future.

As there is no single scenario that underpins our plans, sensitivity analysis has been conducted using a range of key assumptions to test the resilience of our asset base.

Oil and gas prices are one of the key assumptions that underpin Shell's financial statements, with the mid-price outlook informed by Shell's scenario planning representing management's best estimate. Price outlooks reflect a broad range of factors, including, but not limited to, future supply and demand, and the pace of growth of low-carbon solutions. The scenarios have been selected to illustrate the resilience of the asset base under a range of possible outcomes, including the price implications arising from the ambitious International Energy Agency's Net Zero Emissions by 2050 Scenario (NZE50) which provides a potential path for the global energy system to net-zero emissions by 2050. Sensitivities of asset-carrying amounts to prices are under the assumption that all other factors in the models used to calculate impacts remain unchanged.

Sensitivity analysis has been performed using price outlooks from:

1. Average prices from three 1.5–2°C external climate change scenarios.
2. Hybrid Shell Plan and IEA NZE50: for this, Shell's mid-price outlook is applied for the next 10 years. Because of greater uncertainty, the IEA normative Net Zero Emissions scenario is applied for the period after 10 years. This gives less weight to the price-risk uncertainty in the first 10 years reflected in the business plan period and applies more risk to the more uncertain subsequent periods.
3. A 1.5°C scenario, derived from IEA NZE50: this applies the IEA normative Net Zero Emissions scenario over the whole period under review and reflects the sensitivity to a pure net-zero emissions scenario from the IEA.

Pollution

We maintain an overview of sites and activities under our operational control for pollution-related impacts, risks and opportunities. Our assessment is based on operating data, technical studies, expert analysis and internal risk management processes. We are limited in our ability to analyse pollution-related impacts in our upstream and downstream value chain owing to limited availability of data.

Water and marine resources

We maintain an overview of sites and activities under our operational control for water-related impacts, risks and opportunities. Our assessment is based on operating data, technical studies, expert analysis and internal risk management processes. We also use tools such as the World Resources Institute's Aqueduct Water Risk Atlas. We are limited in our ability to analyse water-related impacts in our upstream and downstream value chain owing to the limited availability of data.

Biodiversity and ecosystems

In addition to our requirements for impact assessment, where the significance of potential impacts is assessed using criteria tailored to local environmental and socio-economic circumstances, our standards also require us to avoid adverse impacts on biodiversity and ecosystem services and, where avoidance cannot be achieved, to mitigate adverse impacts via the mitigation hierarchy.

We use a variety of internationally recognised assessment tools, such as the Integrated Biodiversity Assessment Tool (IBAT), to guide our approach to identifying impacts, risks and opportunities, in combination with analysis of site-level data.

Where we have sites located in or near biodiversity sensitive areas, we implement measures to avoid, minimise, restore or, if necessary, compensate for negative impacts on natural habitats or the habitats of species for which a protected area has been designated. If a site is located in critical habitat, our standards require us to implement the mitigation hierarchy and achieve net positive impact on biodiversity. We follow national or international standards to assess biodiversity impacts and define mitigation measures.

We consult with local communities and other affected stakeholders throughout the project life cycle on potential impacts of our activities on the biological resources, ecosystems and ecosystem services used by them and ways to avoid or minimise such impacts.

We have further work to do to identify and assess dependencies at site locations and in the upstream and downstream value chain. We also have further work to do to identify and assess transition and physical risks and systemic risks. We aim to undertake further work to mature our understanding of these topics.

We are limited in our ability to analyse biodiversity-related impacts in our upstream and downstream value chain owing to the limited availability of data at Group level.

Resource use and circular economy

We maintain an overview of sites and activities under our operational control for circularity-related impacts, risks and opportunities. Our assessment is based on operating data, technical studies, expert analysis and internal risk management processes. We are limited in our ability to analyse circularity-related impacts in our upstream and downstream value chain owing to the limited availability of data.

Own workforce

We identify actual or potential impacts on our workforce through a variety of means. These include feedback from human resources and line managers, feedback from engagement and the Shell People Survey, learning from Shell Global Helpline cases and other mechanisms. We identify, assess and manage safety-related risks for activities under our operational control as part of our SEAM Standards.

Workers in the value chain

We identify, assess and manage worker welfare-related impacts for activities under our operational control as part of our SEAM Standards. We identify, assess and manage impacts for people who work in our supply chain for non-hydrocarbon goods and services as part of our enhanced value chain due diligence process.

Affected communities

We identify, assess and manage community-related impacts for activities under our operational control as part of our SEAM Standards. In addition, we conduct a risk-based annual review of select assets and projects to evaluate the effectiveness of local management of social performance, with participation from in-country teams and central experts.

Ethics and compliance

Shell's Ethics and Compliance Office (SECO) establishes requirements for Shell's businesses and functions, and supports them to identify and assess ethics and compliance risks. SECO designs, supports and monitors Shell's ethics and compliance programmes. These are supported by legal counsel who monitor external legal and regulatory developments. Shell's businesses and functions are responsible for implementing the necessary policies, standards and procedures. Ethics and compliance representatives provide advice and monitor the effectiveness of the programme.

Our ethics and compliance policies require Shell's businesses and functions to review the risks associated with anti-bribery and corruption, anti-money laundering, facilitation of tax evasion, data privacy and trade compliance, periodically and when there is a significant change in business conditions. Many factors influence our exposure to business conduct risks. Shell reviews the exposure of its businesses and functions based on a variety of factors including the location, the nature of the activity and the degree of involvement with government officials.

Other methodological notes

We engage with stakeholders on a regular basis concerning our potential business impacts. We have not engaged with stakeholders directly on the double materiality assessment, but use feedback from existing communication channels to inform our assessment. We reviewed the double materiality assessment with relationship owners for key stakeholder groups to ensure external views are reflected.

Shell's Sustainability Report 2023 was informed by the double materiality principle as set out in the GRI standard and guided by topics set out in the GRI and Ipeca standards. This is the first year in which we have applied the process prescribed by the ESRs. We expect to review our double materiality assessment on an annual basis.

Disclosure requirements in ESRs covered by the undertaking's sustainability statement (IRO-2)

The following table lists the disclosure requirements covered by the Sustainability Statements and the page numbers where the related disclosures can be found. This table excludes disclosure requirements and data points that have been assessed as non-material or that are not required for reporting in 2024 under the phase-in provisions of the ESRs.

For data points incorporated by reference, we provide the paragraph in the relevant ESR standard that identifies the data point, a brief description of the data point, and the page number where the information can be found in this Report.

Disclosure requirements covered by the Sustainability Statements

ESRS standard	Disclosure requirement	Title	Page	Disclosure requirements or data points incorporated by reference
General disclosures (ESRS 2)	BP-1	General basis for preparation of sustainability statements	342	
	BP-2	Disclosures in relation to specific circumstances	344	
	GOV-1	The role of the administrative, management and supervisory bodies	345	§21(c): Experience of Board (page 152) and Executive Committee (page 157). §21(d): Aspects of diversity relevant to the Board (page 152) and EC (page 157). §22(a)-(b): Description of governance bodies responsible for sustainability and how these are reflected in terms of reference, mandates and other policies (pages 127-128). §22(c): Management's role in governance processes, controls and procedures (pages 127-128). §22(d): How the Board and EC oversee the setting of targets related to sustainability and monitor progress (page 127).
	GOV-2	Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies	346	§26(a): How management is informed about sustainability (page 127). §26(b): How the Board and EC consider impacts, risks and opportunities when overseeing strategy, decisions on major transactions and risk management (pages 128 and 145-148). §26(c): Impacts, risks and opportunities addressed by the Board in 2024 (pages 161-164).
	GOV-3	Integration of sustainability-related performance in incentive schemes	346	§29(a)-(e): Incentive schemes and remuneration policies linked to sustainability (pages 188-190).
	GOV-4	Statement on due diligence	346	
	GOV-5	Risk management and internal controls over sustainability reporting	347	
	SBM-1	Strategy, business model and value chain	348	§40(a)(iii): Headcount of employees by geographical area (page 115).
	SBM-2	Interests and views of stakeholders	350	§45(c): How the interests of stakeholders are taken into account in the Board's decision-making process (pages 145-148). §45(d): How the Board and EC are informed about the views and interests of affected stakeholders with regard to sustainability-related impacts (pages 127-133, 165-166 and 167-168).
	SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	351	§48(b): Current and anticipated effects of impacts, risks and opportunities on business model, value chain, strategy and decision-making (pages 10-13, 76-108 and 135-144). §48(d): Current financial effects of risks and opportunities (pages 255-265). §48(e): Anticipated financial effects of risks and opportunities (pages 255-265). §48(f): Resilience of strategy and business model (pages 10-13, 86-88 and 135-144).
	IRO-1	Description of the process to identify and assess material impacts, risks and opportunities	354	§53(c)(iii): How sustainability-related risks are prioritised relative to other risks (pages 135-144). §53(e)-(f): Extent to which the process to identify and manage impacts, risks and opportunities is integrated into risk management and overall management processes (pages 134 and 130).
	IRO-2	Disclosure requirements in the ESRS covered by the undertaking's sustainability statement	357	
Climate change (E1)	ESRS 2 GOV-3	Integration of sustainability-related performance in incentive schemes	346	§13: How climate-related considerations are factored into remuneration (page 102).
	E1-1	Transition plan for climate change mitigation	364	§16(a): Targets in support of the Paris Agreement (pages 77, 94 and 102). §16(b): Climate change mitigation actions and decarbonisation levers (pages 102-103). §16(c): Investments and funding to support the transition plan (pages 86-90). §16(f): Capex related to coal, oil and gas (pages 86-90). §16(h): Transition planning, business strategy and financial planning (pages 10-13, 86-90). §16(i): Progress in implementing the transition plan (page 94).

ESRS standard	Disclosure requirement	Title	Page	Disclosure requirements or data points incorporated by reference
Climate change (E1), continued.	ESRS 2 SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	351	§18: Climate-related impacts and risks and climate-related opportunities (pages 80-84 and 93-106). §19 (a)-(c): Resilience of Shell's strategy and business model to different climate-related scenarios (pages 86-90).
	ESRS 2 IRO-1	Description of the processes to identify and assess material climate-related impacts, risks and opportunities	354	§19 (a)-(c): Climate-related risks and opportunities identified by Shell over the short, medium and long term (pages 80-84) and Impact of climate-related risks and opportunities on Shell's businesses, strategy and financial planning (pages 85-86). §20(a)-(c), §21: Climate-related risks and opportunities identified by Shell over the short, medium and long term (pages 80-84).
	E1-2	Policies related to climate change mitigation and adaptation	367	§24-25: Additional information on policies related to climate change mitigation and adaptation (pages 85 and 130).
	E1-3	Actions and resources in relation to climate change policies	369	§29(a)-(b): Actions and resources in relation to climate change policies (pages 92, 94, 96 and 102-103). §29(c): Current and future financial and other resources allocated to the action plan (pages 86-90)
	E1-4	Targets related to climate change mitigation and adaptation	371	§34(a)-(e): Climate-related targets (pages 80 and 93-106). §34(f): Decarbonisation levers (pages 102 and 103).
	E1-5	Energy consumption and mix	372	§37-39: Energy consumption and mix (page 107). §40-43: Energy intensity based on net revenue (see "Consolidated Statement of Income" on page 241).
	E1-6	Gross Scopes 1, 2, 3 and Total GHG emissions	373	§51: Basis of preparation – Scope 3 emissions (page 100).
	E1-7	GHG removals and GHG mitigation projects financed through carbon credits	375	
	E1-8	Internal carbon pricing		§63(a)-(d): Internal carbon pricing (pages 89 and 255-265).
	E1-9	Anticipated financial effects from material physical and transition risks and potential climate-related opportunities	376	§64(a)-(c): Anticipated financial effects from material climate-related physical and transition risks and potential opportunities (pages 255-265).
Pollution (E2)	ESRS 2 IRO-1	Description of the processes to identify and assess material pollution-related impacts, risks and opportunities	354	
	E2-1	Policies related to pollution	391	
	E2-2	Actions and resources related to pollution	392	
	E2-3	Targets related to pollution	393	
	E2-4	Pollution of air, water and soil	393	
Water and marine resources (E3)	ESRS 2 IRO-1	Description of the processes to identify and assess material water and marine resources-related impacts, risks and opportunities	354	
	E3-1	Policies related to water and marine resources	395	
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	E3-3	Targets related to water and marine resources	399	
	E3-4	Water consumption	396	

ESRS standard	Disclosure requirement	Title	Page	Disclosure requirements or data points incorporated by reference
Biodiversity and ecosystems (E4)	E4-1	Transition plan and consideration of biodiversity and ecosystems in strategy and business model	397	
	ESRS 2 SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	351	
	ESRS 2 IRO-1	Description of processes to identify and assess material biodiversity and ecosystem-related impacts, risks, dependencies and opportunities	354	
	E4-2	Policies related to biodiversity and ecosystems	400	
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	E4-4	Targets related to biodiversity and ecosystems	404	
	E4-5	Impact metrics related to biodiversity and ecosystems change	404	
Resource use and circular economy (E5)	ESRS 2 IRO-1	Description of the processes to identify and assess material resource use and circular economy-related impacts, risks and opportunities	354	
	E5-1	Policies related to resource use and circular economy	405	
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	E5-5	Resource outflows	407	
Own workforce (S1)	ESRS 2 SBM-2	Interests and views of stakeholders	350	
	ESRS 2 SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	409	
	S1-1	Policies related to own workforce	409	
	S1-2	Processes for engaging with own workforce and workers' representatives about impacts	410	
	S1-3	Processes to remediate negative impacts and channels for own workforce to raise concerns	411	
Own workforce (S1)	S1-4	Taking action on material impacts on own workforce, and approaches to managing material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	411	
	S1-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	412	
	S1-6	Characteristics of the undertaking's employees	412	§50(b): Employees by contract type and gender (page 116). §50(e): Contextual information on changes in headcount (page 115).
	S1-8	Collective bargaining coverage and social dialogue	413	
	S1-9	Diversity metrics	413	§66(b): Distribution of employees by age group (page 116).
	S1-10	Adequate wages	413	
	S1-14	Health and safety metrics	413	
	S1-16	Remuneration metrics (pay gap and total remuneration)	413	
	S1-17	Incidents, complaints and severe human rights impacts	414	

ESRS standard	Disclosure requirement	Title	Page	Disclosure requirements or data points incorporated by reference
Workers in the value chain (S2)	ESRS 2 SBM-2	Interests and views of stakeholders	350	
	ESRS 2 SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	414	
	S2-1	Policies related to value chain workers	415	
	S2-2	Processes for engaging with value chain workers about impacts	416	
	S2-3	Processes to remediate negative impacts and channels for value chain workers to raise concerns	417	
Workers in the value chain (S2)	S2-4	Taking action on material impacts on value chain workers, and approaches to managing material risks and pursuing material opportunities related to value chain workers, and effectiveness of those actions	417	
	S2-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	419	
Affected communities (S3)	ESRS 2 SBM-2	Interests and views of stakeholders	350	
	ESRS 2 SBM-3	Material impacts, risks and opportunities and their interaction with strategy and business model	414	
	S3-1	Policies related to affected communities	420	
	S3-2	Processes for engaging with affected communities about impacts	421	
	S3-3	Processes to remediate negative impacts and channels for affected communities to raise concerns	422	
	S3-4	Taking action on material impacts on affected communities, and approaches to managing material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions	422	
	S3-5	Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	424	
Business conduct (G1)	ESRS 2 GOV-1	The role of the administrative, supervisory and management bodies	345	§5(a)-(b): Role and expertise of the Board (page 152) and EC (page 157) with respect to conduct and culture.
	ESRS 2 IRO-1	Description of the processes to identify and assess material impacts, risks and opportunities	354	
	G1-1	Business conduct policies and corporate culture	425	§9: How Shell seeks to establish, develop, promote and evaluate its corporate culture (pages 135-144).
	G1-2	Management of relationships with suppliers	425	
	G1-3	Prevention and detection of corruption and bribery	426	
	G1-4	Incidents of corruption or bribery	427	
	Entity-specific	Tax and other payments to governments	427	
	Entity-specific	Safety	429	

The table below shows data points that derive from other EU legislation as listed in ESR52, Appendix B, indicating where the information can be found in our report and which are assessed as not material or applicable.

Data points that derive from other EU legislation

Disclosure requirement	Related data point	Title	Page
ESRS 2 GOV-1	21 (d)	Board's gender diversity ratio	345
ESRS 2 GOV-1	21 (e)	Percentage of independent board members	345
ESRS 2 GOV-4	30	Statement on due diligence	346
ESRS 2 SBM-1	40 (d) (i)	Involvement in activities related to fossil fuels	348
ESRS 2 SBM-1	40 (d) (ii)	Involvement in activities related to chemical production	348
ESRS 2 SBM-1	40 (d) (iii)	Involvement in activities related to controversial weapons	Not material
ESRS 2 SBM-1	40 (d) (iv)	Involvement in activities related to cultivation and production of tobacco	Not material
E1-1	14	Transition plan to reach climate neutrality by 2050	364
E1-1	16 (g)	Undertakings excluded from Paris-aligned benchmarks	364
E1-4	34	GHG emission reduction targets	365
E1-5	38	Energy consumption from fossil sources disaggregated by sources (only high climate impact sectors)	372
E1-5	37	Energy consumption and mix	373
E1-5	40-43	Energy intensity associated with activities in high climate impact sectors	373
E1-6	44	Gross Scope 1, 2, 3 and total GHG emissions	373
E1-6	53-55	Gross GHG emissions intensity	373
E1-7	56	GHG removals and carbon credits	375
E1-9	66	Exposure of the benchmark portfolio to climate-related physical risks	376
E1-9	66 (a)	Disaggregation of monetary amounts by acute and chronic physical risk	376
E1-9	66 (c)	Location of significant assets at material physical risk	376
E1-9	67 (c)	Breakdown of the carrying value of its real estate assets by energy-efficiency classes	Not material
E1-9	69	Degree of exposure of the portfolio to climate-related opportunities	376
E2-4	28	Amount of each pollutant listed in Annex II of the E-PRTR Regulation emitted to air, water and soil	394
E3-1	9	Policies related to water and marine resources	395
E3-1	13	Sites in areas of high water stress not covered by a policy	395
E3-1	14	Policies related to sustainable oceans and seas	395
E3-4	28 (c)	Total water recycled and reused	397
E3-4	29	Total water consumption in cubic metres per net revenue on own operations	Not material
E4 SBM-3	16 (a) (i)	Activities negatively affecting sites in own operations located in or near biodiversity-sensitive areas	397
E4 SBM-3	16 (b)	Sites in own operations where land degradation, desertification or soil sealing are identified	Not material
E4 SBM-3	16 (c)	Sites in own operations that affect threatened species	397
E4-2	24 (b)	Policies or practices related to sustainable land and/or agriculture	400
E4-2	24 (c)	Policies or practices related to sustainable oceans and/or seas	400
E4-2	24 (d)	Policies to address deforestation	400
E5-5	37 (d)	Non-recycled waste	408
E5-5	39	Hazardous waste and radioactive waste	408
S1 SBM-3	14 (f)	Risk of incidents of forced labour	409
S1 SBM-3	14 (g)	Risk of incidents of child labour	409
S1-1	20	Human rights policy commitments relevant to own workforce	410
S1-1	21	Due diligence policies on issues addressed by the fundamental International Labor Organization Conventions 1 to 8	410
S1-1	22	Processes and measures for preventing trafficking in human beings	410
S1-1	23	Workplace accident prevention policy or management system	410
S1-3	32 (c)	Grievance/complaints handling mechanism	411
S1-14	88 (b)	Number of fatalities	413
S1-14	88 (c)	Number and rate of recordable work-related accidents	413
S1-14	88 (e)	Number of days lost to injuries, accidents, fatalities or illness	413
S1-16	97 (a)	Unadjusted gender pay gap	413
S1-16	97 (b)	Annual total remuneration ratio	413

Disclosure requirement	Related data point	Title	Page
S1-17	103 (a)	Incidents of discrimination	414
S1-17	104 (a)	Cases of non-respect of UN Guiding Principles on Business and Human Rights, ILO Declaration or OECD Guidelines	414
S2 SBM-3	11 (b)	Significant risk of child labour or forced labour in the value chain	419
S2-1	17	Human rights policy commitments relevant to value chain workers	419
S2-1	18	Policies related to value chain workers	419
S2-1	19	Cases of non-respect of UN Guiding Principles on Business and Human Rights, ILO Declaration or OECD Guidelines	419
S2-1	19	Due diligence policies on issues addressed by the fundamental International Labor Organization Conventions 1 to 8	419
S2-4	36	Human rights issues and incidents connected to upstream and downstream value chain	421
S3-1	16	Human rights policy commitments relevant to affected communities	420
S3-1	17	Cases of non-respect of UN Guiding Principles on Business and Human Rights, ILO Declaration or OECD Guidelines	420
S3-4	36	Human rights issues and incidents connected to affected communities	422
S4-1	16	Policies related to consumers and end users	Not material
S4-1	17	Cases of non-respect of UN Guiding Principles on Business and Human Rights, ILO Declaration or OECD Guidelines	Not material
S4-4	35	Human rights issues and incidents connected to consumers and end users	Not material
G1-1	10 (b)	Policies on anti-bribery and anti-corruption consistent with the United Nations Convention against Corruption	425
G1-1	10 (d)	Policies on the protection of whistle blowers	425
G1-4	24 (a)	Fines for violation of anti-corruption and anti-bribery laws	427
G1-4	24 (b)	Actions to address breaches in procedures and standards for anti-corruption and anti-bribery	427

For information about how we have determined the information to be disclosed in relation to material impacts, risks and opportunities, see "Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)" on page 354.

Environment | Climate change (E1)

We aim to become a net-zero emissions energy business by 2050 and work with our customers across sectors to help accelerate the energy transition.

Our double materiality assessment has identified GHG emissions as a material topic. See "Material impacts, risks and opportunities and their interaction with strategy and business model (SBM-3)" on page 351 and "Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)" on page 354 for more information.

Why it matters

The world needs a balanced energy transition, one that maintains secure energy supplies, while accelerating the transition to affordable low-carbon solutions. We believe our strategy supports a balanced transition by providing the oil and gas people need today, while helping to build the energy system of the future.

Transition plan for climate change mitigation (E1-1)

Shell's climate change transition plans are delivered through our strategy. This is supported by a suite of processes and greenhouse gas emission reduction targets and by an ambition, which cover all of our businesses.

Our strategy incorporates climate change mitigation actions and decarbonisation levers with the aim of generating more value with less emissions for the benefit of our shareholders, customers and wider society as we work to become a net-zero emissions energy business by 2050.

Targets in support of the Paris Agreement [A]

Shell supports the more ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5°C above pre-industrial levels. We aim to become a net-zero emissions energy business by 2050 and have set targets to reduce our Scope 1 and 2 emissions and our net carbon intensity (NCI) [B], as well as an ambition to reduce customer emissions from the use of our oil products (Scope 3, Category 11).

Most of Shell's GHG emissions reduction targets predate the CSRD and differ from the ESRS boundary and definitions (see "Targets related to climate change mitigation and adaptation (E1-4)" on page 371 for more information). They all support the objective of becoming a net-zero emissions energy business by 2050 and are an integral part of our transition plans.

Our oil products ambition to reduce customer emissions from the use of our oil products by 15–20% by 2030, Scope 3 Category 11 (2021 baseline) [C], is set on a gross basis. For the different levers of our Scope 1 and 2 GHG emissions reduction target, see "Climate change mitigation actions and decarbonisation levers" on page 365, "Drivers of absolute Scope 1 and 2 emissions change" on page 94 and "Progress towards our Scope 1 and 2 target" on page 102.

In 2024, our combined Scope 1 and 2 emissions reflected a 2% increase compared to 2023, and a 30% reduction compared to the 2016 baseline, without the use of voluntary carbon credits, GHG removals or avoided emissions.

[A] Acknowledging uncertainty in the pace of change in the energy transition, we have chosen to set interim targets only to 2030.

[B] Shell's NCI is the average intensity, weighted by sales volume, of the energy products sold by Shell.

[C] In March 2024, we set an ambition to reduce absolute emissions related to the use of our oil products by 15–20% by 2030, compared with 2021 (Scope 3 Category 11). Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023 and 569 million tonnes CO₂e in 2021.

Shell's climate-related targets and ambition are set out in the table "Climate-related targets and ambition" on page 365. Our targets and ambition are forward-looking based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

We believe our NCI targets are aligned with the more ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5°C above pre-industrial levels.

As there is no established standard for aligning an energy supplier's decarbonisation targets within the 1.5°C temperature goal of the Paris Agreement, we have derived our NCI targets from scenarios developed for the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

We start with the complete set of 1.5°C scenarios and then exclude scenarios which are too reliant on carbon removals or use of bioenergy before removing outliers. We then calculate an emissions intensity for each scenario which is comparable to our own NCI. Finally, we produce a 1.5°C pathway based on the reductions in emissions intensity over time. We have chosen to use a range instead of any individual scenario to better reflect the uncertainty of the energy transition. We believe that using this pathway to set our targets demonstrates that they are aligned with the more ambitious 1.5°C goal of the Paris Agreement.

For our oil products ambition to reduce customer emissions from the use of our oil products by 15–20% by 2030 compared with 2021 (Scope 3 Category 11), using the same set of 1.5°C scenarios developed for the Sixth Assessment Report, we determined the changes in oil volumes in the energy system. Our reduction percentage is more ambitious than the median value of this range and among the more ambitious scenarios. We therefore believe it is compatible with limiting global warming to 1.5°C in line with the Paris Agreement.

We have set absolute and intensity reduction targets and an ambition for the GHG emissions from our own operations and from the products we sell over the short, medium and long term to track our performance.

The NCI metric tracks progress in reducing the overall carbon intensity of the energy products sold by Shell. The NCI measures emissions associated with each unit of energy we sell, compared to a 2016 baseline. It reflects changes in sales of oil and gas products, and changes in sales of low- and zero-carbon products – such as biofuels and renewable electricity.

Unlike Scope 1 and 2 emissions, reducing the NCI of the products we sell requires action by both Shell and our customers, with the support of governments and policymakers, to create the right conditions for change.

Our performance against our disclosed targets and ambition is set out in "Metrics used by Shell to assess climate-related risks and opportunities in line with our strategy and risk management process" on page 94. It includes information on how the targets and ambition are monitored and reviewed, the metrics used, whether our progress is in line with what we initially planned and an analysis of trends or significant changes in our progress towards achieving the targets and ambition.



[A] This target was subject to the completion of the sale of The Shell Petroleum Development Company of Nigeria Limited (SPDC). With effect from January 1, 2025, SPDC ceased routine flaring. Our target is therefore met. As detailed elsewhere in this report, on March 13, 2025, Shell completed the sale of SPDC to Renaissance.

[B] On an intensity basis. Methane intensity is measured separately for oil and gas assets with marketed gas [1] (gas, LNG and GTL available for sale) and assets without marketed gas [2] (oil and gas assets where gas is reinjected).

[C] Average intensity, weighted by sales volume, of the energy products we sell, on an equity boundary, net of carbon credits. Estimated total GHG emissions included in NCI reflect well-to-wheel emissions associated with energy products sold by Shell. This includes the well-to-tank emissions associated with the manufacturing of energy products by others that are sold by Shell.

[D] In March 2024, we set an ambition to reduce absolute emissions related to the use of our oil products by 15–20% by 2030, compared with 2021 (Scope 3 Category 1). Customer emissions from the use of our oil products (Scope 3, Category 1) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023 and 569 million tonnes CO₂e in 2021.

Climate change mitigation actions and decarbonisation levers

Shell's climate mitigation actions and identified decarbonisation levers are embedded in our energy transition plans to support the delivery of the absolute and intensity reduction targets and ambition that we have set for GHG emissions from our own operations (Scope 1 and 2) and from the products we sell (Scope 3). This covers all our businesses with the aim of reducing emissions from our operations and helping our customers transition to cost-competitive and cleaner energy. The actions we are taking include:

- reducing the GHG emissions from our operations (Scope 1 and 2) by improving our energy efficiency, deploying renewable electricity, and reducing methane emissions in our assets and projects;
- growing our LNG business while decarbonising our LNG portfolio in two main ways: by growing our portfolio with a lower carbon intensity, and continuing to invest in emissions abatement projects to reduce both CO₂ and methane emissions;
- managing our Integrated Gas and Upstream portfolio to support a balanced energy transition by cutting emissions from oil and gas production. Oil production is increasingly from our deep-water business which, through innovation, produces higher-margin and lower-carbon barrels; and
- focusing our businesses in Downstream and Renewables and Energy Solutions to offer more low-carbon energy solutions, while reducing sales of oil products.

The climate-change mitigation actions we will take and decarbonisation levers we will implement to achieve our targets and ambition will depend on the evolution of our asset portfolio and the continued development of technologies which reduce carbon emissions.

We expect that, on a net portfolio basis, reductions, predominantly from abatement projects including carbon capture and storage and electrification, are expected to outweigh increases in our Scope 1 and 2 emissions from new investments between 2024 and 2030. Our investments in producing low-carbon energy such as biofuels will increase our Scope 1 and 2 emissions, while reducing the NCI of the products we sell. Subsequent reductions in our emissions are reflected in the decarbonisation levers set out below and reflect an expected path to meeting our target by 2030.

The decarbonisation levers and actions planned to achieve our Scope 1 and 2 GHG emissions reduction target include:

- making portfolio changes such as acquisitions and investments in low carbon intensity projects, decommissioning facilities, divesting assets while sustaining our oil production with increasingly lower carbon intensity;
- progressing the repurposing of our energy and chemicals parks;
- improving the energy efficiency of our operations;
- using more renewable electricity to power our operations; and
- developing carbon capture and storage (CCS) for some of our facilities.

If required, we may choose to use high-quality carbon credits to offset any remaining emissions from our operations, in line with the carbon mitigation hierarchy of avoid, reduce and compensate.

The decarbonisation levers and actions planned to achieve our net carbon intensity target include:

- growing our power sales, including those of renewable power;
- reducing sales of oil products;
- increasing the proportion of gas and LNG in our hydrocarbon sales;
- increasing sales of low-carbon fuels, such as biofuels;

- developing and deploying more CCS; and
- using high-quality carbon credits, such as nature-based solutions, to offset remaining carbon emissions.

In addition we plan to reduce the sales of oil products in line with our Scope 3, Category 11 ambition.

We will continue to reassess our decarbonisation levers over time as part of our Operating Plan process to support the achievement of our targets and ambition. For details of the climate mitigation actions taken and decarbonisation levers delivered in 2024 see "Actions and resources in relation to climate change policies (E1-3)" on page 370, "Progress towards our Scope 1 and 2 target" on pages 102 and "GHG removals and GHG mitigation projects financed through carbon credits (E1-7)" on page 375.

Investments and funding to support the transition plan

Shell's capital investment and business plans, covering a 10-year cycle, include funding to deliver our 2030 targets and ambition which are integral to our strategy to achieve net zero by 2050. See "Actions and resources in relation to climate change policies (E1-3)" on page 370 for more information on our investments and funding which support our energy transition plans. In addition, see "Capex Plan assessment" on page 380 for an explanation of the key performance indicators of EU taxonomy-aligned capital expenditure (capex) and capex plans, and "Investing in the energy transition" on pages 86-90 for details of our short-term capex plans in support of our energy transition plan.

Shell allocates capital through an integrated process that considers our aspired portfolio and product mix, hurdle rate (minimum acceptable rate of return), emissions impact and other factors, with the aim of taking decisions that balance short-, medium- and long-term business objectives.

Energy transition plan operating expenditure (opex) and capex is reported by the main investment categories, such as non-energy products and low-carbon energy solutions, as well as by segment. Shell monitors and continues to evolve cash capital and operational expenditure by segment and by product group to achieve its targets and ambition.

Potential locked-in GHG emissions

Shell has not identified potential locked-in GHG emissions to be a significant transition risk. We believe our decarbonisation plans will deliver our GHG emissions reduction targets by 2030.

Shell's business plans, including the impact of our identified decarbonisation levers, cover a 10-year forward-looking period. Decarbonisation targets are key to our business planning process.

Shell's Operating Plan process identifies opportunities for Scope 1 and 2 GHG emission reductions from assets and activities under our operational control over the short and medium term which support our target to reduce Scope 1 and 2 absolute emissions by 50% by 2030 compared with the 2016 baseline, on a net basis.

Additionally, Shell has identified Scope 3, Category 11 "Use of sold products" to be a significant category of Scope 3 emissions, along with categories 1, 3 and 9. See "Targets related to climate change mitigation and adaptation (E1-4)" on page 371 for details of Shell's climate-related targets and ambition up to 2030.

Alignment with the EU Taxonomy

Shell prepares its business and financial plans, including its energy transition plans, using a broader scope than the EU Taxonomy requires. See "The EU Taxonomy" on pages 377-390 for information about Shell's taxonomy-eligible and taxonomy-aligned activities.

Shell's reporting on capital expenditure aligns with its business segments, which do not correspond to the industry codes contained in the Statistical Classification of Economic Activities in the European Community (NACE). Under the European Commission's Delegated Regulation (EU) 2021/2178, oil and gas production are non-eligible activities. Electricity generation from fossil gaseous fuels is an eligible economic activity.

Capex related to coal, oil and gas

Shell is active in the fossil fuel sector and makes significant capital expenditures on oil- and gas-related activities.

Shell has assessed its cash capex measure to be the most relevant representation of its investment in the oil and gas sector.

See "Investing in the energy transition" on pages 86-90 for details of our investments in the oil and gas sector in 2024.

EU Paris-aligned benchmarks

As Shell derives more than 10% of its total revenues from the exploration, extraction, distribution and refining of oil fuels, we are excluded from the EU Paris-aligned benchmarks, in line with the European Commission's Delegated Regulation (EU) 2020/1818 (Climate Benchmark Regulation), Article 12.1(e).

Transition planning, business strategy and financial planning

Shell's energy transition plans are embedded in and aligned with our strategy and are supported by our financial planning processes.

At Group level, the potential impacts of the energy transition on our business model and strategy are discussed and assessed by the Board and the Executive Committee as part of the annual strategic and business planning cycle. This assessment allows us to challenge accepted ways of thinking, identify material risks and opportunities, and identify key tensions and trade-offs.

Management consideration of different climate change outcomes informs a range of areas, including but not limited to the setting of the long-term strategy, business planning, and investment and divestment decisions. The outcomes considered by management vary in relation to the extent and pace of the energy transition.

We regularly update our business plans, commodity and carbon price outlooks, and assumptions as we move towards net-zero emissions by 2050 [A].

[A] We believe our total net absolute emissions peaked in 2018 at 1.7 gigatonnes of carbon dioxide equivalent (GtCO₂e).

Our strategy reflects our responses to the climate-related risks and opportunities identified and energy transition plans developed. Our responses can be summarised as:

- delivery through our integrated business model;
- decarbonisation of our operations and energy value chains; and
- a focus on demand-driven decarbonisation – recognising that we need to work with our customers to identify low-carbon energy solutions for their energy demands in the sectors where we have competitive advantages.

See "Our strategy" on pages 10-13 and "Shell's energy transition plans" on pages 77-93 for more information. See "Targets related to climate change mitigation and adaptation (E1-4)" on page 371.

Approval of the transition plan

The Board of Directors has primary oversight of the approval and delivery of Shell's strategy, including its energy transition plans.

The Board is supported by the Sustainability Committee (SUSCO), the Remuneration Committee (REMCO), the Audit and Risk Committee (ARC) and the Nomination and Succession Committee (NOMCO). The importance of sustainability means that these committees are informed about sustainability, including climate-related matters, as appropriate throughout the year.

The Chief Executive Officer (CEO) has the delegated authority from the Board to manage Shell's actions in relation to the Company's strategy. The CEO is assisted on climate-related matters by members of the Executive Committee to review and implement Shell's energy transition plans and ensure that such matters are monitored appropriately.

See "Climate-related risks and opportunities identified by Shell over the short, medium and long term" on pages 80-84 and "Board oversight of sustainability including climate-related impacts, risks and opportunities" on pages 127-128.

Progress in implementing the transition plan

Shell's performance and progress in the energy transition is measured with respect to our climate-related targets and ambition, including those reflected in the remuneration of senior management and employees.

See "Integration of sustainability-related performance in incentive schemes (GOV-3)" on page 346 and "Metrics used by Shell to assess climate-related risks and opportunities in line with our strategy and risk management process" on page 94 for more details.

The targets we have set are used to manage climate-related risks and opportunities as well as our performance and are focused primarily on reducing our absolute GHG emissions and our NCI. See "Our climate-related metrics and targets" on page 93 for details of Shell's progress in 2024.

Material impacts, risks and opportunities and their interaction with strategy and business model (ESRS 2 SBM-3)

Shell has identified and assessed the GHG emissions associated with our activities to be material, and climate change and the energy transition to be a material risk factor. See "Material impacts, risks and opportunities and their interaction with strategy and business model (SBM-3)" on page 351 for more details.

We set out in "Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)" on page 354 our process to identify and assess material sustainability-related impacts, risks and opportunities. We have identified climate-related risks across four components: commercial, regulatory and societal (including litigation) transition risks, and physical risks. We have also identified climate-related opportunities as part of our risk assessment.

Climate-related impacts and risks

Type	Description	Time horizon
Impacts		
	- Scope 1 – direct GHG emissions from sources under Shell's operational control. - Scope 2 – indirect GHG emissions from the generation of purchased energy (electricity, steam, heating or cooling) consumed by assets under Shell's operational control. - Scope 3 – all other indirect GHG emissions occurring in Shell's upstream and downstream value chains, including emissions associated with the use of the energy products we sell.	Short, medium, long
Transition risks		
Commercial (CR1)	- The transition to a low-carbon economy may lead to lower sales volumes and/or margins due to a general reduction or elimination of demand for oil and gas products, possibly resulting in underutilised or stranded oil and gas assets, and a failure to secure new opportunities. - Changing preferences of investors and financial institutions could reduce access to and increase the cost of capital.	Medium, long
Regulatory (CR2)	The transition to a low-carbon economy will likely increase the cost of compliance for our assets and/or products, and may include restrictions on the use of hydrocarbons. The lack of net-zero-aligned global and national policies and frameworks increases the uncertainty around this risk.	Short, medium, long
Societal (including litigation) (CR3)	As societal expectations develop around climate change, there is a potential impact on Shell's licence to operate, reputation, brand and competitive position. This is likely to include litigation.	Short, medium, long
Physical risks		
Physical risks (CR4)	The potential physical effects of changing climatic conditions could adversely affect our assets, operations, supply chains, employees and markets.	Short, medium, long

Climate-related opportunities

Type	Description	Time horizon
Opportunities		
Opportunities (CO1)	The transition to a low-carbon economy also brings significant opportunities for us to benefit from changing customer demands, given our position as a leading global energy provider.	Short, medium, long

See "Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)" on page 354, "Climate-related risks and opportunities identified by Shell over the short, medium and long term" on pages 80-84 and "Metrics used by Shell to assess climate-related impacts, risks and opportunities in line with its strategy and risk management process" on pages 93-106.

Current and anticipated effects on business model, value chain, strategy and decision-making

In considering climate change, energy transition variables and the potential direction and pace of transition, we develop internal climate-related scenarios and evaluate them together with external scenarios. Consideration of different climate-change scenarios informs management in a range of areas, including identifying and assessing material impacts, risks and opportunities; setting the long-term strategy; performing financial and business planning; and taking investment and divestment decisions.

See "Climate-related risks and opportunities identified by Shell over the short, medium and long term" on pages 80-84 and "Impact of climate-related risks and opportunities on Shell's businesses, strategy and financial planning" on pages 85-86 for more information on how Shell evaluates the impact of material impacts, risks and opportunities on our business model, value chain, strategy and decision-making.

Current and potential financial effects

A range of current and potential financial effects of climate change and the energy transition on Shell's financial statements are outlined in Note 4 to the "Consolidated Financial Statements" on pages 255-265.

Note 4 includes sensitivity analysis using various climate-related scenarios for oil and gas prices, chemical and refining margins, discount rates and carbon prices. Other financial impacts described in Note 4 include portfolio changes and asset useful life, product demand, decommissioning and restoration, deferred tax assets, onerous contracts, dividend resilience and physical risks.

Note 4 describes how Shell has considered climate change in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities. Shell's financial statements are based on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that may exist in the foreseeable future.

The current financial effects on Shell's financial position, performance and cash flows of the material climate-related risks and opportunities identified include the likelihood of litigation and increased compliance costs. Shell does not consider the identified effects to pose a significant risk of material adjustment to the carrying value of assets and liabilities within the next annual reporting period.

Carbon costs in Shell's business plan

Shell's business plan includes capital expenditure and operating costs to support the achievement of our Scope 1 and 2 emission reduction targets (on a net basis). These include asset-level abatement project costs that drive efficiencies and reduce emissions, the expected costs of complying with evolving carbon regulations based on a forecast of Shell's equity share of emissions and the cost of offsets for any residual amounts. Methods for estimating costs vary, depending on the nature of the cost.

The total capital expenditure for abatement projects which includes energy efficiency improvements, progressing the repurposing of our energy and chemicals parks, CCS facilities and electrification of our facilities included in the 10-year business plan is in excess of \$6 billion.

Total yearly costs in respect of carbon emissions in Shell's business plan gradually increase from \$1 billion in 2025 to \$5 billion in 2034, using our mid-price scenario for carbon costs. Costs for complying with evolving carbon regulations are based on a forecast of Shell's equity share of emissions and are included in the business plan at Shell's mid-price outlook on a country-by-country basis and represent management's best estimate.

There is significant uncertainty as to how carbon regulations and costs will develop over the next decades. These will depend on policies set by countries and the pace of the energy transition. In accordance with the International Financial Reporting Standards, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate of the economic conditions that may arise in the foreseeable future, which is policy-based up to 2030 and then based on the mid-price outlook beyond 2030.

See "Carbon price sensitivities" in Note 4 on page 260 for more information.

Anticipated financial effects from transition risks and potential climate-related opportunities

Shell's financial statements are based on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that may exist in the foreseeable future.

Overall, we mitigate climate-related risks through our strategy to deliver more value with less emissions. With our focus on performance, discipline and simplification, we believe that we are positioning ourselves to achieve our financial targets and climate-related targets and ambition. Shell will, through its business and financial planning processes, continue to refresh its assessment of the anticipated financial impact from the identified material transition and physical risks and potential climate-related opportunities.

However, a number of anticipated and potential effects are set out in Note 4 to the "Consolidated Financial Statements" on page 255. This note includes an overview of key assumptions used for financial planning related to climate change and the energy transition in addition to details of the sensitivity of carrying values to commodity prices, carbon emission costs, chemical and refining margins, discount rates and demand, if different assumptions were applied.

Resilience of our strategy and business model

See "Resilience of Shell's strategy to different climate-related scenarios" on pages 86-90 for information on the resilience of our strategy and business model to climate change-related impacts, risks and opportunities. See Note 4 to the "Consolidated Financial Statements" on pages 255-265 for information about Shell's financial resilience.

Shell's financial strength and access to capital give us the ability to effectively manage climate-related impacts and risks, capture opportunities and reshape our portfolio as the energy system transforms. They also allow us to withstand volatility in oil and gas markets.

As we work towards net-zero emissions, we continue to optimise our capital allocation between our business segments. We regularly assess the sensitivity of our asset carrying values to carbon pricing, discount rates and commodity price assumptions as part of our efforts to track the resilience of Shell's strategy to climate-related risks and opportunities.

As there is no single scenario that underpins our plans, sensitivity analysis has been conducted using a range of key assumptions to test the resilience of our asset base.

The key areas of climate change-related risks that have been subject to sensitivity analysis include:

- For Integrated Gas and Upstream, sensitivity to commodity prices and carbon prices has been tested covering the carrying value of goodwill, other intangible assets, property, plant and equipment, and joint ventures and associates.
- For Chemicals and Products, sensitivity to chemical margins, refining margins and carbon prices has been tested.
- Marketing and Renewables and Energy Solutions (R&ES) are expected to be resilient through the energy transition with limited exposure of stranded assets.
- Sensitivity to changes in the discount rate applied in impairment testing has also been tested.

See Note 4 to the "Consolidated Financial Statements" on pages 255-265.

We believe the areas of uncertainty in our resilience analysis are appropriately managed through our energy transition strategy and Operating Plan cycle, with relevant mitigating actions considered and portfolio changes enacted. In turn, we demonstrate the resilience of our business model and strategy as we adapt to changes in technology, policy, workforce reskilling requirements and customer preferences. The scope of our resilience analysis covers all business areas.

Mitigation of physical risks, whether or not related to climate change, is considered and embedded in the design, construction and operation of our projects and/or operation of our assets. In the long term, the level of unpredictability is such that the need for investment in climate adaptation measures is not immediate. Our forward planning means we are in a position to monitor our assets and determine whether there is any need for adaptation action.

Some investors and financial institutions have been aligning their portfolios to a low-carbon and net-zero world, driven by both regulatory and broader stakeholder pressures. A failure to decarbonise in line with investor and lender expectations could have a material adverse effect on our ability to access financing for certain types of projects. This could also adversely affect our partners' ability to finance their portion of costs, either through equity or debt. Shell has looked, and continues to look, at sustainable financing options while focusing on delivering the Group's energy transition strategy as a whole.

We consider the Group's financial framework to be an appropriate one for an oil and gas company navigating the energy transition. We believe our approach is increasingly recognised and understood by investors and financial institutions.

In preparing our sensitivity analysis, we have used research from our technology programmes, along with work carried out by the International Energy Agency, the Intergovernmental Panel on Climate Change and several other external bodies. We have also drawn from the expertise in our own energy security scenarios which were published in 2023. Our scenarios are quantified by our World Energy Models, which are supplemented with climate analysis done in conjunction with the Massachusetts Institute of Technology.

Scenarios are not intended to be predictions of likely future events or outcomes and, therefore, are not the basis for Shell's operating plans and financial statements.

See "Resilience of Shell's strategy to different climate-related scenarios" on pages 86-90 and Note 4 to the "Consolidated Financial Statements" on pages 255-265.

Policies related to climate change mitigation and adaptation (E1-2)

Policies in place to manage material impacts, risks and opportunities related to climate change mitigation and adaptation

Shell's policies for managing climate-related matters are based on the Shell Performance Framework (SPF). These policies include Shell's Safety, Environment and Asset Management (SEAM) Standards; our Carbon Management Framework; carbon pricing; our Greenhouse Gas and Energy Management process, policies and controls; and our Opportunity Realisation Standard.

We identify, assess and manage climate-related impacts for activities under our operational control as part of our SEAM Standards.

We expect non-operated joint ventures to adopt appropriate and acceptable policies to manage their risks. See "SEAM Standards" on page 130 and "Carbon Management Framework" on page 85 for information.

Policies on climate change mitigation

Business-level carbon plans

Our policies require our businesses to develop plans that demonstrate a decarbonisation trajectory aligned with carbon budgets allocated under the Carbon Management Framework. This includes delivery of applicable targets related to routine flaring and methane. These requirements are designed to ensure that our commitments are translated into tangible targets and plans.

Our policies require our businesses to determine the targets for carbon-significant and carbon-critical projects, assets and shipping fleets based on future CO₂ costs, anticipated GHG emissions including those across value chains, and in a manner that cumulatively delivers GHG performance consistent with our climate-related targets and ambition and future aspired portfolio.

Our policies require businesses to integrate their targets and decarbonisation plans into their annual business plans.

Greenhouse Gas and Energy Management Plan

Our policies require assets and shipping fleets with total annual GHG emissions of more than 50,000 tonnes to annually update and assure a Greenhouse Gas and Energy Management Plan (GHG EMP) which demonstrates planned delivery of their allotment of the business-level carbon target. The GHG EMP includes a marginal GHG reduction cost curve, economically assessed using applicable CO₂ project screening values; a minimum 10-year forecast, or forecast to the end of field life for upstream assets, of anticipated future emission levels; plans demonstrating a trajectory to deliver targets related to flaring and methane emissions, where applicable; and a description of risks and opportunities in managing and delivering the forecast emissions, including energy efficiency levers and deployment of renewable energy. See "Internal carbon pricing (E1-8)" on page 376 for more details of project screening values.

Our policies require the outputs of the GHG EMP to be integrated in the annual business plan, operating plans and strategic asset management plans, as appropriate.

Our policies require the Global Process Council for Greenhouse Gas and Energy Management, led by the global process owner for GHG and including business and functional experts, to meet regularly to evaluate opportunities for the improvement of the processes, tools, communications and capabilities needed by the businesses to achieve our climate-related targets and ambition.

Tracking of delivery plans

Our policies require our shipping fleets and assets with total annual GHG emissions of more than 50,000 tonnes to track delivery of planned GHG reductions and to communicate any delay, alteration or termination of activities in delivering these reductions to the senior executive with single-point accountability for the business concerned.

Integration of GHGs in project evaluation

Our standards require projects to consider GHG emissions in their evaluation by including a forecast of annual Scope 1, 2 and 3 GHG emissions over the life of the project and by applying CO₂ project screening values in the base economics and net-zero emission abatement curve. The aim of this requirement is to ensure that projects provide a reasonably accurate outlook of their GHG implications to inform robust investment decisions in light of Shell's emission reduction commitments.

Carbon Critical and Carbon Significant Projects

Carbon Critical Projects are opportunities (projects and deals) which are expected to result in an increase or decrease of 200,000 tonnes or more of Scope 1 and 2 CO₂ equivalent emissions in their peak emissions year, or more than 10 terawatt-hours of power delivered in their peak generation year. These thresholds apply on a 100% basis for Shell-operated ventures or on an equity share basis for non-operated ventures. Our standards require Carbon Critical Projects to meet the GHG-related requirements of Shell's Opportunity Realisation Standard. The aim is to facilitate informed decision-making by identifying potential carbon-value trade-offs and carbon-value synergies and contextualising these projects in terms of those with the greatest potential to impact our ability to meet our GHG reduction commitments.

Carbon Significant Projects refers to projects, assets or modifications of existing assets which are expected to result in more than 50,000 tonnes of CO₂e total Scope 1 and 2 emissions in their peak emissions year or more than 1 terawatt-hour of power delivered in their peak generation year. These thresholds apply on a 100% basis for Shell-operated ventures or on an equity share basis for non-operated ventures.

Our standards require Carbon Critical and Carbon Significant Projects to maintain a Greenhouse Gas and Energy Management Plan with GHG intensity targets or energy performance targets, or both. The aim is to ensure that projects with significant GHG emissions have targets benchmarked beyond the minimum requirements in our performance standards and plans to bring down GHG emissions over time in line with business-level reduction targets.

For Carbon Critical and Carbon Significant Projects, our standards require the Greenhouse Gas and Energy Management Plan to be updated at each stage gate of the opportunity realisation process.

Our standards require the plan to include an abatement curve demonstrating the project's approach to achieving net-zero GHG emissions; the project's value chain GHG emissions intensity; and a description of how carbon competitiveness has been implemented in project development through an evaluation of the greenhouse gas performance of the concept(s) considered. The aim is to ensure that project teams consider carbon as early as possible and to ensure it is appropriately considered at each stage gate.

Our standards also require Carbon Critical and Carbon Significant Projects to meet the applicable performance standard(s) and implement all value-adding abatement options. The aim is to ensure that projects that significantly impact Shell's GHG commitments meet a minimum standard of GHG performance, and implement plans to further reduce their emissions by leveraging economically feasible GHG reduction opportunities.

Our standards require Carbon Critical Projects to receive documented endorsement from the senior executive with single-point accountability for the relevant business and the technical function head for Safety, Environment and Asset Management for the project's greenhouse gas and energy management performance target(s) and the project's value chain intensity. Our standards require this endorsement at each decision gate within the opportunity realisation process and for the project mandate proposal to commit to a project and final investment proposal.

Policies relevant to climate change adaptation

Mitigation of physical risks, whether or not related to climate change, is considered and embedded in the design and construction of our projects and the operation of our assets to help minimise the risk of adverse incidents to our employees and contractors, the environment and communities where we operate, and our equipment. Acute and chronic physical risks, regardless of cause, are a key consideration in our design and engineering practices and standards.

Resourcing our actions

The Executive Vice President for Safety, Environment and Asset Management is the most senior executive in Shell with accountability for the development, governance and oversight of the SEAM Standards. Leaders of assets, performance units, businesses or functions are accountable for assessing which SEAM Standards are relevant, based on their objectives, risk profile and activities, and for implementing those standards as appropriate.

Implementation of SEAM Standards relevant to climate change mitigation and adaptation is supported by members of Shell's Safety, Environment and Asset Management function, which includes subject matter experts across a broad range of greenhouse gas and carbon technical specialisms and other disciplines. The requirements of our standards are communicated to people involved with implementation through various mechanisms, including internal communication channels, management systems and training, as appropriate.

Actions and resources in relation to climate change policies (E1-3)

The scope of the actions described in this section covers Shell companies and joint ventures in which Shell is the operator, unless otherwise stated. Many of our actions are of an ongoing nature. Horizons for the completion of time-bound actions are indicated where applicable.

Our actions are intended to help us achieve the desired outcome of our policies and standards by providing resources and expertise that support our businesses to implement them in fit-for-purpose ways.

The key actions we have taken in 2024 have been designed to deliver our decarbonisation levers in support of our transition plans.

We are cutting GHG emissions in our operations to meet our targets, by:

- lowering the GHG intensity of our operations through improved energy efficiency and reduced combustion, flaring and emissions venting;
- improving our monitoring of assets to reduce fugitive methane emission sources in our operations and by action such as signing the Oil and Gas Methane Partnership 2.0 reporting framework;
- reducing and, in our upstream operations, ultimately eliminating routine flaring;
- using more renewable electricity to power our operations;
- developing and deploying carbon capture and storage solutions; and
- growing our LNG business with lower carbon intensity.

Our Downstream and Renewables and Energy Solutions businesses are aimed at offering more low-carbon solutions by progressing the repurposing of our refineries into energy and chemicals parks. As part of our approach to the energy transition, we are continuing to develop integrated energy hubs to reduce our own emissions and those of the products we sell. This includes:

- developing biofuels such as sustainable aviation fuel, renewable diesel and renewable natural gas to help our customers decarbonise without having to change their cars, trucks, aeroplanes or ships;
- becoming a leader in public electric vehicle charging to meet growing demand;
- making selective investments in renewable power generation, batteries and other grid-flexible technologies to decarbonise our own operations and provide low-carbon solutions to our commercial and industrial customers in our power business;
- continuing to invest in the production of hydrogen as a feedstock for synthetic fuels and as an energy carrier for transport and industry to expand the technology and reduce costs so that it becomes an available and affordable low-carbon option in the future; and
- working with governments, customers and partners to unlock the potential of carbon capture and storage and carbon removal to reduce emissions where there are few low-carbon alternatives.

Across our businesses, high-quality carbon credits have been and may continue to be used by Shell and its customers to compensate for emissions in line with the carbon mitigation hierarchy of avoid, reduce and compensate.

We continue to invest in the research and development, demonstration and commercial deployment of new technologies and products that contribute to decarbonisation. We invest in the latest energy technologies through partnerships with start-ups, larger companies and leading academic institutions seeking to electrify energy systems, decarbonise transport, gain data-based insights and provide innovative customer solutions.

See "Drivers of absolute Scope 1 and 2 emissions change" on page 94 and "NCI performance" on page 96 for details of the drivers of change in 2024 and "Energy transition in action – selection of portfolio changes and actions in 2024" on page 92 for details of actions taken in 2024. See also "Climate change mitigation actions and decarbonisation levers" on page 365 for more information about the decarbonisation levers we have identified to achieve our Scope 1 and 2 GHG emissions reduction target, our NCI target and Scope 3 Category 11 GHG emissions ambition; and "Progress towards our Scope 1 and 2 target" on pages 102-103 and "Progress towards our NCI target" on page 103 for details of how we expect our decarbonisation levers to progress towards our 2030 targets and ambition.

Engagement and advocacy, directly with governments and indirectly through industry associations and coalitions, is part of our strategy.

Shell engages with governments, regulators and policymakers in different ways to advocate robust policy, legislation and regulation in areas where we can best reduce our own emissions and support the decarbonisation of our customers.

We have developed and are advocating positions across the transport and industrial sectors, as well as carbon abatement and removal, along four key themes:

- achieving net-zero emissions – cross-sector policies that support the achievement of national net-zero commitments through comprehensive policy frameworks and carbon pricing;
- supplying the secure energy the world needs – policies that support energy security, such as predictable regulatory frameworks that enable the production of hydrocarbons with lower emissions;
- driving changes in demand – policies that support changes in customer demand in transport and industry, such as vehicle standards, mandates for sustainable aviation fuel and a transition to low-carbon products; and
- growing low-carbon solutions – policies that encourage the development of low-carbon solutions, including incentives for biofuels, flexibility in feedstock choices, and effective regulatory frameworks for hydrogen and CCS.

Current and future financial and other resources allocated to the action plan

As we work towards net-zero emissions, we continue to optimise our capital allocation and operational expenditure, balancing energy security and demand and energy transition opportunities. We recognise that to achieve our strategic targets and ambition of generating more value with less GHG emissions, and to effectively manage our risk profile including climate-related risks and opportunities, will require significant operational and capital expenditure allocated in our annual budgets and future business plans.

Shell's capital investment and business plans include funding in support of our short- and medium-term energy transition plans as we work to achieve net zero by 2050. See "Investing in the energy transition" on pages 86-90 for more information about Shell's investments and funding supporting the implementation of our energy transition plans.

Some financial institutions have been aligning their portfolios to a low-carbon and net-zero world, driven by both regulatory and broader stakeholder pressures. Shell's financial strength and access to capital give us the ability to implement our climate change mitigation actions and adaptations.

See "Climate-related commercial risk" on page 81 for more information. Shell's capital investment and business plans, covering a 10-year cycle, include funding to deliver our 2030 targets and ambition. See "Resilience of Shell's strategy to different climate-related scenarios" on pages 86-90 for more information on our investments and expenditure which support our energy transition plans.

See "The EU Taxonomy" on page 378 for information about Shell's taxonomy-eligible and taxonomy-aligned activities.

Targets related to climate change mitigation and adaptation (E1-4)

Information in this section reflects Shell's choice of boundary for its targets and ambition related to climate change mitigation and adaptation. See "General basis for preparation of sustainability statements (BP-1)" on page 342 for more information.

Climate-related targets

As part of its energy transition plans, Shell has set several climate-related targets and an ambition, most of which predate the CSRD.

For detailed information on Shell's climate-related targets and ambition, see "Transition plan for climate change mitigation (E1-1)" on page 364 and "Our climate-related metrics and targets" on pages 93-106.

Shell has the following greenhouse gas emission reduction targets and ambition for Scope 1, 2 and 3:

- In March 2024, Shell set an oil products ambition to reduce customer emissions from the use of our oil products by 15–20% by 2030, Scope 3 Category 11 (with 2021 the reference year), in accordance with the CSRD and the ESRS definition of greenhouse gas emission reduction target. [A]
- In 2021, Shell set a target to halve the emissions from its operations (Scope 1) plus the energy it buys to run them (Scope 2) by 2030 compared to 2016 levels on a net basis. This target predates the CSRD and differs from the ESRS boundary and definitions. It is a net target and has been set on an operational control boundary in line with the Greenhouse Gas Protocol boundaries, and standard practice in the industry standards. The ESRS reporting boundary prescribed for Scope 1 and 2 deviates from the GHG Protocol (see "General basis for preparation of sustainability statements (BP-1)" on pages 342-344 for more information). In 2024, our combined Scope 1 and 2 emissions reflected a 2% increase compared to 2023, and a 30% reduction compared to the 2016 baseline, without the use of voluntary carbon credits, GHG removals or avoided emissions.
- In 2021, Shell also set targets to reduce the net carbon intensity (NCI) of the products it sells (see "Targets used by Shell to manage climate-related risks and opportunities and performance against targets" on page 101 for more information). These targets also predate the CSRD and differ from the ESRS boundary and definitions. These net intensity targets are based on an equity boundary, which deviates from the ESRS boundary and definitions for total GHG emissions.

[A] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023 and 569 million tonnes CO₂e in 2021.

Furthermore, in 2021, Shell set a target to become a net-zero energy business by 2050 and is measuring progress towards this target using the other targets and ambition referenced in this section. For more information see "Transition plan for climate change mitigation (E1-1)" on page 364 and "Targets used by Shell to manage climate-related risks and opportunities and performance against targets" on page 101.

Shell's target covers the full Scope 1 and 2 emissions and Scope 3 emissions from the energy products we sell. This target also predates the CSRD and differs from the CSRD definition of net-zero target. The pace of change in the energy transition is uncertain and there are currently no justified sectoral variations in line with recognised external sectoral pathways available.

Shell's Operating Plan, outlook and business plans cover a 10-year forecast period and are updated every year. The business plan reflects our Scope 1, Scope 2 and NCI targets over the next 10 years. However, Shell's business plans cannot reflect our 2050 net-zero emissions target, as this target is currently outside our planning period. Shell's business plan reflects Shell's strategy. We will continue to update our business plan, price outlooks and assumptions as we move towards net-zero emissions by 2050.

In addition to the above, Shell also set two additional climate-related targets that predate the CSRD: eliminate routine flaring from upstream operations by 2025 [B], and maintain methane emissions intensity below 0.2% and achieve near-zero methane emissions by 2030 [C].

[B] This target was subject to the completion of the sale of The Shell Petroleum Development Company of Nigeria Limited (SPDC). With effect from January 1, 2025, SPDC ceased routine flaring. As detailed elsewhere in this report, on March 13, 2025, Shell completed the sale of SPDC to Renaissance.

[C] On an intensity basis.

The targets are forward-looking based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in this report.

More detail on Shell's climate-related targets and ambition can be found in "Transition plan for climate change mitigation (E1-1)" on page 364. The framework and methodology used to determine our targets and ambition are set out in "Targets used by Shell to manage climate-related risks and opportunities and performance against targets" on page 101, recognising that most of Shell's climate-related targets predate the CSRD and differ from the ESRS boundary and definitions.

See "Climate-related risks and opportunities identified by Shell over the short, medium and long term" on page 80 for details of the climate-related risks our targets and ambition are designed to manage.

Decarbonisation levers

We set out our decarbonisation levers to achieve the absolute and intensity reduction targets and ambition we have set for GHG emissions from our own operations (Scope 1 and 2) together with the decarbonisation levers planned to achieve our net carbon intensity target and our Scope 3, Category 11 ambition in "Climate change mitigation actions and decarbonisation levers" on page 365.

See "Progress towards our Scope 1 and 2 target" on page 102 for a summary of the quantitative contributions of our decarbonisation levers to achieving our Scope 1 and 2 GHG emissions reduction target and "Progress towards our NCI target" on page 103 for a summary of the quantitative contributions of our decarbonisation levers to achieving our NCI reduction target.

Energy consumption and mix (E1-5)

Information in this section reflects the reporting boundary specified by the ESRS except where explicitly stated. See "General basis for preparation of sustainability statements (BP-1)" on pages 342-344 for more information.

Energy consumption data in this section refer to primary (thermal) energy, such as the energy content of fuels used to generate electricity, steam, heat and mechanical energy. This includes energy from renewable and non-renewable sources.

The energy consumption data below reflect the energy generated and purchased by facilities within the scope of the ESRS reporting boundary. This boundary differs from the operational control boundary used by Shell to monitor and report energy consumption as reported in "GHG emissions and energy consumption data – information provided in accordance with UK regulations" on page 107.

Energy consumed by facilities under our operational control is calculated as follows:

- Energy generated from fuel and consumed is calculated by multiplying the volume of fuels consumed for energy purposes by their respective lower heating values.
- For purchased and consumed electricity from renewable sources, the energy is calculated using 100% generation efficiency.
- For purchased and consumed electricity from non-renewable sources, the energy is calculated using actual electricity purchased, multiplied by country-specific electricity generation efficiency factors from International Energy Agency statistics to determine the associated thermal energy expended at the source.
- Energy for purchased and consumed steam and heat is calculated from actual steam and heat purchased, multiplied by a supplier-specific conversion efficiency or by a generic efficiency factor where supplier-specific data are not available.

The detailed energy consumption data available from assets not operated by Shell vary. When available, the data are used. When not available, the data for material assets are estimated based on energy consumption to greenhouse gas ratios for similar types of operated assets.

Energy consumption and mix

	million MWh
	2024
Energy consumption from facilities under Shell operational control	212
Energy consumption from fossil sources [B]	209
Coal and coal products	–
Crude oil and petroleum products	44
Natural gas	120
Other fossil sources	15
Purchased or acquired electricity, heat, steam and cooling from fossil sources	30
Energy consumption from nuclear sources	–
Energy consumption from renewable sources [B]	2.7
Fuels from renewable sources (biomass, biofuels, biogas, hydrogen from renewable sources)	0.2
Purchased or acquired electricity, heat, steam and cooling from renewable sources	2.5
Self-generated non-fuel renewable energy	–
Energy consumption from facilities not operated by Shell	77
Total energy consumption [A]	289

[A] ESRs reporting boundary.

[B] Of total energy consumption under operational control in 2024, 99% came from fossil sources and 1% from renewable sources.

Energy generated by facilities under Shell's operational control and exported to third parties, including to the power grid, is presented below.

Renewable and non-renewable energy production [A]

	million MWh
	2024
Renewable energy production	5.1
Non-renewable energy production	5.4
Total	10.5

[A] Operational control boundary. Renewable and non-renewable energy production available for sale (energy produced net of energy consumed through own use).

Energy intensity based on net revenue

Total energy consumption, used as the numerator, is prepared using the ESRs reporting boundary. This includes a reasonable estimate of consumption for consolidated assets not under Shell's operational control where the information was not available.

Net revenue, used as the denominator, corresponds to Revenue as presented in Shell's Consolidated Statement of Income and is prepared using the financial control boundary (in line with the International Financial Reporting Standards), where 100% revenue is reported for fully consolidated subsidiaries plus the Shell share of revenue recognised from joint operations, irrespective of operational control considerations. The numerator therefore differs from the denominator due to the inclusion of Shell-operated equity-accounted assets in the ESRs reporting boundary.

For 2024, the resulting metric is set out in the table below, recognising the misalignment of boundaries across total energy consumption and net revenue. As revenue is expected to fluctuate with oil and gas prices and other factors which are not correlated with energy consumption, in our view, the information so calculated does not provide a reliable measure of energy intensity, nor does it permit a realistic comparison between reporting entities and over time.

Energy intensity based on net revenue

	unit	2024
Total energy consumption [A]	million MWh	289
Net revenue [B]	\$ million	284,312
Energy intensity per net revenue	MWh/\$	0.001

[A] ESRs reporting boundary.

[B] See "Consolidated Statement of Income" on page 241.

Gross Scopes 1, 2, 3 and total GHG emissions (E1-6)

We follow the GHG Protocol's Corporate Accounting and Reporting Standard, which defines three scopes of GHG emissions:

- Scope 1: direct GHG emissions from sources under Shell's operational control;
- Scope 2: indirect GHG emissions from the generation of purchased energy consumed by Shell assets under operational control; and
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.

Gross Scope 1, 2, 3 and total GHG emissions [E]

	million tonnes CO ₂ e
	2024
Scope 1 GHG emissions [A]	
Gross Scope 1 GHG emissions [B]	73
Consolidated accounting group	65.3
Operated non-consolidated entities	8.1
Scope 2 GHG emissions [A]	
Gross location-based Scope 2 GHG emissions	9
Consolidated accounting group	7.5
Operated non-consolidated entities	1.6
Gross market-based Scope 2 GHG emissions	9
Consolidated accounting group	7.4
Operated non-consolidated entities	1.2
Significant Scope 3 GHG emissions [C] [D]	
Total gross Scope 3 GHG emissions	1,084
Category 1: purchased goods and services	119
Category 3: fuel and energy-related activities	117
Category 9: downstream transport and distribution	3
Category 11: use of sold products	845
Total GHG emissions	
Total GHG emissions (location-based)	1,166
Total GHG emissions (market-based)	1,166

[A] ESRs reporting boundary.

[B] The percentage of Scope 1 GHG emissions from assets under Shell's operational control falling under regulated emission trading schemes was 43% in 2024.

[C] Equity reporting boundary.

[D] Categories 1, 3 and 11 are calculated using primary data, representing 99.7% of total significant Scope 3 emissions.

[E] Figures disclosed are rounded. Rounding differences can occur between the total combined Scope 1, 2 and 3 absolute GHG emissions disclosed in this Report and the sum of components individually rounded to the nearest million tonnes.

GHG emissions comprise CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride, with CO₂ and methane being the most significant contributors.

Basis of preparation – Scope 1 and 2 emissions

In this section, Scope 1 and 2 emissions are presented in accordance with the ESRS boundary. See "General basis for preparation of sustainability statements (BP-1)" on pages 342-344 for more information.

Our Scope 1 and 2 GHG emissions inventory was prepared in line with the requirements outlined in ISO 14064-1:2018 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals and the GHG Protocol's Corporate Accounting and Reporting Standard.

In line with external standards, we aggregate our GHG emissions into tonnes of CO₂ equivalent by applying global warming potential (GWP) factors to non-CO₂ GHGs. Factors applied in 2024 were taken from the IPCC's Fifth Assessment Report (AR5) over a 100-year time period, as stipulated by the UK Government GHG Conversion Factors for Company Reporting [A].

[A] We use GWP factors from AR5 to calculate our emissions, as stipulated by UK regulations which Shell is also subject to. Updates to GWP factors published in AR6, which ESRS requires us to use, are immaterial to Shell's GHG inventory.

Scope 1 emissions

All significant sources were included in our Scope 1 inventory. Sources included comprise:

- combustion of carbon-containing fuels in stationary equipment (e.g. boilers, gas turbines) for energy generation;
- combustion of carbon-containing fuels in mobile equipment (e.g. trucks, vessels, mobile rigs);
- flares;
- venting and emissions from industrial processes (e.g. hydrogen plants, catalytic cracking units); and
- fugitive emissions, including piping and equipment leaks and non-routine events.

Our Scope 1 emissions follow the GHG Protocol guidance. As a result, the following are not included in our reported Scope 1 emissions:

- CO₂ emissions from biogenic sources such as biofuels or biomass;
- captured CO₂ that was subsequently sold or otherwise transferred to third parties;
- CO₂ captured and sequestered using CCS technologies; and
- carbon credits.

Scope 2 emissions

All significant sources were included in our Scope 2 inventory. Sources included comprise indirect emissions from purchased and consumed electricity, steam and heat. We did not identify any assets with imported cooling or compressed air used for energy purposes.

Scope 2 emissions are calculated using the market- and location-based methods separately as defined by the GHG Protocol Scope 2 Guidance. Scope 2 emissions are presented on a gross basis.

Basis of preparation – Scope 3 emissions

See "Basis of preparation – Scope 3 emissions" on page 100 for the basis of preparation of the Scope 3 emissions we report on an equity basis.

Contractual instruments used in relation to Scope 2 GHG emissions

We consider energy to be derived from renewable sources if the origin of the purchased energy is clearly defined in supplier contracts including renewable power purchasing agreements and market instruments such as Guarantee of Origin from renewable sources in Europe or Renewable Energy Certificates in the USA and Canada.

The contractual instruments we have used in relation to the purchase of energy, both bundled with energy generation attributes and unbundled with energy attribute claims (i.e. rights to claim renewable energy attributes separate from the power purchased), by assets under our operational control, are as follows. Information from assets not operated by Shell could not reasonably be estimated in 2024.

Scope 2 GHG emissions: share and types of contractual instruments [A] [B]

	%
	2024
Contractual instruments used for the purchase of energy bundled with attributes about energy generation	10%
Contractual instruments used for the purchase of unbundled energy attribute claims	90%

[A] Operational control boundary.

[B] Share of Scope 2 emissions using a market-based approach.

Biogenic emissions

CO₂ emissions from biogenic feedstocks are set out in the table below. These are not included in the GHG emissions inventory in line with the GHG Protocol and ISO 14064-1:2018 requirements. The biogenic emissions not included in Scope 1 and 2 emissions presented below are related to facilities under our operational control.

Biogenic emissions of CO₂ [A]

	unit	2024
Direct biogenic emissions of CO ₂ not included in Scope 1 emissions [B]	thousand tonnes CO ₂	35.0
Indirect biogenic emissions of CO ₂ not included in Scope 2 emissions [B]	thousand tonnes CO ₂	45.5
Indirect biogenic emissions of CO ₂ not included in Scope 3 emissions [C]	million tonnes CO ₂	29

[A] The mass of CO₂ emissions from the burning of biologically sequestered carbon (e.g. CO₂ from burning biomass or biofuels) as well as other processes (e.g. aerobic or anaerobic decomposition of biomass and soil organic matter).

[B] Operational control boundary.

[C] Equity boundary. Represents estimated emissions not included in Scope 3 Category 11 emissions. It is assumed that the presence of biogenic emissions associated with other Scope 3 categories is negligible at present.

GHG intensity based on net revenue

Total GHG emissions, used as the numerator, is prepared as required by the ESRS and reported in the table "Gross Scopes 1, 2, 3 and total GHG emissions" on page 373.

Net revenue, used as the denominator, corresponds to Revenue as presented in Shell's Consolidated Statement of Income and is prepared using the financial control boundary (in line with the International Financial Reporting Standards), where 100% revenue is reported for fully consolidated subsidiaries plus the Shell share of revenue recognised from joint operations, irrespective of operational control considerations.

The numerator therefore differs from the denominator due to the inclusion of Shell-operated equity-accounted assets in the ESRS reporting boundary. Additionally, revenue is expected to fluctuate with oil and gas prices and other factors which are not correlated with GHG emissions. As such, in our view, the information so calculated does not provide a reliable measure of energy intensity, nor does it permit a realistic comparison between reporting entities and over time. Nonetheless, we have prepared the GHG intensity per net revenue metric, recognising the misalignment of boundaries across total GHG emissions and revenue.

For 2024, the resulting metric is set out in the table below on both a market-based and location-based basis.

GHG intensity based per net revenue

	unit	2024
Total GHG emissions (market-based)	million tonnes CO ₂ e	1,166
Total GHG emissions (location-based)	million tonnes CO ₂ e	1,166
Net revenue	\$ million	284,312
Total GHG emissions per net revenue (market-based)	tonnes CO ₂ e/\$	0.004
Total GHG emissions per net revenue (location-based)	tonnes CO ₂ e/\$	0.004

GHG removals and GHG mitigation projects financed through carbon credits (E1-7)

Removal of greenhouse gases refers to the withdrawal of greenhouse gases from the atmosphere as a result of deliberate human activities. There are two main types of removal mechanism: enhancement of natural processes that remove carbon from the atmosphere, for example through natural carbon sinks, or technical or chemical processes that capture CO₂ and sequester it underground. Carbon capture and storage is considered a removal mechanism only when it results in "negative emissions", for example when paired with technologies like direct air capture.

In 2024, Shell has not used removal mechanisms in its own operations or its upstream and downstream value chain.

GHG removals and storage

	million tonnes CO ₂ e
	2024
Total GHG removals from own operations	—
Total GHG removals from upstream and downstream value chain	—
Total GHG removals and storage from own operations and value chain	—
Reversals	—

Shell's Nature Based Solutions business invests in entities and projects, and develops projects that conserve, enhance and restore ecosystems – such as forests, grasslands and wetlands – to prevent GHG emissions or reduce atmospheric CO₂ levels. When these entities and projects begin to issue carbon credits, Shell may choose to participate in the offtake of these credits as part of its offsetting activities.

Carbon credits may contribute to our aim to become a net-zero emissions energy business by 2050. They may be used by Shell and its customers to compensate emissions in line with the carbon mitigation hierarchy of avoid, reduce and compensate.

We believe that the carbon credits need to have a robust carbon benefit and deliver a positive impact on ecosystems and communities. We work closely with local partners to ensure that the carbon credit projects we invest in are of high quality, and are developed and certified under credible and independent carbon credit standards. These include the Verra Verified Carbon Standard (VCS) Program, Gold Standard carbon offset certification and the ACR carbon crediting programme (formerly American Carbon Registry).

We do this to ensure that the carbon credits are real and verifiable, and that issues such as permanence, additionality and leakage have been adequately considered. We also buy credits from nature- and technology-based projects developed by others. We carefully source and screen the credits we purchase and retire from the market.

Voluntary carbon credits retired [A]

	unit	2024
Total amount of carbon credits outside the value chain that are verified against recognised quality standards and retired	million carbon credits	17.3
Verra	%	74%
ACR	%	10%
Gold Standard	%	15%
Australian Carbon Credit Units	%	1%
Share from removal projects	%	3%
Share from reduction projects	%	97%
Share from projects within the EU	%	—%
Share of carbon credits that qualify as corresponding adjustments	%	—%

[A] One carbon credit represents the avoidance or removal of one metric tonne of CO₂ equivalent.

In 2024, Shell accounted for the retirement of 17.3 million carbon credits, of which 16.4 million were related to our NCI (including 2.4 million linked to the sale of energy products).

We also buy carbon credits generated by other nature-based projects and by technologies. We carefully source and screen the credits we purchase and retire from the market. The use of high-quality carbon credits, if required, is one of the decarbonisation levers available to Shell. We may choose to use high-quality carbon credits to offset any remaining emissions from our operations, in line with the carbon mitigation hierarchy of avoid, reduce and compensate.

Shell's business plan includes the option to retire a range of high-quality carbon credits in the future, as set out in the table below:

Range of voluntary carbon credits planned to be retired in the future

	unit	2025 to 2030 inclusive
Range of voluntary carbon credits outside the value chain planned to be retired in the future	million carbon credits	48-64

We will review and update the planned range of voluntary carbon credits to be retired in the future as part of the annual operating plan process. We anticipate that the planned range will fluctuate over time, reflecting the uncertainty of the energy transition.

In relation to our 2050 net-zero emissions target, we have no quantitative plans for the use of carbon credits due to the uncertainties regarding the pace of the energy transition, customer demand and the related development of our business models in the decades leading up to 2050.

Internal carbon pricing (E1-8)

Shell uses shadow prices, called CO₂ project screening values (PSVs), to assess the CO₂ resilience of all its business activities to potential future carbon costs, such as those arising from mandatory emission trading schemes or carbon taxes. PSVs do not consider costs that may be applicable to Scope 3 emissions.

We consider the potential costs associated with operational GHG emissions when preparing Greenhouse Gas and Energy Management Plans for projects and assets, and when evaluating capital projects before a final investment decision. For each region, we have developed short-, medium- and long-term estimates of the future costs of carbon. These are reviewed and updated annually. See Note 4 to the "Consolidated Financial Statements" on page 255 for further details on our regional cost of carbon estimates and "Policies related to climate change mitigation and adaptation (E1-2)" on page 369 for further details of our policies in respect of operational GHG emissions.

Up to 2030, our cost of carbon emission estimates are largely policy-driven through emission trading schemes or taxation levied by governments, which vary significantly from country to country. Beyond 2030, when policy predictions are more challenging, our estimates are based on the expected cost of the abatement technologies required to meet our 2050 target.

The estimated cost is trending towards \$50 or \$230 per tonne (RT24), depending on the country, in 2050. See Note 4 to the "Consolidated Financial Statements" on page 261 for further details on our regional cost of carbon estimates. See "Carbon pricing" on page 89.

Shell's cost of compliance with the emissions trading and related schemes was around \$381 million in 2024, as stated in Shell's Consolidated Statement of Income for 2024. In 2024, 43% of our Scope 1 emissions under operational control were reported by assets covered by regulated emission trading schemes [A].

[A] In 2024, Scope 1 emissions covered by regulated emissions trading schemes for facilities not operated by Shell could not be estimated.

Anticipated financial effects from material physical and transition risks and potential climate-related opportunities (E1-9)

Under the provisions of "Appendix C: List of phased-in Disclosure Requirements" to the ESRS, Shell has elected to use the phase-in provisions governing "Anticipated financial effects from material physical and transition risks and potential climate-related opportunities (E1-9)" for the first year of preparation of its Sustainability Statements.

However, a number of anticipated and potential effects are set out in Note 4 to the "Consolidated Financial Statements" on page 255. This note includes an overview of key assumptions used for financial planning related to climate change and the energy transition in addition to details of the sensitivity of carrying values to commodity prices, carbon emission costs, chemical and refining margins, discount rates and demand, if different assumptions were applied.

The EU Taxonomy

Introduction

Regulation EU 2020/852 (the "Taxonomy Regulation" or the "Taxonomy") is a classification system for determining when an economic activity can be considered environmentally sustainable according to European Union (EU) standards. It aims to encourage investment in a low-carbon economy by creating common definitions of sustainability and mandatory disclosures to help investors make informed decisions.

Non-financial companies screen their eligible activities against the taxonomy's technical criteria for environmental sustainability and minimum safeguards. This allows them to calculate the share of revenue (turnover), capital expenditure (capex) and operating expenditure (opex) that can be classified as aligned.

Shell supports the EU's ambition to achieve net-zero emissions, which aligns with our own target to become a net-zero emissions energy business by 2050. We have reported against the taxonomy voluntarily since 2021 because we recognise the importance of increasing transparency about how companies are progressing in the energy transition.

In anticipation of the transposition by the Netherlands of the EU Corporate Sustainability Reporting Directive (CSRD) into national law, a key development for Shell in 2024 has been the voluntary implementation of the CSRD and the accompanying European Sustainability Reporting Standards (ESRS). This means Shell plc will come fully into scope of the EU Taxonomy Regulation upon the transposition of the CSRD by the Netherlands into law. The CSRD extends the EU Taxonomy Regulation's reporting obligation to third-country issuers that are listed on European exchanges.

Reporting scope

The taxonomy's reporting scope covers Shell's global business, based on the financial consolidation boundary. Shell's eligible activities include elements of our chemicals, power generation and storage, hydrogen, biogas and biofuels, electric vehicle charging, carbon capture and storage (CCS) and nature-based solutions (NBS) businesses. Our remaining businesses are non-eligible.

The taxonomy's reporting basis differs from that used in our financial statements, which are based on International Financial Reporting Standards (IFRS).

For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates, goodwill, feasibility expenses or integrated value chains. These and other differences result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Technical criteria

The taxonomy's technical criteria recognise stringent levels of environmental performance rather than transitional steps or alternative pathways. The complexity of the criteria and their reliance on EU standards can make the criteria difficult to interpret and apply, especially for activities outside the EU.

Eligible and aligned share of Shell's business

In 2024, Shell's eligible turnover was \$9,353 million or 3.3% (2023: \$8,445 million or 2.7%), capex was \$3,270 million or 10.6% (2023: \$6,032 million or 19.2%) and opex was \$1,181 million or 24.7% (2023: \$1,382 million or 25.9%).

In 2024, our aligned turnover was \$698 million or 0.2% (2023: \$542 million or 0.2%), capex was \$1,849 million or 6.0% (2023: \$4,173 million or 13.3%) and opex was \$114 million or 2.4% (2023: \$30 million or 0.6%). Our taxonomy-aligned activities include elements of our hydrogen, wind, solar, battery storage, biogas and biofuels, and EV charging businesses, excluding individual assets that are not currently aligned with the technical screening criteria.

The taxonomy does not provide a complete picture of our low-carbon business. Nevertheless, we support efforts to improve the framework and advance climate-related disclosure more broadly. For more information, see "Our journey to net zero" on pages 76-108.

Scope of taxonomy-eligible activities

1.4	Transportation activity	 Equity-accounted JVAs	 Feasibility	 Eligible projects	 Non-eligible projects	 Trading
3.14	Manufacture of chemicals	 Equity-accounted JVAs	 Feasibility	 Manufacturing	 Non-eligible products	 Trading
3.17	Manufacture of products	 Equity-accounted JVAs	 Feasibility	 Manufacturing	 Trading	 Feederback (includes only)
3.10	Manufacture of hydrogen	 Equity-accounted JVAs	 Feasibility	 Manufacturing	 Trading	 Feederback (includes only)
4.1	Electricity from solar	 Equity-accounted JVAs	 Feasibility	 Power generation	 Trading and B2B/B2C sales	 Use of non-eligible activities
4.3	Electricity from wind	 Equity-accounted JVAs	 Feasibility	 Power generation	 Trading and B2B/B2C sales	 Use of non-eligible activities
4.10	Storage of electricity	 Equity-accounted JVAs	 Feasibility	 Power storage	 Trading and B2B/B2C sales	 Use of non-eligible activities
4.29	Electricity from heat (gas)	 Equity-accounted JVAs	 Feasibility	 Power generation	 Trading and B2B/B2C sales	 Use of non-eligible activities
5.11	Transport of CO ₂	 Equity-accounted JVAs	 Feasibility	 Transport & storage	 Carbon capture	 Use of non-eligible activities
5.12	Storage of CO ₂	 Equity-accounted JVAs	 Feasibility	 Transport & storage	 Carbon capture	 Use of non-eligible activities
6.15	Infrastructure enabling low-carbon road transport	 Equity-accounted JVAs	 Feasibility	 Infrastructure	 Road power and hydrogen enter	 B2B/B2C solutions
7.6	Installation of renewable energy technologies	 Equity-accounted JVAs	 Feasibility	 B2C solutions	 Road power and hydrogen enter	 B2B/B2C solutions
 Taxonomy eligible						
 Taxonomy non-eligible						
B2B: Business-to-Business; B2C: Business-to-Consumer; JVA: Joint Ventures & Associates; BNG: Capital Natural Gas; GTL: Gas-to-Liquid						

The taxonomy framework

The taxonomy establishes technical criteria for environmental sustainability across more than 150 economic activities and six environmental objectives.

An activity is taxonomy-eligible if it is described in a delegated act adopted under the EU Taxonomy Regulation. Such an activity is eligible regardless of whether it complies with the technical screening criteria.

An activity is taxonomy-aligned if it contributes substantially to one or more environmental objectives, does no significant harm to any of the other objectives, is carried out in compliance with minimum human and labour rights safeguards, and complies with the relevant technical screening criteria.

The EU has stated that the taxonomy will develop over time. It notes that the fact that an activity does not contribute substantially to one of the EU's environmental objectives does not necessarily mean it is not sustainable. Not all activities with the potential to make a substantial contribution to the environmental objectives are yet included in the framework.

Our eligibility and alignment

Our eligible and aligned turnover, capex and opex are presented in the table below.

Eligible turnover increased by \$908 million, mainly due to revenues generated from the manufacture of chemicals and plastics. Eligible capex decreased by \$2,762 million compared to 2023 due to fewer acquisitions of eligible activities in 2024. Eligible opex decreased by \$201 million, and mainly consisted of operational costs in chemicals and plastics business.

Five economic activities were assessed as taxonomy-aligned, including the manufacture of hydrogen, electricity from wind, electricity from solar, storage of electricity and infrastructure enabling low-carbon road

transport. For a sixth activity, the manufacture of biogas and biofuels, we assessed some elements of our activities as taxonomy-aligned and some as non-aligned.

Aligned turnover increased by \$156 million, mainly due to revenues generated by renewable energy and low-carbon road transport businesses. Aligned capex decreased by \$2,324 million compared to capex reported in 2023 due to fewer acquisitions of eligible activities in 2024. Aligned opex increased by \$84 million, mainly due to CrossWind Hollandse Kust (noord) offshore wind farm reaching commercial operations.

Basis of preparation

Shell seeks to prepare its disclosure in accordance with Delegated Regulation EU 2021/2178 (the "Disclosures Delegated Act") as well as several Commission Notices containing answers to frequently asked questions about taxonomy reporting issued between 2021 and 2024.

Shell has adopted a three-step process to prepare its taxonomy disclosure:

- we identify our eligible activities and map these to our assets and projects;
- we screen those activities for alignment with the technical criteria and the minimum safeguards; and
- we calculate the metrics for eligibility and alignment, based on the screening results.

Each step is discussed below.

Identification of eligible activities

Shell has assessed its business against the economic activities qualifying for the taxonomy's six environmental objectives. These include the activities listed in Delegated Regulation EU 2021/2139 (the "Climate Delegated Act", as amended), the gas-related activities listed in Delegated Regulation EU 2022/1214 (the "Complementary Climate Delegated Act") and the activities listed in Delegated Regulation EU 2023/2486 (the "Environmental Delegated Act").

EU taxonomy eligibility and alignment 2024

	2024			2023		
	Turnover	Capex	Opex	Turnover	Capex	Opex
Aligned	698	1,849	114	542	4,173	30
Eligible	9,353	3,270	1,181	8,445	6,032	1,382
Non-eligible	274,959	27,632	3,603	308,175	25,440	3,951
Total	284,312	30,902	4,784	316,620	31,472	5,333
Aligned % of total	0.2%	6.0%	2.4%	0.2%	13.3%	0.6%
Eligible % of total	3.3%	10.6%	24.7%	2.7%	19.2%	25.9%
Non-eligible % of total	96.7%	89.4%	75.3%	97.3%	80.8%	74.1%

\$ million, except where indicated

The taxonomy does not provide criteria for determining when an economic activity is in scope for reporting. According to EU guidance, an economic activity takes place when resources – such as capital, goods, labour, manufacturing techniques or intermediary products – are combined to produce specific goods or services. Based on this definition, Shell treats economic activities as in scope for reporting if they correspond to final goods or services offered for sale to customers, or if they are intended to be offered for sale in the future, based on current business plans. We do not report on factors of production or overheads, such as real estate or IT, since these do not represent a final good or service. We also do not report on activities which are immaterial to our results and are not intended to operate as stand-alone businesses, such as sales of waste heat or electricity from refineries and chemical plants.

For 2024, we identified a total of 13 economic activities as eligible for reporting. Although we screen our activities against all applicable environmental objectives, the discussion of our performance against the technical screening criteria focuses on the climate mitigation objective.

Alignment screening

Shell has developed an internal process to assess its eligible activities for alignment with the technical screening criteria and minimum safeguards. This is based on our understanding of the requirements of the Disclosures Delegated Act.

For each eligible activity, we begin by identifying the assets in scope for reporting. An asset is typically a discrete element of physical plant or equipment that contributes to an economic activity, such as a chemical plant or a wind farm, or a project in development that is intended to become an asset in the future.

Once the assets for each activity have been defined, we review the Substantial Contribution and Do No Significant Harm criteria and proceed to screen the assets. Screening is carried out by subject matter experts and subject to cross-checking at various levels.

The technical criteria are highly detailed, with extensive references to European standards and regulations, which are not widely used outside the region. Applying them poses several challenges including:

- where it is difficult to translate EU standards or regulations to a non-EU context;
- where Shell is materially aligned with a complex technical standard but varies in certain details;
- where the criteria are expressed in qualitative terms that are open to interpretation; or
- where the criteria are designed for a different range of applications than the one implied by the activity description.

These situations require us to apply judgement in determining whether the criteria are met.

Sometimes it is not possible to associate eligible turnover, capex or opex with a specific asset. For example, this can happen when we incur research and development expenses for an activity but the expenditure cannot be tied to a specific project for screening purposes. If alignment cannot be reasonably established according to our alignment screening process, the relevant amounts are classified as eligible but non-aligned.

Situations can arise where we may not be able to screen all assets in scope of an activity. This can occur when an activity contains a large number of early-stage projects and it is more efficient to focus on the most material projects and treat the remaining ones as eligible but non-aligned. This situation can also arise when assets are acquired late in the reporting cycle and there is insufficient time to conduct a technical screening, or when it has not been possible to obtain

information about a non-operated asset from joint-venture partners. Such assets are treated as eligible but non-aligned by default.

Assets that do not have eligible turnover, capex or opex to report are non-eligible and are not subject to technical screening. In practice, many early-stage projects are non-eligible because they have no turnover or capex to report, while feasibility expenditures incurred prior to a final investment decision (FID) are considered non-eligible under the taxonomy's definition of opex. Technical screening outcomes described in this disclosure apply only to eligible assets that have been screened in 2024.

Where some assets or products in scope of an economic activity are assessed as fully aligned with the technical screening criteria while others are not, an allocation method is applied so that only the aligned portion is included. For example, this can occur when some biofuels or biogas production is assessed as taxonomy-aligned and some is assessed as non-aligned.

Where there is uncertainty with regard to how to interpret or apply any of the technical screening criteria in our alignment screening process, the relevant assets are assessed as non-aligned. In such cases, we intend to monitor future developments and update our approach as appropriate.

Substantial Contribution

The taxonomy's Substantial Contribution criteria are designed to ensure that an economic activity either has a substantial positive impact on one of the environmental objectives or substantially reduces negative impacts on the environment. The criteria vary from activity to activity.

Shell screened its eligible economic activities against all relevant environmental objectives. For five activities, assets in scope for screening were assessed as aligned with the Substantial Contribution criteria for climate mitigation, including solar, wind, hydrogen manufacturing, storage of electricity and infrastructure enabling low-carbon road transport. For a sixth activity, manufacture of biogas and biofuels, some elements were assessed as aligned and some as non-aligned, based on the proportion of feedstock meeting the Substantial Contribution criteria.

Assets in scope for our remaining activities were assessed as non-aligned. For two activities, alignment could not be established due to uncertainty about how to interpret and apply the technical screening criteria. This was the case for carbon transport and storage, where there are questions as to whether local standards are equivalent to the international and EU standards referenced by the criteria, and for conservation forestry, where the technical criteria differ from internationally recognised carbon credit standards.

Do No Significant Harm

The taxonomy's Do No Significant Harm (DNSH) criteria are designed to ensure that an economic activity does not impede other environmental objectives being reached. The combination of the Substantial Contribution and Do No Significant Harm criteria is intended to ensure coherence between the taxonomy's objectives and to avoid progress towards one objective being made at the expense of another.

The DNSH criteria for activities contributing to climate change mitigation include detailed requirements for climate change adaptation, water, circular economy, pollution prevention and biodiversity. The criteria vary for each environmental objective and activity.

Shell screened its eligible economic activities against all relevant environmental objectives. For five activities, assets in scope for screening were assessed as aligned with the DNSH criteria for climate

mitigation, including solar, wind, hydrogen manufacturing, storage of electricity and infrastructure enabling low-carbon road transport. Some elements of our manufacture of biogas and biofuels activities were assessed as aligned and some as non-aligned.

In 2024, we continued to review physical climate risks for our eligible activities in line with the requirements of the Generic criteria for Do No Significant Harm to Climate Change Adaptation (Appendix A). The review of the eligible activities followed the approach set out in "Climate-related physical risks" on page 138.

In assessing alignment with the DNSH criteria, we were required to apply judgement to our electric vehicle charging activities. Electric vehicle charging is referenced by multiple economic activities in the taxonomy, each of which has a different set of technical screening criteria. There is a lack of consensus in the market about which one to apply to different electrical vehicle charging business models. Shell categorised all its electric vehicle charging businesses under the activity with the most stringent criteria, "6.15 Infrastructure Enabling Low-Carbon Road Transport and Public Transport".

For this activity, we assessed the DNSH criteria for waste management to be more applicable to medium- or large-scale infrastructure projects than to distributed, small-scale electric vehicle charging infrastructure with a small construction footprint. Our operating standards for electric vehicle charging include measures to limit waste generation and encourage re-use and recycling, which we assess as materially equivalent.

Our remaining eligible activities were assessed as non-aligned with one or more of the DNSH criteria. In several cases, we assessed ourselves as non-aligned due to uncertainty about how to interpret various aspects of the technical screening criteria.

Minimum safeguards

The taxonomy defines the minimum safeguards as procedures implemented by a company to ensure alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.

Respect for human rights is embedded in the Shell General Business Principles and our Code of Conduct. We have an integrated approach to human rights that is embedded into our policies and processes, which are applicable to all employees and contractors. This approach is informed by the UN Guiding Principles on Business and Human Rights.

We assessed our taxonomy-eligible activities as compliant with the minimum safeguards [A]. See "Human Rights" on page 121 for more information.

Capex Plan assessment

As specified in the Disclosures Delegated Act, capex and opex can be treated as aligned when such expenditures form part of a Capex Plan aimed at expanding an aligned activity or upgrading an eligible activity to enable it to become aligned.

To qualify, a Capex Plan must be approved by management and disclosed at the economic activity aggregated level. The expansion or upgrade must take place within five years unless a longer period is justified by the specific features of the activity and the upgrade concerned. This can be up to a maximum of 10 years. The justification for a longer transition period must feature in the Capex Plan and be included

in the disclosure. If the Capex Plan fails to meet the conditions within the specified timeframe, previously published KPIs must be restated.

A lack of consensus exists in the market about how to interpret various aspects of the technical screening criteria. There is also uncertainty about how the criteria might apply to future performance conditions. Shell has therefore decided not to recognise any capex or opex as aligned under the Capex Plan provision in 2024.

Enabling and transitional activities

The taxonomy designates a subset of aligned activities as "enabling" or "transitional".

Transitional activities are those for which low-carbon alternatives are not yet available and which:

- have greenhouse gas emission levels that correspond to the best performance in the sector or industry;
- do not hamper the development and deployment of low-carbon alternatives; and
- do not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets.

Enabling activities are those which directly enable others to make a substantial contribution to an environmental objective, provided they:

- do not lead to a lock-in of assets that undermine long-term environmental goals, considering the economic lifetime of those assets; and
- have a substantial positive impact on the basis of life-cycle considerations.

An economic activity is only transitional or enabling if it complies with the technical screening criteria. In 2024, two of Shell's activities, storage of electricity and infrastructure enabling low-carbon road transport, qualified as enabling.

Calculating the key performance indicators

The taxonomy KPIs consist of separate measures for eligible and aligned turnover, capex and opex. Each measure is calculated as the amount associated with eligible or aligned economic activities (numerator) divided by the total (denominator). In 2024, there was no change in the approach to calculating the KPIs.

Turnover

The turnover KPI comprises the Revenue line from the Consolidated Statement of Income. This measure is reconciled as follows.

EU Taxonomy turnover 2024		
	2024	2023
Revenue from contracts with customers	274,347	301,013
Revenue from other sources	9,965	15,607
Total EUT Turnover	284,312	316,620

Shell's reporting of revenue in the Consolidated Statement of Income follows the IFRS definition, under which realised and unrealised gains and losses from hedging are recognised in revenue. We follow the same principles when calculating the numerator and denominator for the turnover KPI. In 2024, excluding hedging effects would have an immaterial impact on the numerator and denominator.

[A] In 2021, a notification to the Netherlands National Contact Point (NCP) was raised concerning the activities of SPDC as operator of the SPDC JV in Nigeria, in which SPDC holds a 30% interest. In 2024, the NCP, in its final statement, highlighted recommendations in relation to SPDC's community feedback mechanism (CFM). SPDC continues to implement improvements to further align this mechanism with the UNGP effectiveness criteria for operational grievance mechanisms. All our reported eligible economic activities fall outside of Nigeria. As detailed elsewhere in this report, on March 13, 2025, Shell completed the sale of SPDC to Renaissance.

Capex

The capex KPI comprises the Additions line from the "Consolidated Financial Statements" Note 11 – Goodwill and other intangible assets; and the Additions line from the "Consolidated Financial Statements" Note 12 – Property, plant and equipment. Goodwill is excluded from the measure.

When business combinations involving an eligible activity occur in a prior reporting period but purchase price allocation takes place within the current period, we recognise the resulting movements to property, plant and equipment and intangible assets as an addition. These amounts are contained within Note 11 – Goodwill and other intangible assets and Note 12 – Property, plant and equipment in the Sales, retirements and other movements line and are added to the numerator and denominator.

This measure is reconciled as follows.

EU Taxonomy capex 2024

	\$ million	
	2024	2023
Additions to property, plant and equipment	26,446	25,831
Additions to goodwill and other intangible assets	4,611	6,994
Less: Goodwill	155	1,436
Add: Other movements	—	83
Total EUT Capex	30,902	31,472

The numerator for aligned capex comprises the part of eligible capex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

The capex KPI as defined by the EU Taxonomy Regulation differs from Shell's cash capital expenditure measure. The latter monitors investing activities on a cash basis, excluding items such as lease additions, which do not necessarily result in cash outflows in the period. This measure comprises the following lines from the Consolidated Statement of Cash Flows: Capital expenditure, investments in joint ventures and associates and investments in equity securities. The cash capital expenditure is presented on page 272.

Opex

The taxonomy defines the opex KPI as costs associated with maintenance and repair, research and development and short-term leases. This is narrower than Shell's definition of operating expenses and does not capture all of our expenditure on otherwise eligible activities. This measure is reconciled as follows:

* Non-GAAP measure (see page 445).

EU Taxonomy opex 2024

	\$ million	
	2024	2023
Production and manufacturing expenses	23,379	25,240
Selling, distribution and administrative expenses	12,439	13,433
Research and development	1,099	1,287
Total operating expenses*	36,917	39,960
Less: Non-maintenance expenses	20,054	21,689
Less: Selling, distribution and administrative expenses	12,439	13,433
Add: Expenses relating to short-term leases	360	495
Total EUT Opex	4,784	5,333

The numerator for aligned opex comprises the part of eligible opex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

Other accounting policies

Eligibility and alignment are calculated separately for each economic activity.

The reporting boundary for each economic activity is determined by the scope of the activity description contained in the relevant delegated act. This boundary frequently differs from our integrated value chains and segmental reporting. As a result, various adjustments are needed to calculate the required figures. For example, we exclude sales of third-party products as well as trading and retailing from the calculation of the KPIs. These are significant for Shell's integrated business model but are not eligible for the taxonomy. Although intra-group sales are non-eligible, sales to our trading business are used in certain circumstances to calculate the turnover attributable to eligible parts of the value chain.

When a reporting entity is engaged in multiple economic activities, an allocation method is applied so that only the appropriate part is included. Reconciliation is made to total turnover, capex and opex to avoid double counting.

In some cases, a subsidiary or other related undertaking may have interests in more than one economic activity but insufficient data are available to disaggregate turnover, capex and opex. In these cases, we allocate the KPIs to the activity that best describes the primary business of the entity.

Shell's eligible and aligned turnover, capex and opex are presented on pages 384-386 in accordance with templates specified in Annex II of the Disclosures Delegated Act as amended. Disclosures concerning our gas-related activities are presented on pages 387-390 in accordance with the requirements of the Disclosures Delegated Act, Articles 8(6) and (7), including the templates specified in Annex XII.

Contextual information on the KPIs

This section provides additional contextual information to accompany the presentation of the turnover, capex and opex KPIs on pages 384-386.

Turnover

In 2024, Shell's taxonomy-eligible turnover was \$9,353 million or 3.3% of the total, which was an increase in absolute terms of \$908 million compared with 2023. The economic activities that made the biggest contribution to eligible turnover were the manufacture of chemicals and plastics, renewable energy (including wind, solar and installation of renewable energy technologies), and the manufacture of biogas and biofuels.

Eligible turnover for the manufacture of chemicals and plastics increased to \$8,032 million in 2024 from \$7,082 million in 2023 as a result of higher production volume and better asset performance. Additional eligible revenues of \$742 million were generated by renewable energy, driven by the wind business. Revenue of \$258 million was generated by the manufacture of biogas and biofuels.

Aligned turnover of \$698 million was an increase in absolute terms of \$156 million compared with 2023, mainly due to revenues generated by renewable energy from wind and solar.

Capex

In 2024, Shell's taxonomy-eligible capex was \$3,270 million or 10.6% of the total, which was a decrease of \$2,762 million compared with 2023. The economic activities that made the biggest contribution to eligible capex included renewable energy from solar and wind, the manufacture of chemicals and plastics, and the manufacture of biogas and biofuels.

Eligible capex for solar and wind was a combined \$1,026 million in 2024 compared with \$1,596 million in 2023 due to further capital reallocation in the renewable energy business. Eligible capex for chemicals and plastics was a combined \$898 million in 2024

compared with \$999 million in 2023, reflecting the completion of construction activities after a fire incident in one of our plants. Eligible capex for biogas and biofuels was \$532 million in 2024 compared with \$2,078 million in 2023, which was driven by a material business acquisition in 2023. Eligible capex for low-carbon transport, which includes electric vehicle charging and hydrogen mobility, was \$336 million in 2024 compared with \$991 million in 2023, driven by fewer acquisitions in the business. Eligible capex for hydrogen was \$295 million in 2024 compared with \$199 million in 2023.

Aligned capex of \$1,849 million was a decrease in absolute terms of \$2,324 million compared with 2023, mainly driven by fewer acquisitions and further capital reallocation in the renewable energy business.

Capex additions related to acquisitions through business combinations are aggregated with other capex additions.

Opex

In 2024, Shell's taxonomy-eligible opex was \$1,181 million or 24.7% of the total, which was a decrease of \$201 million compared with 2023. The economic activities that made the biggest contribution to eligible opex included manufacture of chemicals and plastics, renewable energy from wind, and manufacture of biogas and biofuels. Our chemicals business is relatively mature compared with our other eligible activities and therefore accounts for the largest share of opex.

Eligible opex for chemicals and plastics was a combined \$971 million in 2024 compared with opex of \$1,133 million in 2023, mainly due to global costs reduction. Lower opex for biogas and biofuels and hydrogen were mainly driven by lower research and development expenditure.

Aligned opex of \$114 million was higher compared with \$30 million reported in 2023, and mainly related to operational costs in the wind business.

Scope of taxonomy-eligible activities

No	Economic activity	Scope	Notes
1.4	Conservation forestry	Nature-based solutions projects that meet the EU taxonomy activity description for conservation forestry and generate capital assets.	[A], [B], [C]
3.10	Manufacture of hydrogen	Development and operation of hydrogen manufacturing assets.	[A], [B], [C], [D], [E]
3.14	Manufacture of organic basic chemicals	Manufacture of taxonomy-eligible chemical products.	[A], [B], [C], [D], [F]
3.17	Manufacture of plastics in primary form	Manufacture of polyethylene.	[A], [B], [C], [D]
4.1	Electricity generation using solar photovoltaic technology	Development and operation of solar photovoltaic power assets.	[A], [B], [C], [D], [G], [H]
4.3	Electricity generation from wind power	Development and operation of wind power assets.	[A], [B], [C], [D], [G], [H]
4.10	Storage of electricity	Development and operation of utility-scale facilities that store electricity.	[A], [B], [C], [G]
4.13	Manufacture of biogas and biofuels for use in transport and of bioliquids	Development and operation of assets for the manufacture of biogas and biofuels for use in transport.	[A], [B], [C], [D], [I]
4.29	Electricity generation from fossil gaseous fuels	Development and operation of gas-fired power assets.	[A], [B], [C], [D], [J], [K]
5.11	Transport of CO ₂	Development and operation of CO ₂ transport assets.	[A], [B], [L], [M]
5.12	Underground permanent geological storage of CO ₂	Development and operation of CO ₂ storage assets.	[A], [B], [L], [M]
6.15	Infrastructure enabling low-carbon road transport and public transport	Development and operation of electric vehicle charging points and hydrogen infrastructure for road transport.	[A], [B], [G]
7.6	Installation, maintenance and repair of renewable energy technologies	Installation, maintenance and repair of renewable energy technologies, on site.	[A], [B], [H]

[A] Excludes interests in equity-accounted joint ventures and associates.

[B] Excludes feasibility expenses incurred prior to final investment decision.

[C] Excludes trading activity.

[D] Excludes sales of third-party products.

[E] Excludes integrated hydrogen units whose outputs are primarily intended for internal consumption, such as desulphurisation in refineries.

[F] Excludes taxonomy non-eligible chemical products.

[G] Excludes B2B/B2C retail sales of electricity.

[H] Excludes expenditure on renewable power projects to reduce Scope 1 and 2 emissions for taxonomy non-eligible target activities.

[I] Excludes ventures engaged in the development of feedstocks for biofuels manufacturing.

[J] Does not include integrated generation or cogeneration units whose outputs are primarily intended for internal consumption.

[K] Does not include upstream exploration and production, midstream, LNG or GTL.

[L] Excludes carbon capture, subject to the remarks in Note [M].

[M] For integrated CCS projects where it is not practically possible to distinguish carbon capture, transport and/or storage, the "Storage of CO₂" activity is used.

Turnover KPI

Proportion of turnover from products or services associated with taxonomy-aligned economic activities - 2024 [A]

Financial year	2024	Substantial contribution criteria								DNSH criteria ("Do No Significant Harm")						Proportion of taxonomy-aligned (A.1.) or eligible (A.2.) turnover, year 2023 (18)	Category enabling activity (19)	Category transitional activity (20)
		Turnover (3)	Proportion of turnover year 2024 (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water (7)	Pollution (8)	Circular economy (9)	Biodiversity (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water (13)	Pollution (14)	Circular economy (15)	Biodiversity (16)			
Economic activities (1)	Code (2)	\$ million	%	Y; N; N/EL						Y/N						%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																		
A.1 Environmentally sustainable activities (taxonomy-aligned)																		
Manufacture of hydrogen	CCM 3.10	–	–	Y						Y	Y	Y		Y	Y	–		
Electricity generation using solar photovoltaic technology	CCM 4.1	139	–	Y						Y				Y	Y	Y	–	
Electricity generation from wind power	CCM 4.3	361	0.1%	Y						Y				Y	Y	Y	0.1%	
Storage of electricity	CCM 4.10	1	–	Y						Y	Y			Y	Y	Y	–	E
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	22	–	Y						Y	Y	Y		Y	Y		–	
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	175	0.1%	Y						Y	Y	Y	Y	Y	Y	Y	–	E
Turnover of environmentally sustainable activities (taxonomy-aligned) (A.1)		698	0.2%	100%	–	–	–	–	–								0.2%	
Of which Enabling		176	0.1%	–	–	–	–	–	–	–							–	E
Of which Transitional		–	–	–	–	–	–	–	–	–							–	T
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																		
				EL; N/EL														
Conservation forestry	CCM 1.4	1	–	EL												–		
Manufacture of hydrogen	CCM 3.10	–	–	EL												–		
Manufacture of organic basic chemicals	CCM 3.14	7,076	2.5%	EL												2.1%		
Manufacture of plastics in primary form	CCM 3.17	956	0.3%	EL												0.1%		
Electricity generation using solar photovoltaic technology	CCM 4.1	–	–	EL												–		
Electricity generation from wind power	CCM 4.3	–	–	EL												–		
Storage of electricity	CCM 4.10	–	–	EL												–		
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	236	0.1%	EL												–		
Electricity generation from fossil gaseous fuels	CCM 4.29	141	–	EL												–		
Transport of CO ₂	CCM 5.11	–	–	EL												–		
Underground permanent geological storage of CO ₂	CCM 5.12	3	–	EL												–		
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	–	–	EL												–		
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	242	0.1%	EL												0.2%		
Turnover of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned) (A.2)		8,655	3.0%													2.5%		
A.Turnover of taxonomy-eligible activities (A1 + A2)		9,353	3.3%													2.7%		
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																		
Turnover of taxonomy non-eligible activities		274,959	96.7%													97.3%		
TOTAL		284,312	100%													100%		

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Capex KPI

Proportion of capex from products or services associated with taxonomy-aligned economic activities - 2024 [A]

Financial year	2024	Substantial contribution criteria								DNSH criteria ('Do No Significant Harm')								Proportion of taxonomy-aligned (A.1.) or eligible (A.2.) capex, year 2023 (18)		Category enabling activity (19)	Category transitional activity (20)
Economic activities (1)	Code (2)	Capex (3) \$ million	Proportion of capex year 2024 (4) %	Climate change mitigation (5)	Climate change adaptation (6)	Water (7)	Pollution (8)	Circular economy (9)	Biodiversity (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water (13)	Pollution (14)	Circular economy (15)	Biodiversity (16)	Minimum safeguards (17)					
				Y; N; N/EL						Y/N					E	T					
A. TAXONOMY-ELIGIBLE ACTIVITIES																					
A.1 Environmentally sustainable activities (taxonomy-aligned)																					
Manufacture of hydrogen	CCM3.10	235	0.8%	Y						Y	Y	Y		Y	Y		0.6%				
Electricity generation using solar photovoltaic technology	CCM 4.1	699	2.3%	Y						Y				Y	Y	Y	2.3%				
Electricity generation from wind power	CCM 4.3	316	1.0%	Y						Y				Y	Y	Y	2.2%				
Storage of electricity	CCM 4.10	18	0.1%	Y						Y	Y			Y	Y	Y	0.3%	E			
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	254	0.8%	Y						Y	Y	Y		Y	Y		4.7%				
Infrastructure enabling low-carbon road transport and public transport	CCM6.15	327	1.1%	Y						Y	Y	Y	Y	Y	Y	Y	3.1%	E			
Capex of environmentally sustainable activities (taxonomy-aligned) (A.1)		1,849	6.0%	100%	–	–	–	–	–								13.3%				
Of which Enabling		345	1.1%	–	–	–	–	–	–								3.3%	E			
Of which Transitional		–	–	–	–	–	–	–	–								–	T			
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																					
EL; N/EL																					
Conservation forestry	CCM 1.4	72	0.2%	EL													–				
Manufacture of hydrogen	CCM 3.10	60	0.2%	EL													–				
Manufacture of organic basic chemicals	CCM 3.14	734	2.4%	EL													2.8%				
Manufacture of plastics in primary form	CCM 3.17	164	0.5%	EL													0.4%				
Electricity generation using solar photovoltaic technology	CCM 4.1	9	–	EL													0.4%				
Electricity generation from wind power	CCM 4.3	2	–	EL													0.1%				
Storage of electricity	CCM 4.10	–	–	EL													–				
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	278	0.9%	EL													1.9%				
Electricity generation from fossil gaseous fuels	CCM 4.29	12	–	EL													–				
Transport of CO ₂	CCM 5.11	–	–	EL													–				
Underground permanent geological storage of CO ₂	CCM 5.12	74	0.2%	EL													0.1%				
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	9	–	EL													0.1%				
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	7	–	EL													0.1%				
Capex of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned) (A.2)		1,421	4.6%														5.9%				
A.Capex of taxonomy-eligible activities (A1+A2)		3,270	10.6%														19.2%				
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																					
Capex of taxonomy non-eligible activities		27,632	89.4%														80.8%				
TOTAL		30,902	100%														100%				

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Opex KPI

Proportion of opex from products or services associated with taxonomy-aligned economic activities - 2024 [A]

Financial year	2024	Substantial contribution criteria									DNSH criteria ("Do No Significant Harm")									Proportion of taxonomy-aligned (A.1.) or eligible (A.2.) opex, year 2023 (18)	Category enabling activity (19)	Category transitional activity (20)
		Economic activities (1)	Code (2)	Opex (3)	Proportion of opex year 2024 (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water (7)	Pollution (8)	Circular economy (9)	Biodiversity (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water (13)	Pollution (14)	Circular economy (15)	Biodiversity (16)	Minimum safeguards (17)				
		\$ million	%																%	E	T	
A. TAXONOMY-ELIGIBLE ACTIVITIES																						
A.1 Environmentally sustainable activities (taxonomy-aligned)																						
Manufacture of hydrogen	CCM 3.10	—	—	Y							Y	Y	Y		Y	Y		—				
Electricity generation using solar photovoltaic technology	CCM 4.1	3	0.1%	Y							Y				Y	Y	Y	—				
Electricity generation from wind power	CCM 4.3	106	2.2%	Y							Y				Y	Y	Y	0.5%				
Storage of electricity	CCM 4.10	—	—	Y							Y	Y			Y	Y	Y	—	E			
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	5	0.1%	Y							Y	Y	Y		Y	Y		—				
Infrastructure enabling low-carbon road transport and public transport	CCM6.15	—	—	Y							Y	Y	Y	Y	Y	Y	Y	0.1%	E			
Opex of environmentally sustainable activities (taxonomy-aligned) (A.1)		114	2.4%	100%	—	—	—	—	—	—								0.6%				
Of which Enabling		—	—	—	—	—	—	—	—	—								0.1%	E			
Of which Transitional		—	—	—	—	—	—	—	—	—								—		T		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																						
					EL; N/EL																	
Conservation forestry	CCM 1.4	—	—	EL														—				
Manufacture of hydrogen	CCM 3.10	9	0.2%	EL														1.1%				
Manufacture of organic basic chemicals	CCM 3.14	683	14.3%	EL														14.6%				
Manufacture of plastics in primary form	CCM 3.17	288	6.0%	EL														6.7%				
Electricity generation using solar photovoltaic technology	CCM 4.1	—	—	EL														—				
Electricity generation from wind power	CCM 4.3	15	0.3%	EL														0.3%				
Storage of electricity	CCM 4.10	—	—	EL														0.1%				
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	62	1.3%	EL														2.4%				
Electricity generation from fossil gaseous fuels	CCM 4.29	1	—	EL														—				
Transport of CO ₂	CCM 5.11	—	—	EL														—				
Underground permanent geological storage of CO ₂	CCM 5.12	4	0.1%	EL														0.1%				
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	5	0.1%	EL														—				
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	—	—	EL														—				
Opex of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned) (A.2)		1,067	22.3%															25.4%				
A.Opex of taxonomy-eligible activities (A1+A2)		1,181	24.7%															25.9%				
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																						
Opex of taxonomy non-eligible activities		3,603	75.3%															74.1%				
TOTAL		4,784	100%															100%				

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Disclosures for nuclear and fossil gas activities

Template 1: Nuclear and fossil gas related activities

Row		2024
Nuclear energy related activities		
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	No
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	No
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	No
Fossil gas related activities		
4	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	Yes
5	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	No [A]
6	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	No [A]

[A] Shell's facilities include integrated gas-fired heating, cooling and power generation units which support one or more primary activities. Such units do not operate on a stand-alone basis and are not treated as a separate economic activity for reporting purposes.

Template 2: Taxonomy-aligned economic activities (denominator), 2024

\$ million, except where indicated

Row	Economic activities	Turnover						Capex						Opex					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%	—	—
5	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	698	0.2%	698	0.2%	—	—	1,849	6.0%	1,849	6.0%	—	—	114	2.4%	114	2.4%	—	—
8	Total applicable KPI	284,312	100%	284,312	100%	—	—	30,902	100%	30,902	100%	—	—	4,784	100%	4,784	100%	—	—

Template 3: Taxonomy-aligned economic activities (numerator), 2024

\$ million, except where indicated

Row	Economic activities	Turnover						Capex						Opex					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	–	–	0	0%	0	0%	–	–	0	0%	0	0%	–	–
5	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	698	0.2%	698	0.2%	–	–	1,849	6.0%	1,849	6.0%	–	–	114	2.4%	114	2.4%	–	–
8	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	698	0.2%	698	0.2%	–	–	1,849	6.0%	1,849	6.0%	–	–	114	2.4%	114	2.4%	–	–

Template 4: Taxonomy-eligible but not taxonomy-aligned economic activities, 2024

\$ million, except where indicated

Row	Economic activities	Turnover						Capex						Opex					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	141	0.0%	141	0.0%	–	–	12	0.0%	12	0.0%	–	–	1	0.1%	1	0.1%	–	–
5	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	8,514	3.0%	8,514	3.0%	–	–	1,409	4.6%	1,409	4.6%	–	–	1,066	22.3%	1,066	22.3%	–	–
8	Total amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	8,655	3.0%	8,655	3.0%	–	–	1,421	4.6%	1,421	4.6%	–	–	1,067	22.3%	1,067	22.3%	–	–

Template 5: Taxonomy non-eligible economic activities, 2024

Row	Economic activities	\$ million, except where indicated					
		Turnover		Capex		Opex	
		Amount	%	Amount	%	Amount	%
1	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy non-eligible in accordance with Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
2	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy non-eligible in accordance with Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
3	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy non-eligible in accordance with Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
4	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy non-eligible in accordance with Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI [A]	0	0%	0	0%	0	0%
5	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy non-eligible in accordance with Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
6	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy non-eligible in accordance with Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—
7	Amount and proportion of other taxonomy non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	274,959	96.7%	27,632	89.4%	3,603	75.3%
8	Total amount and proportion of taxonomy non-eligible economic activities in the denominator of the applicable KPI	274,959	96.7%	27,632	89.4%	3,603	75.3%

[A] The scope of this requirement cannot be determined based on current EU guidance. Shell intends to monitor future developments and update our approach as appropriate.

Pollution (E2)

We seek to manage the impact of our operations on air quality, water quality and soil and groundwater resources, while complying with applicable regulations.

Our double materiality assessment has identified emissions to air, discharges to water, soil and groundwater, oil spills in Nigeria and hazardous substances as material topics. See "Material impacts, risks and opportunities and their interaction with strategy and business model (SBM-3)" on page 351 and "Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)" on page 354 for more information.

Why it matters

Our businesses emit pollutants to air and water, subject to limits established by Shell or local standards, whichever are most stringent. Managing these emissions is part of our commitment to pursue the goal of no harm to people and to respect nature by protecting the environment. We design, operate and maintain our facilities with the intention of minimising discharges to air and water.

We design, operate and maintain our facilities with the intention of avoiding discharges to soil or groundwater. However, there is potential for unintentional contamination to occur for reasons such as operational failure, accidents, unusual corrosion or third-party interference including theft or sabotage. We prepare and practise our emergency response to incidents and proactively manage soil and groundwater impacts and risks.

Our products and operations involve the use of hazardous substances with the potential to harm people and the environment. We work to ensure our many products – such as fuels, lubricants and chemicals – are safe throughout their life cycle.

This section explains how Shell manages air quality, water quality, soil and groundwater, and hazardous substances. See "Water (E3)" on page 395 for information about our approach to water stewardship, and "Safety" on pages 429-438 for information about our approach to process safety, emergency response and oil spills.

Policies related to pollution (E2-1)

Our approach to pollution control is governed by our Safety, Environment and Asset Management (SEAM) Standards. These contain standards related to air quality, water quality, product stewardship, soil and groundwater, as well as related standards such as process safety and emergency response. See "SEAM Standards" on page 130 for more information.

The standards described in this section apply to Shell companies and joint ventures in which Shell is the operator, except where otherwise stated. We expect non-operated joint ventures to adopt appropriate and acceptable policies to manage their risks.

Air quality

We design, operate and maintain our facilities to minimise emissions of pollutants to air. Under normal operating conditions, we emit pollutants to air subject to limits established by local regulators or our own standards, whichever are more stringent.

Volatile organic compounds (VOC)

Our standards require emission sources with VOC emissions exceeding 100 tonnes per year to establish, implement and maintain a risk-based programme of monitoring to detect leaks and implement repairs.

Our standards require controls to be implemented to reduce emissions from such sources to as low as reasonably practicable (excluding combustion sources and process streams where VOC content is less than 10% by weight).

Nitrogen oxides (NO_x) and sulphur oxides (SO_x)

Our standards for emissions of NO_x and SO_x distinguish between facilities located in member countries of the Organisation for Economic Co-operation and Development (OECD), whose regulatory frameworks are generally mature, and those located in countries outside the OECD, where they may be less so. For existing refineries or chemical plants in non-OECD countries, our standards set minimum performance levels for emissions of NO_x and SO_x. For other types of facilities located outside the OECD, those facilities are required to select an OECD country and apply the limits of the country selected.

We require new facilities, and modifications to existing facilities, after July 1, 2024, to meet the International Finance Corporation's emission guidelines for NO_x and SO_x. Where this cannot be achieved, our standards require emissions to be reduced to as low as reasonably practicable. We also require new facilities, and modifications to existing facilities, after July 1, 2024, to assess the effect of future emissions on air quality in the surrounding area (airshed) and to meet airshed ambient air quality specifications. Where this is not achievable, emissions are to be reduced to as low as reasonably practicable.

Water quality

Our standards require disposal of waste water from our assets, projects or businesses to be managed in line with water stewardship principles. Our discharges to water are also subject to limits established by local regulators.

We design, operate and maintain our onshore and offshore facilities to minimise discharges to water according to local regulatory requirements and our own standards. Our standards require new onshore assets and modifications of existing onshore assets after July 1, 2024, to meet the more stringent of our own or local regulatory limits for discharges of certain pollutants and increases in water temperature. Our standards are derived from the International Finance Corporation's environmental, health and safety discharge criteria.

Our standards require new assets and existing assets modified after July 1, 2024, to use best available techniques (BAT) and meet best environmental practice (BEP) assessment criteria for water treatment. These are designed to ensure that an asset meets the most stringent of either local requirements or our own standards.

For offshore operations, our standards prohibit the discharge to sea of non-aqueous drilling fluids such as oil-based muds and synthetic-based muds. Discharge of drilling cuttings to sea is only allowed subject to conditions such as distance to shore, expected dispersion of solids and if the concentration of certain substances is below specified limits.

Our standards prohibit the use of mineral oil or diesel non-aqueous drilling fluids when drilling through aquifers or other beneficial use water-bearing zones.

See "Water stewardship" on page 395 for information about our water consumption standards.

Soil and groundwater

Under normal operating conditions, our assets are designed to avoid emissions and discharges to soil or groundwater. However, there is potential for unintentional contamination to occur for reasons such as operational failure, accidents, unusual corrosion or third-party interference including theft or sabotage.

Our standards on process safety prescribe technical standards and operating practices designed to prevent losses of containment and to prevent escalation and mitigate impacts should an incident occur. Our standards on emergency response are designed to ensure that we are appropriately prepared to respond to all credible emergency and worst-case spill scenarios.

See "Safety" on page 429 for information about our standards on process safety and emergency response.

Our standards on soil and groundwater apply to assets, projects or businesses under Shell's operational control. We apply similar requirements to divested sites where Shell retains responsibility for managing soil and groundwater issues.

Our standards require our assets, projects or businesses to proactively assess and manage soil- and groundwater-related impacts and risks. This includes requirements to carry out soil and groundwater assessments on a regular basis and to determine whether any investigation, control or remedial action is required. Our standards require known or suspected releases to soil and groundwater to be investigated, assessed and, depending on the outcome of a risk assessment, remediated.

For assets deemed to be at higher risk for soil and groundwater contamination, our standards require a groundwater monitoring plan, including an annual monitoring programme and the design of appropriate systems. For sites where benzene or ether oxygenates are present or suspected, we apply additional monitoring, control and remediation measures.

In line with site-level assessments, our standards require our assets, projects or businesses to develop a remedial action plan documenting the actions to be taken to address potential soil and groundwater contamination.

Product stewardship

Our approach to product stewardship aims to make sure our products are safe throughout the life cycle. We also manage the use of hazardous substances and materials in our operations to minimise harm to people or the environment.

Product safety

Our standards require our assets, projects or businesses to identify, assess and manage hazards and risks associated with our products throughout the life cycle, from development, product handling, storage and transport to final disposal. As part of this process, we implement measures to prevent and mitigate actual or potential health, safety or environmental impacts. Our standards require re-evaluating existing products when entering a new market, altering a product's formulation or manufacturing, or when new health, safety, environmental or regulatory information becomes known.

We communicate the hazards and requirements to manage the risks of our products to customers, employees, contractors and authorities through product safety data sheets and product hazard labels.

These standards apply to products such as fuels, lubricants and chemicals.

Hazardous substances and materials in our operations

Our standards require our assets, projects or businesses to identify, assess and manage the hazards and risks associated with substances and materials used in our operations. As part of this process, we evaluate hazards associated with the use, storage, transport and disposal of substances and materials and implement controls to prevent and mitigate actual or potential health, safety or environmental impacts.

Our standards require a systematic approach to evaluating and managing hazards associated with purchased products through a chemical and product approval process.

We communicate the hazards and requirements to manage the risks of hazardous substances in our operations to employees, contractors and authorities through product safety data sheets, product inventories, product hazard labels and other health, safety and environmental information.

Animal testing

Global chemical safety regulations require animal testing to assess the risks of new products. We aim to replace animal testing with suitable alternatives while continuing to innovate, develop and maintain new and safe products and technologies.

Our standards require assets, projects or businesses to apply a hierarchy of controls to replace animal tests with alternatives where possible, to reduce the number of animals used and to refine test methods to make them as humane as possible. When animal testing is required by regulation, our standards require controls to ensure that stringent animal welfare standards are followed.

See [shell.com](https://www.shell.com) for our Animal Welfare Report.

Other policies

See "Impact assessment" on page 355, "Water (E3)" on page 395, "Resource use and circular economy (E5)" on page 404 and "Safety" on page 429 for information about other standards relevant to pollution control.

Actions and resources related to pollution (E2-2)

In 2024, we took action to reduce our air emissions, manage our water discharges and improve our performance on air and water quality. We continued to manage soil and groundwater and product stewardship in line with existing standards and procedures.

The scope of the actions described in this section covers Shell companies and joint ventures in which Shell is the operator, unless otherwise stated. Many of our actions are of an ongoing nature. Horizons for the completion of time-bound actions are indicated where applicable.

Our actions are intended to help us achieve the desired outcome of our policies and standards by providing resources and expertise that support our businesses to implement them in fit-for-purpose ways.

Air quality

We follow our own standards and those of local regulators to manage airborne pollutants, including emissions of nitrogen oxides, sulphur oxides and volatile organic compounds.

In 2024, we continued to implement leak detection and repair programmes to reduce emissions of volatile organic compounds, with a focus on sources of VOC emissions exceeding 100 tonnes per year. We also continued to implement greenhouse gas improvement opportunities, which often reduce emissions of other air pollutants. For example, reducing site power generation or routine flaring can lower greenhouse gas emissions, as well as volatile organic compounds, NO_x and SO_x.

Water quality

We follow our own standards and those of local regulators to manage waste-water discharges.

In 2024, we continued to embed our refreshed approach to water management in our operations, based on water stewardship principles. In some offshore assets, such as our Prelude floating LNG facility in Australia, our UK assets in the North Sea and our deep-water assets in the Gulf of America, we are implementing programmes to further assess waste-water discharges in response to new regulations.

We continue to participate in industry consortia to develop tools and methodologies to improve the management of waste-water discharges.

See "Water stewardship" on page 395 for more information about our approach to managing water.

Soil and groundwater

Shell operates a global soil and groundwater programme comprising an in-house team and experienced consultants who support Shell businesses to understand, assess and manage their soil and groundwater risks.

We have an active research and development programme that helps develop best practice and we conduct scientific research on potential impacts associated with our activities. We often share our research findings with government agencies, researchers and other stakeholders to support the development of sustainable and risk-based environmental guidelines.

We design, operate and maintain our facilities with the intention of preventing spills. To minimise the risk of spills, Shell has routine programmes in place to help reduce failures and maintain the reliability of facilities and pipelines. See "Process safety" on page 431 for more information.

Product stewardship

We work to ensure our products — such as fuels, lubricants and chemicals — are safe throughout their life cycle. We carry out risk assessments for products and additives and publish and distribute safety data sheets to customers globally.

Working through industry consortia, Shell conducts research and development on tools and methodologies to better identify, assess and manage risks to water, air and soil. This includes understanding the implications of new scientific research and emerging regulations on pollutants.

Resourcing our actions

The Executive Vice President for Safety, Environment and Asset Management is the most senior executive in Shell with accountability for the development, governance and oversight of the SEAM Standards. Leaders of assets, performance units, businesses or functions are accountable for assessing which SEAM Standards are relevant, based on their objectives, risk profile and activities, and for implementing those standards as appropriate.

Implementation of SEAM Standards relevant to pollution control is supported by members of Shell's Safety, Environment and Asset Management function, which includes subject matter experts in impact assessment, air emissions, water, ecotoxicology, soil and groundwater, process safety, emergency response and other disciplines. The requirements of our standards are communicated to people involved with implementation through various mechanisms, including internal communication channels, management systems and training, as appropriate.

Planned actions

In 2025, we will to continue to:

- manage air emissions, water discharges, soil and groundwater, and hazardous substances in line with own standards and those of local regulators;
- implement leak detection and repair programmes at large facilities to address emissions of volatile organic compounds; and
- work towards improving our asset integrity and process safety performance, a key factor in our spills performance.

Our action plans are responsive to changing business conditions. Planned actions not directly related to compliance with regulations or our own standards are subject to change. The actions indicated above represent key focus areas rather than an exhaustive list.

Targets related to pollution (E2-3)

Emissions of pollutants to air and water during normal operating conditions are often subject to limits and permit conditions established by local regulators at the asset level, which establish the performance level to be achieved for any improvements between a base period and a future period. Due to the diversity of our operations and the different regulatory frameworks to which we are subject, we have not set consolidated targets at a Group level for specific air pollutants, emissions to water, pollution to soil or specific loads, substances of concern or substances of very high concern.

We measure the effectiveness of our policies and standards by monitoring our performance data and compliance with permit conditions. These efforts are supported by experts who monitor trends and provide technical advice to our operating assets.

Pollution of air, water and soil (E2-4)

This section describes our performance on air quality, water quality and spills in 2024.

We present data on emissions to air and discharges to water against an operational control boundary. See "Supplementary data for pollution, water, biodiversity and waste, including estimates for non-operated assets" on page 434-437 for data reported against an ESRS boundary.

Air quality

We gather data on emissions to air from the day-to-day running of our facilities. We work to minimise these emissions according to local regulatory requirements and our own standards.

Emissions to air (operational control) [A] [B]

	unit	2024
Sulphur oxides (SO _x)	thousand tonnes	21
Nitrogen oxides (NO _x)	thousand tonnes	92
Volatile organic compounds (VOCs)	thousand tonnes	32
Benzene (C ₆ H ₆)	tonnes	201
Ethylene oxide (C ₂ H ₄ O)	tonnes	2
Hydrochlorofluorocarbons (HCFCs)	tonnes	1
Particulate matter (PM)		
PM10	thousand tonnes	3
PM2.5	thousand tonnes	3
Carbon monoxide (CO)	thousand tonnes	29
Metals		
Chromium (Cr)	tonnes	0.1
Copper (Cu)	tonnes	0.5
Nickel (Ni)	tonnes	6
Polycyclic aromatic hydrocarbons (PAH) [C]	tonnes	1
Naphthalene (C ₁₀ H ₈)	tonnes	8
Ammonia (NH ₃)	tonnes	323
Arsenic (As)	tonnes	0.2
Hydrogen cyanide (HCN)	tonnes	8

[A] Emissions to air are defined as the total mass of pollutants emitted to the atmosphere. Data are calculated at site level and consolidated for assets under Shell's operational control. In the absence of local regulation or an approved voluntary scheme, the highest practical tier from the following hierarchy is used: continuous monitoring, periodic monitoring, derived emission factors based on monitoring over a range of conditions; engineering calculations; equipment manufacturer emission factors; or use of default or standard emission factors. When emission factors are used, reference information and guidance include the European Monitoring and Evaluation Programme, the European Environment Agency, Concawe, the American Petroleum Institute and the International Maritime Organization. There is a degree of measurement uncertainty arising from the number of emission points for which data are calculated and variations in the emission factors used at site level, which in some cases are governed by local regulation. As a result of these limitations, it is not possible to furnish a range of estimates with confidence.

[B] Includes reporting by facilities with emissions above the thresholds specified in the European Pollutant Release and Transfer Register regulation. Some facilities with emissions below these thresholds also submit data, particularly for SO_x, NO_x and VOCs.

[C] PAH excludes naphthalene (C₁₀H₈), which is reported separately.

Our SO_x emissions in 2024 decreased to 21 thousand tonnes from 31 thousand tonnes in 2023. The decrease was mainly due to a reduction in our flaring at the Shell Energy and Chemicals Park Singapore and the Shell-operated Scotford Upgrader in Canada.

Our NO_x emissions in 2024 increased to 92 thousand tonnes from 88 thousand tonnes in 2023. The rise was partly driven by activity by facilities in Nigeria and logistics in the UK.

Our emissions of VOCs in 2024 were 32 thousand tonnes compared with 32 thousand tonnes in 2023 (restated from 36 thousand tonnes following a review of the performance data).

Our assets are often required by regulators to gather data on various air pollutants for local performance monitoring and reporting. In 2024, we began collecting data on several additional pollutants for certain assets. We intend to provide further contextual information in the future when additional comparative data are available.

Water quality

We gather data on pollutants in water returned to the environment from the day-to-day running of our facilities (referred to as "discharges to surface water"). We work to minimise these discharges according to local regulatory requirements and our own standards.

Pollutants discharged to surface water (operational control) [A] [B] [C]

	tonnes
	2024
Total organic carbon (TOC) (as total C or COD/3)	1,557
Metals	
Arsenic (As)	0.3
Cadmium (Cd)	0.02
Chromium (Cr)	0.3
Copper (Cu)	0.3
Lead (Pb)	0.1
Nickel (Ni)	1
Zinc (Zn)	3
Mercury (Hg)	0.001
Phenol	1
Benzene	0.04
Absorbable organic halogens (AOX)	35
Nitrogen	340
Phosphorus	63

[A] Pollutants discharged to surface water are defined as the total mass of pollutants present in controlled or regulated effluent discharges to surface water directly from onshore assets. Figures are expressed on the basis of net discharge derived from measured concentrations and discharged effluent volumes. The scope includes pollutants discharged through produced water, process water, oil or water interceptors, cooling water and boiler blow-down water. It excludes oil spills, pollutants in water injected in reservoirs, quantities discharged to third-party treatment facilities and surface run-off water.

[B] Data on pollutants discharged to surface water are calculated at site level and consolidated for assets under Shell's operational control. In the absence of a locally required analysis method, the reported pollutants are analysed in samples taken from representative streams such as treated process water using pollutant-specific methodologies based on the American Public Health Association, the Royal Netherlands Standardization Institute and the International Organization for Standardization (ISO). There is a degree of measurement uncertainty arising from effluent sampling and logistics, local analytical capabilities and applied methods, and from the determination of the effluent volumes. Standardisation will reduce such uncertainties, but as a result, it is currently not possible to furnish a range of estimates with confidence.

[C] Includes reporting by facilities with discharges above the thresholds specified in the European Pollutant Release and Transfer Register regulation. Some facilities with discharges below these thresholds may also submit data.

Our assets are required by regulators to gather data on various discharges to water for local performance monitoring and reporting. In 2024, we began collecting data at a Group level on several pollutants that were previously monitored at a local level. We intend to provide further contextual information in the future when additional comparative data are available.

Spills

See "Spills" on page 433 for metrics and commentary related to oil spills, including in Nigeria. Because of the importance of process safety to preventing losses of containment, and preventing escalation and mitigating impacts should an incident occur, spills data are placed in this section so that they can be viewed alongside related disclosures on process safety and emergency response.

Water and marine resources (E3)

Water is essential to life and is an important resource in many industrial processes. As an energy company we need water for our operations, and this can affect other water users.

Our double materiality assessment has identified fresh-water consumption, especially in water-stressed areas, as a material topic. See "Material impacts, risks and opportunities and their interaction with strategy and business model (SBM-3)" on page 351 and "Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)" on page 354 for more information.

Why it matters

Shell's businesses consume water for a variety of uses. In 2024, around 79 million cubic metres of fresh-water consumed was used for manufacturing oil products and chemicals (88%), with the remaining 11 million cubic metres mainly used for oil and gas production.

Our use of water can have impacts on ecosystems and people. Consumption of water by our business activities has the potential to cause physical changes to ecosystems, affecting habitats and species. In water-stressed areas, it can exacerbate existing pressure on ecosystems and lead to competition with communities and other water users. To help us manage these impacts, we are implementing water stewardship principles across our businesses and developing local improvement plans.

This section explains how Shell manages the sourcing, use, treatment and disposal of water. See "Pollution (E2)" on page 391 for information about our approach to water quality and soil and groundwater. See "Biodiversity and ecosystems (E4)" on page 397 for information about our approach to marine habitats.

Policies related to water and marine resources (E3-1)

Our approach to water is governed by our Safety, Environment and Asset Management (SEAM) Standards. These contain standards addressing water stewardship, management of discharges and the use of technology in our facilities, among other topics. See "SEAM Standards" on page 130 for more information.

The standards described in this section apply to Shell companies and joint ventures in which Shell is the operator, except where otherwise stated. We expect non-operated joint ventures to adopt appropriate and acceptable policies to manage their risks.

Water stewardship

Our standards require our assets, projects or businesses to manage sourcing, use, treatment and disposal of water based on recognised water stewardship principles. Our standards are informed by external best practices, such as those developed by the Alliance for Water Stewardship.

The objective is to manage our use and sourcing of water in ways that are socially equitable, environmentally sustainable, economically beneficial and achieved through a stakeholder-inclusive process that involves site- and catchment-based actions, in line with a water stewardship management plan. Such plans help us to move away from a traditional inside-out approach focusing on our impact on the environment to an outside-in approach that considers how we impact, and are impacted by, the environment. They also help us to reduce consumption in water-stressed areas.

The water stewardship principles are applicable to fresh-water and marine environments. To account for the diversity of Shell's operations, we expect assets, projects or businesses to meet the intent of the principles by applying them to their local circumstances in a fit-for-purpose way.

Water stewardship principles

Principles of water stewardship	What this means for Shell
Adopt good water governance	Responsible sharing of water resources in a watershed or catchment of relevance through engagements with stakeholders such as industry associations, local authorities, collective water action networks and other users.
Implement a sustainable water balance	Withdraw sustainable amounts of fresh water from the catchment, taking into consideration current and future users. Consider recycling and reusing fresh water and taking water efficiency measures.
Ensure good water quality	Good water quality refers to water that meets the needs of native flora and fauna and people. This applies to surface water, groundwater and the marine environment. Shell contributes to this objective by managing effluent discharges.
Focus on important water-related areas	Consider mitigation actions if business activities within the catchment impact important water-related areas of high value to nature or people.
Ensure safe water, sanitation and hygiene (WASH) for all	WASH refers to efforts to address basic human water needs and rights related to access to safe and sufficient water for drinking and sanitation. In contexts where WASH provision is lacking, Shell may support provision for employees, customers and communities.

For new projects, we undertake environmental and social impact assessments to identify measures to avoid or minimise impacts on water. We evaluate the long-term sustainability of water resources to select options that avoid or minimise disruption to the environment and other users. This helps to ensure we have a continued supply of water for our operations, while also minimising impacts and bringing benefits to others. See "Impact assessment" on page 355 for more information.

See "Water quality" on page 393 for information about our standards on prevention and abatement of water pollution.

Shell is not a producer of biological or non-biological marine resources such as deep-sea minerals or seafood products. Accordingly, we have not adopted standards on these topics.

Our approach to promoting sustainable oceans and seas is covered by our standards on biodiversity, water stewardship and pollution control.

Actions and resources related to water and marine resources (E3-2)

Our actions in 2024 focused on embedding water stewardship management plans in applicable operations, with an emphasis on reducing fresh-water consumption in water-stressed areas.

The scope of the actions described in this section covers Shell companies and joint ventures in which Shell is the operator, unless otherwise stated. Many of our actions are of an ongoing nature. Horizons for the completion of time-bound actions are indicated where applicable.

Our actions are intended to help us achieve the desired outcome of our policies and standards by providing resources and expertise that support our businesses to implement them in fit-for-purpose ways.

Water stewardship management plans

Our assets, projects or businesses are required to implement water stewardship principles by developing and implementing water stewardship management plans in accordance with our SEAM Standards.

Since 2021, we have conducted water stewardship assessments at 18 assets across different businesses and regions, with a priority on operations in areas of high water stress and those that use significant quantities of fresh water. The insights gained from these assessments have moved us towards a more holistic stewardship approach. This goes beyond only focusing on water use to also considering factors such as water footprint, regional water stress, water quality, catchments, governance and stakeholder engagement. Building on these efforts, our Mobility and US Midstream businesses developed water stewardship plans in 2024.

Areas of high water stress

In 2024, we continued to make progress in reducing our consumption of fresh water in water-stressed areas, which we classify in accordance with World Resources Institute definitions, subject to the qualifications set out below.

In 2018, we assessed four facilities as being located in areas of high water stress, based on the Aqueduct Water Risk Atlas and the materiality of contribution to total fresh-water consumption in such areas. These included the Pearl GTL gas-to-liquids facility in Qatar; the Shell Import Facility in Tabangao in the Philippines; and the Shell Energy and Chemicals Park Singapore, which comprises integrated refining and chemical assets on Pulau Bukom and Jurong Island. Although Singapore was subsequently reclassified by the Aqueduct Water Risk Atlas as being at low overall water stress, we continue to treat the Shell Energy and Chemicals Park as part of a water-stressed region, based on our original 2018 assessment.

In 2024, the Shell Energy and Chemicals Park Singapore commissioned a waste-water recovery project that resulted in a further reduction of fresh-water withdrawal rates. In 2024, Shell reached an agreement to sell its interest in the Energy and Chemicals Park Singapore. This transaction is expected to be completed in 2025, subject to regulatory approvals.

Working with others

Shell collaborates with universities, technology providers and other energy companies to identify and develop opportunities to improve our water management performance. We work with other companies through Ipieca, the global oil and gas industry association for advancing environmental and social performance across the energy transition, to support the development of water risk assessment tools to improve the way companies define, assess and respond to water-related risks. Our collaboration priorities focus on the practical implementation of water stewardship principles and the development and adoption of technology solutions for sustainable water management. These activities concern impacts related to water consumption and water quality.

Resourcing our actions

The Executive Vice President for Safety, Environment and Asset Management is the most senior executive in Shell with accountability for the development, governance and oversight of the SEAM Standards. Leaders of assets, performance units, businesses or functions are accountable for assessing which SEAM Standards are relevant, based on their objectives, risk profile and activities, and for implementing those standards as appropriate.

Implementation of SEAM Standards relevant to water is supported by members of Shell's Safety, Environment and Asset Management function, which includes subject matter experts in impact assessment, water management, ecotoxicology and other disciplines. The requirements of our standards are communicated to people involved with implementation through various mechanisms, including internal communication channels, management systems and training, as appropriate.

Planned actions

In 2025, we will continue to:

- manage water consumption and quality in line with our own standards and those of local regulators;
- embed water stewardship management plans; and
- engage with external stakeholders and industry peers on water-related issues.

Our action plans are responsive to changing business conditions. Planned actions not directly related to compliance with regulations or our own standards are subject to change. The actions indicated above represent key focus areas rather than an exhaustive list.

Targets related to water and marine resources (E3-3)

In 2021, we set a voluntary commitment to reduce our consumption of fresh water by 15% by 2025 compared with 2018 levels in areas where there is high fresh-water stress. We achieved this commitment ahead of time in 2022. Shell's commitment meets the ESRS definition of a target.

In 2024, our consumption of fresh water in areas of high water stress was 16 million cubic metres compared with 25 million cubic metres in the base year of 2018, a 36% reduction over the period. The reduction was mainly the result of a net decrease in water consumption at the Pearl GTL facility in Qatar, the Shell Energy and Chemicals Park Singapore and the Shell Import Facility in Tabangao in the Philippines, and reflects a combination of hardware changes, improvements in operating practices and the conversion of Tabangao from a refinery to a terminal. This level of progress is consistent with our expectations when setting the commitment.

The scope of this commitment covers the four facilities that account for most of our consumption of fresh water in water-stressed areas. The adoption of this commitment responds to emerging scientific evidence about water-stressed areas and stakeholder concerns about our potential impact on such areas. We have not adopted targets for commodities related to marine resources as we consider this topic to have limited relevance for our business.

Water consumption (E3-4)

Our water performance data for 2024 are presented below.

We present data for water consumption against an operational control boundary. See "Supplementary data for pollution, water, biodiversity and waste, including estimates for non-operated assets" on page 435 for water consumption data reported against a financial control boundary.

Water consumption (operational control) [A] [B]

	million cubic metres
	2024
Water consumption [C]	90
Water consumption in areas of high water stress [C] [D]	16
Water recycled and reused [E]	18
Water stored [F]	—
Changes in water storage	—

- [A] Water volumes are reported at site level using one or more of the following methods: metering; water bills from public utilities; pumping capacity multiplied by the time of pumping; and process requirement estimates. Due to the site-specific nature of these calculations, it is not possible to state a degree of measurement uncertainty with confidence.
- [B] Fresh water figures do not include once-through cooling water
- [C] Water consumption is defined as fresh water withdrawn minus fresh water discharged. Where "fresh water" is not defined by local regulation, below 2,000 mg/l total dissolved solids is used. Fresh water generally includes water from public utilities, water wells, lakes, ponds, streams and rivers.
- [D] Areas of high water stress are areas where the ratio of water demand and water availability is high or extremely high in the Aqueduct Water Risk Atlas tool of the World Resources Institute. We assess four material facilities as located in areas of high water stress: Pearl GTL in Qatar; the Shell Import Facility at Tabangao in the Philippines; and the Shell Energy and Chemicals Park Singapore, which comprises integrated refining and chemical assets on Pulau Bukom and Jurong Island. Figures include reporting by a small number of assets in water-stressed areas which make an immaterial contribution to total water consumption in water-stressed areas.
- [E] Water recycled and reused is the volume of fresh water used in more than one process or more than once before final treatment and/or discharge to the environment. It does not include water used in re-circulating cooling towers, nor non-fresh water used, such as sea water or brackish surface water and groundwater.
- [F] Water stored means water continuously collected in containment structures. This is typically the last stage of processing where the water is managed by passive evaporation. The water may include treated or untreated associated water or rainwater.

Biodiversity and ecosystems (E4)

Our activities can affect natural habitats and the communities that depend on them. We seek to have a positive impact on biodiversity.

Our double materiality assessment has identified biodiversity loss, sensitive areas and species, and ecosystem services as material topics. See "Material impacts, risks and opportunities and their interaction with strategy and business model (SBM-3)" on page 351 and "Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)" on page 354 for more information.

Why it matters

We recognise the urgency to protect and enhance biodiversity and ecosystem services. The links between nature and climate are recognised in the UN Kunming–Montreal Global Biodiversity Framework of 2022 and successive meetings of the Conference of the Parties under the UN Framework Convention on Climate Change. We also acknowledge the important links between biodiversity and communities.

Our business activities have the potential to contribute directly or indirectly to drivers of biodiversity loss such as climate change, pollution, land use change, fresh-water use change and sea use change. They also have the potential to impact critical habitats and other biodiversity sensitive areas, and to contribute to changes from natural to modified habitats, which can affect the quality or availability of ecosystem services used by local communities. We seek to minimise our impact on nature through operating standards that address biodiversity and other aspects of environmental performance.

Our business activities depend on ecosystem services such as provision of fresh water and natural resources, and benefits obtained from the natural processes and functioning of ecosystems, such as climate and flood regulation and erosion control.

We are still at an early stage of understanding how these issues may affect our business in the future, including with respect to our value chain. This section explains how Shell manages impacts on biodiversity and ecosystems, critical habitats and deforestation. See "Climate change (E1)" on page 364, "Pollution (E2)" on page 391, "Water and marine resources (E3)" on page 395 and "Resource use and circular economy (E5)" on page 404 for information about our approach to other environmental topics relevant to biodiversity.

Transition plan and consideration of biodiversity and ecosystems in strategy and business model (E4-1)

Shell businesses operate within land and marine ecosystems. For example, we need access to land for onshore operations such as oil and gas production, refineries, chemical plants, pipelines, retail facilities, and electricity generation and storage. We need access to marine areas for oil and gas production, pipelines, carbon capture and storage, wind power generation, marine terminals and shipping. Our operations also use natural resources such as fresh water.

Our ability to develop new projects and opportunities depends in part on our ability to meet the expectations of regulators, communities and other stakeholders for managing our impact on biodiversity.

Our dependencies on nature will change as we progress in the energy transition. For example, our biofuel activities depend on access to land and availability of natural resources such as soil and water and the regulating ecosystem services they provide. Our nature-based solution activities depend on access to land as well as the supporting ecosystem services needed to capture CO₂ and enhance biodiversity.

We manage biodiversity in our operations through our operating standards and environmental management systems. We also work with peers through organisations like Ipieca, the global oil and gas industry association for advancing environmental and social performance across the energy transition, to deepen our understanding of the industry's impacts on biodiversity and to develop best practices.

Considering the integrated approach of our strategy, and how our approach to identifying and managing biodiversity impacts is embedded within it, we have not yet carried out a comprehensive assessment of the resilience of our strategy and business model specifically in relation to biodiversity and ecosystems as set out under the ESRS. We aim to undertake further work to deepen our understanding. See "Respecting nature" on page 109-113 for further information.

Material impacts, risks and opportunities and their interaction with strategy and business model (ESRS 2 SBM-3)

We provide a consolidated list of sites in biodiversity sensitive areas in the table "Sites impacting biodiversity sensitive areas" on pages 398-400. This table is prepared by undertaking geospatial analysis of the overlap between Shell's operated asset footprint and mapped biodiversity sensitive areas (BSAs). To identify these areas, we use the World Database of Protected Areas (WDPA), maintained by the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), and the World Database of Key Biodiversity Areas (WDKBA), maintained by BirdLife International.

The BSAs used or applied in the assessment include UNESCO World Heritage Sites, the Natura 2000 network of protected areas, key biodiversity areas and other protected areas. The latter encompass Ramsar Wetlands of International Importance, UNESCO Man and the Biosphere Reserves, areas designated under regional agreements such as OSPAR and Emerald Network, as well as nationally designated areas reported as International Union for Conservation of Nature (IUCN) Management Category I–IV in the UNEP-WCMC WDPA.

Certain areas have multiple BSA designations with defined conservation objectives that may target different species or habitats. We analyse all applicable designations and their associated geographic areas and list them in the table accordingly.

Owing to the large number of operated assets that potentially impact biodiversity sensitive areas, uncertainties in interpreting ESRS requirements, and various data limitations, we apply judgement in consolidating sites by country and provide an indication of the business activities impacting the areas listed in the table.

Our assessment includes Shell sites under operational control, excluding our retail network and real estate locations, which generally have less potential for negative impact on BSAs due to their size, the nature of their activity and because they are often located in urban and developed areas.

Our analysis is based on global datasets and may exclude other nationally designated sites that have not been submitted to the WDPA or WDKBA. Due to the setup of this analysis, it does not yield data on all site-specific impacts and dependencies on, or the ecological status of, all BSAs. We aim to undertake further work on site-level impacts and dependencies and approaches to defining ecological status with reference to specific ecosystem baseline levels.

We assess land use change as a material impact. On a stand-alone basis, we do not assess land degradation, desertification or soil sealing as material impacts at a Group level. Some of our operations take place in locations where they may affect threatened species.

See "Supplementary data for pollution, water, biodiversity and waste, including estimates for non-operated assets" on page 437 for estimated information about joint operations not under operational control impacting biodiversity sensitive areas.

Sites impacting biodiversity sensitive areas (operational control) [A] [B]

Country	Activity [C]	World Heritage Sites	Key biodiversity areas	Natura 2000 [D]	Other protected areas [E]
Australia	◦ LNG production ◦ Pipelines ◦ Gas-fired power	◦ Great Barrier Reef, World Heritage Site (natural or mixed) [F]	◦ Northern Swan Coastal Plain		
Canada	◦ Terminals ◦ Aviation fuel		◦ English Bay and Burrard Inlet ◦ Comox Valley ◦ Fraser River Estuary		
Italy	◦ Lubricants				◦ Valle del Ticino, UNESCO-MAB Biosphere Reserve
Malaysia	◦ Terminal		◦ North-central Selangor coast		
Netherlands	◦ Hydrocarbon exploration and production ◦ Pipelines ◦ Renewables ◦ Refinery ◦ Chemical plant	◦ Wadden Sea, World Heritage Site (natural or mixed) [G]	◦ Hollandse Kust; Bargerveen ◦ Fochteloërveen ◦ Drentsche Aa-gebied ◦ Reestdal ◦ Slagharen - de Krim; De Wieden ◦ Oldambt; Zuidoost-Achterhoek ◦ Westerwolde ◦ Lauwersmeer; Noordzeekustzone ◦ Polder Zeevang ◦ Kagerplassen e.o. ◦ Meijndel & Berkheide ◦ Zoetwatergetijderivieren, Midden Delfland & Oude Leede ◦ Krimpenerwaard; Panningen - Roggel ◦ Hollandse Kust ◦ Voordelta ◦ Zuidlaardermeergebied, Hund- und Paapsand ◦ Waddenzee ◦ Duinen Ameland ◦ Duinen Terschelling ◦ Noordzeekustzone ◦ Friese Front ◦ Hollands Diep	◦ Noordhollands Duinreservaat, SAC ◦ De Wieden, SPA ◦ Bargerveen, SPA ◦ Fochteloërveen, SPA ◦ Drentsche Aa-gebied, SAC ◦ Springendal & Dal van de Mosbeek, SAC ◦ Achter de Voort, Agelerbroek & Voltherbroek, SAC ◦ Elperstroomgebied, SAC ◦ Landgoederen Oldenzaal, SAC ◦ Vecht- en Beneden-Reggegebied, SAC ◦ Lauwersmeer, SPA ◦ Noordzeekustzone, SPA ◦ Duinen Den Helder - Callantsoog, SAC ◦ Polder Zeevang, SPA ◦ Voordelta, SPA ◦ Meijndel & Berkheide, SAC ◦ Westduinpark & Wapendal, SAC ◦ Solleveld & Kapittelduinen, SAC ◦ Zuidlaardermeergebied, SPA	◦ Noordhollands Duinreservaat, NCA ◦ De Wieden, Ramsar Site ◦ Bargerveen, Ramsar Site ◦ Vecht- en Beneden-Reggegebied, NCA ◦ Drentsche Aa-gebied, NCA ◦ Achter de Voort, Agelerbroek & Voltherbroek, NCA ◦ Elperstroomgebied, NCA ◦ Springendal & Dal van de Mosbeek, NCA ◦ Nationaal beek- en esdorpenlandschap Drentsche Aa, National Park ◦ Weerribben-Wieden, National Park ◦ Landgoederen Oldenzaal, NCA ◦ Fochteloërveen, NCA ◦ Lauwersmeer, Ramsar Site ◦ Waddensea Area, UNESCO-MAB Biosphere Reserve ◦ North Sea Coastal Area, Ramsar Site ◦ Noordzeekustzone, OSPAR MPA ◦ Duinen Den Helder-Callantsoog, NCA ◦ Oostelijke Vechtplassen, Ramsar Site ◦ Voordelta, Ramsar Site ◦ Meijndel & Berkheide, NCA ◦ Polder Zeevang, NCA