Our climate-related metrics and targets

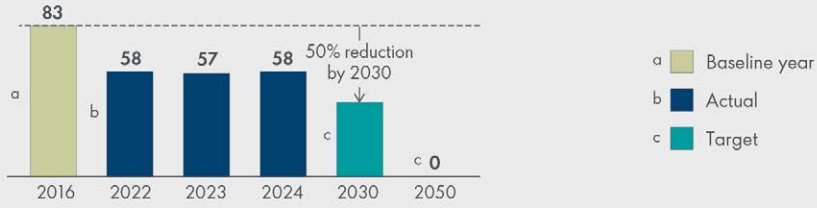
This section describes our performance against our climate-related targets and ambition, including those reflected in the remuneration of senior management and employees.

Carbon performance, targets and ambition at a glance

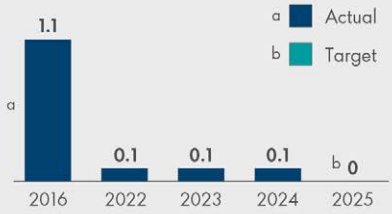
0% **Net-zero emissions by 2050** (Scope 1, 2 and 3)

Emissions from our own operations (Scope 1 and 2, operational control)

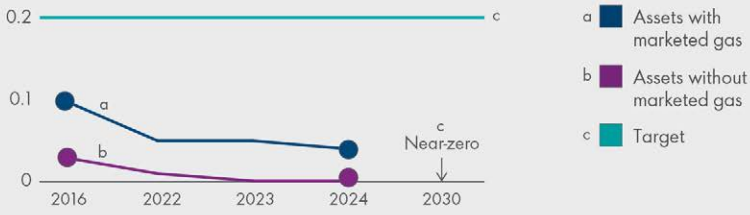
Halve Scope 1 and 2 emissions by 2030, on a net basis
(million tonnes CO_2e)



Eliminate routine flaring by 2025 [A]
(million tonnes of hydrocarbon flared)

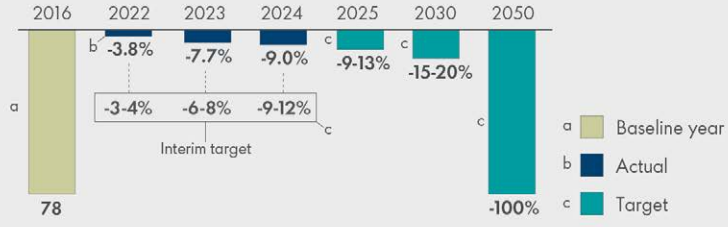


Maintain methane emissions intensity below 0.2% and achieve near-zero methane emissions by 2030 [B]
(percentage)

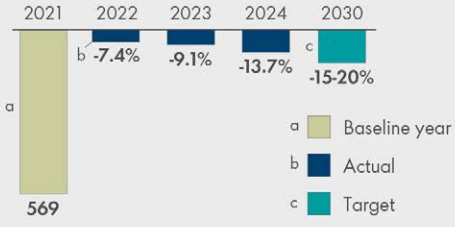


Emissions from the products we sell (Scope 3, equity boundary)

Reduce net carbon intensity (NCI) [C]
(gCO_2e/MJ)



Reduce customer emissions from the use of our oil products [D]
(million tonnes CO_2e)



[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 (gas, LNG and GTL available for sale) and assets without marketed gas (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. In 2024, we revised the 2016 baseline NCI values and other historical NCI values. As a result, the percentage reduction achieved in 2023 was revised from 6.3% to 7.7%. (See "NCI baseline and restatement policy" on page 98).

[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 11). Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO_2e) in 2023 and 569 million tonnes CO_2e in 2021.

Metrics used by Shell to assess climate-related risks and opportunities in line with our strategy and risk management process T

This section sets out the key metrics we use to track progress against our energy transition targets and ambition. These metrics are as follows.

- Metrics related to our own operations:
  - absolute Scope 1 and 2 emissions under operational control, with a 2016 baseline; and
  - routine flaring and methane emissions intensity under our operational control.
- Metrics related to emissions from the products we sell:
  - the NCI of the energy products we sell (equity basis), with a 2016 baseline; and
  - customer emissions from the use of our oil products (Scope 3, Category 11, equity basis), with a 2021 baseline.
- Performance indicators for the energy transition performance condition reflected in the remuneration of senior management and employees as set out in "Linking Shell's emissions targets to remuneration" on page 104.
- Additional metrics associated with the resilience of Shell's strategy to climate-related risks and opportunities, including information on capital allocation between our business segments and the sensitivity of our assets to carbon pricing, discount rate and commodity price assumptions as set out in "Resilience of Shell's strategy to different climate-related scenarios" on page 86.
- Metrics and targets in respect of climate-related environmental risks as set out in "Metrics and targets in respect of climate-related environmental risks" page 101.

Scope 1, 2 and 3 emissions and related risks T

In assessing progress against our target to be a net-zero emissions energy business by 2050, we report our performance against Scope 1, 2 and 3 emissions.

See "Climate-related risks and opportunities identified by Shell over the short, medium and long term" on pages 80-84.

Scope 1 and 2 emissions

In 2024, total combined Scope 1 and 2 GHG emissions (net) from assets and activities under Shell operational control were 58 million tonnes of carbon dioxide equivalent (CO_2e), reflecting a 30% reduction compared with 2016, the base year for our target to halve these emissions by 2030.

Total combined Scope 1 and 2 GHG emissions (net) were 2% higher compared with 2023 due to higher utilisation and production, offset by reductions from abatement projects.

Drivers of Scope 1 and 2 emissions

Gross direct GHG emissions (Scope 1, operational control boundary) were stable in 2024 compared with 2023, at 50 million tonnes of CO_2e, as the effect of higher Chemicals utilisation and Integrated Gas production was offset by reductions from GHG abatement projects and reduction activities.

Gross indirect GHG emissions (Scope 2, operational control boundary, using a market-based method) increased from 7 million tonnes of CO_2e in 2023 to 8 million tonnes CO_2e in 2024. This increase was driven by higher electricity consumption and reduced purchases of renewable electricity in Australia following regulatory changes for purchasing and reporting renewable energy. We present examples of our energy efficiency projects on page 108.

In 2024, carbon credits were used for compliance with the requirements of the Australian Safeguard Mechanism, resulting in an offset of 0.1 million tonnes CO_2e related to Scope 1 emissions under our operational control.

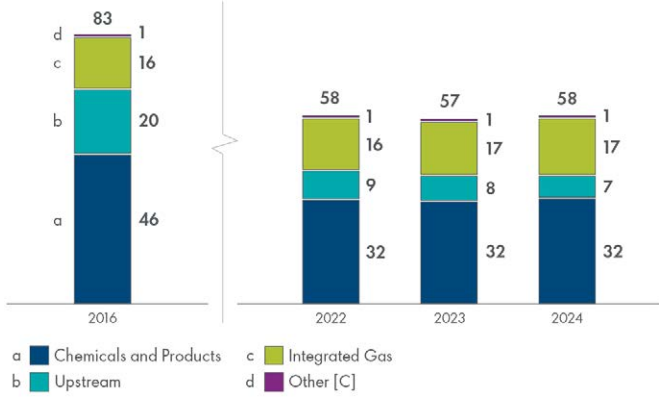
Scope 1 and 2 emissions [D, E]

				million tonnes of CO_2e
(operational control boundary)	2024	2023	2022	2016
Scope 1 emissions (gross) [A]	50	50	51	72
Scope 2 emissions (gross) [B]	8	7	7	11
Carbon credits [C]	0.1	–	–	–
Total Scope 1 and 2 emissions (net) [F]	58	57	58	83

[A] Total direct GHG emissions from assets and activities under our operational control. It includes emissions from production of energy and non-energy products. Scope 1 emissions are reported gross without the inclusion of carbon credits.
[B] Total indirect GHG emissions from imported energy from assets and activities under our operational control using a market-based method. It includes imported energy used for production of energy and non-energy products. Scope 2 emissions are reported gross without the inclusion of carbon credits.
[C] In 2024, carbon credits were used for compliance with the requirements of the Australian Safeguard Mechanism, resulting in an offset of 0.1 million tonnes CO_2e related to Scope 1 emissions under our operational control.
[D] Oil and gas industry guidelines from Ipieca indicate that several sources of uncertainty can contribute to the overall uncertainty in Scope 1 and 2 emissions inventories.
[E] Figures disclosed are rounded. Rounding differences can occur between the total combined Scope 1 and 2 absolute GHG emissions disclosed in this Report and the sum of components individually rounded to the nearest million tonnes.
[F] We measure total combined Scope 1 and 2 GHG emissions compared with a 2016 baseline, on a net basis. The 2016 baseline may be recalculated if an acquisition or a divestment has an impact of more than 10% on total Scope 1 and 2 emissions. There was no such event in 2024.

Scope 1 and 2 emissions (net) by business [A, B]

million tonnes carbon dioxide equivalent (CO_2e)

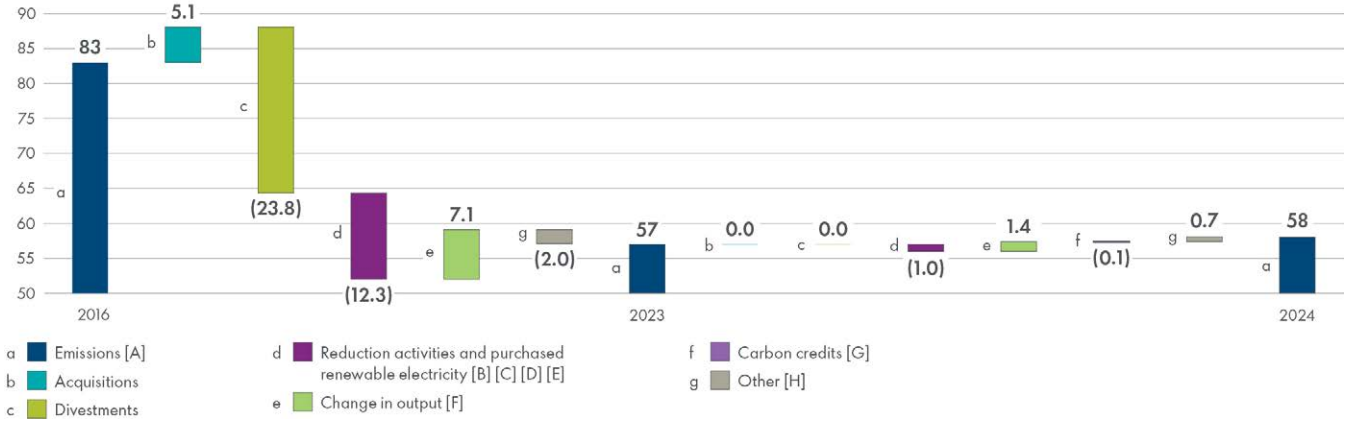


[A] Total direct (Scope 1) and energy indirect (Scope 2) GHG emissions from assets and activities under the operational control boundary, net of carbon credits. It includes emissions from production of energy and non-energy products. For Scope 2, we used a market-based method.
[B] Figures disclosed are rounded. The split between Scope 1 and 2 may not add up to the total due to rounding.
[C] Renewables and Energy Solutions, Marketing, P&T and Real Estate.

Drivers of absolute Scope 1 and 2 emissions change

Scope 1 and Scope 2 GHG emissions (net): Changes from 2016 to 2023 and from 2023 to 2024

million tonnes carbon dioxide equivalent (CO_2e)



[A] Total Scope 1 and Scope 2 emissions, rounded to the nearest million tonnes. Scope 2 emissions were calculated using a market-based method.
[B] In addition to reductions from GHG abatement and energy efficiency projects, this category includes reductions from permanent shutdowns and conversion of existing assets.
[C] Excludes 7.8 million tonnes of CO_2 captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2016-2023.
[D] Excludes 1.0 million tonnes of CO_2 captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2024.
[E] Of the 1,028 thousand tonnes of reduction activities and purchased renewable electricity in 2024, around 20 thousand tonnes related to purchased renewable electricity.
[F] Change in output relates to changes in production levels, including those resulting from shutdowns and turnarounds as well as production from new facilities.
[G] In 2024, carbon credits were used for compliance with the requirements of the Australian Safeguard Mechanism, resulting in an offset of 0.1 million tonnes CO_2e related to Scope 1 emissions under our operational control.
[H] In 2024, category Other represents the regulatory change for purchasing and reporting renewable energy in Australia and inclusion of emissions from Shell-owned, but third-party operated Mobility retail stations.

Routine flaring

Routine flaring of associated gas occurs during normal oil production where it is not possible to transport the gas to market, use it on-site or reinject it.

Routine flaring from The Shell Petroleum Development Company of Nigeria Limited (SPDC) was 0.1 million in 2024, comparable with 2023.

With effect from January 1, 2025, SPDC has ceased routine flaring of associated gas, with the completion of essential gas capture projects, such as the Forcados Yokri Gas Project, and the shut-in of remaining facilities from which gas cannot be transported to market. We have therefore met our target to eliminate routine flaring from our upstream-operated assets by 2025 as of this date.

Total routine and non-routine flaring at our Integrated Gas and Upstream facilities was 0.6 million tonnes in 2024, compared with 0.7 million tonnes in 2023. Around 50% of total flaring in 2024 occurred in assets operated by SPDC and SNEPCo.

On March 13, 2025, Shell completed the sale of SPDC to Renaissance, a consortium of five companies. SPDC will continue to operate the SPDC joint venture (SPDC JV [A]) on behalf of all the joint-venture partners, who together will continue to make decisions relating to work programmes for the SPDC JV's assets and infrastructure.

[A] The SPDC JV comprises SPDC (30%), the government-owned NNPC (55%), Total Exploration and Production Nigeria Ltd (10%) and Nigeria Agip Oil Company Ltd (5%).

Total routine flaring [A]

million tonnes

(operational control boundary)	2024	2023	2022	2016
Total hydrocarbons flared in routine flaring	0.1	0.1	0.1	1.1

[A] Routine flaring of associated gas occurs during normal oil production where it is not possible to transport the gas to market, use it on site or reinject it.

Methane intensity

In 2024, we continued to deliver methane emissions intensities well below our 0.2% target, with overall methane emissions intensity at 0.04% for Shell-operated oil and gas assets with marketed gas and 0.001% for Shell-operated oil and gas assets without marketed gas.

Total methane emissions from assets under Shell operational control (including Integrated Gas and Upstream, and Downstream, Renewables and Energy Solutions assets) were 33 thousand tonnes in 2024 compared with 41 thousand tonnes in 2023 due to lower venting (e.g. in 2023 venting occurred due to the maintenance of our Prelude floating LNG asset and operational issues in assets operated by Sarawak Shell Berhad).

We believe our methane emissions are quantified according to industry best practice. Methane emissions include those from unintentional leaks, venting and incomplete combustion, for example in flares and turbines.

Methane emissions intensity

%

(operational control boundary)	2024	2023	2022	2016
Methane emissions intensity - assets with marketed gas [A]	0.04%	0.05%	0.05%	0.10%
Methane emissions intensity - assets without marketed gas [B]	0.001%	0.001%	0.01%	0.03%

[A] Methane emissions intensity from all Shell-operated oil and gas assets that market their gas (including LNG and GTL assets), defined as the total volume of methane emissions in normal cubic metres (Nm^3) per total volume of gas available for sale in Nm^3.
[B] Methane emissions intensity from all Shell-operated oil and gas assets that do not market their gas (such as where gas is reinjected), defined as the total mass of methane emissions in tonnes per total mass of oil and condensate available for sale in tonnes.

Scope 3 and NCI

NCI performance

In 2024, Shell's NCI was 71 grams of carbon dioxide equivalent per megajoule of energy (gCO_2e/MJ), a 1.4% decrease from the previous year and a 9.0% reduction compared with the 2016 baseline. We therefore met our interim target to reduce our NCI by 9-12% in 2024. The decrease in our NCI in 2024 was mainly achieved through a reduction in sales of oil products, continued growth in power sales and a reduction in the average intensity of the oil products we sell.

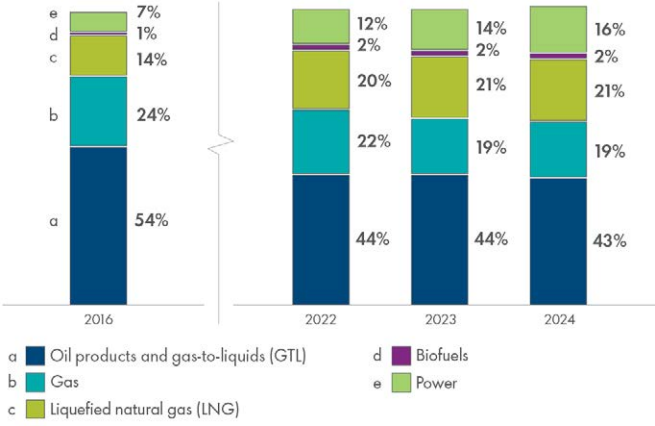
NCI performance

(equity boundary)		2024	2023	2022	2016
NCI [A] [B] [C]	gCO_2e/MJ	71	72	75	78
Estimated total energy delivered by Shell [D] [E]	trillion (10^12) MJ	15.85	16.13	16.34	20.80
Estimated total GHG emissions included in NCI (net) [F] [G]	million tonnes CO_2e	1,122	1,158	1,220	1,615
Carbon credits	million tonnes CO_2e	16.4	20.0	4.1	0
Estimated total GHG emissions (gross) [G] [H]	million tonnes CO_2e	1,139	1,178	1,225	1,615

[A] Rounded to the nearest gram of carbon dioxide equivalent per megajoule.
[B] We measure our NCI performance compared with a 2016 baseline. The NCI targets and baseline are not adjusted for the impact of acquisitions and divestments, which could have a material impact on meeting the NCI targets.
[C] In 2024, we revised the 2016 baseline NCI values from 79gCO_2e/MJ (g) to 78g. The 2022 and 2023 values were revised from 76g to 75g and from 74g to 72g respectively. (See "NCI baseline and restatement policy" on page 98.
[D] Volume of energy products sold, aggregated on an energy basis, with power represented as fossil equivalent. Energy products consist of energy oil products (gasoline, diesel, kerosene, fuel oil and LPG), GTL, biofuels, liquefied natural gas, pipeline gas and power.
[E] In 2024, consistent with revisions of NCI values, we revised the estimated total energy delivered by Shell from 16.07 trillion (10^12) MJ (t MJ) to 16.13t MJ for 2023, from 16.29t MJ to 16.34t MJ for 2022 and from 20.93t MJ to 20.80t MJ for 2016. (See "NCI baseline and restatement policy" on page 98).
[F] In 2024, consistent with revisions of NCI values, we revised the estimated total GHG emissions included in NCI (net) from 1,185 million tonnes CO_2e (mt) to 1,158mt for 2023, from 1,240mt to 1,220mt for 2022 and from 1,645 to 1,615mt for 2016. (See "NCI baseline and restatement policy" on page 98).
[G] Estimated total GHG emissions included in NCI (net) are the product of the NCI and the total energy delivered by Shell. Adding emissions offset using carbon credits gives the Estimated total GHG emissions included in NCI (gross).
[H] In 2024, consistent with revisions of NCI values, we revised the estimated total GHG emissions (gross) from 1,205 million tonnes CO_2e (mt) to 1,178mt for 2023, from 1,244mt to 1,225mt for 2022 and from 1,645mt to 1,615mt for 2016. (See "NCI baseline and restatement policy" on page 98).

As part of our strategy, we aim to increase the share of low-carbon products in our energy product sales, which is the biggest driver for reducing our NCI.

Share of estimated total energy delivered per energy product type [A, B, C]



[A] Percentage of delivered energy may not add up to 100% because of rounding.
[B] Total volume of energy products sold, aggregated on an energy basis (lower heating value) with power represented as fossil equivalents.
[C] In 2024, consistent with revisions of NCI values, the share of energy delivered through sales of biofuels was revised from 1% to 2% in 2023 and 2022. The share delivered through gas sales was revised from 20% to 19% for 2023. See "NCI baseline and restatement policy" on page 98.

Our ability to change the emissions intensity of each energy product varies, depending on the product type:

- Hydrocarbon fuels - emissions from end use by customers are by far the biggest contributors to the carbon intensity of the product. As a result, the emissions intensity of hydrocarbon fuels is expected to stay relatively unchanged over time. This is why we are focused on helping our customers decarbonise.
- Biofuels - can vary significantly in intensity depending on the feedstock and production process used.
- Power - the emissions intensity of power can be highly variable depending on how it has been generated. The proportion of our renewable power sales and the generation mix in countries where we sell power to the market both affect Shell's overall power mix and its resulting emissions intensity.

We sell more energy products than we produce ourselves. Therefore, when we calculate our emissions, we include emissions from energy products that we produce ourselves and from the products that we purchase from others for resale. This is reflected in the scope for calculation of our emissions shown in the chart on page 99.

Life-cycle carbon intensities for energy product categories included in the NCI calculation are summarised in the table below:

Carbon intensity of energy products [A]

	gCO_2e/MJ			
	2024	2023	2022	2016
Oil products and gas-to-liquids [B]	86	87	87	87
Gas [C]	66	66	66	66
Liquefied natural gas (LNG) [D]	70	70	71	73
Biofuels [E]	34	34	37	38
Power [F, G]	48	49	57	60

[A] In 2024, consistent with NCI value revisions, we revised the intensities of individual products in this table. See "NCI baseline and restatement policy" on page 98.
[B] Revised from 91gCO_2e/MJ (g) to 87g for 2023, from 91g to 87g for 2022 and from 89g to 87g for 2016.
[C] Revised from 65gCO_2e/MJ(g) to 66g for 2022 and from 67g to 66g for 2016.
[D] Revised from 70gCO_2e/MJ(g) to 71g for 2022 and from 71g to 73g for 2016.
[E] Revised from 39gCO_2e/MJ(g) to 34g for 2023, from 39g to 37g for 2022 and from 40g to 38g for 2016.
[F] Revised from 58gCO_2e/MJ(g) to 57g for 2022 and from 59g to 60g for 2016.
[G] Emissions included in the carbon intensity of power have been calculated using a market-based method.

Drivers of absolute Scope 3 emissions change in 2024

Scope 3 emissions associated with our energy product sales were 1,084 million tonnes CO_2e, compared with 1,123 million tonnes CO_2e in 2023, driven by lower sales of oil products.

Emissions from Scope 3 categories 1, 3, 9 and 11, related to the sale of energy products, are the most significant categories for Shell. Emissions from the use of our energy products (Category 11) form the largest component of our indirect Scope 3 emissions. As we sell more products than we produce or refine ourselves, the emissions associated with the products we purchase from third parties are also material, as reported under Category 1 for hydrocarbon products such as oil products, gas and LNG, and Category 3 for power. Although quantitatively less significant, emissions reported under Category 9 are significant to Shell for consistency with the boundaries of our net carbon intensity measure. Other Scope 3 categories have been assessed to be quantitatively and qualitatively insignificant.

Scope 3 emissions by category [A], [B], [C]

million tonnes CO_2e

(equity boundary)	2024	2023	2022	2016
Scope 3, Category 1: purchased goods and services [D]	119	130	136	179
Scope 3, Category 3: fuel and energy-related activities	117	112	115	89
Scope 3, Category 9: downstream transport and distribution [E, F]	3	3	3	–
Scope 3, Category 11: use of sold products [G]	845	878	909	1,252
	1,084	1,123	1,163	1,520

[A] Categorised using the definitions from the GHG Protocol's Corporate Value Chain (Scope 3) Standard.
[B] Ipieca notes that due to the diversity of Scope 3 emissions, sources and the fact that these emissions occur outside the company's boundaries, the emissions estimates may be less accurate or may have a high uncertainty.
[C] In 2024, the total of Scope 3 Categories 1,3,9 and 11 was revised for 2023 (from 1,147 million tonnes CO_2e to 1,123 million tonnes CO_2e), for 2022 (from 1,174 million tonnes CO_2e to 1,163 million tonnes CO_2e) and for 2016 (from 1,545 million tonnes CO_2e to 1,520 million tonnes CO_2e). See "Basis of preparation – absolute Scope 1, 2 and 3 emissions" on page 100-101.
[D] In 2024, we revised Scope 3 Category 1 for 2023 (from 154 million tonnes CO_2e to 130 million tonnes CO_2e), for 2022 (from 144 million tonnes CO_2e to 136 million tonnes CO_2e) and for 2016 (from 172 million tonnes CO_2 to 179 million tonnes CO_2e). See "Basis of preparation – absolute Scope 1, 2 and 3 emissions" on page 100-101.
[E] In 2024, we revised Scope 3 Category 9 for 2022 (from 5 million tonnes CO_2e to 3 million tonnes CO_2e). See "Basis of preparation – absolute Scope 1, 2 and 3 emissions" on page 100-101.
[F] An estimate of Scope 3, Category 9 could not performed for 2016.
[G] In 2024, we revised Scope 3 Category 11 for 2022 (from 910 million tonnes CO_2e to 909 million tonnes CO_2e) and for 2016 (from 1,284 million tonnes CO_2e to 1,252 million tonnes CO_2e). See "Basis of preparation – absolute Scope 1, 2 and 3 emissions" on page 100-101.

Drivers of absolute Scope 3 Category 11 oil products emissions change in 2024

In 2024, Scope 3 Category 11 emissions from the use of our oil products were 491 million tonnes CO_2e, a reduction of 5.0% compared with 2023. This reduction was driven by lower sales in our Mobility and Products businesses.

At the end of 2024, we achieved a reduction of 13.7% compared with 2021, and are progressing towards our ambition to reduce customer emissions from the use of our oil products (Scope 3, Category 11) by 15-20% by 2030 compared with 2021.

Customer emissions from the use of our oil products

million tonnes CO_2e

(equity boundary)	2024	2023	2022	2021
Scope 3, Category 11: use of sold products (oil products)	491	517	527	569

Carbon credits

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).

Of our total carbon credit retirements for 2024, 74% were certified by the Verra, Verified Carbon Standard Program (VCS), 10% by the ACR (formerly American Carbon registry), 15% by Gold Standard, and 1% via Australian Carbon Credit Units.

We carefully source and screen the credits we purchase and retire from the market.

Carbon credit retirements [A]

Million carbon credits [B]

(equity boundary)	2024	2023	2022	2016
Included in Shell's NCI metric [C]	16.4	20.0	4.1	0.0
Excluded from Shell's NCI metric [D]	0.9	1.8	1.7	0.0
	17.3	21.8	5.8	0.0

[A] Represent credits related to transactions occurring in the financial year irrespective of the actual retirement date. Retirements from registries may take place after the year-end. Excludes carbon credits transactions executed by Shell on behalf of/with third parties without a link to Shell activities.
[B] One carbon credit represents the avoidance or removal of one metric tonne of CO_2 equivalent.
[C] Carbon credits associated with the sale of energy products and carbon credits used to compensate for Shell Group emissions including operational emissions and emissions associated with the use of sold products.
[D] Carbon credits retired in relation to sales of non-energy products and Shell's internal activity like corporate travel.

Basis of preparation

NCI

Shell's NCI is the average intensity, weighted by sales volumes, of the energy products sold by Shell. It is tracked, measured and reported using Shell's Net Carbon Footprint (NCF) methodology.

NCI objective

Shell's NCI provides an annual measure of the life-cycle emissions intensity of the portfolio of energy products sold. The intended use of the NCI metric is to track progress in reducing the overall carbon intensity of the energy products sold by Shell. NCI measures emissions associated with each unit of energy we sell, compared with 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.

NCI definition

The NCI is calculated on a life-cycle basis and as such includes GHG emissions – on an equity basis – from several sources, including:

- direct GHG emissions from Shell operations;
- indirect GHG emissions from the generation of energy consumed by Shell; and
- indirect GHG emissions from the use of the products we sell.

The NCI is not a mathematical derivation of total emissions divided by total energy, nor is it an inventory of absolute emissions. It is a weighted average of the life-cycle CO_2 intensities of different energy products, normalising them to the same point relative to their final enduse. The use of a consistent functional unit, grams of carbon dioxide equivalent per megajoule (gCO_2e/MJ), allows like-for-like comparisons and the aggregation of individual life-cycle intensities for a range of energy products including renewable power.

Emissions from other parts of the product life cycle are also included, such as those from the extraction, transport and processing of crude oil, gas or other feedstocks and the distribution of products to our customers. Also included are emissions from parts of this life cycle not owned by Shell, such as the extraction of oil and gas processed by Shell but not produced by Shell; or from the production of oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility.

We also take into account emissions offset through the use of carbon credits and mitigation actions such as the use of CCS technology.

See "Scope of NCI" on page 99 for details of the supply chains and steps in the product life cycles that are included in the Net Carbon Footprint methodology.

The following GHG emissions are not included in the NCI:

- emissions from production, processing, use and end-of-life treatment of non-energy products, such as chemicals and lubricants;
- emissions from third-party processing of sold intermediate products, such as the manufacture of plastics from feedstocks sold by Shell;
- emissions associated with the construction and decommissioning of production and manufacturing facilities;
- emissions associated with the production of fuels purchased to generate energy on-site at a Shell facility;
- other indirect emissions from waste generated in operations, business travel, employee commuting, transmission and distribution losses associated with imported electricity, franchises and investments; and
- emissions from capital goods, defined by the GHG Protocol as including fixed assets or property, plant and equipment, and other goods and services not related to purchased energy feedstocks sourced from third parties or energy products manufactured by third parties and sold by Shell.

The NCI calculation uses Shell's energy product sales volumes data, as disclosed in this Report. This excludes certain sales volumes such as:

- certain contracts held for trading purposes reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded; and
- retail sales volumes from markets where Shell operates under trademark licensing agreements.

The energy products included in the NCI calculation are oil products, (gasoline, diesel, kerosene, fuel oil and LPG), GTL, biofuels, LNG, pipeline gas and power.

We review the NCI methodology annually to ensure it reflects changing energy products, relevant data inputs and simplification opportunities. See our Net Carbon Footprint (NCF) methodology documentation on shell.com for further information.

NCI baseline and restatement policy

We measure our NCI performance compared with a 2016 baseline. The NCI targets and baseline are not adjusted for the impact of acquisitions and divestments, which could have a material impact on meeting the NCI targets. The 2016 baseline may be recalculated as a result of changes in estimates with a cumulative impact of 2% or more on the NCI value in any historically disclosed year.

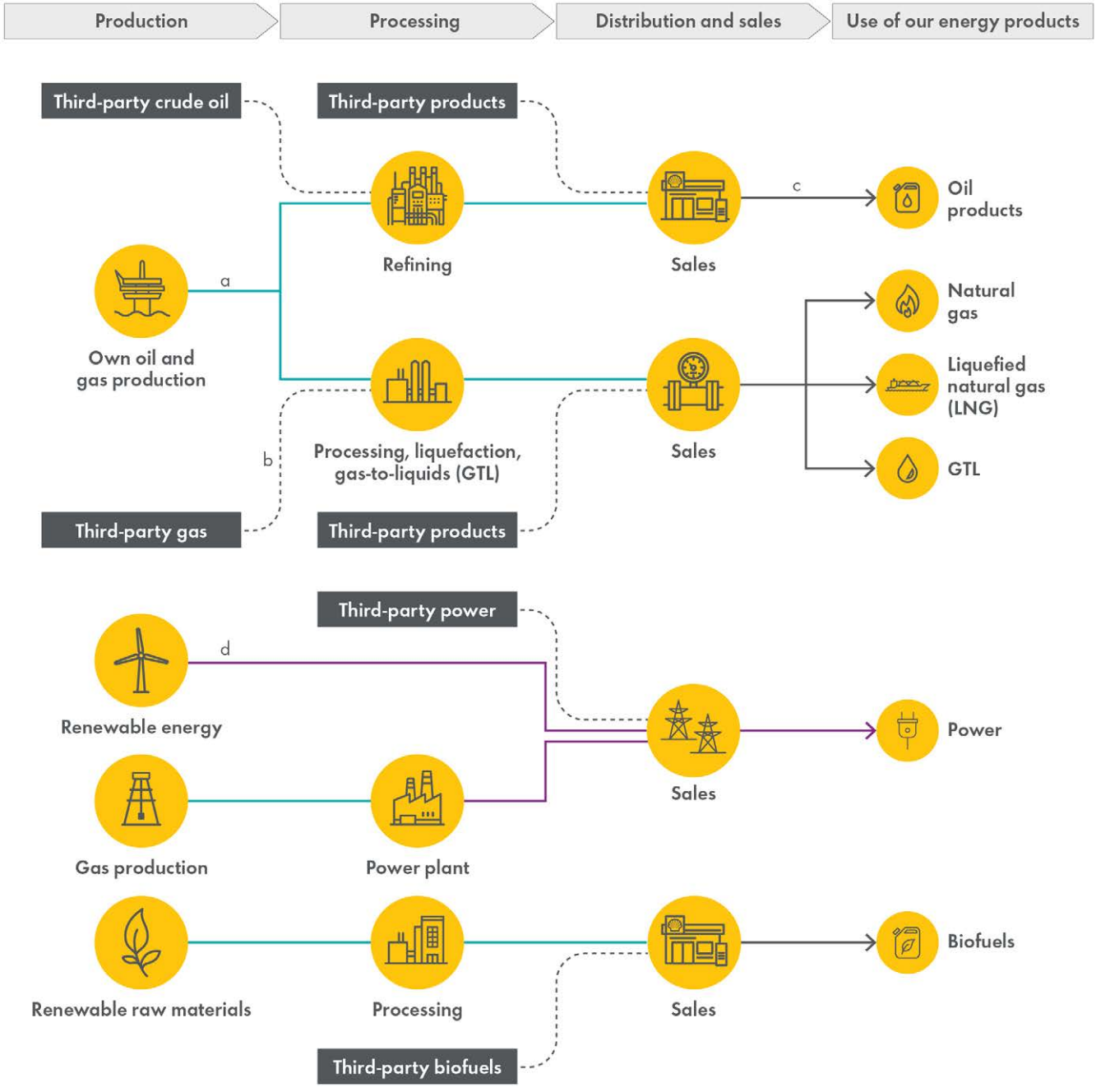
In 2024, the 2% cumulative restatement threshold was met, triggered by changes in external data sources for the third-party upstream and refining intensities used in our calculation of life-cycle product intensities.

Accordingly NCI values were revised for the following years:

- 2016: from 79g to 78gCO_2e/MJ (Baseline)
- 2017: from 79g to 78gCO_2e/MJ
- 2018: from 79g to 78gCO_2e/MJ
- 2019: from 78g to 77gCO_2e/MJ
- 2020: from 75g to 74gCO_2e/MJ
- 2021: from 77g to 76gCO_2e/MJ
- 2022: from 76g to 75gCO_2e/MJ
- 2023: from 74g to 72gCO_2e/MJ

These changes did not impact the NCI performance outcomes compared with interim reduction targets in 2022 and 2023 or preceding years. Compared with the revised 2016 baseline, the percentage reduction achieved in 2022 remains 3.8%, within the target of 3-4% for that year. The percentage reduction achieved in 2023 was revised from 6.3% to 7.7%, still within the target of 6–8% for that year.

Scope of NCI


Production
Processing
Distribution and sales
Use of our energy products
Third-party crude oil
Third-party products
Refining
Sales
c
Oil products
a
Own oil and gas production
Natural gas
Liquefied natural gas (LNG)
GTL
Processing, liquefaction, gas-to-liquids (GTL)
Sales
b
Third-party gas
Third-party products
Third-party power
d
Renewable energy
Power
Sales
Gas production
Power plant
Renewable raw materials
Processing
Sales
Biofuels
Third-party biofuels
Scope includes Shell's CO_2 sinks such as carbon capture and storage (CCS) and nature-based solutions (NBS)
a Emissions from bringing own products to market
b Emissions from bringing third-party products to market
c Emissions from use of sold products
d Power distribution

Basis of preparation – absolute Scope 1, 2 and 3 emissions

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.
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.

GHG emissions comprise CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride, with CO_2 and methane being the most significant contributors.

Scope 1 and 2 emissions

Our GHG inventory is prepared in line with the requirements outlined in the ISO 14064-1:2018 Specification with Guidance at the Organizational 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 GHG emissions into tonnes of CO_2 equivalent by applying global warming potential (GWP) factors to non-CO_2 GHGs. With effect from 2023, these factors are taken from the IPCC's Fifth Assessment Report (AR5) over a 100-year time period, as required by the UK Government GHG Conversion Factors for Company Reporting. GHG emissions are aggregated and consolidated from emission source. All operated assets are included in our 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 and gas turbines) for energy generation;
- combustion of carbon-containing fuels in mobile equipment (e.g. trucks, vessels and mobile rigs);
- flares;
- venting and emissions from industrial processes (e.g. hydrogen plants and 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:

- CO_2 emissions from biogenic sources such as biofuels or biomass (however methane and nitrous oxide emissions from biogenic sources are included);
- captured CO_2 that was subsequently sold or otherwise transferred to third parties;
- CO_2 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.

Carbon credits

Our target to halve total Scope 1 and 2 GHG emissions by 2030 has been set on a net basis, including emissions offset by carbon credits.

In 2024, carbon credits were used for compliance with the requirements of the Australian Safeguard Mechanism, resulting in an offset of 0.1 million tonnes CO_2e related to Scope 1 emissions under our operational control.

Baseline and restatement policy

We measure our total combined Scope 1 and 2 GHG emissions performance compared with a 2016 baseline, on a net basis. The 2016 baseline may be recalculated if an acquisition or a divestment has an impact of more than 10% on total Scope 1 and 2 emissions. There was no such event in 2024.

Scope 3 emissions

This Report provides Scope 3 emissions associated with our energy product sales. Emissions were consolidated using the equity boundary approach. Under this approach, we reported the Shell share of emissions from energy products sold, including those sourced from third parties.

Emissions from Scope 3 categories 1, 3, 9 and 11, related to the sale of energy products, are the most significant categories for Shell. Emissions from the use of our energy products (Category 11) form the largest component of our indirect Scope 3 emissions. As we sell more products than we produce or refine ourselves, the emissions associated with the products we purchase from third parties are also material, as reported under Category 1 for hydrocarbon products such as oil products, gas and LNG, and Category 3 for power. Although quantitatively less significant, emissions reported under Category 9 are significant to Shell for consistency with the boundaries of our net carbon intensity measure. Other Scope 3 categories have been assessed to be quantitatively and qualitatively insignificant.

Consistent with our revisions of NCI historical data, we revised Scope 3 emissions under Categories 1, 9 and 11, as applicable, for years 2016, 2022 and 2023 in this Report. There was no change to previously published Scope 3 emissions Category 11 Oil products. See "NCI baseline and restatement policy" on page 98 for details.

The calculation of Scope 3 Category 11 emissions uses energy product sales volumes data, disclosed in this Report where relevant. These sales volumes exclude certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies have been applied to net volumes of oil products, pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are not included in the sales volumes reported by Shell and are therefore excluded from Scope 3 emissions.

Scope 3, Category 1: purchased goods and services

This category includes well-to-tank emissions from purchased third-party unfinished and finished energy products excluding electricity (which is reported separately under Category 3: fuel and energy-related activities and not included in Scope 1 or Scope 2). Emissions from purchased non-energy products are not included.

Emissions in this category are estimated using well-to-tank emission factors for crude oil, natural gas, refined oil products (such as gasoline, and diesel), LNG and biofuels. Because the emission factors include transport, we do not estimate emissions from the transport of purchased third-party products separately.

In 2024, Category 1 emissions were revised for the following years:

- 2016: from 172 million tonnes CO_2e to 179 million tonnes CO_2e
- 2020: from 147 million tonnes CO_2e to 150 million tonnes CO_2e
- 2021: from 147 million tonnes CO_2e to 142 million tonnes CO_2e
- 2022: from 144 million tonnes CO_2e to 136 million tonnes CO_2e
- 2023: from 154 million tonnes CO_2e to 130 million tonnes CO_2e