Metrics and data

Greenhouse gas emissions performance data

We assess our performance to support continuous improvement throughout the organization using our Environmental Performance Indicator (EPI) process. The reporting guidelines and indicators in the Ipieca, the American Petroleum Institute (API), the International Association of Oil and Gas Producers Sustainability Reporting Guidance for the Oil and Gas Industry (4th edition, 2020, revised February 2023), and key chapters of the GHG Protocol inform the EPI and the selection of the data included in this performance table. The following data table is based upon IPCC AR6.[1,2]

Indicator	Units	2016	2019	2020	2021	2022	2023
Operated Basis							
GREENHOUSE GAS							
GHG emission intensity (Scope 1 + Scope 2)*	(metric tons CO_2e per 100 metric tons of throughput or production)	26.4	25.6	25.0	24.4	23.4	23.3
Upstream*	(metric tons CO_2e per 100 metric tons of production)	29.3	26.7	24.8	23.6	22.5	22.2
Downstream	(metric tons CO_2e per 100 metric tons of throughput)	20.0	19.8	20.2	20.2	19.4	19.2
Chemical	(metric tons CO_2e per 100 metric tons of production)	52.6	52.6	51.2	48.9	47.9	49.4
GHG emissions (Scope 1 + Scope 2)	(million metric tons CO_2e)	117	109	102	103	100	98
Upstream	(million metric tons CO_2e)	53	47	44	43	40	38
Downstream	(million metric tons CO_2e)	46	42	40	41	41	41
Chemical	(million metric tons CO_2e)	19	19	19	19	19	20
Scope 1 GHG emissions[3]	(million metric tons CO_2e)	109	101	95	97	96	92
CO_2	(million metric tons CO_2)	99	94	90	92	92	88
CH_4	(million metric tons CO_2e)	9	7	5	5	4	3
Other gases	(million metric tons CO_2e)	<1	<1	<1	<1	<1	<1
CO_2 Biogenic	(million metric tons CO_2)	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Scope 2 GHG emissions (location-based)[4]	(million metric tons CO_2e)	8	8	7	7	7	7
Scope 2 GHG emissions (market-based)[5]	(million metric tons CO_2e)	8	8	7	7	4	6
Energy attribute certificates (RECs, GOOs)	(million metric tons CO_2e)	0	<1	<1	1	3	1
Net GHG (Excludes exported power and heat)[6]	(million metric tons CO_2e)	114	106	100	101	98	96
GHG Emissions from exported power and heat	(million metric tons CO_2e)	3	2	2	2	2	2
CO_2 - captured for storage[7]	(million metric tons CO_2)	6	6	6	6	6	6
METHANE							
Methane (CH_4) Intensity*	(metric tons CH4 per 100 metric tons of throughput or production)	0.07	0.05	0.04	0.04	0.03	0.02
Methane (CH_4)	(million metric tons CH_4)	0.30	0.22	0.16	0.16	0.14	0.10

Indicator	Units	2016	2019	2020	2021	2022	2023
Operated Basis (continued)							
FLARING							
Hydrocarbon flaring Intensity*	(m^3 per metric tons of throughput/production)	12	10	8	7	6	5
Hydrocarbon flaring	(million standard cubic feet per day)	530	430	320	280	250	220
Africa/Europe/Middle East	(million standard cubic feet per day)	400	230	170	170	130	120
Americas	(million standard cubic feet per day)	70	160	120	80	80	70
Asia Pacific	(million standard cubic feet per day)	60	40	30	30	30	30
Scope 1 - Greenhouse gas emissions from flaring	(million metric tons CO_2e)	16	12	10	8	7	6
ENERGY							
Energy use	(billion gigajoules)	1.5	1.5	1.5	1.5	1.5	1.4
Upstream Energy Intensity	(gigajoules per metric tons production)	2.4	2.5	2.5	2.4	2.1	2.2
Downstream Energy Intensity	(gigajoules per metric tons throughput)	2.9	3.1	3.3	3.4	3.3	3.1
Chemical Energy Intensity	(gigajoules per metric tons product)	10.3	10.2	11.3	10.0	11.1	10.5
Equity Basis							
GREENHOUSE GAS							
GHG emissions intensity (Scope 1 + Scope 2)	(metric tons CO_2e per 100 metric tons of throughput or production)	26.0	25.8	25.7	25.5	24.2	24.0
Upstream	(metric tons CO_2e per 100 metric tons production)	26.6	25.7	24.9	24.6	22.9	22.4
Downstream	(metric tons CO_2e per 100 metric tons of throughput)	20.2	19.8	20.3	20.6	19.9	19.6
Chemical	(metric tons CO_2e per 100 metric tons production)	54.7	55.4	54.7	51.8	50.8	53.1
GHG emissions (Scope 1 + Scope 2)	(million metric tons CO_2e)	129	123	115	118	113	111
Upstream	(million metric tons CO_2e)	59	56	52	52	49	46
Downstream	(million metric tons CO_2e)	47	43	40	42	42	42
Chemical	(million metric tons CO_2e)	22	24	23	23	23	23
Scope 1 GHG Emissions[3]	(million metric tons CO_2e)	120	114	108	111	109	104
CO_2	(million metric tons CO_2)	111	107	102	105	104	101
CH_4	(million metric tons CO_2e)	9	7	6	5	5	3
Other gases	(million metric tons CO_2e)	<1	<1	<1	<1	<1	<1
CO_2 Biogenic	(million metric tons CO_2)	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Scope 2 GHG emissions (location-based)[4]	(million metric tons CO_2e)	8	8	8	8	7	7
Scope 2 GHG emissions (market-based)[5]	(million metric tons CO_2e)	8	8	7	7	4	7
Energy attribute certificates (RECs, GOOs)	(million metric tons CO_2e)	0	<1	<1	1	3	1
Net GHG (Excludes exported power and heat)[6]	(million metric tons CO_2e)	125	120	112	115	110	108
GHG Emissions from exported power and heat	(million metric tons CO_2e)	3	3	3	3	3	3
CO_2 - captured for storage[7]	(million metric tons CO_2)	6	7	7	7	7	7
METHANE							
Methane (CH_4) intensity	(metric tons CH_4 per 100 metric tons of throughput or production)	0.06	0.05	0.04	0.04	0.03	0.02
Methane (CH_4)	(million metric tons CH_4)	0.29	0.24	0.19	0.18	0.15	0.11

Lloyd's Register Quality Assurance has provided their independent limited level of assurance that the 2022 ExxonMobil greenhouse gas emissions inventory meets ISO 14064-3 expectations. LRQA Independent Assurance Statement

*ExxonMobil announced greenhouse gas emission-reduction plans[8] compared to 2016 levels.