

Data

The following table presents Aramco’s sustainability metrics for the years 2022, 2021, and 2020. Reporting boundaries for each metric and for each year are shown for transparency, and where possible, comparability.

There are three common terms used in reference to the metrics’ reporting boundaries and the definitions of the commonly used terms are:

Company in-Kingdom — Saudi Arabian Oil Company in-Kingdom wholly-owned operated assets.

Operational control — Saudi Arabian Oil Company in-Kingdom wholly-owned operated assets, SASREF, Motiva, ARLANXEO, Aramco Trading Company (ATC), Aramco Services Company (ASC), Aramco Overseas Company B.V. (AOC) and Saudi Aramco Asia Company Ltd. (SAAC).


Group — Saudi Arabian Oil Company, together with its consolidated subsidiaries, and where the context requires, its joint operations, joint ventures and associates.



For more information on our metrics, see our [sustainability data](#) on our website.

Scan here


Our metrics


Material topic	Metric definition (unit of measure)	2022 actual	2022 boundaries	2021 actual	2021 boundaries	2020 actual	2020 boundaries
 Climate change and the energy transition							
Climate change	Scope 1 emissions (million metric tonnes of CO ₂ e)	55.7 ^{1,2}	Operational control excluding ATC, ASC, AOC and SAAC	52.3 ^{1,2}	Operational control excluding ATC, ASC, AOC and SAAC	50.2 ^{1,2,3}	Operational control excluding ATC, ASC, AOC and SAAC
Climate change	Scope 2 emissions (million metric tonnes of CO ₂ e) Location-based	16.1 ^{1,2}	Operational control excluding ATC, ASC, AOC and SAAC	15.5 ^{1,2}	Operational control excluding ATC, ASC, AOC and SAAC	18.1 ^{1,2,3}	Operational control excluding ATC, ASC, AOC and SAAC
Climate change	Scope 2 emissions (million metric tonnes of CO ₂ e) Market-based ^{*4}	10.3 ^{1,2}	Operational control excluding ATC, ASC, AOC and SAAC		Metric not disclosed previously		
Climate change	Upstream carbon intensity ⁵ (ratio of total upstream GHG emissions (Scopes 1 and 2) to production marketed ⁶ , kg CO ₂ e/boe) Location-based	10.3 ¹	Operational control	10.7 ¹	Operational control	10.6 ³	Operational control
Climate change	Upstream methane emissions ⁵ (metric tonnes of CH ₄)	29,193	Operational control	26,754	Operational control	26,424 ³	Operational control
Climate change	Upstream methane intensity ⁵ (methane emissions from upstream operations per volume of marketed natural gas, %)	0.05	Operational control	0.05	Operational control	0.06 ³	Operational control

* Metric reported for the first time externally.

1. This figure has undergone external limited assurance in accordance to the ISAE 3000 (revised). The assurance report can be found [online here](#).
2. The Jazan Refinery (our downstream refinery) is excluded from our GHG reporting. In 2022, it remains in the startup and stabilization phase and is not fully operational, Aramco is working to stabilize the refinery's operations and complete all necessary reporting configurations before the end of 2023. Reporting on the refinery's environmental and sustainability elements will commence immediately thereafter, in line with the company's commitment to operational transparency.
3. Fadhili Gas Plant is excluded from 2020 GHG emissions inventory.
4. In 2022, we also adopted a market-based methodology for our Scope 2 emissions, as per the GHG Protocol Scope 2 Guidance.
5. For this metric, the reporting boundary has been reclassified from Company in-Kingdom to operational control for 2022, 2021 and 2020. All of the company's upstream operations are in the Kingdom of Saudi Arabia, therefore for this metric, Company in Kingdom and operation control are the same.
6. The methodology of this metric is the same as previous years and no change in figures. However, the term 'production sold' has been renamed to 'production marketed' to align with our reporting to the OGCI Reporting Framework (Version 3.6, March 2022).

Our metrics

Material topic	Metric definition (unit of measure)	2022 actual	2022 boundaries	2021 actual	2021 boundaries	2020 actual	2020 boundaries
 Climate change and the energy transition							
Climate change	Flaring intensity ² (volume of hydrocarbon gas flared per barrel of oil equivalent produced, scf/boe)	4.60 ^{1,3}	Operational control	5.51 ³	Operational control	5.97 ^{3,4}	Operational control
Climate change	Flared gas ² (MMscf)	23,818 ³	Operational control	25,825 ³	Operational control	26,995 ^{3,4}	Operational control
Climate change	Energy intensity (ratio of total net energy consumption and total production, thousand Btu/boe)	146.2 ⁵	Operational control	116.6 ^{1,3}	Company in-Kingdom	112.4 ^{1,3,4}	Company in-Kingdom

 Safe operations and people development							
Workforce protection	Number of fatalities	5 ¹	Operational control	1 ¹	Operational control	1 ¹	Company in-Kingdom
Workforce protection	Lost time injuries/illnesses rate (number of LTI cases x 200,000/total work hours)	0.014 ¹	Operational control	0.017	Operational control	0.011	Company in-Kingdom
Workforce Protection	Total recordable case frequency (total recordable incidents x 200,000/total work hours)	0.050	Operational control	0.054	Operational control	0.044	Company in-Kingdom
Workforce protection	Health performance* (number of overdue major health findings) x (100)/total number of open major health findings (%)	15 ¹	Operational control excluding ATC, ASC, AOC and SAAC	15	Operational control excluding ATC, ASC, AOC and SAAC	20	Operational control excluding ATC, ASC, AOC and SAAC
Process safety and asset integrity	Number of Tier 1 process safety events	11	Operational control	11	Operational control	9	Company in-Kingdom

* Metric reported for the first time externally.


1. This figure has undergone external limited assurance in accordance to the ISAE 3000 (revised). The assurance report can be found [online here](#).

2. For this metric, the reporting boundary has been reclassified from operational control excluding ATC, ASC, AOC and SAAC to operational control for 2022, 2021 and 2020. This is because ATC, ASC, AOC and SAAC have no flaring emissions.

3. The Jazan Refinery (our downstream refinery) is excluded from our GHG reporting. In 2022, it remains in the startup and stabilization phase and is not fully operational. Aramco is working to stabilize the refinery's operations and complete all necessary reporting configurations before the end of 2023. Reporting on the refinery's environmental and sustainability elements will commence immediately thereafter, in line with the company's commitment to operational transparency.

4. Fadhili Gas Plant is excluded from 2020 GHG emissions inventory.


5. As we progress on our reporting journey and our controls around ESG data mature, for this metric from 2022 onwards, we have expanded the reporting boundary from Company in-Kingdom to operational control. The 2021 and 2020 figures are at a Company in-Kingdom level only. In 2022, at a Company in-Kingdom level, the energy intensity was 112.9 thousand Btu/boe.

Material topic	Metric definition (unit of measure)	2022 actual	2022 boundaries	2021 actual	2021 boundaries	2020 actual	2020 boundaries
 Safe operations and people development							
Human rights	Number of grievances raised*	293	Company in-Kingdom	236	Company in-Kingdom	297	Company in-Kingdom
Human rights	Sites with a grievance mechanism in place* (%)	100	Company in-Kingdom	100	Company in-Kingdom	100	Company in-Kingdom
Labor practices	Attrition rate* (%)	2.4	Company in-Kingdom	2.8	Company in-Kingdom	7.8	Company in-Kingdom
Labor practices	Number of company employees	70,496	Company in-Kingdom	68,493	Company in-Kingdom	66,800	Company in-Kingdom
Labor practices	Number of female employees*	4,503	Company in-Kingdom	3,802	Company in-Kingdom	3,400	Company in-Kingdom
Labor practices	Female (%) of total employees	6.4	Company in-Kingdom	5.6 ¹	Company in-Kingdom	5.1 ¹	Company in-Kingdom
Labor practices	Number of female employees in leadership positions*	176	Company in-Kingdom	136	Company in-Kingdom	110	Company in-Kingdom
Labor practices	Female (%) of total number of new hires*	28.4%	Company in-Kingdom	31.2%	Company in-Kingdom	34.1%	Company in-Kingdom
Labor practices	Female employees (%) of leadership positions	3.8	Company in-Kingdom	3.1	Company in-Kingdom	2.7	Company in-Kingdom
Labor practices	Number of contractor employees* (Supplementary man power)	7,639	Company in-Kingdom	6,339	Company in-Kingdom	6,365	Company in-Kingdom
Labor practices	Employees receiving regular performance reviews (%)	90.6	Company in-Kingdom	96.8	Company in-Kingdom	98.4	Company in-Kingdom
Labor practices	Employee engagement score* (%)	85%	Company in-Kingdom	N/A as this survey is done every two years		85%	Company in-Kingdom
Labor practices	Number of hired graduates	1,459	Company in-Kingdom	1,447	Company in-Kingdom	460	Company in-Kingdom
Labor practices	Number of apprentices	1,728	Company in-Kingdom	1,369	Company in-Kingdom	1,001	Company in-Kingdom
Labor practices	Number of interns	3,190	Company in-Kingdom	1,922	Company in-Kingdom	641	Company in-Kingdom
Labor practices	Total hours of training and development* (million)	13.0	Company in-Kingdom	12.8	Company in-Kingdom	12.1	Company in-Kingdom
Labor practices	Average hours of training and development* (per employee)	183	Company in-Kingdom	188	Company in-Kingdom	176	Company in-Kingdom

* Metric reported for the first time externally.

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Our metrics

Material topic	Metric definition (unit of measure)	2022 actual	2022 boundaries	2021 actual	2021 boundaries	2020 actual	2020 boundaries
 Minimizing environmental impact							
Local environmental impact	Number of hydrocarbon spills Total number of accidental release events of liquid petroleum hydrocarbon into the environment, where the spill incident is > 1 bbl	15	Operational control	13	Operational control	6	Operational control
Local environmental impact	Volume of hydrocarbon spills Total volume of liquid petroleum hydrocarbon accidentally released into the environment, where the spill incident is > 1 bbl	142,885 ¹	Operational control	14,447	Operational control	134	Operational control
Local environmental impact	Recovered hydrocarbon Percentage of liquid petroleum hydrocarbon removed from the environment through recovery methods* (%)	9 ¹	Operational control	94	Operational control	Metric not disclosed previously	
Local environmental impact	Hydrocarbon discharge to water ² The total of hydrocarbons that are systematically released to surface water through regulated industrial wastewater discharges (barrels)	16.4 ¹	Operational control	30.7	Operational control	20.2	Operational control
Local environmental impact	SO ₂ emissions ^{3,4} Quantity of sulfur dioxide (SO ₂) (kilotonnes)	167 ¹	Operational control	141	Operational control	163	Operational control
Local environmental impact	Number of sites with ISO 14001 certification* (%)	98 ¹	Operational control		Metric not disclosed previously		


* Metric reported for the first time externally.

1. This figure has undergone external limited assurance in accordance to the ISAE 3000 (revised). The assurance report can be found [online here](#).

2. As we progress on our reporting journey and our controls around ESG data mature, for this metric, we have expanded the reporting boundary from Company in-Kingdom to operational control. To allow comparability, we have restated the 2021 and 2020 figures in line with the expanded reporting boundary.

3. The Jazan Refinery (our downstream refinery) is excluded from our SO₂ emissions reporting. In 2022, it remains in the startup and stabilization phase and is not fully operational. Aramco is working to stabilize the refinery's operations and complete all necessary reporting configurations before the end of 2023. Reporting on the refinery's environmental and sustainability elements will commence immediately thereafter, in line with the company's commitment to operational transparency.

4. For this metric, the reporting boundary has been reclassified from operational control excluding ATC, ASC, AOC and SAAC to operational control for 2022, 2021 and 2020. This is because ATC, ASC, AOC and SAAC are office-based entities and therefore, have no SO₂ emissions.


Material topic	Metric definition (unit of measure)	2022 actual	2022 boundaries	2021 actual	2021 boundaries	2020 actual	2020 boundaries
 Minimizing environmental impact							
Biodiversity	Net positive impact* (total biodiversity areas (km ²)/Footprint area (km ²) x 100) (%)	53 ¹	Operational control				Metric not disclosed previously
Water management	Freshwater consumption ² (million m ³) The difference between the volume of freshwater removed from the environment, incl. surface water, groundwater, for use in operations, and freshwater returned to the source. The total dissolved solids concentration of this type of water is up to 2,000 mg/l	93.6 ¹	Operational control excluding ATC, ASC, AOC and SAAC	94.6	Operational control excluding ATC, ASC, AOC and SAAC	90.2	Operational control excluding ATC, ASC, AOC and SAAC
Water management	Freshwater withdrawal ² (million m ³)	136.6	Operational control excluding ATC, ASC, AOC and SAAC	137.3	Operational control excluding ATC, ASC, AOC and SAAC	142.9	Operational control excluding ATC, ASC, AOC and SAAC
Product stewardship and waste management	Industrial waste generated ² The total amount of industrial waste, hazardous and non-hazardous, generated from operating facilities, not including waste recycling, re-using, and recovery (metric tonnes)	318,656	Operational control	240,225	Operational control	313,348	Operational control
Product stewardship and waste management	Industrial waste recycled* (%)	39.9 ¹	Operational control	39.8	Operational control	49.5	Operational control

* Metric reported for the first time externally.

1. This figure has undergone external limited assurance in accordance to the ISAE 3000 (revised). The assurance report can be found [online here](#).

2. As we progress on our reporting journey and our controls around ESG data mature, for this metric, we have expanded the reporting boundary beyond just Company In-Kingdom. To allow comparability, we have restated the 2021 and 2020 figures in line with the expanded reporting boundary.

Our metrics


Material topic	Metric definition (unit of measure)	2022 actual	2022 boundaries	2021 actual	2021 boundaries	2020 actual	2020 boundaries
 Growing societal value							
Labor practices	Number of people on Aramco sponsored programs* ¹	12,160	Company in-Kingdom	9,010	Company in-Kingdom	737	Company in-Kingdom
National content	Saudization (%)	90.9	Company in-Kingdom	90.5	Company in-Kingdom	89.6	Company in-Kingdom
National content	Saudization of construction contracts (%) Percentage of construction saudi contractors relative to the total construction contractors workforce in Saudi Arabia	28.0	Company in-Kingdom	25.6	Company in-Kingdom	21.6	Company in-Kingdom
National content	Saudization of service contracts (%) Percentage of Saudi service contractors relative to the total service contractors workforce in Saudi Arabia	57.2	Company in-Kingdom	56.6	Company in-Kingdom	51.0	Company in-Kingdom
National content	iktva procurement spend within the Kingdom (%)	63.0	Company in-Kingdom	59.0	Company in-Kingdom	57.5	Company in-Kingdom
Human rights	% of active suppliers signed up to Aramco's Supplier Code of Conduct*	100%	Company in-Kingdom	100%	Company in-Kingdom	100%	Company in-Kingdom
Human rights	Number of active suppliers*	3,199	Company in-Kingdom		Metric not disclosed previously		
Community and society	Social investment** ² (\$ million)	370	Operational control		Metric not disclosed previously		
Community and society	Number of volunteers*	4,941 ³	Operational control	4,153	Company in-Kingdom	1,503	Company in-Kingdom
Community and society	Number of volunteer hours*	168,590 ³	Operational control	136,284	Company in-Kingdom	52,408	Company in-Kingdom
Economic contribution	Direct economic value generated and distributed ² :		Group		Group		Group
	– Revenue (\$ million)	535,188		359,181		204,829	
	– Other income related to sales (\$ million)	69,178		41,287		25,062	

* Metric reported for the first time externally.

1. These programs include the Vocational College Internship Program (VCIP), University Internship Program (UIP), Summer enrichment program, Tomooh program, Advantage program, and ACCEL International Ajyal Center.

2. This metric is converted at a fixed rate of U.S. dollar 1.00 = SAR 3.75 for convenience only.

3. As we progress on our reporting journey and our controls around ESG data mature, for this metric from 2022 onwards, we have expanded the reporting boundary from Company in-Kingdom to operational control. The 2021 and 2020 figures are at a Company in-Kingdom level only. In 2022, at a Company in-Kingdom level, the number of volunteers were 4,397 and the number of volunteer hours were 166,734.

Material topic	Metric definition (unit of measure)	2022 actual	2022 boundaries	2021 actual	2021 boundaries	2020 actual	2020 boundaries
 Growing societal value							
Economic contribution	– Operating costs (\$ million)	299,279		194,624		127,662	
	– Employee wages and benefits (\$ million)	14,665		14,066		13,670	
	– Dividends paid (\$ million)	78,863		76,911		69,841	
	– Payments to government (\$ million)	225,866		148,542		110,076	
Economic contribution	Total R&D spend ¹ (\$ million)	1,178	Group	1,033	Group	755	Group
Governance							
Corporate governance	Board composition by average age	63	Group	62	Group	61	Group
Corporate governance	Board composition by average tenure	6	Group	5	Group	5.6	Group
Corporate governance	Board members' average attendance* (%)	100	Group	97	Group	98	Group
Corporate governance	Number of independent Board members*	5	Group	5	Group	5	Group
Corporate governance	Board diversity* (number of females on the Board)	1	Group	1	Group	1	Group
Ethics, anti-bribery and anti-corruption (compliance)	Number of allegations received through the 24-hour hotline	655	Company in-Kingdom	539	Company in-Kingdom	619	Company in-Kingdom
Ethics, anti-bribery and anti-corruption (compliance)	Anti-bribery and anti-corruption training hours	22,575	Company in-Kingdom	7,300	Company in-Kingdom	Metric not disclosed previously	

* Metric reported for the first time externally in our Sustainability Report.

1. This metric is converted at a fixed rate of U.S. dollar 1.00 = SAR 3.75 for convenience only.