

aramco

Investing in growth
Innovating for sustainability

Aramco
Sustainability Report 2023
Executive Summary

Investing in growth, innovating for sustainability

In 2023, we celebrated the 90th anniversary of the Kingdom signing the Concession agreement. This milestone provided the opportunity to celebrate Aramco's longevity and enduring success, and to reflect on our values and ambition to build a better future and long-term prosperity for our communities, our customers and our stakeholders. The energy transition is one of the defining challenges of our time, and Aramco takes it seriously.

Our response to this challenge is demonstrated through our actions, and we have put sustainability at the heart of our business strategy. In a world of increasing energy demand, we will continue to deliver conventional energy with lower carbon intensity, through various pathways, including improving the energy efficiency of our upstream and downstream operations, minimizing flaring and using innovative technologies to further reduce our greenhouse gas emissions (GHG) across our operations. These efforts have led us to attain and maintain an upstream carbon intensity (9.6** kg CO₂e/boe under the market-based method and 10.7** kg CO₂e/boe under the location-based) that ranks among the lowest in our industry.

Our low upstream carbon intensity competitive advantage was evident in 2023, when we delivered our first independently-verified carbon offset crude cargo, a pilot shipment of 2MM bbl of Arabian Light crude oil with tracked product-level carbon emissions. This shipment, the first of its kind in the Middle East, entailed a calculation of carbon intensity of 2.42** kg CO₂e/boe for the production and loading stages.

In addition, we are exploring new lower-emission energy sources through innovative technologies and solutions.

This will both reduce GHG emissions and diversify our product portfolio.

Environmental stewardship is integral to our approach. From air to water to waste, we are applying circular economy principles to reduce impacts, restore ecosystems, and increase biodiversity. In 2023, we have met and exceeded our interim target of achieving 30% increase in biodiversity net positive impact against our 2022 baseline, with the expansion of our Biodiversity Protected Areas (BPAs). We are implementing various initiatives to conserve natural water resources and reduce dependency on non-renewable water supply in pursuit of our water neutrality aspiration, while working to meet our corporate waste management strategy milestones.

In 2023, we continued delivering on our diversity aspiration with an increase in both the number of females in workforce and in leadership positions.

We actively promote a culture that values employee health and well-being and we enforce strict safety protocols in all of our facilities and workplaces. We are also working to embed our values and working standards throughout our supply chain, via engagements with our contractors, partners, and suppliers.

Our commitment to growing societal value saw us working to build local capacities and investing in local citizens while creating values for host communities where we operate through social investment programs. This includes our supply chain localization efforts, in which Aramco has played a central role since its inception 90 years ago. As we expand our business globally, we will continue to mobilize our capabilities and allocate resources where they can make a tangible and positive difference to people's lives.

Our goal is to facilitate a transition towards a lower-carbon future, while continuing to create value for our shareholders and stakeholders, and leave a positive legacy for future generations.

H.E. Yasir O. Al-Rumayyan
Chairman of the Board of Directors



We remain steadfast in maintaining a strong culture of fostering world-class pool of talent, developing future leaders, and ensuring the safety of our operations while embracing the diversity of our workforce.

Amin H. Nasser
President and CEO



** This figure has undergone external limited assurance in accordance to the ISAE 3000 (revised). The assurance report can be found [online](#) on the Sustainability section of our website.

Sustainability at Aramco

Aramco's sustainability framework is articulated around four focus areas where we have the greatest influence, in order to create long-term real positive impact. The framework outlines our sustainability focus areas, identified through the conducted materiality assessment and extensive stakeholder engagement.

Each of these focus areas supports Aramco's corporate strategy and aligns with both Saudi Arabia's Vision 2030 and the UN Sustainable Development Goals.

Our sustainability focus areas and sustainability performance is overseen by governance provided by our Board of Directors. For more information on our governance, relevant material topics and our governance metrics, please refer to page 94 in our 2023 Sustainability Report, and page 90 in our 2023 Annual Report.





Climate change and the energy transition

We aim to provide affordable and reliable energy and remain one of the lowest upstream carbon intensity producers of hydrocarbon products, while we continue advancing towards our ambition of achieving net-zero Scope 1 and Scope 2 GHG emissions across wholly-owned operated assets by 2050.

- Established the New Energies organization following the endorsement of our long-term strategy to develop and implement lower-carbon solutions for Aramco
- Reduced our upstream methane emissions by 5.1% and maintained an upstream methane intensity of 0.05%**
- Implemented energy efficiency initiatives resulting in avoidance of 0.73 MMtCO₂e
- Played a key role in the Oil and Gas Decarbonization Charter, a global industry charter established at COP 28
- Delivered Aramco’s first independently-verified carbon offset crude cargo — a pilot shipment of 2 MMbbl of Arabian Light crude oil with a product-level carbon emissions intensity and emissions management plan in line with PAS2060
- Retired around 500,000 carbon credits, equivalent to 0.5 MMtCO₂e, against corporate emissions, and bought the largest amount of carbon credits in the Regional Voluntary Carbon Market Company’s second auction in Nairobi, Kenya in June 2023



Scope 1 emissions¹
(MMtCO₂e)

54.4^{}**

(2022: 55.7^{**})

Upstream carbon intensity²
(kg CO₂e/boe)

9.6^{}**

(2022: 9.3^{**})

Flaring intensity¹
(scf/boe)

5.64^{}**

(2022: 4.60^{**})

Scope 2 emissions^{1,2}
(MMtCO₂e)

13.0^{}**

(2022: 10.3^{**})

Upstream methane intensity
(%)

0.05

(2022: 0.05)

Energy intensity
(thousand Btu/boe)

153.8

(2022: 146.2)

^{**} This figure has undergone external limited assurance in accordance to the ISAE 3000 (revised). The assurance report can be found [online](#) on the Sustainability section of our website.

1. The Jazan Refinery is excluded from our GHG and flaring metrics reporting in 2022 and 2021. In 2023, only the stabilized units of Jazan Refinery are included in our GHG and flaring metrics reporting.

2. In 2023, along with the location-based methodology we have been reporting in our disclosures to date, we have also adopted a market-based methodology to report GHG emissions to avoid double counting of emissions associated with wheeled power, as per the GHG Protocol Scope 2 Guidance. The figures reported for upstream carbon intensity and Scope 2 emissions are market-based.



Safe operations and people development

We aim to provide a safe and respectful working environment for all, on-site, and within the community, supported by comprehensive policies, procedures, and resources. We strive to support, diversify, and empower our workforce.

- Achieved a 16.0% reduction in the total recordable case rate, representing the best Company performance on its record
- Reached record hiring levels with our headcount reaching over 73,300 employees
- Over 20% of direct hires were female
- 26.3% increase in the percentage of female employees in leadership positions
- The National Training Centers have collectively had 57,943 graduates since inception
- Largest-ever College Preparatory Program cohort to graduate with 358 students
- More than 2,000 students benefited from the Intermediate Science, Technology, Engineering and Mathematics (STEM) program in collaboration with the Ministry of Education



Tier 1 process safety events
(number)

15

(2022: 11)

Fatalities
(number)

3^{**}

(2022: 5^{**})

Female employees in leadership positions
(%)

4.8

(2022: 3.8)

Lost time injuries/illnesses
(per 200,000 work hours)

0.018^{**}

(2022: 0.014^{**})

Female employees
(%)

7.2

(2022: 6.4)

Total hours of training and development (per employee)
(hours)

95¹

(2022: See footnote 2)

^{**} This figure has undergone/is undergoing external limited assurance in accordance to the ISAE 3000 (revised). Upon completion of assurance, the assurance report will be made available [online](#) on the Sustainability section of our website.

1. Total hours of training and development (per employee) metric consists of total training offered by the Company during the year for all participants including Aramco employees, contractors, and average levels of trainees.

2. Updated methodology: In 2023, a ministerial decision was issued mandating that any establishment with 50 employees and above shall disclose its training data annually as per a specific procedural guide. Therefore, the 2023 training and development hours are reported using the methodology as outlined by the Ministry Procedural Guidelines. The 2022 figure previously reported in the 2022 Sustainability Report would not be comparable under this methodology, and thus not disclosed.



Minimizing environmental impact

From groundwater to waste management, our approach is focused on minimizing the environmental impact of our operations, and preserving ecological biodiversity. We strive to conserve natural resources, apply circular models across our value chain, and build a legacy of projects that improve both natural habitats and shared resources.

- Achieved 100%** ISO 14001 certification at 52 upstream and downstream asset-based organizations enrolled in Aramco's Environmental Management System
- Continued upgrading Sulfur Recovery Units with tail gas treatment units
- Designated additional Biodiversity Protection Areas (BPAs) bringing the total number of BPAs to 14 covering over 1,700 km²
- Continued pursuing a water neutrality aspiration through water management initiatives
- Planted approximately 6.5 million mangroves and an additional 1.1 million native trees in the Kingdom during the year



Net positive impact on biodiversity (%)

85.6^{**},¹
(2022: 53.0^{**})

Freshwater consumption (million m³)

89.9^{**}
(2022: 93.6^{**})

Industrial waste disposed (metric tons)

481,561
(2022: 318,656)

Hydrocarbon spills (number)

12
(2022: 15)

Hydrocarbon discharge to water (barrels)

14.3^{**}
(2022: 16.4^{**})

Industrial waste recycled (%)

35.7^{**}
(2022: 39.9^{**})

** This figure has undergone external limited assurance in accordance to the ISAE 3000 (revised). The assurance report can be found [online](#) on the Sustainability section of our website.
1. Ongoing management and review of the BPAs resulted in exclusion of the Manifa BPA from our NPI metric as a BPA, pending implementation of enhancements to align with the Company's biodiversity governance.



Growing societal value

With our headquarters in Saudi Arabia, we have invested in the Kingdom’s oil and gas ecosystem to enhance the reliability of our supply chain by building local capacities, thereby providing employment and economic opportunities to thousands of Saudi nationals.

Our dedication to grow societal value extends beyond the Kingdom through our social investment projects, where we work together with host communities around the world.

- Continued commitment to building the capacity of local staff with over 24% increase (15,099 in 2023 versus 12,160 in 2022) in the number of people on our sponsored¹ community programs
- Provided growth acceleration services, via the Taleed program, to support small and medium-sized enterprises (SMEs) sustainability and scale up including partnership and network building, business development, and attracting investments
- Made social investments² to the value of \$475 million in Saudi Arabia and abroad
- Aramco and its employees donated over \$18 million for disaster relief globally



iktva procurement spend in-Kingdom
(%)

65.0

(2022: 63.0)

Saudi nationals employed
(%)

90.3

(2022: 90.9)

Saudization of construction contracts
(%)

29.7

(2022: 28.0)

Cumulative iktva GDP contribution*
(\$ billion)

202.9

(2022: 166.0)

Social investment²
(\$ million)

475

(2022: 453)

Saudization of service contracts
(%)

56.2

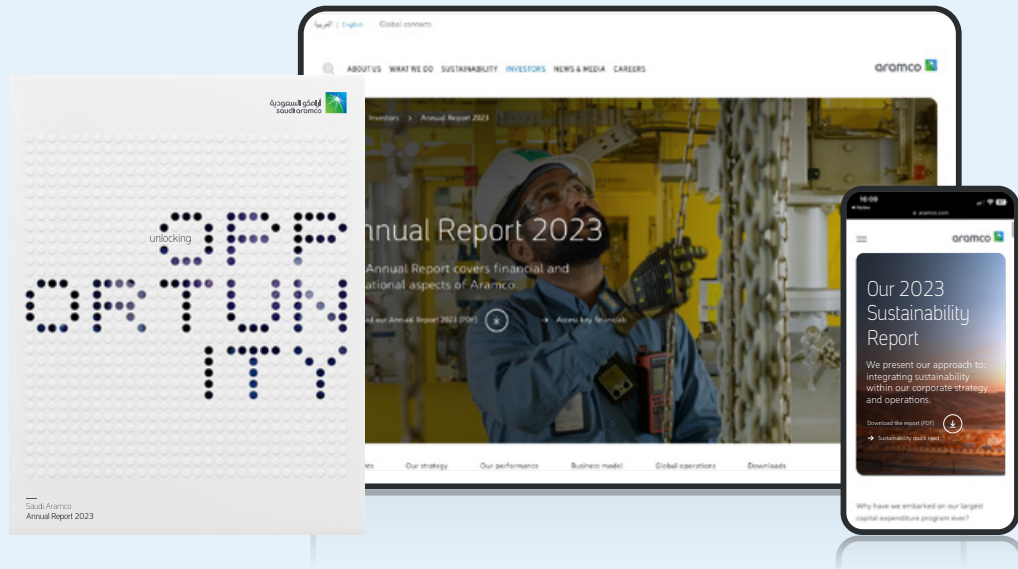
(2022: 57.2)

* 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 Arizona Centers for Comprehensive Education and Life Skills (ACCEL) International Ajyal Center.

2. Updated methodology: this is the first year we are reporting on the costs of running Aramco-built government schools, as part of our social investment. We have also revised the prior year figure to reflect this change. With this updated methodology, the 2022 figure is now \$453 million compared to \$370 million under the previous methodology.

This document must be read together with Aramco's public reporting, including our 2023 Annual Report, 2023 Sustainability Report, our website, and our policies.




■ Please see our 2023 Annual Report at [www.aramco.com/en/investors/reports and-presentations](http://www.aramco.com/en/investors/reports-and-presentations)

■ Please visit www.aramco.com for more information

■ Please visit www.aramco.com/sustainability for more information on our approach to sustainability, our basis of preparation and our independent assurance statements for 2019, 2020, 2021, 2022, and 2023

Contact us

We hope you find this Report engaging and informative, and we continue to welcome your input and views:

 sustainability@aramco.com

Social media

We are also active on the below social media platforms, so please follow us to learn more about Aramco and our sustainability journey:

 [@aramco](https://twitter.com/aramco)

 [linkedin.com/company/aramco](https://www.linkedin.com/company/aramco)