



ASSESSMENT OF SAUDI ARAMCO'S CLIMATE STRATEGY

ASSESSMENT OF SAUDI ARAMCO'S CLIMATE STRATEGY

Analysis, research and drafting by:

Louis-Maxence Delaporte, Energy Analyst, louis-maxence@reclaimfinance.org
Henri Her, Energy Analyst, henri@reclaimfinance.org

Written with the contribution of:

Lucie Pinson, Executive Director
Paul Schreiber, Regulation Campaigner
Clément Faul, Research Manager
Paddy McCully, Energy Transition Senior Analyst

Graphic design:

Jordan Jeandon

Publication date:

December 2023

Disclaimer: Reclaim Finance believes the information communicated comes from reliable sources and has made every effort to ensure the information is correct and data analysis is sound. However, Reclaim Finance does not guarantee the accuracy, completeness, or correctness of any of the information or analysis and, in any event, disclaims any liability for the use of such information or analysis by third parties. You can contact us at research@reclaimfinance.org if you believe our data contains some inaccuracies. We will make every effort to address it and make any necessary corrections.

The information herein is not intended to provide, and does not constitute, financial or investment advice and we disclaim any liability arising from use of our communications and their contents in that regard.

TABLE OF CONTENTS

Introduction	4
1. Saudi Aramco in a nutshell today	6
2. Transparency of Saudi Aramco's climate plan	7
3. Quality of Saudi Aramco's climate plan	10
a. Oil and gas trajectory	10
b. Cash-flow allocation	13
c. Decarbonization targets and climate trajectory	15

INTRODUCTION

In 2023, Saudi Arabian Oil Company (Saudi Aramco) ranked as the world largest oil and gas producer and upstream developer worldwide.¹

As the largest National Oil Companies (NOC) and one of the largest greenhouse gas (GHG) emitters globally, Saudi Aramco is among the few companies in the world whose climate strategy (or lack thereof) in the coming years will have a determining impact on our collective ability to limit global temperature rise to 1.5°C. In 2023, the company pledged to achieve carbon neutrality across its scope 1 and scope 2 operations on its wholly owned and operated assets by 2050 or sooner, as

part of the Saudi Arabian kingdom's carbon neutrality by 2060 strategy.²

Saudi Aramco's investors and other financial stakeholders have both a key interest and a crucial responsibility to ensure the company swiftly aligns with a 1.5°C pathway.

The key findings of this briefing are:

- Saudi Aramco does not provide sufficient information on its decarbonization plan to allow investors and other financial stakeholders to correctly assess its capacity to align with a 1.5°C pathway. Insufficient information is given on the company's

emissions, capital expenditure (CAPEX) plan, its 2030 production volumes, as well as on the reference scenario it uses to establish its climate plan.

- Taking into account Saudi Aramco's oil and gas production from currently producing fields, plus its fields under development and field evaluation, the company's production in 2030 will be 6% higher than the level required to align with the International Energy Agency's (IEA) Net Zero Emissions by 2050 Scenario (NZE).
- Saudi Aramco is primarily an oil-focused company, oil representing 90% of its current fossil production. Saudi Aramco plans to increase its crude oil production capacity from 12 million barrels per day (mmbbl) to 13 mmbbl per day between 2020 and 2027.

- Saudi Aramco plans to increase its gas production by 50% by 2030.
- With its current upstream targets, at full capacity, the company's production in 2030 will be 23% higher than the level required to align with the NZE.
- Saudi Aramco's CAPEX are dedicated to the upstream segment in priority.
- Renewable energy will represent in 2030 less than 1% of its energy mix.²
- Saudi Aramco has pledged mitigation targets for 2035 on scopes 1 and 2 only. As the group does not disclose any scope 3 target nor exhaustively reports its current emissions, it is not possible to project Saudi Aramco's GHG emissions trajectory.

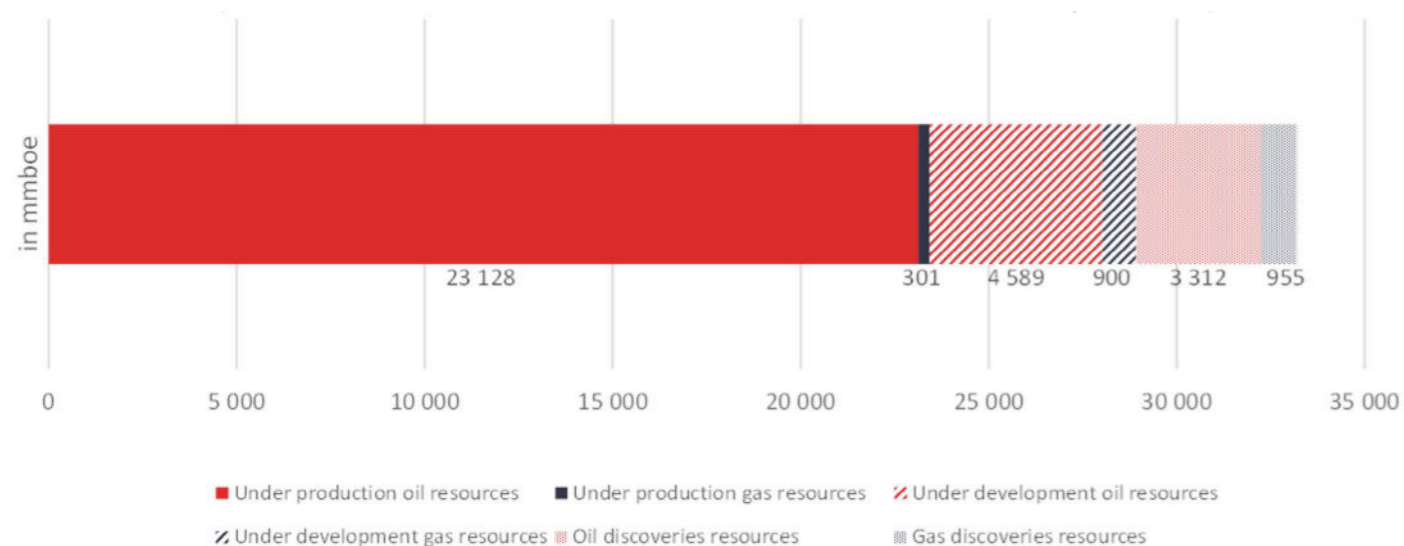


1. SAUDI ARAMCO IN A NUTSHELL TODAY

Saudi Aramco is the state-owned oil company of Saudi Arabia. Formerly fully detained by the state, Saudi Aramco completed its first Initial Public Offering (IPO) in 2019 with the sale of 1.73% of its capital. In 2022 and in 2023, the Saudi Arabian Public Investment Fund (PIF) acquired 4% of Saudi Aramco to the state. Its ordinary shares are listed on Saudi Exchange; therefore, the company must follow the Saudi Exchange's reporting requirements. The NOC is active in diverse activities including upstream, refining, trading, downstream, and renewables.

Saudi Aramco accounts for 8.8% of global oil and gas production and 7.3% of upstream short-term expansion plans.³ Considering expansion overshooting the IEA pathway,⁴ the NOC has the second highest absolute overshoot of any company in the world with 7,443 mmboe of resources from fields under development or under evaluation with a FID beyond 2021.

Saudi Aramco's oil and gas resources
(based on current resources in million barrels of oil equivalent)



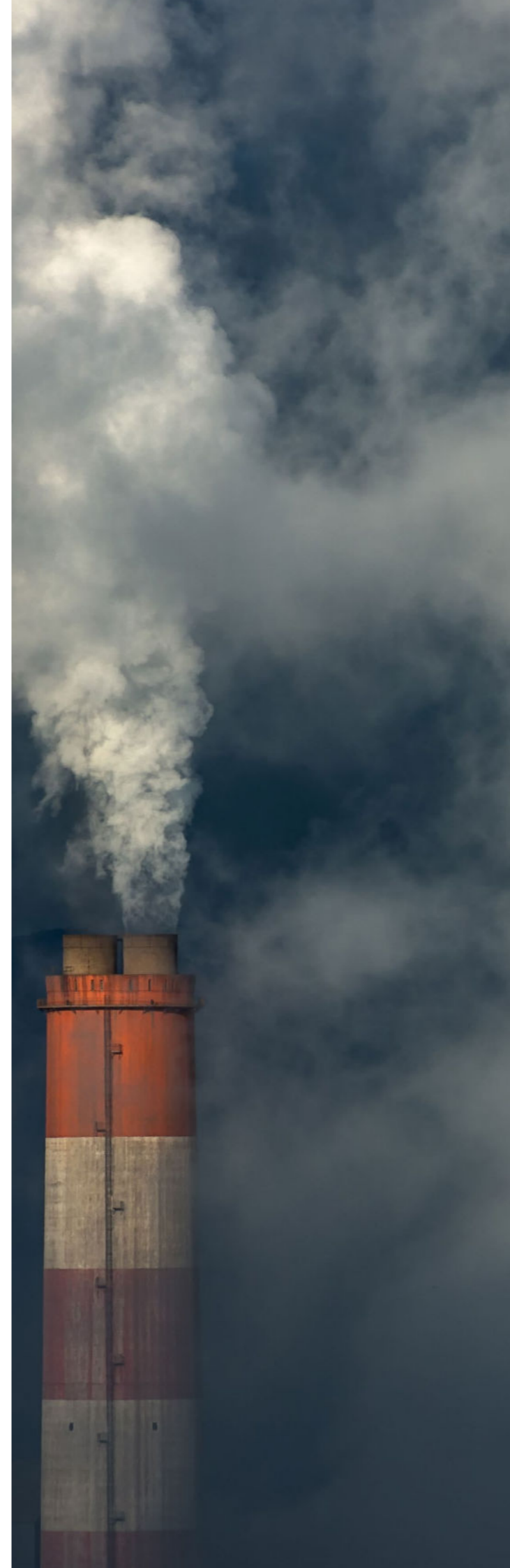
Source: Rystad Energy, accessed in August 2023

As of August 1, 2023:⁵

- Saudi Aramco had 221,296 mmboe of resources under production, including 196,129 mmbbl of oil and 25,167 mmboe of fossil gas. This represents the equivalent of 46.3 years of production at 2022 levels.
- Saudi Aramco had 17,692 mmboe of resources under development or field evaluation, including 12,301 mmbbl of oil and 5,391 mmboe of fossil gas. This represents 3.7 years of production at 2022 levels.
- Saudi Aramco hold 16,009 mmboe of oil and fossil gas discoveries, including 12,257 mmbbl of oil and 3,752 mmboe of fossil gas. This represents 3.3 years of production at 2022 levels.

In 2022, Saudi Aramco extracted 4,296 mmbbl of oil and 1,322 mmboe of fossil gas. Beyond exploration and production, Saudi Aramco is also active in other segments such as midstream and downstream and plans to develop renewable and hydrogen activities.

Saudi Aramco's renewables portfolio is composed of under development solar energy capacities obtained through the acquisition of a 30% stake in the 1.5 GW Sudair Project in Saudi Arabia.⁶



2. TRANSPARENCY OF SAUDI ARAMCO'S CLIMATE PLAN

The adoption and publication of sufficiently detailed targets and indicators are a prerequisite for assessing how a company's climate strategy aligns with a 1.5°C trajectory.

Saudi Aramco publishes a climate plan and indicators with detailed climate targets.

However, while Saudi Aramco provides 2035

scope 1 and scope 2 decarbonization targets, Saudi Aramco does not disclose either closer decarbonization targets nor scope 3 decarbonization targets. The information given does not allow investors to understand the company's trajectory for GHG emissions and its production model through to 2030, or the risks associated with financial exposure to the company.

For example, Saudi Aramco communicates on its 2028 oil production capacity plans without any target on the oil volume effectively extracted. Moreover, the NOC does not report nor projects its investments specifically

dedicated to sustainable renewable energy. This type of information is key to identifying the company's planned energy transition strategy, and therefore the credibility of its emissions reduction goals.

The table below summarizes the level of disclosure by Saudi Aramco on a few key indicators. It does not provide a comprehensive assessment of the transparency and completeness of Saudi Aramco's climate plan, but rather focuses on the basic indicators that should be the foundation of any oil and gas major's plan.

Assessment of the transparency of Saudi Aramco's climate plan

Does Saudi Aramco publish detailed information about the following indicators up to 2030?	Yes - No Partially	Comment
Absolute and relative GHG emissions reduction targets covering scope 1, 2 and 3.	No	<ul style="list-style-type: none"> • Saudi Aramco publishes 2035 carbon intensity targets on scope 1 and 2 only. • Saudi Aramco published 2030 methane targets only on its wholly-owned Saudi Arabian operated assets
Contribution to emissions reduction targets of carbon capture and storage (CCS) along the company's value chain.	Yes	<ul style="list-style-type: none"> • Saudi Aramco publishes 2027 and 2035 CCS targets.
Contribution to emissions reduction targets of offsets, and offsetting approaches. ⁷	No	<ul style="list-style-type: none"> • Saudi Aramco only publishes 2035 offset target.
CAPEX breakdown by activity, and by production maintenance and growth.	No	<ul style="list-style-type: none"> • Saudi Aramco discloses its 2023 forecasted CAPEX plan with only the upstream CAPEX precisely disclosed.
2030 targeted energy mix and production volumes.	No	<ul style="list-style-type: none"> • Saudi Aramco does not report its 2030 oil and gas production and 2030 future energy mix. • Saudi Aramco communicates on its net renewable capacity by 2030 but also includes capacities under construction with FID obtained.
Reference scenario used to define climate targets. ⁸	No	<ul style="list-style-type: none"> • Saudi Aramco relies on the Saudi Arabian' Net Zero by 2060 initiative defined by the kingdom.

Source: Saudi Aramco 2022 and 2023 presentations, Sustainability Report, company website

3. QUALITY OF SAUDI ARAMCO'S CLIMATE PLAN

a. Oil and gas trajectory

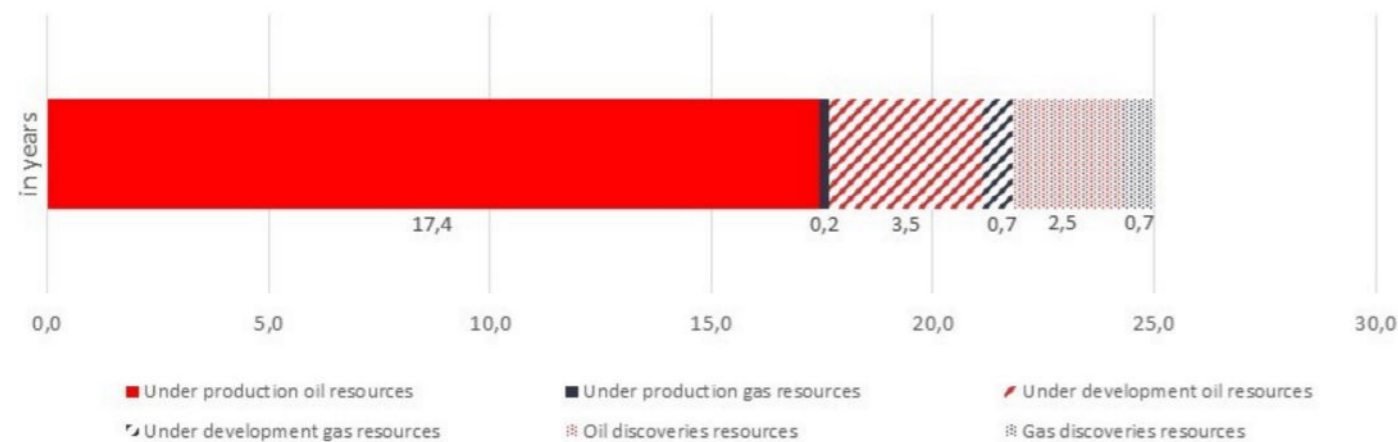
In May 2021, the IEA published its Net Zero Emissions by 2050 Scenario (NZE) which provides a pathway to meet global energy needs while having a 50% chance of keeping global temperature increases below 1.5°C.⁹ It was used as the reference scenario in the World Energy Outlook (WEO) 2021 and was updated in the WEO 2023 published in October 2023.¹⁰ It projects a reduction in oil and gas production by 2030 compared to 2022 levels of 20.9% and 17.9%, respectively,¹¹ and an end to the development of new oil and gas production projects and LNG terminals.

According to the Global Oil and Gas Exit List (GOGEL)¹², Saudi Aramco is the top global

oil and gas upstream developer. 44.3% of its expansion plans did not obtain their FID before 2022 and are therefore overshooting the IEA's NZE. Saudi Aramco is the company with the second highest absolute volume of resources from fields under development or under evaluation that are not aligned with the IEA NZE scenario. Saudi Aramco is focusing its production on conventional oil rather than gas: in 2022, oil represented 90% of its fossil production.

Despite the disrupted energy environment caused by the invasion of Ukraine, the need to halt oil and gas expansion as soon as possible remains a key feature of the NZE. The May 2021 NZE projected a halt to the development of new oil and gas fields for which FID was not

Saudi Aramco's oil and gas resources
(based on current resources and 2022 level of production)



Source: Rystad Energy, accessed in August 2023

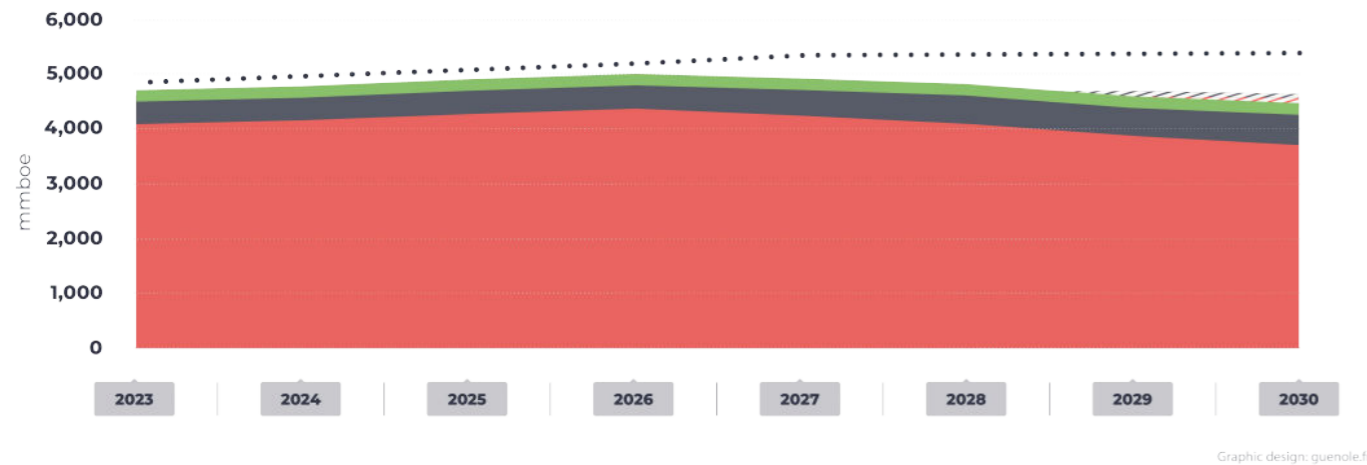
“ I am also calling on CEOs of all oil and gas companies to be part of the solution. They should present credible, comprehensive and detailed transition plans in line with the recommendations of my High-Level Expert Group on net-zero pledges.

These plans must clearly detail actual emission cuts for 2025 and 2030, and efforts to change business models to phase out fossil fuels and scale up renewable energy.”

**Antonio Guterres,
Secretary-General of the United Nations,
March 2023**

SAUDI ARAMCO'S PRODUCTION TRAJECTORY

- Oil production from fields sanctioned under the IEA NZE scenario
- Gas production from fields sanctioned under the IEA NZE scenario
- Oil production from fields unsanctioned under the IEA NZE scenario
- Gas production from fields unsanctioned under the IEA NZE scenario
- Production trajectory aligned with the IEA NZE scenario
- ... Company capacity plans based on oil target assuming constant gas



Source: Rystad Energy on oil and gas production and expansion, accessed in August 2023

approved by January 1st, 2022. The updated WEO 2023 version of the NZE also highlights the need to end the development of new LNG terminals beyond those approved by January 1st, 2023.

The completion of some projects that can swiftly enter production and operate for a limited time only – mainly shale oil and gas projects – is not expressly forbidden in the WEO version of the NZE. However, the IEA notably stresses that the invasion of Ukraine cannot justify a “new wave of oil and gas infrastructure”, and that any new oil and gas fields will make it “even more challenging” to meet carbon neutrality targets and “creates the clear risk that [the 1.5°C] target moves out of reach”. Concretely, any such project will require even greater reduction efforts in other sectors and activities.

The IPCC also highlights the risks associated with the development of any new fossil fuel projects.¹³ This concurs with a large and growing body of scientific evidence showing the need to immediately end fossil fuel development and a growing consensus on this in net-zero policy discussions.¹⁴

Oil and gas production should decrease by 20.9% and 17.9%, respectively, during this decade according to the NZE. However, without developing any new oil and gas fields and by only extracting resources that are already under production, Saudi Aramco has enough resources to produce the equivalent of 46.3 years of oil and gas production at its elevated 2022 level. Saudi Aramco’s resources under development and field evaluation will provide the equivalent of another 3.7 years of production at its 2022 production level. Additionally, if the company exploits all its oil and gas discoveries, it will have enough resources to produce the equivalent of a further 3.3 years of production at its 2022 level.

In the IEA’s NZE, the rate of oil and gas production declines due to the combination of the natural depletion of existing oil and gas fields and the absence of new fields to fill the gap. This decline happens even though the NZE relies on material levels of negative emissions, including through the deployment of technologies unproven at scale, and would be much faster without such a reliance. Other prominent 1.5°C scenarios with no or low



overshoot also show oil and gas production declining by 2030. These include the One Earth Climate Model (OECM),¹⁶ the Network for Greening the Financial System’s (NGFS) net zero climate scenarios,¹⁷ and the IPCC 1.5°C with no or low overshoot scenarios filtered to limit to reasonable volumes the reliance on negative emissions (CCS, NBS, etc.).¹⁸

The following chart compares Saudi Aramco’s planned oil and gas production capacity level in 2030 with NZE alignment, which is an aggregate of both its producing fields and its fields under development with FID obtained before 2022.¹⁹

Saudi Aramco strategy relies on an increase of oil and gas production:

- Primarily an oil producer, the NOC plans to increase its oil capacity from 12 mmbobbl per day to 13 mmbobbl per day by 2027.
- The NOC intends to increase its gas production by 50% by 2030.²⁰

The chart also indicates the level achieved from fields under production as well as those under development and under field evaluation. If Saudi Aramco’s production reach its oil production capacity target by 2027, Saudi Aramco would have to increase its upstream production beyond its current short-term expansion plans by developing discoveries. This means that Saudi Aramco will have to develop part of its discoveries, buy new fields and/or redevelop important existing fields. Saudi Aramco owns 16,009 mmbobbl of discovered hydrocarbon resources that have not yet entered the field evaluation or development stage and is actively looking for new oil and gas resources. The NOC is also looking for new discoveries: from 2021 to 2023, **Saudi Aramco spent on average US\$2.8 billion per year on exploration**, making it the 3rd biggest investor in exploration over that period.²¹

In 2030, with oil and gas from currently producing fields, plus fields under development and under evaluation, Saudi Aramco’s production level will be 6% higher than the NZE.

At full capacity, 2030 production for oil and gas will be 23% above NZE alignment.

Saudi Aramco has not committed to stop developing new oil and gas projects beyond those already in development and could review its production targets either up or down. Consequently, the level of upstream production indicated in the chart could be conservative and lower than Saudi Aramco's own forecasts.

Saudi Aramco's oil production is currently under its oil production capacity level. However, its oil production may suddenly change for political reasons. Indeed, Saudi Arabian oil production is dependent of the Organization of the Petroleum Exporting Countries' (OPEC) level of required production decided and the repartition of the required production between its members. Therefore, countries' oil production can vary rapidly and strongly from one period to another depending on OPEC's strategy, oil market conditions or geopolitical context. As the largest oil producer among the OPEC's members,²² Saudi Aramco is the most susceptible company to change its oil production, including increasing it until its oil production capacity.

b. Cash flow allocation

The future energy mix of a company is determined by its current investment strategy. In the NZE, total energy investment needs to more than double by 2030, with a shift from high-carbon energy to clean alternatives. Investment in clean energy, end-use and

efficiency more than triple in the NZE, and ten dollars must be spent on clean energy, end-use and efficiency for each dollar spent on fossil fuels by 2030.²³

Saudi Aramco is listed on the Saudi Exchange, therefore Saudi Aramco publishes consolidated financial statements on its investment plans and distribution. However Saudi Aramco only distinguishes upstream and downstream activities in its financial reports.²⁴ Sustainable renewable energy activities are included in the downstream segment that include the processing, manufacturing, refining and marketing of hydrocarbons. Without any further granularity, it is impossible to assess Saudi Aramco's CAPEX plan.

In 2022, Saudi Aramco kept the upstream segment in the center of its investment strategy. The NOC increased its total CAPEX by 18%, driven by its upstream CAPEX that has risen by 24%. Therefore, 78% of Saudi Aramco's investments were dedicated to upstream, including investments in new oil and gas projects. In the near term, 60% of Saudi Aramco's CAPEX will be dedicated to the upstream segment and half of its CAPEX over the longer term.²⁵ Renewables only represent a very limited part of Saudi Aramco's downstream business and investment strategy, while the company plans to increase its refining and chemical production.

The company does not communicate details on its 2030 energy mix, however it communicates on the net renewable installed and post FID capacities. Saudi Aramco plans a net renewable capacity of 12 GW by 2030.

With Saudi Aramco's 2030 oil and gas production from its operating, under development and under evaluation fields, and its renewable capacity targets, the maximum renewables share of Saudi Aramco's energy supply mix in 2030 would remain under 1%.

Saudi Aramco low-carbon energies include CCUS, renewables and blue hydrogen. The company plans to produce 11 million tons of blue ammonia in 2030.

c. Decarbonization targets and emissions trajectory

Saudi Aramco pledged mitigation targets for 2035 compared to its 2018 and 2022 levels, measured in intensity and absolute terms, and including scope 1 and 2 only.²⁶ Saudi

Aramco does not disclose its energy supply evolution, while it plans to increase its oil capacity by 2027 and its gas production by 2030. Moreover, Saudi Aramco does not disclose report scope 3 emissions and does not indicate any scope 3 target. Therefore, it is not possible to project Saudi Aramco emission trajectory.

Saudi Aramco relies on CCS and will capture 9 Mtpa in 2027 and 11 Mtpa in 2035. ²⁷ As highlighted by the IPCC, however, CCS in the energy sector still has limitations to overcome before it can be scaled up, which means it comes with limited potential and prohibitive costs. Too high reliance on these types of mitigation approaches represents a material risk factor for Saudi Aramco's ability to reach its decarbonization targets.²⁸

Saudi Aramco's pledged mitigation targets

Base year	Target year	Reduction target	Net target	Geographical scope	Emission scope	Emission Type
2018	2035	-15%	Yes	World	1 & 2	Intensity
2022	2030	-7%	No	World	1 & 2	Intensity

Source: Saudi Aramco 2023 Sustainability report



References

1. Using the Urgewald 2023 [Global Oil & Gas Exit List](#). This list was constructed based on September 2023 Rystad data.
2. Saudi Aramco, [Aramco advances development of emissions reduction solutions](#), 2023.
3. Using the Urgewald 2023 [Global Oil & Gas Exit List](#). The list was constructed based on September 2023 Rystad data.
4. Based on the original scenario as published in 2021 and updated in 2022, which states that in a 1.5°C world, approval of new oil and gas fields is not needed after 2021.
5. Calculations made using Rystad Energy Ucube with data from August 2023.
6. Saudi Aramco, [FY 2022 Results](#), 2023.
7. The IPCC estimates between 500 and 3,600 million metric tons of CO₂ could be removed annually through planting new forests by 2050. Greenpeace, [Net Expectations: Assessing the role of carbon dioxide removal in companies' climate plans](#), 2021.
8. To meet this criterion, the company must disclose the publicly available 1.5°C pathway with no or low overshoot that it uses to set its targets. While all oil and gas companies somewhat rely on 1.5°C pathways to conduct analysis and inform their decision-making, this does not mean that the targets they set are coherent with these pathways.
9. IEA, [Net Zero Emissions by 2050 Scenario \(NZE\)](#), 2021.
10. IEA, [World Energy Outlook 2023](#), 2023.
11. Reclaim Finance calculation using IEA's WEO 2023 dataset with oil and natural gas world energy supply.
12. Urgewald, [Global Oil and Gas Exit List](#), 2023
13. IPCC, [Climate Change 2022: Mitigation of Climate Change](#), 2022.
14. For example, the UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities, [Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions](#), November 2022; Race to Zero Expert Peer Review Group, [Interpretation Guide. Version 2.0](#), June 2022, para 5b; Net-Zero Asset Owner Alliance (NZAOA), [Position on the Oil and Gas Sector](#), March 2023.
15. Reclaim Finance calculation using IEA's WEO 2023 dataset with oil and natural gas world energy supply.
16. OECM, [Limit global warming to 1.5°C](#), 2022
17. NGFS, [Climate scenarios](#)
18. The International Institute for Sustainable Development (IISD) filtered the various 1.5°C scenarios provided by the IPCC to ensure they do not rely on volumes of negative emission that are not coherent with the IPCC's own realistic potentials. These "limited negative emissions" pathways are analyzed in the report [Lighting the Path](#).
19. To model the IEA's NZE production trajectory and replicate it by company, we did not integrate merger and acquisition operations as these could increase the production rate because of field acquisitions with a FID obtained before 2022.
20. Saudi Aramco, [FY 2022 Results](#), 2023
21. Urgewald, [Global Oil and Gas Exit List](#), November 2023.
22. OPEC, [Members](#)
23. The IEA 10 for 1 ratio includes renewable energy, efficiency and end-use but also biomass and other activities (like CCS) that could lead to some environmental harm and/or raise sustainability questions. Relying on a different scope of clean energy investment, BloombergNEF estimates that \$4 must be spent on clean energy for every dollar spent on fossil fuels by 2030, based on energy supply only.
24. Saudi Aramco, [Consolidated financial statements for the year ended December 31, 2022, 2023](#)
25. Upstream, [Saudi Aramco's colossal spending plans to be led by upstream projects](#), 2023
26. Saudi Aramco, [Sustainability report](#), 2023.
27. Saudi Aramco, [Sustainability report](#), 2023.
28. IPCC, [Climate Change 2022: Mitigation of Climate Change - Summary for Policymakers](#), p 40, 2022.

Useful links

[Methodology - Glossary](#)

Credits

AdobeStock | Pexels

ASSESSMENT OF SAUDI ARAMCO'S CLIMATE STRATEGY

Reclaim Finance is an NGO affiliated with Friends of the Earth France. It was founded in 2020 and is 100% dedicated to issues linking finance with social and climate justice. In the context of the climate emergency and biodiversity losses, one of Reclaim Finance's priorities is to accelerate the decarbonization of financial flows. Reclaim Finance exposes the climate impacts of financial players, denounces the most harmful practices and puts its expertise at the service of public authorities and financial stakeholders who desire to bend existing practices to ecological imperatives.

contact@reclaimfinance.org

