



ASSESSMENT OF SHELL'S CLIMATE STRATEGY

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INTRODUCTION

While a growing number of institutions are disengaging from the oil and gas sector, deeming it incapable of transformation, others believe that oil and gas companies are essential to the energy transition, and that their support is indispensable to the massive development of renewable energies. Considering this: What is the actual situation? To what extent does Shell contribute to the development of sustainable solutions? Given that we can't limit global warming to 1.5°C without gradually reducing hydrocarbon production, has Shell given up on developing new oil and gas projects?

To assess Shell's climate strategy and provide our analysis, Reclaim Finance relied on the International Energy Agency's (IEA) Net Zero Emissions by 2050 Scenario (NZE).¹ The NZE is based on a 1.5°C trajectory and includes:

- A drop in oil and gas production of 21% and 18% respectively by 2030, compared with 2022 levels.
- A halt to the development of new oil and gas production projects and liquefied natural gas (LNG) terminals.
- A 67% increase in total annual investment in energy, with a 2.3-fold increase in annual investment in energy transition, covering clean energy supply, end-use and energy efficiency. This would mean investing ten dollars in the transition by 2030, six in energy supply - mainly electricity - for every dollar invested in fossil fuels, i.e. a 6:1 ratio.

Shell ranks as the 8th biggest oil and gas producer and the 11th biggest oil and gas exploration and production developer worldwide. Shell ranks as the 5th biggest LNG terminal developer.²

As one of the top European integrated oil and gas companies and one of the largest greenhouse gas (GHG) emitters globally, Shell is among the few companies in the world whose climate transition (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 2020, the company pledged to achieve carbon neutrality across its entire operations on an absolute basis by 2050 or sooner.³



“ 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. ”

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

KEY FINDINGS

1. The investment strategy of Shell prioritizes the oil and gas sector and redistribution to shareholders, to the detriment of climate solutions

- Shell invested in oil and gas rather than in renewable energy:⁴ For every dollar invested in 2023 in its “Renewables and Energy Solutions” (R&ES) business – that includes renewable energy, hydrogen (no reporting on the hydrogen origin), Carbon Capture and Storage (CCS), Nature-Based Solutions (NBS) and carbon credits, – Shell invested 8.0 dollars in oil and gas.
- Shell remunerates shareholders rather than investing in renewable energy: For every dollar invested in 2023 in its R&ES business, Shell distributed 8.9 dollars to its shareholders through dividends and share buybacks.

2. The energy strategy of Shell will continue to rely on the development of new fossil fuel projects

- On the basis of Shell’s oil and gas production from its currently producing fields and its short-term expansion plans, the company’s production in 2030 from its already committed expansion plans will be 20% higher than the level required to align with the NZE. In terms of short-term expansion, Shell ranks as the 11th biggest oil and gas upstream developer.
- Yet, Shell will have to develop additional discoveries or acquire fields beyond those already under expansion to meet its 2030 oil and gas production target. Its existing operating fields and short-term expansion plans will not be sufficient, as the company plans to maintain its oil production at current level and to increase its gas production by the end of the decade. Shell came back on its previous oil production drop commitments, as the company planned a decrease in oil production of 1-2% per year to 2030. With the company’s current strategy, its 2030 production will be 27% higher than the NZE.
- Shell is the world’s 5th largest developer of LNG liquefaction capacity. Consequently, with its current LNG strategy, Shell will add 19.6 Mtpa of liquefaction capacity and will exceed the NZE capacities by 46.6%.
- Along this expansion strategy, Shell significantly reduced in 2023 its decarbonization target for the net carbon intensity of its products, from -20% in 2030 compared to 2016 levels previously planned to -15%/-20% in 2030 now.

3. Shell’s diversification strategy remains marginal and partly relies on gas and unsustainable energies

- Shell will still produce 54 times more energy from oil and gas than from renewables by 2030. The company will account for 2.6% of the worldwide oil and gas production in the NZE.
- On the basis of its currently installed and under development renewable capacities, Shell will have 6.6 gigawatts (GW) of installed renewable power capacities in 2030. The company will account for less than 0.1% of the worldwide renewable power production in the NZE.



1. CURRENT ENERGY PRODUCTION

Shell accounts for 2.2% of global oil and gas production.⁵ In 2023, Shell extracted 2,791 thousand barrels of oil equivalent (kboe) of oil and gas every day.⁶ Beyond exploration and production, Shell is also active in other energy segments such as oil and gas transportation, oil refining, solar and wind generation, bioenergy, and gas power generation and retail.

The company's power production is composed of gas power and renewable energy – wind,

solar and battery storage. In 2023, Shell's installed renewable capacities reached 2.5 GW. With its current energy mix, in 2023, Shell produced 124 times more energy from oil and gas than from renewables.

Shell is also active in bioenergy despite the negative impacts on climate, biodiversity, and human rights but does not communicate current production levels.

2. CASH-FLOW ALLOCATION

The future energy mix and GHG emissions of a company are determined by its current energy mix and its investment strategy.

From 2021 to 2023, Shell invested US\$2,015 million per year in oil and gas exploration, making it the 7th largest investor in this area over those three years.⁷ The investments reveal the importance of oil and gas expansion in the company's long-term strategy, which includes the search for new fields that once discovered could come into production in decades.

Information in Shell's 2023 annual report⁸ shows how the cash and cash flows generated from its operational activities were spent in 2023:

1. Shell invested US\$2.7 billion in its R&E business, which includes "renewable power generation, the marketing and trading and optimization of power and pipeline gas, carbon, hydrogen, CCS and Nature Based Solutions (NBS)".⁹
2. Shell invested US\$21.3 billion in oil and gas, including US\$8.3 billion in oil and gas

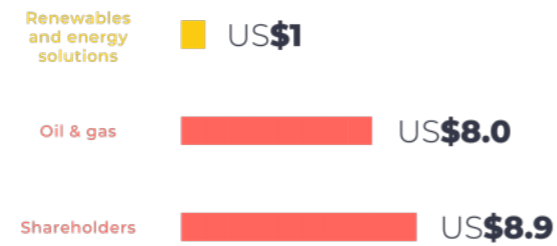


exploration and production, and US\$13.0 billion in other oil and gas activities, including refining and petrochemical activities. **In total, for every dollar invested in R&ES, more than US\$8.0 were invested in oil and gas.**

- Shell provided its shareholders with US\$23.7 billion through dividend payments (US\$9.2 billion) and share buybacks (US\$14.6 billion). **In total, for every dollar invested in R&ES, US\$8.9 were distributed to shareholders.**

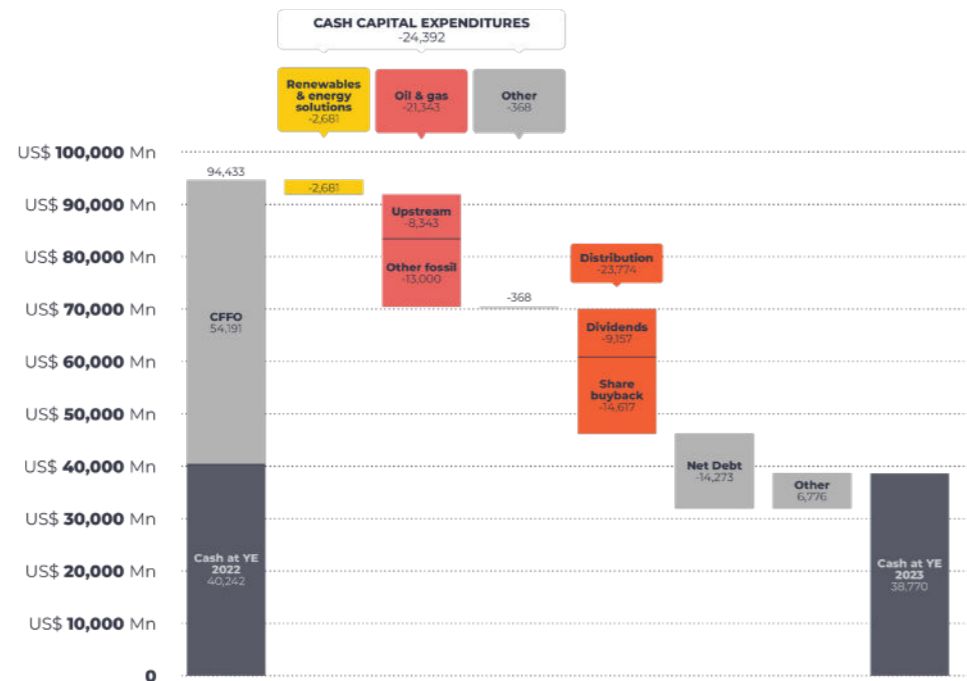
Total annual energy investment needs to increase by 67% by 2030 according to the NZE, which includes a shift from fossil fuels to clean alternatives. Investments in clean energy supply, end-use and efficiency are

SHELL'S 2023 LOW CARBON CASH-FLOW RATIOS



Source: Shell, *Shell Annual Report 2023, 2024*

BREAKDOWN OF SHELL'S 2023 CASH-FLOWS

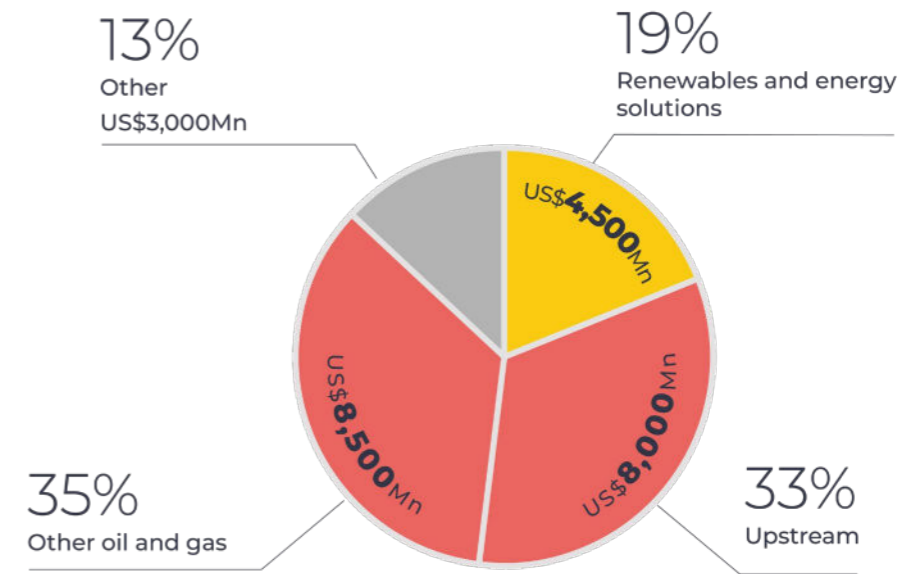


Source: Shell, *Shell Annual Report 2023, 2024*

multiplied by 2.3 times by 2030 in the NZE, with 10 dollars spent in these areas for each dollar spent on fossil fuels, 6 dollars of which are for sustainable power supply.¹⁰ In its 2023 report, **the IEA established that oil and gas companies must allocate more than 50% of their capital expenditure (CAPEX) in clean energy by 2030.**¹¹

Shell's cash CAPEX plan remains fossil-fuel driven. It plans to invest US\$21.0 billion per year on average in 2024 and 2025. US\$16.5 billion will be invested in oil and gas,¹² including US\$8.0 billion in its upstream segment. US\$4.5 billion per year will be dedicated to R&ES, **representing 19% of its coming cash CAPEX.**

SHELL'S CAPEX PLAN TO 2025



Shell, *Annual ESG update, 2024*



3. FOSSIL FUEL STRATEGY

a. Upstream expansion plans

The IEA published the NZE in May 2021¹³ to provide a pathway to meet global energy needs while maintaining a 50% chance of keeping global temperature increases below 1.5°C. It was used as the reference scenario in the IEA's World Energy Outlook (WEO) 2021 and was updated in the WEO 2022¹⁴ and WEO 2023.¹⁵ The NZE projects a halt to the development of any new oil and gas fields for which a Final Investment Decision (FID) was not approved by January 1st, 2022.

The Intergovernmental Panel on Climate Change (IPCC) also highlights the risks associated with the development of any new fossil fuel projects. 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.

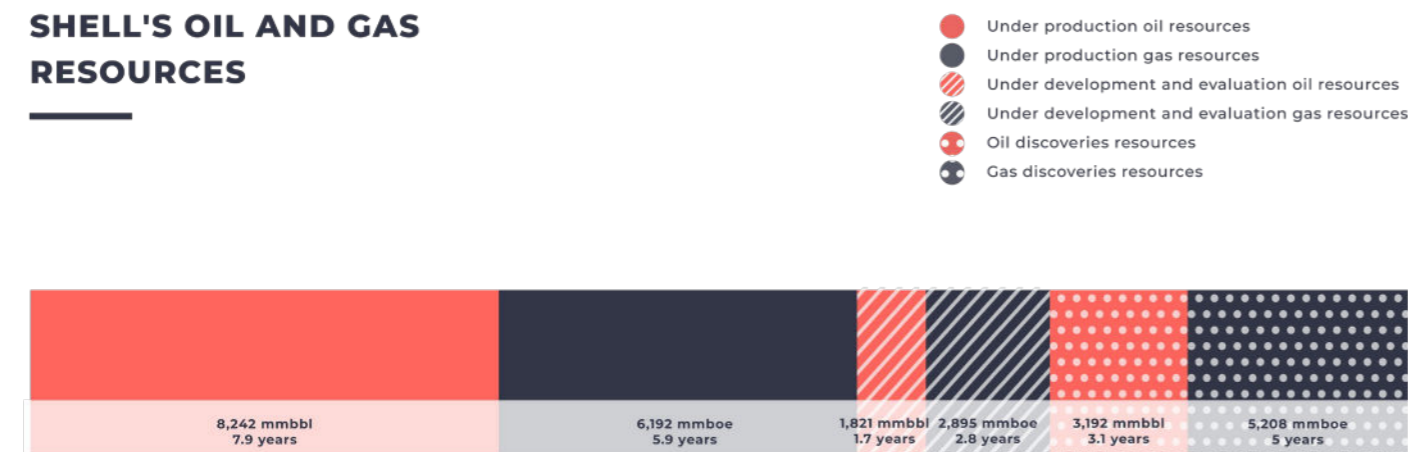
According to the 2023 Global Oil and Gas Exit List (GOGEL), Shell is the 11th top global oil

and gas upstream developer. The company accounts for 2.4% of global short-term expansion plans, with 66.5% of its expansion plans not obtaining a FID before 2022 – therefore overshooting the NZE.

These plans would give Shell significant additional resources even though it already has enough to extract oil and gas for several years. As of April 2nd, 2024:

- Shell has 14,434 mmboe of resources under production, including 8,242 mmbbl of oil and 6,192 mmboe of gas. This represents the equivalent of 13.8 years of production at 2023 levels.
- Shell has 4,763 mmboe of resources under development or field evaluation, including 1,821 mmbbl of oil and 2,895 mmboe of gas. This represents 4.5 years of production at 2023 levels.
- Shell owns 8,400 mmboe of oil and fossil gas discoveries, including 3,192 mmbbl of oil and 5,208 mmboe of gas. This represents 8.1 years of production at 2023 levels.

SHELL'S OIL AND GAS RESOURCES



Source: Rystad Energy on oil and gas production and expansion, accessed in March 2024; Shell Annual Report 2023 on company production targets.

b. Upstream production

Oil and gas production should decrease by 20.9% and 17.9%, respectively, between 2022 and 2030 according to the NZE.¹⁶ In this scenario, the rate of oil and gas production declines due to a combination of the natural depletion of existing oil and gas fields and the absence of new fields to fill the gap, despite the reliance on negative emissions. Oil and gas production would need to decline much faster without this reliance. Negative emissions include the deployment of technologies unproven at scale, such as carbon capture, utilization, and storage (CCUS). 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),¹⁷ the net zero climate scenarios from the Network for Greening the Financial System (NGFS),¹⁸ and the IPCC's 1.5°C with no or low overshoot scenarios filtered to limit to reasonable volumes the reliance on negative emissions (e.g. CCUS, NBS, etc.).¹⁹

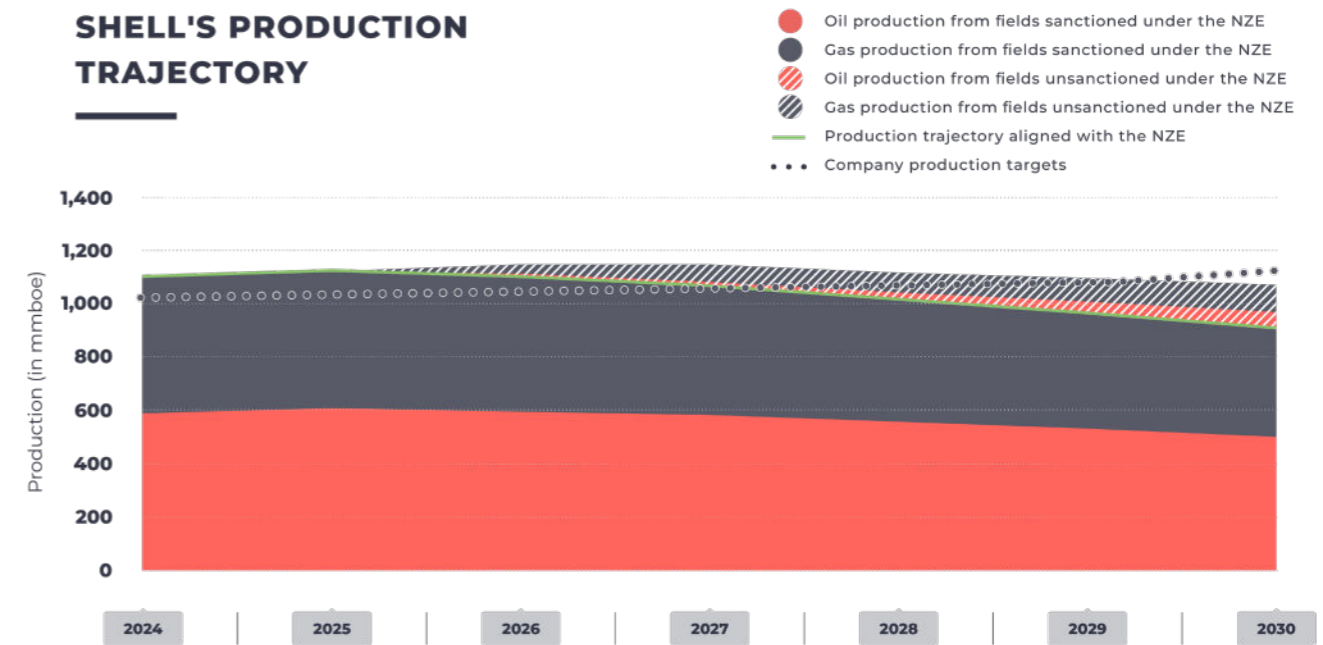
The following chart compares Shell's planned oil and gas production level by 2030 with:

- Shell's production by 2030 if it aligns with the NZE (i.e. Shell's production level from its producing fields and its fields currently under development with a FID obtained before 2022).
- Shell's production by 2030 if it carries out its already committed short-term expansion plans (i.e. Shell's production from its fields currently under production, under development and under field evaluation).

In 2030, with oil and gas from currently producing fields, fields under development and under evaluation, Shell's already committed production level will be 20% higher than the NZE.

While Shell previously intended to reduce its oil production by 1-2% per year by 2030, the company announced in its June 2023 Capital Market Day that it met its reduction target due to divestments.²⁰ Shell now aims to maintain its oil production at current level and to increase gas production by 2030, that will represent 55% of its fossil extraction in 2030.

SHELL'S PRODUCTION TRAJECTORY



Source: Rystad Energy on oil and gas production and expansion, accessed in March 2024; Shell Annual Report 2023 on company production targets.

With its new targets, Shell's production will be above 3,100 thousand barrels per day until 2030 - which is 11.1% higher than its 2023 production. That target can only be achieved with developments beyond its current already committed short-term expansion plans. In other words, to reach its production target, Shell will have to develop part of its discoveries and/or acquire new fields. As such, **Shell's 2030 production target for oil and gas will be 27% above NZE alignment.**

With its production target, Shell's 2030 oil and gas production will represent 2.6% of the global oil and gas production in 2030 according to production level of the NZE.

c. LNG terminal net capacities

Under the NZE, gas demand by 2050 is met with all existing LNG terminals. Under the IEA's An-

nounced Pledges Scenario (APS), gas demand is met with operational and under construction facilities. In either case, no new LNG terminal plans are necessary to meet demand. With its current plans, none of Shell's LNG expansion plans are aligned with the NZE, while only the infrastructure already under construction is aligned with the APS.²¹

- Shell presents liquefied natural gas as a pillar of its strategy and aims to grow its "world-leading LNG business".²² Shell's gas-oriented strategy relies on new midstream infrastructure that will be commissioned in the coming years. Indeed, Shell owns existing LNG export terminals, and both constructs and plans to construct new LNG export terminals in the coming decade.
- Shell is already a shareholder of existing export terminals such as Queensland

Curtis LNG in Australia, Idku in Egypt, and Atlantic LNG in Trinidad and Tobago. Shell's operational export terminals net liquefaction capacity reaches 42.1 Mtpa.²³

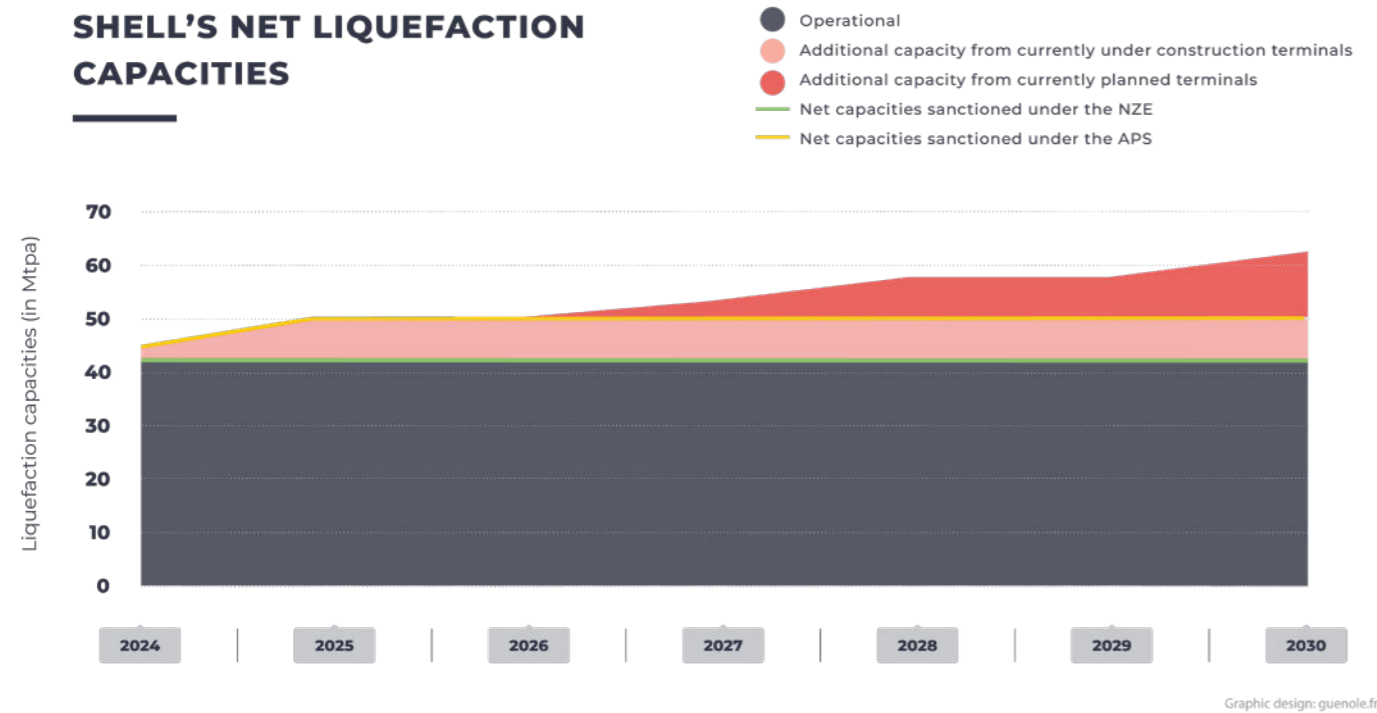
- Shell is constructing new liquefaction capacities with Nigeria LNG and LNG Canada. These would add net liquefaction capacities of 7.6 Mtpa to its portfolio.²⁴

Shell plans to construct additional liquefaction capacities with projects such as North Field LNG in Qatar, Tanzania LNG, and Abadi LNG in Indonesia. These would add net liquefaction capacities of 12.1 Mtpa to its portfolio.²⁵

With its current LNG plans, Shell's 2030 total net liquefaction capacity will increase by 19.6 Mtpa. Then, it will exceed the APS by 24.3% and the NZE by 46.6%.

Shell also owns existing LNG import terminals and plans to construct new LNG import terminals in the coming decade.

- Shell is already the main shareholder of the existing import terminals Hazira LNG in India, Dragon LNG and Gibraltar LNG in the United Kingdom and is a shareholder of Qidong in China. These import terminals' net regasification capacity reaches 13.7 Mtpa.²⁶
- Shell plans to construct new regasification capacities with Tabangao FSRU in the Philippines and Manzanillo LNG in Dominican Republic. These would add net regasification capacities of 3.9 Mtpa to its portfolio.²⁷



Graphic design: guenole.fr

Source: Enerdata LNG database for operational terminals and Global Oil and Gas Exit List 2023 for under construction and planned terminals, accessed in January 2024



Graphic design: guenole.fr

Source: Enerdata LNG database for operational terminals and Global Oil and Gas Exit List 2023 for under construction and planned terminals, accessed in January 2024

4. DIVERSIFICATION STRATEGY

a. Sustainable energy

The NZE projects strong growth in renewable energy production, from 27 exajoules (EJ) in 2021 to 80 EJ by 2030, led by solar and wind capacity additions.

Shell does not communicate a target for the development of its renewable capacities. However, Shell is currently developing 4,1 GW of additional renewable capacity, which will be added to the 2.5 GW of already installed renewable capacity. Assuming that these projects will be carried out, that Shell does not develop additional capacities that would enter in production by 2030, and that Shell will not buy or sell renewable capacities, **the company will still be producing 54 times more energy**

with its oil and gas production than with its renewable capacities in 2030. Under this same assumption, **Shell will represent less than 0.1% of global renewable energy production in 2030, according to production level of the NZE.**

b. Unsustainable diversification

The NZE also projects strong growth in hydrogen production, from 94 megatonnes (Mt) in 2021 to 180 Mt by 2030, led by "low-carbon hydrogen" capacity addition. Of this, one-third is produced from fossil fuels – therefore unsustainable – and two-thirds from water-based electrolysis.²⁸ To meet the NZE scenario's production targets, electrolytic hydrogen production capacity should reach 720 GW to 850 GW by 2030.²⁹

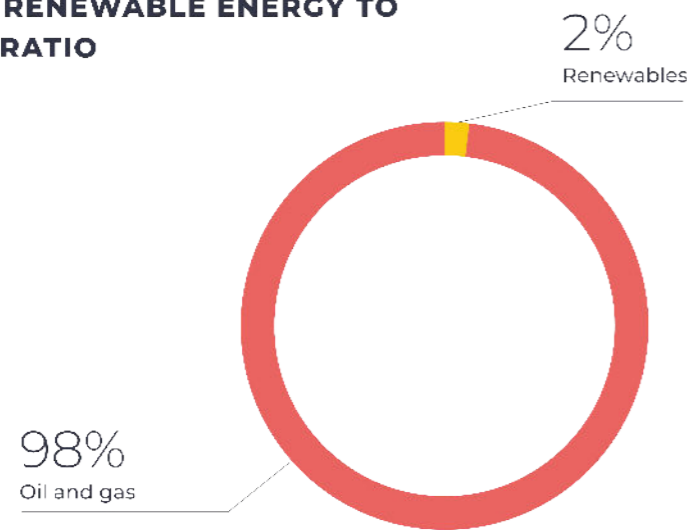
Although Shell is involved in the development of new hydrogen capacities, without reporting on the hydrogen origin, the company does not communicate targets for these capacities.

Gas combustion is one of the main contributors to CO2 and methane emissions and should be replaced by sustainable solutions – i.e. gas power is unsustainable. By 2035, advanced economies should achieve a carbon neutral power sector, according to the NZE.³⁰ Nevertheless, Shell has neither committed to stop developing gas plants nor committed to closing its gas plants. Shell neither communicates on its gas power production, nor on its gas plant ownership. Then, it is impossible to calculate Shell's gas power current and future net capacities and net production. **Shell is involved in 32 gas plants in operation with a total capacity of 7,200 MW,³¹ and in 2 gas plants under development with a total capacity of 552 MW.³²**

The NZE projects strong growth in bioenergy production, with an increase of biofuel from

133 Mtpa in 2021 to 367 Mtpa by 2030 and of biomethane from 278 TWh to 1,944 TWh by 2030. **Although Shell is currently active in the biofuel and biogas sectors and is involved in the development of additional biofuel, especially sustainable aviation fuel (SAF), and biomethane production means, the company does not communicate production targets for these energy sources.** Most biomethane is produced via methanization using feedstock such as plant crops, livestock effluents, food and catering effluents, and sewage sludge. Likewise, most biofuel production currently uses so-called conventional feedstocks, such as sugarcane, corn and soy. Due to feedstocks use, emissions from direct and indirect land-use change, increased fertilizer use and carbon emissions from energy-intensive refining, both biofuels and biomethane can have a higher emissions factor than fossil diesel.³³ In addition to the climate impacts of land-use change, biofuels can divert crops from food production to energy production, leading to higher food prices.³⁴

SHELL'S 2030 RENEWABLE ENERGY TO OIL AND GAS RATIO



Shell, Annual report and Energy transition Strategy, 2024



5. EMISSIONS TARGETS

In 2023, Shell significantly reduced its decarbonization target for the net carbon intensity of its products, from -20% in 2030 compared to 2016 levels previously planned to -15%/-20% in 2030 now.³⁵ These were measured in intensity terms on scopes 1, 2 and 3 and Scope 3 alone, and in absolute terms on scopes 1 and 2. In 2023, Shell's CO₂e emissions were 1,214 MtCO₂e, including 1,147 MtCO₂e of scope 3 emissions. Scope 3 emissions are by far the largest, representing 80% of the company's emissions. However, while scope 3 represents the most significant part of the company's GHG emissions, Shell's 2030 scope 3 mitigation targets are less ambitious (between -15% and -20% with a 2021 baseline) than its scopes 1 and 2 targets (-50% with a 2016 baseline).

Using the IEA's energy supply data from the NZE in the WEO 2023, Reclaim Finance calculated Shell's GHG emissions trajectory. By 2030, the company's targeted carbon intensity will be 32.8% higher than the NZE.

Shell relies heavily on CCUS and offsets. The company will offset 120 Mtpa in 2030. These technologies have a significant place in the company's decarbonization plan: 39% of its absolute emissions reduction by 2030 is planned through using offsets alone. As highlighted by the IPCC, however, CCUS 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 Shell's ability to reach its decarbonization targets.³⁶

Base year	Target year	Reduction target	Emission scope	Emission Type
2016	2025	-9%/-13%	1 & 2 & 3	Intensity
2016	2030	-50%	1 & 2	Absolute
2016	2030	-15/-20%	1 & 2 & 3	Intensity

Shell, Annual ESG update, page 27, 2024



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Useful links

[Methodology - Glossary](#)
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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.

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