

Equinor—a Broad Energy Company?

Energy production, emissions and investments five years on from name change

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The Norwegian Climate Foundation is Norway's green think tank. We disseminate knowledge and ideas to a wide audience about climate change and climate solutions. The goal is a society without human-induced greenhouse gas emissions. The Climate Foundation has a well established relationship with academia, and Norway's leading universities, colleges, and research institutions are represented in our advisory council.

The Climate Foundation was established in 2010 and is headquartered in Bergen.



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Table of Contents

3 | Introduction

4 | Summary and Conclusions

6 | Renewable Energy – an Ancillary Business

10 | Equinor's Investments Primarily Go Towards Fossil Energy

12 | "We aspire to be a leading company in the green transition"

13 | Still Going Strong on Oil and Gas

14 | Still an Oil Company in 2030

16 | Reduced Own Emissions by a Quarter

18 | Significant Emissions From Oil and Gas Burning

20 | Black Holes in Equinor's Transition Plan

22 | Equinor and the Energy Transition: Still at its Nascent Stage

24 | Successful Climate Policy Means Lower Revenues for Equinor

25 | Sources

Introduction

In 2018, then CEO Eldar Sætre surprised many by suggesting that Statoil should change its name to Equinor. "The name change is a natural follow-up to the strategy we laid out last year, where we laid the foundation for a shift from an oil focused company to a broad energy company. The Norwegian continental shelf will still be the backbone of our business for a long time," said Eldar Sætre in spring 2018.

Five years later, one must regrettably acknowledge that the transition has been delayed. In 2022, 99.6 percent of the energy produced by Equinor was fossil energy. Only 0.4 percent was renewable.

Given its size, Equinor has significant opportunities to influence the pace of the energy transition and thereby the ability to meet the Paris goals. Where the company allocates its investments at any given time greatly affects how quickly renewable energy can replace fossil fuels and the pace of deployment of cleantech solutions.

In a Norwegian context, Equinor has always been in a league of its own in terms of turnover and earnings. However, the last two years have been quite extraordinary, first due to Putin's manipulation of the energy markets and then the war in Ukraine. Equinor's adjusted earnings after tax in 2021 and 2022 were 10.0 and 22.7 billion dollars respectively.

At the Norwegian Climate Foundation, we believe it's important to focus on "the big money." The purpose of this report is simply to put Equinor and

its priorities on the agenda, and to encourage a debate on issues that concern the entire Norwegian society and therefore should have been discussed more extensively:

- Does Equinor currently exercise the leadership that the climate crisis and the Paris agreement require?
- To what extent do Equinor's priorities contribute to accelerating the energy transition and thereby increasing the possibility of reaching the climate goals?
- What kind of company does today's management envision Equinor being in 2050?

For the politicians who manage 67 percent of Equinor's shares on behalf of the Norwegian people, the question is this: Which framework conditions should the Parliament set for Equinor and the petroleum sector going forward, in light of the climate crisis and the need for a rapid and comprehensive energy transition?

2050 is only 26 years away. The time frame for transitioning to a society with net-zero greenhouse gas emissions is critically short. This is the backdrop as we now invite an informed public conversation about Equinor and its societal role—at a critical time for the world's energy transition.

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Summary and Conclusions

The Norwegian Climate Foundation's review of Equinor's energy production, emissions, and investments since the name change in 2018 shows that the company is still in the early stages of transitioning to renewable energy. The company has a long way to go to become a "leading company in the green transition," as articulated by Equinor's board and leadership. There is little in the current strategy to suggest that Equinor will treat renewable energy as anything other than a supplementary activity alongside its core focus on oil and gas production.

1 Equinor's energy production is still almost exclusively fossil-based:

In 2022, oil and gas production amounted to two million barrels of oil equivalents per day, while renewable electricity generation reached 1.65 terawatt-hours. This means that renewable energy accounted for only 0.4 percent of the total energy production of Equinor.

2 Unchanged renewable capacity since 2018:

By the end of 2022, Equinor had a total installed renewable capacity of 0.6 gigawatts (GW). This is precisely the same as in 2018. The company's ambition is to increase its renewable capacity from 0.6 GW to 12-16 GW by 2030.

3 14 percent of Equinor's investments went towards "renewable energy and low-carbon solutions"

In 2022, 86 percent of Equinor's investments were directed towards oil and gas. In total, Equinor spent approximately 10 billion dollars on investments during that year. The company's goal is to increase the share allocated to "renewable energy and low-carbon solutions" to 50 percent by 2030.

4 1 percent of Equinor's total investments in 2022 went towards low-carbon solutions such as carbon capture and storage (CCS) and hydrogen

The petroleum industry, including Equinor, has long promoted hydrogen produced from natural gas as a crucial climate solution. The same applies to carbon capture and storage (CCS). However, Equinor's plans for hydrogen appear vague, and significant investments have been lacking so far. Northern Lights is Equinor's most concrete project regarding carbon capture, a project that has received substantial government support.

5 In the realm of green investments, the company has primarily focused on offshore wind, with some expansion into solar energy over time

Equinor aims to secure a substantial position in offshore wind. This climate solution is heavily reliant on policies regarding areas, licenses, and financial support mechanisms. Consequently, the development of new projects takes time. Within solar energy and other land-based renewable power sources, the current strategy seems to involve acquiring established companies.

6 Since the name change in 2018, the company has reduced its own greenhouse gas emissions by 24.5 percent

Electrification is the most crucial climate solution. In many cases, high CO₂ costs make investments in emission reductions on the Norwegian continental shelf profitable for Equinor. The majority of the electricity Equinor uses comes via cables from the grid; in 2022, the company imported 6 terawatt-hours (TWh). This makes Equinor one of the country's largest electricity consumers.

7 The emissions when Equinor's oil and gas are burned are equivalent to five times Norway's CO₂ emissions

Equinor's greenhouse gas emissions from production were 11.4 million tonnes of CO₂e in 2022. The emissions from the combustion of the oil and gas amounted to 243 million tonnes of CO₂e. Thus, emissions are more than 20 times higher when the oil and gas is combusted than when it is produced. In Equinor's communication, emphasis is placed on production emissions, highlighting that these are considered "low."

8 Equinor lacks answers on how to reduce Scope 3 emissions

Equinor's goal of achieving net-zero emissions by 2050 is not solely an emissions target but rather a goal to reduce carbon intensity to zero. The objective covers the entire value chain but lacks specific answers detailing the extent and manner of Scope 3 emissions reduction, i.e. when end users burn oil and gas. This was part of the rationale when Storebrand and KLP, both of which have ownership stakes in Equinor, chose not to support Equinor's Energy Transition Plan in 2022.

Renewable Energy—an Ancillary Activity

Oil is out of the company name, but not its core activities. Equinor's energy production is almost exclusively based on fossil fuels.

In 2022, the production of oil and gas was just above 2 million barrels of oil equivalents per day (mboe/day)¹. This level has been roughly consistent since 2018. Looking at the distribution between gas and oil, the share of gas has increased since the outbreak of the war in Ukraine.

When it comes to renewable energy, Equinor's total production for the grid and self-consumption reached 1.649 terawatt-hours (TWh) in 2022. This is slightly higher than the previous year but slightly less than in both 2020 and 2019. Additionally, 1.012 TWh of gas power was produced last year, making the total power production 2.661 TWh. In comparison, Equinor reports importing 6 TWh of power for facilities under the company's operational control in 2022.

By the end of 2022, Equinor could demonstrate an installed renewable capacity of 0.6 gigawatts (GW), exactly the same as in 2018. To facilitate a comparison between fossil fuel energy and renewable energy production, Equinor has converted the values to a common currency—terajoule (TJ)—on

its Sustainability Data Hub². The result is shown in the graph below: Out of a total energy production of 4.27 million TJ in 2022, only 16 050 TJ came from renewable energy. This equals a fossil fuels share of 99.6 percent.



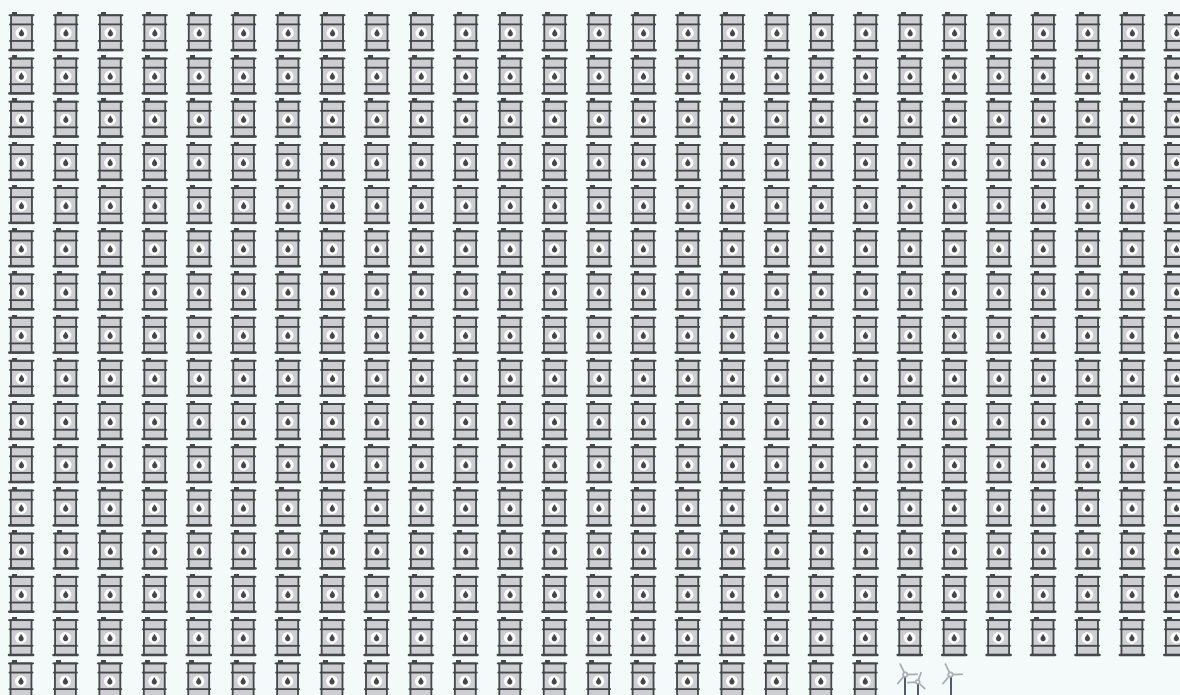
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Director

What is the goal for 2030?

Equinor aims to increase its installed renewable capacity from 0.6 GW to 12–16 GW by 2030, enabling an annual electricity production of 35–60 TWh. However, according to Equinor's latest annual report, alongside the growth in renewables, oil and gas energy production in 2030 will be maintained at approximately the same level as today, around 2 mboe/day. If both goals are achieved, renewable energy will account for 7–12 percent of Equinor's total energy production in 2030.

0.4 percent of Equinor's Energy Production is Green

2022 distribution of Equinor's energy production between fossil fuels and renewable sources, measured in terajoules (TJ). Each oil barrel represents 10 000 TJ.

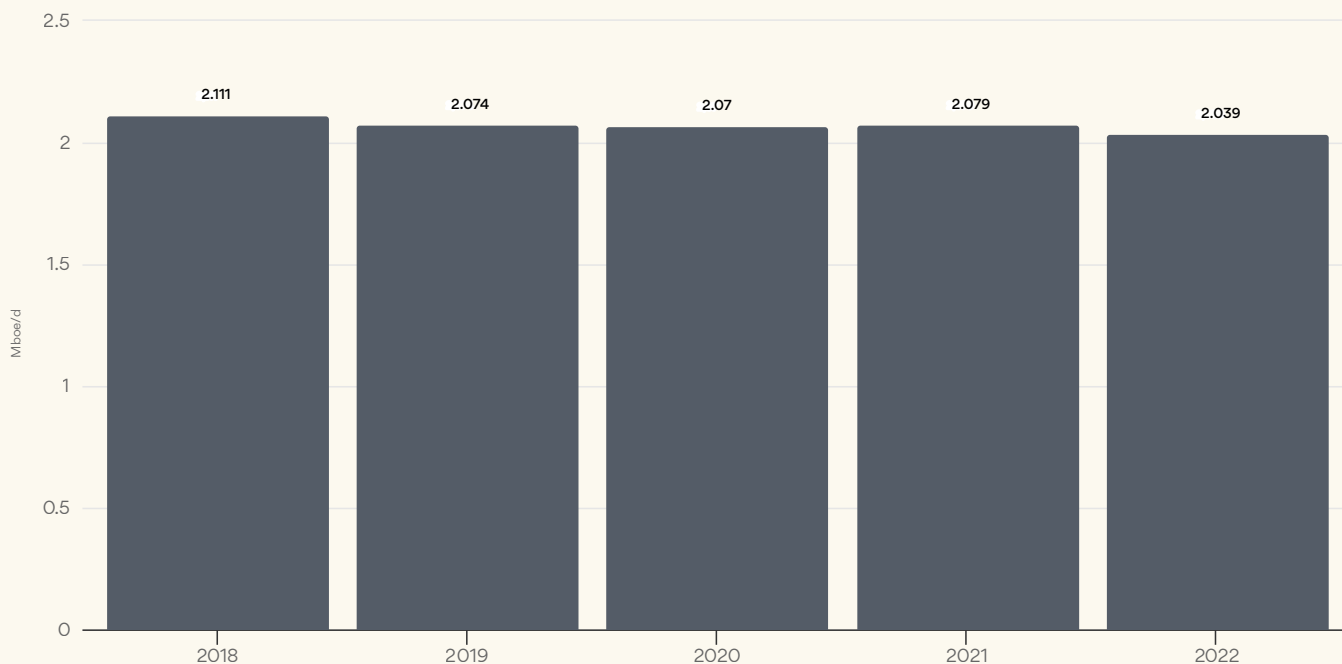


SOURCE

THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM EQUINOR SUSTAINABILITY DATA HUB

Steady Production of Oil and Gas

Equinor's own production of oil and gas, 2018–2022, in million barrels of oil equivalents per day (mboe/d).

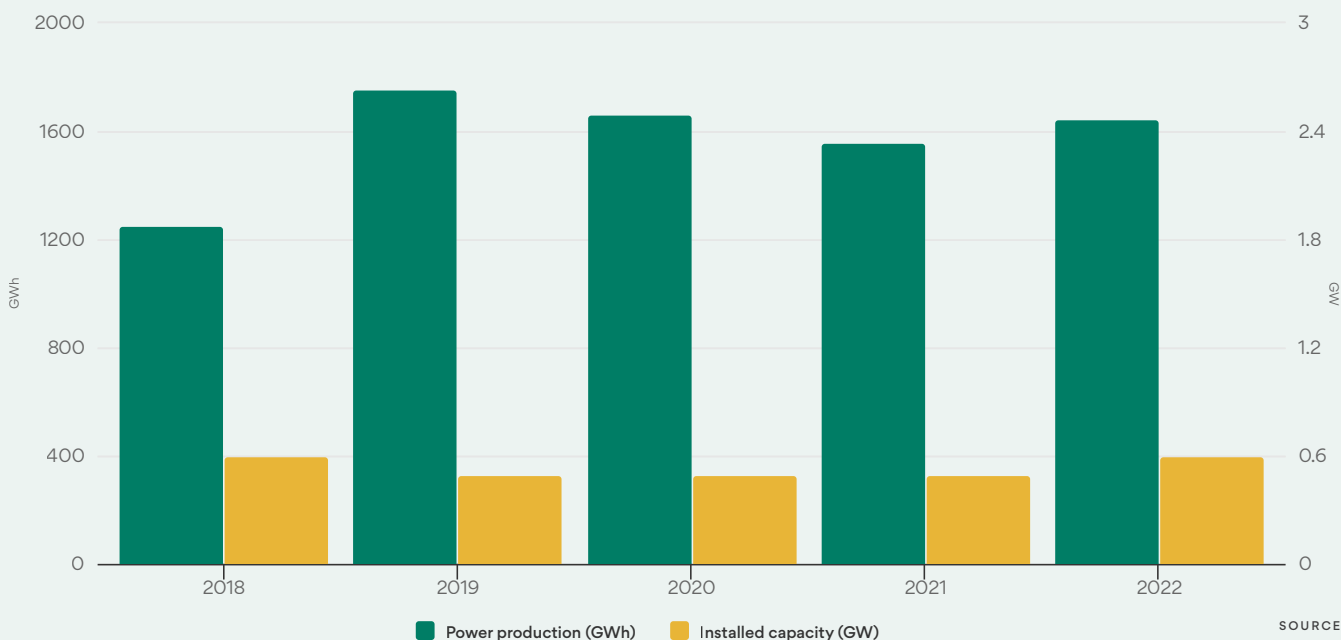


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The growth in renewables has been slow to materialize

Equinor's production (GWh) and installed capacity (GW) of renewable energy, 2018–2022.

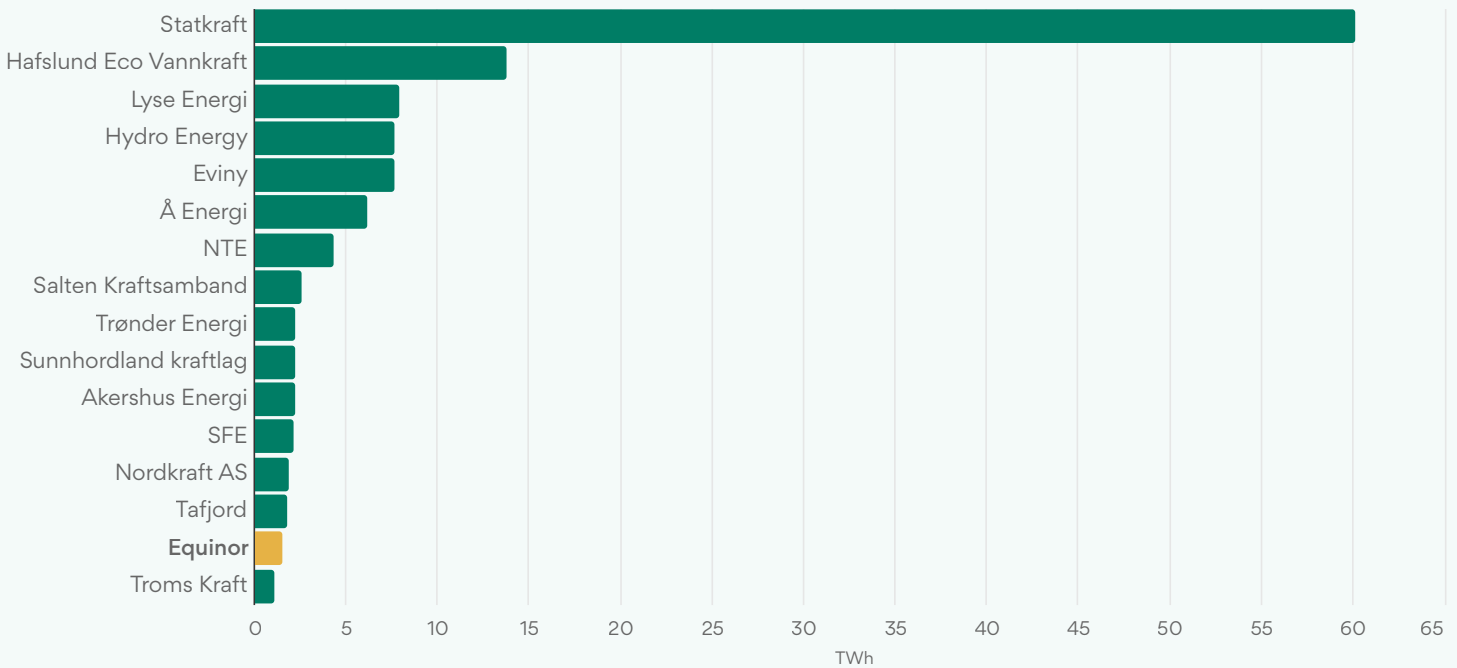


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Equinor's Renewable Production: Far From Pole Position

Renewable electricity generation by Equinor and a selection of Norwegian utilities in 2022, in terawatt-hours (TWh).



SOURCE

THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM THE ANNUAL REPORTS OF THE COMPANIES

Equinor produced 1.649 TWh of renewable electricity in 2022. In the Norwegian context, this is comparable to a moderately sized regional utility, larger than Troms Kraft but smaller than Tafjord Kraft. The production of Norway's largest generator of renewable energy, Statkraft, was 37 times larger than Equinor's in 2022.

The majority of Equinor's renewable production comes from its shares in offshore wind farms such as Sheringham Shoal (40 percent) and Dudgeon (35 percent) in the UK, and Arkona (25 percent) in Germany³.

The increase in power production from 2021 to 2022 is primarily attributed to the first full operational year of the solar power plant Guañizuil IIA in Argentina.

Equinor is increasingly consuming more electricity



While Equinor's production of renewable electricity is modest (1.65 TWh in 2022), the company's electricity consumption is significant. In 2022, Equinor imported a total of 6 TWh of electricity, almost exclusively from the Norwegian power grid.

As we approach 2030—the year when Equinor aims to halve direct emissions from its operations compared to 2015—electricity consumption will further increase. This is because electrification is Equinor's primary climate action, whether it involves electrifying offshore installations or onshore facilities. An action like electrifying the LNG plant at Melkøya alone will require an additional 3.6 TWh of electricity annually.



In August 2023, the government approved Equinor's plan to power the LNG facility at Melkøya in Hammerfest, Finnmark, with electricity from the grid. The facility is currently operated using gas power. Electrification entails an annual need for 3.6 terawatt-hours. The image shows the cooling tower for gas cooling.

.....
PHOTO: OLE BERG-RUSTEN / NTB

Equinor's Investments Primarily Go Towards Fossil Energy

Renewable investments are increasing significantly from a very low level. In 2022, 86 out of 100 investment dollars went to oil and gas.

No other Norwegian companies come close to Equinor's financial strength. The strong cash flow from oil and gas operations—which has been exceptional in recent years due to Russia's war in Ukraine—allows Equinor to allocate substantial amounts to new investments. In 2022, Equinor's gross investments amounted to nearly 10 billion dollars. Of this, 14 percent (1.4 billion dollars) went to investments in "renewable energy and low-carbon solutions." The company's goal is to increase this share to 50 percent by 2030.

Gross investments cover both projects that Equinor develops independently or partners on and entire or partial acquisitions. It also does not distinguish between internally or externally financed investments (project financing).

When asked what is meant by "renewable energy and low-carbon solutions," Equinor specifies that it includes facilities producing renewable energy (currently: onshore and offshore wind power and solar) as well as facilities and solutions contributing

to the decarbonization of energy or industry (such as CCS and hydrogen value chains).

Equinor has not provided a comprehensive list of individual investments in 2022 that add up to 1.4 billion dollars but states that investments in renewable energy production amounted to 1.3 billion dollars. The largest renewable investment is the offshore wind project Dogger Bank in the United Kingdom.

Investments in "low-carbon solutions" were limited to 0.1 billion dollars in 2022. Although there are several projects in the portfolio related to CCS and hydrogen, the investment dollars have not gone into this category thus far.

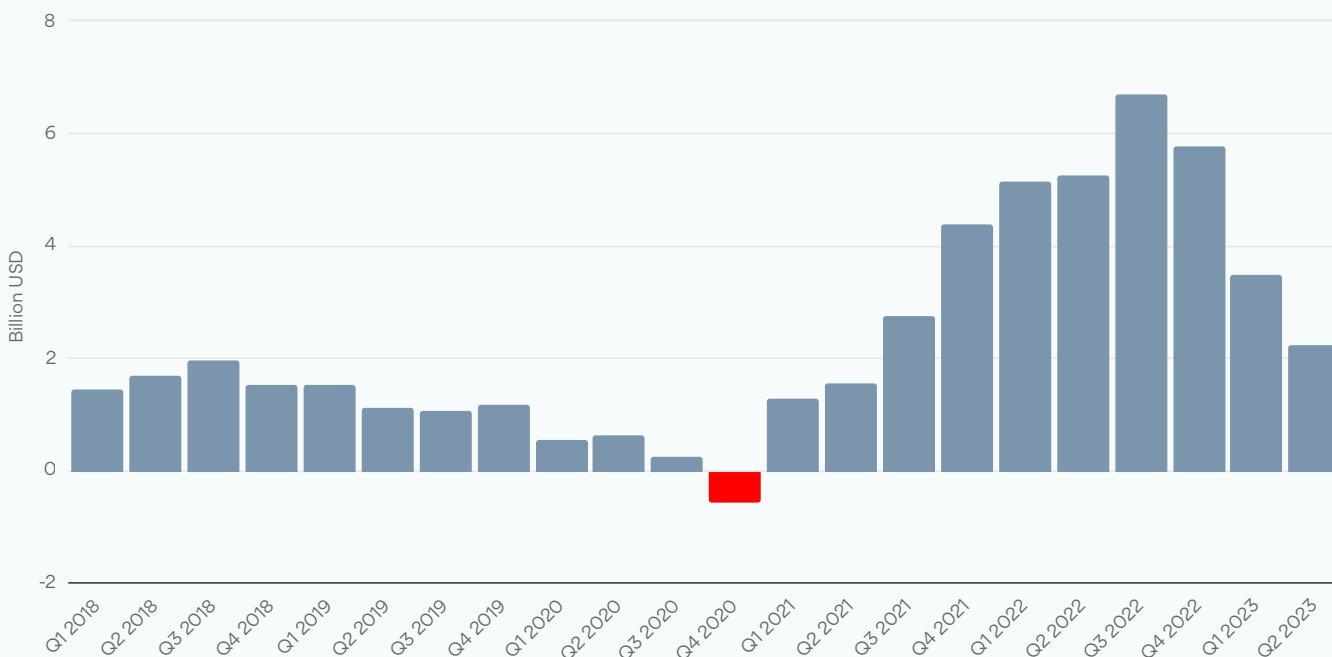
Equinor does not include investments in decarbonizing its own oil and gas production, such as electrification or energy-saving measures on the continental shelf, as investments in "renewable energy and low-carbon solutions."



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Money is Pouring Into Equinor

Net profit, quarterly, 2018–2023, in billion dollars

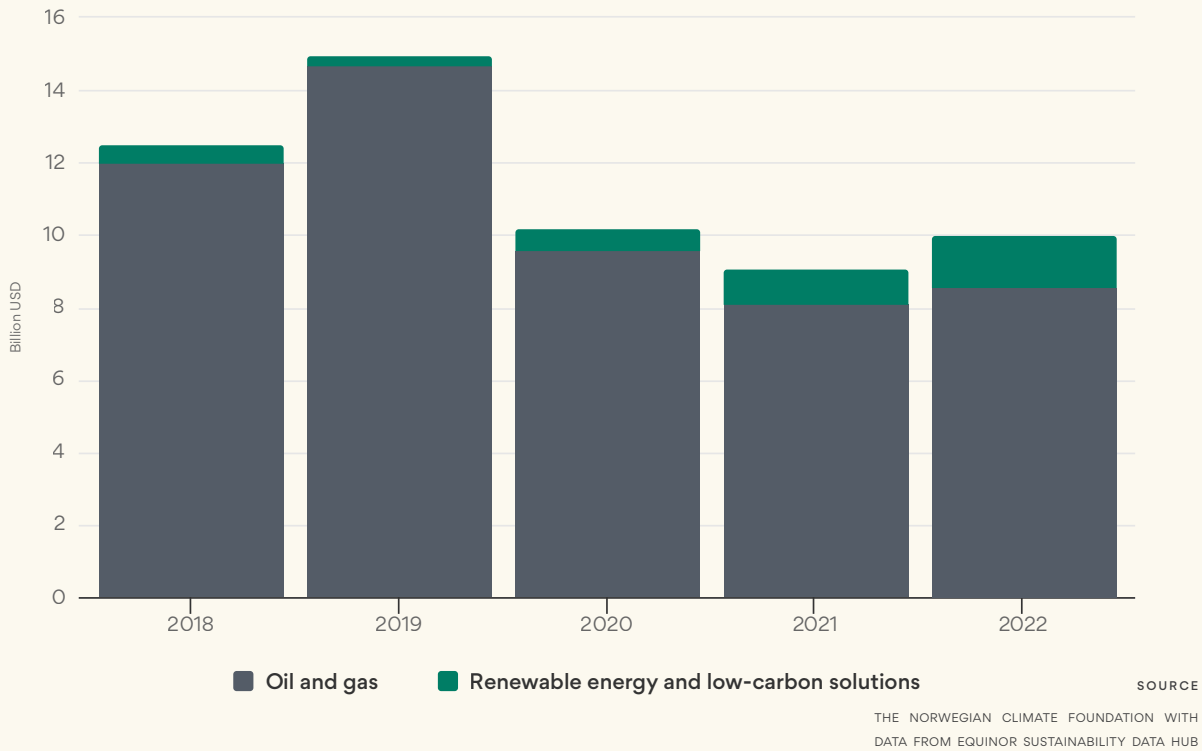


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THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM EQUINOR'S QUARTELY REPORTS

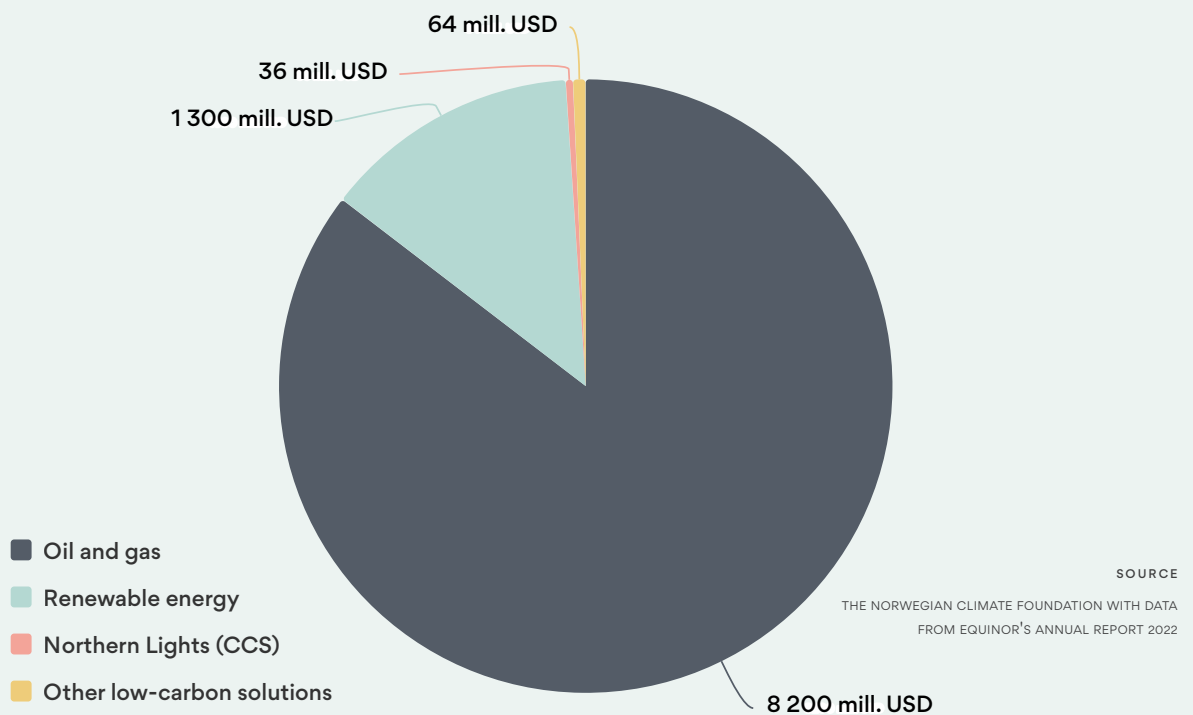
This is How Equinor has Invested

Distribution of Equinor's gross investments, in billion dollars.



CCS and Hydrogen left with crumbs

Distribution of Equinor's gross investments in 2022.



"We aspire to be a leading company in the green transition"

This is stated by Chairman of the Board Jon Erik Reinhardsen and CEO Anders Opedal in the preface to Equinor's first Energy Transition Plan⁸, which was approved by the general meeting in the spring of 2022.

One of the goals highlighted in the plan is to at least twentyfold the company's installed renewable capacity within eight years, from 0.6 GW in 2022 to 12–16 GW in 2030.

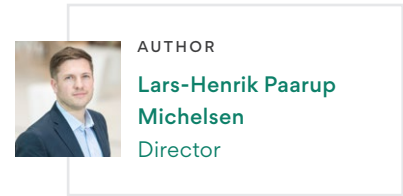
In the annual report for 2022, Equinor states they are on track to achieve this. Central to this effort are several offshore wind projects, including Dogger Bank⁴ in the United Kingdom. When the entire park is completed in 2026, it will be the world's largest offshore wind farm with a total capacity of 3.6 GW and an expected annual production of 18 TWh. Equinor owns 40 percent of Dogger Bank. The first power from Dogger Bank was delivered in early October 2023, but it will take another three years before the project is fully developed.

The company is also working on expansion plans related to existing offshore wind parks, in addition to entirely new offshore wind projects in the United States. There are also plans for offshore wind in

Poland, Japan, South Korea, France, Spain, and Vietnam, as stated in Equinor's annual report.

The impact of recent cost developments in offshore wind on the realization of these plans is difficult to predict, but many aspects have become more expensive than anticipated a few years ago⁵.

It's important to note that Equinor's renewable goal can also be achieved through acquisitions. In 2022, Equinor entered into an agreement to acquire 100 percent of the shares in the Danish company BeGreen⁶, a leading developer of solar energy projects in Northwestern Europe. BeGreen has a project portfolio of over 6 GW—which Equinor can include in its assets if the projects are realized. Equinor also owns 16.2 percent of the shares in the solar power producer Scatec⁷.



Equinor is Not Alone in Planning For Growth in Renewables

Installed renewable capacity in 2022 and stated ambitions for 2030, in GW

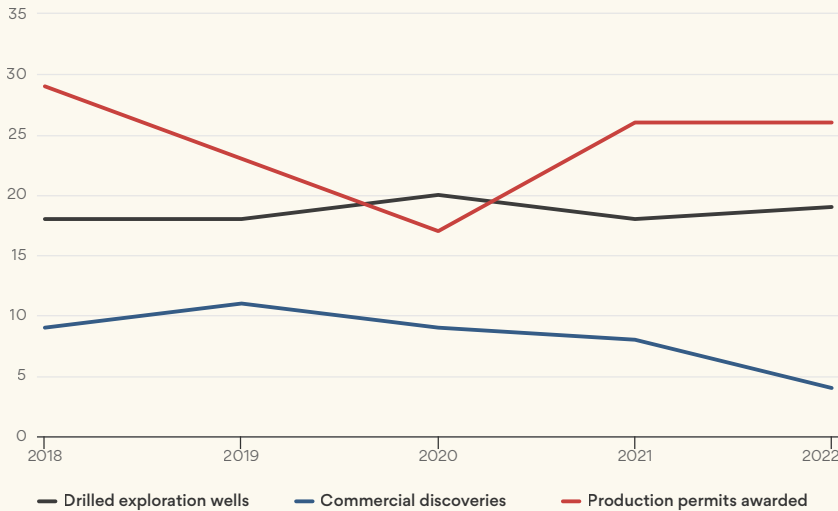


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THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM THE ANNUAL REPORTS OF THE COMPANIES

Still Going Strong on Oil and Gas

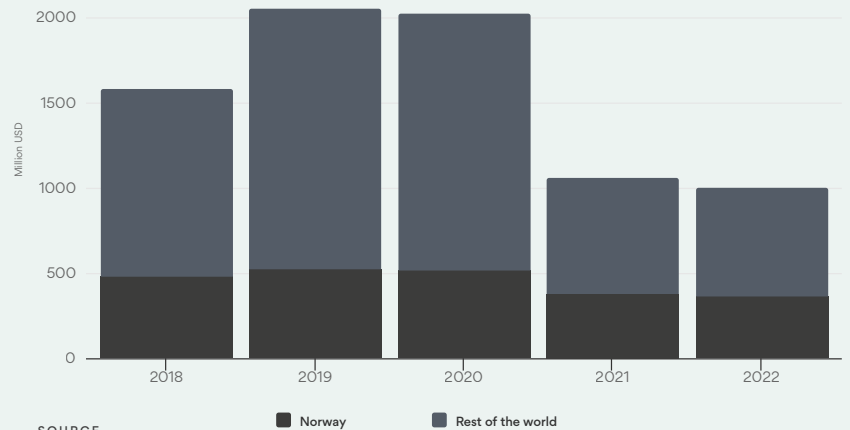
Equinor's ambitions to grow in the green sector are not meant to come at the expense of its core business: the production of oil and gas.



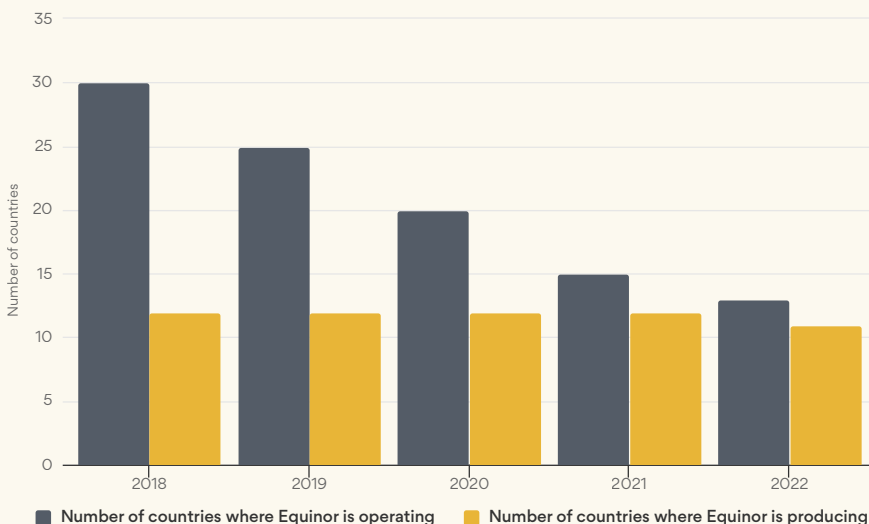
The state provides: In Norway, the government guarantees a regular supply of new exploration licenses on the Norwegian continental shelf. Since 2018, Equinor has been awarded an average of 24.5 exploration licenses per year. In 2021 and 2022, the number was 26. However, the number of commercial discoveries has slightly decreased.

SOURCE
THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM EQUINOR'S ANNUAL REPORTS

Oil and gas exploration: Exploration costs have been relatively stable in Norway since 2018, but globally they have been significantly reduced in recent years. Nevertheless, Equinor still spends substantial amounts on searching for new oil and gas—over NOK 10 billion in 2022.



SOURCE
THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM EQUINOR'S ANNUAL REPORTS



SOURCE
THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM EQUINOR'S ANNUAL REPORTS

Production worldwide: In recent years, there has been some attention on Equinor's international business. It peaked in 2020 when DN⁹ revealed that the company had lost over NOK 200 billion on its operations in the USA.

In the period 2018–2022, Equinor has reduced the number of countries in which it operates from 30 to 13. However, the number of producing countries has remained stable during the same period.

Still an Oil Company in 2030

Equinor's transformation ambitions, combining a focus on renewable energy with continued high production of oil and gas, will result in a renewable share of 7-12 percent by 2030.

Equinor aims to produce around 2 million barrels of oil and gas per day in 2030, which is at the same level as in 2022. Additionally, Equinor aims to increase its renewable capacity from 0.6 GW in 2022 to 12-16 GW by 2030. This could provide Equinor with a production of 35-60 TWh of renewable electricity per year.

If Equinor succeeds in both their fossil and renewable production goals, it means that the renewable share of the company's total energy production in 2030 will increase from 0.4 percent in 2022 to 7-12 percent, depending on whether they develop 12 or

16 GW of renewable electricity. It is a significant improvement, but Equinor will still primarily be an oil company.

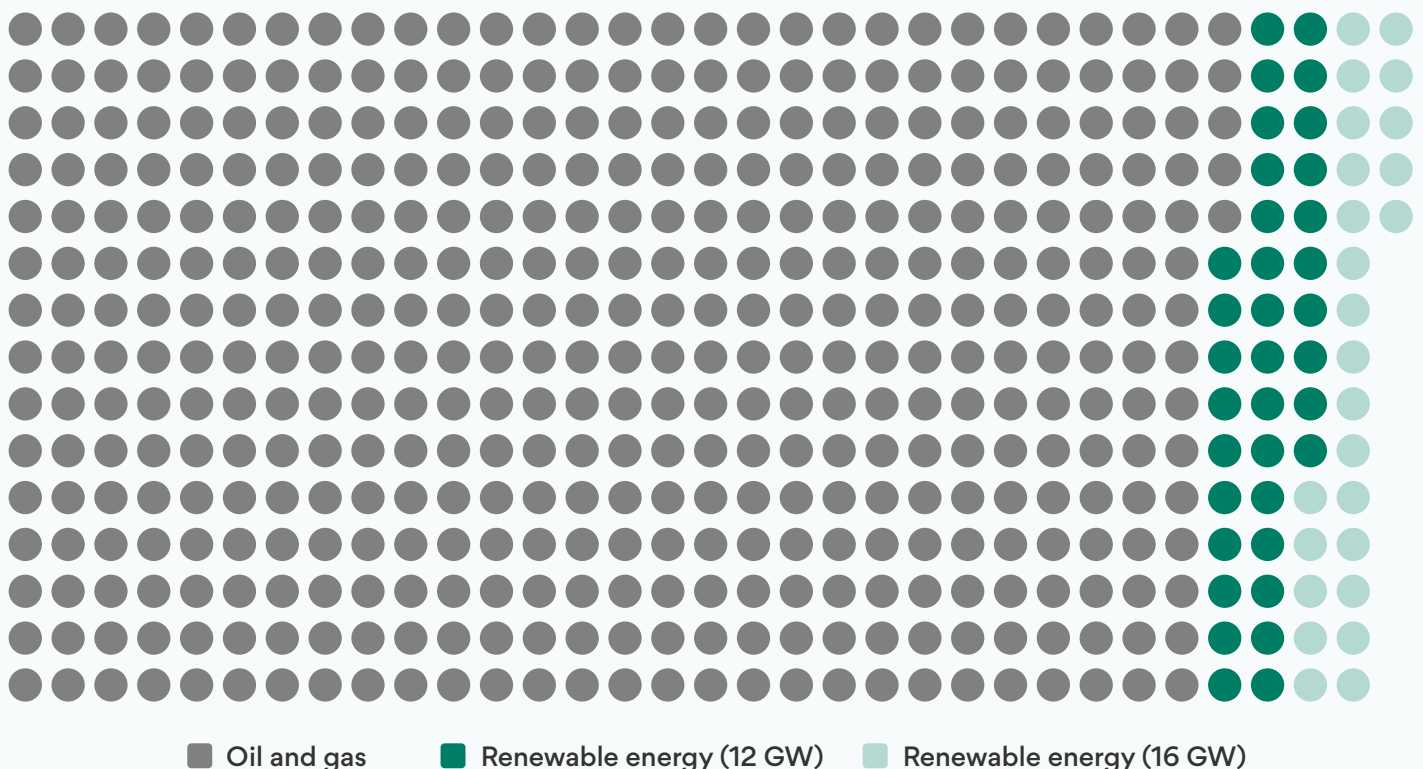


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In the chart below, we assume that the company's oil and gas production remains at the same level in 2030 as it was in 2022, while the renewable capacity is increased to either 12 or 16 GW.

Oil and Gas Will Continue to Dominate Equinor's Energy Production in 2030

Projection of Equinor's energy production in 2030 based on the company's goals of 1) maintaining oil and gas production at around the 2022 level and 2) increasing the installed renewable capacity to 12-16 GW. Each dot represents 10 000 terajoules (TJ), equivalent to 2.8 TWh.



SOURCE

THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM EQUINOR SUSTAINABILITY DATA HUB



↗
Even though Equinor has a stated ambition to become a broad energy company, the energy portfolio is heavily dominated by oil and gas. This will also be the case in 2030, despite the company achieving their growth ambitions for renewable energy. Image from the Kristin field in the Norwegian Sea.

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PHOTO: MARIT HOMMEDAL / ©EQUINOR

Reduced Own Emissions by a Quarter

Equinor is cutting emissions in its own production, primarily through electrification. In many cases, high CO₂ costs make it profitable for Equinor to invest in emission reductions on the Norwegian continental shelf.

In 2018, Equinor's own greenhouse gas emissions were 15.1 million tonnes of CO₂e (scope 1 and 2), whereof 13 million in Norway. In 2022, the company emitted 11.4 million tonnes of CO₂e, whereof 11 million in Norway. During this period, Equinor invested in emission reductions in its own production, mainly through electrification. These are some of the key measures:

- In October 2019, the company announced that the Johan Sverdrup field would supply power to the Gina Krog, Ivar Aasen, and Edvard Grieg fields from 2022. Maximizing the use of onshore power for the area was facilitated by enabling partial electrification of the Sleipner field center, a decision made in June 2020.
- In April 2021, Equinor and partners submitted a plan to electrify Troll West. The decision included partial electrification of the Troll B platform and full electrification of Troll C in the North Sea.
- In October 2023, Hywind Tampen was in full operation, a project with significant technological development. With 11 wind turbines, it became the world's largest floating offshore wind farm. Gullfaks and Snorre became the first oil and gas platforms in the world to receive power from

offshore wind to reduce their own emissions. In 2019, the state, through Enova, granted a subsidy of NOK 2.3 billion to the Hywind Tampen project. The project ended up being much more expensive than expected, with the final cost reaching NOK 8 billion.

- In December 2022, Equinor and partner OKEA applied to electrify Njord A, effective from 2027.
- In August 2023, the government approved the Snøhvit Future project, aiming to electrify the LNG plant at Melkøya from 2030. The gas turbines will be kept on standby until 2033.

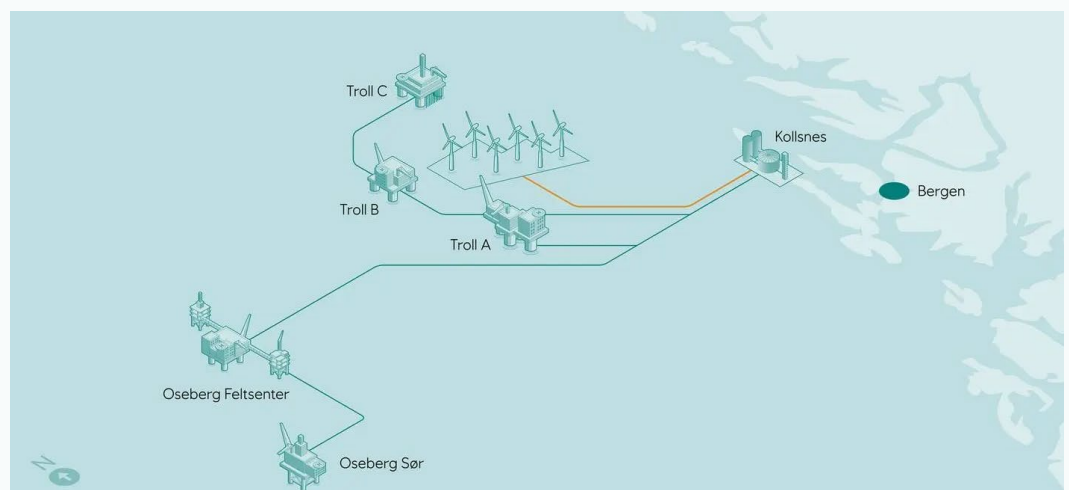
In June 2022, it was announced that Equinor and partners in the Troll and Oseberg fields had initiated a study to explore a floating offshore wind farm in the Troll area. The plan was for Trollvind to supply most of the power needed to operate the Troll and Oseberg fields. However, in the spring of 2023, the project was put on hold due to "high costs and tight timelines".



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According to Equinor, the prestige project Troll Wind was supposed to contribute a total of 4.3 TWh of power. Through a connection to the mainland, the floating offshore wind farm was intended to supply renewable power to the Troll and Oseberg fields from 2027. The plan was shelved in 2023. (Illustration: Equinor.)





The offshore wind farm Hywind Tampen went into production in 2022, but was officially opened in August 2023 by Crown Prince Haakon and Prime Minister Jonas Gahr Støre—on the oil platform Gullfaks C in the North Sea. Here seen together with directors Kjetil Hove and Siri Kindem from Equinor.

PHOTO: OLE BERG-RUSTEN / NTB



Hywind Tampen covers 35 percent of the annual power consumption for the platforms Snorre A and B and Gullfaks A, B, and C. The park consists of 11 floating turbines with a combined capacity of 88 MW.

PHOTO: OLE JØRGEN BRATLAND / @EQUINOR

Significant Emissions From Oil and Gas Burning

The emissions resulting from the combustion of Equinor's oil and gas are equivalent to five times Norway's greenhouse gas emissions.

Equinor's own greenhouse gas emissions were 11.4 million tonnes of CO₂ equivalents in 2022, while the emissions from burning oil and gas were 243 million tonnes of CO₂e.

Equinor's climate accounts provide details on the greenhouse gas emissions from the company's own operations (Scope 1) and energy purchases (Scope 2).

Equinor also reports emissions that occur when oil and gas are burned (Scope 3). This is where the truly significant numbers come to light. Combustion emissions (Scope 3) vary with production and have been around 250 million tonnes of CO₂e per year in recent years. This corresponds to about five times Norway's emissions, as reported according to UN regulations.

The ratio between production emissions and combustion emissions is also interesting. Emissions are over 20 times higher when oil and gas are burned compared to when they are produced.

The 'accounting rules' for greenhouse gas accounting specify which emissions should be accounted

for in different categories.

Scope 1 includes own emissions related to production, Scope 2 involves the purchase of electricity, while Scope 3 refers to emissions occurring

elsewhere in the value chain. For an oil company like Equinor, combustion emissions are the largest source of emissions in this category. However, Equinor also reports emissions from maritime operations—vessels in Equinor's service worldwide—and business trips.

On the other hand, Equinor does not report emissions related to the production of, for example, drilling rigs and supply ships, or the emissions that occur when these are transported around the world—for example, from a shipyard in Korea to a field in Norway. These are often large steel constructions weighing tens of thousands of tonnes. Both the production and transport of production facilities result in significant greenhouse gas emissions.

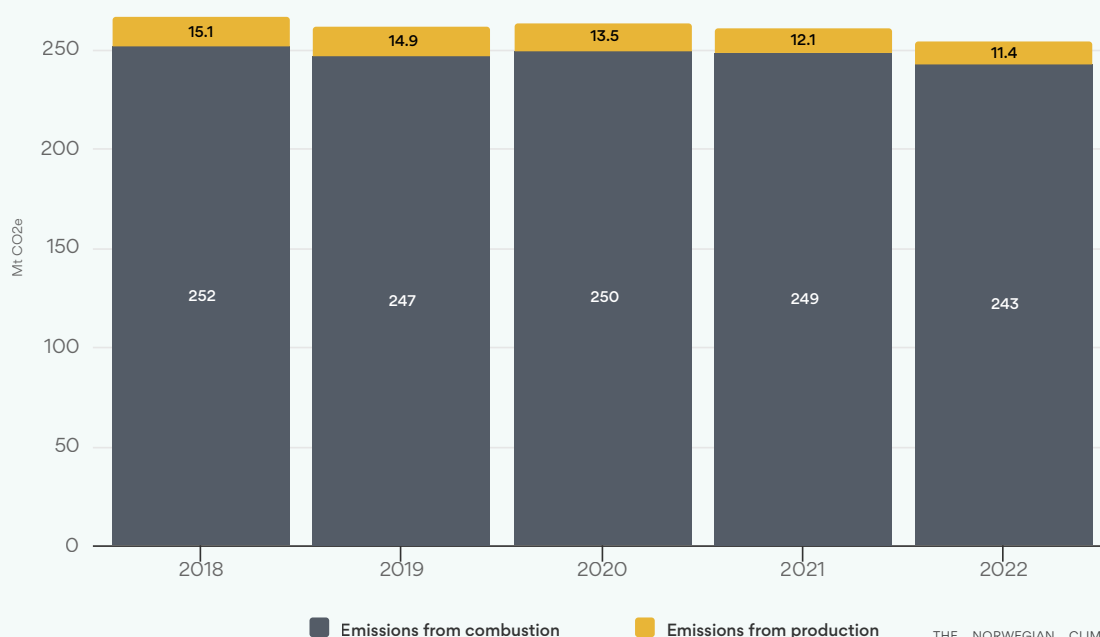


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Emissions From Combustion are 20 Times Higher Than Those From Production

Distribution of Equinor's greenhouse gas emissions, in million tonnes of CO₂ equivalents.

Emissions from production include Scope 1 and 2. Emissions from combustion are Scope 3.

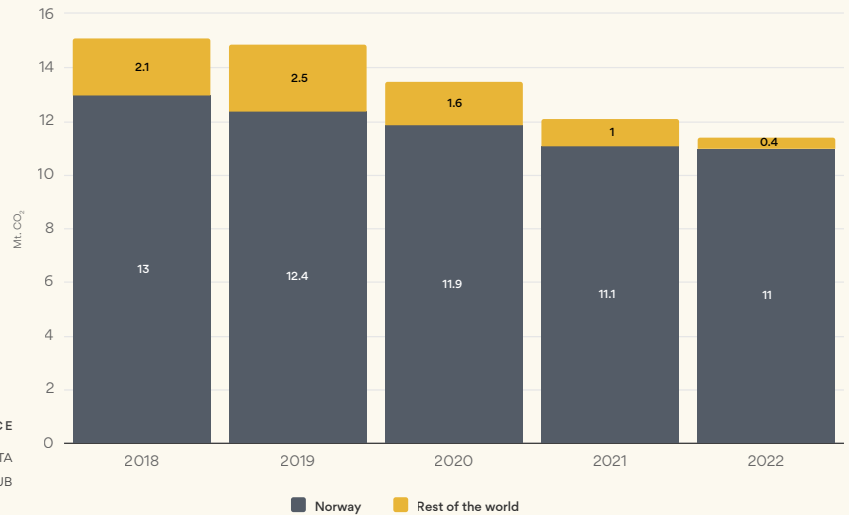


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Norway Dominates

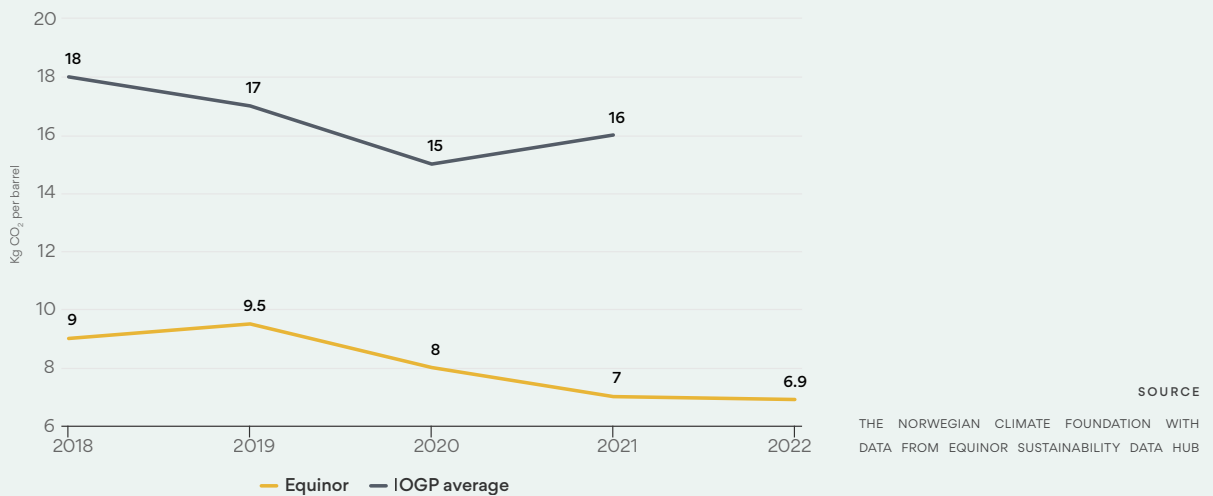
Equinor's emission accounts clearly illustrate the significant impact of Norwegian activities on the company. Equinor's own emissions (Scope 1+2) in 2022 amounted to 11.4 million tonnes of CO₂e for its global operations, with Norway accounting for 11 million tonnes of CO₂e.



Emissions per Barrel

When platforms are electrified using power from the mainland grid, emissions decrease. Gas turbines are replaced with power from renewable energy sources. Extracting the last drops of oil from a field is also highly energy-intensive, causing emissions per unit of production to increase towards the end of a field's lifespan.

Emissions from fields outside Norway with Equinor as operator are much higher than the best on the Norwegian shelf. The emissions per produced barrel from Peregrino in Brazil are 21.7 kg/CO₂ per oil barrel, while Mariner in the United Kingdom has emissions of 14.4 kg/CO₂ per oil barrel.



Equinor's emissions costs have steadily increased in recent years, largely due to higher CO₂ prices.

Costs (million USD)	2022	2021	2020	2019	2018
Total costs and environmental fees	1 125	978	676	786	772
CO ₂ costs in Norway	997	907	590.7	-	-

SOURCE: EQUINOR SUSTAINABILITY DATA HUB

Black Holes in Equinor's Transition Plan

How can one reduce emissions generated when end-users burn oil and gas? Owners believe Equinor lacks credible answers in this regard.

In multiple rounds, Equinor has presented ambitions for how the company will operate in line with the Paris Agreement goals. In this context, the significant challenge for the company is the CO₂ released when oil and gas are burned. This accounts for 95.3 percent of the company's total emissions (Scope 1, 2, and 3—see fact box). In 2022, Scope 3 emissions amounted to 243 million tonnes of CO₂e.

In 2022, Equinor presented its first energy transition plan¹⁰, outlining its climate goals, which can be summarized as follows:

- Halve greenhouse gas emissions from its own-operated fields by 2030 compared to 2015 levels, with 90 percent achieved through absolute emission reductions.
- Allocate more than half of annual gross investments to renewable energy and low-carbon solutions by 2030.
- Reduce net carbon intensity, including emissions from the use of products sold, by 20 percent by 2030 and 40 percent by 2035. Equinor aims to be a "net-zero" company by 2050.

The first goal is clear and manageable, largely achievable through the electrification of oil installations. However, the concern lies in how the transition plan addresses emissions from the use of oil and gas sold to end-users.

Equinor's goal of net-zero by 2050 is not merely an emissions goal, but also a carbon intensity goal. Carbon intensity is a measure of emissions per unit of production. Equinor measures carbon intensity by dividing the company's emissions from the entire value chain (Scope 1, 2, and 3) by energy production. The goal is to reduce carbon intensity

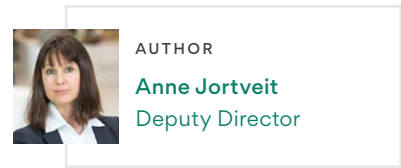
by 20 percent by 2030, 40 percent by 2035, and 100 percent by 2050, with 2019 as the reference year. A weakness in Equinor's transition plan is the lack of specific goals for actual emission reductions in Scope 3, i.e. the emissions that occur when end-users burn oil and gas. Equinor is also vague in describing how they will achieve "net-zero," beyond mentioning increased carbon capture and storage. The plan appears unclear and challenging to verify.

This is what shareholders Storebrand and KLP pointed out in their feedback on the Energy Transition Plan, as reported in DN in May 2022¹¹. Jan Erik Saugestad, CEO of Capital Management at Storebrand, put it this way:

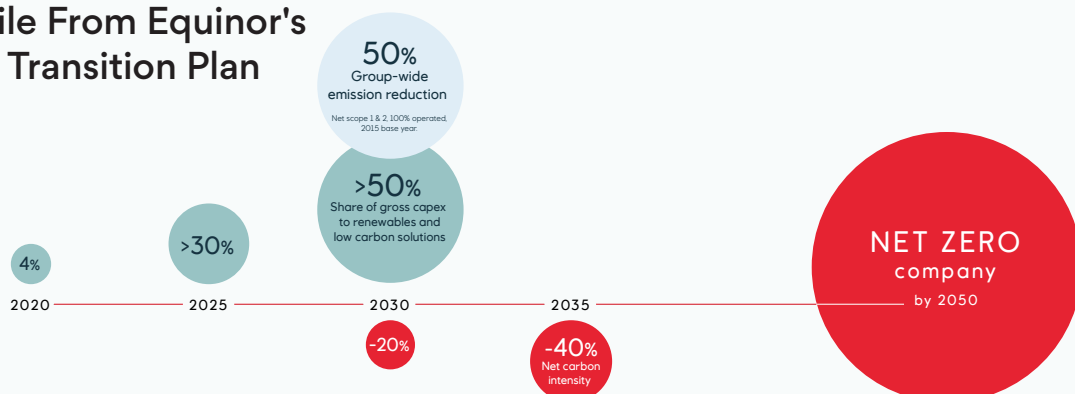
"We find, however, that the plan has weaknesses that do not meet our expectations and do not provide good enough answers on how the company will contribute to actual emission reductions."
 "With the current plan, the company could increase its total emissions as long as they invest in renewable energy. We want an ambition for total emissions, including scope 3."

"Except for production emissions until 2030, the plan does not show how the company expects absolute emissions from production and use to develop towards 2050."

In the spring of 2023, several financial institutions—including Storebrand, Danske Bank, and KLP—wrote a joint letter to the Prime Minister's office about Equinor's transition plan and how the company is not doing enough. A representative for Equinor's owners—Senior Analyst for Responsible



Facsimile From Equinor's Energy Transition Plan



- Read more about our capex allocation on page 21
- Read more about our group-wide emission reduction on page 13
- Read more about our net carbon intensity ambition on page 12

Investments at KLP, Arild Skedsmo—stated the following in E24¹²:

"We at KLP Capital Management are primarily concerned that Equinor's energy transition plan lacks clear goals for how the company will reduce what is called scope 3 emissions, which are emissions resulting from the combustion of oil and gas. Such goals are crucial in order to assess whether emissions are decreasing in line with the goals of the Paris Agreement."

In Equinor's transition plan presentation, the idea is that emission-free energy production will increasingly constitute a larger share of the total. This way, the "net carbon intensity" is reduced. However, as long as Equinor sells oil and gas that are burned, there will be emissions associated with this, even if Equinor produces an equivalent amount of renewable energy.

This is the essence of KLP's and Storebrand's criticism of Equinor's transition plan.

For a company to be net-zero by 2050, increased carbon capture or storage must offset the amount of emissions caused by combustion.

What can we expect from a civilized company?

Equinor is a civilized company from a democratic country with the Norwegian state as the majority shareholder. Therefore, it is expected that Equinor, investing in long-lead-time operations and plans for production over several decades, can account for how the company will handle emissions. This includes Scope 3 emissions in 2050. Credible answers are lacking here.

In addition, Equinor's energy transition plan includes several caveats, effectively shifting responsibility to political authorities both in Norway and in other countries where the company operates:

- "To deliver on the transition strategy, the necessary framework conditions must be in place, and we must have support from politicians."
- "Rapid reductions in emissions from own-operated oil and gas fields and facilities in Norway depend on the availability of, and access to, electricity."
- "Our ambitions to continue building our global renewable and CCS portfolio depend on authorities putting in place the necessary permit and tax systems and making areas available for both offshore wind and carbon storage."
- "Our plans to develop low-carbon solutions de-

pend on support from national and local authorities and participation from other companies along the value chain."

- "We also depend on authorities accelerating the development and integration of new technologies, both directly through research and development and through the use of carbon pricing systems, solutions that contribute to emission reductions."

It is undoubtedly true that political frameworks are essential. Political authorities could, for example, demand carbon capture and storage at Melkøya. Politicians could also insist that the company addresses emissions on the continental shelf itself—for example, by building offshore wind, as Equinor itself planned through the shelved Troll-wind project. This would be more expensive than sourcing electricity from the mainland, but Equinor and the rest of the oil industry have considerable financial capacity.

Moreover, with the massive investment power Equinor has—especially after the company became an involuntary war profiteer following Russia's attack on Ukraine—Equinor can invest more in accelerating the development and integration of new technologies and new renewable energy.

It is conceivable that more investment in solar energy and more decentralized energy production could provide the company with greater growth opportunities and reduce its political dependence on success with offshore wind or carbon capture in a relatively small number of countries.

The big question here is whether Equinor is set up for such a task, both in terms of competence and culture. Is society better served if the state, as the majority shareholder, demands a larger dividend and places the investment funds elsewhere?

These are questions the government and the parliament must address more extensively in the coming years.

Emissions from Scope 1, 2, and 3:



- Scope 1: Direct emissions from own operations (assets the company has operational control over, e.g. the use of fossil fuels).
- Scope 2: Indirect emissions from energy consumption (purchased energy—electricity and district heating/cooling).
- Scope 3: Indirect emissions from the purchase and sale of goods and services.

Equinor and the Energy Transition: Still at its Nascent Stage

Investments in climate solutions have been sparse since Statoil became Equinor. In the green sector, the company has primarily focused on offshore wind and to a smaller extent solar energy.

The name change from Statoil to Equinor sparked debate when the proposal came to the table in the spring of 2018. In the summer of 2018, the then Communications Director of the company, Reidar Gjørum, wrote an article in DN¹³ explaining, among other things, the need to drop "oil" from the name:

"We saw that the perception of the company was not in line with the actual development we were in, and that the name acted as a hindrance to dialogue with important target groups."

"We have chosen a name that signals an aspiration to contribute to shaping the future, to be competitive also in a low-carbon society. As a carbon-efficient producer of oil and gas, but also as a major supplier of energy from wind and solar," wrote Gjørum.

Before the name change, Statoil had started referring to itself as a "broad energy company." From now on, the Statoil name would not obstruct communication concerning the company's green long-term plans.

Over five years after the name change, at the end of 2022, only 0.4 percent of the energy Equinor produces is renewable energy. The rest is fossil energy. In 2022, Equinor's gross investments were approximately 10 billion dollars, with 1.4 billion dollars spent on «renewable energy and low-carbon solutions».

In light of this, it is reasonable to argue that Equinor is still at its nascent stage when it comes to the green shift and energy transition.

But while investments in climate solutions in the last five years may seem sparse in terms of dollars and cents, there is no shortage of marketing of big and small "green" investments and initiatives. Since 2018, the company has issued an impressive number of press releases about minor and major events. Some relate to specific renewable investments, but in many cases they are rather unsubstantial.

Crucial to offshore wind, but policy-dependent

Equinor has secured a position in offshore wind, a

climate solution heavily dependent on policies involving areas, licenses, and financial support. Consequently, it takes time to develop new projects.

Key milestones and projects in offshore wind intended for sale in power markets are:

- **Hywind Scotland (UK):** The world's first floating wind farm opened in 2017. The test facility with its five turbines was developed by Equinor with the aim of realizing profitable, large-scale floating wind farms. Equinor owns 75 percent, and the installed capacity is 30 MW.
- **Sheringham Shoal (UK):** The company serves as operator and owns 40 percent. The park consists of 88 turbines and opened in 2011. Installed capacity: 0.317 GW.
- **Dudgeon (UK):** Equinor serves as operator and owns 35 percent. The park consists of 76 turbines and opened in 2017. Installed capacity: 0.402 GW. There are expansion plans for both Sheringham Shoal and Dudgeon.
- **Dogger Bank (UK):** Equinor owns 40 percent. Production started in October 2023. When all three phases of the project are completed in 2026, it will be the world's largest offshore wind farm, with 277 fixed-bottom turbines. Installed capacity: 3.6 GW, enough to power six million British homes.
- **Arkona (Germany):** Equinor owns 25 percent. The park consists of 60 turbines located in the German part of the Baltic Sea. Opened in 2018. Installed capacity: 0.385 GW.
- **Empire Wind 1 and 2 and Beacon Wind 1 (USA):** Equinor has secured several large offshore wind licenses in the USA, intended to supply renewable power to the state of New York. Equinor and bp each own 50 percent. The total installed capacity is 3.3 GW. The projects have become much more expensive than expected. Equinor is



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negotiating with the authorities for further financing, but the outcome is uncertain.

Within offshore wind, part of Equinor's business idea is to develop new projects and then sell shares in them. This type of divestment reduces Equinor's share of renewables, but the development of the projects is essential because they still contribute to bringing more renewable power into the market. Through sales, Equinor releases funds for new investments and dividends.

Solar and Onshore Wind

Within solar energy and other onshore renewable power production, the business idea seems to be, among other things, to acquire established companies. An example from 2023 is the acquisition of the Danish solar power company BeGreen, which has a portfolio of projects from early to medium maturity. In total, this involves over 6 GW in Denmark, Sweden, and Poland. Within solar energy, Equinor also owns the Polish company Wento (100 percent) and Norwegian Scatec (16.2 percent).

Interestingly, Equinor has also resumed interest in onshore wind and has projects in Argentina and Brazil. In September 2023, the company bought an onshore wind farm in Poland. This is 13 years after then CEO of Statoil, Helge Lund, gave up onshore wind in Norway, stating that the company would rather focus on offshore wind.¹⁴

Hydrogen and CCS

The petroleum industry, including Equinor, has long advocated for hydrogen produced from fossil gas as an essential climate solution. The same applies to carbon capture and storage (CCS). Both are measures that align well with the activities of oil companies. Blue hydrogen, hydrogen produced with fossil gas combined with CCS, can give longer life to gas even in a low-carbon society. For Equinor, blue hydrogen is a crucial argument to defend continued exploration for fossil gas.

The future possibility of producing hydrogen with carbon capture and storage in the UK was the reason Equinor acquired the conventional gas power plant Saltend Power Station in 2022, through the purchase of the power producer Triton Power. The ambition is to convert the gas power plant to hydrogen operation over time.

In Germany, Equinor also has ambitions to establish large-scale hydrogen value chains. In January 2023, Equinor entered into a memorandum of understanding on this with the German company RWE. The project involves building new gas power plants to accelerate the phase-out of German coal power. These gas power plants will be prepared for hydrogen use, but it is uncertain how long it will take for hydrogen, blue or green, to actually replace fossil gas.

For Equinor, the plans for hydrogen currently appear somewhat vague, even though their ambitions are expressed clearly. There is often talk of "feasibility studies" and projects like "examining the development of hydrogen value chains from fossil gas" in Belgium, the Netherlands, and France.

For hydrogen, we see a clear "chicken and egg" problem, where investment decisions in production are reluctant, while potential customers wait to invest in the use of low-carbon hydrogen until the supply side is in place. Here, stronger political action is needed, with policies setting requirements and providing coordination across sectors and national borders so that value chains can develop more rapidly and with manageable risk.

Regarding carbon capture, Northern Lights is Equinor's most concrete project—with substantial state financing. Northern Lights includes the transport and storage of CO₂ and is a central part of Langskip—the government's project for full-scale carbon capture and storage (CCS).



← In July 2023, Equinor entered into an agreement to acquire Rio Energy, a company in the field of onshore renewable energy in Brazil. The Serra da Babilonia 1 wind farm in the northeast of the country is part of Rio Energy's portfolio.

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Successful Climate Policy Means Lower Revenues for Equinor

The value of Equinor's future oil and gas production depends on the prices of oil and gas—significantly influenced by climate policy.

Equinor stress-tests its portfolio against future prices of oil, gas, and CO₂. The method used is explained in the annual report for 2022, where the assumed prices are also outlined.

The stress test compares the prices Equinor uses in its accounting with figures taken from various scenarios of the International Energy Agency (IEA). These figures are then used to calculate the impact on the net present value (NPV) of Equinor's portfolio.

IEA operates with multiple scenarios describing the development in energy markets towards 2050. Each scenario corresponds to a set of oil and gas prices. They indicate that the more successful climate policy is, the lower the prices of oil and gas.

As an example: In IEA's scenario aiming for net-zero emissions by 2050 (Net Zero Emissions/NZE), the oil price falls to \$40 per barrel in 2030 and further to \$28 per barrel in 2050. Equinor's own price assumptions anticipate an oil price of \$75 in 2030, decreasing to \$65 in 2050.

The same holds for gas prices. In IEA's NZE scenario, gas prices in Europe fall to \$5/MMbtu in 2030

and further to \$4.1/MMbtu in 2050.

Equinor's own price assumptions expect a gas price of \$9.5/MMbtu in 2030, remaining almost stable at this level for the next two decades. In 2050, a gas price of \$9/MMbtu is assumed.

The gas prices at the beginning of this winter are above the price Equinor expects in 2030, and much higher than assumed in the NZE scenario. The war in Ukraine has driven European gas prices to higher levels than before, and it is likely to persist for some years.

Among IEA's scenarios, the NZE scenario is the tightest concerning emissions, and consequently, price expectations. Other IEA scenarios (Stated Policies Scenario/STEPS and Announced Pledges/APS) have higher emissions. Therefore, more oil and gas are used, resulting in higher prices.

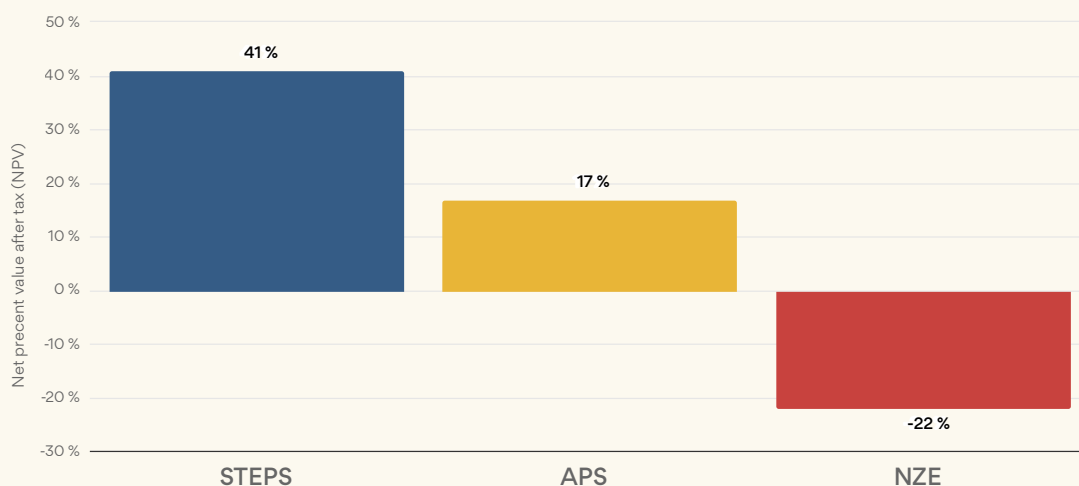
Those interested in learning more about IEA's scenarios can find detailed explanations on the IEA's official website.¹⁵



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Stresstest of the Portfolio

This graph shows how the prices used as assumptions in various IEA scenarios affect the net present value of Equinor's portfolio. The prices in the Net Zero Emissions (NZE) scenario are lower than in Equinor's own estimates, while the prices in the STEPS and APS scenarios are higher.



SOURCE

THE NORWEGIAN CLIMATE FOUNDATION WITH DATA FROM EQUINOR SUSTAINABILITY DATA HUB

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