Future, science fiction and Matrix

The IEA report on the extreme abundance of oil in 2030 and what's next ...

June 13, 2024

The IEA has prepared a report for us where it says that in 2030 there will be an over-production (actually surplus capacity) of oil of 8 million b/d.

https://www.iea.org/reports/oil-2024/executive-summary

"An increase in world oil production capacity, led by the United States and other producers in the Americas, is expected to exceed the growth of demand during the planned period 2023-2030 and inflate the world's excess capacity buffer to unprecedented levels, except for the Covid pandemic. -19 period. The total supply capacity increases by 6 mb/d to almost 113.8 mb/d by 2030, an astonishing figure of 8 mb/d above the projected global demand of 105.4 mb/d."

He also comments on how that increase in supply is distributed.

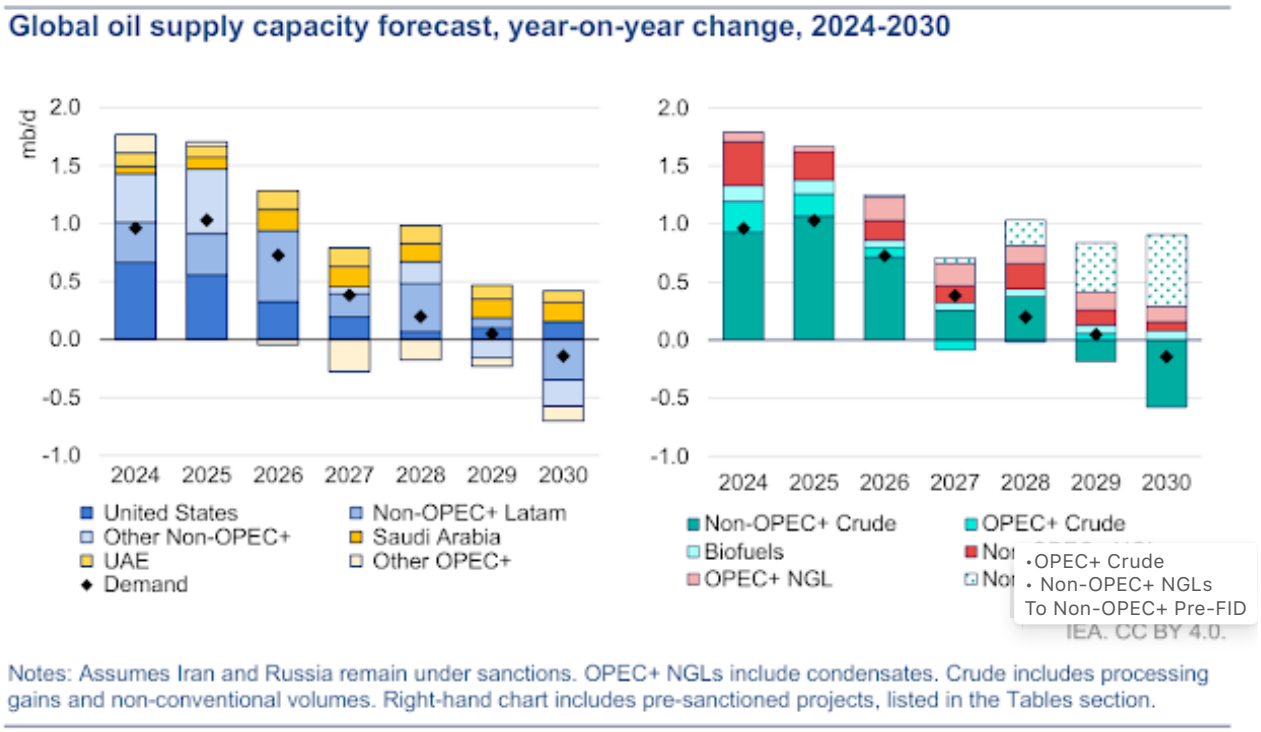
In line with the rise of petrochemicals as an anchor for the growth of global oil demand, 45% of the increase in supply capacity during the expected period comes from LGN and condensates. While Saudi Arabia has filed its planned increase in crude oil capacity from 12 mb/d to 13 mb/d, its development of the huge Jafurah gas field will continue. This will result in a substantial increase in the production of gas liquids of almost 1 mb/d by 2030, volumes that are not subject to OPEC+ quotas. Strong gains are also expected in the US NGL. The total of LGN and condensates is expected to increase by 2.7 mb/d between 2023 and 2030. In comparison, crude oil production capacity is expected to increase by 2.6 mb/d during the same period, while biofuels represent 620 mb/d of the

total 6 million barrels per day.

Non-OPEC+ producers will continue to lead capacity building, representing 4.6 mb/d, or 76% of the net increase. The United States alone represents 2.1 mb/d of profits outside OPEC+, while Brazil, Guyana, Canada and Argentina contribute another 2.7 mb/d. As the list of sanctioned projects fades towards the end of our forecast, growth stagnates in the United States and Canada, while Brazil and Guyana go into decline according to current plans. However, if companies quickly approve additional projects that are already on the drawing board, an increase of 1.3 mb/d in capacity not belonging to OPEC+ could come into operation by 2030.

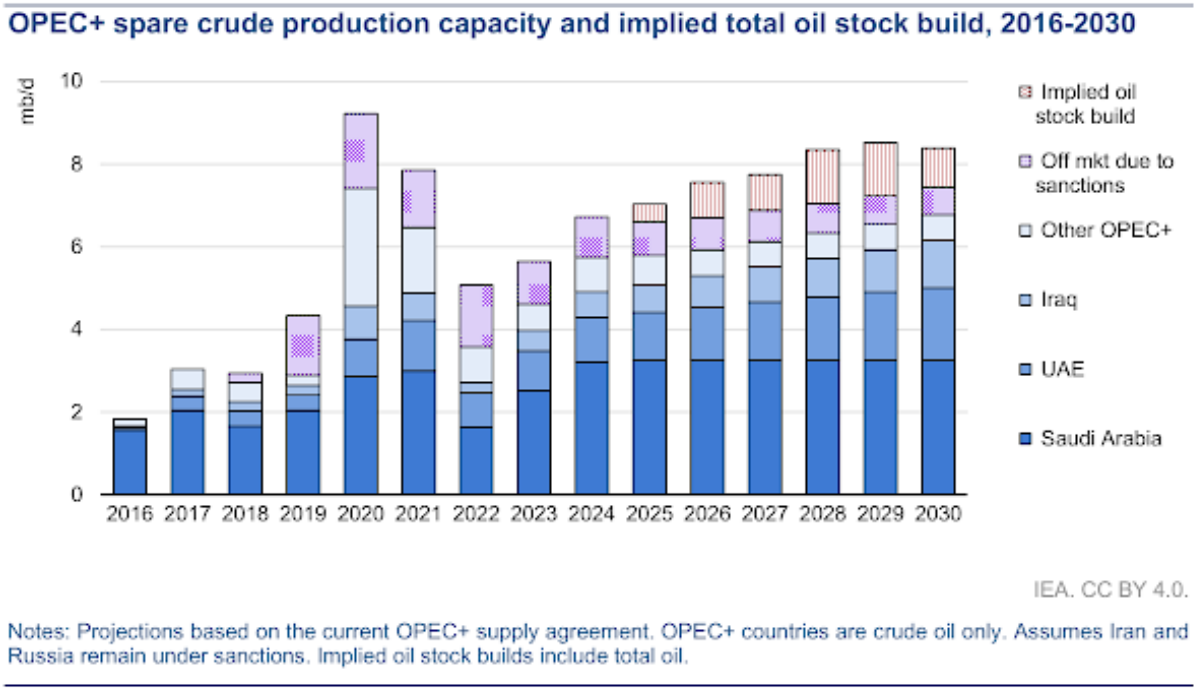
Saudi Arabia, the United Arab Emirates (UAE) and Iraq lead a 1.4 mb/d increase in OPEC+ oil capacity, while African and Asian members register falls. The United Arab Emirates and Iraq are increasing crude oil capacity, while Saudi Arabia is prepared for a significant increase in the supply of NGL and condensates. Capacity in Russia is expected to show only a marginal decrease despite international sanctions as the gigantic Vostok project intensifies, helping to compensate for the losses in mature oil fields.

The increase in supply occurs after a constant increase in upstream investments. Global capital expenditures in upstream increased by 13% to reach an eight-year high of $538 billion in 2023 and are on track to increase by another 7% this year."



In the end it turns out that **the increase is only nominal capacity worth 6 million b/d**, of which 2.7 million b/d are LGN and condensates and another 600,000 b/d are biofuels (that is, they are not good oil). Of the rest, 2.1 million b/d is shale oil (it is very possible that it is a negative figure instead of a positive figure, but the EIA estimates are good).

All excess capacity is concentrated in OPEC.



To top it off, he ends by saying that towards the end of the period, the No-Opep increase becomes negative (beware, look at the graph on the right, in dark green), but if certain projects that have not yet been approved, go underway, we will add another 1.3 million b/d.

It is an effort of I want and I can't, for appearing to have a disproportionate growth in the supply (good nominal capacity) of oil, when in reality it can be seen that from 2030 there is nothing left to develop.

Naturally, the supply-demand balance will not allow such a gap to be executed and the adjustment always occurs via prices.

If there is excess demand, prices rise in proportion, until supply and demand are balanced. In the same way, if there is oversupply, prices decrease by encouraging demand, while part of the production (especially shale oil) is left out, due to economic unfeasibility.

In contrast to the IEA forecast, my roadmap shows a slight decrease in world production (period 2025-2030) due to the decrease in shale oil and the maintenance of production in the rest of the world, compensating for the new development announced, with the decline of the rest of the fields. But whoever gets it right, the important thing is what's coming after 2030.

What the IEA does not say is what happens after 2030, when all projects are already developed and the absence of new discoveries in the last decade, condemns us to survive with the oil existing at that time, since there are hardly any more undeveloped conventional fields and even production in supergiant fields that were already in production (especially in the Middle East) has accelerated.

Regarding shale oil, the prospects are quite bad and I won't comment on anything else.

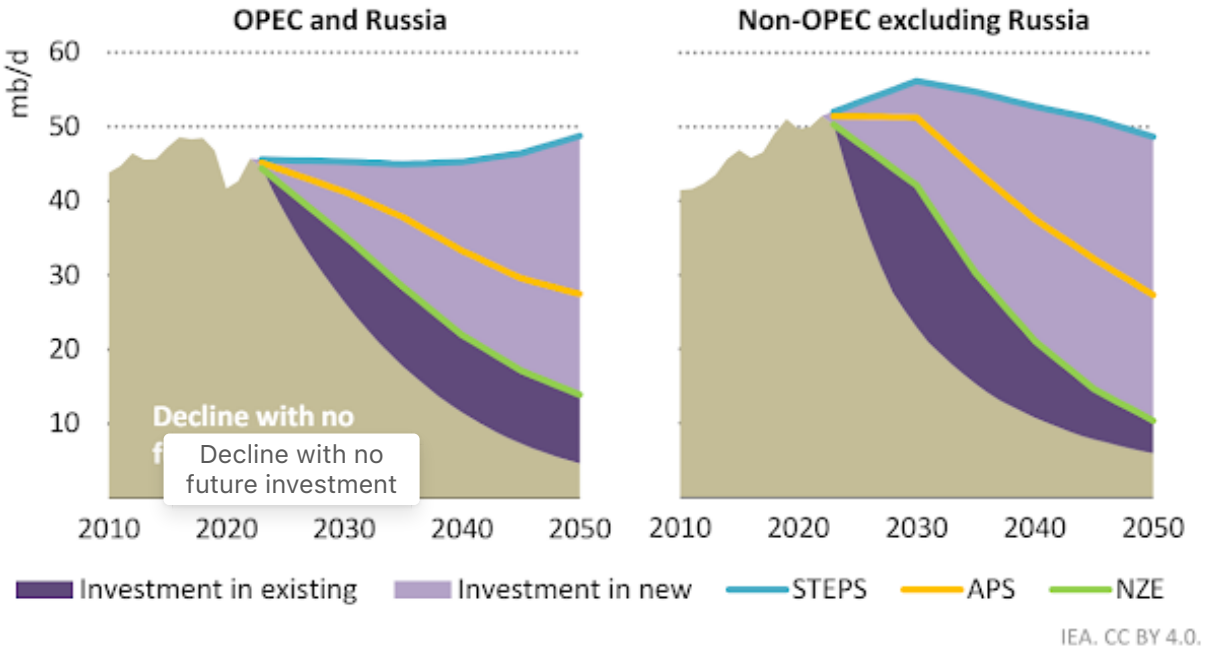
The IEA has shown many times that without new investments, the decline is tremendous.

In the last WEO 2023, he presented this graph.

To the left of both graphs (in gray) is shown the decline in production without additional investments. In 2050, production is very, very low.

With the investments in progress (that is, with the development of projects that details the IEA), the sum of oil production between Opep + Russia + Non-Opep, reaches only 22 million b/d in 2050 (and curiously it corresponds to the Net Zero scenario).

Figure 3.21 ▷ Oil production by OPEC and Russia and other non-OPEC producers by scenario, 2010-2050



New oil projects are needed in the STEPS and APS, but not in the NZE Scenario; OPEC and Russia take a larger share of the market in the NZE Scenario

IEA. CC BY 4

In this post I show what that field-to-field decline is like, describing the case of some of the most important.

This article also aims to show how a supergiant field declines and by contrast, as is the decrease in the giant fields that are developing today.

It is important to understand the difference. The old supergiant fields are maintained on a production plateau (through techniques such as horizontal mass drilling), until the field begins its final phase and has a very rapid decline. On the other hand, today's giant fields have almost no plateau and immediately show a spectacular decline.

The information comes from the Offshore Technology site provided by the GlobalData house. Field-to-field reports are paid, so only the following is shown. Even so, it is difficult information to obtain. [I don't agree with some graphs, but I show them anyway...]

The advanced depletion of the largest oil fields in the world is striking, and we must remember that they still contribute most of the current oil production, so keeping an eye on the moment when these giants start the final decline, gives us an idea of what the fall part will be like once the peak of oil is over.

From 2030 to 2050, the collapse of production is spectacular. All fields do not begin their decline at the same time, but in 2050 oil production will be totally residual..., remembering the IEA charts, only this time the graphs include maintenance investments.

Of course, what comes next doesn't matter because the energy transition is going to eliminate fossil fuels.

In reality, oil will not be used, either because of the almost total depletion of reserves or because of an energy transition that will reach 100% by obligation, whether it is enough or not.

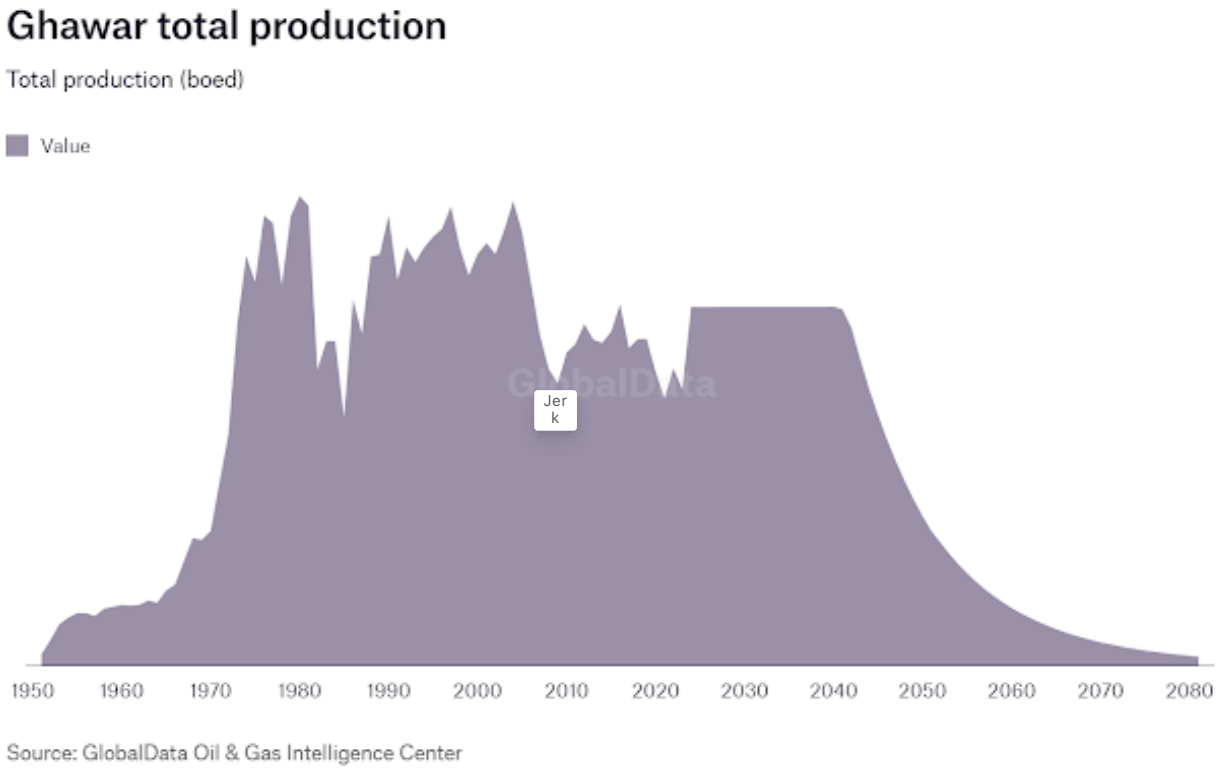
Before entering into the description of the fields, clarify that in the supergiant fields that have a very high percentage of recovery of reserves, most of the extraction is a lot of water and little oil, so at a certain time it ceases to be economically profitable, although from the geological point of view, it is still possible to continue extracting more oil.

Super giant fields

Ghawar, Saudi Arabia.

https://www.offshore-technology.com/marketdata/oil-gas-field-profile-ghawar-conventional-oil-field-saudi-arabia/? utm_source=lgp5-og-asset-profiles&utm_medium=20-120627&utm_campaign=recommended-articles-pi

The Ghawar conventional oil field recovered 67.52% of its total recoverable reserves, with a maximum production in 1980. According to economic assumptions, production will continue until the field reaches its economic limit in 2081. The field currently represents approximately 30% of the country's daily production.

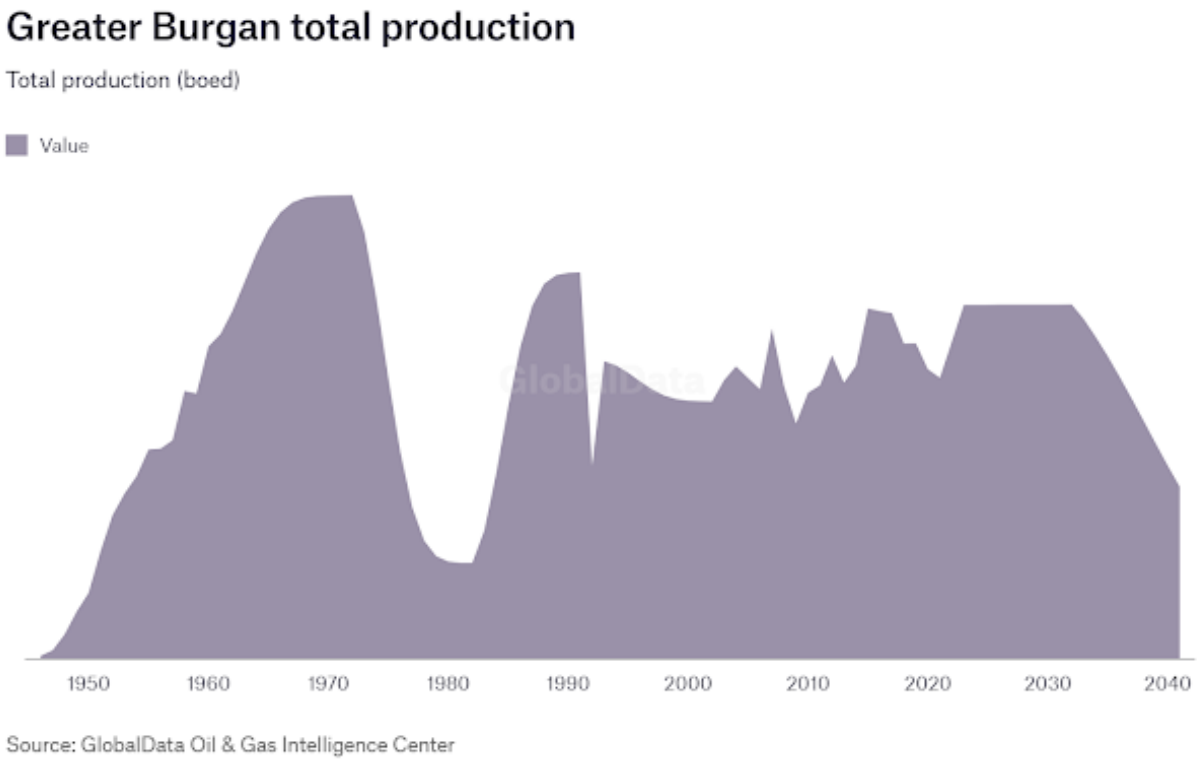


Current approximate production, 3 million b/d.

Gran Burgan Kuwait.

https://www.offshore-technology.com/marketdata/oil-gas-field-profile-greater-burgan-conventional-oil-field-kuwait/

The conventional oil field of Greater Burgan recovered 79.39% of its total recoverable reserves, with a maximum production in 1972. According to economic assumptions, production will continue until the field reaches its economic limit in 2041. The field currently represents approximately 57% of the country's daily production.

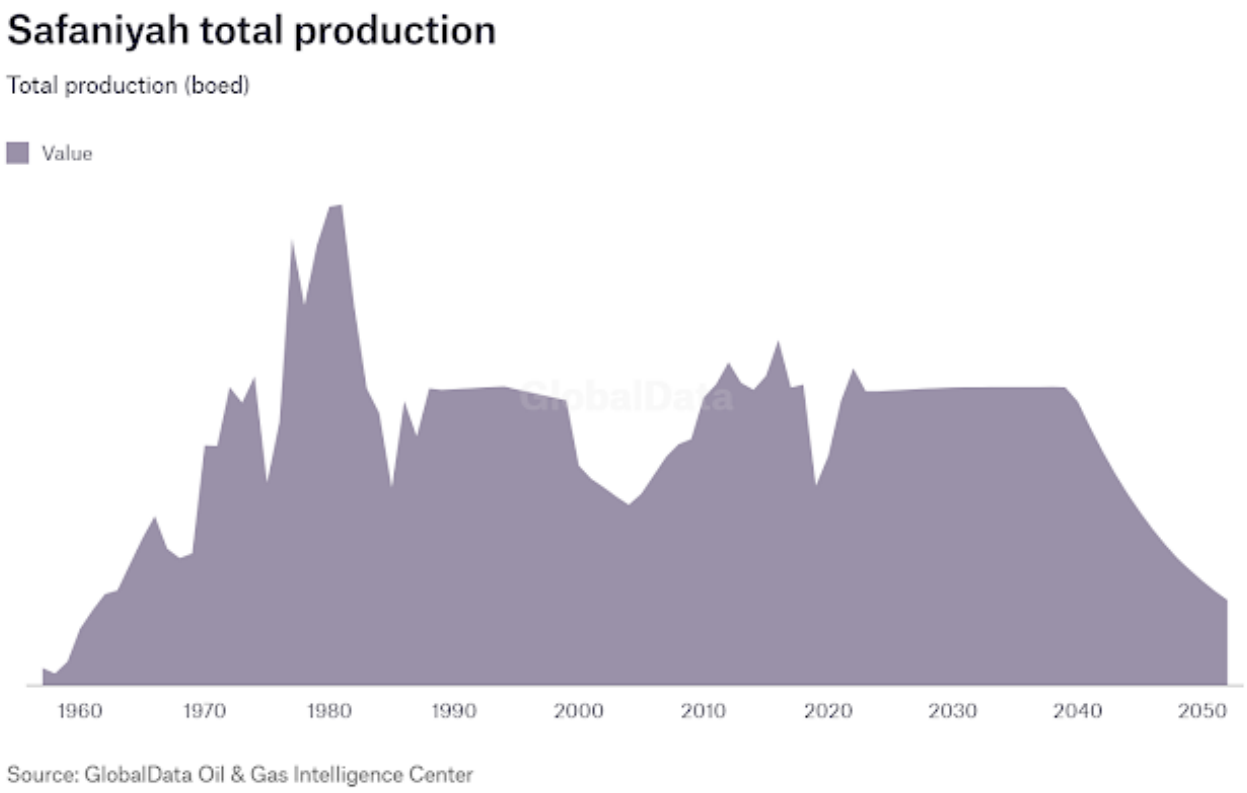


Current approximate production 1.2-1.3 million b/d.

Safaniya, Saudi Arabia.

https://www.offshore-technology.com/data-insights/oil-gas-field-profile-safaniyah-conventional-oil-field-saudi-arabia/

The Safaniyah conventional oil field recovered 70.64% of its total recoverable reserves, with a maximum production in 1981. According to economic assumptions, production will continue until the field reaches its economic limit in 2052. The field currently represents approximately 8% of the country's daily production.

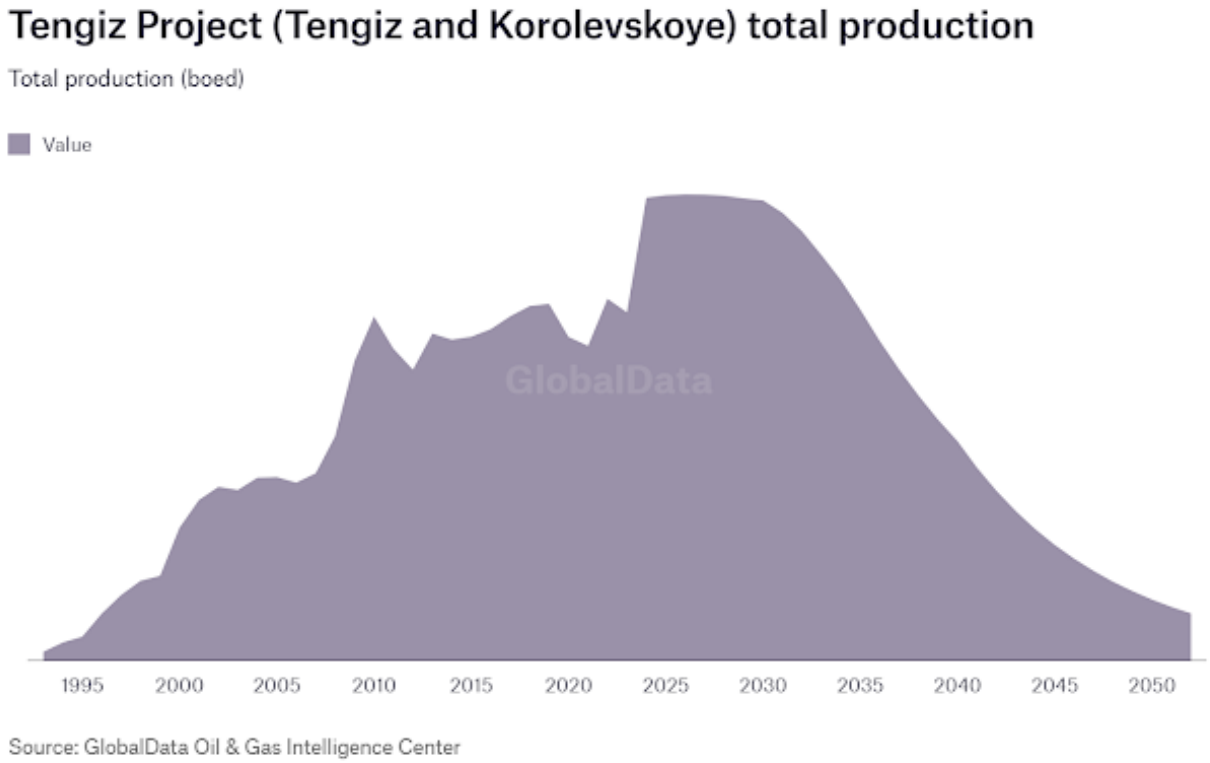


Current approximate production 800,000 b/d.

Tengiz, Kazakhstan.

https://www.offshore-technology.com/marketdata/oil-gas-field-profile-tengiz-project-tengiz-and-korolevskoye-conventional-oil-field-kazakhstan/?utm_source=lgp5-og-asset-profiles&utm_medium=20-111993&utm_campaign=recommended-articles-pi&cf-view

The conventional oil field of the Tengiz Project (Tengiz and Korolevskoye) recovered 46.67% of its total recoverable reserves, and maximum production is expected in 2026. According to economic assumptions, production will continue until the field reaches its economic level. limit in 2052. The field currently represents approximately 33% of the country's daily production.



Current approximate production 620,000 b/d. It goes to 880,000 b/d after the 2025 extension.

Rumaila, Iraq.

https://www.offshore-technology.com/marketdata/oil-gas-field-profile-rumaila-conventional-oil-field-iraq/

The conventional oil field of Rumaila recovered 70.55% of its total recoverable reserves, with a maximum production in 1979. According to economic assumptions, production will continue until the field reaches its economic limit in 2049. The field currently represents approximately 27% of the country's daily production.