

The 2023 Global Oil & Gas Exit List: Building a Bridge to Climate Chaos

- 96% of upstream companies still exploring or developing new oil and gas fields
 - Global gas-fired power capacity set to rise by 30%
 - Industry plans 162% increase in LNG export capacity
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Today, Urgewald and more than 50 partners published the second update of the Global Oil & Gas Exit List (GOGEL). GOGEL is a public database that provides a detailed breakdown of the activities of oil and gas companies worldwide. It covers 1,623 companies active in the upstream, midstream or gas-fired power sector. Companies listed on GOGEL account for 95% of global oil and gas production.

The 2023 GOGEL can be downloaded at www.gogel.org

In the midst of the climate crisis, 96% of the 700 upstream companies on GOGEL are still exploring or developing new oil and gas fields. And 1,023 companies are planning new LNG terminals, pipelines or gas-fired power plants. *“The magnitude of the industry’s expansion plans is truly frightening. To keep 1.5 °C alive, a speedy, managed decline in both oil and gas production is vital. Instead, oil and gas companies are building a bridge to climate chaos,”* says Nils Bartsch, Head of Oil & Gas Research at Urgewald.

Where it all starts: Exploration

According to the 1.5 °C roadmap issued by the International Energy Agency (IEA) in 2021, exploration for new oil and gas reserves is no longer required and delays the

energy transition.¹ Since 2021, the industry's annual capital expenditure on oil and gas exploration has, however, risen by more than 30%. Over the past 3 years, oil and gas companies in our database spent a total of US\$ 170.4 billion on exploring for new oil and gas reserves that we cannot afford to burn.

GOGEL lists 384 companies whose average capital expenditure on exploration exceeded US\$ 10 million between 2021 and 2023. The top 7 exploration companies are **China National Petroleum Corporation – CNPC** (US\$ 5.9 billion), **CNOOC** (US\$ 3.2 billion), **Saudi Aramco** (US\$ 2.8 billion), **Pemex** (US\$ 2.6 billion), **Sinopec Group** (US\$ 2.4 billion), **Pioneer Natural Resources** (US\$ 2.1 billion) and **Shell** (US\$ 2.0 billion).

Reckless expansion upstream

According to GOGEL, 539 companies are preparing to bring 230 billion barrels of oil equivalent (bboe) of untapped oil and gas resources into production.² These short-term expansion plans severely jeopardize efforts to limit global temperature increase to 1.5 °C. Latest findings show that even if all coal extraction would magically end overnight, we would still need to leave almost 20% of oil and gas resources in approved and producing fields in the ground to remain within the carbon budget for 1.5 °C.³

The 7 companies with the largest short-term expansion plans are **Saudi Aramco** (16.8 bboe), **QatarEnergy** (16.5 bboe), **Gazprom** (10.7 bboe), **Petrobras** (9.6 bboe), **ADNOC** (9.0 bboe), **TotalEnergies** (8.0 bboe) and **ExxonMobil** (7.9 bboe). These 7 companies are responsible for one-third of global short-term oil and gas expansion.

Expansion in 'frontier' countries: How global players create new fossil dependencies

Companies on GOGEL are exploring or developing new oil and gas resources in 129 countries. **TotalEnergies** (53 countries) tops the list of companies expanding in the highest number of countries, followed by **Shell** (41 countries), **Eni** (40 countries), **ExxonMobil** (39 countries), **BP** (29 countries), **Petronas** (27 countries) and **Chevron**

¹ IEA (2021) P.160: https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

² The GOGEL short-term expansion metric includes resources categorized by Rystad Energy as "in field evaluation" and "under development." Companies will start producing these resources in the near future (next 1 – 7 years).

³ Sky's Limit Data Update P.5 <https://priceofoil.org/content/uploads/2023/08/skys-limit-data-update-2023-v3.pdf>

and **Repsol** (25 countries each). Almost one-third of the countries where TotalEnergies is exploring and developing new oil and gas resources are frontier countries such as South Africa, Namibia, Mozambique or Papua New Guinea. These countries currently have little or no oil and gas production.⁴ Instead of transitioning, oil and gas majors are driving new countries into fossil fuel dependency.

“Oil and gas companies like TotalEnergies, Shell, and their local partners are spending billions of dollars to lock African countries into a fossil gas future. Gas is not a viable energy option for Africa. It is dirty, expensive and most new projects will take 5 – 7 years to build before they can make any contribution to energy security. What we need is a just transition to affordable and renewable energy for all,” says Leanne Govindsamy from the South African NGO Centre for Environmental Rights.

Abu Dhabi National Oil Company on a collision course with 1.5 °C

GOGEL allows users to assess whether a company’s activities are in line with the International Energy Agency’s (IEA) roadmap to net zero by 2050. For each upstream oil and gas company, GOGEL portrays which portion of its short-term expansion overshoots the IEA pathway.⁵ With 8.3 billion barrels of oil equivalent (bboe), the Abu Dhabi National Oil Company (ADNOC) has the highest absolute overshoot of any company in the world. While ADNOC’s CEO Sultan Al Jaber is in the driver’s seat of this year’s climate summit, his company is on a clear collision course with the 1.5 °C goal.

Only weeks before Sultan Al Jaber opens the COP28 proceedings in Dubai, ADNOC announced a final investment decision for its enormous Hail and Ghasha gas project. The Hail and Ghasha project is situated in the Marawah Biosphere Reserve which harbors many endangered species and is the largest marine reserve in the Arabian Gulf.

ADNOC claims this will be the world’s first “net-zero emissions” gas project as it aims to capture 1.5 million tons of CO₂ annually. However, this commitment is dwarfed by the expected annual greenhouse gas emissions from burning the gas from the Ghasha

⁴ S&P Global: <https://www.spglobal.com/commodityinsights/en/ci/research-analysis/closing-door-or-window-of-opportunity-for-frontiers.html>

⁵ 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: See IEA (2022) P.133: <https://iea.blob.core.windows.net/assets/830fe099-5530-48f2-a7c1-11f35d510983/WorldEnergyOutlook2022.pdf>

gas concession, which Hail and Ghasha is a part of. Burning the gas ADNOC intends to produce would emit more than 20 times as much CO₂ as the company aims to capture.⁶ In addition, methane will escape all along the supply chain as the gas makes its way to end users. Methane has a warming effect more than 86 times stronger than CO₂ over a 20-year period.⁷ ADNOC conveniently leaves all these emissions out of its net-zero equation. It also remains to be seen whether ADNOC will indeed capture and store the carbon it has promised. Even the technology-optimistic IEA recognizes that the history of carbon capture and storage “has largely been one of unmet expectations.”⁸

New LNG export infrastructure supercharges gas expansion

The 2023 GOGEL covers all companies that are developing new liquefied natural gas (LNG) terminals, and it provides disaggregated data for the expansion of LNG export and import capacities.⁹ According to the database, companies are planning to increase global LNG export capacity by 162%.¹⁰ New LNG export terminals are key drivers of large-scale gas extraction in countries like the US, Qatar, or [Mozambique](#). The 7 largest LNG export capacity developers on GOGEL are: **Venture Global LNG** (71.1 million tonnes per year (Mtpa)), **NOVATEK** (58.2 Mtpa), **QatarEnergy** (46.5 Mtpa), **Sempra Energy** (29.4 Mtpa), **Tellurian** (27.6 Mtpa), **Shell** (25.2 Mtpa) and **Cheniere Energy** (22.8 Mtpa).

US LNG projects and the fracking boom

The US first began exporting LNG in 2016, the year after the Paris Climate Agreement was signed.¹¹ Today, the Gulf Coast of the US is cementing its position as the world’s largest export hub for LNG. The 21 new LNG export facilities planned along the Gulf Coast account for 41% of global LNG export expansion listed on GOGEL. Most of the fossil gas that will be exported from these terminals stems from the Permian Basin, the

⁶ Own calculation based on ADNOC (2023): <https://www.adnoc.ae/en/news-and-media/press-releases/2023/adnoc-takes-fid-on-worlds-first-project-that-aims-to-operate-with-net-zero-emissions> and IPCC (2006) P.2.16 https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf

⁷ IPCC (2013) P.714: <https://www.ipcc.ch/report/ar5/wg1/anthropogenic-and-natural-radiative-forcing/>

⁸ IEA (2023) P.132: https://iea.blob.core.windows.net/assets/13dab083-08c3-4dfd-a887-42a3ebe533bc/NetZeroRoadmap_AGlobalPathwaytoKeepthe1.5CGoalinReach-2023Update.pdf

⁹ Export capacities refer to liquefaction facilities, import capacities refer to regasification facilities.

¹⁰ Data on operating LNG export capacity retrieved from Global Energy Monitor (GEM), Global Gas Infrastructure Tracker (July 2022): <https://globalenergymonitor.org/projects/global-gas-infrastructure-tracker/>

¹¹ <https://www.permianclimatebomb.org/chapter-3>

heart of the US fracking industry. GOGEL lists 76 companies that are active in the [Permian Basin](#).

While fracking is banned in many countries, 88% of fossil gas produced in the US is fracked.¹² Companies like **Chevron**, **ConocoPhillips** or **EOG Resources** pump vast amounts of water, sand and chemicals into the ground to extract hydrocarbons trapped in shale rock formations. Fracking operations leave a trail of destroyed landscapes, contaminated water, polluted air and severe health impacts, especially for children.^{13,14} In addition, the energy-intensive liquefaction process and the risk of methane leaks all along the supply chain make LNG from the US particularly harmful to the climate.^{15,16}

Communities along the Gulf Coast are fighting each and every one of the proposed LNG export terminals. As Rebekah Hinojosa, a member of the South Texas Environmental Justice Network, says, *“The fossil fuel industry wants to pave undeveloped wetlands all along the coast with LNG facilities like NextDecade Corporation’s Rio Grande LNG Terminal. Besides their environmental implications, these plans violate Indigenous sacred lands, and people working in fishing, shrimping and eco-tourism risk losing their jobs. Our communities refuse to be sacrificed for the fracking industry’s dirty gas exports.”*

Gas-fired power build-out will blow our carbon budget

The 2023 GOGEL – for the first time – provides data on companies’ gas-fired power expansion plans. In total, GOGEL identifies 651 companies that are planning to develop an additional 567 gigawatt (GW) of gas-fired power capacity in the midst of the escalating climate crisis. If built, these projects would increase the world’s installed gas-fired capacity by 30%.¹⁷ A substantial part of the global gas-fired power build-out would rely on imported LNG. *“The industry likes to frame fossil gas as the cleaner successor to coal and a bridge fuel for the energy transition. This is a flawed*

¹² Own analysis based on Rystad Energy, October 2023.

¹³ <https://earthworks.org/issues/hydraulic-fracturing-101/>

¹⁴ <https://ehp.niehs.nih.gov/doi/full/10.1289/EHP11092>

¹⁵ <https://www.science.org/doi/10.1126/sciadv.aaz5120>

¹⁶ <https://www.nrdc.org/resources/sailing-nowhere-liquefied-natural-gas-not-effective-climate-strategy>

¹⁷ Data on operating gas-fired power capacity retrieved from Global Energy Monitor (GEM), Global Gas Plant Tracker (February 2023): <https://globalenergymonitor.org/projects/global-oil-gas-plant-tracker/>

fossil fantasy. If life cycle emissions are properly factored in, fossil gas can be just as harmful to the climate as coal,” explains Bartsch.¹⁸

The IEA’s projections show that in a 1.5 °C-aligned world, the contribution of unabated natural gas to the energy mix must fall from today’s 22% to 6% by 2035. Instead of building new gas plants, this would require the retirement of 82 GW of installed gas-fired capacity by 2035.¹⁹ The combined expansion plans of the 7 largest gas power developers on GOGEL alone amount to 86 GW: **Korea Electric Power Corporation – KEPCO** (17.2 GW), **Bangladesh Power Development Board** (16.9 GW), **Taipower** (14.9 GW), **Vietnam Electricity Group (EVN)** (9.9 GW), **China Huaneng Group** (9.5 GW), **China Huadian Corporation** (9.3 GW) and **Comisión Federal de Electricidad EPE – CFE** (8.3 GW)

KEPCO: The world’s largest gas-fired power developer

South Korea’s state-owned KEPCO owns more than 70% of the country’s operating power generation capacity.²⁰ At the end of 2022, renewables constituted only 2% of KEPCO’s installed power portfolio. While the company’s renewable expansion plans remain vague, plans to add new fossil gas generation capacity to its portfolio are in full swing.²¹ With over 17 GW in the pipeline, KEPCO is the world’s largest gas-fired power developer. Out of this total, 14.9 GW are planned domestically to replace parts of KEPCO’s giant coal plant fleet. KEPCO’s other expansion projects are mainly located in Southeast Asia where it is cooperating with KOGAS and local partners to speed up the enormous gas-fired power build-out in the region.

“Renewable energy options are reshaping energy markets all over the world, yet KEPCO refuses to read the writing on the wall. KEPCO’s heavy dependence on fossil fuels has led to ever larger operating losses, but the company continues investing in new stranded assets. KEPCO urgently needs to transition and leave its old business model

¹⁸ Gordon et al. 2023: Evaluating net life-cycle greenhouse gas emissions intensities from gas and coal at varying methane leakage rates

¹⁹ <https://www.iea.org/reports/unabated-fossil-fuel-based-electricity>

²⁰ <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/1-company-controls-most-of-south-korea-s-power-generation-supply-69622713>

²¹ Claims with regard to renewable capacity build out range from an increase to 49 GW installed capacity in 2034 to a very vague ‘more than 1,9 GW’ in 2036
https://home.kepco.co.kr/kepco/cmmn/documentViewer.po?fn=BBS_202303230223427401&rs=/kepco/synap/doc.P.6/20

behind,” says Dongjae Oh, oil and gas campaigner from the South Korean NGO Solutions for our Climate.

Financial institutions: Ending or perpetuating oil and gas expansion?

Expansion is at the core of the oil and gas business model. Before one well runs dry, oil and gas companies are already drilling the next to maintain or even increase their production levels. With every decision to drill a new well, companies are locking us into a path towards disaster. Fossil fuel emissions hit a record high last year, yet oil and gas majors like Shell, TotalEnergies and BP quickly rolled back their already weak climate pledges in 2023 – showing once again that profit goes before planet.²² The oil and gas industry’s so-called climate action amounts to little more than a competition in dodging accountability, making empty promises and spreading misinformation.

“Financiers and investors need to face the fact that this industry will not transform voluntarily. Private and public financial institutions, insurers, regulators and central banks must adopt policies that end the financing of fossil fuel expansion. GOGEL provides the data needed to develop and implement these policies. Without swift action, the chance for a 1.5 °C world will be irredeemably lost,” says Katrin Ganswindt, Head of Finance Research at Urgewald.

For more details on the investors behind fossil fuel companies, see Urgewald’s database “Investing in Climate Chaos”: <https://investinginclimatechaos.org>

About GOGEL

GOGEL is the most comprehensive public database on the oil and gas industry. It was created to speed up the adoption of meaningful oil and gas policies by the financial sector. The 2023 GOGEL provides detailed data on 1,623 companies. It is a forward-looking database and offers a wide range of metrics that allow its users to assess companies’ oil and gas expansion plans in the upstream, midstream and gas power sector.

²² <https://www.euronews.com/green/2023/06/15/shell-joins-bp-and-total-in-u-turning-on-climate-pledges-to-reward-shareholders>

GOGEL also allows users to identify companies that are not in line with the IEA Net Zero Emissions Scenario. In addition, GOGEL highlights companies' involvement in selected reputational risk projects that exacerbate violent conflicts, cause immense social and environmental harm or are challenged by lawsuits and local community opposition.

234 financial institutions are currently using GOGEL to scan their portfolios or to develop new exclusion policies. Many academics, journalists and civil society organizations also use GOGEL to assess, scrutinize and better understand the oil and gas industry. GOGEL's main sources of information are company data sources such as annual reports and investor presentations, Rystad Energy, and Global Energy Monitor. GOGEL is updated each fall and will be expanded over time to cover further subsectors of the oil and gas industry.

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