

Global Oil & Gas Exit List 2021

Publication date: November 4th, 2021



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Definitions and Methodology

Urgewald's Global Oil and Gas Exit List (GOGEL) is an extensive public database that provides information on companies operating in the oil and gas industry. The database presents different metrics, which were designed to depict the size and composition of a company's oil & gas operations and its expansion activities in the upstream and midstream sector. The database was compiled to assist financial institutions in the development and implementation of meaningful oil & gas divestment criteria. A list including financial identifiers is available on demand.

The companies listed in the upstream part of GOGEL account for over 90% of annual global hydrocarbons production, over 90% of planned short-term upstream expansion and over 90% of exploration expenditures. The companies listed in the midstream part of GOGEL account for almost 75% of new oil and gas pipelines and over 90% of LNG terminals under development.

The data in our table comes from various sources: the information about current hydrocarbons production, production percentages and upstream expansion, which can be found in the UPSTREAM tab, is based on quantitative data obtained from Rystad Energy (Columns C-P). Rystad Energy compiles asset-based data on hydrocarbons production, resources and the associated economics. Its data is based on government and industry documents, as well as Rystad's own modelling.

The MIDSTREAM Expansion tab (Columns C-E) contains information sourced from Global Energy Monitor (GEM). More information on Global Energy Monitor's research can be found here: https://www.gem.wiki/Global_Fossil_Infrastructure_Tracker_Methodology

The database will be updated each fall and amended over time. In future iterations of GOGEL, we aim to include gas-fired power expansion and other subsectors of the oil & gas industry.

We are always happy to receive questions, comments, and suggestions that might lead to the improvement of this database and eventually, a fossil-free future. Please contact Urgewald via gogel@urgewald.org.

Below, we provide a detailed description of the content and the underlying definitions for each column:

[UPSTREAM tab]

Column A

Company Name

The official name of the company

Column B

Country of Headquarters

Column C

Upstream Industry Segment

This column classifies companies according to one of the following 11 categories:

- Major: 6 largest publicly listed integrated oil and gas companies (Exxon Mobil, BP, Shell, Chevron, TotalEnergies and Eni)
- NOC: National oil companies
- INOC: National oil companies with international activities
- Integrated: Companies operating in upstream, midstream, and downstream sectors
- Independent: Upstream-oriented companies with production exceeding 50 kboe/day
- E&P company: Upstream-oriented companies with production below 50 kboe/day
- Exploration company: Companies with exploration licenses only
- Industrial: Companies operating across various industry branches
- Investor: Companies investing directly into oil and gas fields
- Operating Company: Companies operating oil and gas assets for third parties
- Supplier: Oil field service companies

PRODUCTION

Column D

Hydrocarbons Production 2020 (Oil, Gas, Condensate, NGL)

This column contains information on the total amount of fossil hydrocarbons a company produced in 2020. This number is expressed in million barrels of oil equivalent (mmboe) and includes the production of oil, natural gas, condensate, and natural gas liquids (NGL). GOGEL includes all companies that produced ≥ 20 mmboe in 2020.

Column E

Production Countries

This column allows users to filter companies by countries of production.

UNCONVENTIONALS

Column F

Fracking

This column represents the proportion of a company's hydrocarbons production, which stems from resources that can only be extracted through hydraulic fracturing (fracking). Fracking is used to access gas and oil trapped in deep rock formations. Our assessment is based on the following Rystad categories: shale oil, shale gas, tight liquids and tight gas. Fracking poses severe social and environmental risks as it results in high methane emissions, increases the risk of earthquakes, requires extensive use of water, and requires chemicals, which can contaminate groundwater and negatively affect the health of local residents and ecosystems. GOGEL covers all companies that produced ≥ 2 mmboe through hydraulic fracturing in 2020.

Column G

Tar Sands

This column depicts which percentage of a company's hydrocarbons production stems from tar sands. Tar sands contain bitumen – a very dense and viscous form of petroleum – that cannot be pumped like conventional oil. Tar sands are either strip-mined or bitumen is extracted in-situ by means of various different extraction methods. Oil production from tar sands degrades large areas of land, requires excessive amounts of water and energy and produces enormous amounts of toxic

sludge. On a lifecycle basis, fuel derived from tar sands generates up to 37% more greenhouse gas emissions than fuel from conventional oil. And spills of tar sands oil cannot be cleaned up with conventional technology. GOGEL covers all companies that produced ≥ 2 mmbœ from tar sands in 2020.

Column H

Coalbed Methane

This column portrays the percentage of coalbed methane (CBM) extraction with regard to the overall hydrocarbons production of a company. CBM is natural gas extracted from underground coal formations, often through fracking. Its production results in methane leaks, lowers groundwater levels and can lead to contamination of surface water, destruction of ecosystems and health risks for local populations. GOGEL covers all companies that produced ≥ 2 mmbœ of CBM in 2020.

Column I

Extra Heavy Oil

This column depicts which percentage of a company's hydrocarbons production stems from extra heavy oil not derived from tar sands assets (oil with API gravity $< 15^\circ$). Due to its composition, extraction and upgrading process, extra heavy oil production is very energy-intensive and associated with high levels of emissions. Furthermore, it generates substantial amounts of toxic waste that burden the environment and pose grave risks for human health. GOGEL covers all companies that produced ≥ 2 mmbœ of extra heavy oil in 2020.

Column J

Ultra Deepwater

This column indicates the percentage of hydrocarbons a company produced from offshore wells below 1500 meters in 2020. Operating wells in ultra deepwater is extremely hazardous as potential leaks are impossible to contain at such depths and result in disastrous environmental consequences. GOGEL covers all companies that produced ≥ 2 mmbœ from ultra deep offshore wells in 2020.

Column K

Arctic

This column provides information on companies producing hydrocarbons from assets in the Arctic. For its assessment, GOGEL uses the geographic definition provided by the Arctic Monitoring & Assessment Programme (AMAP) of the Arctic Council (<https://www.amap.no/about/geographical-coverage>). Offshore hydrocarbons production in the Arctic is particularly problematic because potential spills cannot be mitigated in cold waters and would have disastrous consequences for fragile Arctic marine and coastal ecosystems. Onshore production has different, but similarly severe consequences for the region, since the ongoing industrialization through new oil and gas developments leads to the fragmentation and degradation of natural habitats. In addition, the exploitation of Arctic fossil fuel resources and the associated black carbon emissions through fossil fuel combustion endanger the region's immense capacity to reflect solar irradiance, which helps to limit climate change (<https://www.osti.gov/etdeweb/biblio/1036786>).

In Arctic Russia, an increasing amount of gas that is extracted onshore will be transported along LNG shipping routes, which have to be kept ice-free by nuclear-powered icebreakers. This leads to more shipping traffic in a region with very sensitive marine ecosystems and thus to an increasing risk of accidents, which are always more devastating in Arctic waters. Furthermore, there are known maintenance issues especially with regard to Russian pipeline systems. Operating pipeline infrastructure in areas with thawing permafrost poses additional risks. GOGEL covers all companies that produced ≥ 2 mmbœ in the Arctic region in 2020.

SHORT-TERM EXPANSION

Column L

Resources under Development / Field Evaluation in 2021

This metric displays Estimated Ultimate Recovery (EUR) figures associated with assets that are currently in the two life cycle stages that precede production. Assets under Field Evaluation are assets in which a company has already made considerable investments: A plan for development and operation (PDO) has been finalized and Front End Engineering and Design (FEED) has been confirmed. Assets Under Development are oil & gas assets, which will soon enter the production phase: All necessary permits are in place and a Final Investment Decision (FID) has been made. This is the most expensive phase during the life cycle of an oil/gas project as it includes the construction of wells and related infrastructure. GOGEL covers all companies that intend to add ≥ 20 mmboe of resources to their production portfolio in the near future. The figures in this column depict economically recoverable hydrocarbons, which a company is extremely likely to add to its production portfolio in the "short term" (approx. 1-7 years depending on the type of asset).

Column M

Expansion Countries

This column allows users to filter companies by the countries in which they have short-term expansion plans.

Column N

Unconventional Expansion

This column indicates the total percentage of unconventional resources in companies' short-term expansion plans. The provided figure is based on the same unconventional categories listed in the production columns: Fracking; Coalbed Methane; Tar Sands; Extra Heavy Oil, Ultra Deepwater and Arctic. It, however, also includes Oil Shale (Kerogen). Oil Shale is an extremely emissions-intensive hydrocarbon, that is currently only produced in Estonia, China, Brazil and Russia. The oil shale related expansion we included in this column is planned in Jordan.

EXPLORATION

Column O

Exploration CAPEX 3-year average (2019-2021)

This column provides information on a company's capital expenditure (CAPEX) on exploration activities in USD million. In order to even out significant annual variations, the figure represents the 3-year average (2019-2021) of a company's exploration CAPEX. GOGEL covers all companies with an average exploration CAPEX \geq USD 10 million.

Column P

Exploration Countries

This column allows users to filter companies by country of exploration.

REVENUE ANALYSIS

Column Q

Fossil Fuel Share of Revenue

This column indicates, which percentage of a company's total operational revenue is generated from fossil fuel related business activities. All business activities related to the fossil fuel value chain are included in this assessment (upstream, midstream, downstream, power). As the name of this column suggests, the figures also include coal-related revenues of oil and gas companies.

Column R

Type of Estimate / Data Description

- data unavailable: The company does not provide public annual financial reporting documents.
- insufficient reporting: The company does not adequately differentiate between fossil fuel related and fossil fuel unrelated business activities, when reporting segment and/or product revenues.

- exact lower bound: The financial information the company reports allows us to calculate a lower bound fossil fuel share of revenue estimate. The company's actual fossil fuel share of revenue is extremely likely to exceed this value.
- estimated lower bound interval: The company's financial information and/or description of business activities allows us to provide an estimate interval. We always take a conservative approach when providing such estimates.
- exact number: The company's reporting data allows us to calculate an exact fossil fuel share of revenue.

Column S

Reporting Year

Provides information on the fiscal year to which the fossil fuel share of revenue refers.

REPUTATIONAL RISK PROJECTS

Column T

Project Names

Oil and gas projects have many adverse effects beyond greenhouse gas emissions. GOGEL provides information on companies' involvement in projects that are so harmful that they pose a reputational risk to their financial backers. This column lists the reputational risk projects a company is involved in.

Column U

Project Risks

The reputational risk projects included on GOGEL are assigned to one or more of four predefined reputational risk categories:

- Social harm: negative social effects on local communities
- Environmental destruction: environmental impact beyond greenhouse gas emissions
- Conflict/Violence: physical violence triggered or exacerbated by oil and gas projects
- Litigation: legal action delays or stops oil and gas projects

This column lists the reputational risks, associated with projects a company is involved in.

Column V

Project Descriptions

Detailed reputational risk project descriptions are available on gogel.org via the links in this column.

FURTHER INFORMATION

Column W

Remarks

Column X

GOGEL ID

Column Y

Upstream Row ID

[MIDSTREAM Expansion tab]

Column A

Company Name

The official name of the company

Column B

Country of Headquarters

MIDSTREAM INFRASTRUCTURE EXPANSION

Column C

Length of Pipelines under Development

This column provides information on the aggregated prorated length (in km) of all oil, gas and NGL pipeline projects – proposed and under construction – which a company is involved in. Investments in new pipeline infrastructure increase fossil fuel dependency and often incentivize new hydrocarbon extraction in pipeline proximity. GOGEL covers all companies responsible for > 100 km of pipelines under development.

Column D

Annual Capacity of LNG Terminals under Development

This column presents the aggregated prorated annual capacity (in Mt) of LNG terminals – proposed and under construction – which a company is involved in. Similar to the pipelines under development, investments in new LNG terminals increase dependency on fossil fuels and create incentives to develop new gas extraction. GOGEL covers all companies responsible for > 1 Mt of annual LNG terminal capacity under development.

Column E

LNG Expansion Countries

This column allows users to filter companies by country of LNG expansion.

REVENUE ANALYSIS

Columns F-H correspond to the columns Q-S in the [UPSTREAM tab].

REPUTATIONAL RISK

Columns I-K correspond to the columns T-V in the [UPSTREAM tab].

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