Who is Financing Fossil Fuel Expansion in Africa?



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COMPANY RESEARCH:

Katrin Ganswindt, Tohid Khaleghi, Mateusz Pietrzela, Sarah Wenzel

FINANCIAL RESEARCH: Profundo

LEAD AUTHOR: Heffa Schücking

CONTRIBUTERS:

Katharina Bachmann, Nnimmo Bassey, Lorraine Chiponda, Omar Elmawi, Katrin Ganswindt, Leanne Govindsamy, Judith Hentschel, Anabela Lemos, Jule Lümmen, Thuli Makama, Paddy McCully, Bobby Peek, Nicole Rath, Antonio Tricarico

TROUBLESHOOTING: Denis Schimmelpfennig, Nicole Rath

CONTACT:

For more information, please contact: heffa@urgewald.org

LAYOUT:

Tanja Hildebrandt, www.tanja-hildebrandt.com

We would like to thank the foundations and private donors who supported this publication.

COVER CREDIT:

Protest in Kampala, Uganda on October 4th 2022 against the East African Crude Oil Pipeline. REUTERS/Abubaker Lubowa

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Published by:

#StopEACOP, 350 Africa, 350 Côte d'Ivoire, 350.org, AFIEGO (Uganda), African Climate Reality Project (South Africa), Afrique Eco 2100, Alliance for Empowering Rural Communities (Ghana), Appui aux Initiatives Communautaires de Conservation de l'Environnement et de Developpement Durable - AICED (Democratic Republic of Congo), Association Bullaregia (Tunisia), BankTrack (Netherlands), Care for Environment (Cameroon), Centre for Alternative Development (Uganda), Centre for Citizens Conserving Environment & Management - CECIC (Uganda), Centre for Environmental Rights (South Africa), Citizens' Network for Community Development Zambia, Environment Governance Institute (Uganda), FPJAD (Democratic Republic of Congo), Friends of the Earth International, Greater Whange Residents Trust (Zimbabwe), Greenleaf Advocacy & Empowerment Center (Nigeria), groundWork (South Africa), Health of Mother Earth Foundation (Nigeria), Initiatives pour le Changement, Paix et Développement (Democratic Republic of Congo), Inter-Religious Council of Kenya, Justica Ambiental (Mozambique), Kishoka Youth Organization (Kenya), Laudato Si' Movement Africa, Lekeh Development Foundation (Nigeria), Les Amis de la Terre Afrique, Les Amis de la Terre France, Life after Coal (South Africa), New Climate Vision (South Africa), Oilwatch Africa, Port Harcourt WakaWaka (Nigeria), Reclaim Finance (France), Re:Common (Italy), Rettet den Regenwald (Germany), RFPoPEE (Democratic Republic of Congo), Stand.earth, Stop Pollution (Tunisia), Urgewald (Germany), Voice of the Vulnerables, Women for Green Economy Movement (Uganda), Women's Leadership and Training Programme (South Africa)

Who is Financing **Fossil Fuel Expansion** in Africa?

Introduction

Africa is already in the midst of a climate emergency. Our communities, ecosystems and economies are experiencing ever more intense heat waves, droughts, cyclones and catastrophic floods. Millions of people in the Horn of Africa are suffering famine and high water stress is expected to displace up to 700 million Africans by 2030. While Africa only accounts for around 3% of global greenhouse gas emissions, we suffer disproportionately from each additional degree of global warming. Ours is the most climate vulnerable continent.

In 2015, African states played a crucial role in ensuring that the Paris climate negotiations resulted in an agreement to limit global temperature rise to 1.5°C. Yet our chance to achieve this goal is quickly slipping away. IPCC and UNEP warn that global greenhouse gas emissions must be halved by 2030 to keep a 1.5°C path within reach, yet the number one source of these emissions – the fossil fuel industry – continues to expand.

This report looks at the expansion plans of fossil fuel companies in Africa. Its findings are sobering: In 48 out of 55 African nations, oil, gas and coal companies are either exploring or developing new fossil reserves, building new fossil infrastructure such as pipelines or liquefied natural gas (LNG) terminals or developing new gas- and coalfired power plants. These enormous fossil expansion plans are completely incompatible with the Paris goals and will lock African countries into an obsolete and carbon-heavy energy path.

The majority of these projects are geared towards exports and foreign companies often play an outsized role. Companies like Canada's ReconAfrica. which is opening up an area of over 34,000 km² for oil drilling in the fragile ecosystem of the Kavango Basin. Or companies like France's TotalEnergies, which is developing more new oil and gas resources on the continent than any other company. Research by Oil Change International shows that foreign multinational corporations own two thirds of the projected new gas and oil production in Africa to 2050.

Fossil fuel industries have brought nothing but conflicts, ecological and economic destabilization to the continent. Ghana is on the brink of financial distress due to "take-or-pay" contracts that require the government to pay hundreds of millions of dollars each year for unused gas. In Mozambique, huge LNG projects have exacerbated a civil war in the North and will do nothing for the 70% of the country's population that lack access to electricity. In Nigeria, six decades of fossil fuel extraction have turned the Niger Delta into one of the most polluted places on earth and destroyed the health and livelihoods of its communities, while half of Nigeria's population still has no access to electricity. The current rush for Africa's oil and gas has nothing to do with increasing energy access for Africans. Its profits will overwhelmingly flow to a global elite, while local communities are again left to deal with the pollution, impoverishment and human rights violations that are the hallmark of fossil fuel development.

Instead of the dirty, polluting energy sources of the past, Africa and its people deserve the clean renewable energy sources of the future. Africa



has 39% of the world's total renewable energy potential, more than any other continent. While centralized fossil fuel infrastructure has failed to bring energy to almost half of Africa's population, renewable energy technologies can deliver a flexible combination of grid-based, off-grid and mini-grid solutions to enable universal energy access for all Africans. Renewable energy systems are also more cost effective and resilient than their fossil counterparts.

62% of total renewable power generation that went online in the world last year already cost less than the cheapest fossil fuel option, and these costs will continue to fall. And investments in renewables create three times as many jobs as investments in fossil fuels. All across Africa, civil society organizations are calling for a green renewable energy future that preserves climate stability and provides energy access to all.

But today's investments are not shaping the Africa we want nor the climate we need.

Since the Paris Climate Agreement was signed, international financial institutions, both public and private, have sunk hundreds of billions of dollars into oil, gas and coal projects in Africa. In

recent years, many of these financial institutions have pledged to align their portfolios with the Paris climate goals, but these promises are meaningless as long as the very same institutions continue bankrolling a fossil future for our continent.

This report identifies the financiers and investors behind 200 companies, which are flooding Africa with new fossil fuel projects. None of these companies are serious about transitioning. All of these companies are pursuing reckless fossil expansion plans that are incompatible with a 1.5°C climate path. We call on financial institutions to immediately cease all investments, loans and financial services to them. With great urgency, we cite the words of the late Desmond Tutu:

"Move your money out of the problem and into the solutions."

Omar Elmawi, Stop EACOP Campaign Lorraine Chiponda, African Coal Network Anabela Lemos, Justiça Ambiental Thuli Makama, Oil Change Africa Nnimmo Bassey, Health of Mother Earth Foundation **Bobby Peek,** groundWork

CHAPTER I

Oil and Gas Expansion Across Africa

Oil production rig in the Red Sea, Egypt: The COP27 host is a top destination for companies prospecting for new oil and gas. © *Yana Mavlyutova / Shutterstock*

Oil and gas companies have consistently ignored to this roadmap, exploration for new oil and gas the reports and urgent calls to action by the reserves should cease and no further oil and gas Intergovernmental Panel on Climate Change (IPPC) fields should be developed beyond those that were and the United Nations Environment Programme already underway in 2021. (UNEP). In 2021, the industry was, however, confronted with a call to action by a different But looking across Africa in 2022, we see that even messenger, a messenger who is widely viewed the very clear message issued by the world's most as the most authoritative issuer of energy market influential energy agency has fallen on deaf ears. projections and whose reports are regularly read by The oil and gas industry remains on a reckless the oil and gas industry. In 2021, the International expansion course. As Fatih Birol, executive director Energy Agency (IEA) issued its first Paris-aligned of the IEA says: "The world's hugely encouraging energy scenario and roadmap for preventing global clean energy momentum is running up against the temperatures from rising above 1.5°C. According stubborn incumbency of fossil fuels."1



I.1. Expansion Begins with Exploration

Since 2017, 886,000 km² – an area larger than France and Italy combined – have been licensed for oil and gas exploration in Africa.² Oil and gas companies are currently searching for new hydrocarbon reserves in 45 African countries. And Egypt, the host of this year's COP27 UN Climate Summit, is one of the top destinations for companies seeking to discover new oil and gas resources in Africa. While the climate negotiations proceed in

Sharm El Sheikh, 55 companies are prospecting for new oil and gas in Egypt. The company with the highest capital expenditures on oil and gas exploration in Egypt since 2020 is Italy's Eni, followed by BP from the UK and APA Corporation from the US. The chart below shows the 6 African countries, to which companies directed the highest total capital expenditures on oil and gas exploration since 2020.

Countries with the Highest Capital Expenditure on Oil and Gas Exploration

COUNTRY	TOTAL EXPLORATION CAPEX 2020-2022	COMPANIES WHICH SPENT OVER US\$ 100 MILLION ON
	(mill. US\$)	EXPLORATION 2020 - 2022
Algeria	3,256	Sonatrach
Egypt	1,744	Eni, BP, APA Corporation, Edison E&P
Nigeria	1,331	Shell, ExxonMobil, Sunlink, TotalEnergies
Namibia	1,124	Qatar Energy, Shell, TotalEnergies, Namcor, Maurel & Prom
Angola	977	TotalEnergies, Sonangol, Eni
Mozambique	498	ExxonMobil

Source: Rystad Energy UCube

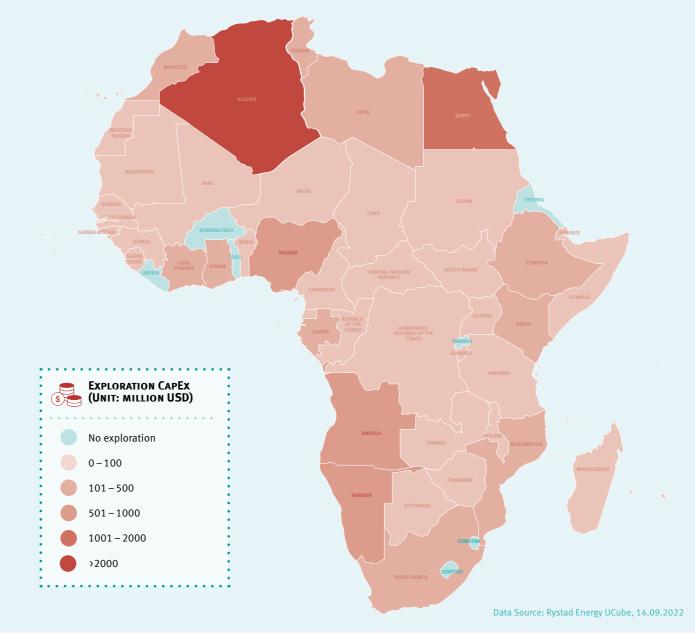
Urgewald's analysis of Rystad Energy data shows that companies' total capital expenditures for oil and gas exploration in Africa rose from US\$ 3.4 billion in 2020 to US\$ 5.1 billion in 2022. African companies accounted for

less than one third of this sum. The bulk of exploration for new oil and gas resources in Africa is carried out and financed by foreign companies.

African fur seals are only found around the Namibian and South African coast. An oil spill could wreak havoc to their habitat. © speedshutter Photography / Shutterstock



Capital Expenditure on Oil and Gas Exploration 2020 - 2022



Out of the 45 African countries where the oil and gas industry is prospecting for new finds, 18 are what the industry calls "frontier countries", i.e. countries that have little or no existing oil or gas production. One of these countries is Namibia, a nation that has the potential to become a front-runner in renewable energy, but could now be sucked into a maelstrom of hydrocarbon projects. Surface. "The deeper the find, the higher the accident risk, and the harder it will be to contain an oil spill. Here and in other parts of Africa, we see oil and gas extraction becoming more and more risky and extreme," says Nils Bartsch, head of oil and gas research at Urgewald. Currently, 44% of oil and gas exploration acreage in Africa is in ultra deepwater areas.³

At the beginning of 2022, TotalEnergies and Shell announced the discovery of huge oil and gas reserves in the Orange Basin off the coast of Namibia. Both finds are in ultra deepwater, i.e. more than 1,500 meters below sea level. Shell's Graff-1 well is 2,000 meters and Total-Energies' Venus-1 well is 2,900 meters below the sea's Oil and gas exploration is also underway in the northeast of Namibia and across the border in Botswana. The Canadian company ReconAfrica is currently drilling test wells in the unique and fragile ecosystem of the Kavango Basin, which is estimated to hold more than 30 billion barrels of crude oil.⁴

Drilling for Oil in the Okavango Region



In an area reaching from the northeast of Namibia to the northwest of Botswana, the Canadian company ReconAfrica is opening up a new oil and gas frontier. Civil society organizations from both countries have called for an immediate halt of oil and gas exploration as ReconAfrica's planned megaproject would cause immense harm to local communities and the region's rich wildlife.

> ReconAfrica is searching for oil in the Kavango Zambezi Transfrontier Nature Conservation Area (KAZA), a protected and ecologically fragile area. The KAZA reaches across the borders of Angola, Botswana, Namibia, Zambia and Zimbabwe, and is nearly twice as large as the United Kingdom. The Okavango River flows right through the KAZA. Its water originates as seasonal rain in Angola's highlands. In

San communities say that **ReconAfrica could destroy** the water, plants and animals their livelihoods depend on.

Botswana, the Okavango River fans out into the Kalahari Desert to form the Okavango Delta. The Okavango Delta transforms this otherwise dry area into a waterlogged wetland that provides vital water resources for animals, plants and over

one million people.⁵ The Okavango Delta is protected as a UNESCO World Heritage Site.

ReconAfrica is exploring for oil in an area that is sacred to the indigenous San. The San have lived in Southern Africa, including

the lands around the Okavango River, for thousands of years. Historically, as hunter-gatherer societies, they lived off the resources the land provides. Although many San have lost access to their lands as a result of European colonization, the Okavango River Basin still remains their sacred traditional homeland. Today, many dispossessed San communities rely on subsistence farming, hunting or jobs in the tourism sector to support themselves. In 2020, several San leaders embarked on a 300-mile "Walk to save the Okavango Delta" and petitioned the governments of Namibia and Botswana to halt drilling for oil and gas in the Okavango region. San communities say they do not want Recon-Africa's project on their ancestral lands and worry that it could destroy the water, plants and animals their livelihoods depend on.

In total, more than 200,000 people live in the area that falls under ReconAfrica's exploration licenses in the Kavango Basin.⁶ Many locals only learned about the company's plans when ReconAfrica began drilling. The Canadian company moved into conservation areas, cleared forests and drilled wells without the knowledge or approval of local communities. In the rare cases where ReconAfrica provided information, it did so only in English, not in people's native language. Again and again, the company has been accused of disregarding national and local regulations. Environmental groups have launched a lawsuit against Recon-Africa for clearing land without permission and not compensating its owners. US investors have also taken ReconAfrica to court over environmentally reckless drilling plans and the lack of consultation of local communities in Namibia and Botswana.

Today, the Okavango River is a lifeline for the big five animal species: elephants, buffalos, rhinos, lions and leopards. The world's largest remaining population of endangered savanna elephants lives in the region, next to giraffes, zebras, antelopes, pangolins, 400 bird species and over 1,000 plant species.⁷ The unique wildlife attracts tourists from near and far.

Local communities and environmental groups are concerned what the region around the Okavango River will look like if ReconAfrica continues exploration and launches commercial oil production in the Kavango Basin. Drill rigs, connecting pipelines, pumping stations and access roads would fragment the region, disrupt hunting territories and obstruct migration routes.8 Income from tourism will dwindle as tourists will not want to visit an industrialized oil landscape. In the worst case, an oil

infrastructure construction, toxic chemicals and oil spills from ReconAfrica's project threaten one of the world's most magnificent ecosystems as well as the people who depend on it. In 2020, ReconAfrica published its plan to extract the Kavango Basin's oil and gas through fracking. Fracking is especially controversial because it uses pressurized, waterbased, toxic chemicals to release fossil fuels deep underground. Fracking consumes gigantic amounts of water, increases the risk of earthquakes and frequently In total, more than 200,000 contaminates ground and surface water. It can people live in the area that falls poison humans, animals under ReconAfrica's exploration and entire food chains. licenses in the Kavango Basin In the face of massive



spill could pollute the Okavango River and ultimately also the Okavango Delta. Noise,

protests, the Canadian company felt compelled to state "there is no intention for any fracking activities", but it's hard to believe that fracking is truly off the table for ReconAfrica.9

As a result of tireless protests by community leaders and local, national and international environmental groups, UNESCO announced that it plans to look into the potential effects of oil and gas exploration on the Okavango Delta World Heritage Site. In the meantime, ReconAfrica is drilling exploration wells in Namibia and the country's energy minister has confirmed that his government will award the company with a 25-year production license if oil is struck.¹⁰

All over Africa, civil society organizations are challenging the oil and gas industry's land and ocean grab for new exploration areas. Over 50 civil society organizations from Namibia and Botswana are campaigning for an immediate moratorium on oil and gas exploration in the Kavango Basin. The Democratic Republic of Congo's decision to sell new oil and gas licenses in peat land forests and in protected areas, met with protests by national and international NGOs.¹¹ Communities in South Africa went to court against Shell's plan to search for oil and gas reserves in the seabed off South Africa's "Wild Coast" in the east of the country. The court sided with fishing

communities and environmentalists and struck down Shell's permit to map the ocean floor for hydrocarbon deposits in September 2022.¹² And African Bishops issued a joint declaration in 2021, saying: "Africa's natural habitats are being destroyed at an alarming rate through the extraction of oil and gas. Oil companies are abusing the rights of indigenous and rural people and forcing them off the land. Oil and gas exploration and exploitation are leading to political destabilization and increased violence. We call for the immediate cessation of fossil fuel exploration across Africa."

I.2. Upstream Oil and Gas Expansion in Africa

Oil and gas is a capital-intensive industry and large investments must be made before an oil or gas field enters into production. The discovery of a new field is, therefore, followed by an appraisal period, where companies drill appraisal wells and undertake seismic surveys to determine the size and quality of the resources. If the appraisal determines that the extraction of oil and gas resources is commercially viable, the project moves into the field evaluation stage. In this stage, companies make decisions on the recovery method, the placement of wells, transport logistics etc. and develop a front-end engineering and design plan. The final phase before an oil and gas asset enters production is the development stage. Financing agreements have already been negotiated, and now wells are drilled and the actual infrastructure is built.

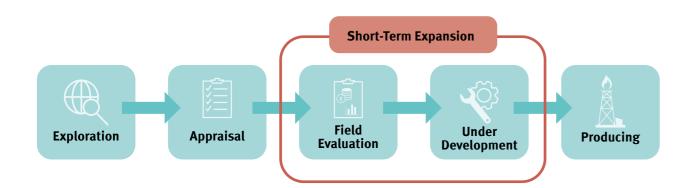
The time period from discovery to the begin of production depends on many factors, but can take up to 10 years or longer.

This report uses data from Urgewald's Global Oil and Gas Exit List (GOGEL) to assess which oil and gas companies have the largest "short-term" upstream expansion plans in Africa. GOGEL's short-term expansion metric only includes oil and gas fields that are already in the *field* evaluation or the development stage and which will be brought into production within the next 1-7 years.¹³ lt does not include oil and gas assets that are still in the exploration or appraisal phase and for which it is not yet certain that companies plan to bring them into production.

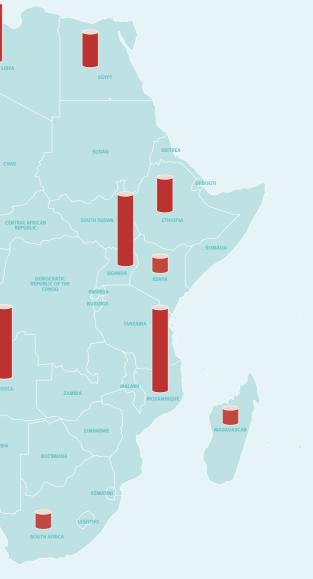




Life Cycle Stages of an Oil and Gas Asset



All in all, oil and gas companies are preparing to add at least 15.8 billion barrels of oil equivalent to their production portfolios in Africa before 2030. The extraction and combustion of these resources would release 8 Gigatons of CO₂eq into the atmosphere – more than twice



Data Source: Urgewald's calculation based on Rystad Energy UCube 14.09.2022

the amount the EU emits each year.¹⁴ The countries where the largest upstream oil and gas expansion is planned in the near future are Mozambique, Nigeria, Algeria, Angola, Uganda, Libya and Mauritania.

Greater Tortue Ahmeyim: BP puts a Unique Ecosystem at Risk



Off the coast of Mauritania and Senegal, BP plans to extract and liquefy fossil gas in Africa's deepest offshore project.¹⁵ BP's project threatens to lock both countries into a fossil development path and puts the world's largest cold-water reef and migratory bird populations at risk.

> Right on the maritime border between the two West African countries, a consortium of BP, Kosmos Energy, Société des Pétroles du Sénégal and Société Mauritanienne des Hydrocarbures are developing two offshore gas fields, Tortue and Ahmeyim. The companies want to extract gas from ultra deep wells in water depths of 2,850 meters.¹⁶

> The gas will flow from Tortue and Ahmeyim through an 80 km long underwater pipeline to a floating production, storage and offloading (FPSO) vessel where the gas is cleaned. From here, the processed gas is transferred through a 35 km long underwater pipeline to a floating LNG terminal. A 1 km long breakwater out of concrete and rock will protect the vessel and export carriers from harsh weather and ocean conditions. Construction of the LNG facility is almost finished, and BP aims to begin production in 2023.¹⁷

The Greater Tortue Ahmeyim (GTA) reserves hold almost 425 billion cubic meters of fossil gas. BP is already considering the development of further fields in the basin, which is estimated to hold up to 1,133 billion cubic meters of gas.¹⁸ When burned, these vast reserves would release around 2.2 billion tons of CO₂ into the atmosphere. BP's plans threaten to recklessly chip away between 0.3 and 1 percent of the remaining carbon budget to limit global warming to a vital 1.5°C.¹⁹

While BP and the governments of Senegal and Mauritania market GTA as a prestige project, local communities, environmentalists and researchers raise serious concerns.²⁰

In 2018, a group of international scientists advised the Mauritanian government to establish marine conservation zones in the area where BP wants to build the pipelines, the FPSO and the LNG terminal.²¹ They also demanded thorough environmental assessments for any fossil fuel development in the region. Months later, 10 marine scientists wrote an outraged letter to BP, stating that the company's environmental impact assessment downplays the serious ecological risks of the GTA project for water birds and the marine environment. The letter calls BP's assessment of expected impacts "fundamentally wrong".²²

The coast off Senegal and Mauritania is a unique region with a rich wildlife. It provides a refuge for millions of water birds each year on their journey between Africa and the Arctic. The birds rely on these coastal waters to feed and rest on their route. In this exact area, BP plans to build the FPSO, the floating LNG terminal and the pipelines.23

Less than 5 km away from the planned terminal lies Mauritania's Dialing National Park, home to 250 different species of birds.²⁴ At a similar distance in Senegalese waters, whales and dolphins feed in the Marine Protected Area of Saint-Louis. The Langue de Barbarie National Park, a nesting site for sea turtles, is 15 km away from BP's planned LNG terminal. The Djoudi National Park is only 35 km away. Djoudi, a large wetland in the Senegal River Delta, is a sanctuary for over 1.5 million birds and protected as a UNESCO World Heritage site.²⁵ Even closer to the gas infrastructure lies the Guembeul Natural Reserve. Flamingos, tortoises and monkeys live in this important wetland.²⁶

If BP goes through with its plans, it also risks destroying the world's largest cold-water coral reef.²⁷ The reef stretches 580 km along the Mauritanian coast down to Senegal. The coral formations are 100 meters high and lie half a kilometer below the sea's surface. This unique ecosystem took over 200,000 years to grow and stores enormous amounts of carbon.

The reef and the surrounding seafloor are one of the most biodiverse areas of the Mauritanian coastline and are critical for the survival of



A spill of condensate from BP's wells could poison the rich wildlife on the West African coast and the livelihood of coastal fishers.³² Condensate is a byproduct of gas extraction that is almost invisible and therefore extremely difficult to clean up.33 Unless it is contained, a condensate spill would hit the coast of Mauritania and Senegal in less than a week. It would reach the Mauritanian and Senegalese national parks, the Saint-Louis Marine Protected Area and the Guembeul Wetland Reserve. The poisonous condensate would kill birds, whales, dolphins, fish and other endangered animals on the West African coast. The GTA project is a serious threat to the coastal ecosystems and the people of Mauritania and Senegal.

endemic species.²⁸ Fish, crabs, giant clams and sponges live here, as well as black coral, one of the oldest living organisms on Earth. BP's proposed gas pipelines will snake through one of the most sensitive parts of the reef. The installation of the pipelines will swirl up the sediment, which could suffocate the living corals and destroy the vivid underwater world.29

The coral reef is an important habitat for fishery resources in the region.³⁰ For local fishing

communities, the project is a main source of protein. Artisanal fisherfolk come here every day to The safety zone BP is setting up reef. around the breakwater structure

nightmare as they depend on If BP goes through with fish for their livelihood and as a its plans, it also risks destroying the worlds' make a living for their families. largest cold-water coral

will significantly reduce their fishing area, but BP has, up to now, not offered any compensation for the fisher's loss of income.³¹



Who Are the Top 20 Companies Behind Upstream Oil and Gas Expansion in Africa?

20 companies account for over 80% of the short-term upstream oil and gas expansion planned in Africa (see table below). 13 of the top 20 companies in our ranking are headquartered outside of Africa. All of the major European oil and gas companies are among the top 20 expansionists in Africa, with the exception of Equinor. It should, however, be noted that the Norwegian company

TOP OPSTREAM OIL & GAS DEVELOPERS IN AFRICA	
Company	
TotalEnergies	
Sonatrach	
Eni	
Nigerian National Petroleum Corporation (NNPC)	
Mitsui & Co	
Empresa Nacional de Hidrocarbonetos (ENH)	
BP	
Oil and Natural Gas Corporation (ONGC)	
National Oil Corporation (NOC)	
China National Offshore Oil Corporation (CNOOC)	
Nigerian Petroleum Development Company (NPDC)	
Bharat Petroleum Corporation	
PTT Exploration and Production Public Company (PTTEP)	
Sonangol	
Shell	
Kosmos Energy	
Exxon Mobil Corporation	
Springfield Exploration and Production	
Chevron Corporation	
POLY-GCL Petroleum Group Holdings	

Source: Rystad Energy UCube

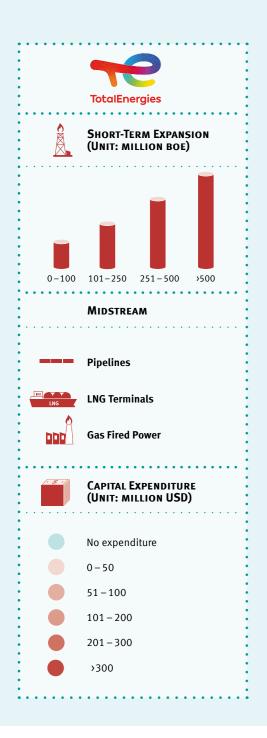
signed a framework agreement with the government of Tanzania and Shell in 2022 to develop enormous gas reserves off the coast of southern Tanzania.³⁴ The project has not yet progressed to the *field evaluation stage* and is therefore not covered in the short-term expansion data for this report.

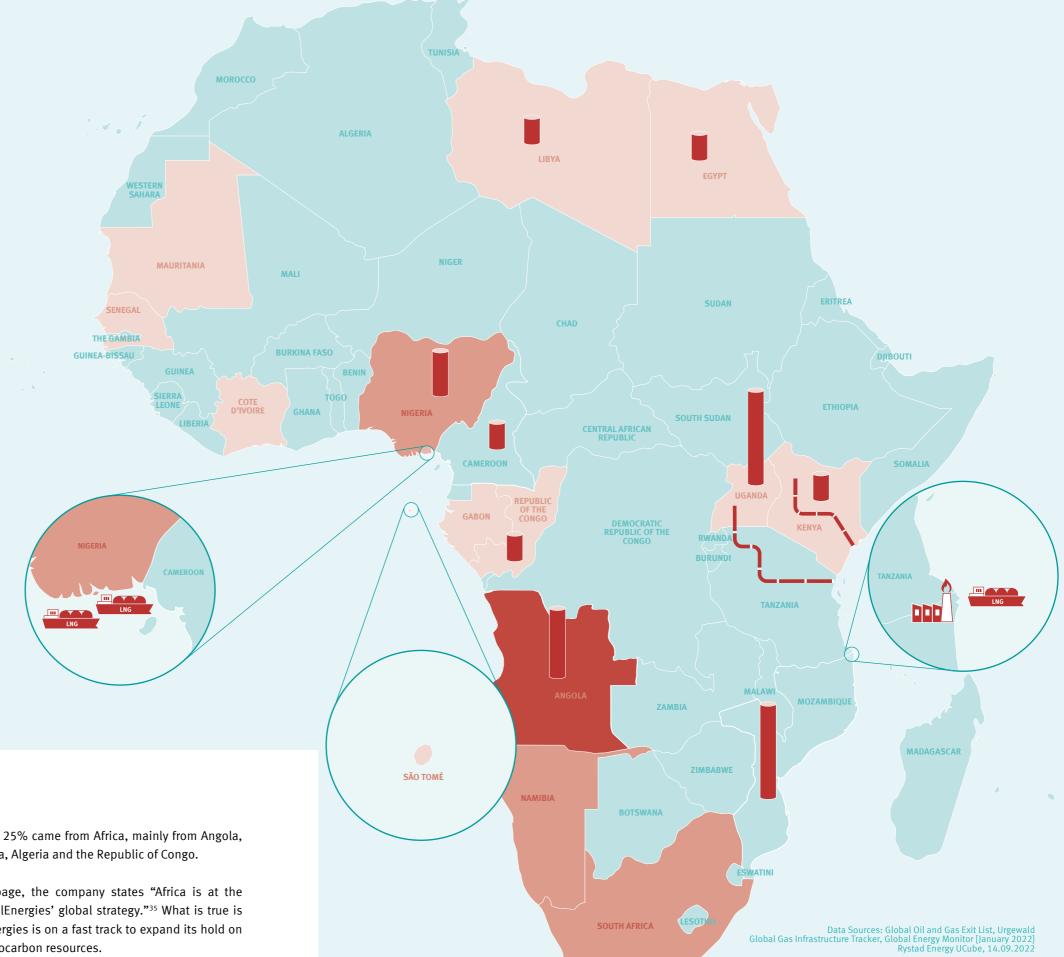
Country of Headquarters	Short-term Expansion
	(in mmboe)
France	2,270
Algeria	1,748
Italy	1,319
Nigeria	1,015
Japan	718
Mozambique	631
United Kingdom	617
India	574
Libya	490
China	431
Nigeria	360
India	359
Thailand	336
Angola	308
United Kingdom	296
United States	249
United States	243
Ghana	235
United States	207
China	200

mmboe = million barrels of oil equivalent

In the following pages, we take a closer look at the three biggest oil and gas expansionists in Africa.

TotalEnergies' Oil and Gas Expansion Plans in Africa





TotalEnergies

The biggest developer of new upstream oil and gas out of which 25% came from Africa, mainly from Angola, resources in Africa is TotalEnergies. The French oil and gas giant aims to add 2.27 billion barrels of oil equivalent to its production portfolio in Africa and is responsible for over 14% of short-term oil and gas expansion on the continent. In 2021, TotalEnergies' total hydrocarbons production equaled 1 billion barrels of oil equivalent,

Nigeria, Libya, Algeria and the Republic of Congo.

On its webpage, the company states "Africa is at the heart of TotalEnergies' global strategy."35 What is true is that TotalEnergies is on a fast track to expand its hold on Africa's hydrocarbon resources.



Fisher communities and activists protest against offshore oil and gas exploration in South Africa. © The Green Connection

TotalEnergies is exploring for oil and gas in 15 African countries and recently made major discoveries such as the Venus oil field off the coast of Namibia. The Venus field is estimated to hold 3 billion barrels of recoverable oil and is likely Sub-Saharan Africa's biggest oil discovery to date.36



Oil Drilling at Walvis Bay, Namibia © 2016 TheLearningPhotographer/Shutterstock

In 2019 and 2020, TotalEnergies also discovered two enormous gas fields, Luiperd and Brulpadda, off of South Africa's southern coast. Each of these fields is estimated to hold over 1 billion barrels of oil equivalent.³⁷ Luiperd and Brulpadda are in an area of spectacular marine biodiversity, which serves as a feeding and nesting ground for thousands of whales and harbors endangered leatherback turtles, seals, penguins, and fish populations that are a mainstay of coastal fishers' livelihoods.³⁸ Public opposition to TotalEnergies' plans is growing rapidly.

Fishers all along South Africa's coast are standing up to defend their future. And a group of prominent South African scientists recently condemned new offshore oil and gas development as "short-sighted, environmentally irresponsible and morally indefensible" due to its impacts on climate and the country's marine ecosystems.³⁹ Although the appraisal of the gas fields is still underway, TotalEnergies already applied for a production license for Luiperd-Brulpadda in September 2022. In Africa alone, TotalEnergies has hydrocarbon reserves of at least 3.5 bboe (billion barrels of oil equivalent) that have not yet entered the field evaluation stage.

In 2021, Total committed to become carbon neutral by 2050 and rebranded itself as "TotalEnergies" under the slogan "Transforming to reinvent energy". It even went so far as to create the Twitter hashtag: "#MoreEnergiesLessEmissions". In March 2022, Greenpeace, Les Amis de la Terre, Notre Affaire à Tous and ClientEarth hit the company with a well-deserved lawsuit, arguing that its advertising campaign is "disinformation PR and greenwashing". "It's easy to make empty promises for 2050, but the reality is that 75% of TotalEnergies' investments are still going into fossil fuels. While the IPCC warns that emissions must be halved by 2030, TotalEnergies plans to produce 18% more hydrocarbons in 2030 than it did in 2020," says Lucie Pinson, Director of Reclaim Finance.

Sonatrach

The state-owned Algerian oil and gas company, Sonatrach, of climate change and has 84 times the warming power is the world's 13th biggest hydrocarbon producer and the of CO₂ in the first 20 years after it is released. All in all, second largest developer of new upstream oil and gas the Hassi R'Mel gas field released an estimated 939,000 resources in Africa. Its activities are, however, almost tons of methane in 2021, an amount equal to the annual exclusively focused on Algeria, where it intends to add CO₂ emissions of 17 million American cars. Significant 1.75 billion barrels of oil equivalent to its production methane leaks were also detected at two facilities on portfolio in the next years. Sonatrach is also the company Sonatrach's largest oil field, Hassi Messaoud.⁴² Although with the highest exploration capex in Africa: It has spent Algeria is a methane hotspot, it refused to join the 105 over US\$ 2.1 billion on oil and gas exploration since 2020. countries which signed a pledge at the UN Climate Summit in Glasgow to reduce methane emissions by 30% Algeria's first oil reserves were discovered in the late by 2030.

1950s and today, the country's entire economy is highly dependent on fossil fuels. Oil and gas account for 60% of the government's revenues and nearly 95% of Algeria's export earnings.⁴⁰ More than 75% of Algeria's oil and gas production is owned by Sonatrach and the company has been repeatedly embroiled in corruption scandals. In 2022, an Algerian court sentenced Mohamed Meziane, the former Sonatrach CEO, to 5 years in prison and Abdelhafidh Feghouli, the former vice-president of Sonatrach, to 6 years in prison due to corruption charges involving the Italian engineering company Saipem.⁴¹

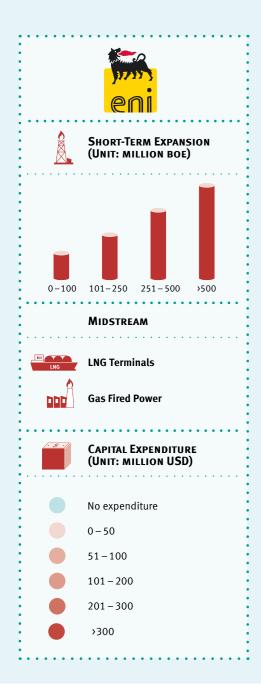
Algeria is the third largest exporter of gas to Europe and new satellite research shows that Sonatrach's largest gas field, Hassi R'Mel, has been releasing large amounts of methane for almost 40 years. Methane is a key driver

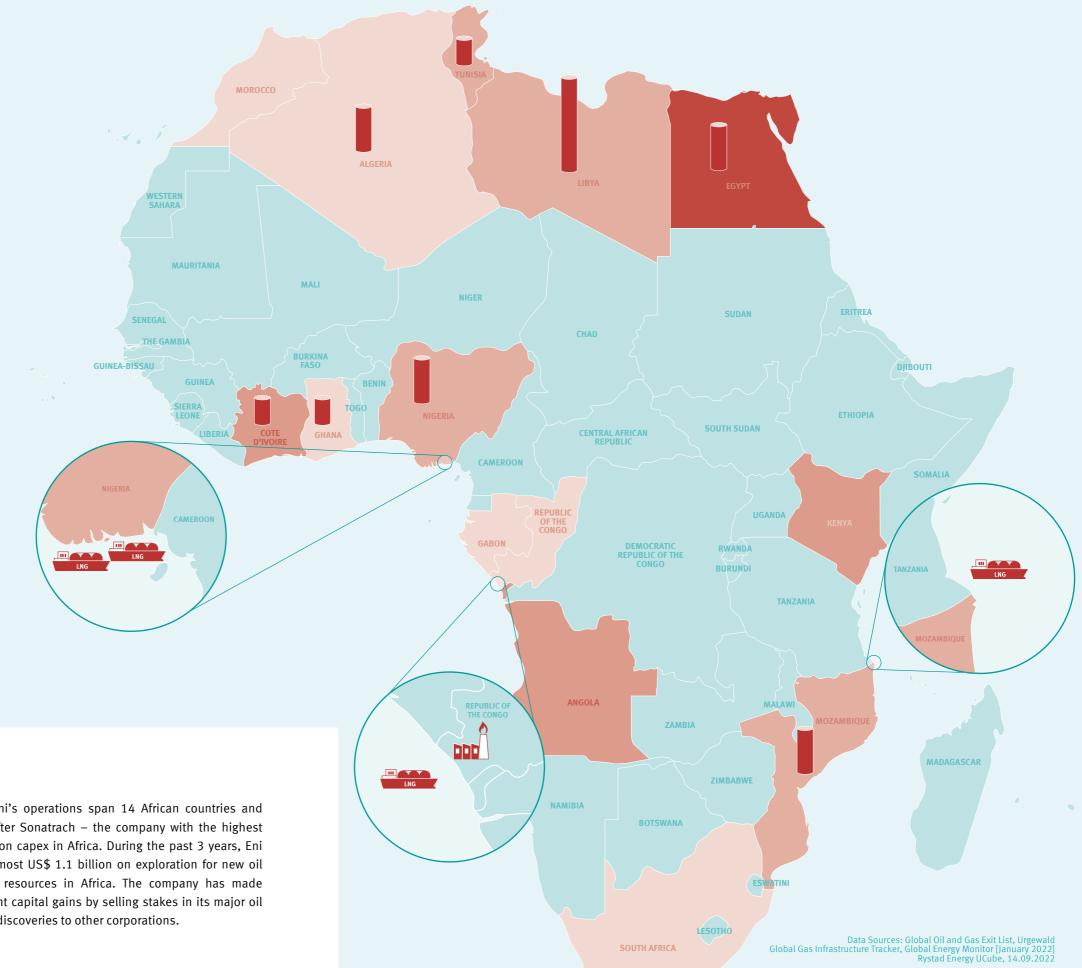
Sonatrach's oil refinery in Skikda, Algeria. © hamdi bendali / Shutterstock



In 2022, Sonatrach signed a flurry of deals to extract new oil and gas resources in Algeria with foreign partners. On February 4th 2022, Sonatrach announced that it intends to develop the El Assel gas field in cooperation with Gazprom.⁴³ Later in the same month, it signed a memorandum of understanding to develop new gas projects with the German company Wintershall Dea.44 In May 2022, Sonatrach and Eni agreed to accelerate the development of new gas fields to increase Algeria's exports to Italy.⁴⁵ And in July 2022, Sonatrach struck a deal with TotalEnergies, Occidental and Eni to jointly invest US\$ 4 billion in gas development in Algeria's Berkine Basin.⁴⁶ Sonatrach is bent on dragging itself and Algeria ever further into the fossil fuel trap.

Eni's Oil and Gas Expansion Plans in Africa





Eni

Eni is Africa's second largest oil and gas producer and sourced 59% of its hydrocarbon production from Africa in 2021. The Italian major is also the third largest developer of new upstream oil and gas resources on the continent. Eni plans to add 1.32 billion barrels of oil equivalent to its production portfolio in Africa in the coming years. The carbon emissions from burning these new resources will be over twice as high as Italy's annual greenhouse gas emissions.

Today, Eni's operations span 14 African countries and it is - after Sonatrach - the company with the highest exploration capex in Africa. During the past 3 years, Eni spent almost US\$ 1.1 billion on exploration for new oil and gas resources in Africa. The company has made significant capital gains by selling stakes in its major oil and gas discoveries to other corporations.

Since the mid-1950s, Eni has played a key role in initiating and expanding oil and gas extraction in several African countries. An example is Mozambique, where Eni's discovery of huge offshore reserves in 2011 created a gas rush with disastrous consequences for the country (see case study on page 24). Another country where Eni has a very influential presence is Angola. Eni made several significant discoveries here since 2018 and has recently formed a new company – Azule Energy – together with BP. With a production of 200,000 barrels of oil equivalent per day and 2 billion barrels of reserves, Azule Energy will be Angola's largest independent oil and gas producer. The company also plans to develop Angola's first nonassociated gas project, which is expected to produce up to 4 billion cubic meters per year, starting in 2026.⁴⁷

But Egypt is by far the most strategic country for Eni. It accounts for about half of the company's total gas reserves and more than a third of its profits. After the discovery of the giant Zohr gas field in 2015, Eni's business in Egypt boomed and continued to thrive, undisturbed even by the murder of the Italian researcher Giulio Regeni by Egyptian intelligence agents in 2016.⁴⁸ Six years after Regeni's murder, justice is still being denied by President al-Sisi, who refuses to collaborate with Italian authorities. Eni,

however, decided to look the other way and rejected calls from civil society to end its business with Egypt's brutal regime.⁴⁹ In 2022, Eni and the Egyptian government announced their cooperation on a carbon capture and storage project, an obvious attempt by both sides to greenwash their image in the run up to COP27.⁵⁰ Only a month before announcing the project, Eni and Egypt signed an agreement to expand gas production in the country.⁵¹

Eni has announced its ambition is to become "a net zero emissions energy business" by 2050, but the pathway to net zero matters much more than the final destination. "The decisive decade for action is now," says Antonio Tricarico from the Italian NGO Re:Common. "But Eni plans to continue growing its upstream hydrocarbon production until 2025 and then staying at this plateau until 2030. Its fossil investments and strategy are absolutely incompatible with efforts to stay below 1.5°C." According to Tricarico, Eni will still be producing 15 times more fossil fuels than renewables in 2030.

Gas flaring poses a huge health hazard for communities in the Niger Delta. © George Osodi



II.3. Who Are the Top Companies Behind Midstream Oil and Gas Expansion in Africa?

Fossil fuel infrastructure such as pipelines and liquefied of both LNG plants is more than 30 years.⁵⁴ New massive natural gas (LNG) terminals are expensive to build, and oil and gas infrastructure projects pose a major threat their intended operational lifetime spans decades. to the Paris goals. They lock in fossil emissions over TotalEnergies' and CNOOC's East African Crude Oil decades and lock out host countries' opportunity to build Pipeline, for example, will cost over US\$ 5 billion and is a renewable future. According to the International Energy expected to operate for at least 20 years.⁵² ExxonMobil's Agency, "achieving full access to modern energy in Africa and Eni's Rovuma LNG project in Mozambigue and by 2030 would require investments of US\$ 25 billion per Equinor's Tanzania LNG project are each estimated to year," a sum that is comparable to the cost of just one cost US\$ 30 billion.⁵³ The expected operational lifetime large LNG project.55

Doubling Africa's LNG Terminal Capacity

In addition to methane leakages which occur throughout the gas supply chain, the production of LNG is particularly energy intensive. To produce LNG, fossil gas is first cooled to -162°C to liquefy it, then piped into LNG tankers and shipped to distant ports, where it must be re-gasified before it can be burned in a power plant. Almost half of the total greenhouse gas emissions from LNG thus occur before any electricity is generated.⁵⁶ "LNG is not a climate solution, it's a big climate problem," says Nils Bartsch, head of oil and gas research at Urgewald.

In Africa, oil and gas companies are developing new LNG terminals with a combined capacity of over 90 million tons per annum (Mtpa). These projects will increase Africa's

Five Biggest Planned LNG Terminals in Africa

Project	Country	LNG CAPACITY (MTPA)	Lead Operators and Headquarters
Rovuma LNG	Mozambique	15.2	ExxonMobil (US) and Eni (Italy)
Mozambique LNG	Mozambique	13.1	TotalEnergies (France)
Greater Tortue Ahmeyim LNG	Mauritania/Senegal	10	BP (UK)
Tanzania LNG	Tanzania	10	Equinor (Norway) and Shell (UK)
Djibouti LNG	Djibouti	10	POLY-GCL Petroleum Group (China)

existing LNG terminal capacity by 120%.⁵⁷ Over 97% of the new LNG infrastructure is being built for export, mainly to Europe and Asia. "From Mauritania to Mozambique, Europe's fossil fuel addiction is a major driver behind new LNG projects," says Amos Wemanya, a senior analyst at Power Shift Africa. "These multibillion-dollar projects will drive African countries into debt and obstruct the shift to renewable energies. They are bad for our climate and bad for Africa's development."

The five biggest projects account for 67% of the new LNG terminal capacity planned in Africa. All five projects are led by foreign companies.

Unleashing Carbon Bombs and Chaos in Mozambique



"Ever since gas was found here, the region has struggled to find peace. The environment has been destroyed and law and order have collapsed. Nowhere in Africa have oil and gas been good for the people. I wish the gas had never been found."

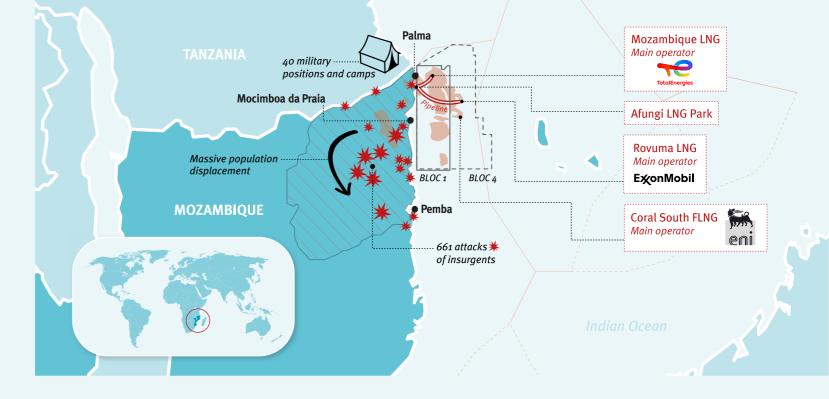
- Issa Tarmamade, mayor of the Ibo Island district in Cabo Delgado.⁵⁸

A decade ago, Cabo Delgado in northern Mozambique was a peaceful, lush and green coastal province. The region had a rural population of farmers and fishers, and a developing tourism industry. People were poor. but communities had their land, free access to water, sea and forests, and sustainable livelihoods. This all changed when massive offshore gas fields were discovered off the coast and multinational oil and gas companies descended upon the province. Ten years later, the industry has left thousands of people displaced and without livelihoods, ruined the environment and fueled an ongoing violent conflict that has led to thousands of deaths and turned 800,000 people into refugees.⁵⁹

From 2011 onwards, multinational oil and gas companies began developing three large liquefied natural gas (LNG) projects in Cabo Delgado: The Mozambique LNG project led by TotalEnergies, the Rovuma LNG project led by ExxonMobil and the Coral South Floating LNG project led by Eni.

The gas reserves off the coast of Cabo Delgado are one of the world's largest carbon bombs. If extracted and burnt, they will generate more than 4.6 billion tons (gigatons) of CO_2 – an amount 13 times as big as the annual greenhouse gas emissions of France. Export credit agencies from France, the US, Italy, Japan, China, South Korea, South Africa, Thailand, the UK and the Netherlands provided financing and insurance to the companies planning to ignite this carbon bomb. To date, the total international support for all renewable projects in Mozambique is US\$ 230 million - one-sixtieth of the amount of public finance that went to the Mozambigue LNG project alone.⁶⁰

As the main operators of the gas projects in Cabo Delgado, TotalEnergies, Eni and ExxonMobil promised local communities that they would benefit from these projects. Instead, the companies bulldozed communities' villages to make space for gas processing facilities and forced 557 families to leave their land and belongings behind. Many



families received only a tenth of the land that they owned before or are still waiting for their promised compensation. The impacts of the projects on fishing communities along the coast were also completely ignored, although the dredging, drilling and extensive subsea infrastructure works have serious impacts on marine biodiversity.

1. Mozambique LNG: Via a 45 km-long subsea pipeline, gas will be transported to the onshore Afungi LNG park, where it will be liquefied and stored in tanks for export to other countries. The US\$ 20 billion project is owned by TotalEnergies (26.5%), Japan's Mitsui (10%), Japan Oil, Gas and Metals National Corporation (10%), Mozambique's national oil company ENH (15%), the Thai company PTTEP (8.5%) and the Indian companies ONGC (16%). Bharat Petroleum (10%) and Oil India (4%).

2. Rovuma LNG: Rovuma is the biggest of the three projects, but the final investment decision has still not been made. Gas will be transported from the offshore fields via pipelines to the planned Rovuma LNG terminal, which will also be sited at the Afungi LNG park. The owners of the US\$ 30 billion Rovuma project are ExxonMobil (25%), Eni (25%), China National Petroleum Corporation (20%), Korea Gas Corporation (10%), the Portuguese company GALP (10%) and ENH (10%) from Mozambique.

3. Coral South Floating LNG: Gas is liquefied on-site with a floating LNG terminal, constructed in South Korea. The Floating LNG plant has just become operational, and first exports to Europe are expected in November 2022.⁶¹ The project is led by Eni (25%) in partnership with ExxonMobil (25%), China National Petroleum Corporation (20%), Korea Gas Corporation (10%), GALP (10%) and ENH (10%).

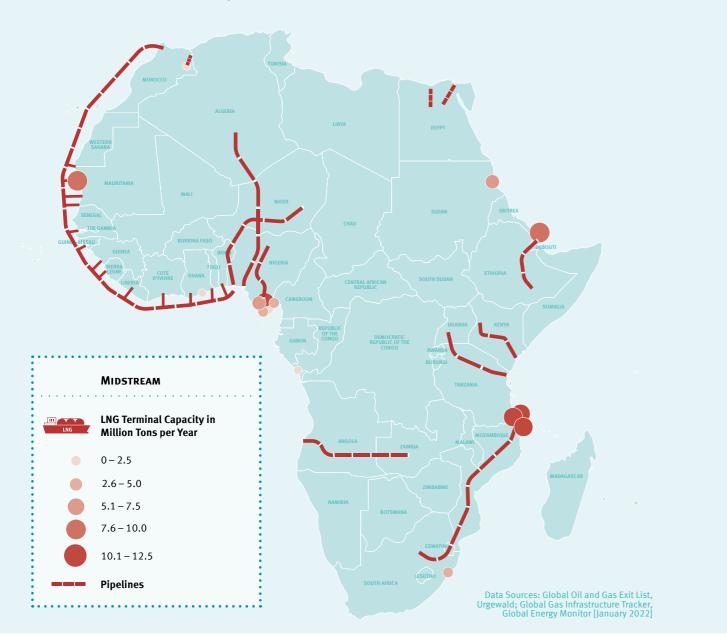
The oil and gas companies as well as the export credit agencies knew from the start that gas extraction in the area was associated with high security risks. Mozambique is one of the poorest countries in the world and Cabo Delgado is one of the poorest areas of Mozambique. The arrival of rich international companies, hordes of foreign workers and military forces to guard the oil companies' operations created the perfect breeding ground for an insurgency. In 2017, insurgents began taking control of territory in Cabo Delgado and waging horrific attacks on civilians: burning down villages, murdering people and raping and enslaving women. Since 2017, over 3,000 people were killed and over 800,000 have fled their homes.⁶² While TotalEnergies declared force

after an attack of insurgent militias on the nearby town of Palma in 2021, the company aims to restart the project this year.63 ExxonMobil and Eni have not yet taken a final investment decision on the Rovuma LNG project, but the Coral South Floating LNG has already taken up operations. Meanwhile Cabo Delgado has become a militarized zone, where critical journalists are "disappeared" and villagers live in fear of violence by the insurgents or the military forces deployed to fight the insurgency.

majeure on the Mozambigue LNG project

"The projects in Cabo Delgado showcase how the gas industry destabilizes poor countries and fuels the climate crisis. These projects must be dismantled before they dismantle our future," says Anabela Lemos, Director of Justiça Ambiental/ Friends of the Earth Mozambique.

Planned LNG Terminal and Pipelines



New Gas and Oil Pipelines Planned in Africa

Europe's attempt to replace Russian gas with gas from other countries has given pipeline projects in Africa a new boost. An example is the Trans-Saharan Gas Pipeline, a project that was first mooted 40 years ago and is now being revived. In July 2022, the energy ministers of Nigeria, Niger and Algeria signed a memorandum of understanding to undertake a new feasibility study for the pipeline. If built, it would stretch 4,400 km from Warri in southern Nigeria to Hassi R'Mel in Algeria, where it would connect to existing pipelines supplying Europe.⁶⁴

Altogether, 20,541 km of new oil and gas pipelines are planned in Africa. If laid end-to-end, these pipelines would be long enough to cover the distance between the North Pole and the South Pole. 68% of the pipeline kilometers planned or under construction in Africa are for transporting gas, while 32% are for oil. More than half of the 20,541 pipeline kilometers are being explicitly built to transport oil or gas to Europe, either directly or by transporting fuel to the seaside from where it can be shipped to Europe. The chart on the next page shows the five longest pipeline projects planned in Africa as well as the companies investing in them.

Longest Oil and Gas Pipelines Planned in Africa

PIPELINE NAME	Length in KM	FUEL	Сомра
Nigeria-Morocco Gas Pipeline	5,660	Gas	Nigerian des Hydi
Trans-Saharan Gas Pipeline	4,128	Gas	Nigerian Governm
African Renaissance Gas Pipeline	2,600	Gas	Empresa Petroleu
Niger-Benin Oil Pipeline	1,950	Oil	China Na
East African Crude Oil Pipeline (EACOP)	1,443	Oil	TotalEne Petroleu

Out of these five major pipelines, only the African Renaissance Pipeline, which is planned between Mozambigue and South Africa, is aimed at trade between African countries. All the other pipelines are designed to export African gas or oil to Europe or to China, either directly or via a port in the case of the East African Crude Oil Pipeline and the Niger-Benin pipeline.



CNPC subsidiaries are constructing a 1,950 km long pipeline connecting the Agadem oilfields in Niger's Diffa Pipeline construction in the Sahara desert. © Richard J Greenman / Alamy Stock Photo region to the port of Cotonou in Benin. CNPC is also involved in the proposed 2,600 km "African Renaissance While international companies play a dominant role in Pipeline" which would supply Mozambican gas to South African LNG projects, the continent's largest pipeline Africa – a project which South African energy company Sasol distanced itself from in April 2022. According to developers are companies headquartered in Africa. The company with the most ambitious plans in the Bloomberg, Sasol said it does not want to be stuck with pipeline sector is the Nigerian National Petroleum this infrastructure project as the world shifts away from Company (NNPC). In September 2022, NNPC signed a fossil fuels.⁶⁷ TotalEnergies holds a majority stake of 62% in the controversial East African Crude Oil Pipeline memorandum of understanding with Morocco's National Office of Hydrocarbons and Mines (ONHYM) and the (EACOP).

NIES INVESTING IN THE PIPELINE

n National Petroleum Corporation (NNPC), Office National rocarbures et des Mines (ONHYM)

n National Petroleum Corporation (NNPC), Sonatrach, ment of Niger

a Nacional de Hidrocarbonetos (ENH), China National um Corporation (CNPC)

lational Petroleum Corporation (CNPC)

ergies, Uganda National Oil Company (UNOC), Tanzania um Development Corporation (TPDC), CNOOC

Economic Community of West African States (ECOWAS) to build the Nigeria-Morocco Gas Pipeline.⁶⁵ The 5,600 km pipeline would run across 13 African countries and provide gas from Nigeria to West African countries all the way to Morocco and subsequently to Europe. It would be the longest offshore pipeline in the world and would be built in stages over the next 25 years. African NGOs have repeatedly criticized the project, saying that it threatens the livelihoods of millions of people, who depend on fisheries along the West African coast, and will lock in fossil fuel development to the detriment of our climate.66 They also fear that the pipeline will cost much more than the projected US\$ 25 billion and will sink West African countries into debt.

There are two international companies, who are, however, important drivers of new pipeline projects in Africa: the China National Petroleum Company (CNPC) and France's TotalEnergies.

TotalEnergies' EACOP: The Pipeline No One Should Fund

Spreading inland from the northern shore of Lake Albert, Murchison Falls National Park is one of the world's most scenic places. It is not only Uganda's oldest and largest, but also its most popular conservation area.⁶⁸ The Victoria Nile flows through the park and elephants, white hippos, Nile crocodiles, buffalos and marabou storks can regularly be seen on its banks. All in all, this natural refuge harbors 556 bird species and 188 mammal species.⁶⁹

But the future of the park and the wider region are under threat since oil fields were discovered in the area around Lake Albert. The Tilenga oil field at the northern tip of Lake Albert and the Kingfisher oil field at the southern end of the lake are estimated to hold over 1 billion barrels of oil.⁷⁰ And TotalEnergies and China's National Offshore Oil Company (CNOOC) are determined to extract these resources.

For the Tilenga field, this means drilling over 400 oil wells, out of which at least 132 will be located within the Murchison Falls National Park. Roads will also be built inside the park to enable around 2,000 daily truck trips between wells during the exploitation phase. A water extraction system will be installed on the shores of Lake Albert to take water from the lake and re-inject it into the oil reservoir to maintain pressure.⁷¹ Around 180 km of feeder pipelines will be installed to pipe the oil to a central processing facility and then to the neighboring district of Hoima, where the East African Crude Oil Pipeline (EACOP) would begin. To enable the crude oil to flow, it must be heated to a temperature of 50°C. If built, EACOP would be the longest electrically heated pipeline in the world.

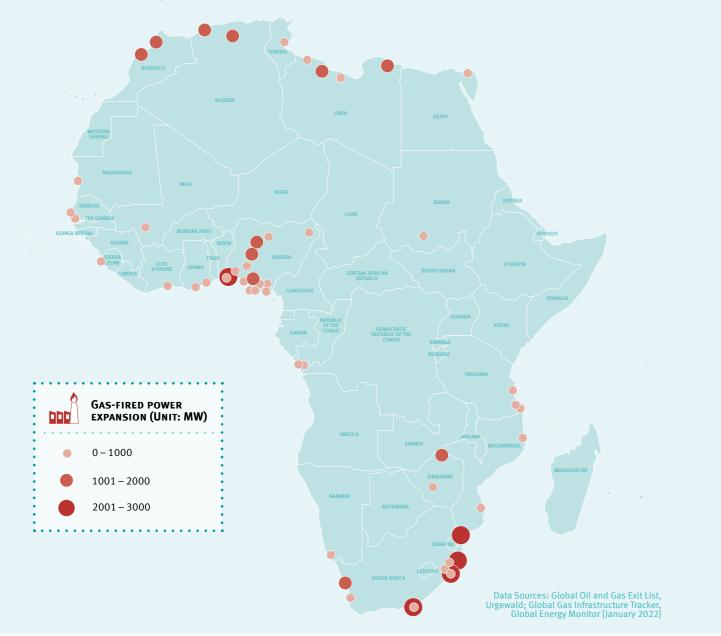
The 1,443 km long pipeline route runs all the way through Uganda and Tanzania to the Indian Ocean Port of Tanga. From there, the oil would be shipped out into the world. On its way, EACOP would crisscross through forests, savannas, swamps and countless nature reserves. A 30-meter-wide pipeline corridor would cut through the habitats of chimpanzees, lions, zebras, elephants, and migratory birds. Once the pipeline reaches the Tanzanian coast, oil tankers would steer through mangrove swamps and coral reefs to export the oil.⁷² The pipeline will also run through 178 villages in Uganda and 231 villages in Tanzania. All in all, TotalEnergies' and CNOOC's project will force more than 100,000 people off their lands.⁷³ For the Tilenga oil site alone, over 31,000 people will be forcibly displaced.⁷⁴ People are living in a state of limbo as they were told to already stop using their land, but have yet to receive compensation. Without farmland or compensation, people can no longer grow the crops that once brought them an income. Families are struggling to pay for medicine and their children's school fees.⁷⁵ Others no longer know how to afford the next meal.⁷⁶

Affected people who don't make space voluntarily are intimidated and threatened by the oil giants' subcontractors.77 Ugandan human rights defenders and environmental activists who dare to stand up against CNOOC and TotalEnergies are facing intimidation, arrests and judicial harassment from Ugandan authorities.⁷⁸ In an emergency resolution passed in September 2022, the European Parliament calls "for an end to the extractive activities in protected and sensitive ecosystems, including the shores of Lake Albert", and voiced "serious concern about the human rights violations in Uganda and Tanzania linked to investments in fossil fuel projects."79

Up until today, 24 banks and 18 insurance companies have declined support for EACOP.⁸⁰ One of them is the German insurance giant Allianz, which said: "Allianz is not providing direct insurance to the East African Crude Oil Pipeline project, as it neither meets our climate ambition nor falls within our ESG risk profile."⁸¹ At peak production, EACOP would enable the extraction and transport of enough oil to generate 34 million tons of CO₂ emissions per year, significantly more than the combined emissions of Uganda and Tanzania.⁸²



Gas-fired Power Expansion 2022



II.5. Who is Building New Gas-Fired Power Plants in Africa?

The expected operational lifetime of a gas-fired power plant is 25 - 30 years. The construction of new gas-fired power plants therefore locks in decades of CO_2 and methane emissions. "Building such plants at a time when even the International Energy Agency says that electricity systems must become emissions-free by 2040 makes no sense," says Amos Wemanya, senior analyst at Power Shift Africa. "Africa can leapfrog the development pathways that the North underwent and build smarter, distributed energy systems powered by renewables."

Currently, new gas-fired power plants are planned or under development in 21 African countries. Some of these countries, such as Algeria, Nigeria or Libya are already highly dependent on fossil gas for their electricity generation. Most, however, such as Cameroon, Republic of Congo, Mauritania, Mozambique, Senegal, Sierra Leone, Tanzania or Zimbabwe have little or no gas-fired power capacity up to now. "Power from new gas plants won't reach Africa's poor. Instead, these investments will delay and obstruct the renewable options that could give full energy access to rural populations," says Dipti Bhatnagar from Justiça Ambiental/Friends of the Earth Mozambique. Altogether, over 40,000 MW of new gas-fired power capacity is planned or under development in Africa.

Countries with the Biggest Gas-Fired Power Expansion Plans

COUNTRY	Planned capacity (MW)	Companies building over 1,000 MW (prorated capacity)
South Africa	13,132	Coega Development Corporation, Eskom Holdings, Nseleni Power Corporation, Karadeniz Holding
Nigeria	12,568	Nigerian National Petroleum Corporation (NNPC), Century Power Generation, Kingline Power, Caleb Energy, Inland Energy
Libya	3,619	General Electricity Company of Libya
Mozambique	3,024	Central Termica de Beluluane
Algeria	2,650	Sonelgaz
Morocco	2,400	Office National De L'electricite Et De L'eau Potable (ONEE)

Even among these six countries, two stand out: Nigeria and South Africa, the economic heavyweights of the continent. In March 2021, Nigeria's president Muhammadu Buhari announced "A Decade of Gas", a plan under which Nigeria would power its entire economy with gas by the year 2030.⁸³ Accordingly, the pipeline of new gas-fired power plants is huge and would more than double Nigeria's current gas-fired power capacity. On closer examination, it is evident that most of the new gas plants are being built to power industrial projects, but not to provide energy to the 45% of Nigeria's citizens that still lack access to electricity.

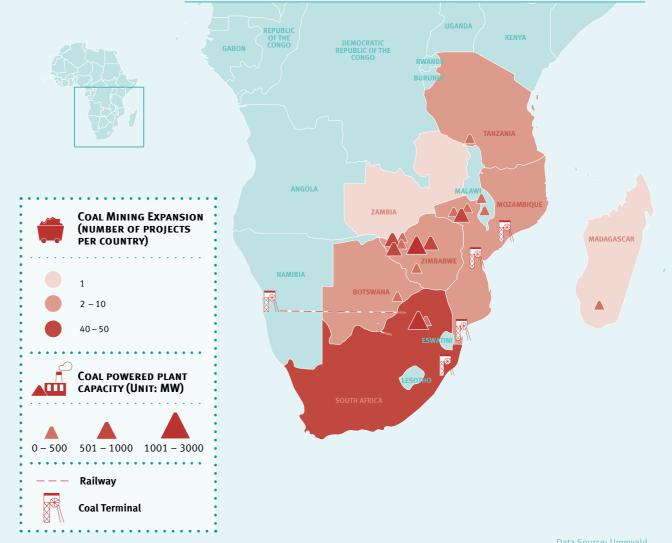
South Africa, on the other hand, has the world's fifth largest coal plant fleet, but almost no gas-fired power capacity. Many of South Africa's coal power stations are near the end of their lifetime and should be rapidly decommissioned, especially as the government has committed itself to cut emissions to net zero by 2050. But the country's Mineral Resources Minister, Gwede Mantashe, wants to replace one fossil fuel with another. In a speech before South Africa's National Assembly in May 2022, he proclaimed that "gas is going to be a game The bulk of this new planned capacity is, however, concentrated in a handful of countries.

changer" for South Africa.⁸⁴ All in all, over 13,100 MW of new gas power projects are planned in South Africa, an amount equal to around one-third of the country's coal-fired capacity. New gas plants are, however, being challenged in the courts and in the streets by South

"Investments in gas power projects are costly and detrimental to South Africa's economy, people and environment."

African civil society organizations. As Avena Jacklin from the South African NGO groundWork says: "Investments in gas power projects are costly and detrimental to South Africa's economy, people and environment. Gas development will displace renewable alternatives, expose us to volatile gas prices and increase pollution and climate vulnerability. The burning of fossil gas has no place in our energy future."

Coal Power, Mining and Infrastructure Expansion 2022



CHAPTER II

Coal Expansion in Africa

Coal is the most carbon-intensive of all fossil fuels. According to Urgewald's Global Coal Exit List, new In 2021, coal power plants generated 36% of the coal power plants, coal mines or coal transport world's electricity, but were responsible for almost infrastructure are planned or under development in 72% of the electricity sector's CO₂ emissions.⁸⁵ Our 11 African countries. The lion's share of these projects ability to limit global warming therefore critically is planned in Southern and East Africa. The largest depends on the speed in which we phase coal out coal-fired power capacity additions are planned in of our energy systems. According to the IPCC's latest Zimbabwe, while South Africa has the most coal Assessment Report, global coal power generation mines under development, and Mozambique and needs to fall by at least 76% by 2030 to keep the Botswana have the biggest plans for expanding coal 1.5°C goal within reach.⁸⁶ In Africa, the coal industry transport infrastructure. is, however, still expanding.

Data Source: Urgewald

II.1 Coal Power Expansion

Over the past four years, Africa's coal plant pipeline has shrunk significantly. In 2018, over 55,000 MW of new coal-fired capacity were still planned on the continent. But only 7,200 MW were completed, mostly in South Africa, where the country's state-owned utility, Eskom, built several units of its gigantic Medupi and Kusile coal power stations. Many other projects such as the Lamu coal plant in Kenya or the Khanyisa coal plant in South Africa were canceled due to massive protests by civil society and legal challenges in the courts. And at COP 26, several African countries signed on to the "Global Coal to Clean Power Transition Statement," committing themselves to "cease the issuance of permits for new unabated coal-fired power generation projects." Among the signatories were Cote d'Ivoire, Egypt, Mauritania, Morocco, Senegal, Somalia and Zambia.

10,135 MW of new coal-fired capacity are, however, still in the pipeline in Africa. Over half of this new coal power capacity - 5,380 MW - is planned in Zimbabwe. While 47% of Zimbabwe's population does not have access to electricity,⁸⁷ most of the new coal plants would be built to power mining operations in different parts of the country. The largest project is the 2,800 MW Sengwa coal power station planned by the Zimbabwean mining company RioZim. But Sengwa has run into trouble as its largest financier, the Industrial and Commercial Bank of China, recently stepped back due to the project's environmental risks.⁸⁸ According to RioZim's chairman, the company is currently trying to attract new investors for the coal power station.⁸⁹ Civil society organizations are calling for the US\$ 3 billion project to be dropped as it would deplete the region's scarce water resources and destroy the livelihoods of its farming communities.⁹⁰



Eskom's Tutuka power station in Mpumalanga, South Africa. @Rudi Venter / Alamy Stock Photo

Countries with over 1,000 MW Coal Power Expansion

COUNTRY	PLANNED COAL-FIRED CAPACITY IN MW	Companies
Zimbabwe	5,380	RioZim, Zambesi Gas Zimbabwe, Zesa Holdings, Karo Resources, Beifa Investments, Zimbabwe Zhongxin Electric Energy
South Africa	1,735	Eskom, Transalloys
Mozambique	1,050	Eurasian Resources Group Sarl, Jindal Steel, Ncondezi

South Africa's biggest coal power developer is Eskom, which is building two new coal units totaling 1,600 MW for its Kusile power station. Kusile was designed as a 4,800 MW project consisting of six 800 MW coal units. Construction of the Kusile power station began in 2007 and was supposed to finish in 2014, but up until today only units 1 - 4 have been completed.

As a leading South African news service describes it, the project "has been mired in controversy, including delays, massive cost overruns, design defects and allegations of corruption."⁹¹ Meanwhile, the costs for the Kusile project have more than doubled. Kusile and its sister project Medupi were supposed to alleviate the power shortages associated with Eskom's aging coal plant fleet, where many plants are subject to frequent break-downs. In a speech to Parliament in September 2022, South Africa's President Cyril Ramaphosa, however, confirmed that the design defects of Kusile and Medupi "actually contributed to a large extent to the load-shedding that we are currently having."⁹² From January through October 2022, South Africa's citizens experienced power outages on

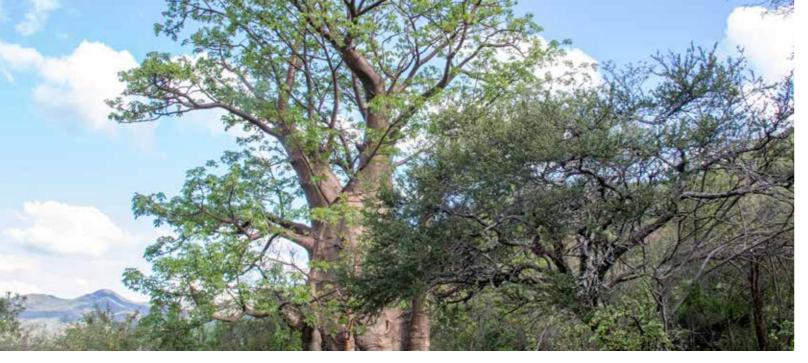
Protest against coal power and coal mining in Kenya. © Paul Basweti / Greenpeace



143 days,⁹³ and in June, the coldest month in the country, people suffered blackouts for up to 8 hours a day.⁹⁴ In May 2022, South Africa's vice-president David Mabuza said that while Eskom has made progress in identifying the design defects in its Kusile and Medupi plants, it will take until the end of 2027 to rectify these defects.⁹⁵

Units 5 and 6 of the Kusile power station are expected to come online in 2024. "The big question, however, is: When will the Kusile and Medupi power stations be decommissioned?" asks Bobby Peek from South Africa's Life after Coal Campaign. "These projects were built to operate until 2073, and are absolutely incompatible with South Africa's goal of becoming a net-zero economy by 2050. Kusile and Medupi will each burn as much as 15 million tons of coal a year. That's a health and climate burden South Africans can't afford."

Next to South Africa and Zimbabwe, new coal power plants are also planned or under development in Mozambique, Botswana, Ethiopia, Madagascar, Malawi, Niger and Tanzania.



Ancient Babobab trees are threatened by coal mine expansion in Limpopo province, South Africa. © Goddard_Photography / Getty Images

II.2 Coal Mining Expansion

From start to end, coal mining is an ugly business. Massive excavations strip the land of forests and other vegetation, displace its inhabitants, generate mountains of waste and blanket surrounding communities with dust particles and debris. Underground mining leaves empty spaces behind, which can collapse and cause the land above to sink, resulting in structural damage to buildings, roads and other infrastructure. Groundwater is pumped to dry out the areas to be mined, thus lowering the water table in surrounding areas and damaging ecosystems and agricultural production. Coal mining scars local communities and their environment in multiple ways.

The impact of coal mining far outlives its operational lifespan, with abandoned coal mines continuing to threaten people and the environment, long after coal

mine owners have left with their profits. When companies fail to rehabilitate the mining area, they literally leave scorched earth behind: Smoldering mine pits pollute the air and can ignite fires. And when water enters the mining pits, it becomes acidic and heavily contaminated with carcinogenic substances. Acid drainage from these mines is a ticking time bomb as it can poison the soil, rivers, lakes and drinking water resources of much larger areas. In Mpumalanga, South Africa's main coal mining region, there are over 400 abandoned coal mines today.96

Currently, 70 new coal mines or coal mine extension projects are planned in 9 African countries. These are Botswana, Ethiopia, Madagascar, Mozambique, Niger, South Africa, Tanzania, Zambia and Zimbabwe.

Countries with the Largest Number of New Coal Mining Projects

COUNTRY	NUMBER OF PROJECTS	Involved Companies
South Africa	49	Africa Coal Partners, Exxaro Resources, Glencore, Ikwezi Mining, Ilima Coal, Industrial Development Corporation of South Africa, MC Mining, Menar Holding, Namane Resources, Ndalama Resources, Petmin, Phembani Group/Izimbiwa Coal, Puckree Group, Sasol, Scinta South Africa, Seriti resources, Thungela Resources, Wescoal Holdings
Zimbabwe	6	Beifa Investments, Hwange Colliery, Karo Resources, RioZim, Western Coal and Energy
Botswana	5	African Energy, Kibo Energy, Maatla Energy, Morupule Coal Mine, Shumba Energy, Jindal Steel
Mozambique	4	International Coal Ventures, Jindal Steel, Minas de Revuboe, Ncondezi Energy

South Africa is the continent's largest coal miner and it is therefore not surprising that 70% of the new coal mining or mine extension projects in Africa are planned here. In 2021, South Africa produced 230 million tons of

coal, out of which 70% were consumed domestically.97 Most of South Africa's domestic coal was consumed by the country's enormous coal plant fleet, which has a capacity of 44 GW and provides over 80% of the nation's electricity. 30% of South Africa's coal production was, however, exported, mainly to India, Pakistan and China. Together, these three countries received 53 million tons of coal in 2021.⁹⁸ In 2021, Europe only imported around 4 million tons of South African coal. In the first 5 months of 2022, European countries, however, imported 40% more coal from South Africa than over the whole of 2021.99



Civil society organizations demand justice for the brutal murder of Fikile Ntshangase in South Africa. © groundWork

Communities in South Africa are no longer willing to accept the massive land and water grabs and the

II.3. Expansion of Coal Transport Infrastructure

Most of the new coal mining projects planned in Southern Africa are designed to service the export market and not to meet local demand. Supplying coal for export, however, requires expensive transport infrastructure, which in turn locks in future coal production. Currently four coal terminals and five railway lines are planned in Southern Africa.

Mozambique is a key hotspot for new coal transport infrastructure projects in Africa. The company Essar Ports & Terminals is developing a 20 million tons per annum coal terminal in the port city of Beira, while the Italian-Thai Development Public Company and the Mozambican company CFM are building a 600 km railway and a deep sea port at Macuse for the export of up to 100 million tons of coal annually.

Botswana is the second coal infrastructure hotspot. The most daring project is the Trans-Kalahari railway line planned by Botswana Railways and TransNamib Holdings.

pollution and health impacts associated with coal mining. Community groups organize rallies, hearings, meetings with companies and officials, and appeal in the courts. But challenging the coal industry can come at a steep price. In 2020, community activists in South Africa's Kwazulu-Natal Province took legal action against the expansion of the Somkhele open cast coal mine, run by Tendele, a subsidiary of Petmin Ltd. In October 2020, just weeks before a scheduled hearing before South Africa's Supreme Court of Appeal, community leader Fikile Ntshangase – a 65 year old grandmother – was gunned down in her home.¹⁰⁰ South African authorities, however, turned a blind eye on the murder and two

"The threats and violence against communities, who are fighting powerful mining interests, are a direct attack on our democracy."

years later, the killers still have not been arrested.¹⁰¹ "The South African government must urgently take steps to protect and respect the rights of community defenders. The threats and violence against communities, who are fighting powerful mining interests, are a direct attack on our democracy," says Bobby Peek from the Life After Coal Campaign.

The 1,500 km long railway would connect Botswana's Mmamabula coal fields with Walvis Bay on the coast of Namibia, where the Namibian Ports Authority aims to build a coal export terminal. To ramp up export to South Africa, Botswana Railways and South Africa's Transnet are each planning cross-border connections from Botswana's coal mines to existing railway lines in Limpopo province.

Meanwhile, the South African company Grindrod plans to expand its Navitrade coal terminal in Richards Bay, South Africa's main coal export hub. "These coal infrastructure projects do not serve Africans. They are expensive stranded assets in waiting with immense environmental and social impacts. Building large, long-term coal infrastructure in the midst of a climate emergency is madness," says Leanne Govindsamy from South Africa's Life After Coal Campaign.



350 Africa protests against fossil fuel finance. © Afrika Vuka

Each year, new UN reports remind us that the window for effective action on climate change is rapidly closing. As Ploy Achakulwisut, a lead author of UNEP's 2021 Production Gap Report says: "The research is clear: global coal, oil and gas production must start declining immediately and steeply to be consistent with limiting long-term warming to 1.5° C."¹⁰²

must start declining immediately and steeply to As our research also includes multinational be consistent with limiting long-term warming to companies such as TotalEnergies or Shell, which are 1.5°C."¹⁰² involved in oil and gas expansion all over the globe, we used adjustors that reflect which proportion But the fossil fuel industry is not swayed by science, of a company's fossil expansion is planned in nor by the deadly floods, storms and heat waves that Africa. The "Africa adjustor" for TotalEnergies is, 1.2°C of global warming have already unleashed. In for example, 33%. If a bank made a corporate loan 49 African nations, oil, gas and coal companies are to TotalEnergies, our financial research thus only exploring or developing new fossil reserves, building attributes 33% of the loan's volume as lending new fossil transport infrastructure or developing new for fossil fuel expansion in Africa. The same gas- and coal-fired power plants. For this report, we approach was used for bond- and shareholdings in *identified 200 companies, which are at the forefront* multinational companies. This methodology allows of fossil fuel expansion in Africa in 2022. Behind us to estimate the total magnitude of financial flows each of these companies are banks, investors and supporting new fossil projects in Africa.

CHAPTER III

Who is Financing Fossil Fuel Expansion in Africa?

insurers, who provide the financial underpinnings for these fossil expansion plans. In this chapter, we identify the top commercial banks and institutional investors behind fossil fuel expansion in Africa.

III.1. Top Institutional Investors Backing Fossil Fuel Expansion in Africa

In July 2022, over 5,000 institutional investors held shares and bonds totaling US\$ 109 billion in companies developing new fossil fuel projects in Africa. Among the investors covered by our research are pension funds,

mutual funds, asset managers, insurance companies, hedge funds, commercial banks, sovereign wealth funds and other types of institutional investors.

Top Investors in Fossil Fuel Expansion in Africa

INVESTOR	Country	Total in US\$ mil.
BlackRock	United States	12,058
Vanguard	United States	8,397
Government Pension Fund Global	Norway	3,653
State Street	United States	3,606
Fidelity Investments	United States	2,512
Public Investment Corporation	South Africa	2,435
Capital Group	United States	2,054
Life Insurance Corporation of India	India	1,983
Crédit Agricole	France	1,570
Wellington Management	United States	1,555
T. Rowe Price	United States	1,430
JPMorgan Chase	United States	1,416
Geode Capital Holdings	United States	1,342
Dimensional Fund Advisors	United States	1,287
Franklin Resources	United States	1,208
M&G	United Kingdom	1,176
Deutsche Bank	Germany	1,151
Berkshire Hathaway	United States	1,010
UBS	Switzerland	980
TIAA	United States	963
Allianz	Germany	938
Sun Life Financial	Canada	937
Invesco	United States	880
TOTAL		54,543

The top 23 investors, however, account for 50% of total investments in the 200 fossil fuel expansionists covered by our research. Out of these top 23 investors, 14 are headquartered in the US, 6 in Europe, 1 in Canada, 1 in India and 1 in South Africa.

The largest institutional investor in fossil fuel expansion in Africa is the US-based investment giant BlackRock with holdings of over US\$ 12 billion. The list of BlackRock's investments includes many of the top oil and gas expansionists featured in this report. BlackRock holds bonds and shares in value of over US\$ 4.3 billion in TotalEnergies. Its next largest investment is Shell (US\$ 1.7 billion), followed by Eni (US\$ 958 million), BP (US\$ 936 million), Chevron (US\$ 805 million) and ExxonMobil (US\$ 802 million). BlackRock is also invested in several of South Africa's largest coal miners, such as Exxaro and Thungela Resources, and in the country's largest coal consumers, Eskom and Sasol. In his 2020 annual letter to clients, Blackrock's CEO Larry Fink warned that "climate risk is investment risk", and predicted a "significant reallocation of capital" due to climate change.¹⁰³ Too bad that BlackRock's own allocation of capital still delivers fossil fuel expansion to Africa and climate change to us all.

III.2. Top Commercial Banks Backing Fossil Fuel Expansion in Africa

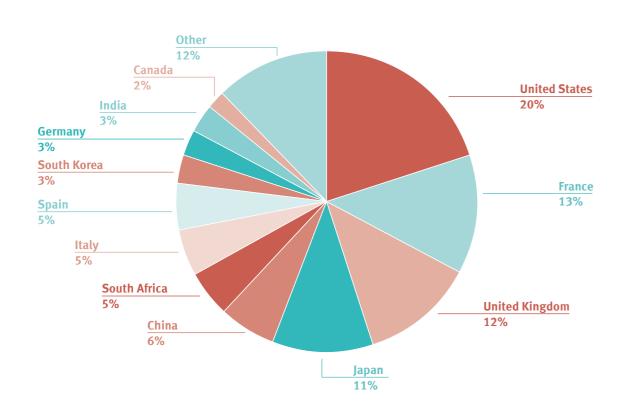
Between January 2019 and July 2022, 352 commercial banks channeled over US\$ 98 billion to companies developing new fossil projects in Africa. Out of this total, US\$ 44 billion were provided through loans and US\$ 54 billion through underwriting of new share and bond issuances.¹⁰⁴

The second largest investor in companies planning fossil expansion projects in Africa is the US mutual fund company Vanguard with holdings of US\$ 8.4 billion. Vanguard's investment profile is remarkably similar to BlackRock's. Its largest investment is also TotalEnergies (US\$ 1.7 billion), followed by BP (US\$ 1.3 billion) and other oil majors. Its holdings also include the same big coal players: Eskom, Sasol, Exxaro Resources and Thungela Resources.

Number three in our investor ranking is the Norwegian Government Pension Fund Global, with holdings of US\$ 3.7 billion in fossil fuel expansionists in Africa. The Pension Fund's largest investment is again TotalEnergies (US\$ 1.5 billion), followed by Eni (US\$ 714 million) and further oil majors. There is, however, a noticeable difference to the holdings of BlackRock and Vanguard: Due to the coal exclusion criteria the Norwegian Government Pension Fund adopted in 2015 and 2019, it is not invested in coal mining or coal power companies in Africa.

When viewed through a country lens, we see that banks headquartered in the US accounted for 20.3% of commercial bank support for fossil fuel expansion in Africa. Next in line are French banks with 13.1%, UK banks with 12% and Japanese banks with 10.6%. Collectively, banks from these 4 countries accounted for 56% of global bank finance for fossil fuel developers in Africa.

Country Break-down of Bank Financing for Fossil Fuel Expansion in Africa



The number one banker of fossil fuel developers in Africa is Citigroup, with US\$ 5.6 billion. Its top clients were South Africa's Sasol (US\$ 1.2 billion), BP (US\$ 897 million) and TotalEnergies (US\$ 619 million). Sasol liquefies coal to produce synthetic crude oil and plans to develop a new opencast coal mine in Mpumalanga.¹⁰⁵ Sasol is also the country's second biggest CO₂ emitter and one of the key companies lobbying against an effective carbon tax regime in South Africa.¹⁰⁶

With US\$ 5.1 billion, JPMorgan Chase is the second largest banker of fossil fuel expansion in Africa. TotalEnergies (US\$ 949 million), Sasol (US\$ 938 million) and Eskom (US\$ 500 million) were the top three recipients identified in our research.

The third largest banker of fossil fuel expansion in Africa was France's BNP Paribas, with US\$ 4.6 billion. Its top clients were TotalEnergies (US\$ 1.1 billion), Eni (US\$ 890 million) and BP (US\$ 780 million). Three NGOs – Les Amis de la Terre France, Oxfam France and Notre Affaire à Tous – have recently taken steps to initiate a lawsuit against the bank as Europe's largest financier of oil and gas expansion. "BNP Paribas' massive support for the oil and gas industry's expansion plans leads to more droughts, floods, heat waves and forest fires, "says Lorette Philippot from Les Amis de la Terre France.¹⁰⁷



NGOs deliver legal notice to BNP Paribas. © Christophe Da Silva

The following table lists all commercial banks that provided over US\$ 1 billion through lending and underwriting to fossil fuel developers in Africa since 2019. Collectively, these 28 banks account for 72% of total bank financing identified in our research.

Top Bankers of Fossil Fuel Expansion in Africa

Bank	COUNTRY	Total in US\$ mil
Citigroup	United States	5,592
JPMorgan Chase	United States	5,092
BNP Paribas	France	4,59
Bank of America	United States	4,13
Société Générale	France	3,95
Standard Chartered	United Kingdom	3,59
Barclays	United Kingdom	3,56
SMBC Group	Japan	3,48
Mizuho Financial	Japan	3,30
Mitsubishi UFJ Financial	Japan	3,15
HSBC	United Kingdom	3,05
Crédit Agricole	France	3,03
Goldman Sachs	United States	2,18
UniCredit	Italy	2,16
Morgan Stanley	United States	2,04
Santander	Spain	1,98
Standard Bank	South Africa	1,93
Deutsche Bank	Germany	1,73
Intesa Sanpaolo	Italy	1,49
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	1,35
Industrial and Commercial Bank of China	China	1,34
Masterlink Securities	Taiwan	1,28
Groupe BPCE	France	1,23
DB Financial Investment	South Korea	1,22
State Bank of India	India	1,14
Absa Group	South Africa	1,13
FirstRand	South Africa	1,04
Royal Bank of Canada	Canada	1,01
TOTAL		70,86

What About All Those Net-Zero Commitments?

Since its launch in April 2021, 121 banks have joined the "Net-Zero Banking Alliance" (NZBA), which now represents about 40% of global banking assets.¹⁰⁸ While the idea behind the Alliance was to move banks towards the goal of net-zero portfolio emissions by 2050, the bar for joining was kept low, and the commitments weak. They, for example, do not yet cover banks' underwriting activities. We were nonetheless surprised to see that members of the NZBA account for 71.6% of the US\$ 98.5 billion that commercial banks channeled to fossil fuel developers in Africa since 2019.

On the investor side, the situation is similar. 15 of the top 23 institutional investors backing fossil fuel expansion in Africa in 2022, are either members of the "Net Zero Asset Managers Initiative", the "Net Zero Asset Owners Alliance" or the "Net Zero Insurance Alliance".

"It's time to end the net-zero hypocrisy," says Katrin Ganswindt, finance campaigner at Urgewald. "Net-zero commitments for tomorrow are meaningless if today's finance keeps flowing into the expansion of fossil fuel production and use." As UN Secretary General Antonio Guterres stated during the launch of the 2022 Emissions Gap Report: "Commitments to net-zero are worth zero without the plans, policies and actions to back it up. Our world cannot afford any more greenwashing, fake movers or late movers."¹⁰⁹

Conclusion

Fossil fuels are the root of the climate crisis and Africa is harder hit by this crisis than any other continent. Yet financial flows, especially from Europe and the US, are shaping a fossil future for Africa. "Multibillion-dollar investments in fossil infrastructure and the development

of new hydrocarbon reserves are blocking a just transition to energy systems that are clean, renewable and actually serve Africa's people," says Omar Elmawi from the Stop EACOP Campaign.

This report calls on financial institutions to change course:

Step back from the companies that are blowing up the world's carbon budget and Africa's future.

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DATA SOURCES FOR THIS REPORT

COMPANY RESEARCH

The data on companies' fossil expansion plans in Africa was extracted from Urgewald's Global Coal Exit List (GCEL) and Global Oil and Gas Exit List (GOGEL). GCEL and GOGEL are public databases that Urgewald updates each year. Urgewald created these tools to encourage financial institutions to become responsible climate actors and move fossil fuel companies out of their portfolios.

GLOBAL COAL EXIT LIST

The GCEL provides in-depth data on over 1,000 companies and over 2,000 subsidiaries operating along the thermal coal value chain. It is the world's most comprehensive public database on the coal industry and is updated each fall. The GCEL includes the largest coal plant operators (≥ 5 GW installed capacity) and largest coal miners (≥ 10 mtpa); companies that generate over 20% of their power generation or revenues from coal, and companies that are planning to expand coal mining, coal power or coal infrastructure. Investors representing over US\$ 16 trillion in assets are currently using one or more of the GCEL's three divestment criteria to exclude coal companies from their portfolios. Most of the information in the GCEL is drawn from original company sources, such as annual reports, investor presentations and stock filings. An important data source for the GCEL is also Global Energy Monitor's Coal Plant Tracker. All in all, companies on the GCEL represent 95% of the world's thermal coal production and the world's coal-fired capacity. The GCEL can be downloaded at: www.coalexit.org

GLOBAL OIL & GAS EXIT LIST

GOGEL is a public company-level database that covers over 900 oil and gas companies, which account for 95% of global oil and gas production. GOGEL allows users to identify which share of a company's hydrocarbon production stems from fracking, tar sands, extra heavy oil, coalbed methane, Arctic drilling and ultra deepwater drilling. GOGEL also provides in-depth data on oil and gas companies' upstream and midstream expansion plans. It enables users to "look into the future" and see which companies are developing new oil and gas fields, building new oil and gas pipelines or new LNG terminals. In addition, GOGEL highlights companies' involvement in selected high reputational risk projects. These are projects that exacerbate violent conflicts, cause immense social or environmental harm or are challenged by lawsuits and community opposition. Currently, nearly 200 financial institutions are using GOGEL to scan their portfolios or to develop new policies. GOGEL's main sources of information are company data sources such as annual reports, stock filings and investor presentations, Rystad Energy, and Global Energy Monitor's Fossil Infrastructure Tracker. GOGEL can be downloaded at: www.gogel.org

FINANCIAL RESEARCH

The financial research for this report was carried out by Profundo, a not-for-profit research company based in the Netherlands. The financial databases Profundo drew upon were Bloomberg, Refinitiv and IJGlobal. The investor data in this report is based on filings in July 2022. The bank data covers the period between January 2019 and July 2022. We applied various adjustors to the financial data. For coal companies, which are only expanding in Africa, we used companies' coal share of revenue percentage as an adjustor. For companies, which also have coal expansion plans outside of Africa, we also used an "Africa adjustor" that reflects the share of expansion planned in Africa. For oil and gas companies based outside of Africa the procedure was similar. Here, we calculated which percentage of their short-term upstream oil and gas expansion is located in Africa and used this percentage as an adjustor. For large diversified companies and for companies, which are only involved in midstream oil and gas expansion, adjustors were calculated on the basis of companies' segment and geographical reporting. For questions on the financial data or our methodology, please contact: financeresearch@urgewald.org





November 2022