



Banking on CLIMATE CHAOS

HIGH LEVEL SUMMARY 2023

The world's largest banks continue to finance fossil fuels at levels that are fundamentally incompatible with a safe climate, choosing profits over a livable future. The Banking on Climate Chaos report shows the financing provided by the top global banks to the fossil fuel industry, analyzing loans, bonds, and equity issues.

The 2023 report finds that fossil fuel financing from the world's **60** largest banks has reached USD **\$5.5 trillion** in the seven years since the adoption of the Paris Agreement, with **\$669 billion** in fossil fuel financing in 2022 alone.¹ Fossil fuel financing plateaued in 2020, rebounded in 2021, and leveled out again in 2022 owing to unusual geopolitical and economic conditions, at a time of increasing climate-caused damages, displacement, and deaths around the world.

To have a chance at avoiding unacceptable harm to millions of people alive today and countless generations to come, fossil fuel expansion must stop, and use of fossil fuels across all sectors must decline rapidly.² Yet while **49** of the **60** banks featured in this report have committed to "net zero" climate targets, these promises net nothing. Upon a closer look, these banks still pour

billions into the companies expanding fossil fuels and fail to issue policies that would phase out this financing that is incompatible with necessary climate action. Banks remain powerful enablers of continued expansion and climate chaos.

Inflation, fears of oil and gas shortages, and higher interest rates meant that many fossil fuel companies paid off their debt instead of borrowing from banks this year. Fossil fuel companies used the war in Ukraine to profit at the expense of affordable energy and a just, equitable transition. Fossil fuel income topped **\$4 trillion**.³

In a year of astronomical fossil fuel profits – when a few big-ticket borrowers like ExxonMobil and Shell did not borrow at all – banks still showered other fossil fuel companies with **\$669 billion** of financing. Ultimately, the volatility in energy and capital markets in 2022 is yet another sign that the dependence on fossil fuels is unsustainable, both for the climate and the economy. Now is the time to urgently invest in a much-needed just energy transition, and to stop financing our continued march into global chaos and devastation.

"Fossil fuels are a dead end – for our planet, for humanity, and yes, for economies."

– UN Secretary-General António Guterres' statement on the Intergovernmental Panel on Climate Change (IPCC) 2022 report



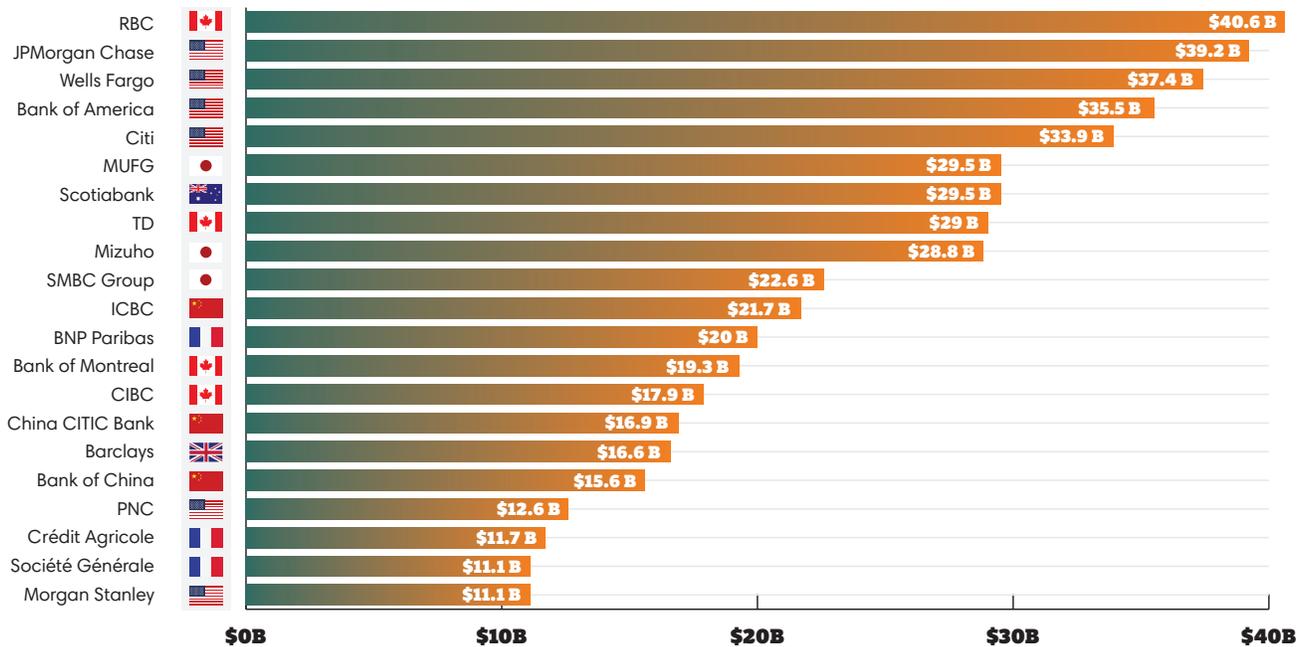
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FOSSIL FUEL FINANCE TRENDS

For the first year since 2019 when we began reporting on financing for all fossil fuels, a Canadian bank, **Royal Bank of Canada (RBC)**, ranks #1 as the worst financier of fossil fuels. **RBC** provided fossil fuel companies **\$41 billion** in 2022, an increase over its 2021 financing, making for a total of **\$252.5 billion** since 2016. **JPMorgan Chase** continues to be the worst bank overall since the Paris Agreement. It financed **\$39 billion** to the industry in 2022, marking a total of **\$434 billion** since 2016. **Mitsubishi UFJ Financial Group (MUFG)** ranks as the worst of the Asian banks, financing **\$30 billion** in 2022, and French bank **BNP Paribas** is the worst in Europe, financing **\$20 billion**.

TOP BANKS FINANCING FOSSIL FUELS (2022)



A handful of banks based in the United States, Canada, and Japan continue to dominate financing to the fossil fuel industry. In absolute numbers, U.S. banks remain the most significant global financier of the industry. However, **RBC** and other Canadian banks, as well as European and Japanese banks, have risen in the rankings this year.

FIFTEEN BANKS INCREASED FOSSIL FUEL FINANCING

(FROM 2021-2022) Amount of increase and percent change

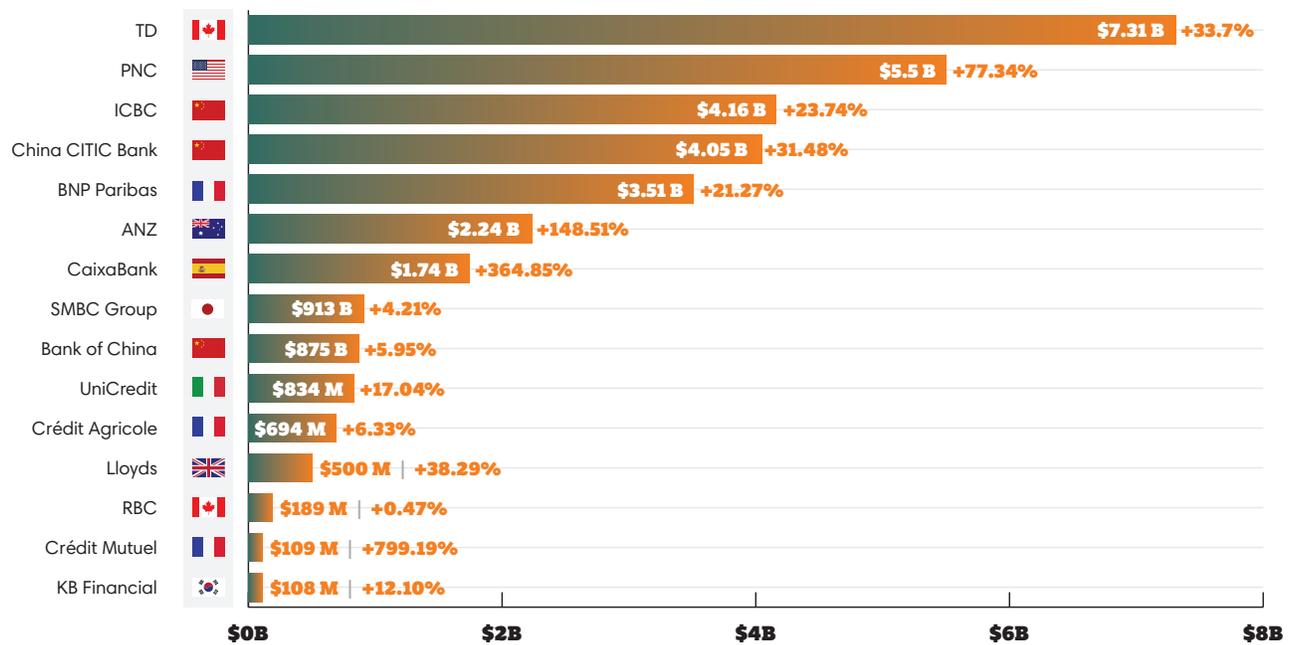


PHOTO: Frans Lemmens /Alamy Stock Photo

In addition to reporting on financing for all fossil fuels, *Banking on Climate Chaos 2023* also assesses bank financing for top companies expanding fossil fuels and active in several spotlight fossil fuel sectors. Details on our findings are below:



Expansion: The **60** banks profiled in this report funneled **\$150 billion** in 2022 into the top **100** companies **expanding fossil fuels**, including **TC Energy, TotalEnergies, Venture Global, ConocoPhillips, and Saudi Aramco**. Of the **60** banks in scope, **49** have committed to net zero emissions. Our data calls those commitments into question, since these **49** banks provided **81%** of the financing to the **100** top expanders in 2022.



Tar sands oil: The top tar sands companies received **\$21 billion** in financing in 2022, led by the biggest Canadian banks, who provided **89%** of those funds. **TD, RBC, and Bank of Montreal** top the list.



Arctic oil and gas: Chinese banks **ICBC, Agricultural Bank of China, and China Construction Bank** led financing for Arctic oil and gas, which totaled **\$2.9 billion** for the top companies in this sector in 2022. Though fewer banks financed it in 2022 than in previous years, **26** banks are still financing Arctic oil and gas, including U.S. banks **JPMorgan Chase, Citi, and Bank of America**.



Amazon oil and gas: Spanish bank **Santander** leads financing for companies extracting in the Amazon biome, followed closely by U.S. bank **Citi**. Financing totaled **\$769 million** in 2022.



Offshore oil and gas: French banks **BNP Paribas** and **Crédit Agricole**, and Japanese bank **SMBC Group** top the list of worst financiers of offshore oil and gas for 2022. Financing totaled **\$34.2 billion** in 2022.



Fracked oil and gas: Finance for the top **30** fracking companies totaled **\$67 billion** in 2022, which is an **8%** increase over the financing reported in 2021 for the top fracking companies. This increase is especially disturbing given the extreme methane emissions from fracking. **RBC and JPMorgan Chase** are the top financiers of fracked oil and gas in 2022.



Liquefied natural gas (LNG): The top bankers of liquefied "natural" gas (LNG) in 2022 were **Mizuho, Morgan Stanley, JPMorgan Chase, ING, Citi, Goldman Sachs, and SMBC Group**. Overall finance for the top **30** LNG companies increased by nearly **50%** from **\$15 billion** in 2021 to **\$23 billion** in 2022. Every project that reached a final investment decision in 2022 adds to the overshoot of the IEA's Net Zero by 2050 scenario.



Coal mining: Of the **\$13 billion** in financing that went to the world's **30** largest coal mining companies, **87%** was provided by banks located in China, led by **China CITIC Bank, China Everbright Bank, and Industrial Bank**. While financing to coal companies has declined overall since 2016, Canadian and United States banks modestly increased financing to these companies between 2021 and 2022.

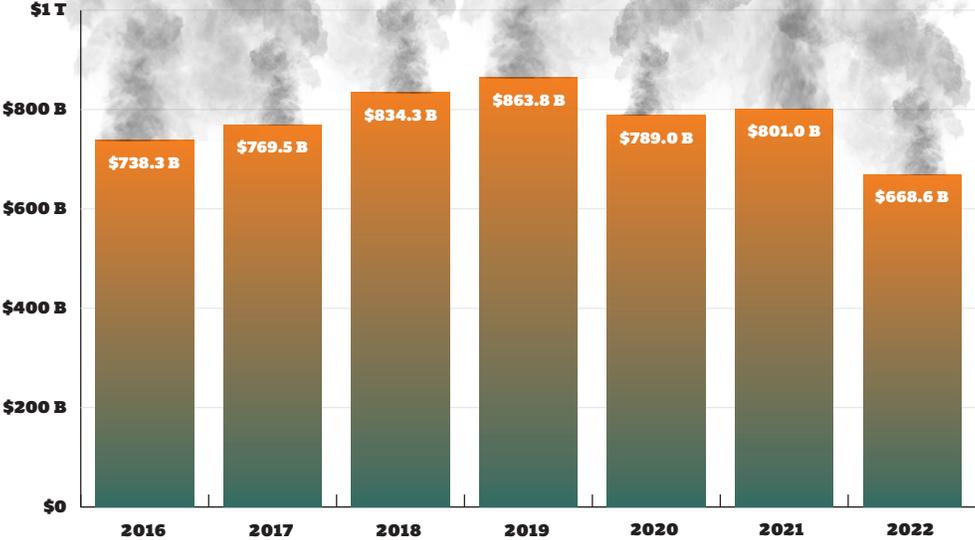


Coal power: Of the financing to the world's top **30** companies in coal power, **97% was provided by Chinese banks**. These companies, which have plans to expand coal power capacity, received **\$29 billion** from the profiled banks in 2022. Only **20** banks participated in coal power financing in 2022, down from **28** in 2021.



Full data sets – including fossil fuel finance data, policy scores, and stories from the frontlines – are available for download at: BankingonClimateChaos.org

FINANCING FLOWS TO FOSSIL FUELS FROM THE TOP 60 BANKS



See the full version of the report, along with FAQs and interactive data at:
BankingonClimateChaos.org





FOSSIL FUEL EXPANSION



Climate-fueled disasters exacted a devastating toll across the world again in 2022, from record flooding in Pakistan to blazing heat waves and devastating droughts all along the Northern hemisphere from California to China.⁴ At the very same time, fossil fuel companies made record profits and banks continued financing fossil fuel expansion.⁵

The world's preeminent energy and climate experts have drawn a clear line in the sand: Any new fossil fuel development after 2021 risks our ability to keep global warming below 1.5°C.⁶ Potential emissions from fossil fuels already in production or under construction — the wells already drilled or being drilled, the mines already dug — already take the world well past 2°C of global warming.

“With every additional increment of global warming, changes in extremes continue to become larger. Continued global warming is projected to further intensify the global water cycle, including its variability, global monsoon precipitation, and very wet and very dry weather and climate events and seasons.”

– Intergovernmental Panel on Climate Change, AR6 Synthesis Report, March 2023

The clear conclusion is that the world cannot afford any fossil fuel expansion: no new oil and gas fields, no new coal mines, no new or expanded oil and gas pipelines, no new LNG terminals, no new coal-fired power plants.⁷ Once an oil, gas, or coal resource is developed, or a piece of fossil infrastructure is built, there is a very strong incentive to fully extract it or run it to the end of its economic life. New investments now risk locking in decades of climate-warming emissions or becoming stranded assets.⁸ Any bank supporting any company that is expanding fossil fuels is driving climate chaos.

“Projected CO2 emissions from existing fossil fuel infrastructure without additional abatement would exceed the remaining carbon budget for 1.5°C.”

– IPCC, AR6 Synthesis Report: Climate Change 2023

PHOTOS: VPC Travel Photo / Alamy Stock Photo; Duncan Selby / Alamy Stock Photo; Parilov / shutterstock



Despite clear and dire warnings from climate experts, the world's biggest banks – including **RBC, JPMorgan Chase, Citi, Bank of America, Scotiabank, MUFG, and Mizuho**, among others – continue to pour billions of dollars into fossil fuel expansion. In 2022, the world's largest **60** banks provided **\$150 billion** in financing to the world's top 100 companies leading the expansion of oil, gas, and coal. This included **\$10.1 billion** to **TotalEnergies**, **\$12.8 billion** to **TC Energy**, **\$8.4 billion** to **ConocoPhillips**, and **\$8.8 billion** to **Saudi Aramco**, four of the world's most aggressive fossil fuel expanders.

Banks have yet to make detailed, time-bound, public commitments to phase out financing for new fossil fuels, even though expansion now is fundamentally incompatible with limiting global temperature rise to less than 1.5° C. Throughout 2022, banks touted their net zero commitments and their 2030 emissions targets, but there are serious loopholes and inconsistencies in these targets, which are fully explained in the policy section of this report (see p. 22).⁹ Forty-nine of the **60** banks profiled in this report have made net zero commitments, with most of them doing so before 2022. This report reveals a troubling gap between their commitments and their real financing activities in the fossil fuel sector. These **49** banks with net zero commitments financed **\$122 billion** to the top **100** companies expanding fossil fuels in 2022.

“According to a large consensus across multiple modelled [sic] climate and energy pathways, developing any new oil and gas fields is incompatible with limiting warming to 1.5°C.”

– International Institute for Sustainable Development (2022)

“We act together to end fossil fuelled conflicts and climate chaos, and drive the clean energy revolution in Ukraine and globally.”

– Razom We Stand



PHOTO: Rebekah Hinojosa;

The most significant fossil fuel expansion in 2022 is in Liquefied Natural Gas (LNG), also known as “methane” gas. The Russian invasion of Ukraine that began in February 2022 created deep pressure on global energy markets to rapidly replace Russian oil and gas. In the name of “energy security,” industry, governments and banks fast-tracked LNG import and export terminals and their financing in North America, Europe, Asia, Africa, and Australia.¹⁰ Developers pushed these projects forward even as current events laid bare the risks of depending on a volatile global market for fossil gas imports.¹¹

LNG is not the transition fuel it is championed to be. It is methane-intensive, carbon-intensive, and harmful to people and nature.

Ultimately, LNG is an obstacle to the renewable energy transition. The LNG terminals proposed throughout North America, Africa, and Asia would lock the world collectively into 20-30 more years of new fossil fuels.

But fossil fuel companies have convinced governments and banks that it is worth the gamble. **In 2022, the world's top banks provided \$23 billion in financing specifically for that year's top 30 LNG companies.**



Read more about the LNG buildout in the full report at:
BankingonClimateChaos.org.

LIQUEFIED “NATURAL” GAS is created by super-cooling methane gas to around -160°C , at which point it condenses into a liquid. Liquefaction, which reduces the gas's volume for shipping, happens at LNG export terminals situated on the coast or on offshore floating terminals.¹² From there, tanker ships carry the liquefied gas to its destination. At an LNG import terminal, it is regasified — or turned back into a gas form — and piped to power plants, where it is burned for energy.

TOP METHANE GAS CLIENTS 2022:

Venture Global
Cheniere Energy Inc.
Sempra Energy
JERA Co Inc.
New Fortress Energy Inc.

BANK FOSSIL FUEL POLICIES: 2022 TRENDS

Our analysis of fossil fuel financing policies and net zero commitments by all **60** banks shows that despite their net zero language, banks' policies could be doing more to align with global climate commitments. Of the **60** banks that are profiled in this report, **59** do not have policies robust enough to meet the goal of keeping global warming below 1.5°C. Some banks strengthened their policies, but few are sufficient to meet the challenge of the moment.

According to analysis conducted by Reclaim Finance for this report, 2022 was a slow year for new fossil fuel financing policies. A handful of banks adopted policies to exclude financing for new oil and gas development projects, though these are not as ambitious as is needed. Only two banks adopted coal developer exclusion criteria for their existing clients, and one added criteria for new clients only. No other bank adopted a new policy or improved an existing one targeting coal expansion companies. Though **ambitious exclusion policies** remain the most important tool for climate and human rights protections, few banks have them.

For detailed policy scores, see the policy trackers developed by Reclaim Finance at BankingonClimateChaos.org/policy2023

Bank policies contain loopholes that leave them exposed to climate risk. For example, underwriting bonds and equities accounted for 36% of all fossil fuel financing last year, though many major banks exclude these activities from their fossil fuel commitments, especially their net-zero targets. Bank policies also include loopholes based on sector, region, or project.

A real-world example of banks' weak policies is their financing for **ConocoPhillips**, which is expanding through the recently-approved **Willow oil-drilling project** in the Arctic, among other projects.¹³ In 2022, **ConocoPhillips** received financing for general corporate purposes from a syndicate including **12** banks profiled in this report – **Bank of America, Barclays, Citi, Credit Suisse, HSBC, JPMorgan Chase, Mizuho, MUFG, RBC, SMBC Group, TD, and Wells Fargo**. While **39** of the top **60** banks have some type of Arctic exclusion policy applicable to projects, this exclusion did not preclude financing for ConocoPhillips' Willow project, since the company sought financing for general corporate purposes rather than for a specific project. ConocoPhillips also holds a 30% non-controlling interest in Semptra's proposed **Port Arthur LNG** export facility, which reached a final investment decision in March 2023.¹⁴ Financing designated for "general corporate purposes" enables ConocoPhillips to pursue these and other destructive projects. Very few banks have exclusion policies that apply to expansion of LNG or other midstream infrastructure.

In 2021, France's **La Banque Postale** committed to end financing for all companies expanding oil and gas, and to exit the sector completely by 2030. Consistent with this robust policy, **La Banque Postale** shows no financing for 2022 in this report. Until the remaining 59 banks in this report also enact policies to exclude financing for fossil fuel expansion, any commitments to net zero emissions are nothing more than greenwash.

Thirteen banks still have no fossil fuel exclusion policy strong enough to merit any points in our evaluation. This includes eleven out of the thirteen Chinese banks in scope, **State Bank of India**, and **U.S. Bancorp**.



FRONTLINE STORIES

Banking on Climate Chaos 2023 highlights the hundreds of billions of dollars that flow to the fossil fuel companies systematically polluting the planet. These financing numbers can seem quite abstract. But the impacts are anything but abstract for the millions of people who live on the frontlines of the extraction, processing, and transportation of fossil fuels. This report spotlights the fights of communities opposing fossil fuels on the ground and includes their voices to make clear that bank financing for fossil fuels concretely impacts the everyday lives of people worldwide. Communities living with the impacts of fossil fuel exploitation have been calling out the disastrous consequences of fossil fuels for their livelihoods and for the planet and are leading the way towards a just transition.

Communities across the world are rising to this moment, from Mozambique, where families have been displaced by massive fossil extraction and export facilities, to the Philippines, where fragile ecosystems have been destroyed by oil spills and are threatened with new LNG terminals. In the United States, the massive buildout of LNG export terminals in the Gulf South violates the land rights of Indigenous Peoples and threatens the health, livelihoods, and environment of communities who have fought environmental racism for decades.

Climate change hits the frontlines first and worst. People living on the frontlines of climate chaos are predominantly Indigenous Peoples, Black and Brown communities, low-wage workers, or smallholder farmers, often living in poverty. Sometimes, as in the cases of Nigeria and the U.S. Gulf Coast – both featured here – the same people living with worsening hurricanes, stronger storm surges, rising sea levels, and the lasting effects of racial injustice and inequality are also living closest to the epicenter of the massive, dirty, health-harming fossil fuel industry. For a just future, people must follow the lead of those who are the most directly affected by fossil fuel extraction and the harmful pollution it produces.

In a special essay featured in the full report, the Indigenous Environmental Network argues that climate change mitigation consists almost entirely of market mechanisms and false solutions that do not produce real emissions reductions, but do threaten Indigenous sovereignty and territories. The essay calls for climate change mitigation that centers people and keeps fossil fuels in the ground.



See an interactive map highlighting frontline stories at:
BankingonClimateChaos.org

Indigenous Peoples should lead present and future climate change negotiations in order to center Indigenous Peoples' rights and sovereignty. We hold an estimated 80% of what remains of the Earth's land-based biodiversity in our lands and traditional territories.¹⁵ Without Indigenous Peoples protecting and maintaining ecosystems, climate change would have already caused widespread planetary collapse. Indigenous Peoples hold sacred connections to Mother Earth and Father Sky, who maintain the balance of life on this planet.

"After 50 years of oil 'development,' the majority of the destruction is in our territories. It is our territories that are being destroyed... In all phases of extraction – from the moment concessions are signed, through exploration and extraction, our rights to consultation and consent have been violated."

- Leonidas Iza, president of the Confederation of Indigenous Nationalities of Ecuador (CONAIE)

JUST TRANSITION

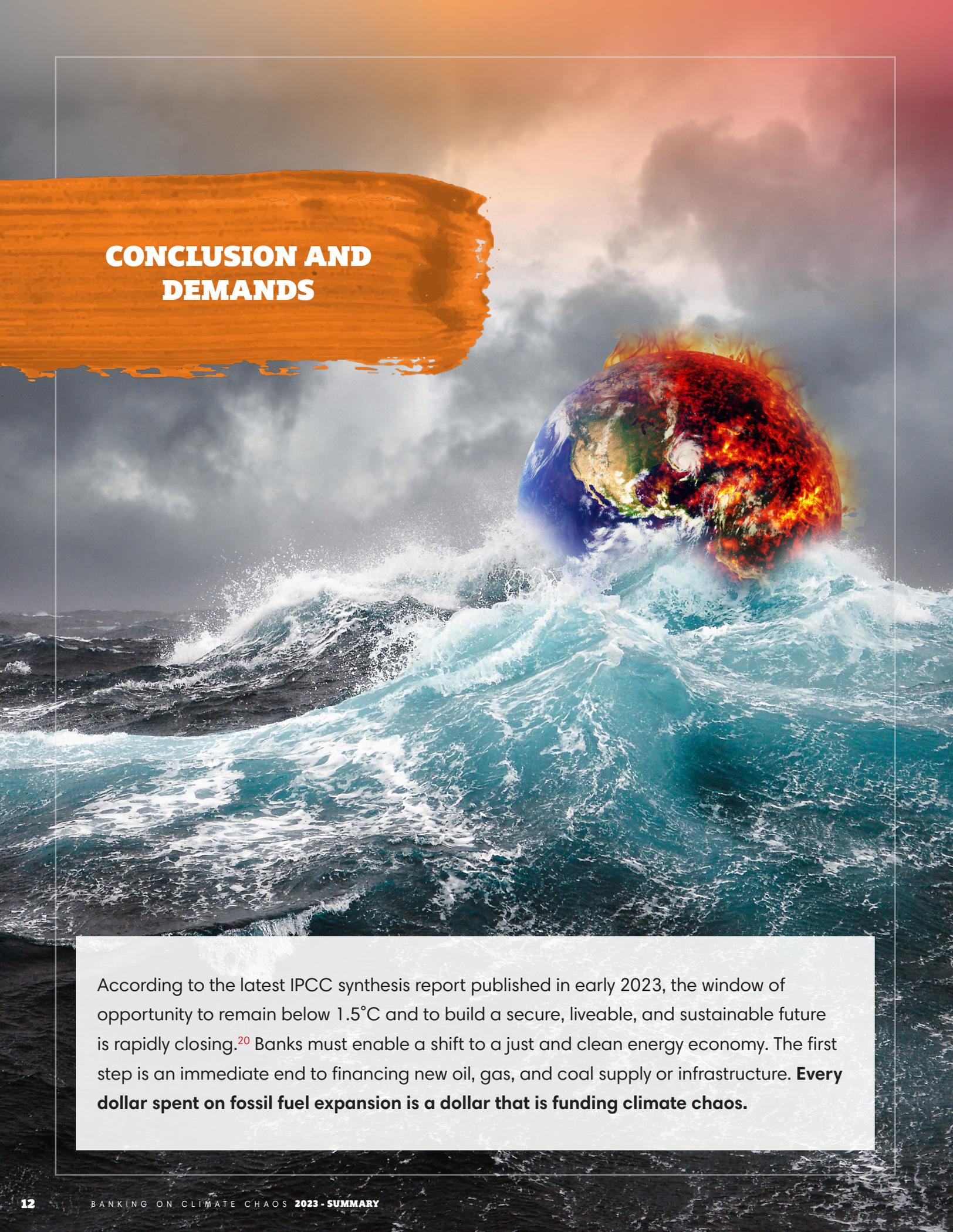
The necessary global phaseout of fossil fuels must be equitable and just. Communities that have done the least to contribute to the climate crisis are the ones hardest hit by climate disaster. Poor and working people, those in the Global South, Indigenous Peoples, and colonized peoples are, in many cases, also bearing the costs of transitioning to a renewable energy economy. In 2022, while fossil fuel companies raked in massive profits, high fossil fuel prices hit people hard, especially in emerging economies.¹⁶ Meanwhile, globally, consumption of goods and services by the wealthiest nations and individuals contributes disproportionately to emissions, especially from energy use.¹⁷ The current situation is neither equitable nor just.

The wealthiest have the highest cumulative emissions – and also the greatest capacity to take action in rapidly decarbonizing their activities. They have an obligation to make the most ambitious emission reductions and invest in a just transition.¹⁸ Climate-related adaptation and loss and damages in vulnerable countries must be paid by those who are using the most energy and have made the most profit from the current system. They must commit to immediately halting new fossil fuel production and phasing out existing production in order to align themselves with 1.5°C pathways.

PHOTOS: **Jes Azner** / Getty Images; **Green Photography LLC** / International Indigenous Youth Council (IIYC) / Fossil Free Future

“In 2021, the average North American emitted 11 times more energy-related CO₂ than the average African. Yet variations across income groups are even more significant. The top 1% of emitters globally each had carbon footprints of over 50 tonnes of CO₂ in 2021, more than 1000 times greater than those of the bottom 1% of emitters.”¹⁹





CONCLUSION AND DEMANDS

According to the latest IPCC synthesis report published in early 2023, the window of opportunity to remain below 1.5°C and to build a secure, liveable, and sustainable future is rapidly closing.²⁰ Banks must enable a shift to a just and clean energy economy. The first step is an immediate end to financing new oil, gas, and coal supply or infrastructure. **Every dollar spent on fossil fuel expansion is a dollar that is funding climate chaos.**

Banks must **align their financing with 1.5°C-aligned pathways** and **enable a fair and just transition**. To do so, the organizations authoring this report demand that banks:

-  **Prohibit all finance for fossil fuel expansion immediately.**

Banks must end lending and underwriting for any company expanding fossil fuels. This exclusion must include project finance and general corporate finance for any company with expansion plans, regardless of the scope of the expansion project. This is the most urgent step for banks to take to strengthen their climate policies.
-  **Adopt absolute financed emissions reduction targets.**

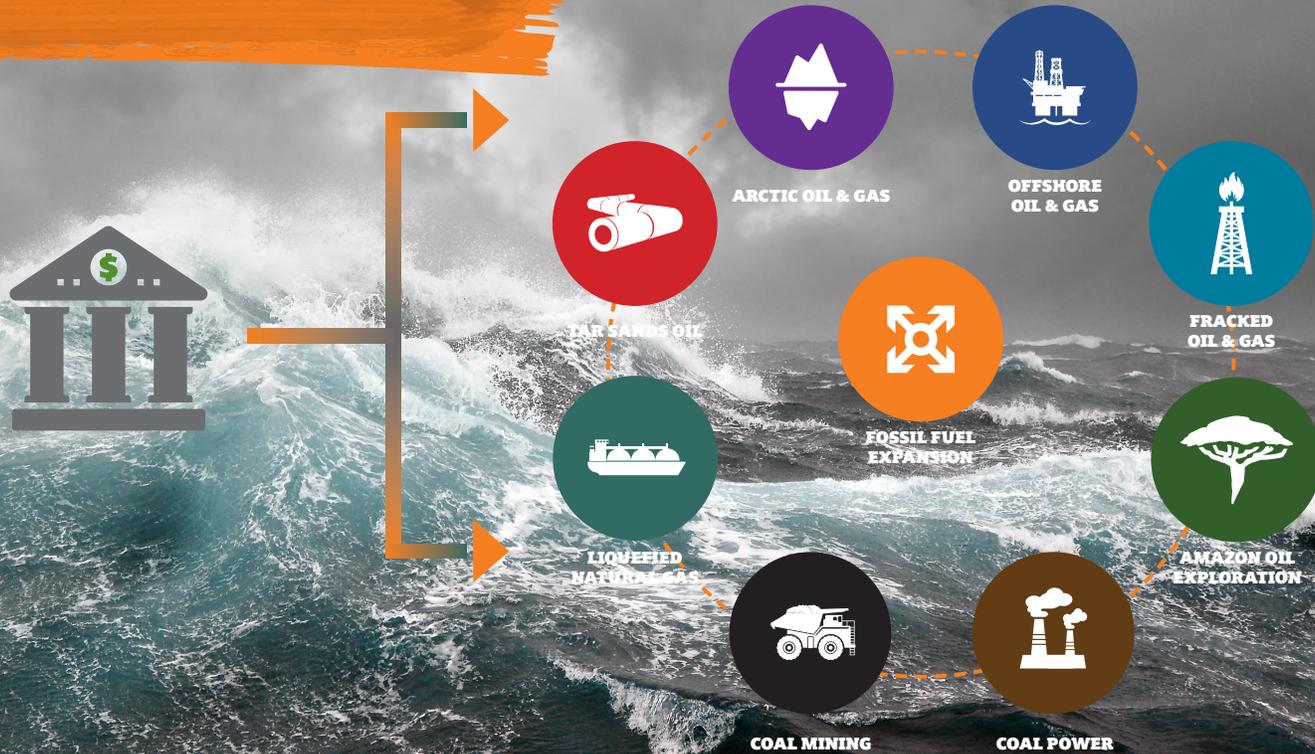
These targets must be aligned with a rigorous 1.5°C scenario, including ambitious absolute targets for 2025 and 2030, culminating in zero emissions by 2050 at the latest. The most recent IPCC report emphasizes that an even faster transition is needed, especially for those with the highest cumulative emissions and greatest resources.²¹ Targets should be based on actual, absolute emission reductions, and not on the use of carbon offsets or false solutions such as Carbon Capture and Storage (CCS).
-  **Demand robust transition plans for all existing fossil fuel clients.**

Banks must require all of their clients with any fossil fuel exposure to publish robust plans to zero out fossil fuel activity on a 1.5°C-aligned timeline. Banks should withdraw financing for clients who fail to align their activities with a credible 1.5°C pathway.
-  **Protect Indigenous Peoples' and human rights.**

Banks must ensure that their clients respect human rights, and specifically guarantee Free, Prior and Informed Consent (FPIC) for Indigenous Peoples as defined by the UN Declaration on the Rights of Indigenous Peoples. They must establish zero-tolerance policies and due diligence mechanisms to prevent violence towards Indigenous Peoples and frontline communities, as well as human rights and forest defenders in all sectors. Financing decisions must respect frontline communities' right to a healthy environment, to a just livelihood, and to compensation for the loss and damages sustained as a result of climate change.
-  **Scale up financing for a just and fair transition.**

Financing for renewable energy and other low-carbon solutions must increase rapidly, and banks should work to lower barriers to financing for such projects. Plans for a just phaseout of fossil fuel financing must take into account the social costs of transition by supporting local economic diversification and, with workers and communities, co-creating a new, people-centered energy system.

METHODOLOGY



This analysis covers the world's 60 biggest relevant banks by assets, according to the S&P Global Market Intelligence ranking from April 2022.²² Banks with little-to-no league credit for economy-wide financing were deemed irrelevant to this analysis and were not included. We assessed each bank's involvement in relevant corporate lending and underwriting transactions from 2016 through 2022 (in U.S. dollars).

Transaction data were sourced from Bloomberg Finance L.P. (where the credited value of a transaction is split among leading banks), and IJGlobal. Each transaction was weighted based on the proportion of the borrower or issuer's operations devoted to the sector in question.

- » For the league tables measuring financing for all fossil fuels (approximately 2,000 group-level companies that are either independent or parent company — totalling 3,210 companies when including relevant subsidiaries), and the top fossil fuel expanders (100 companies), transactions were adjusted based on each company's fossil fuel-based assets, revenue, or operating income.
- » For sector financing (30 top companies in each subsector), each transaction was weighted based on the proportion of the borrower or issuer's operations devoted to the subsector in question.

All deals marked as green bonds or loans were removed from the dataset. Banks are given an opportunity to review and comment on the full transaction list during a thorough pre-publication engagement process.

Policy assessments are derived from the Oil & Gas Policy Tracker, and the Coal Policy Tool, both published by Reclaim Finance. All policy assessments are as of April 12, 2023.

» For a full explanation of methodology and scope, breakdowns of each bank's policy assessment, lists of fossil fuel companies included, and frequently asked questions, visit: BankingonClimateChaos.org.

ENDNOTES

- 1 For all figures in this summary version, unless otherwise cited, see the full version of Banking on Climate Chaos 2023 for details, along with a data portal to explore relevant datasets: <https://www.bankingonclimatechaos.org/>.
- 2 Intergovernmental Panel on Climate Change, AR6 Synthesis Report: Climate Change 2023, March 2023, <https://www.ipcc.ch/report/ar6/syr/>.
- 3 Fatih Birol, February 11, 2023; Ron Bousso, "Big Oil Doubles Profits in Blockbuster 2022," Reuters, February 8, 2023; Andy Rowell, "As Millions Face Energy Destitution, Shell Reports Record Profits of \$11.5 Billion," Oil Change International (blog), July 28, 2022.
- 4 Copernicus Climate Change Service, "2022 Was a Year of Climate Extremes, with Record High Temperatures and Rising Concentrations of Greenhouse Gases," January 9, 2023, Nathan Rott, "Extreme Weather, Fueled by Climate Change, Cost the U.S. \$165 Billion in 2022," NPR, January 10, 2023.
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- 6 Intergovernmental Panel on Climate Change, AR6 Synthesis Report: Climate Change 2023, March 2023; Olivier Bois von Kursk et al., "Navigating Energy Transitions: Mapping the Road to 1.5°C," International Institute for Sustainable Development, October 21, 2022; International Energy Agency, "Net Zero by 2050," May 2021.
- 7 Rainforest Action Network, "Wall Street's Dirtiest Secret: How Fossil Fuel Expansion Depends on Big Bank Finance," November 2022.
- 8 Carbon Tracker Initiative, *Unburnable Carbon: Ten Years On*, June 2022.
- 9 On net zero commitments, see additional reports: Sierra Club, "Leaders Or Laggards? Analyzing US banks' net-zero commitments," November 2022; Banktrack, "Tracking the Net Zero Banking Alliance," accessed March 27, 2023; Reclaim Finance, "Throwing Fuel on the Fire: GFANZ Financing of Fossil Fuel Expansion," January 17, 2023.
- 10 Robert Rozansky and Baird Langenbrunner, "Global Surge in New LNG Export Terminals Led by U.S., Russia, Canada," October 30, 2022; Victoria Zaretskaya and James Easton, "U.S. LNG Export Capacity to Grow as Three Additional Projects Begin Construction," September 6, 2022; Victoria Zaretskaya, "Liquefied Natural Gas Will Continue to Lead Growth in U.S. Natural Gas Exports," March 8, 2023.
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- 12 "Liquefied Natural Gas (LNG)," U.S. Department of Energy's Office of Fossil Energy & Carbon Management, accessed August 2022.
- 13 Ella Nilsen, "The Willow Project Has Been Approved. Here's What to Know About the Controversial Oil-Drilling Venture," CNN, March 14, 2023.
- 14 "Sempra Reaches Final Investment Decision on Port Arthur LNG Plant's Phase 1," Reuters, March 20, 2023, sec. Energy.
- 15 Anna Fleck, "Infographic: Indigenous Communities Protect 80% Of All Biodiversity," Statista Infographics, July 19, 2022.
- 16 International Energy Agency, "Fossil Fuels Consumption Subsidies 2022," March 2023; ; International Energy Agency, "World Energy Outlook 2022," October 2022, , p. 189; Diana Hernández, "Sacrifice Along the Energy Continuum: A Call for Energy Justice," Environmental Justice 8, no. 4 (August 2015): 151–56.
- 17 Laura Cozzi, Olivia Chen, and Hyeji Kim, "The World's Top 1% of Emitters Produce Over 1000 Times More Co2 Than the Bottom 1% – Analysis," IEA, February 22, 2023.
- 18 Dan Calverley and Kevin Anderson, "Phaseout Pathways for Fossil Fuel Production Within Paris-Compliant Carbon Budgets," March 22, 2022, Tyndall Center, The University of Manchester, . The Tyndall Center report argues that "For the wealthiest group of 'producer nations', with the highest capacity to achieve a 'just transition', output of oil and gas needs to be cut by 74% by 2030, with complete phase out by 2034," p. 6. See also "A Fair Shares Phase Out of Fossil Fuels: A Civil Society Equity Review on an Equitable Global Phase Out of Fossil Fuels," November 2021.
- 19 Laura Cozzi, Olivia Chen, and Hyeji Kim, "The World's Top 1% of Emitters Produce Over 1000 Times More Co2 Than the Bottom 1% – Analysis," IEA, February 22, 2023.
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