Natural Resource Governance Institute

International public finance for gas and renewable power in Africa:

What is available?

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September 2025



The status quo:
Large finance needs, with big, enduring gaps



African fossil fuel producers need huge amounts of money to build new, lower-carbon energy systems. Power infrastructure is one of the biggest expenses.

Two examples:

	Total funds needed to transition	Power sector transition costs	Portion government has committed to cover
Ghana (Energy Transition Framework)	USD562 billion by 2070	• $266 billion for new power generation • $12 billion to convert existing power plants to gas • $76 billion for electricity transmission and distribution	12% of the total ($32 billion)
Nigeria (Energy Transition Plan)	$1.9 trillion by 2060	• $270 billion for new power generation • $1.4 billion to convert existing power plants to gas • $95 billion for electricity transmission and distribution	Less than half of total costs

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Governments, households and institutional investors cannot afford much of the cost

Government income from extractives is too small to fund country transitions. Most does not go toward the power sector anyway.

- **Ghana:** The Energy Transition Framework projects $35 billion in remaining oil and gas revenues—less than the cost of planned new power plants alone.
- **Nigeria:** Oil and gas sales revenues have been shrinking for years (e.g. $36 billion in 2014 vs. $5 billion in 2023). Federal government has been spending between three quarters and nearly all its income on debt service.

Local capital markets are small or nonexistent. Only a handful in sub-Saharan Africa (e.g. South Africa, Nigeria) have raised any funds for energy.

Institutional investors (e.g. pension funds, insurance) are largely untapped and unable/unwilling to invest in power.

African households also struggle to finance their own shifts to clean energy.

- Many lower-earning households already spend more than 10 percent of their incomes on energy, versus 5 percent or less in larger, wealthier countries.
- Only half of households without electricity can afford even basic services without financial support.
- Other issues: small savings, no affordable debt (exception: PAYE for solar home systems).

The result: Finance flows for African electricity are a fraction of what is needed

Estimates: African countries as a group need $60 billion to $70 billion per year this decade to build out their energy systems. Longer-term costs are harder to gauge.

Most new fossil energy projects in Africa especially cannot find investors.

- Continent-wide, governments are planning $62 billion-worth of new gas-fired generation, but have only secured funding for $10 billion (or 16 percent) of that.

Other big goals around energy and climate are also underfunded.

- Achieving universal electricity access by 2030 would cost between $25 billion and $53 billion per year. But actual investment rarely reaches $5 billion.
- African countries need an estimated $277 billion by 2030 to meet their Paris Agreement commitments. But their governments have only committed to fund a tenth of this.

Ideally, international public finance (IPF) will help close these gaps.





What do we mean by international public finance for power?

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International public finance (IPF)

What?

- Loans, guarantees, free technical assistance and (small) grants for electricity infrastructure
- Mostly for generation, but also some limited funding for transmission and distribution

From whom?

- Multilateral and bilateral development finance institutions (DFIs) and export credit agencies (ECAs) based in North America, Europe, Africa and Asia, e.g. the World Bank, Afri-EXIM Bank, U.S. Development Finance Corporation, Japanese Bank for International Cooperation.

Note: We treat finance from Chinese public institutions separately from other IPF in the following analysis. Chinese IPF for African power tends to be structured differently to IPF from other countries, and Chinese public lenders rarely join forces with public investors in other countries.

For whom?

- Most IPF for African power goes to private companies that build and/or run infrastructure.
- The government of the country where the infrastructure will be located is often not party to the deal.
- In some cases, funders do provide support to government-run initiatives targeting the power sector (e.g. training and grant programs).

Most IPF for on-grid power in Africa, whether gas or renewable, is blended project finance



- Gas power = grid power. Solar and wind power can be on- or off-grid (e.g. minigrids, solar home systems).
- "Blended project finance“ = a package of different types of instruments and support. The main components are debt, equity, free technical support or small grants (often $1 million or less).
- At least some of the debt tends to be concessional (with longer repayment times, lower interest rates and costs).
- The finance covers the cost of building one capital-intensive, large-scale infrastructure project (mostly electricity generation).
- Finance packages are designed to attract private capital (especially foreign) by shifting risk to public or philanthropic investors (DFIs, ECAs, impact investors).

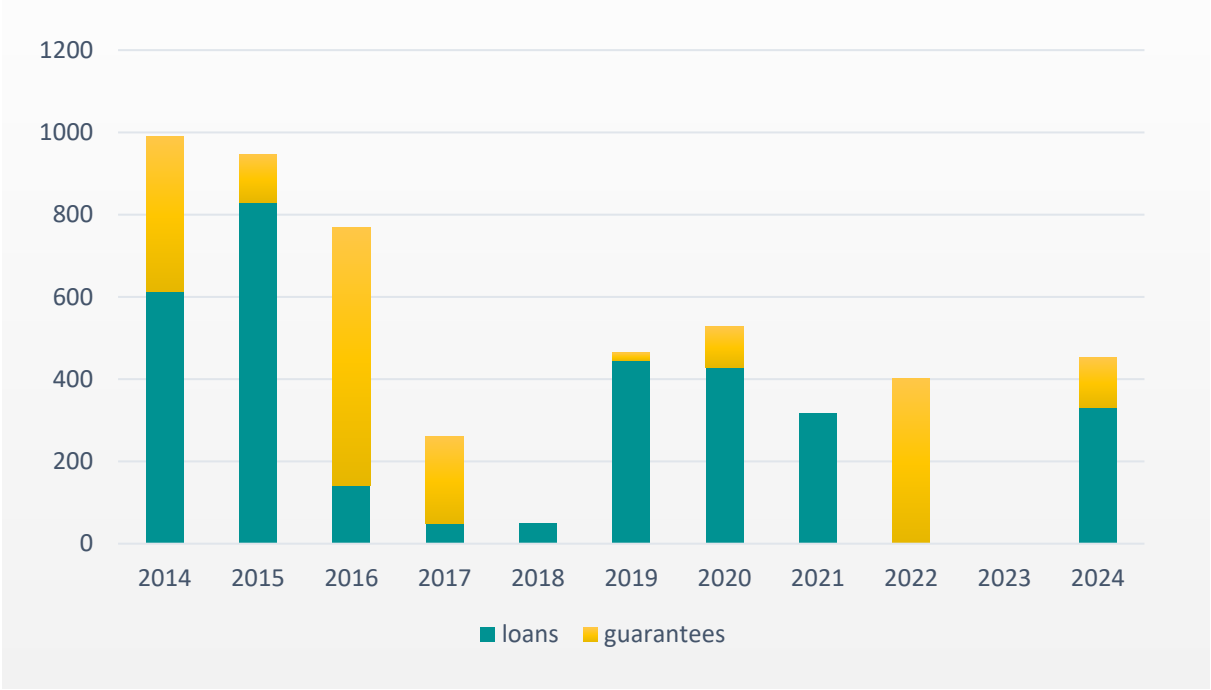
Focus:
IPF for sub-Saharan African gas power



Photo by bhumann34 for Pixabay

IPF for sub-Saharan African gas power plants is tiny and shrinking

DFI and ECA finance commitments for sub-Saharan African gas power plants (excluding China), 2014–2024, million USD



Source: NRGI calculations based on Global Energy Monitor, Oil Change International data

2014–2024: **Average $470 million per year in loans and guarantees**

- Equivalent to 1–2 new plants per year.

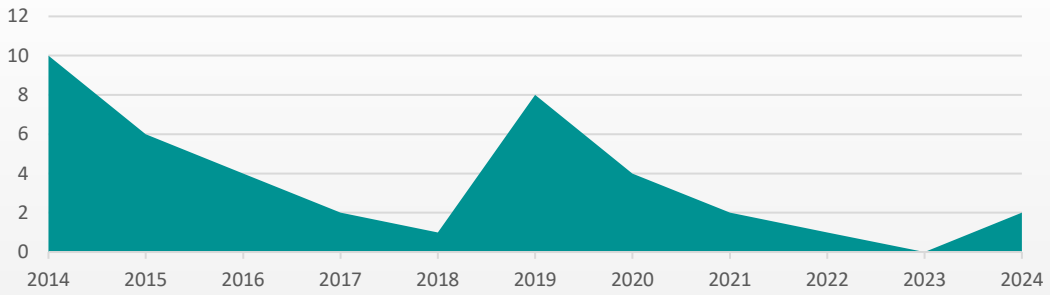
Funding commitments peaked in the mid-2010s.

No new loans in 2022 and 2023. One in 2024 (in Sierra Leone). Almost no funding packages for new projects being actively negotiated.

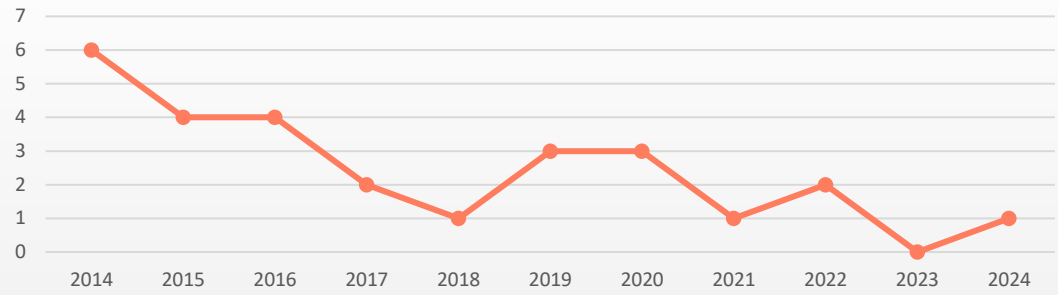
Similar situation in North Africa, though the details of funders and projects are different.

A deeper look at the same data shows DFI and ECA support for sub-Saharan African gas power plants declining in other ways:

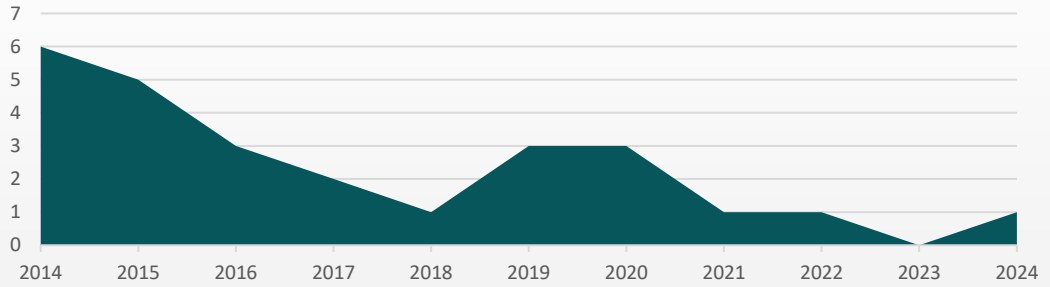
The number of DFIs and ECAs committing to finance a gas power project in sub-Saharan Africa has fallen precipitously over the last decade…



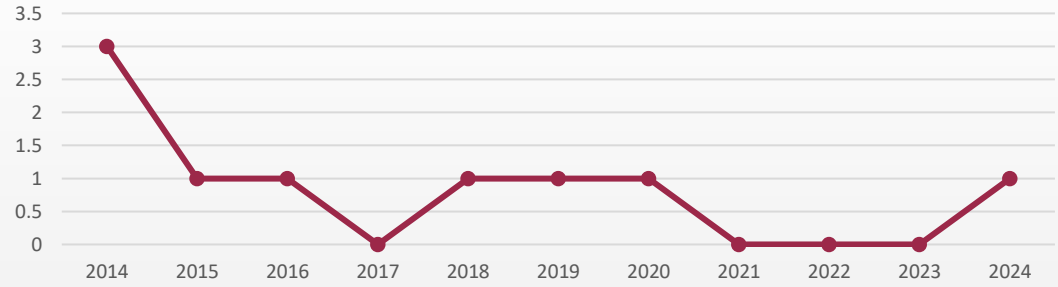
…as has the number of projects receiving commitments year by year.



Over the same period, fewer and fewer sub-Saharan African countries received DFI and ECA commitments to finance their gas power projects



And importantly, the number of new projects receiving their first DFI or ECA commitment has plummeted, with only one in the last three years.



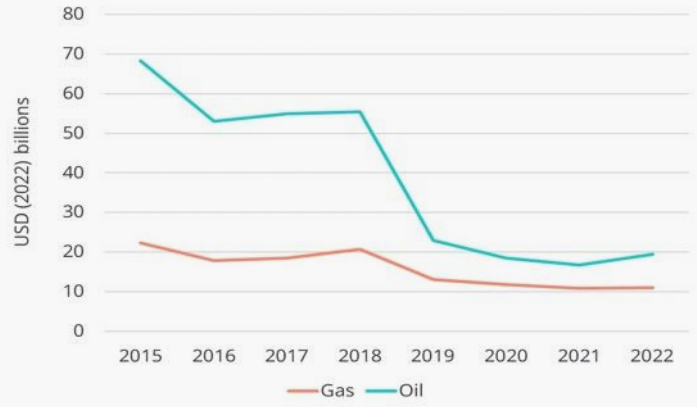
Source: NRGI calculations based on Global Energy Monitor and Oil Change International data

New gas power plants often need more gas supply infrastructure

Gas extraction: A new gas thermal plant will need steady supplies of gas for its entire operating life (a minimum of 20–30 years). Vast amounts of capital for gas extraction are being sought across Africa.

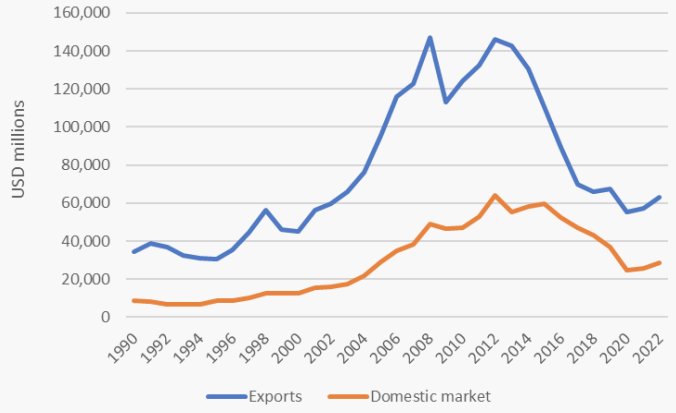
An estimated $375 billion is needed over 10 years to maintain existing gas production, develop new fields, get gas to market. But total funding for African gas supply peaked a decade ago, and has since been halved, mirroring the long-term global situation:

Investment in African oil and gas supply



Source: IEA

Annual worldwide investment in gas project capital expenditure



Source: Rystad

A small group of international private banks, most headquartered in North America or the EU, has provided around half of recent non-public project finance for African gas extraction, mostly for exports. Some countries' gas power plans are tied to export projects with uncertain fates (Mozambique, Senegal, Tanzania).

Gas pipelines: Of the $89 billion-worth of new pipelines that African governments want to build, governments have found only $4 billion in funds to start construction.

Pro-gas voices have made strong arguments about why there should still be IPF for African gas power–for example:

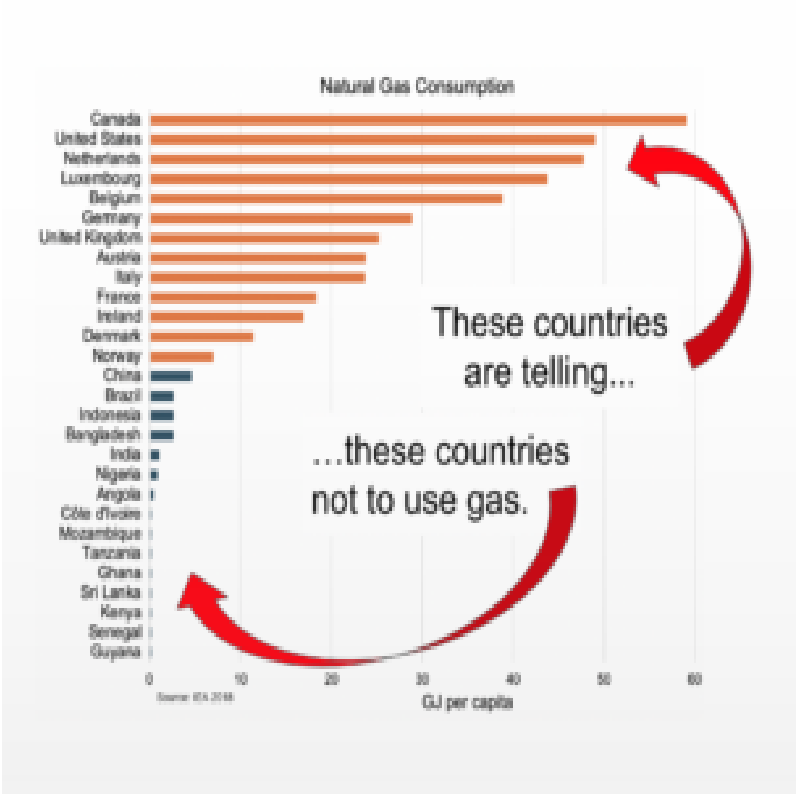
Big unmet needs and goals: African countries need gas to meet energy and developmental goals, achieve universal energy access, etc.

Africa's unique problem: The challenge is not so much to "transition" from fossil fuels as to build entirely new domestic energy systems while the rest of the world migrates toward clean technology.

The limits of renewables: All-renewable power systems will not work for Africa, e.g. because of intermittency, high up-front costs. Gas should be a "transition fuel," a source of stable baseload power.

Climate impacts: More African gas power would not significantly raise the continent's small emissions and would be "greener" than coal or oil (Note: This is not necessarily correct.)

Justice and equity: Wealthy countries have relied on gas for energy and development (and still do), so why shouldn't Africa (especially as the continent is not responsible for climate change)? Wealthy northern nations' mixed messages on gas is hypocrisy, green colonialism. African countries should be free to use their own resources for development.



Source: Africa Centre for Energy Policy

But only six Global North countries have directly supported African gas power in the last decade

Of these, only the U.S. looks seriously open to more funding, though the possibilities under Trump are not yet clear.

Country	Year of last support for sub-Saharan African gas power project	DFI policy allows support for gas power?	ECA policy allows support for gas power?
France	2017	No	No
Germany	2020	Under limited circumstances, through 2025	No
Netherlands	2016	No	No
Sweden	2016	No	No
U.K.	2019	No	No
U.S.	2024	Policy not published, but support possible in limited cases	Policy not published, but support possible in limited cases

Which funders are left?

African DFIs/ECAs: Some support for gas power in the last decade, but as a group, they contributed less than 10 percent of the total.

- African Development Bank (five projects in Cameroon, Cote d'Ivoire, Mozambique, Senegal); Afri-EXIM Bank (one project, Senegal); Development Bank of Southern Africa (two projects, Ghana); ECOWAS Bank for Investment and Development (one project, Sierra Leone); West African Development Bank (one project, Togo).
- The new Africa Energy Bank has promised billions in funding for energy projects—but where will the money come from?

Asian DFIs/ECAs: Japan is the only country that supported an African gas power project in the last decade ($292 million for a Tanzanian power station in 2015).

World Bank and International Finance Corporation: Still some apparent willingness to lend at a policy level, but are there bankable projects with strong enough development impacts?

Most DFIs and ECAs are reluctant to fund more African gas power plants

COP 26 (2021): Thirty-eight countries, including the U.S. and many EU nations, signed the "Glasgow Statement," a pledge to stop offering public finance for foreign fossil fuel projects. Most have not supported an African gas project since COP 26, with a few exceptions (see slide 16 for details).

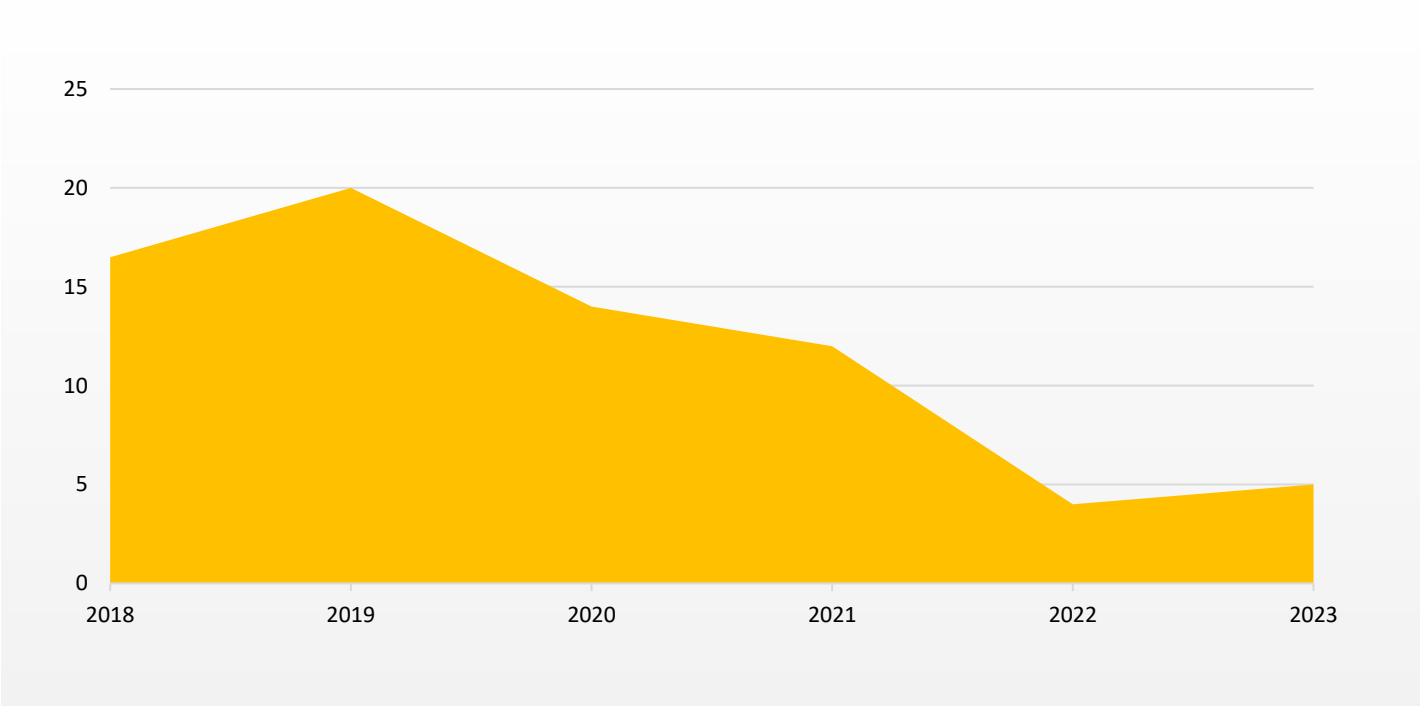
Most DFIs and ECAs are consistently avoiding African gas power, on the assumption that it is:

- **Bad for the environment:** Multiple high-profile studies have found that new gas extraction and consumption does not fit within a scenario for keeping Earth's temperature rise to 1.5 degrees Celsius, and that the world must halve its gas consumption by 2050 to avoid the worst climate outcomes.
- **Bad for business:** Many public (and private) investors fear African gas power projects will not offer a guaranteed, acceptable rate of return (or turn a profit at all). A range of problems can erode cash flows—e.g. high grid losses, customer inability to pay, non-cost-reflective tariffs, unstable local currencies.



And there is no reason to think IPF for gas will grow significantly

Signatories to the Glasgow Statement have dramatically decreased their funding for fossil fuels since 2021:



Glasgow Statement parties' support for fossil fuels (all types), 2018–2023 (billion USD) - Source: IISD

Seven countries (Belgium, Denmark, Germany, Italy, Netherlands, Switzerland and the U.S.) have financed fossil fuel projects since signing the Glasgow Statement. But nearly all was for fossil fuel exports or small projects in other sectors (e.g. Danish and Belgian support for cooking gas in Ghana), not power generation.

The recent announcement of U.S. funding for a Sierra Leone plant shows international public funding for African gas power is still possible, if investors can make a compelling argument about the developmental benefits.

Africa has used more of its gas for electricity in recent years

Over 40 percent of Africa's electricity currently comes from gas, up from 14 percent in 1990. Gas is the number one fuel for power generation on the continent, followed by coal (less than 30 percent).

Today, 20 African countries burn gas for electricity. All but two (Benin and Togo) have existing gas production.

Table source:
Author calculations based on IEA data

African countries using gas versus other fuels in their electricity mix (% of total electricity, 2021)

Country	Gas	Coal	Oil	Hydro	Wind	Solar PV	Other sources
Algeria	94%		5%	1%			
Angola	10%		15%	75%			
Benin	76%		24%			1%	
Cameroon	30%		10%	60%			
Congo-Brazzaville	72%		5%	23%			
Côte d'Ivoire	69%			30%			1%
Egypt	84%		4%	8%	2%	2%	
Equatorial Guinea	66%		1%	33%			
Gabon	49%		10%	41%			
Ghana	59%		4%	37%			
Libya	73%		27%				
Morocco	9%	68%	2%	3%	11%	1%	6%
Mozambique	16%		1%	83%			1%
Niger	7%	27%	63%			3%	
Nigeria	76%			24%			
Rwanda	23%	4%	15%	56%		2%	
Senegal	1%	3%	83%		4%	7%	3%
Tanzania	42%		17%	39%		1%	1%
Togo	66%		8%	19%		7%	
Tunisia	95%				2%	2%	1%

But the reality is: Gas power has mainly been an option for wealthier countries. That is unlikely to change

Around a dozen high- or high-middle-income nations dominate both gas power generation and new investments in gas power plants.

- Africa received just 5 percent of all funding for gas power in 2022 (down from 12 percent in 2015).
- The U.S. alone is planning up to three dozen more gas power plants. It already has over 1,900.

Table source: Author calculations based on BloombergNEF, Ember and IEA data.

Rank	Top 10 producers of gas power, 2022	Amount of gas power generated, 2022 (% of global total)	Top 10 countries that added the most gas power to their grid, 2013–2022	Amount of gas power added, 2013–2022 (Gigawatts)
1	U.S.	28	U.S.	93
2	Mainland China	8	Mainland China	81
3	Russia	8	Egypt	39
4	Japan	5	Russia	20
5	Mexico	4	South Korea	19
6	Saudi Arabia	4	Saudi Arabia	17
7	Egypt	3	Iraq	17
8	South Korea	3	Japan	14
9	Italy	2	Mexico	13
10	UK	2	Thailand	12
	TOTAL, top 10	**67**	**TOTAL, top 10**	**325**
	Cf. sub-Saharan Africa	**1**	**Cf. sub-Saharan Africa**	**7**

How does IPF for African solar and wind compare with gas?



Photo by Raphael Pouget / Climate Visuals Countdown

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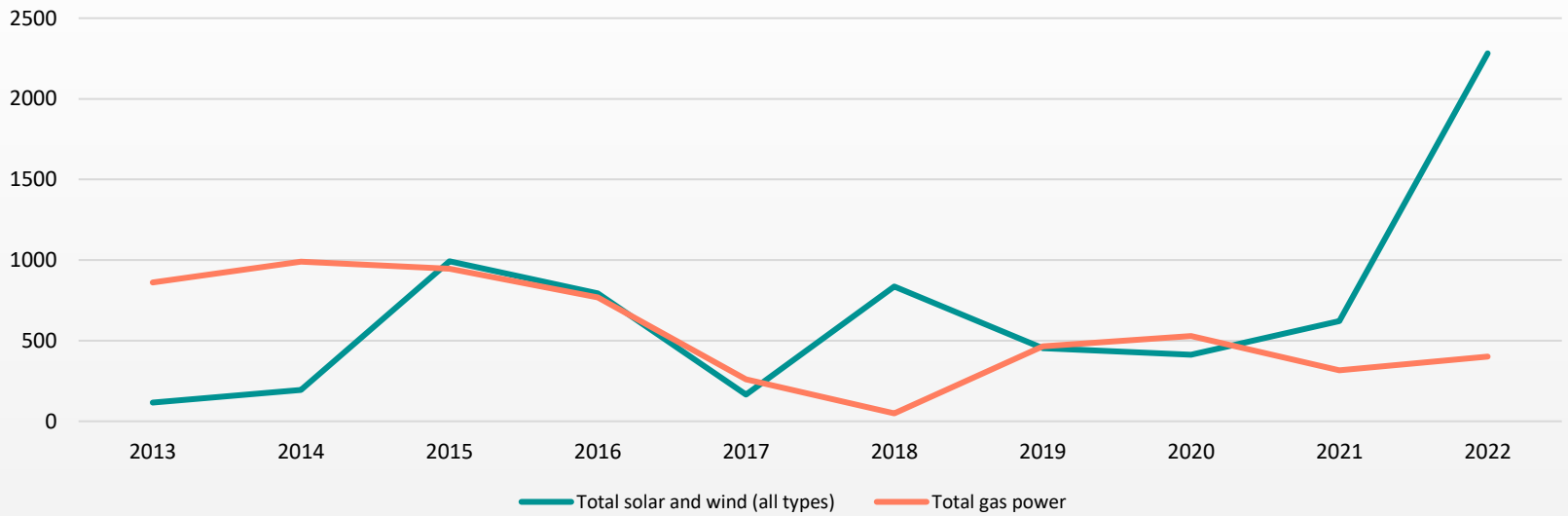
IPF for solar and wind power in sub-Saharan Africa is also small compared to needs. But unlike gas, the overall trend is up

2010s: DFI and ECA funds for gas power versus solar and wind were comparable.

From 2021: Funding for solar and wind overtook gas.

Total clean energy investment in Africa ($40 billion from all sources) doubled between 2020 and 2024.

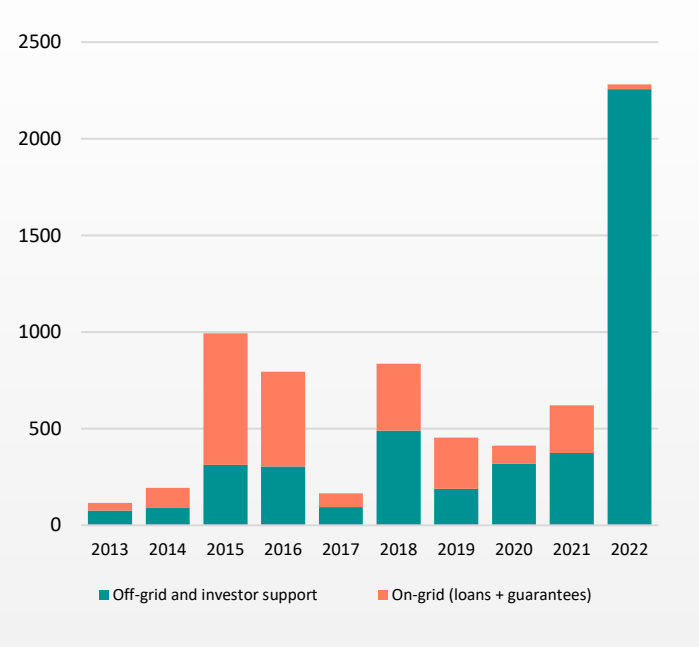
DFI and ECA finance commitments for sub-Saharan African gas power versus solar and wind (excluding China), 2013–2022, million USD



Source: NRGI calculations based on OCI data

Most IPF for African solar and wind is now for off-grid projects, companies and other investors

DFI and ECA finance commitments for SSA solar and wind power (excluding China), 2013–2022, million USD



Source: NRGI calculations based on OCI data

Most DFI and ECA loans and guarantees go to:

- off-grid projects (e.g. mini-grids, rural electrification, solar streetlamps)
- off-grid project developers (e.g. rooftop solar companies)
- private institutions that lend to, or take equity in, off-grid projects and developers (e.g. investment funds, local private banks, government grant programs).

2022: **$25 million** in loans for on-grid solar versus **$2.26 billion** in support for off-grid projects, companies and investors.

DFI and ECA funding for large solar and wind farms peaked mid-2010s. As with gas, investors cannot find bankable projects.

Only 30 on-grid projects had commitments in 2013–2022.

Continent-wide, total investment in on-grid solar and wind (all sources, public and private) rarely exceeds $5 billion per year. Investors struggle to find bankable projects. Similar challenges to new gas power plants.

DFIs are also small players in the off-grid sector. Three quarters of finance for off-grid comes from venture capital, private equity, commercial lenders and impact investors.

If private capital is included, total investment in African renewables has been outpacing gas power for years

Solar and wind have accounted for over four fifths of all African power investments (from public and private sources) in recent years.

Total renewables finance for Africa quadrupled over the past decade. Finance for gas power contracted.

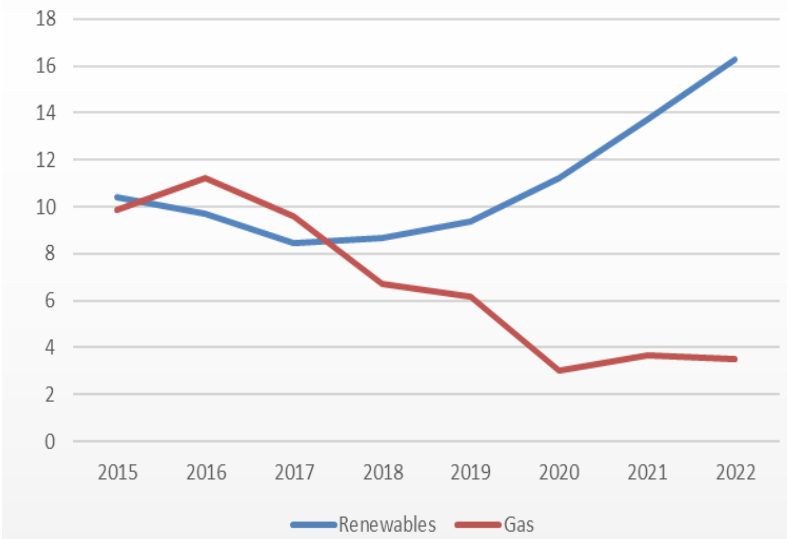
Investment in African renewables generation overtook gas power in 2017 and continues to climb. By 2022, capital for renewables was four times larger than gas.

This mirrors global trends, where renewables have greatly overtaken gas:

- 2019–2022: Clean tech made up over 80 percent of all DFI energy financing (2024 IEA World Energy Investment).
- 2023: Globally, renewable power met over four fifths of new demand for electricity.

Investment in gas and renewables generation capacity in Africa 2015–2022 (USD billion, 2022





Source: IEA

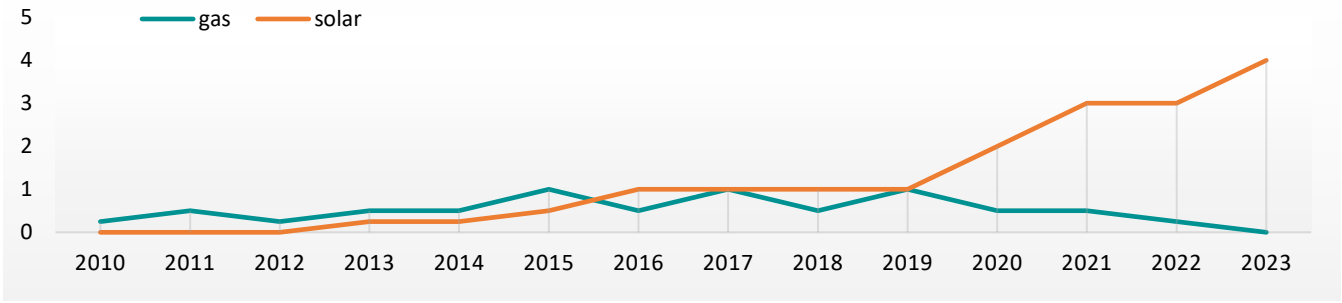
More finance for African renewables has helped them grow significantly, while the expansion of gas power has slowed

Solar power in Africa is now growing several times faster than gas (top graphic), in many more countries (bottom graphic).

African renewables are widely expected to grow more quickly than gas power this decade. E.g. the International Energy Agency's Sustainable Africa Scenario predicts:

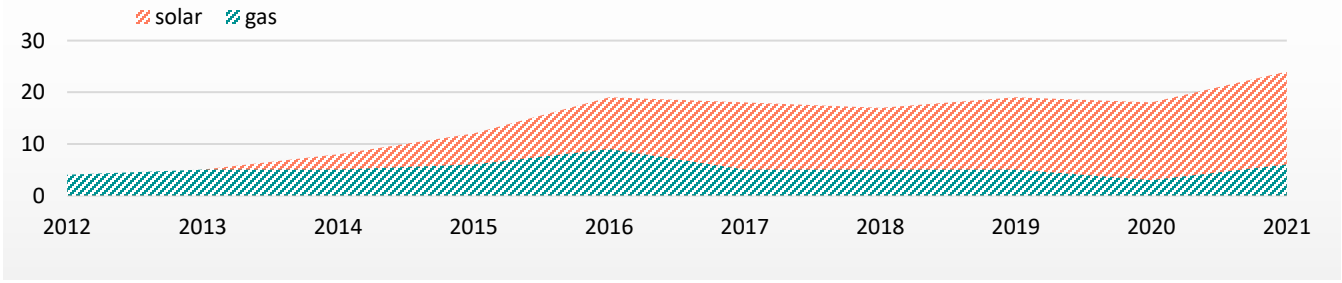
- Most new electricity generation capacity between 2020 and 2030 will come from low-cost solar PV and other non-hydro renewables.
- Continent-wide, solar and wind will account for 27 percent of power generation by 2030, eight times higher than 2020.
- Solar in sub-Saharan Africa will reach 20 percent of actual generation by 2030, up from almost zero in 2020.
- Main reasons for growth: falling technology costs, favorable policies, rising foreign investment.

New power generation capacity in sub-Saharan Africa , solar v. gas, 2010–2023 (GW)



Source: Author calculations based on Bloomberg, Global Energy Monitor and IEA data

Number of African countries adding at least 1MW of solar v. gas power, 2012–2021



Source: Author calculations based on Bloomberg and GEM data

But finance for African renewables still has deep inequities and limits, both within the continent and globally

PROBLEM:
A handful of countries receive most of the investment

→

RESULT:
Half of all African renewable energy is in five countries—South Africa, Egypt, Ethiopia, Morocco, Angola

PROBLEM:
African countries have accounted for just two percent of all renewable energy investment

→

RESULT:
Africa has 40 percent of all solar potential, but only one percent of all solar panels



Investor fears about risk and reward explain many of the problems

PROBLEM:
Investors charge 3–7 times more for capital, to reduce their perceived risk

→

RESULT:
Many projects become too expensive to finance

PROBLEM:
Investors mainly fund new power generation, because returns are better and surer

→

RESULT:
Other needed infrastructure (transmission and distribution, metering, etc.) is not built



Photo by Getty Images

Political shifts in wealthy countries will also affect finance flows for African renewables



U.S. under Trump 2.0: Hostility to climate work and foreign aid. Strong promotion of fossil fuels. Shift from "energy transition" to "energy security."

- Promising to shift U.S. MDB/ECA funding to fossil fuels or transition minerals, including projects in the U.S.
- Dismantling programs and institutions that supported clean energy in lower-income countries (Power Africa, Millenium Challenge Corp)
- Backing out of existing Just Energy Transition Partnerships (JETPs)
- Pressuring multilateral development banks to withhold clean energy funding (World Bank).

EU: Continued statements of support for Africa's energy transition—but how much public money will shift to domestic priorities (e.g. defense, energy security)?

- Rolling back, reframing various green deal and sustainability standards and commitments
- Cutting foreign aid budgets by up to 40 percent.

No IPF for an African power project?

The other options can also be difficult



Alternative funding options

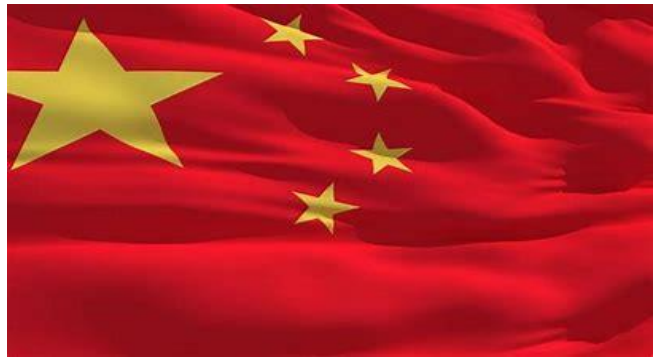
China

Chinese public lenders committed **less than $2 billion* to African gas and renewable energy power over a decade** (2013–2022).

- Gas: $912 million for two plants that were built.
- Solar and wind: $843 million for five completed on-grid projects.

China mainly supports coal and large hydro power projects.

*Actual amounts could be larger. Complete, reliable information is hard to find.



100 percent equity financing

- Rare in African power plants.
- Equity investors want debt finance to balance risk.
- Chinese lenders sometimes swap debt for equity.
- Equity is more expensive than debt.



Government financing

- Also rare. Most announced projects are never built.
- Does the government have the money? What else will go unfunded?
- Most private investors do not want government participation.
- Is the debt sustainable?



What about “transition finance”?



There is no agreed definition of transition finance

- Different organizations (mostly from the Global North) propose different definitions, principles, frameworks (e.g. GFANZ, ICMA, OECD).
- GFANZ's sample definition: finance that is "necessary to support an orderly, real-economy transition to net zero."
- Many types of support available: debt (project-based, balance sheet, bonds), equity (in projects or companies), grants, insurance and risk guarantees, technical services, knowledge and tech transfer.
- Other eligible sectors besides energy: transport (electric vehicles, shipping, aviation), buildings, industry (cement, fertilizer, steel, chemicals), etc.
- Notion that at least some transition finance should be concessional, to help countries do things they cannot do alone.

Lots of confusion over where and how to access transition finance



- **No single pool of money:** transition finance can come from multilateral and bilateral DFIs, ECAs, companies, private and government bond issuers, state agencies and finance corporations, private philanthropy (foundations), host government agencies, sovereign wealth funds, private equity, etc.
- **No one place to apply.**
- **No agreed way to qualify.**
- **Most finance, especially for projects, is provided to companies, not governments.**

High-income countries are capturing most transition finance for themselves

Worldwide, countries need an estimated $200 trillion to $275 trillion of transition finance by 2050. There has been 100-fold growth in the last decade. But access is highly skewed, e.g. in 2023:

- Global transition finance investments exceeded $2 trillion.
- But wealthy nations and a few emerging markets and developing economies (China, India, Brazil) received **90 percent**.
- Sub-Saharan African countries received an average of **$12 per person** (versus a worldwide average of $480 per person).



Large amounts of transition finance for gas power seem especially unlikely

- There is no shared understanding of which types of projects, technologies, entities or sectors should qualify for transition finance—dozens are proposed.
- NGOs, multinational policy organizations and philanthropic institutions in the Global North suggest climate-focused conditions—e.g. investments will:

  1) have a **credible decarbonization pathway** in a 1.5-degree scenario

  2) help avoid **carbon lock-in.**
- This could exclude gas extraction, transport, processing, power and emissions reduction technologies (anti-flaring; carbon capture, utilization and storage).
- No clear "equity" rules or exceptions: e.g. that less wealthy countries should get more/faster transition finance, or receive finance for non-Paris-aligned projects if it serves other socio-economic goals.
- Strong concerns exist about legitimacy and "greenwashing."
- The only JETP for a gas-producing country (Senegal) did not include finance for gas. Partners refused the country's request to include it.

How might African countries attract more finance for electricity?

