

Fossils Implicated.

How the Promotion of Fossil Energies Inhibits Africa's Development



Foreword

Green energy for all is imperative to enable development in a sustainable energy system and thus to further global development goals. All global goals, including the 2030 Agenda and the Paris Agreement, unanimously confirm this.

However, in many countries the world over, the opposite is true: fossil and exploitative energy systems undermine the achievement of development goals. Fossil fuels not only accelerate the climate crisis; they also drive economies into dependence on fossil companies and cause significant damage in the vicinity of extraction sites. In many African countries the extraction of oil, gas or coal leads to innumerable people living in extreme poverty, as it destroys their natural resources and livelihoods and fuels conflicts. The worsening climate crisis, propelled by burning fossil fuels, further aggravates existing inequalities and disrupts any development progress made. Many people across Senegal, Nigeria, Uganda, Mozambique and the Democratic Republic of the Congo (DRC) oppose this system, as they have experienced that fossil fuels do not lead to either development or prosperity.

Instead, these people advocate for the development of renewable energies. Many African countries are at a crossroads: they have the opportunity to jump fossil structures and instead invest in 100% geothermal, solar, wind and water power, guaranteeing universal energy access.

In Kenya, almost all city-dwellers have energy access and 65% of the energy is generated from renewable resources. Our partners as-

sure us that 100% renewable energy production is possible. The example proves that it is possible to enable green energy for all and development within a very short time period.

Such positive prospects need to receive more attention so that many other countries, including Senegal, Nigeria, Uganda, DRC and Mozambique, can leave the dominant and exploitative fossil fuel system behind and find pathways to energy for development. We are at the dawn of a new age of renewable and sustainable energy systems. Any money invested in fossils today is lost and thus poses a risk to future development opportunities.

This is why, together with partner organisations from different African countries, Misereor has initiated the campaign “No energy at the expense of the poorest!” to advocate for joint German, European and African efforts for sustainable energy systems for the development of all.

We sincerely thank our authors Mohamed Adow, Fatuma Hussein, Amos Wemanya and Hans Verolme for their critical analysis of the fossil system. Their report invites all of us to help shape a sustainable energy future of the African continent that enables development. We hope that their clear recommendations for African and European decision makers will help set the course to further the promise of developing renewable and humanity-centred energy systems.



Kathrin Schroeder

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A handwritten signature in black ink, appearing to read 'Kathrin Schroeder', written in a cursive style.

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Introduction

This dossier seeks to shed light on the intricate interplay of interests shaping Africa's energy choices, aiming to dispel myths and elevate African voices in the discourse by using examples and case studies. The goal is not merely to criticise but to inspire a transformative shift towards renewables, ensuring Africa's development aligns with planetary well-being and the aspirations of its people. The continent's moral authority on climate change, with its minimal emissions and the disproportionate impacts it faces, provides a compelling insight. Responsible for [3.8 per cent](#) of global emissions, in the face of massive losses and damages Africa [receives](#) just 5 per cent of global climate finance flows. If African leaders can show that fossil fuels are not needed for economic and social progress and that, on the contrary, abandoning dirty energy is essential for it, then this can inspire (and shame) others around the world to accelerate their own efforts. This dossier, thus, is not just a denunciation; it is an urgent call to action.

Africa is at a pivotal moment in its development, with its energy choices holding significant global consequences. At the heart of this nexus are technological advancements, shifting geopolitical agendas, market dynamics, and deeply entrenched vested interests.

For decades, Africa has been showcased as a paradox of abundant resources and economic stagnation. Narratives about Africa, often constructed externally, have painted the continent as a passive canvas rather than an active agent of its destiny. Fossil fuels, symbolised as a means to “development” have unfortunately left over half of sub-Saharan Africa in darkness, and the traditional energy models, inspired by colonial blueprints, have proven inefficient and inadequate.

Providing universal energy access is necessary to end poverty, build resilience to the climate crisis, empower women and generate opportunities, and achieve Africa's development goals as set out in the African Union's

Agenda 2063 and the United Nations' Sustainable Development Goals. Today, Africa still faces huge challenges including low energy generation capacity and efficiency, high costs, unstable and unreliable energy supplies, and low access rates including for cooking.

Amidst a shifting global landscape, marked by the pandemic and geopolitical tensions, including Russia's war in Ukraine, Africa's role has become more pronounced. The continent is self-confident to be a major global player by 2050, potentially reshaping global markets. However, persisting myths equate Africa's development ascent with fossil fuel exploitation. Vested interests, both internal and external, champion these narratives, often sidelining the very real socio-economic costs borne by Africans.

Africa, while contributing only minimally to global emissions, faces the brunt of the climate crisis. It has a limited adaptive capacity, including due to persistent poverty and climatic feedback loops that impact livelihood strategies and food security. The health implications, from diseases to increased infant mortality, are alarming. Furthermore, climate change amplifies gender disparities, with processes like gas flaring disproportionately impacting women's health and well-being.

Importantly, fossil fuel-driven development contradicts Africa's visions articulated in the Agenda 2063, the Sustainable Development Goals and other strategies. While external vested interests may advocate for gas as a “greener” fossil alternative, its actual ecological and social impact remains detrimental. Methane emissions from gas have alarming climate implications, which were until recently ignored in mainstream discussions.

Contrary to decades past, renewable energy today offers a viable, cost-effective pathway for meeting Africa's energy needs. Agencies like [IRENA](#) have shown that there are tangible socio-economic benefits resulting from a renewable-centric transition, from job creation to energy security.

Africa in the aftermath of the pandemic and recent economic and geo-political volatilities

Recently, Africa's economies have been struck by both internal and external shocks. Extreme weather events that have in recent years intensified as a result of climate change, with floods killing hundreds of people, caused widespread devastation and loss of life and livelihoods across communities (Bloomberg, 2022). External shocks, such as the Russian invasion of Ukraine, contributed to rising rates of inflation, as the continent struggled to recover from the socio-economic impacts of the Covid-19 pandemic that led to economic decline (Chatham House, 2023). Even though the direct trade and financial linkages of Africa with Russia and Ukraine are small, the war has damaged the continent's economies through higher commodity prices, higher food, fuel and headline inflation.

"Africa rising", an outsider narrative created around the strong economic performance across the continent from 2000-2014 against a backdrop of high commodity prices, has been called into question following weak growth since 2015. But it is best not to generalise, given the large differences in performance between countries. The really important question would be: is Africa really rising and building a resilient economy on the back of the commodity exports, including oil resources, it has been producing? How can boom and bust cycles of growth be avoided? What is the right course of action in the face of recent "discoveries" of new oil and gas

reserves on and off the continent, which have attracted significant renewed interest? [Some argue](#) for a balance to be found between climate policies, energy policies and development policies. What would that look like? Is it even possible to reconcile these conflicting objectives and what are the risks?

[Misereor](#) (2023) has documented that 64 per cent of countries in the Global South are critically indebted. This compares to 37 per cent prior to the pandemic. The figure is particularly high in sub-Saharan Africa. Similarly, a recent [ActionAid study](#) (2023), using IMF data, showed that more than half of the countries in debt distress are likely to cut spending on social services in order to continue servicing their debt. The G7 and EU together hold more than half of the claims and therefore have a special responsibility for easing this burden.

Following Russia's invasion of Ukraine, wealthy European countries have started to look to Africa for fossil gas as they seek to wean themselves off Russian gas ([BBC 2022](#)). The oil and gas lobby argues that Africa's natural gas reserves can meet significant, pressing needs for both. Some, cynically, even call it "Freiheitsgas".¹ And while glossy PR materials propagate energy access, decarbonisation, just transition and gender equity, the underlying logic reveals itself in unprepared comments: 'Drill baby drill: that should be Africa's message to the world. If you want to solve energy poverty, gas baby gas, ... We need to go to COP27, backing up our energy producers. We should not be apologizing for our energy sector.'²

The former Nigerian Vice President, Professor Yemi Osinbajo insisted that the use of gas as a transition fuel would advance Nigeria's broader development goals, especially as the

¹ US Energy Secretary Perry in a 2 May 2019 interview with Euractiv (<https://www.euractiv.de/section/energie-und-umwelt/news/freiheitsgas-usa-oeffnen-lng-schleusen-nach-europa/>) echoed by African oil and gas lobbyist NJ Ayuk in 2022 (<https://panafricanvisions.com/2022/03/with-a-concerted-effort-africas-freiheits-gas-can-help-europe-overcome-its-dependence-on-russian-gas/>).

² See: <https://aecweek.com/aew-2022-drives-the-energy-transition-discussion-from-cape-to-cairo/>, <https://www.climatechangenews.com/2022/11/09/un-gives-platform-to-convicted-fraudster-lobbying-for-african-gas/> and <https://www.dailymaverick.co.za/article/2022-10-23-drill-baby-drill-gas-baby-gas-african-energy-ministers-solidify-pro-fossil-fuel-position-ahead-of-cop27/>

country has one of the largest gas reserves in the world. [According to him](#), other developing countries would also benefit from the adoption of gas as a transition fuel. However, as discussed below, this argument cannot withstand scientific examination.

While noting that smaller countries, such as Turkey, Japan and the Gulf states have a growing economic stake in Africa, geopolitical competition in Africa has also intensified, particularly among the “great powers” China, Russia, the United States and the European Union. In the main, tensions involve the USA and EU on the one hand and China on the other. By 2015, China ranked first place in terms of trade, foreign direct investment (FDI) growth and infrastructure financing in Africa. In recent years, this fact has overshadowed the European debate on the course of African development. The EU’s push to rebuild relations with Africa is inexorably linked to the increased competition of interests and the resources of the continent. Subsequently, Europe’s response to, opinions on and assessments of China’s engagement with Africa have evolved significantly.³ For two decades now, the EU’s tone vis-à-vis the Chinese involvement in Africa has been primarily critical. For example, officials continually express concern about Africa’s indebtedness to China and its terms. While China is in fact Africa’s largest bilateral creditor,⁴ the largest amounts of debt arise from loans from European and North American banks and other investors. Framing the African debt problem in terms of rivalry between great powers obscures the fact that structural features of the international financial system are far more consequential in shaping the liquidity and solvency of African states (Lippolis and Verhoeven, 2022).

In today’s multipolar world, countries in the Global South find themselves jockeying for position. The reconvergence of EU and US foreign policy priorities, in response to an increasingly assertive Chinese state and its support for Russia, is worth noting here. [Africans’ views](#) of the influence of China and of the USA are surprisingly similar and positive. Both countries are seen in a considerably more positive light than former colonial powers (i.e. the UK and France, but also Germany). In the eyes of African decision makers, China has a competitive advantage in four areas underlying its success in Africa: quick decisions, faster implementation of projects, non-interference in internal affairs and the use of corruption as a tool of trade (Friedrich Naumann Stiftung 2022).⁵ The systemic competition appears to be perceived as a win-win for Africa. African countries are no silent spectators and have some strategic levers at hand to [push outside powers](#) to support the continent’s development. The climate crisis adds a thick layer of complexity to the global scramble for Africa’s resources. Global mining companies and commodity traders are also increasingly seeking alternative supplies from Africa. Decarbonisation is becoming a driver of geopolitical competition in certain African mining markets, home to large deposits of critical “transition minerals” such as copper, cobalt, graphite, lithium and nickel. Yet, this is *not* a partnership of equals with Africa in terms of trade and business investment.

Recently, international competition to secure Africa’s critical and strategic minerals and energy products further intensified. Europe stepped up its engagement with the sixth Africa-EU summit held in Brussels in February 2022 where the two continents agreed on the principles for a new partnership, although

³ As recently as 2019 the European Commission wrote: For the EU, “China’s increased international presence can offer major opportunities for trilateral cooperation and positive engagement, when demand-driven and based on mutual interests and understanding, in regions of priority importance for the EU, such as Africa.”

⁴ According to Lippolis and Verhoeven (2022), in 2019, total debt to Chinese entities amounted to USD 78 bn equivalent to 8% of Africa’s total debt burden. Data from 2022 released by Debt Justice put the figure at 12%, with Western private investors holding 35% of African debt.

⁵ There is a large number of studies and polls on African attitudes towards China available; some links may be found in this blog: <https://wirtschaftinafrika.de/china-einfluss-afrika/>

the Russian war in Ukraine which followed disrupted some of the ambitions. In the energy sector, European countries are seeking to diversify their Russian oil and gas imports with alternative supplies from Africa. [Sokona et al. \(2023\)](#) strongly argue against this, stating that ‘these plans carry multiple risks and uncertainties, including potential for substantial stranded assets, especially since Europe has sped up its decarbonisation’. These African experts argue that instead of spurring investment in fossil fuels, Africa's pursuit of development would be more effectively served by establishing renewable energy systems that can achieve universal access, enable food security and regional industrialisation, while advancing the achievement of African and global climate goals.

Europe's belated response to China's Belt and Road Initiative and recent geo-political developments was announced in December 2021: the EUR 150 billion [Africa-Europe package](#) in the framework of the Global Gateway Initiative, providing funding for strategic infrastructure investments such as the Africa Green and Sustainable Energy Initiative. The package includes both grants and concessional finance. Projects are meant to be co-developed to align with country priorities and EU strategic interests; climate neutrality and transparency are intended to be cornerstones of the Gateway. A major [critique](#) of the EU Global Gateway Initiative is that the investment package is a repackaging of existing commitments from European development finance institutions. It is unclear whether any new and additional finance will be mobilised. To date, little if any money has been delivered (Gavas and Pleeck 2021, Sial et al, 2022).

Finally, in 2023, the German Federal Ministry for Economic Cooperation and Development (BMZ) launched a new Africa strategy. Its main objectives are: to lend structural support to the achievement of the development goals set by the African Union (AU) in its Agenda 2063, to work together towards a global transformation to ensure that everyone can live in dignity and security in an intact environment under the UN's Agenda 2030, and to address crises jointly in a spirit

of solidarity (BMZ, 2023). According to the BMZ, ‘[i]f Africa were to take the same fossil-fuel-based road to development as today's industrialised countries once did, the environmental consequences would be calamitous not only for Africa but for the entire world’ (BMZ 2023, p. 10) In light of the continent's resource wealth and today's technologies, Africa should be able to develop energy systems that leverage its vast potential as the continent of renewables and ‘to become the first world region to make a “just transition” to sustainability by taking climate-smart approaches to development’ (Ssegujja 2023) Misereor and Brot für die Welt have jointly criticised BMZ for the fact that the strategy does not include a financial package, nor any concrete commitments (Misereor and Brot für die Welt 2022).

The fossil system in Africa

Infrastructure, production and power dynamics

Since 1956, Africa has been a major player in oil production among the oil-exporting regions of the world. This followed the first commercial discovery of oil in Oloibiri, now in Bayelsa State, Nigeria. Today, the continent is home to five of the top 30 oil-producing countries in the world (Nigeria, Angola, Algeria, Egypt and Libya; see [Pumps Africa, 2020](#)). North Africa and West Africa together accounted for nearly 8.2 per cent of the global oil exports in 2022, with the share of West Africa being [5.2 per cent](#). Since their independence, African countries such as Angola, Nigeria and Sudan have spent decades of work and billions of dollars on fossil fuel-based energy systems that have failed to provide modern energy access to about half of the continent's population. Africa's energy system remains characterised by high costs, instability and unreliable energy supplies.

While the presence of oil and gas reserves was long expected, with permitting and prospecting dating back as far as the 1950s, only in recent years has its exploration and commercialisation expanded beyond the top producers. Since 2000, so called “proven reserves” have increased by multiples.

Commercialisation in particular focuses on large offshore reserves. The majority of African countries remain net oil importers. Expanding fossil fuel extraction in Africa is a costly, inefficient and ultimately unviable means of providing universal energy access to Africa's people, particularly to poor and widely dispersed rural communities.

Over the years, [oil-rich African nations](#) have developed a web of pipelines, refineries and port facilities dedicated to exporting their primary resource. Nigeria, for instance, boasts an extensive pipeline network transporting crude oil to its refineries and terminals. Similarly, Libya's infrastructure, though affected by recent conflicts, has historically facilitated a smooth export of its vast oil reserves.

The fossil fuel industry, with its economic weight, has had profound impact on Africa's power structures. The revenues from the sector have often significantly contributed to national budgets, granting substantial leverage to those who control the resources. In several nations, the fossil fuel industry's control has been centralised, with national governments or state-owned enterprises holding significant power. This centralisation has sometimes led to an entrenchment of power, where ruling elites harness the industry's wealth, often at the expense of broader socio-economic development.

This dynamic has continuously influenced foreign relations. Countries and companies seeking access to Africa's fossil fuels have, at times, formed alliances with specific ruling factions, providing them with financial, political and even military support. Such alliances, while securing access to fossil fuels, have played a role in propping up regimes, irrespective of their governance practices or human rights records. For example, oil companies such as Shell, Chevron, Eni, Total Energies and other IOCs have managed large scale operations in Nigeria's Niger Delta over the years. The presence of these companies has been accompanied by controversies ranging from environmental degradation to alleged human rights abuses (Amnesty International 2020).

The wealth and influence associated with the fossil fuel sector have, in some instances, fostered mismanagement and socio-political unrest. The "resource curse", a theory which posits that nations with abundant primary resources can experience stagnant economic growth, political instability and socio-economic challenges, has manifested itself in parts of the continent. Revenues from the sector have not been sufficiently reinvested into broader societal needs, leading to stark, growing inequalities. Furthermore, disputes over who controls the resources and environmental concerns linked to extraction activities, as well as efforts to assert local communities' rights have ignited tensions and open conflict in several regions. In some cases, local communities, despite living on top of vast wealth, remain marginalised, facing both the environmental costs of extraction and the paradox of energy poverty.

A key feature that characterises the African fossil fuel industry is the gap between fossil fuel consumption and production. Africa's share of global consumption in 2010 was only 3.7 per cent compared to a production share of about 12.4 per cent. While Africa's production of fossil fuels consistently ranges between 10.4 per cent to 12.3 per cent of global output, the continent's consumption is strikingly lower, accounting for less than 4 per cent of the world's total between 1965 to 2010 (United Nations Economic Commission for Africa and African Climate Policy Center 2011). Therefore, despite its vast resources, there is a clear imbalance, with the majority of African nations being net energy importers. One reason for this is that the bulk of extractable oil reserves is clustered in just a handful of countries, leading to most of Africa's nations being net oil importers. This dependence on often imported fossil fuels makes these economies vulnerable to global oil price fluctuations, thereby destabilising their economic standings. Many of these oil-importing nations face a "double energy squeeze". The combination of rising energy import costs and the dwindling availability of traditional energy resources has undermined economic prosperity, pressuring macroeconomic stability and growth prospects.

How fossil fuels undermine development progress in Africa

The fossil fuel industry has promoted one side of a complex story, positioning extraction as a source of public revenues, jobs and energy access. But the lived experiences of Africa's communities with oil, gas and coal producers tell a rather different story: fossil fuel extraction in Africa is undermining the attainment of various sustainable development goals, including ensuring health and well-being for all, gender equality, climate action, ending hunger and poverty, having clean water and sanitation for all and universal energy access. Fossil fuel development sabotages all seventeen Sustainable Development Goals (SDGs; Daley and Lawry (2022)). Using the SDGs as a benchmark, this is detailed below.

Fossil fuel extraction has overwhelmingly generated private riches concentrated in the Global North rather than public revenues for Africans, while creating ideal conditions for corruption and loading governments with debt. The industry has created preciously few jobs. While African people and communities bear the risks of fossil fuel development, multinational corporations reap the rewards of oil and gas extraction.

Once again, Africa has become the site of a scramble; a competition between national and international oil companies and various state actors from around the globe. In the following sections we explore the diverse, often negative impacts of fossil fuel development on the continent.



Fossil fuels and food sovereignty (SDG 2)

Agriculture is the largest single economic activity in Africa, accounting for around 60 per cent of employment and, in some countries, more than 50 per cent of GDP. Across Africa, agriculture has been generally impacted by extreme weather events such as droughts and floods. Furthermore, a large proportion of agricultural production in Africa occurs in semi-arid regions, which are projected to

become drier in the future (Scholes et al., 2015).

Reduced crop productivity as a result of heat and drought stress as well as increased pest, disease and flood damage are having adverse effects on food security and on livelihoods at regional, national and household levels. Farmers are experiencing devastating impacts of extreme weather events. Rainy seasons are starting earlier in places, late in other locations or not at all (Trisos et al., 2022 and Greenpeace, 2020).

When the rainy seasons do begin, they often bring too little or too much rainfall. Climate-induced seasonal irregularities, instances of extreme weather events and pest infestations are affecting food productivity especially among smallholder farmers and causing hunger and suffering among many communities in Africa.

In addition, Africa's path to food sovereignty is shaped by multifaceted influences, among them the continent's relationship with fossil fuels. Mechanised industrial agriculture relies heavily on fossil fuels, from the machinery used in ploughing and harvesting to the production of chemical fertilizers, and manages to enhance crop yields in the short time. However, it has also made African farmers dependent on volatile global oil markets and expensive agricultural inputs, in the end resulting in decreased food production or increased food prices, jeopardising food sovereignty.

Moreover, large-scale fossil fuel projects have led to the displacement of local farming communities, specifically in Nigeria and Sudan (Bogumil), thereby compromising their ability to produce food. Furthermore, accidental oil spills and the mismanagement of fossil fuel extraction processes degrade fertile lands, making them unsuitable for cultivation and jeopardising local food systems. For example, research confirms that oil spills have reduced crop yields and land productivity and have greatly depressed farm income in Nigeria's Niger Delta region (Inoni et al., 2006).



Fossil fuels and health (SDG 3)

Fossil fuels are directly impacting the lives of people in Africa through the pollution generated by extracting and burning them. Fossil fuel pollutants have been linked to lower birth weight, deficits in lung function, respiratory symptoms, childhood asthma, developmental disorders and the risk of infant disease and infant mortality (Perera, 2008). Studies have shown links between human exposure to the oil and gas air pollutants and mortality, cardiovascular diseases, respiratory diseases, asthma visitations and hospitalisations, reduced lung function and lung cancer (Lee, et al., 2014, Haswell et al., 2023). Oil spills directly harm local communities. In Nigeria, regular oil spills along pipelines are statistically correlated with increasing infant mortality by 38.3 deaths per 1000 children. Gas flaring in the Niger Delta, which has poisoned the local water supply, is also associated with localised incidents of acid rain and higher rates of mortality due to cancer and other diseases.

Research has indicated that *air pollution* from burning fossil fuels like coal and oil was responsible for about 1 in 5 deaths worldwide (Vohra et al., 2021). In addition, the worsening climate crisis driven by fossil fuels and the related extreme weather such as heat waves events are linked with increases in disease, infant mortality and displacement, with devastating impacts on health and well-being.

The summer of 2023 was Earth's [hottest summer](#) since records began in 1880. July 2023 broke the record for the [hottest month ever measured](#). New research by [CarbonPlan](#) for the Washington Post shows that dangerous heat is surging, with 4 billion people in urban areas likely to be exposed to at least one month of health-threatening extreme heat when outdoors come 2030. *Increasing heat* directly and indirectly affects human health, mainly because exposure to extreme heat can exacerbate underlying health problems. Deaths can and do occur following periods of extreme heat, and while many people can cope with one single day of extreme

temperatures, mortality rates increase during prolonged heat wave events that last for more than two days. The greatest health problems arise during extended periods of extreme heat, when temperatures during the night and the day are high, because there is then no period for humans to recover or recuperate (Perkins, 2015).

Considering Africa's insufficiently developed healthcare systems, the impacts of oil and gas extraction and burning in Africa have been disastrous. Fossil fuel development in Africa has proven to be a public health disaster.



Fossil fuels and gender (SDG 5)

Women bear the brunt of climate change impacts. In African households they often have primary responsibility for agriculture, food preparation, water and biomass energy provision for cooking needs. Improving access to renewable and affordable energy has proven to alleviate this burden.

Women experience disproportionate health impacts from fossil fuel-derived air, water and soil pollution. For example, air pollution and water contamination have been linked to breast cancer, ovarian diseases and maternal health risks. Furthermore, proximity to gas fracking has been associated with adverse birth outcomes, including premature births, decreased birth weights, birth defects and high-risk pregnancies (PSR 2022, American Journal of Nursing 2022).



Fossil fuels and water security (SDG 6)

The exploration and extraction of fossil fuels in Africa has had significant implications for water security in several regions of the continent. Water is not only vital for survival but is also integral to various socio-economic activities, including agriculture, industry and energy production. The nexus between fossil fuels and water security is underscored by three primary concerns: water consumption during the extraction processes, water contamination due to spills or wastewater

disposal and climate change impacts on freshwater.

In terms of climate change impacts, increases in temperature and changes to rainfall patterns are affecting water availability in Africa. Water shortages and increasingly frequent drought events are leading to a decrease in crop yields and affecting livestock, which in turn leads to loss of livelihoods and food insecurity. In addition, limited access to safe drinking water or damage to sanitation infrastructure caused by extreme weather events are increasing the risk of contracting diseases such as cholera or leishmaniasis (Cambaza et al., 2019). Moreover, extreme rainfall and flooding have been associated with outbreaks of diarrhoea (Levy et al., 2016).

In terms of the impacts of fossil fuel exploitation, the energy systems built on oil and gas have displaced communities from their ancestral lands, destroyed ecosystems on which communities depend for their livelihoods and survival. In Nigeria's Niger Delta, for instance, repeated oil spills have severely impacted freshwater sources (Ewim et al., 2023). Rivers and streams, lifelines for countless communities, have experienced recurrent pollution. The subsequent contamination deprives communities of safe drinking water, disrupts local ecosystems and affects agricultural activities reliant on these water sources. Similarly, in South Africa, coal mining in the Mpumalanga province poses threats to the Olifants River and other waterways (Simpson et al., 2019). The mining processes discharge acidic mine wastewater which can render water unsafe for consumption and harm aquatic life. Moreover, coal mining often necessitates large volumes of water for operations, putting additional stress on already scarce resources in arid regions.



Fossil fuels and access to energy (SDG 7)

Today, Africa is the energy-poorest region in the world. The fossil fuel (oil and gas) energy regime has failed to deliver on its promises of jobs, energy access and revenue. This has

left many Africans without access to reliable, affordable and modern energy.

The United Nations Economic Commission for Africa (UNECA 2021) and the International Energy Agency (IEA 2022) write that some 600 million people in Africa do not have access to electricity and 970 million lack access to renewable and clean cooking fuel and still rely on biomass for cooking (Gladkykh et al. 2021). Unless changes are initiated, by 2030 some 90 per cent of people without energy access will be Africans. In many cases, fossil-fuelled energy generation produces electricity that is either prohibitively expensive for many African communities or requires a vast and time-consuming built out of the grid infrastructure, hindering development and locking millions in energy poverty. UNECA conservatively estimates that USD 40 billion per year are necessary to meet the continent's energy needs. Expanding fossil fuel production in Africa will do little to bring affordable and accessible electricity to Africans.

In addition, studies have shown that fossil fuel produced energy is expensive compared to renewable energy. This is an important reversal from decades past when 'decentralized and renewables-based electricity generation mixes [were] associated with higher cost but also with greater social sustainability benefits.' The IPCC Sixth Assessment Report indicates that the unit cost of electricity from solar has declined by 85 per cent over the past decade, while the cost of wind energy has declined by 55 per cent over the same period (Pörtner et al. (eds.), 2022). These sources of renewable electricity have continued to become more affordable, while prices for fossil fuel generated electricity have increased, requiring substantial government subsidies to improve its affordability.

In 2020, according to IRENA, solar became the cheapest source of electricity in human history, with utility-scale solar projects costing an average of USD 40 per megawatt hour (IRENA, 2021). Importantly, this levelised cost of energy calculation ignores any of the so-called externalities or societal costs of

fossil fuels. Grid-connected renewable electricity costs roughly half the price of electricity generated from coal and gas projects. In fact, given the recent increase in some commodity prices, utility-scale solar is now even cheaper. Furthermore, as discussed in more detail below, where capital is scarce investment in fossil fuels displaces investment in

the renewable energy systems, though the latter offer opportunities for ending Africa’s energy poverty at an affordable and accessible rate.

The table below summarises key differences between fossil fuel energy and renewable energy systems in the African context.

Table 1: Comparison RE and fossil energy systems. Source: The authors.

Parameters for comparison	Fossil fuel energy	Renewable energy
Environmental and climate impact	<ul style="list-style-type: none"> - High greenhouse gas emissions and hinders climate change mitigation. - Air and water pollution. - Habitat destruction. - Depletion of finite resources. 	<ul style="list-style-type: none"> - Low to zero greenhouse gas emissions & supports climate objectives. - Minimal pollution. - Minimal habitat disruption. - Sustainable, inexhaustible sources. -
Energy security	<ul style="list-style-type: none"> - Vulnerable to supply disruptions. • Geopolitical conflicts over resources. • Price volatility. 	<ul style="list-style-type: none"> - Energy independence. • Stable and predictable energy costs. • Reduced geopolitical tensions.
Energy access	<ul style="list-style-type: none"> - Infrastructure development can be slow and costly, making it challenging to reach remote and off-grid areas. • Rural off-grid communities face delays or exclusion. • Centralised fossil fuel plants can result in long transmission and distribution distances, leading to energy losses. 	<ul style="list-style-type: none"> • Distributed renewable energy systems can be rapidly deployed in rural and off-grid areas. • Renewable energy solutions are modular and scalable, allowing communities to start small and expand as needed, making them ideal for remote regions. • Well-suited for Africa's abundant natural resources, enabling efficient local power generation.
Health and safety	<ul style="list-style-type: none"> • Health risks from air pollution. • Accidents in extraction and transportation. • Occupational hazards in mining. 	<ul style="list-style-type: none"> • Clean air and minimal health risks. • Safer working conditions. • Reduced risk of catastrophic accidents.
Resource availability	<ul style="list-style-type: none"> • Limited and finite resources. • Resource concentration in specific regions. 	<ul style="list-style-type: none"> • Abundant and widely distributed sources. • Diverse energy options.

	<ul style="list-style-type: none"> Extraction challenges in remote areas. 	<ul style="list-style-type: none"> Reduced environmental impact.
Affordability	<ul style="list-style-type: none"> Fluctuating fuel prices are a burden on consumers. High infrastructure costs. Reliance on foreign imports. 	<ul style="list-style-type: none"> Low operational and maintenance costs, reducing the financial burden on consumers. Stable and declining costs. Lower long-term infrastructure expenses.

While some vested interests now call for the simultaneous development of fossil fuels and renewable energies, this presents a complex challenge from the perspective of meeting the targets of SDG 7. Fossil fuels, being major greenhouse gas emitters, directly counteract the environmental benefits of renewables. Investments diverted to fossil infrastructure prolong carbon-intensive systems locking in emissions and potentially creating so-called stranded assets that hinder both the full just transition to green alternatives and the struggle to end energy poverty, especially for Africa. Furthermore, while renewables offer significant potential for job creation as well as a reduction of health risks, a dual focus muddles policy direction and dilutes commitment to global climate agreements. For genuine progress towards a sustainable future, a decisive emphasis on renewables over fossil fuels is crucial.



Fossil fuels and the climate crisis (SDG 13)

Human-induced climate change contributes significantly to extreme weather events in Africa. Africans suffer disproportionately from the climate impacts fuelled by coal, oil and gas. Droughts, floods and cyclones destroy livelihoods and lives on the continent. Any increase in fossil fuel expansion and consumption conflicts directly with achieving the SDGs and country promises to decrease emissions rapidly by 2030.

African communities already face impacts of climate change, even though they have only contributed a small amount to cumulative emissions. While there are important aspects of equity and justice that must be navigated, it is undeniable that further expansion of fossil fuel production will lock in higher annual emissions, accelerating global heating further. Drought, wildfires and extreme weather events will all increase in their severity and frequency if fossil fuel emissions continue, pushing other developmental goals further out of reach.

For example, drought in the Horn of Africa, which has been directly linked to human-induced climate change, is pushing over 50 million people in the region into acute food insecurity.⁶ This human catastrophe, which is still unfolding, is a future faced by many more Africans if the urgently needed equitable cuts in global emissions are not made.

Scientists have estimated that the African continent warmed by 0.5 °C on average between 1900 and 2000, although others have documented a global average temperature increase of 0.89 °C in the same period; the warming is primarily attributed to human activity (Perkins, 2015 and Pörtner et al., 2022). The upward trend in average annual temperature all over Africa is evident from data observations and the continent’s ten hottest years have all been in the last decade (Blunden and Arndt, 2020).

⁶ See <https://www.theguardian.com/environment/2023/apr/27/human-driven-climate-crisis-fuelling-horn-of-africa-drought->

[study#:~:text=The%20devastating%20drought%20in%20the,million%20in%20the%20wider%20area](https://www.theguardian.com/environment/2023/apr/27/human-driven-climate-crisis-fuelling-horn-of-africa-drought-)

In recent years, several regions have experienced destructive extreme weather events. Examples include events such as the severe floods in South Africa in 2019 and floods across East Africa in 2020, affecting six million people in Somalia, Ethiopia, Burundi, Djibouti, Kenya, Rwanda, Somalia, Tanzania and Uganda by destroying livelihoods and homes. Tropical cyclone Idai, one of the most severe ever recorded, made landfall in south-east Africa in March 2019 and was followed the next month by tropical cyclone Kenneth, displacing thousands of people, ruining homes, causing a serious outbreak of cholera and an estimated USD 2.2 billion of damage to infrastructure (Greenpeace, 2020).

Heat waves are also projected to occur more often, at higher intensities, and last for longer under enhanced greenhouse gas concentrations. African citizens are acutely vulnerable to climate change and its impacts, with fossil fuelled-droughts, floods and conflicts already driving displacements, both internally and across borders. Hosting displaced populations can put additional pressures on the already strained budgets of governments. It can also stretch other vital public services to the limit, such as the provision of food and water, energy as well as education and healthcare. Moreover, displacements can be a major driver of violence and armed conflict, which in turn leads to further displacements.



Peace, justice and strong institutions (SDG 16)

The SDGs underscore the importance of building effective, accountable and inclusive institutions at all levels as a foundation for achieving the desired outcomes. Transparency and accountability, respect for human rights as well as civil society participation in decision making all build trust in institutions and are considered the cornerstones of good governance. As the below case studies show, governments have a long way to go in attaining this SDG.

In this context, the importance of international cooperation, including obligations for the provision of an adequate level of new and

additional climate finance, must be stated. Multilateral negotiations on climate change under the aegis of the UN Framework Convention on Climate Change (UNFCCC) continue to be important. The annual COP meetings also provide a platform for civil society organisations to hold their governments accountable. In a contentious decision at the COP28 in Dubai in December 2023, governments for the first time recognised the need for a transition away from fossil fuels to reach net zero 'in a just, orderly and equitable manner', and to phase out inefficient fossil fuel subsidies. While this falls well short of a legal commitment to rapidly phase down, let alone end, fossil fuel production, it opens the door to vigorous further discussions at the national level and to finding a way to limit global warming to 1.5 °C until 2050 in line with the Paris Agreement.

Climate science and climate justice

Global temperatures have risen roughly 1.1°Celsius since pre-industrial times (Pörtner et al., 2022). This has resulted in significant damage and loss of life caused by floods, storms, droughts, wildfires and habitat change. Africa belongs to the regions of the world contributing least to greenhouse gas emissions that cause climate change, yet key development sectors have already experienced widespread loss and damage attributable to human-induced climate change, including biodiversity loss, water shortages, reduced food production, loss of lives and reduced economic growth (Trisos et al., 2022). If global warming is limited to 1.5°C to 2°C, which is the common goal set forth in the Paris Agreement (2015), these negative impacts are projected to become widespread and severe.

This profound climate inequity underscores the urgency of reevaluating Africa's reliance on fossil fuels. As the world shifts towards sustainable energy solutions, it becomes increasingly evident that Africa's energy choices must align with the principles of climate justice. The stark reality is that

continued investment in fossil fuels not only exacerbates the global climate crisis but also deepens inequalities within Africa itself. Those who bear the brunt of climate change's adverse effects are often the continent's most vulnerable communities, who have contributed least to the problem. Rising temperatures, erratic weather patterns and environmental degradation are threatening livelihoods, undermining food security and displacing communities, amplifying existing socio-economic disparities. Hence, transitioning away from fossil fuels in favour of renewable energy sources is not just an environmental imperative but a matter of ethical and social justice.

Under the 1992 United Nations Framework Convention on Climate Change (UNFCCC), developed countries 'should take the lead in combating climate change and the adverse effects thereof', as countries have committed to protect the climate 'on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities'. Sharply reducing emissions from the industrialised world and the richest 10 per cent of the world's population is a moral and equitable immediate need. For those wanting to stem the rise in global emissions further, focusing on Africa is becoming ever more urgent.

A small, first step to mitigate climate change has been taken. Greenhouse gas emissions in the richest (OECD) countries peaked 15 years ago. They peaked in Latin America 10 years ago. They peaked in Saudi Arabia and Thailand around five years ago. They are peaking today in China, Vietnam and Indonesia. But peaking emissions is not enough. Avoiding the above-mentioned risks implies staying within a very limited remaining carbon budget. There is no room for fossil fuel expansion, neither in Europe nor in Africa (IEA, 2023). What is needed now is to fairly share the global efforts of limiting global temperature rise. In such a scenario, there is no place for Africa to be "hooked" on gas. Europe has a shared responsibility to support Africa in leapfrogging in its development, not in getting stuck in a dead-end fossil addiction.

Africa, however, with a billion people (and counting) is on the cusp of a sweeping development. Energy demand is growing and access, especially by the poor, is limited. Whether Africa chooses to develop using fossil fuels or renewables will likely determine whether the climate crisis continues apace or whether we can change track and decouple economic prosperity and burning fossil fuels.

As detailed in the Rio "Earth Summit" Declaration (1992), the developed countries' additional obligations follow 'in view of the pressures their societies place on the global environment and of the technologies and financial resources they command', that is, as a consequence of the greater responsibility for environmental pressures (i.e. historical emissions) and greater capacity to manage them (i.e. greater wealth measured as higher GDP per capita).

Investment and financing

Investments in the expansion of fossil fuels in Africa is likely to delay the much-needed expansion of renewable energy, causing Africa to reproduce unsustainable economic systems of the Global North. The cost to provide Africa access to renewable, affordable and reliable energy by 2030 has been estimated at USD 52 billion a year (Gregory and Sovacool, 2019). As stated above, UNECA conservatively estimated USD 40 billion per year is needed to meet the continent's energy needs. However, international public finance for renewable energy in Africa is seriously lacking. In the *four* years following adoption of the Paris Agreement, international public finance for renewable energy development to Africa provided by the G20 countries and major multilateral development banks combined amounted to just USD 13 billion. Moreover, this was 3.7 times less than financial support given to fossil fuel development. In addition, African countries receive much less finance for the development of renewable energy when compared to countries in the Global North (BankTrack, 2022).

Provision of renewable, affordable, zero-carbon energy is relevant to the attainment of all the SDGs. Instead of pouring more and more money into the fossil fuel industry, and extracting those resources from Africa, genuine partnerships with Africa can realise the vast renewable energy potential and in doing so realise a just transition to a climate-resilient world. Put differently, a rapid roll-out of people-centred, environmentally and socially appropriate renewable energy should be at the core of Africa's just energy transition. It is the answer to both the climate crisis and lacking energy access, as well as an enabler to attaining Africa's development aspirations.

Understanding the fossil fuel narrative in Africa

The continent is endowed with vast natural reserves, including coal, oil and gas. The competing and evolving development narratives about these resources are shaped by a confluence of economic, political and geopolitical factors.

Economic promise vs. reality

In the industry narrative fossil fuels are often portrayed as Africa's ticket to prosperity, with promises of job creation, infrastructure development and overall economic growth.

The economic dynamics surrounding Africa's fossil fuels are not just about revenue from exports. The continent grapples with the paradox of having abundant fossil resources yet many countries being "energy poor" and net energy importers, due to historical, logistical, infrastructural and political reasons (IEA 2022).

Price volatilities in global fossil fuel markets can significantly destabilise African economies, especially those heavily dependent on exports. Short-term price volatilities

deteriorate macroeconomic conditions and terms of trade. Government budgetary deficits hit hardest in the health and education sector, food and energy inflation hit the poorest hardest, and the impact of low foreign currency reserves affect both the ability of countries to service debt and to invest, for example in climate resilience.⁷

Additionally, a stark contrast in the distribution of these benefits from fossil fuels across the continent prevails. Wealth often remains concentrated, with only a few reaping the rewards, leaving the vast majority of the population in poverty, including energy poverty.

The geo-political play

Many foreign governments and companies, especially those in the fossil fuel and other natural resources sector, portray Africa's potential in glowing terms and praise the exploitation of fossil fuel resources as an opportunity for mutual growth and partnership.

In reality, these partnerships are more often than not primarily aligned with the geo-political and commercial interests of these external actors, fostering or deepening dependencies, and sometimes leading to exploitative practices, as described by senior African experts in the [Just Transition report](#) and above in the chapter on the aftermath of the pandemic and recent economic and geo-political volatilities. One cannot escape the impression that a scramble for Africa continues to play out, at the expense of ordinary people and the global climate system.

Denial, disinformation, downplay and delay to blockade climate action

The fossil fuel sector, both globally and within Africa, has invested in messaging that downplays the urgency of climate change, emphasising the "necessity" of fossil fuels for Africa's development. This playbook of denial, distraction and disinformation, and persistent efforts to delay, in particular

⁷ See the op-ed by Kenyan President Ruto, Chair of the AU Commission Faki, AfDB President Adesina and Global Center on Adaptation CEO Verkooijen

in the NY Times (8 October 2023). Available at <https://www.nytimes.com/2023/10/08/opinion/climate-change-africa-debt.html?smid=ny-core-ios-share&referringSource=articleShare>

government-mandated, action has been well-documented around the world.⁸

While no longer denying climate change is real, industry continues to sow doubt. More recently, it seeks to establish gas as a “greener” or “lower-emission” energy source as the predominant narrative. This is counterfactual: when all greenhouse gases including methane (and not only carbon dioxide) are taken into account, gas is in fact the most climate-polluting fossil fuel. Gas is comprised mainly of methane. Methane is approximately 80 times more climate-damaging than carbon dioxide over the 20-year period over which the world must curb warming to achieve the global climate goals agreed in Paris. Multiple studies indicate that, based on the ‘best available data, and a 20-year time period for comparing the warming potential of methane to carbon dioxide, the conclusion stands that both shale gas and conventional natural gas have a larger GHGs than do coal or oil, for any possible use of gas’ (Howarth 2014).

So, in addition to threatening Africa and the world with catastrophic climate impacts from continued reliance on fossil fuels, development of fossil fuels in Africa is inconsistent with Africa’s wider development priorities as set out in Agenda 2063, the Sustainable Development Goals and the Paris Agreement, among others. Any delay in action is detrimental to these goals.

Political power dynamics

Control over revenues from fossil fuel resources development often translates to political power. In Africa, this centralisation has sometimes resulted in an entrenchment of power, even dictatorship, with ruling elites harnessing the sector's wealth, sometimes at the detriment of broader socio-economic development. Maybe not surprisingly, disputes over resource control, rights of local communities and environmental concerns have been

sources of tension, sometimes leading to conflicts or civil unrest.

Patterns of the fossil system

Narratives about fossil fuel development in Africa are intricately woven with both economic and political threads. While the promise of prosperity from fossil fuels remains tempting for many, the complexities and contradictions of the fossil fuel industry on the continent are evident, highlighting the need for a more holistic, equitable, Africa-led and sustainable vision to Africa's climate, energy and developmental future.

Centralisation: While there's a push globally towards community-owned decentralised energy systems, especially those using renewables, the fossil fuel sector in Africa is largely centralised. This centralisation plays into the hands of a few powerful entities or individuals at the expense of the majority poor.

Infrastructure development: Investment in infrastructure related to fossil fuels, such as pipelines, refineries and transportation, is often prioritised over other crucial infrastructure, such as roads, schools and hospitals, while this infrastructure risks becoming stranded assets.

External dependencies: Despite its vast endowment of natural resources, the continent's dependence on external expertise, technology and investment for fossil fuel extraction and processing remains significant. This creates a dynamic where decisions cater more to external interests than local needs.

Extractivism: The fossil fuel industry in Africa is built on draining resources from the continent, while effectively blocking Africa developing Indigenous capacity to create, produce and develop. The industry has been bleeding Africa dry.

⁸ For example, Jacquet (2022). *The Playbook*; Lamb et al. (2020) *Discourses of climate delay*; and the

seminal Oreskes and Conway (2010). *Merchants of Doubt*.

Externalisation: While enjoying the commercial benefits, the fossil fuel industry in Africa has most of the time successfully transferred the wider costs to “host” communities on the continent. For instance, communities carry the burden of the pollution of key ecosystems such as water and of the destruction of fragile ecosystems that constitute the life support systems of communities. Put simply, the fossil fuel industry in Africa has perfected externalising cost and privatising profit.

Growth paradigm: The fossil fuel industry in Africa is seeking to create or perpetuate conditions for unchecked consumption in a world of limited resources. One example is the promotion of a model of motorisation of individualised transport. In doing so, the industry is hooking Africa on a perpetual need for its fossil fuels.

sector. Power generation in Kenya has grown rapidly in the last 10 years. In addition, Kenya has remarkable renewable resources as evidenced by its track record as one of the lowest cost developers of geothermal power in the world.

Kenya has emerged as one of the leaders in the deployment of solar off-grid solutions and has aggressively tried to increase access to the power grid, having more than doubled electricity access from 8 per cent in 2000 to 32 per cent in 2013, and to 75 per cent of households in 2022. The [access rate](#) for urban areas stands at 100 per cent, while rural Kenya stands at 65 per cent.

A parallel increase in energy production was driven by the share of geothermal energy rising from 20 per cent in 2010/11 to 47 per cent in 2019/20, with the share of wind rising from 0.2 per cent in 2010/11 to 11.4 per cent in 2019/20. These increases have resulted in a decreased contribution of thermal (heavy fuel oil (HFO)) electricity plants from 31.4 per cent in 2010/11 to 7.8 per cent in 2019/20.

There have been emerging business models such as M-KOPA which has raised over USD 161 million to provide cheap small-scale off-grid solutions through a pay-as-you-go (PAYG) business model in order to broaden the consumer base and reach the people at the bottom of the pyramid. M-KOPA offers solar home systems for an initial deposit, followed by 365 micro-payments, after which the customer obtains ownership over the system (Safaricom, 2020).

However, even as Kenya increases energy access for its population through investments in a mix of renewable energy technologies, the question is how beneficial and different this increase in the access is for the local communities and economies. For instance, human rights reports have been critical of Kenya’s largest wind project, the Lake Turkana Wind Project. Studies such as those conducted by the [Business and Human Rights Resource Centre](#) have documented evidence of loss of livelihoods, violations of land and water rights, and failures to respect the rights of Indigenous communities. Additionally, the initial capital requirement for

Case studies



Kenya: Renewable energy pioneer

Located in East Africa, with a population of [55 million](#), Kenya emerges not just as a hub for tech innovations and wildlife sanctuaries but also as a trailblazer in the renewable energy

renewable projects is high, and there is a need for more trained professionals in the renewable sector.

However, with its commitment to the Paris Agreement and a national goal to achieve [100 per cent green energy by 2030](#), Kenya remains a renewable energy pioneer on the continent. International cooperation, finance and investments are key to paving the way for a brighter, greener future.



Uganda: Displacement and loss of livelihoods from East Africa Crude Oil Pipeline

Uganda, located in the East African region, is a nation of [over 48 million](#), blessed with fertile lands, abundant water bodies and diverse ecosystems, with about [70 per cent of its population](#) depending on farming for their livelihood. Although Uganda's electricity grid is dominated by renewable energy supply, mainly from bioenergy, the energy access level is low when compared to its neighbour Kenya. It is estimated that more than [18 million Ugandans \(58 per cent of the total population\)](#) continue to live without access to electricity.

Amid the climate crisis Africa is facing, the Ugandan and Tanzanian governments have come together to build the East Africa heated crude oil pipeline (EACOP), which runs from Uganda to Tanzania and is 1,445 km long. This project was initiated despite reports indicating that expanding fossil fuel infrastructure in Uganda will not help address Uganda's energy access challenges. Instead, the project is accused of human rights violations, for instance increasing forced displacement. Specifically, a report by BankTrack found that the East African Crude Oil Pipeline (EACOP) will force about 14,000 households across the two countries to move. The resettlement of these families will likely mean a loss of livelihoods and the destruction of social cohesion within communities (BankTrack, 2020b and Inclusive Development International, 2022).

Investments in Uganda's fossil fuels and its infrastructure are a dead end. Developing such a huge oil pipeline to extract oil that is

driving climate change, the project comes with a slew of other negative socio-economic and environmental impacts, such as massive land-grabbing, threats to land and marine ecosystems and biodiversity loss, combined with air and water pollution leading to serious health impacts for Tanzanians and Ugandans.

EACOP poses serious risks of degrading the rich ecosystems in the Albertine Graben region, which is home to half of all African bird species and the ninth most biodiverse region in the world. Oil extraction will cause the destruction of cultural sites and value, and lead to habitat disturbance in nearly 2000 kilometres of protected wildlife habitat (Republic of Uganda, 2002). The emissions from EACOP over its 25-year lifetime have been calculated to an average of 15 MtCO₂/yr (Heede, 2022).

While the EACOP is portrayed as a beacon of economic hope and a solution to Uganda's energy access challenges, the realities on the ground paint a different picture. Displacement without adequate compensation, loss of livelihoods and environmental degradation suggest that the true cost of the pipeline might be higher than anticipated.



Senegal and Mauritania: Coastal communities at risk from Greater Tortue Ahmeyim gas development

Located on the West African coast, Senegal and Mauritania share a rich tapestry of history, culture and natural resources. Their coastal regions on the edge of the Atlantic Ocean have long served as focal points for commerce, fishing and more recently tourism.

Senegal, with a population of [18 million](#), has one of the highest electrification rates in Africa at [78.6 per cent](#). There are, however, huge disparities in energy access among the Senegalese population across urban and rural areas, geographies and income groups. For instance, 88 per cent of the urban population has

access, while in rural areas the access levels are as low as 38 per cent.⁹

Senegal is currently in the process of developing the Grand Tortue Ahmeyim (GTA) gas field. This field covers both Mauritania's and Senegal's offshore waters and will be the deepest offshore project ever developed in Africa. The project is not without its challenges, with completion of the first phase already postponed from 2022 to 2024. The second phase of the GTA gas project will need further investments of around USD 5 billion. Construction could start in 2024 or 2025 (Reuters, 2022). BP expects the field to produce 2.5 million tonnes of LNG/year and to hold 15 trillion cubic feet of gas reserves. Yet, it is not expected to benefit the rural population, who need access to affordable energy.

This gas project raises both environmental and human rights concerns. The project will affect protected areas, national parks and world heritage sites. The coastline between Mauritania and Senegal is rich in wildlife. In Senegal specifically, the development of the gas field will affect the marine protected area (MPA) of Saint-Louis, an important site for local fishing and a feeding ground for whales and dolphins (Ramos et al., 2017). The development of the GTA gas field could damage the habitats of a large and diverse number of species that are crucial to secure local livelihoods and the communities' survival. Developing the GTA gas field further poses social challenges, in particular for the coastal fishing communities who will be most severely impacted by the project (Greenpeace, 2021). In addition, the development of the GTA gas field does not guarantee the improvement of energy access for the communities on the frontline of the project since most of the gas will be exported.



Democratic Republic of the Congo: Biodiversity under threat from oil and critical minerals mining

Located in central Africa with a population of [over 86 million](#), the Democratic Republic of the Congo (DRC) is the second largest country on the continent. It is home to majestic tropical forests, covering half of its total area. The forests of the Congo are considered the second “green lung” of our planet after the Amazon rainforest. Alas, according to [Global Forest Watch](#), the DRC lost 1.22 million hectares of natural forest in 2022 alone, equivalent to 821 Mt of CO₂ emissions.

Resulting from its colonial legacy, the DRC's economy is built around commodity exports in which extractive industries play a key role. The DRC is one of the world's largest exporters of cobalt, copper and diamonds, along with other “critical” minerals. The country also hosts significant reserves of fossil fuels.

In 2021, the government put licensing rights for up to 30 oil and gas blocks up for auction. Civil society groups quickly raised the alarm: three of the blocks overlap with the Cuvette Centrale peatlands, a biodiversity hotspot containing about 30 gigatons of carbon, equivalent to three years of global emissions (Greenpeace, 2022 and Natural Justice, 2021). It is estimated that drilling in the blocks could release up to 5.8 billion of tonnes of carbon, more than 14 per cent of the world's total greenhouse gas emissions in 2021. Valuable protected areas and Indigenous Peoples' rights are at risk. Despite the DRC having some of the lowest energy access rates in the world, developing the oil and gas blocks does not promise to fill this gap. Instead, it threatens the rights of communities that depend on the forests for their livelihoods. The government has maintained that development of the oil and gas blocks will not affect biodiversity and livelihood of communities. However, a map published by DRC's

⁹ See <https://www.se4all-africa.org/seforall-in-africa/country->

[data/senegal/#:~:text=Senegal%20electricity%20access%20reached%2088,high-est%20in%20the%20sub%20region">data/senegal/#:~:text=Senegal%20electricity%20access%20reached%2088,high-est%20in%20the%20sub%20region](#) . Accessed 23 April 2024.

Ministry of Hydrocarbons indicates that 6 out of 16 blocks overlap with Protected Areas. This includes two oil blocks overlapping with the world-famous Virunga National Park, a sanctuary for endangered mountain gorillas, situated on the border with Rwanda and Uganda. These fossil fuel projects are not only harmful to the environment but are also responsible for violations of human rights, poor governance and a lack of enforcement of environmental laws and contracts, and the displacement of local communities and Indigenous Peoples.

In addition to concerns about oil and gas development, one other mega-project deserves particular attention. The proposed 44,000 MW Inga 3 hydropower project is intended to quell Europe's thirst for "green hydrogen". This does not bode well for local communities, some of whom have already been resettled once to make way for Inga 1 and 2. Despite the World Bank withdrawing support (due to grave governance concerns) for what is envisioned to become the world's largest set of dams, the German government and investors appear willing to take big bets on this project (Bauchmueller et al., 2020). Tens of thousands of villagers could lose their homes if the dam is built, with the government providing little compensation or assistance to its citizens to relocate. Human rights activists are calling for an impact assessment that takes into account the interests of civil society, taking their case to Brussels. Environmental organisation International Rivers questions whether the DRC has the financial capacities to finance the dam at all, implying that the country would have to go deeper into debt to raise the necessary funds. Potentially creating a further cycle of dependency and fossil fuelled development.



Mozambique: Little compensation for gas development

Located in Southeast Africa, Mozambique, with a population of over [34 million](#), is known

for its scenic beaches and rich cultural tapestry. [Energy access remains low](#) in Mozambique with significant disparities between urban and rural areas. While approximately 72 per cent of urban residents have access to electricity, a mere 8 per cent of people in rural areas have energy access. Moreover, only 4 per cent of the population have access to renewable and clean cooking solutions.

In Cabo Delgado, in the least-developed north of Mozambique, 100 trillion cubic feet of gas were discovered in 2010, inducing the world's largest international oil companies, including BP, Total, Shell, Eni and Exxon, to rush in (BBC 2023). For the government, the discovery became an unexpected source of wealth and corruption. Yet, the region still lacks adequate resources for schools and healthcare facilities.

Instead, exploitation of this gas reserve presents grave human rights threats. Studies have indicated that hundreds of rural families are at risk of being forcefully removed from their homes, away from the farmlands and fisheries that have sustained them for generations. As part of the project relocation plan, families have already been awarded compensatory plots of land based on the number of palm trees that were on their original plots (BankTrack, 2020a). This absurd mechanism has led to families who owned 10 hectares of land before the project began being compensated with just one hectare, often at a great distance from where they live.

Furthermore, with the start of gas exploration in 2017 came an upsurge in violence. Al-Shaabab fighters,¹⁰ deeply rooted in the impoverished and disillusioned communities, took on both the Mozambique government and security firms protecting the fossil fuel project assets. Since then, as many as 5,000 people have been killed according to UNHCR, and after five years of violence estimates of the number of people displaced range from 785,000 (BankTrack, 2020a) to approximately one million (UNHCR quoted in Liberti, 2023). Apart from one offshore development

¹⁰ A local faction known as Ansar al-Sunna Wa Jamma.

by Eni, all exploitation was suspended due to the insecurity.

Since 2021, SADC forces and a 1,000 head strong Rwandan army unit joined the Mozambique army, supported by 140 European military trainers, in “stabilising” the situation. Europe co-finances the Rwandan military deployment, according to the EU EEAS also to protect its economic interests.¹¹ In the meantime, rumours about a resumption of project activities by Total in late 2023 circulated. Today, Mozambique is more indebted than ever,¹² the local currency has been devalued, but little revenue has been generated or local jobs created.

According to BankTrack (2020a), gas extraction projects in Cabo Delgado could result in an enormous release of greenhouse gas emissions, which could increase Mozambique's emissions by 14 per cent. According to Friends of the Earth (2021), ‘the end use/burning of the gas [(scope 3) for the Mozambique LNG project], estimated to be around 116MtCO₂e per year[, is] *equivalent to the total emissions from the aviation sector for all EU member states combined.*’

Ironically, Mozambique is extremely vulnerable to climate change and is already struggling with the severe impacts of drought, flooding and weather extremes. More than half of the population does not have access to electricity. Worldometer records that despite Mozambique producing 201,295.50 million cubic feet of gas annually, only 64,697 million cubic feet annually are utilised locally. This means Mozambique exports 67 per cent of its gas leaving

60 per cent of its population without access to electricity.¹³



Nigeria: Fuelling discontent: the negative impacts of fossil fuel exploitation on the local economy, environment and society

Nigeria, situated in West Africa, one the most populous country in Africa with [216 million inhabitants](#), has long been a central player in the global oil market. In the oil-rich Niger Delta region of southern Nigeria, communities are worried about the health and environmental impacts of the crude oil spills that have regularly occurred since oil was first discovered in the 1950s. Today, the Niger Delta is one of the most polluted places on Earth.¹⁴ Decades of spillages from over 50 years of oil operations continue to erode local communities' health, well-being and livelihoods.

Ogoniland, in Rivers State, has a complex history of oil exploration fraught entailing environmental, social and political problems. After years of litigation, cleanup and restoration of the region is currently underway, financed by a fund endowed with USD 1 billion.¹⁵ While the region does not currently produce oil, incessant spills from the pipelines running through it and looming plans by the Nigerian Petroleum Development Company to resume operations threaten any hope of long-term restoration.

The Niger Delta in Nigeria has long had the attention of environmentalists and human rights activists around the world. Fossil fuels investments in the Niger Delta seriously

¹¹ Liberti (2023). Footnote 4: Dank dem Freedom of Information Act (Informationsfreiheitsgesetz).

¹² The 2016 so-called tuna bonds scandal exposed both European banks (incl. Credit Suisse and Russia's VTB) and Mozambique government officials, including its finance minister. Most of the USD 2 billion in funds remain to be recovered and now burden the state.

¹³ See <https://www.esi-africa.com/southern-africa/mozambique-harbouring-a-gas-exploration-export->

[market/#:~:text=According%20to%20Worldometer%2C%20Mozambique%20accounts,of%20its%20natural%20gas%20production.](#)

¹⁴ See <https://www.amnesty.org/en/latest/news/2018/03/niger-delta-oil-spills-decoders/>. Accessed 23 April 2024.

¹⁵ See <https://www.unep.org/news-and-stories/story/nigeria-launches-1-billion-ogoniland-clean-and-restoration-programme>. Accessed 23 April 2024.

threaten the livelihood and lives of neighbouring local communities. Due to the many forms of oil-generated environmental pollution evident throughout the region, farming and fishing have become impossible or extremely difficult in oil-affected areas, and even drinking water has become scarce. Malnourishment and disease are widespread.

The presence of multinational oil companies has had additional adverse effects on the local economy and society, including loss of property, price inflation, prostitution and irresponsible fathering by expatriate oil workers. Organised protest and activism by affected communities regularly meet with military repression, sometimes ending in the loss of lives (Essential Action 1999).

However, the problem is not caused by the oil companies alone. The federal government receives tax and royalties on the oil the companies produce. The government is also a majority shareholder in Nigeria's oil industry and, as analysts at Standard Bank have found, it has earned over USD 1.6 trillion in revenue over the last 50 years. In accordance with the country's constitution, a share of this revenue is shared with all states of the federation, leading some to refer to Nigeria as a rentier state.

Armed groups are involved in large-scale oil theft, stealing tens to hundreds of thousands of barrels a day for powerful syndicates. They also engage in kidnapping and extortion. Although groups like the Movement for the Emancipation of the Niger Delta (Mend) have a political agenda, most armed groups are criminal gangs, who want their own share of the money currently being divided among the powerful. In response, the IOCs have been withdrawing offshore, disposing of onshore assets by selling them to local oil companies. Maybe ironically, local community groups complain these firms are even more difficult to hold to account.

In the meantime, the government intends to scale up the exploitation of natural gas to meet domestic and international demand.

Voices

Patience Nabukalu



Fridays for Future – Uganda

A climate justice activist, fighting against wetland degradation and plastics pollution. Globally recognised organiser of Fridays for Future Uganda.

'Uganda is a part of the future. Today, Uganda is among the countries most vulnerable to the climate crisis worldwide. Uganda is ranked the 12th vulnerable country in the world and the country is still among those least prepared to deal with the impacts of climate change. Yet, investments in the East Africa Crude Oil Pipeline (EACOP) will further accelerate and worsen the impacts of the climate breakdown.

'In addition, over 100,000 people have been displaced from their lands to pave the way for EACOP. The StopEACOP campaign which I am part of is aimed at voicing concerns about the dangers of investing in EACOP at a time when Uganda should be helping people build resilience and adapt to the already severe impacts of climate change. StopEACOP is a campaign that seeks to elevate the voices of communities affected by both the EACOP project and climate change impacts.

'We have experienced punitive actions against activists. The state has been intimidating activists with arbitrary arrests, threats and physical attacks. However, despite the intimidations, we are fighting for our future, we are fighting for our well-being.

'The EACOP project will impact Lake Victoria. Many communities depend on the Lake. It is estimated that the Lake provides a source of livelihood to 40 million people. Clearly, the EACOP project is not good for Uganda's economy, ecology and well-being. Today, most people do not have access to electricity in Uganda. Instead of investing its limited resources in EACOP, Uganda should instead

invest in its abundant renewable energy resources and create energy access for its people.'

Neville van Rooy



Block Gas Alliance – South Africa

A community activist who leads the @DontGasAfrica campaign, a campaign led by African civil society to ensure Africa is not locked into fossil gas production.

'As a result of the quest to expand fossil fuels, many communities in South Africa have been subjected to persecution. People have been arrested, threatened and some have even lost their lives. Others have been prohibited from going to places. They are restricted from going into areas which they previously held and used since pre-colonial times. Now there are restrictions in those areas because of these fossil fuels, which infringes on key human rights such as the access to food. For instance, communities are not allowed to fish in areas they have inhabited and where they lived in harmony with the ecosystem for years. In addition, most companies promoting fossil fuel development are not locally owned and locals do not even understand the projects and what is in it for them.

'Fossil fuel development also contributes to pollution which affects livelihood activities of communities. One example is the pollution of rivers and waters affecting fishing communities. We have seen instances of confrontations between community groups and the companies running the projects that are destroying their livelihoods and lives.

'African communities have for a long time existed in harmony with their environments. However, this has been shifting with increased investments and expansion of fossil fuels. Africa has abundant resources that offer alternative development pathways. Continued investments in fossil fuels will only continue to undermine Africa's prosperity and the well-being of communities.'

Olivier Ndoole Bahemuke



Alerte Congolaise pour l'Environnement et les Droits de l'Homme – Democratic Republic of the Congo

An environmental and human rights activist and lawyer, living and working in the city of Goma. Executive head of Alerte Congolaise pour l'Environnement et les Droits de l'Homme (ACEDH), advocating for transparent, accountable, fair and sustainable governance of land tenure regimes for DRC's lands, national parks, forests and lakes and for nature conservation in general.

'DRC needs to invest in renewable energy systems for economic prosperity. Access to renewable energy in the DRC by communities will help communities to conduct their economic activities. The DRC does not need investments in fossil fuels. These investments will undermine the country's rich natural resources such as rivers and forests. Investments in small hydro power projects are needed for electrification, especially of communities in vibrant towns such as Goma.

'Mining in the DRC needs to adhere to local needs and people's demands. Mining of strategic minerals that are needed for energy transition from fossil fuels to renewables needs to benefit local communities in the DRC and also needs to follow clear safeguards for social and ecological well-being. The mining needs to adhere to the demands of democracy and participation of locals, including ownership and benefit sharing mechanism to help communities build prosperity.'

Amos Wemanya



Power Shift Africa – Kenya

Power Shift Africa's Senior Advisor for Renewable Energy and Just Transition. Amos has been engaged in community climate

resilience programming, environmental activism and energy consultancy.

‘Kenya’s renewable energy revolution has been aided by a number of factors, including a vibrant civil society that stopped plans to invest in coal, progressive policies such as the current energy policy that provides continuous review to reflect the shifting energy needs of the people, and the availability of rich renewable energy resources for geothermal, wind, solar and hydro energy generation. One of the things that are very important for Africa and which other countries could learn from Kenya is that Africa already has abundant renewable energy resources from north to south, from west to east. Africa has solar, wind and geothermal potential as well as rivers that enable small hydro energy projects. What Africa lacks at the moment is committed, focused and intentional political leadership.

‘Picking from the Kenyan example, strong civil society leadership, political institutions and frameworks are needed to establish Africa as a global renewable energy leader. In addition, Africa will need to invest in research and establish data that will underpin Africa’s leapfrogging to a future of 100 per cent renewable energy. Evidence is needed to shift the currently dominant narrative that promotes fossil fuel expansion on the continent.

‘Currently, an enormous amount of the resources available is directed to fossil fuel development in Africa. Compared to the rest of the world, the resources flowing into renewable energy development in Africa are incredibly small. Shifting investments at scale is urgently needed to meet Africa’s energy needs and development needs and to avoid being locked in an energy system of the past that will soon be obsolete.’

Smith Nwokocho



Nigeria

SDG advocate and community developer, UN Volunteer.

‘In Nigeria, the promise of jobs, revenue and electrification has resulted in pollution, displacement, darkness and human rights violations. Investing in fossils has not benefitted our people. Instead, it has led to destruction. In addition, the proprietors of these companies do not take on responsibility. Community leaders such as village elders have been co-opted. We are experiencing conflicts between the communities and their leadership.

‘Youths are demanding for jobs. Yet, about 50 years of oil extraction in Nigeria have not worsened the economic situation. The front-line communities in areas such as the Niger Delta in particular are confronted with numerous challenges. Communities living in these areas are affected by oil spills that have destroyed ecosystems and led to various diseases. Oil spills kill everything.

‘Nigerians want development. Communities want access to electricity. Years of oil extraction has not provided energy access; it has not provided development for the people. Instead, it has enriched a few foreign owned companies and local elites. Nigeria does not need expansion of fossil fuels. Nigeria needs justice, cancellation of its debt and investments in new energy systems that provide for the needs of Nigerians and not of the market.

‘Communities who have been impacted by the fossil fuel industry need compensation. The pollution and the ensuing impacts on communities and the environment must be cured. New energy systems need to benefit the communities and to be run by the communities themselves and not by a few elites who benefit from the oil regime at the expense of the rest of the people.’

A new scramble for Africa? The changing role of Germany and the EU in Africa

Caught in an energy crisis and hungry for alternatives to Russian gas, Europe is looking to fossil fuel resources across Africa. The war in Ukraine has accelerated investment in African gas across the upstream and mid-stream value chains, with countries such as

Mozambique, Nigeria and Tanzania on the brink of making major new investments in gas export infrastructure.

The EU's scramble for new suppliers of liquefied natural gas (LNG) to replace Russia's piped gas is driven by a short-term, temporary interest in fossil gas.¹⁶ These gas pipelines and LNG export infrastructure compete with domestic demand for gas, and investments in fossil energy projects divert money needed for renewable energy investment. Importantly, it also represents a failure to invest in Africa's domestic generation capacities and renewable energy future without which Africa cannot realise universal access to renewable, affordable and reliable energy.

To some African governments, the turnaround is welcome, representing a course correction, away from climate restrictions on investment that threatened to upend their ambition to utilise oil and gas for "economic development" and purportedly boosting "energy access for the poor". However, communities, civil society and active citizens in Africa are not buying this argument and are pushing back. They hold that it makes no sense to pursue new oil and gas extraction which will make the climate crisis worse and achieving climate goals impossible. The future is renewable, and African countries have the opportunity to lead the world into a new future powered by renewable energy, leaving dirty fossil fuels in the past and in the ground.¹⁷

The green transition will not be without its own challenges. For starters, investments in renewable energy projects currently struggle with the higher interest rates charged by private investors, compared to those charged by other energy developers. Beyond off-grid and mini-grid projects, large-scale renewable energy projects find African power grids

generally unstable, lacking reliable industrial customers.

Conclusion – A new development narrative, free of fossil fuels

As more than half of the African oil and gas producing countries rely on oil and gas for more than 50 per cent of their total export revenues, many African governments still consider extraction a viable economic activity that can boost economic development, lift populations out of poverty, meet the continent's energy needs and strengthen social infrastructure. This thinking is not far-fetched when looking at historical developments, where leading economies such as the USA, Russia, China and Norway became powerhouses as a result of exploiting their oil and gas resources.

With over 125 billion barrels of crude oil reserves and 620 trillion cubic feet of natural gas, Africa represents a highly attractive hydrocarbon investment destination. Many countries are seeking investors.

As detailed above, a narrative has emerged, spun by the energy industry and some African political elites, that Europe is bullying the Global South about what to do with their assets. They use the lingo of "just transition" as an argument for gas development and "decarbonisation". However, economists and African community activists alike question whether the investments make much economic and developmental sense. According to the IEA and other experts, European nations are seeking extra supplies in the short term to replace Russian imports, but this demand may not last as they too scale up

¹⁶ According to the [Fossil Finance Violations Tracker](#), Germany has the most fossil fuel projects awaiting approval of public finance support with at least 9 under consideration. It has approved \$472 million in finance for 3 projects so far in 2023 and has a pre-request for liquefied natural gas (LNG) deliveries from the USA worth

\$3 billion. Germany recently published a new draft policy for consultation to restrict fossil financing that is vaguely worded and falls short of its Glasgow promise.

¹⁷ Despite having only one-tenth the population of Africa, Japan in 2019 consumed more power than all African countries combined.

renewables. ‘In some places it may not be wise to build new gas infrastructure that gets stranded and locks [countries] into a cycle of debt, especially when renewables may be a cheaper and safer option,’ says Kaya Axelson from Oxford University’s Smith School. The Don’t Gas Africa coalition is urging African leaders to support wind and solar energy instead, calling the African dash for gas ‘pure folly [that] will only bring more climate harm to the people of Africa.’¹⁸

It is important to understand that the vast majority of gas projects under development in Africa [are destined for export](#) and not intended to alleviate energy poverty. Oil Change International (2021) found that [only a third](#) of projected new production volumes on the continent were owned by Africans. Meanwhile, Africa is bursting with opportunities around its vast endowment of renewable and regenerative resources and can take advantage of a new era of energy geopolitics. The continent’s renewable energy potential is 50 times greater than the anticipated global electricity demand for the year 2040 (Government of Kenya, 2023). The continent also has over 40 per cent of the global reserves of key minerals for the energy transition. And times have changed. The IPCC’s evidence is clear on the urgency to limit global warming to 1.5 degrees Celsius. Further development of oil and gas fields and coal mines is incompatible with this climate goal.

European countries are banking on technology development and renewable manufacturing at home while continuing to push other countries for their short-term fossil energy needs, as they accelerate the transition to a renewable-based economy. A managed phase-out of global fossil fuel production is urgently needed to avoid the worst impacts of climate change. Instead of locking itself in, the African continent can ready itself to take advantage of the next frontiers of green industrialisation.

Phasing out fossil fuels does not mean halting the use and production in Africa

overnight. Approving new fossil fuel extraction projects in Africa will, however, only lock in high emissions, which will intensify climate impacts and harm local communities and the environment, burden African economies with stranded assets, and risk locking African countries into fossil fuel dependency and preventing Africa from making a timely leap to renewable energy. Decisions made today will shape the continent’s energy sector for decades. Endowed with substantial renewable energy resources, Africa has the capacity to address its pressing energy needs by ending energy poverty, enabling energy sovereignty and addressing existing inequalities (Mulugeta et al., 2022).

The direct economic prospects of a transformed African energy economy will likely be significant. For instance, major reductions in the cost of renewable energy have already made many renewables cost-competitive with fossil fuels worldwide. Africa has immense potential for renewables, the plummeting costs make it highly viable and the transition avoids the substantial economic risks of stranded assets for communities and potentially whole economies (Carbon Tracker, 2021). By shifting to renewables, Africa’s scarce public- and private-sector resources can be better invested into sectors that are low-carbon, healthy and productive and thus contribute to Africa’s longer-term development.

In its 2020 World Energy Transitions Outlook, IRENA concludes that ‘[i]nvestment in the 1.5°C Scenario will yield a cumulative payback of at least USD 61 trillion by 2050. The overall balance from the energy transition is positive, with benefits greatly exceeding costs.’ (IRENA, 2021)

In addition, there are the knock-on effects for the households and industries that can receive cheaper and more reliable energy which in turn enables new employment and economic opportunities in the broader economy. A focus on “productive sectors” such as small- and medium-scale enterprises has

¹⁸ See [https://www.climatechange-news.com/2022/11/09/un-gives-platform-to-](https://www.climatechange-news.com/2022/11/09/un-gives-platform-to-convicted-fraudster-lobbying-for-african-gas/)

[convicted-fraudster-lobbying-for-african-gas/](https://www.climatechange-news.com/2022/11/09/un-gives-platform-to-convicted-fraudster-lobbying-for-african-gas/). Accessed 23 April 2024.

been largely lacking in Africa. By connecting decentralised renewables with other productive sectors, additional opportunities can be created in the agricultural sector (e.g. enhanced small-scale, agro-ecological farming facilitated by solar pumps, small electric tractors, enhanced storage, local processing and improved means of transportation to local markets) and the light industry (e.g. local welding and fabrication), with opportunities arising in underserved and rural communities.

While renewables are often criticised for their lack of stability in supply given the inherent intermittence of the sun and wind, this issue can be easily addressed. In fact, smart, flexible, distributed systems of renewable generation and storage are *less* likely to result in national or regional blackouts that grind the whole economy to a standstill (as has been seen in two of Africa's biggest economies, South Africa and Nigeria). Smart grids, demand-side management, virtual power plants built on numerous smartly connected generation sources, batteries and, for example, concentrated solar power plants for peak and minimum baseload provision all provide technical opportunities to ensure much more stable and resilient energy systems than the current centralised models (Bischof-Niemz and Creamer, 2018).

Furthermore, there are the distributional benefits of an energy system that keeps ownership and value closest to the people, in stark contrast to large multinationals or state-owned enterprises. Instead of profits in the energy system being pulled offshore by foreign companies or held by rich shareholders, Africa needs an energy system that increasingly puts ownership in the hands of the households, communities, public entities (schools and hospitals), small businesses, local industries and reformed, people-oriented/democratised utilities. This prevents the extractive profiteering of continued energy price hikes and creates new local income streams for those most likely to pour that value back into their local economies, resulting in enhanced economic multipliers across the value chain.

Africa needs alternative energy development pathways. However, there is no single pathway to energy access and decarbonisation. African academics have pointed out that while debates are heated, 'they largely ignore the substantial context specificity of the starting points, development objectives and uncertainties of each African country's energy system trajectory' (Mulugetta et al., 2022). What our work shows is that a rapid roll-out of people-centred, environmentally and socially appropriate renewable energy should be at the core of Africa's just energy transition. It is the answer to both the climate crisis *and* energy access needs of the African people, as well as an enabler of attaining Africa's wider development aspirations. Provision of zero-carbon energy is relevant for achieving all of the Sustainable Development Goals. The African continent may yet benefit from being a latecomer in building foundational infrastructure for development. African countries can leapfrog to the smart, participatory, distributed energy systems of the future and bypass locking themselves into stranded fossil fuel assets and overly centralised energy systems.

Recent and future energy systems in Africa offer possibilities that go beyond a simple replacement of fossil fuels with renewables. It is important that energy sovereignty constitutes a key objective in Africa's energy development agenda. Today, it is baffling that even countries that produce and export fossil fuels such as Nigeria and Angola, tend to import back more costly, refined fossil fuel-based products. However, the importance of Africa's energy sovereignty also applies to renewables.

African countries need to move away from getting stuck as providers of raw materials for the rest of the world. This also includes investing in infrastructure systems that only extract from the continent. Instead, they need to become serious players across the value chain, including the renewable energy value chain. Manufacturing of renewable energy technologies can be a key driver for African industrialisation and constitute an effective pathway towards energy sovereignty.

History of electrification across Africa has taught us that the electricity system in sub-Saharan Africa was designed as part of the integration of the continent into a global economic order, leaving aside the large rural, informal and subsistence production system that only receives limited technological input from the outside. This needs to change if African countries are to seize the opportunities to invest in rural transformation (and agriculture) to deliver food sovereignty while creating high quality jobs and improved well-being (Sokona et al. 2023).

Recommendations

A rapid, equitable and just transition away from all fossil fuels towards 100 per cent renewable energy systems that serves the people can only be successfully implemented when historical polluters take on responsibility and support the transition.

The energy transition should be guided by principles of equity and social justice. Policies must ensure that vulnerable communities are not left behind. This includes providing support for workers transitioning out of the fossil fuel sector while protecting and diversifying their livelihoods.

G20 and other historically high GHG-emitting nations should commit to actively support Africa's transition from fossil fuels to 100 per cent renewable energy. This support should come in the form of financial assistance, technology transfer and capacity building to enable African nations to leapfrog to renewable energy solutions.

Developed countries and international financial institutions should refrain from supporting fossil fuel expansion in Africa and other developing nations and, instead, channel their resources and expertise towards the promotion of community-owned decentralised renewable energy solutions.

Civil society organisations, local communities and Indigenous groups should be actively engaged in the decision-making processes related to energy projects. They should have ownership over renewable

energy initiatives in their countries, ensuring that the benefits are shared locally.

The German government is playing a significant role in Africa both through the EU and directly, including as a first investor in “green” hydrogen projects and as contributor to the so-called JET-P partnerships. German financial institutions play an important role as investors and insurers in the energy sector globally. Their support should be guided by the letter and spirit of their obligations under the Paris Agreement and by the new narrative outlined in this dossier.

It is high time the Global North listened to the voices of all our African partners.

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Decade	Countries that peaked/will have peaked	Percentage of 2010 emissions from countries that peaked	Total countries that peaked
1990 or earlier	Azerbaijan, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Germany, Hungary, Kazakhstan, Latvia, Moldova, Norway, Romania, Russian Federation, Serbia, Slovakia, Tajikistan, Ukraine	10%	19
2000 or earlier	France (1991), Lithuania (1991), Luxembourg (1991), Montenegro (1991), United Kingdom (1991), Poland (1992), Sweden (1993), Finland (1994), Belgium (1996), Denmark (1996), Netherlands (1996), Costa Rica (1999), Monaco (2000), Switzerland (2000)	15%	33
2010 or earlier	Ireland (2001), Micronesia (2001), Austria (2003), Brazil (2004), Portugal (2005), Australia (2006), Canada (2007), Greece (2007), Italy (2007), Spain (2007), United States (2007), San Marino (2007), Cyprus (2008), Iceland (2008), Liechtenstein (2008), Slovenia (2008)	36%	49
2020 or earlier	Japan, Malta, New Zealand, South Korea	40%	53
2030 or earlier	China (CO2 only), Marshall Islands, Mexico, Singapore	60%	57

Figure 1: World Resources Institute (2017) Analysis: WRI data suggests emissions have already 'peaked' in 49 countries.

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