

The Road to COP27

Making Africa's
Case in the Global
Climate Debate

- Between 1960 and 2020, Africa only accounted for 3.3% of global emissions. Asia, Europe and North America have each emitted over eight times the carbon of Africa.
- In Africa, temperatures are increasing faster than the global average, and they are projected to continue doing so during the rest of the 21st century.
- Africa is the most affected of all world regions by droughts and the second most affected by floods, with at least 215.3 million people affected over 2010-2022.
- Africa has only one eighth of the minimum density of weather stations recommended.
- The ten most climate vulnerable countries globally are in Africa, hosting 20.1% of the continent's population.
- GDP per capita is on average 13.6% lower in Africa than it would be if anthropogenic warming between 1991 and 2010 had not occurred.
- In eight of the ten most climate vulnerable countries in Africa at least 60% of the working population are employed in the highly climate sensitive agricultural sector.
- On average, more than two-thirds of the population in Africa's most climate vulnerable countries are living in poverty.
- 39.7 million additional people in sub-Saharan Africa could be pushed into extreme poverty by 2030 due to climate change, more than in any other world region.
- About 70% of African cities are highly vulnerable to climate shocks with small and medium sized towns and cities most at risk.
- More than two-thirds of the population in at least seven out of Africa's eleven most disaster-prone countries experience food insecurity.
- In 2021, Madagascar was the first country in the world to face a famine solely due to the consequences of climate change.
- Climate change is forecasted to push an additional 78 million people into chronic hunger by 2050, over half of them in sub-Saharan Africa.
- Women and girls are particularly vulnerable to climate change. Half of the ten most climate vulnerable countries are among the ten countries with the lowest gender equality on the continent.
- Africa faces the worst climate-related security risks, the majority of them linked to water.
- In Egypt, Burkina Faso and Sudan over 60% of violent events occurred in provinces suffering from extremely high water stress.
- Since 2010, the number of protests and riots in Africa over water resources have multiplied by 40.
- In 2020, 4.3 million persons in Africa were newly displaced by natural disaster events, accounting for almost 40% of all new internal displacement on the continent in that year.
- While almost three-quarters of African countries have achieved SDG13 on climate action, no EU or North American countries is on track for achieving the same.

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Exactly six months ahead of the UNFCCC COP27 summit hosted by Egypt and immediately following the UNCCD COP15 summit hosted by Côte d'Ivoire, the 25-27 May 2022 Ibrahim Governance Forum aimed to help inform and articulate Africa's position in the global debate around climate change.

Prior to the Forum, the Mo Ibrahim Foundation produced the Facts & Figures document to ensure debates are grounded in the most recent and relevant data.

The Ibrahim Forum Report now combines the data findings with the main takeaways and recommendations from the Forum sessions.

The Ibrahim Forum Report provides a comprehensive analysis of:

- the specific impacts of the climate crisis in Africa, and how these intersect with pre-existing social and development issues such as poverty, food insecurity, instability;
- the challenge of balancing access to energy and climate protection, in the continent with the largest energy gap globally;
- Africa's promising role in the global fight against climate change, if financial, human and governance hurdles are overcome.

The Forum Report concludes with 15 Key Recommendations from the Ibrahim Governance Forum aimed at ensuring Africa's agenda is placed at the heart of continental and global agreements and policy actions on the way - and beyond - COP27.

On the Road to COP27: 15 recommendations to articulate Africa's case

TAKE AFRICA'S SPECIFIC CLIMATE VULNERABILITIES INTO ACCOUNT

RECOMMENDATION 1. Do not work in silos: address the interaction between climate, development and security challenges

RECOMMENDATION 2. Mitigation alone cannot address the scope of the problem: increase focus on adaptation and 'loss and damage' compensation

RECOMMENDATION 3. Invest in resilience to prevent loss and damage to lives, livelihoods and critical infrastructure

ADDRESS AFRICA'S PEOPLE'S RIGHT TO ENERGY ACCESS

RECOMMENDATION 4. Balance net zero, energy access, and energy security

RECOMMENDATION 5. Consider gas as a key transitional fuel, to be developed in parallel with renewables

RECOMMENDATION 6. Whether for gas or renewables, look beyond just production alone

RECOMMENDATION 7. Clean cooking solutions are key to both climate and health goals

HIGHLIGHT AFRICA'S POTENTIAL IN A GLOBAL GREEN ECONOMY

RECOMMENDATION 8. Raise awareness of Africa's assets and Africa's ability to be a key stakeholder of a global green economy - not just a victim of the climate crisis

RECOMMENDATION 9. Assess - and monetise - Africa's carbon-sequestration potential

RECOMMENDATION 10. Avoid the 'resource curse': add local economic value and frontload governance

"YOU DON'T GET WHAT YOU NEED OR WHAT YOU DESERVE, YOU GET WHAT YOU NEGOTIATE"

RECOMMENDATION 11. Define, present, and negotiate a Common African Position

RECOMMENDATION 12. Re-build trust lost through previous summits

RECOMMENDATION 13. Emphasise responsibilities

RECOMMENDATION 14. Adopt a wide range of integrated and innovative financial solutions

RECOMMENDATION 15. Give a human face to the climate debate

Chapter 01.

Africa's climate paradox:
the least responsible,
but paying the highest price globally

The first chapter focuses on the specific impact of climate change in Africa.

Existing development challenges mean that Africa is the continent that is most vulnerable to climate change, and the least able to respond. For progress to be made, global climate solutions must address Africa's specific vulnerabilities in a holistic way.

As the least industrialised continent, Africa has contributed the least to climate change. However, it is paying the highest prices in terms of climate impacts globally.

Climate change events such as temperature increase and disrupted precipitations affect Africa similarly to other world regions. However, these impacts are most acutely felt on the African continent, with the ten countries most vulnerable to climate change globally being in Africa.

This widespread vulnerability is due to several pre-existing challenges, such as poverty, food insecurity, displacement, and conflict, thus feeding a vicious cycle in which low resilience is further eroded, and the impacts of the climate crisis are compounded.

Without urgent action to address climate change in Africa, the current vulnerability will only worsen, with an additional 40 million people in sub-Saharan Africa pushed into extreme poverty and over 85 million people in the region migrating or being displaced, more than in any other region in the world.

Towards COP27, if there is to be any hope of addressing the climate crisis on the continent, development-proofing Africa's climate efforts is essential. For this, Africa's specific vulnerabilities must be given full consideration and placed at the centre of global climate solutions.



DESPITE CONTRIBUTING THE LEAST TO THE CLIMATE CRISIS, AFRICA IS HIT HARD

What is climate change?

Climate change refers to long-term shifts in temperatures and weather patterns, especially precipitation.

Since the 1800s, human activities and the rapid industrialisation of most countries have been the main driver of climate change, due to burning fossil fuels (coal, oil and gas).

Burning fossil fuels generates greenhouse gas (GHG) emissions (carbon dioxide, methane...) that blanket-wrap the planet, trapping the sun's heat leading to increasing temperatures.

GHG concentrations are currently at their highest levels in two million years which means the Earth is 1.1 degrees Celsius warmer than in the late 1800s.

In the landmark Paris Agreement of 2015 the international community agreed to limit global temperature rise to well below 2 degrees Celsius, ideally to 1.5 degrees Celsius, compared to pre-industrial levels.

Impacts of climate change include both extreme weather events and slow onset effects.

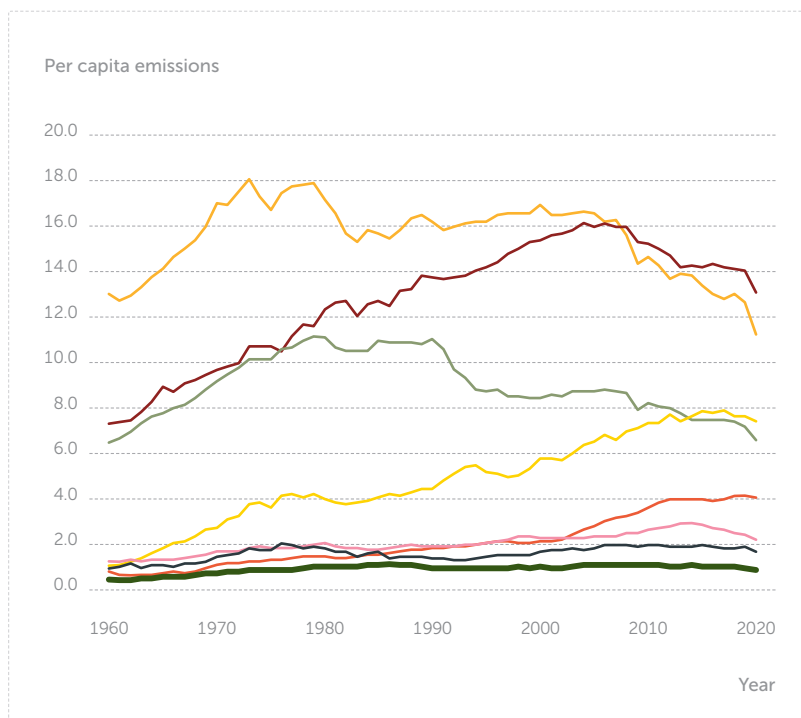
African perspectives on climate change

According to the Institute for Economics & Peace, of the 39 African countries surveyed in 2019 in the Lloyd's Register Foundation World Risk Poll, the highest level of climate change concern was registered in Southern African countries. Those having the highest percentage of their population worried about climate change were Lesotho (77.9%) and Malawi (74.6%), the sixth and ninth most concerned countries respectively globally, followed by Eswatini (69.6%), Namibia (65.3%) and Zambia (64.4%).

Of the five African countries showing the lowest level of climate change concern, four were Northern African: Egypt (17.6%), Libya (24.4%), Algeria (25.4%) and Tunisia (31.6%). Ethiopia, the second most populous country on the continent, registered the second lowest level of concern of the 142 countries polled globally, with merely 17.5% of its population being concerned about climate change.

With historically low carbon emissions, Africa has contributed very little to climate change

World regions: territorial carbon emissions (1960-2020)



Africa has registered the lowest per capita emissions of any world region every year since 1960

World region

- Africa
- Asia
- Central America
- Europe
- Middle East
- North America
- Oceania
- South America

Source: MIF based on Global Carbon Atlas

Africa has had the lowest per capita emissions of any world region every year since 1960.

Between 1960 and 2020, Africa only accounted for 3.3% of global emissions. Asia, Europe and North America have each emitted over eight times the carbon of Africa.

In 2020, a person living in Oceania or North America on average accounted for ten times the emissions of someone living in Africa.

In 2019, over one-quarter of Africa's carbon emissions serve consumers overseas.

In Africa, temperatures already rise faster than anywhere else, and will continue to do so

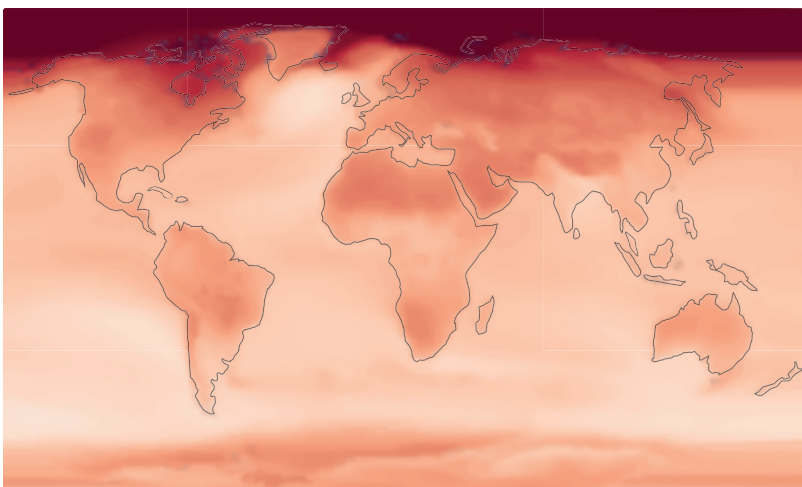
In Africa, temperatures are increasing faster than the global average, and they are projected to continue doing so during the rest of the 21st century.

Increase in mean annual temperatures across the continent will exceed 2°C and could rise as much as 6°C before the end of the 21st century.

Under a high emissions scenario, 20 African countries are projected to experience more than 100 days a year above 35°C in the mid-21st century, and 33 countries in the late 21st century.

Under an intermediate emissions scenario, 19 African countries are projected to experience more than 100 days a year above 35°C in the mid-21st century, and 20 countries in the late 21st century.

World: mean temperature change under a 2°C warming scenario relative to 1850-1900 baseline



Change (deg C)

-6.0  +6.0

Source: Intergovernmental Panel on Climate Change

High emissions disparity between African countries

South Africa, Egypt, and Algeria's combined emissions exceed the total emissions of all other 51 African countries.

80% of the continent's emissions originate from only six countries: Algeria, Egypt, Libya, Morocco, Nigeria and South Africa – home to 33.7% of Africa's population.

In 2019, per capita emissions in South Africa were over 260 times higher than in DR Congo.

80% of the continent's emissions originate from only six countries: Algeria, Egypt, Libya, Morocco, Nigeria and South Africa

African countries are poised to become exposed to extreme climates earlier due to their lower internal climate variability (e.g. low seasonality), regardless of the higher warming rates projected over higher latitude countries

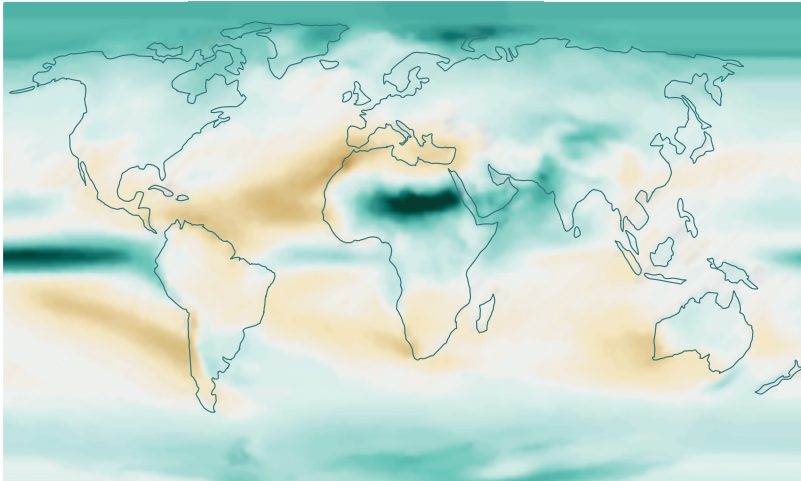
In Africa, precipitations are becoming more and more unpredictable

Precipitation patterns have dramatically changed since 1900 across Africa.

Compared to 1901, the 2020 average annual precipitation over the continent decreased in 29 countries and increased in 25 countries.

- Increased mean annual rainfall: eastern Sahel, eastern part of Eastern Africa and Central Africa.
- Reduced mean annual rainfall and increased drought: southwestern part of Southern Africa and coastal Northern Africa.
- Monsoon precipitation: increase over the central Sahel and decrease over the far western Sahel. The monsoon season is projected to have a delayed onset and a delayed retreat.


World: total precipitation change under a 2°C warming scenario relative to 1850-1900 baseline



Change (%)

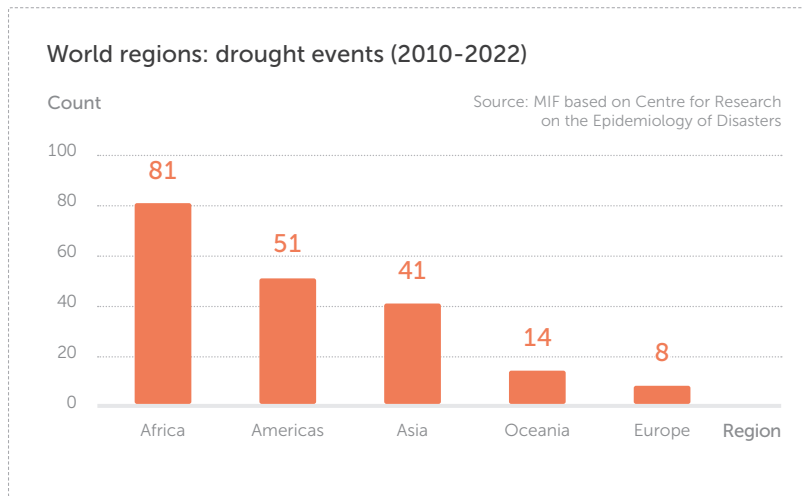
-55.0  +55.0

Source: Intergovernmental Panel on Climate Change

 African countries are poised to see their historically unpredictable rainfall patterns exacerbated, while frequency and intensity of heavy rainfall events are projected to increase across most of the continent (apart from Northern and Southwestern Africa)

Extreme weather events: Africa greatly affected by droughts and floods

Droughts: Africa the most affected region in the world



10 African countries with the largest number of drought events (2010-2022)

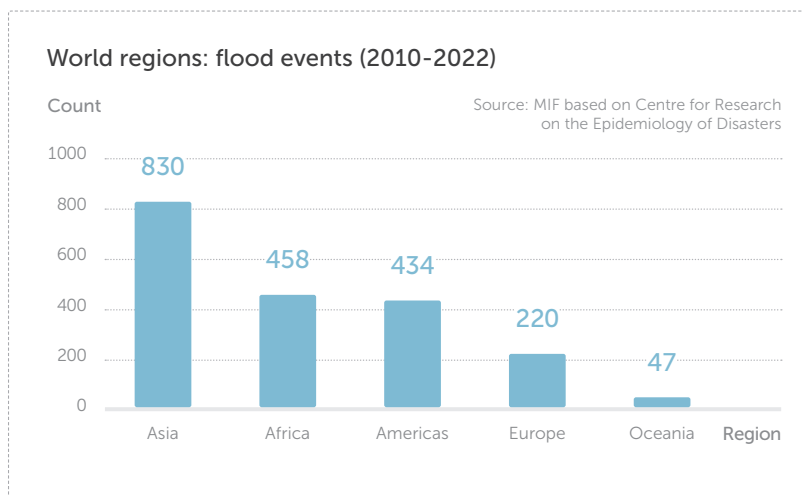
Country	Drought events
Kenya	6
Somalia	6
Mauritania	5
Ethiopia	4
Lesotho	4
Madagascar	4
Niger	4
South Africa	4
Zimbabwe	4
Angola	3

29 African countries have experienced at least one drought event over 2010-2022.

The worst affected African countries are Kenya, Somalia (6 drought events each over 2010-2022), Mauritania (5), Ethiopia, Lesotho, Madagascar, Niger, South Africa and Zimbabwe (4 each).

In Africa, the number of people affected by droughts over 2010-2022 amounted to at least 172.3 million, more than twice Germany's current population

Floods: Africa the second most affected region in the world



10 African countries with the largest number of flood events (2010-2022)

Country	Flood events
Angola	24
Kenya	22
Nigeria	21
Tanzania	21
DR Congo	20
Niger	19
Uganda	19
Mozambique	16
Somalia	16
South Africa	16

All African countries but two (Equatorial Guinea and Eritrea) have experienced at least one flood event over 2010-2022.

The five worst affected African countries are Angola (24), Kenya (22), Nigeria, Tanzania (21 each) and DR Congo (20).

In Africa, the number of people affected by floods over 2010-2022 amounted to at least 43.0 million

¹ 2022 counts of natural disaster events are as of 1 of April.

Impact across the continent is unequal

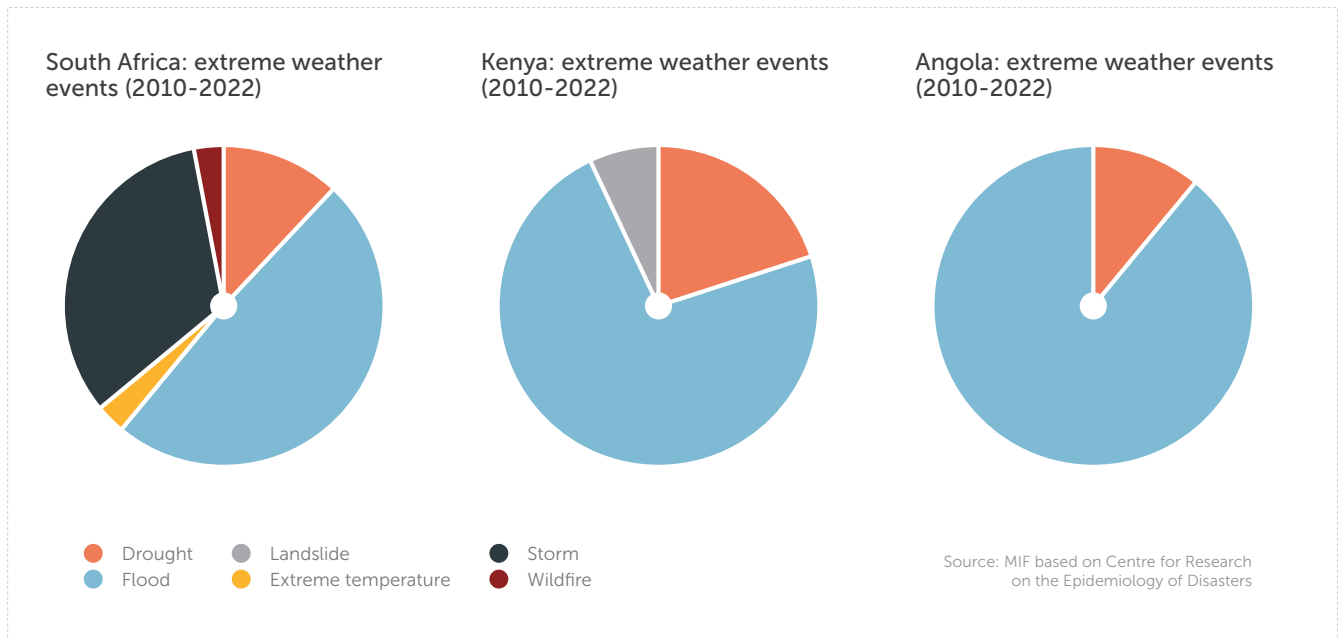
South Africa is the only African country affected by five out of the six types of extreme weather events analysed below (droughts, floods, landslide events, extreme temperature, storms and wildfires).

Five African countries – Angola, Kenya, Niger, Somalia, South Africa - home to 13.9% of the continent’s population, have suffered both droughts and floods over 2010-2022.

Kenya is the most affected country by droughts alongside Somalia (6), as well as the second most affected by floods (22).

Angola is the most affected country by floods (24).

In April 2022, flooding and mudslides caused by storm Issa affected Durban and surrounding areas of South Africa, causing over 400 fatalities



Slow onset effects: desertification, sea level rise and land degradation the most concerning in Africa

Slow onset events constitute gradual effects of the long-term shifts in temperatures and weather patterns known as climate change. These range from desertification to ocean acidification, through sea level rise, land and forest degradation, salinisation, biodiversity loss and glacial retreat.

All phenomena are present in Africa and are bound to render areas uninhabitable and reduce the opportunities to earn a living and find food and water.

The Horn of Africa is currently facing its worst drought since 1981, with around 20 million people experiencing hunger as a consequence

Desertification

Desertification is a non-reversible reduction in the productivity of drylands, degrading the soil until plants can no longer grow.

Around 45% of Africa’s land is affected by desertification. Africa has one billion hectares of drylands.

The Sahara and the western and eastern Sahel are among the vulnerable regions of the world most affected by desertification and drought.



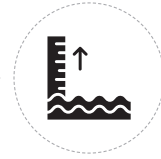
The 15th session of the Conference of the Parties (COP15) of the UN Convention to Combat Desertification (UNCCD) is taking place in Abidjan, Côte d'Ivoire, from 9-20 May 2022. Its main focus is steering a coordinated response to desertification, land degradation and droughts, and their serious social and economic impacts.

Sea level rise

At global level, sea level has risen by 20 cm since 2000, and it is predicted to rise between 0.3 and one metre by 2100, with a possible increase of up to two metres in some areas.

Sea level rise is taking place faster than globally along Africa's tropical, South Atlantic and Indian Ocean coasts.

Sea level rise will lead multiple African countries, especially in West Africa, to suffer floods and coastal erosion, threatening many capital cities that are located along the coast.



Land and forest degradation

Existing human-driven land degradation processes created by the rapid expansion and unsustainable management of crop and grazing lands are exacerbated by climate change and related extreme weather events such as droughts, cyclones and floods.



Salinisation

Storm surges and wave overtopping due to sea level rise cause saltwater intrusion on productive coastal lands and freshwater aquifers.

In low-lying coastal areas and islands, water and soil salinisation increasingly undermines arable land and fresh water.

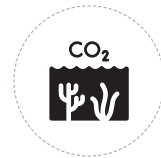


Ocean acidification

Ocean acidification is caused by the ocean's absorption of carbon dioxide emissions.

Coastal communities are rendered increasingly vulnerable to climate change due to ocean acidification.

Fisheries and aquaculture are threatened by sea level rise and ocean acidification. They currently contribute more than \$24 billion per year to Africa's economy and employ more than 12 million people across the continent.



Biodiversity loss

In addition to land-use change and pollution, increasing temperatures and altered precipitation patterns are also driving changes in the structure, composition, and functions of ecosystems, leading to biodiversity loss and reductions in the ecosystem services.

Biodiversity losses are observed in Africa's terrestrial, freshwater (inland water bodies) and marine ecosystems. Some key impacts include the death of many of the oldest and largest African Baobabs and declining abundance and range size of South African birds.



Glacial retreat

Rising temperatures and pollution cause glaciers to melt and retreat, leading to decreases in the level of river flows, affecting food, water and energy production in mountain and lowland areas.

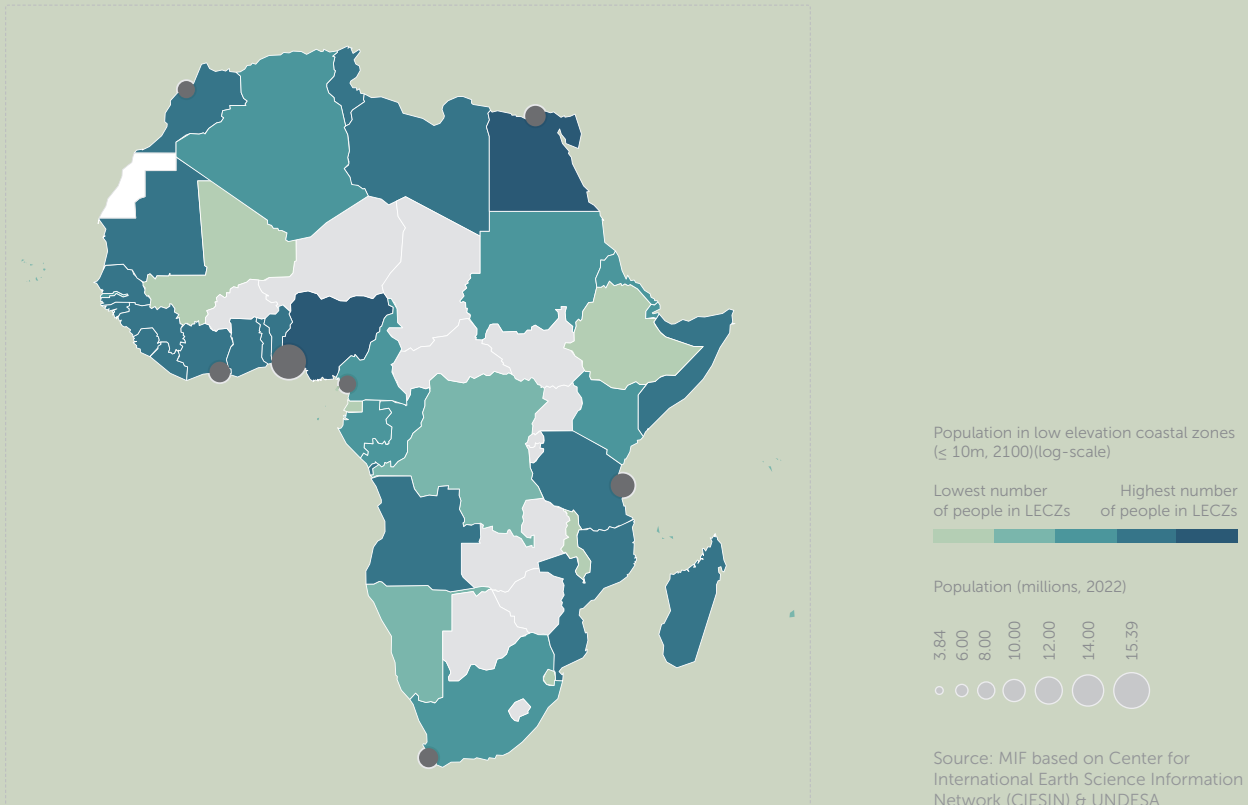
In Africa, glaciers on the Rwenzoris (DR Congo/Uganda) and Mt. Kenya (Kenya) are projected to disappear by 2030, and by 2040 on Kilimanjaro (Tanzania).



SPOTLIGHT

By 2030, up to 117 million people in Africa could be exposed to sea level rise

African countries: population living in low elevation coastal zones ($\leq 10\text{m}$)(2100) & population of largest coastal cities (2022)



- Out of the continent's most populous cities, eight are located on the coast, including three of the five largest cities: Dar es Salaam, Lagos and Luanda. This means almost 40% of the population in Africa's 20 largest cities live in a coastal area.
- Over 55 million people in Africa's large coastal cities, accounting for almost 4% of Africa's total population, are already at concrete risk of sea level rise.
- The highest rates of population growth and urbanisation are also taking place in Africa's coastal zones with coastal urban populations already accounting for 25-29% of the total population in Northern, Southern and Western Africa.
- According to the Intergovernmental Panel on Climate Change (IPCC), by 2030 up to 116.8 million people in Africa could be exposed to sea level rise in low-elevation coastal zones.

SPOTLIGHT

Relevant data, early warning systems and disaster risk reduction: Africa has the largest capacity gaps

Disaster risk reduction and early warning systems on the continent are not yet ready to address climate change impact.

The Sendai Framework for Disaster Risk Reduction (DRR) 2015-2030 provides countries with concrete actions to protect development goals from the risk of disaster events. It focuses on measures that address exposure to hazards, vulnerability and capacity, and hazard characteristics in order to prevent the creation of new risk, reduce existing risk and increase resilience.

Adopting and implementing disaster risk reduction strategies in line with the Sendai Framework is also included in targets for SDG1 (No Poverty), SDG 11 (Sustainable Cities and Communities) and SDG13 (Climate Action).

There are only data for 30 African countries with regards to their adoption and implementation of disaster risk strategies in line with the Sendai framework. Of the ten most climate vulnerable countries, data are missing for four: Chad, DR Congo, Guinea-Bissau and Mali. On average, African countries score slightly below the world average (0.61 versus 0.64, respectively).

Algeria and Ethiopia are the best scoring countries on the continent, whereas Cameroon and Comoros are the lowest scoring ones.

Score of adoption and implementation of national DRR strategies in line with the Sendai Framework (out of 1.00)

Highest scoring country	Algeria, Ethiopia (score of 1.00)
Lowest scoring country	Cameroon, Comoros (score of 0.00)
African average score	0.61
World average score	0.64

Source: MIF based on UNDESA

In October 2021, the African Union adopted the Institutional and Operational Framework for multi-hazard early warning systems and early action and in February 2022 opened the Africa Multi-hazard Early Warning and Early Action System Situation Room for disaster risk reduction. At regional level, IGAD opened its Climate Prediction and Application Centre (ICPAC) in October 2021 which will be connected to the AU Situation Room.

Yet, the gaps in Africa's weather infrastructure are a hindrance to the development of reliable early warning systems, with only 10% of the world's ground-based weather observation networks in Africa and with over half of the continent's surface weather stations (54%) being unable to capture data accurately. According to the World Meteorological Organization (WMO), Africa, alongside South America, faces the largest early warning system capacity gaps and only 30% of the continent's 53 WMO members have a multi-hazard early warning system in place and only 44,000 in 100,000 people are covered by early warning systems. Countries are particularly falling short when it comes to preparedness and response.

Lack of Africa-specific climate data & research prevent relevant policies

Historical and current weather and climate data are essential for the development of early warning systems, research, and efficient policies.

In Africa, the coverage of weather stations, which are the primary sources of climate observations, is very sparse, unevenly distributed, and has been declining in many parts of the continent, resulting in critical climate data gaps.

Africa has only one eighth of the minimum density of weather stations recommended by the WMO.

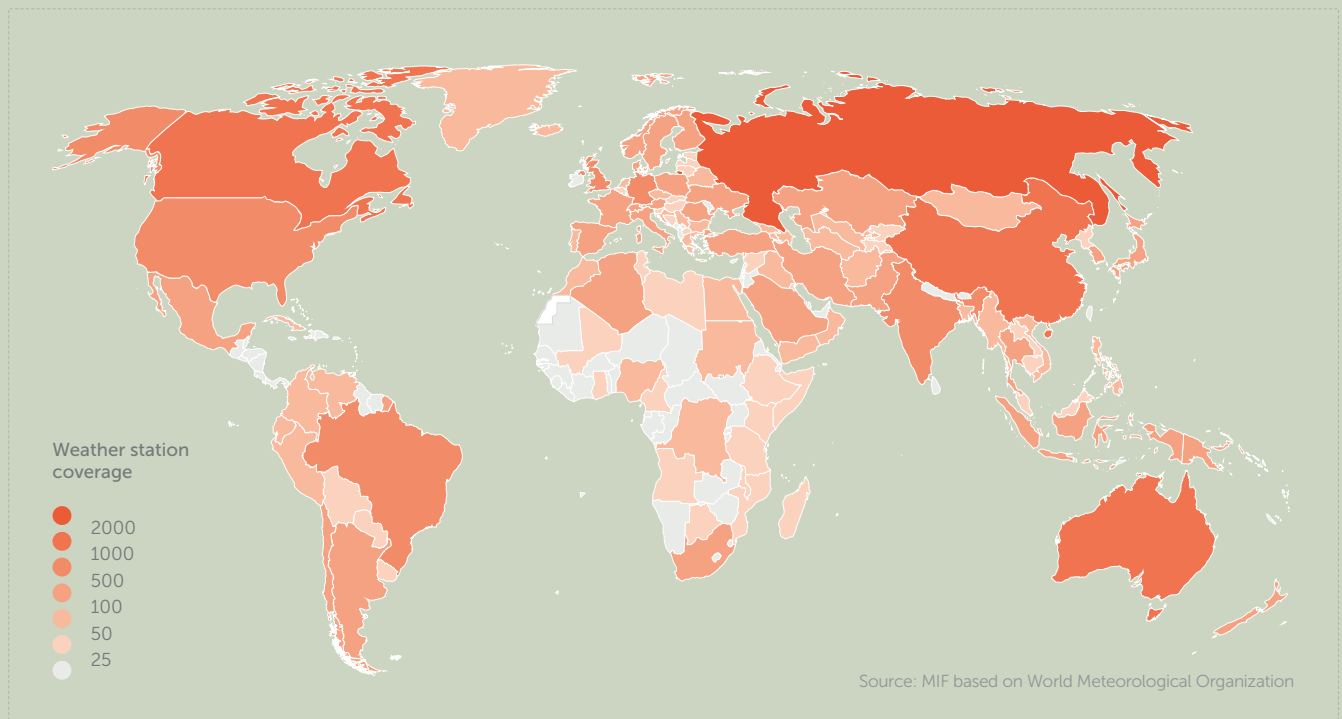
The lack of Africa-specific climate data is particularly acute in the field of precipitation.

Over the last 20 years (1990-2019) Africa received just 3.8% of climate-related research funding globally: 78% of this funding went to EU and North American institutions.

The number of climate research publications with locally based authors are among the lowest globally.

Africa has only one eighth of the minimum density of weather stations recommended by the World Meteorological Organization

World countries: weather stations (2019)



Note: Shows only World Meteorological Organization weather stations for distinct locations

AFRICA'S UNIQUE COMBINATION OF CUMULATIVE LEVELS OF VULNERABILITY: POVERTY, FOOD INSECURITY, INFORMAL SETTLEMENTS

The ten most climate vulnerable countries at the global level are all African

The ten most climate vulnerable countries globally are in Africa. These host 20.1% of the continent's population.

10 worst performers globally in ND-GAIN Vulnerability to climate change score (2019)

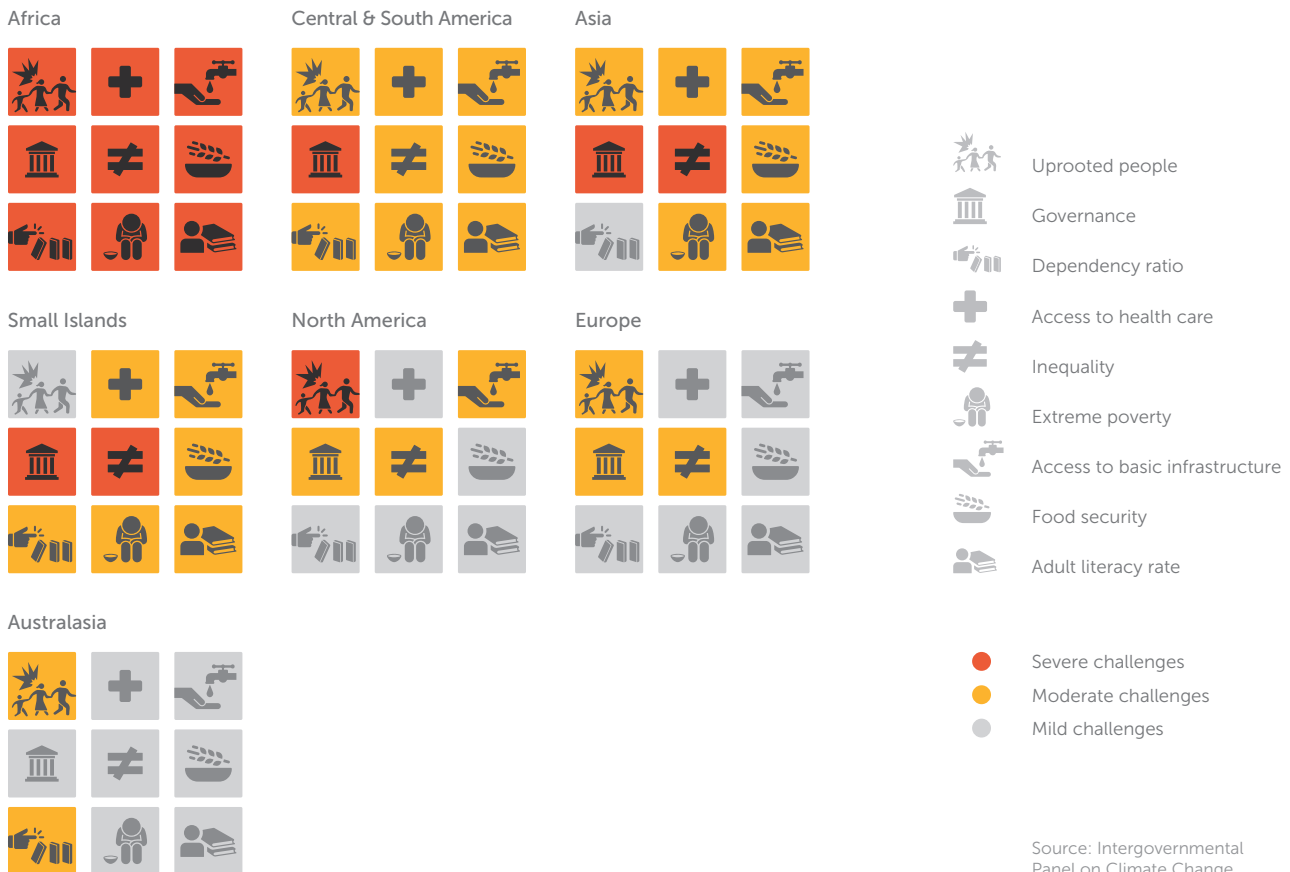
Niger	0.677
Somalia	0.676
Guinea-Bissau	0.629
Chad	0.622
Sudan	0.615
Liberia	0.605
Mali	0.598
DR Congo	0.592
Eritrea	0.587
Uganda	0.581

Source: Notre Dame Global Adaptation Initiative

20% of Africa's population currently live in one of the ten most climate vulnerable countries at global level

Factors that exacerbate climate impact and lower resilience are more prominent in Africa than anywhere else

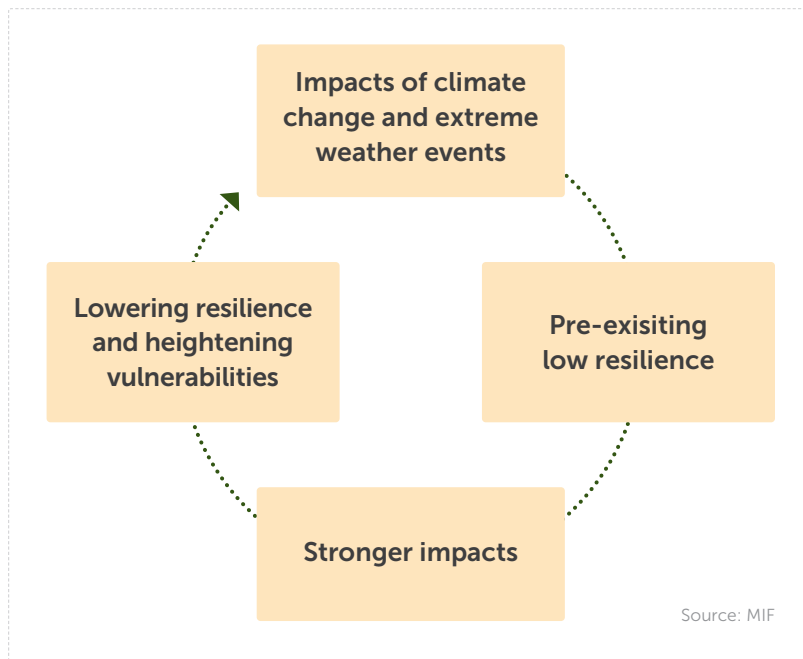
The IPCC sees severe challenges for Africa in all vulnerability facets with no other region facing the same level of challenges.



The vicious cycle: climate change impact simultaneously worsens and is exacerbated by development challenges

The ability to cope with the additional stress imposed on societies by climate change largely determines how strongly the impact of climate change will be felt and experienced. In Africa, many pre-existing challenges render countries and people more vulnerable and less resilient to deal with the consequences of global warming.

This generates a concerning vicious cycle in which the effects of climate change and extreme weather events are more strongly felt due to already low resilience while at the same time they further worsen adaptation and resilience capacities.



In Africa, many pre-existing challenges render countries and people more vulnerable and less resilient to deal with the consequences of global warming

Livelihoods are put at risk

African countries face sizeable output losses as a result of climate change.

GDP per capita is on average 13.6% lower in Africa than it would be if anthropogenic warming between 1991 and 2010 had not occurred.

Without climate action, by 2030 at least 53 African countries are bound to face per capita GDP losses, with average losses reaching -1.6% by 2050.

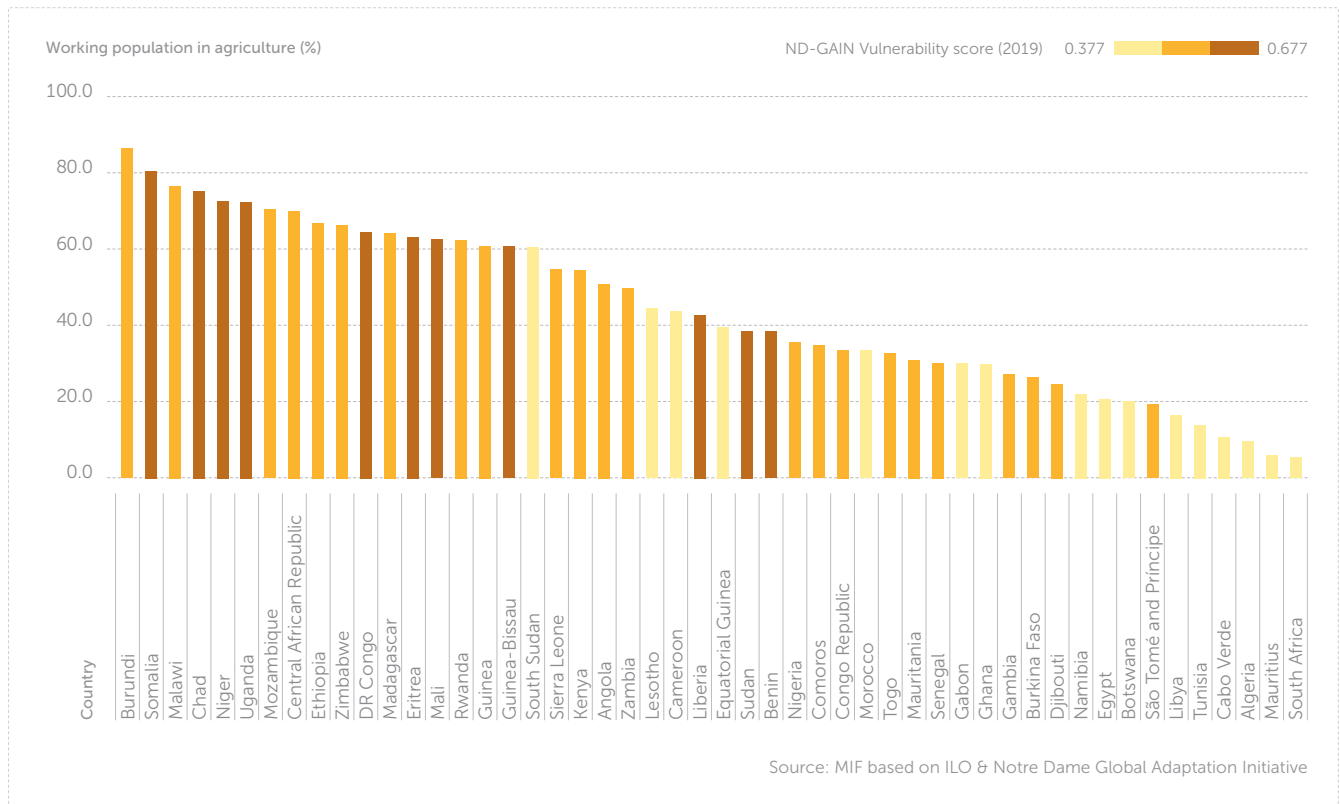
With almost half of Africa's working-age population (49.5%) employed in agriculture, African livelihoods are largely dependent on the most climate-sensitive sector.

GDP per capita is on average 13.6% lower in Africa than it would be if anthropogenic warming between 1991 and 2010 had not occurred

Climate change threatens Africa's agriculture

In Africa, climate change is shrinking crop yields and productivity. Agricultural productivity growth has already been reduced by -34% since 1961 due to climate change, more than in any other region. Projections on yield reduction show a drop of up to -50%. Crop revenue is forecast to fall by as much as -90% by 2100. Climate impact also shortens growing seasons, increases water stress, and fosters more and longer plagues such as locusts.

African countries: working population in agriculture and ND-GAIN Vulnerability to climate change score (2019)



The most climate vulnerable countries are those that depend the most on the agricultural sector for employment and livelihoods.

In eight of the ten most climate vulnerable countries – all in Africa – at least 60% of the working population are employed in the agricultural sector.

In Niger and Somalia, the most vulnerable countries globally, the share of employment in agriculture is 72.5% and 80.3%, respectively.

In all the most disaster-prone countries, bar Nigeria and South Africa, at least half the population work in agriculture.

The continent’s high levels of informal employment pose an additional level of vulnerability to livelihoods. Climate shocks disrupt jobs and the lack of insurance against risks prevents the recovery of lost assets from climate related events.

In many of the most climate vulnerable countries, social safety nets are also the weakest. Of the ten most climate vulnerable countries, all but Guinea-Bissau sit in the lower half of the ranking table for the IIAG indicator *Social Safety Nets*.

In eight of the ten most climate vulnerable countries in Africa at least 60% of the working population are employed in the agricultural sector

Food insecurity is worsened by extreme weather events

Climate impact on agriculture shortens growing seasons and increases water stress. Its impact on food availability can trigger rising food prices, exacerbating food insecurity.

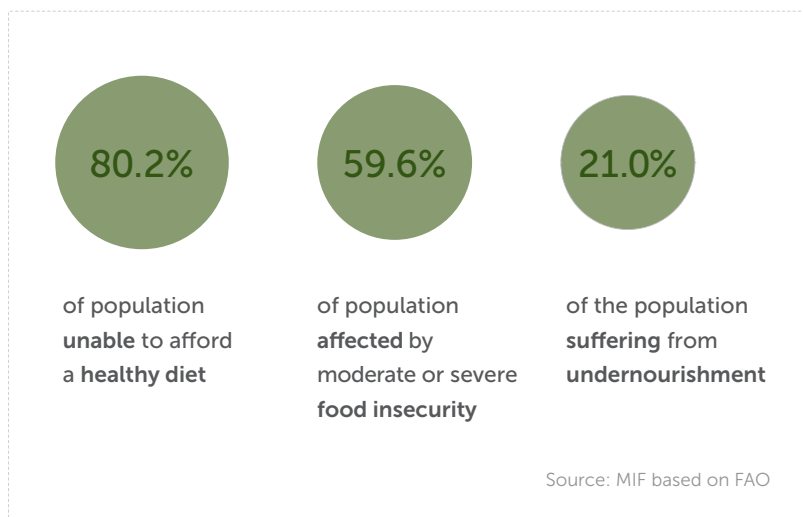
Around 800 million people in Africa are already affected by moderate or severe food insecurity and 281.6 million are undernourished.

In 2019, around 1.0 billion people on the continent were unable to afford a healthy diet.

Both the prevalence of moderate or severe food insecurity and of undernourishment in Africa have risen in recent years, reaching a peak in 2020.

Around 800 million people in Africa are already affected by moderate or severe food insecurity

Food security in Africa is already affecting large shares of the population



Extreme weather events are among the key drivers behind rising food insecurity and malnutrition in Africa. More than two-thirds of the population in at least seven out of Africa's eleven most disaster-prone countries experience food insecurity.

In Kenya, Mozambique and Uganda, the joint third and fourth most disaster-affected countries, more than two-thirds of the population are food insecure.

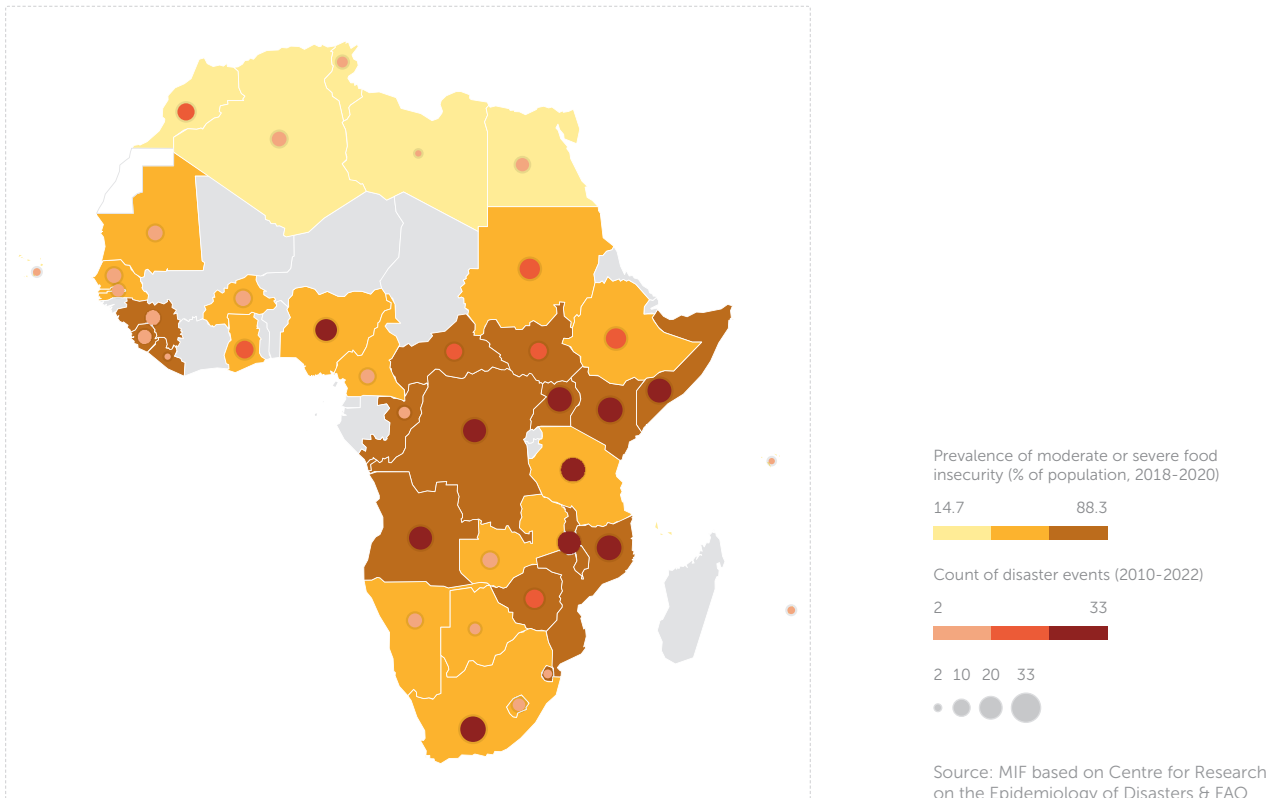
In Madagascar, the second most disaster hit country, 43.2% of the population suffer from undernourishment, the third largest rate on the continent after Central African Republic and Somalia.

In 2020, the Horn of Africa faced the worst locust upsurge in 25 years, with nearly 20 million people in the region being put at risk of food insecurity.

The Horn of Africa is currently facing its worst drought since 1981, with around 20 million people experiencing hunger as a consequence.

Suffering from year-long droughts, in 2021 Madagascar was the first country in the world to face a famine solely due to the consequences of climate change

African countries: moderate or severe food insecurity (2018-2020) and disaster events (2010-2022)



Food prices have risen globally, reaching an all-time high in March 2022. This rise is particularly acute in Africa, where since 2010, the average food price inflation was more than double global inflation (+9.8% compared to +3.6%).

Rising food prices are expected to be the largest exacerbating factor of climate change on poverty in Africa.

Women are particularly vulnerable to the impact of climate change due to higher dependency on climate sensitive sectors, higher levels of poverty, and less access to information.

Half of the ten most climate vulnerable countries are among the ten countries with the lowest gender equality on the continent.

Climate change is forecasted to push an additional 78 million people into chronic hunger by 2050, over half of them in sub-Saharan Africa

Climate change exacerbates health risks

Climate change heightens health risks, and Africa's lack of health capacity has already been laid bare by the COVID-19 pandemic. According to the WHO, water-borne diseases account for 40% of climate-related health emergencies over the past two decades. Vector-borne diseases, notably yellow fever, account for 28% of the climate-related health emergencies, while zoonotic diseases - human diseases or infections transmitted from animals - specifically Congo-Crimean haemorrhagic fever, were the third most prevalent.

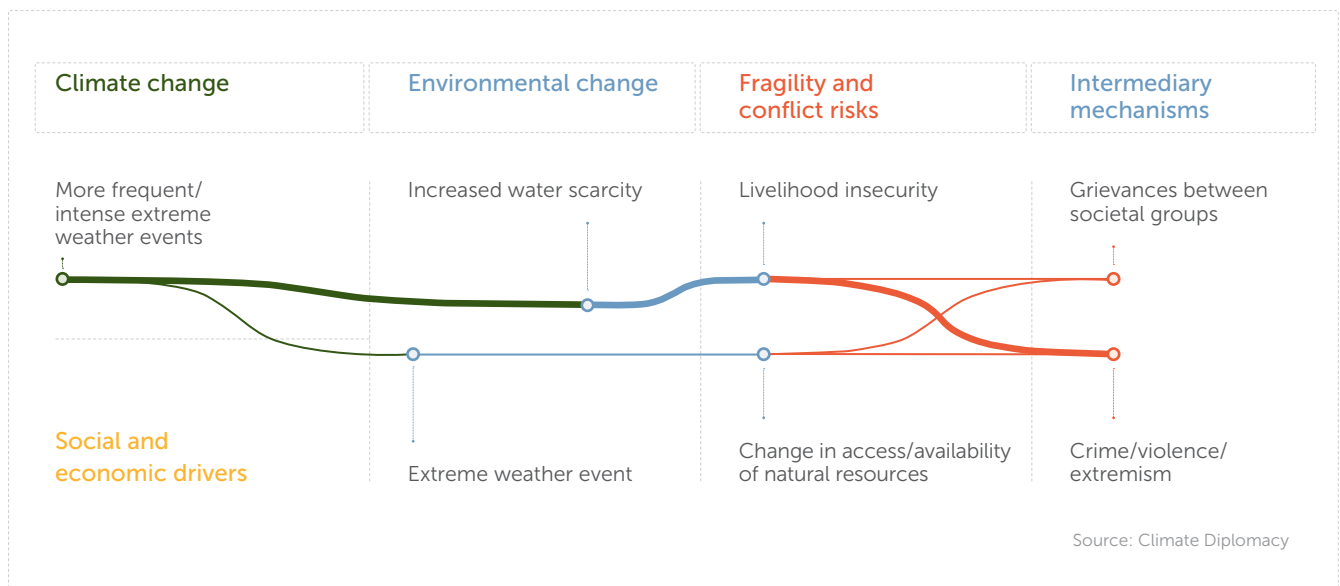
Climate change also alters the conditions for pathogens and zoonotic diseases. About 60% of human infections are estimated to have an animal origin. 75% of all new and emerging human infectious diseases jump species from animals to people, with the majority happening indirectly.

AFRICA'S SPECIFIC CLIMATE VULNERABILITY IS BOUND TO TRIGGER ADDITIONAL INSTABILITY

Climate change acts as a 'threat multiplier' that intensifies political, social and economic tensions. Climate change induced socioeconomic challenges, loss of livelihoods and shrinking resources all increase the risk of instability, displacement, migrations, social unrest and conflict.

At the same time, fragile and conflict-affected states are less able to manage climate change impact or to build up resilience and implement mitigation and adaption measures, further increasing their vulnerability.

Climate-induced resource scarcity and livelihood insecurity heighten conflict and fragility risks



Towards more water- and land-based conflicts

Of the ten most climate vulnerable countries, four – DR Congo, Mali, Somalia and Sudan – also feature among the African countries that have seen the most violent events between 2010 and 2021.

DR Congo, Nigeria and Somalia are among the ten countries registering both the most violence on the continent and the highest exposure to disaster events.

Water is the main driver of climate security risks

According to the International Crisis Group, Africa faces the worst climate-related security risks. The majority of these are linked to water, which can threaten livelihoods due to floods or droughts or due to extreme variability in water supply, resulting in resource competition and displacement.

In countries marred by high levels of violence, many events are taking place in areas where there is heavy competition for water resources.

In Egypt, Burkina Faso and Sudan over 60% of violent events occurred in provinces suffering from extremely high water stress.

Pastoralists are particularly vulnerable to the climate-resource competition -conflict nexus.

Violent events involving pastoralists have been on a steep rise since 2010. They are often clustered in areas where the within-year variability of water supply varies highly, such as Sudan and the Sahel.

Almost three-quarters (74.6%) of all pastoralist violence since 2010 has taken place in just five countries: DR Congo, Nigeria, Somalia, South Sudan and Sudan.

While pastoralist violence has declined in Somalia since 2013, it has increased notably in the other countries.

Of the five countries with the highest number of pastoralist violence, DR Congo and Somalia feature among both the most vulnerable and the most disaster-prone countries on the continent.

Countries with the highest number of violent events involving pastoralists	Number of violent events involving pastoralists (2010-2021)	ND-GAIN Vulnerability to climate change rank (out of 182 globally, 2019)	Disaster events (2010-2022)
Sudan	320 (20.2% of all violent events in Africa involving pastoralists)	178 ●	21
Nigeria	291 (18.4%)	129 ●	24 ●
Somalia	265 (16.8%)	181 ●	29 ●
South Sudan	217 (13.7%)	.	14
DR Congo	87 (5.5%)	175 ●	27 ●

Source: MIF based on ACLED, Centre for Research on the Epidemiology of Disasters, Notre Dame Global Adaptation Initiative

● Among ten most climate vulnerable/ disaster-prone African countries
● Among 30% of most climate vulnerable countries globally

Since 2010, the number of protests and riots in Africa over water resources have multiplied by 40.

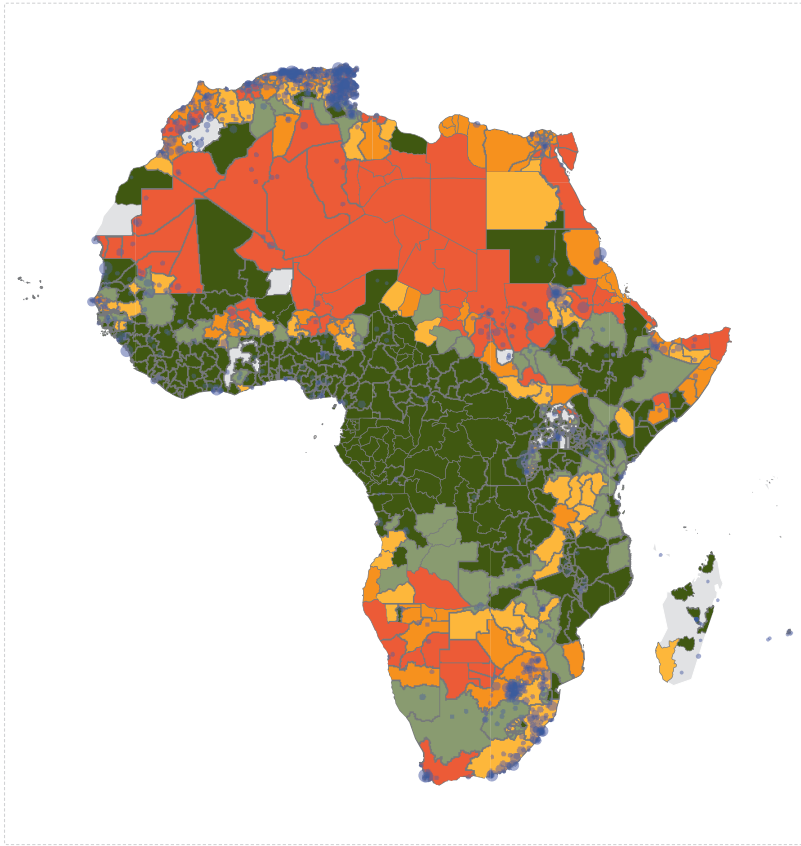
20 African countries have seen at least ten protests or riots related to water since 2010.

The five countries - Algeria, Morocco, South Africa, Sudan, Tunisia - that have seen the highest number of protests and riots over access to water all suffer from medium to high levels of water stress.

Almost half of all riots and protests related to water have taken place in the eleven countries on the continent suffering from high to extremely high water stress.

Since 2010, the number of protests and riots in Africa over water resources have multiplied by 40

African countries: base water stress levels and protests & riots related to water (2010-2021)

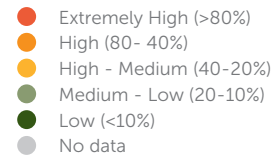


Water-related protests and riots tend to concentrate in areas where water competition is high

Count of protests & riots related to water (2010-2021)



Base water stress levels



Source: MIF based on ACLED & World Resource Institute

A shift in mobility patterns

Climate change worsens Africa's displacement crisis

The number of disaster IDPs has been on the rise constantly since 2016. In 2020, 4.3 million persons were newly displaced by natural disaster events, accounting for almost 40% of all new internal displacement that year.

In nine African countries – DR Congo, Ethiopia, Kenya, Mozambique, Niger, Nigeria, Somalia, South Sudan and Sudan – at least one million people have been internally displaced by natural disaster events since 2010.

More than one-third (35.2%) of all new disaster IDPs are based in the ten countries most vulnerable to climate change globally, all of them African.

Somalia and South Sudan have registered the largest number of new disaster IDPs between 2010 and 2020 per 100,000 population, followed by Niger, Comoros, and Chad.

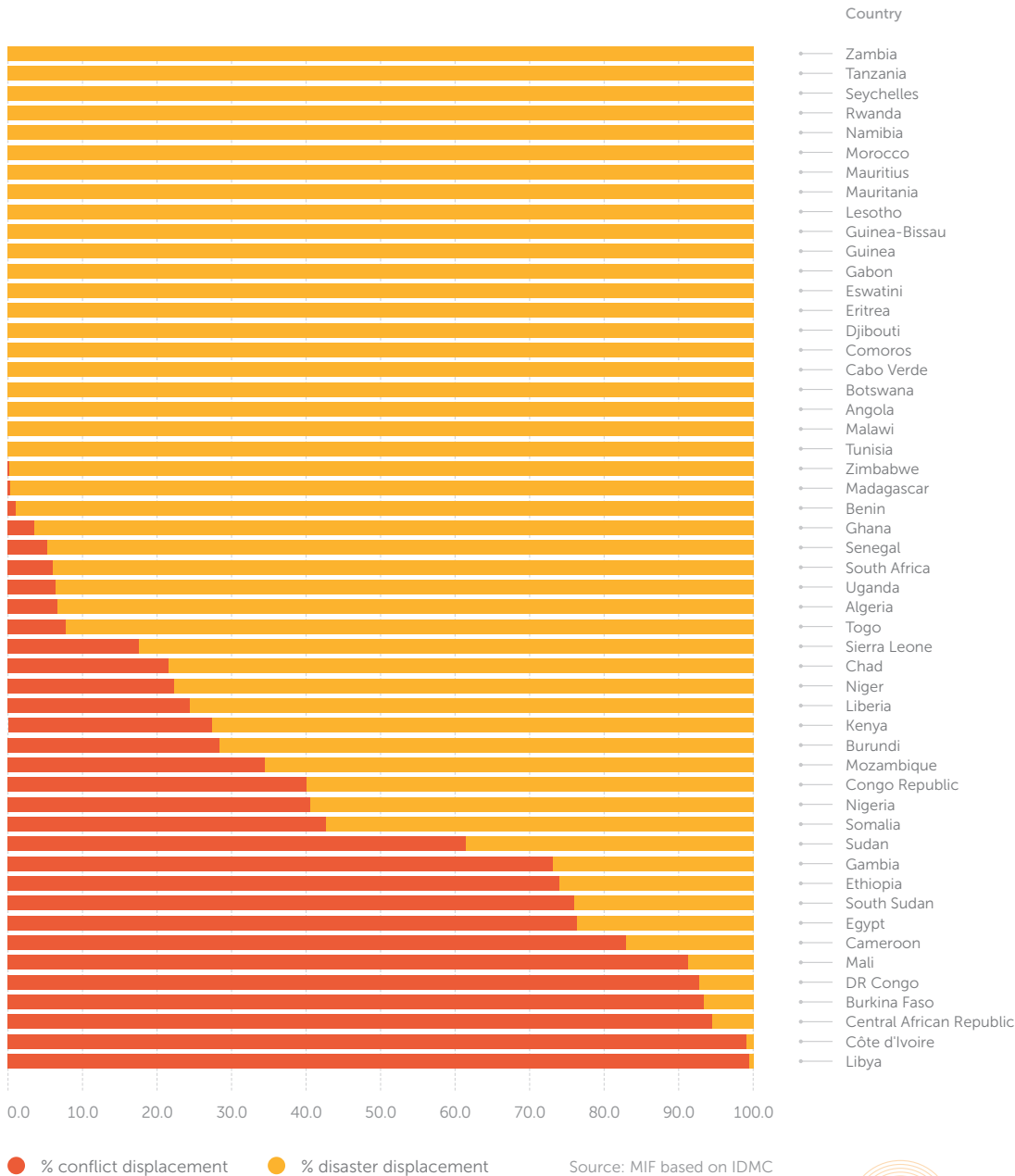
The large-scale displacement due to conflict in Africa means that IDPs are at risk of being displaced several times when also being exposed to natural disasters. This increases and prolongs their vulnerability.

More than half of African countries are facing the double-burden of disaster and conflict IDPs.

In 13 African countries with large numbers of new conflict IDPs between 2010 and 2020, the share of new disaster IDPs from the total new IDPs was at least 20%.

More than half of African countries are facing the double-burden of disaster and conflict IDPs

African countries: new internal displacements by conflict and disaster (2010-2020)



Climate change drives more rural populations into urban areas

Human mobility and migration can be an adaptation strategy in the face of the impacts of climate change. In contrast to displacement by sudden onset events, migration linked to climate factors is more likely to be triggered by slow onset events, with climate change and migration interacting through socio-economic factors.

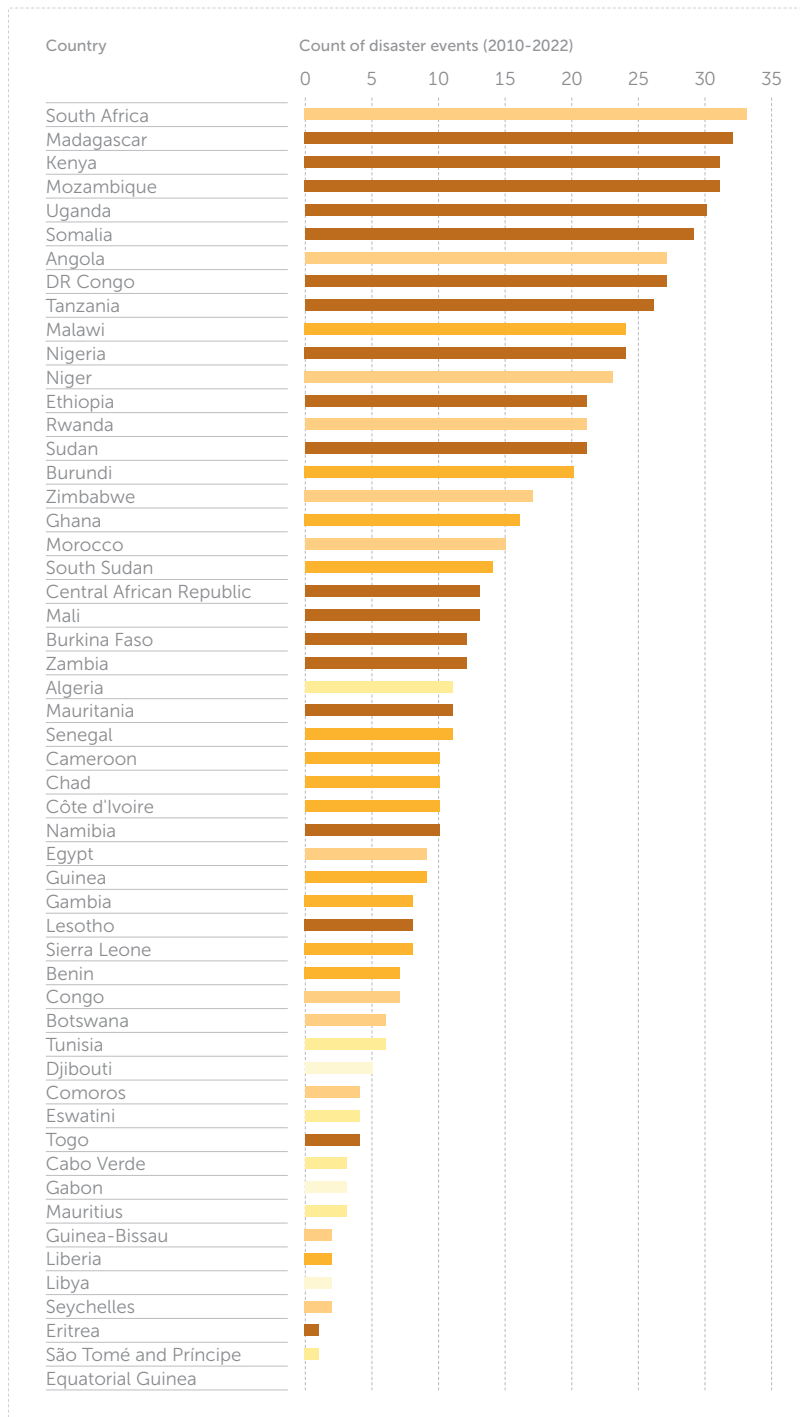
Such migration and mobility mostly happen within a country's borders or across neighbouring countries. This is often from rural areas where people can no longer sustain a living from agricultural activities or are exposed to worsening life conditions due to climate impact to urban areas where they expect to find better economic opportunities.

In 13 African countries with large numbers of new conflict IDPs (2010-2020), the share of new disaster IDPs was at least 20%

African cities are already growing due to population growth and rural-urban migration, and it is in some of the continent’s most climate vulnerable countries that the urban population is set to grow the most.

In eight of the ten most climate vulnerable countries and in eight of the eleven most disaster-prone countries, the share of the population living in urban areas is expected to increase by at least 15 percentage points between 2020 and 2050.

African countries: disaster events (2010-2022) and change of population living in urban areas (2020-2050)



Without climate action, sub-Saharan Africa is expected to see the displacement and migration of up to 85.7 million people, equivalent to 4.2% of the continent’s population

Percentage point change in % of population living in urban areas (2020-2050)



Source: MIF based on Centre for Research on the Epidemiology of Disasters & UNDESA

Africa's most climate vulnerable countries are facing the most pre-existing challenges

Country	ND-GAIN Vulnerability to climate change score (2019)	Count of disaster events (2010-2022)	IIAG Overall Governance score (2019)	GDP per capita (2022)	% of population at \$3.20 a day (latest data year)	% of population living in slums (2018)	% of population with access to at least basic drinking water (2020)
Niger	0.677	23	47.8	661.8	77.2	61.1	46.9
Somalia	0.676	29	19.2	369.6	88.9	73.6	56.5
Guinea-Bissau	0.629	2	41.4	907.3	85.4	78.2	59.0
Chad	0.622	10	33.9	743.8	66.3	86.6	46.2
Sudan	0.615	21	32.5	809.1	44	93.7	60.4
Liberia	0.605	2	47.9	743.0	75.6	66.6	75.3
Mali	0.598	13	46.6	1019.3	79.8	46	82.5
DR Congo	0.592	27	31.7	622.1	91.4	80.4	46.0
Eritrea	0.587	1	25.8	678.2	.	.	.
Uganda	0.581	30	51.8	1074.7	69.6	46	55.9
Benin	0.577	7	58.6	1551.4	76.2	59.2	65.4
Rwanda	0.566	21	60.5	832.6	80.2	44.1	60.4
Sierra Leone	0.563	8	51	551.7	76	59.6	63.8
Central African Republic	0.561	13	30.7	557.4	82.9	98.5	37.2
Burundi	0.559	20	36.9	269.6	89.6	50.5	62.2
Mauritania	0.558	11	41.6	2154.1	24.1	79.5	71.7
Ethiopia	0.558	21	46.6	.	68.9	66.2	49.6
Malawi	0.548	24	51.5	543.6	89	66.9	70.0
Madagascar	0.546	32	44.4	531.4	91.5	73.3	53.4
Burkina Faso	0.544	12	54	988.3	76.7	.	47.2
Gambia	0.530	8	55.9	846.5	38.4	24.3	80.9
Guinea	0.530	9	42.5	1241.8	70.9	50.7	64.0
Senegal	0.527	11	63.2	1699.4	68.4	28.4	84.9
Comoros	0.525	4	43.2	1426.5	39.7	69.6	.
Tanzania	0.520	26	53	1211.8	76.8	40.2	60.7
Zimbabwe	0.518	17	46.1	1758.0	63.8	29	62.7
Kenya	0.518	31	58.5	2290.5	66.5	46.1	61.6
Zambia	0.517	12	52	1195.8	75.4	63.3	65.4
São Tomé and Príncipe	0.514	1	60.4	2523.8	65.4	86.6	78.2
Mozambique	0.513	31	49	506.5	82.4	76.9	63.4
Congo Republic	0.512	7	36.1	2704.5	64.1	47.3	73.8
Eswatini	0.512	4	43.8	4164.3	52.1	32.7	70.8
Côte d'Ivoire	0.509	10	53.9	2645.6	59.1	61.1	70.9
Angola	0.506	27	40	2276.7	71.5	47	57.2
Togo	0.505	4	50.1	1075.6	74.2	53.3	68.6
Nigeria	0.493	24	45.5	2562.2	71	53.3	77.6
Djibouti	0.478	5	41.3	3869.3	39.8	.	76.0
Cameroon	0.472	10	43.5	1730.1	47	24.6	65.7
Namibia	0.470	10	65.1	4853.3	30.3	42.8	84.3
Lesotho	0.459	8	52.3	1227.4	49.9	61.9	72.2
Ghana	0.455	16	64.3	2556.5	29.3	29.2	85.8
Botswana	0.450	6	66.9	7770.5	36.5	.	92.2
Equatorial Guinea	0.444	0	28.7	8058.5	.	66.1	.
Egypt	0.439	9	47.4	4176.6	28.9	3.1	100.0
Seychelles	0.430	2	72.3	17706.0	1.1	.	.
Cabo Verde	0.423	3	73.1	3618.4	15.4	.	88.8
Mauritius	0.421	3	77.2	9437.5	2.2	.	100.0
Libya	0.419	2	35.2	4308.9	.	.	100.0
Gabon	0.418	3	47.7	9083.6	11.2	36.5	85.3
South Africa	0.406	33	65.8	7081.9	37.3	26.4	93.9
Algeria	0.387	11	56.2	3672.5	3.7	.	94.4
Tunisia	0.382	6	70.4	3747.5	3	8	97.5
Morocco	0.377	15	61	3617.3	7.3	9	90.4
South Sudan	.	14	20.7	313.6	91.6	97.3	41.0

■ Among ten worst performing/most affected countries on the continent
 ■ Among ten best performing/least affected countries on the continent

% of working population employed in agriculture (2019)	% of population in moderate or severe food insecurity (2018-2020)	% of population that is undernourished (2018-2020)	Population growth rate (% , 2025-2030)	Urban growth rate (% , 2025-2030)	Internally displaced persons (IDPs) stock (per 100,000 population, 2020)	Average number of violent events per year (2010-2021)
72.5	.	.	3.6	5.1	2164.7	110
80.3	79.1	59.5	2.9	4.1	18674.6	2178
60.5	.	.	2.2	3.0	.	3
75.1	.	31.7	2.7	4.3	2086.2	41
38.4	49.4	12.3	2.3	3.6	6225.9	641
42.6	80.6	38.9	2.3	3.3	23.7	9
62.4	.	10.4	2.8	4.3	1642.9	368
64.3	69.2	41.7	2.8	4.1	5953.5	1087
63.1	.	.	1.8	3.5	.	3
72.1	69.2	.	2.6	5.1	74.3	107
38.3	.	7.6	2.5	3.6	49.5	17
62.3	.	35.2	2.2	3.3	35.5	18
54.5	83.9	26.2	1.8	2.9	68.9	10
69.9	81.3	48.2	2.1	3.5	14207.7	327
86.2	.	.	2.7	5.2	824.2	414
30.9	39.8	9.1	2.4	3.4	34.4	4
66.6	56.3	16.2	2.2	4.1	2342.5	309
76.4	81.8	17.3	2.6	4.6	.	6
64.1	.	43.2	2.5	4.0	5.8	85
26.2	47.9	14.4	2.7	4.5	5238.4	270
27.0	56	13.6	2.6	3.4	66.2	3
60.7	74.1	.	2.5	3.6	19.8	17
30.1	40.9	7.5	2.5	3.5	62.1	12
34.6	.	.	1.9	3.1	.	5
65.1	56.4	25.1	2.8	4.6	63.6	24
66.2	69.8	.	1.8	2.7	141.3	102
54.4	68.5	24.8	2.0	3.9	732.7	175
49.6	51.4	.	2.8	4.0	5.4	18
19.1	.	11.9	2.1	2.7	.	1
70.2	71.1	31.2	2.7	4.1	2460.4	135
33.5	88.3	37.7	2.4	3.1	4367.5	7
12.1	64.1	11.6	1.2	2.4	.	6
40.3	.	14.9	2.4	3.3	1167.9	51
50.7	73.5	17.3	3.1	3.8	2.4	16
32.5	.	20.4	2.3	3.5	.	5
35.4	57.7	14.6	2.4	3.6	1393.7	1040
24.5	.	16.2	1.1	1.4	1.1	6
43.5	55.8	5.3	2.3	3.2	3891.4	353
21.9	57.6	19.8	1.6	3.2	.	4
44.3	49.7	23.5	0.9	2.7	.	5
29.7	50.2	6.1	1.9	2.8	1.8	29
19.9	50.8	29.3	1.5	2.1	33.2	3
39.5	.	.	2.7	3.2	.	2
20.6	27.8	5.4	1.6	2.0	11.3	392
.	14.7	.	0.3	0.8	.	.
10.6	35.1	15.4	0.9	1.7	.	2
6.0	24.2	6.2	0.0	0.4	.	6
16.4	37.4	.	0.9	1.2	4045.8	709
29.9	.	15.7	2.0	2.0	0.1	2
5.3	44.9	6.5	1.0	1.5	8.5	76
9.4	17.6	2.5	1.2	1.6	0.1	73
13.7	25.1	3	0.7	1.1	.	56
33.3	28	4.2	0.9	1.6	0.9	12
60.4	84.8	.	2.1	4.2	13775.6	643

Fighting climate change at global level requires addressing Africa's specific challenges

The fight against climate change cannot be separated from Africa's development. Climate change is putting the achievement of both the SDGs and Agenda 2063 at risk.

An intersectional approach to the development agendas is key. The strong adverse impacts and exacerbating effects of climate change on poverty, hunger, equality, urbanisation, peace and security mean that the lack of progress on climate goals at global level severely hampers the realisation of other development goals. In this sense, 12 of the 17 SDGs involve taking direct action on climate change.

Negative spillover effects from industrialised countries pose an additional obstacle to Africa's development.

Progress towards certain SDGs but negligence of SDG13 on climate action by and within rich countries can trigger negative spillover effects in less developed countries that hamper their achievement of the SDGs, for example through embodied imports of greenhouse gases, land degradation or water scarcity.

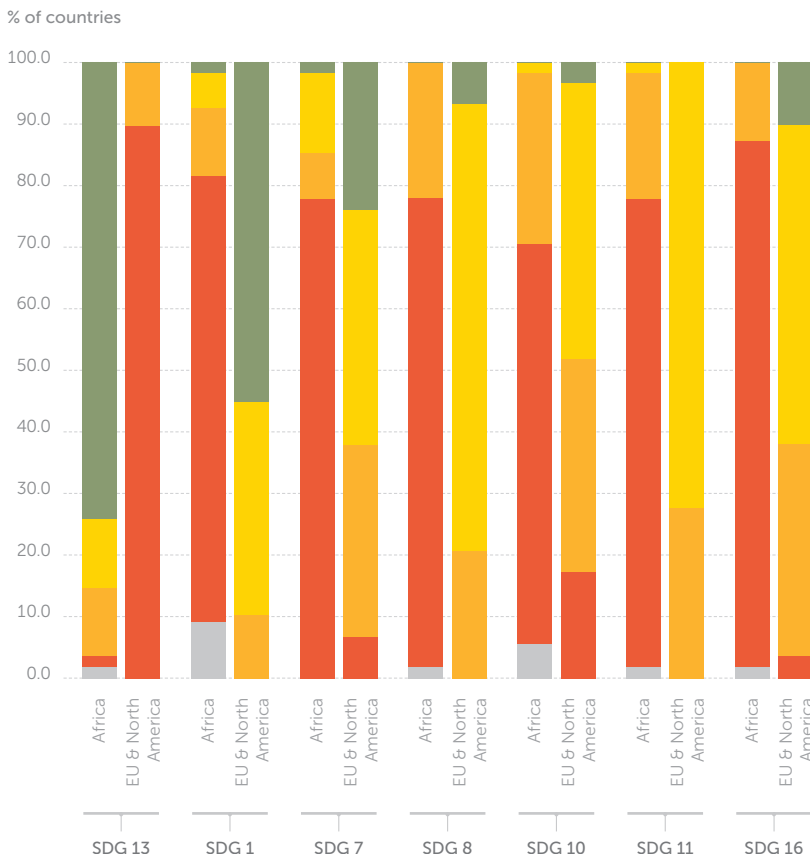
While almost three-quarters of African countries have achieved SDG13 on climate action, no EU country nor the US or Canada have done so.

Almost 90% of EU & North American countries are facing major challenges in achieving SDG13 and none are on track for achievement.

Africa is severely lagging behind on SDGs that impact resilience to climate change, as well as those where achievement might be hampered by climate change impact such as SDG1 on poverty, SDG2 on hunger, and SDG7 on energy.

-  SDG1 - No Poverty
-  SDG7 - Affordable and Clean Energy
-  SDG8 - Decent Work and Economic Growth
-  SDG10 - Reduced Inequalities
-  SDG11 - Sustainable Cities and Communities
-  SDG13 - Climate Action
-  SDG16 - Peace, Justice and Strong Institutions

Africa and EU & North America: progress on selected SDGs (2021)



Africa 'championing' on SDG13 on climate action, but facing serious challenges in other key SDGs

- Achieved SDG
- Challenges remain
- Significant challenges remain
- Major challenges remain
- No data

Source: MIF based on Bertelsmann Stiftung/ Sustainable Development Solutions Network

African countries: balancing NDCs and long-term national development plans

53 African countries have already submitted their first Nationally Determined Contribution (NDC), outlining their plans to cut emissions and adapt to climate impacts.

Of those, 40 have already updated their first NDC and two (Gambia and South Sudan) even feature among the 14 countries globally that have recorded a second NDC in the interim registry.

However, in many countries, such as Ghana, Nigeria and Sierra Leone, NDCs are misaligned with the long-term national development plans.

Strengthening the link between NDCs and national development plans should become a priority, especially now that many countries are revising their NDCs in the context of the global COVID-19 pandemic and its devastating social and economic consequences.

The need to mainstream the climate-security nexus

As the link between climate change and conflict is indirect and complex, considerations on climate are often lacking when it comes to conflict prevention, resolution and peacebuilding.


Russia's veto on a UN Security Council resolution for climate, peace and security in December 2021 was a major blow to mainstreaming the climate-security nexus at the international level. The resolution would have introduced more systematic analyses of climate security through regular discussions and reporting as well as mainstreamed climate considerations across UN peace operations.

The African Union is driving action on the matter and is at the forefront of pressing for the mainstreaming of the topic.

The AU Peace & Security Council (AU PSC) has committed to dedicating an annual session since 2016 to the topic and has met at least nine times to discuss it, with three meetings in 2021 alone.

According to ACCORD, six proposed action points by the AU PSC on climate, peace and security can be identified:

- 1 Establishment of a climate fund to support measures to combat the negative impacts of climate change.
- 2 Enhancing the analytical capacity of the Continental Early Warning System (CEWS) and the planning capacity of AU peace support operations and post-conflict reconstruction and development efforts in the area of climate security.
- 3 Strengthening continental capacities in the areas of humanitarian action and disaster risk reduction, preparedness, resilience and response.
- 4 Streamlining climate security across the AU Commission by appointing a special envoy and by enhancing inter-departmental cooperation through the AU climate security cluster.



The AU is driving action on the climate-security nexus and is at the forefront of pressing for the mainstreaming of the topic

- 5 Improving coordination between and among the AU, regions and member states.
- 6 Developing a common African position on the nexus between climate, peace and security.

However, steps remain rhetorical and at statement level with tangible policy frameworks for specific action still missing. For example the AU Special Envoy on Climate and Security has still not been appointed after introducing the idea in 2018.

The adaptation challenge: Africa set to pay a high price

Africa's specific context, combining exposure to climate change effects with high vulnerability and low resilience due to pre-existing development hurdles, results in an additional challenge: that of adaptation.

African countries are paying the highest price, as climate change impacts not only cause costs related to damages, lost assets and recovery, but also forces countries to increase their spending on adaptation.

This puts under strain the current financial capacity of most countries, as it diverts resources from much needed investment in sectors such as health, education or other public policies:

- Kenya: 70% of the NDC budget up to 2030 earmarked for adaptation
- Ethiopia: adaptation measures until 2030 are expected to cost \$6 billion every year, which is equal to about 5.6% of the current GDP
- Togo: the country has budgeted in its national plan \$93.6 million on adaptation every year, equal to about 2.5% of its current GDP
- Sierra Leone: at least 40% of international development funds will need to be channelled to adaptation measures and cannot be spent on other sectors

Moreover, this leads to further dependence on international assistance, and reinforces the need for a frank discussion about the relationship between richer countries, responsible for carbon emissions historically, and the challenges of loss and damage as well as adaptation in developing countries.

Only 13 African countries have a National Adaptation Plan (NAP)

The NAP process was established by the Parties to the UNFCCC in 2011 in Durban, as an instrument to conduct comprehensive medium- and long-term climate adaptation planning. It is a flexible process that builds on each country's existing adaptation activities.

13 African countries feature among the developing countries that have already submitted a NAP: Burkina Faso, Cameroon, Central African Republic, Chad, Ethiopia, Kenya, Liberia, Madagascar, Sierra Leone, South Africa, South Sudan, Sudan and Togo.

Towards COP27: potential questions to address

- How to better account for the nexus climate/development/security? What is the role for international and regional actors?
- To what extent and how can African countries balance their NDCs and long-term development plans?
- What should COP27 focus on/add to the current discussion to avoid worsening the 'vicious cycle'?
- Is COP27, organised in Africa, an opportunity to fully focus on the adaptation challenge and the actions needed to address it?

Chapter 02.

The elephant
in the room:
how to strike a
viable balance
between
development
and climate
goals?

The second chapter analyses Africa's current development trajectory, that requires balancing the needs for energy justice and for climate justice.

Realising Africa's development agendas depends on addressing the continent's unique energy gap. Yet one-size-fits-all policies focused on ending fossil fuel financing risk kicking away the development ladder. Renewables have vast potential on the continent, but alone cannot meet immediate and growing energy demand. In order to merge climate and development goals, and serve both the people and the planet, gas must be enabled as a transition fuel.

With 600 million people in Africa currently lacking access to electricity and more than 930 million lacking access to clean cooking fuels, Africa is the continent with the lowest rates of energy access globally. Demographic growth and the continent's development agendas means demand will only increase.

Although African countries have made considerable progress in renewables such as hydropower and geothermal, and have untapped potential in solar and wind energy, these alone are not capable of bridging Africa's energy gap.

Yet, despite this, much of the global community has adopted a one-size-fits-all approach to fossil fuel financing, with little consideration for Africa's energy poverty, small carbon footprint and the continent's right to development.

Africa's best chance of closing this gap as soon as possible, whilst continuing its transition to renewables, is to be able to tap into a wide range of the continent's energy resources - including the abundant reserves of natural gas, the least polluting fossil fuels.

Additionally, key focus should be placed on energy infrastructure, research and development, and continental integration, to ensure energy distribution bridges gaps within and between countries.

There can be no climate justice for Africa without energy justice. To achieve global success, COP27 will need to recognise Africa's unique circumstances in global climate frameworks and policy discussions, or risk jeopardising the continent's development goals.



40 'ENERGY APARTHEID' THREATENS DEVELOPMENT GOALS IN AFRICA

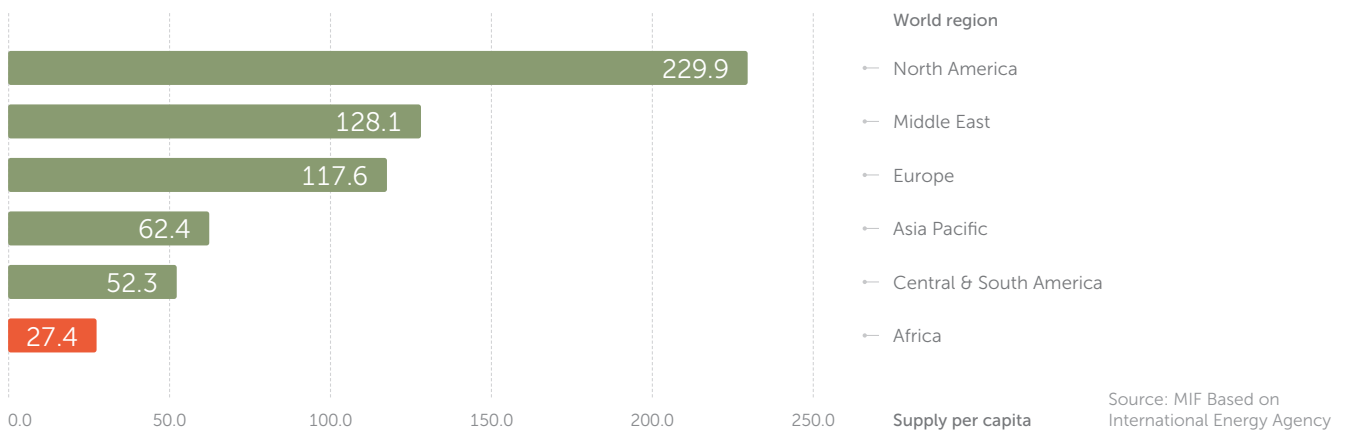
Africa faces the greatest challenges of any region in terms of energy access. Without a dramatic increase in the supply of safe, reliable energy that reaches all people, it will be difficult for African countries to realise either the SDGs or Agenda 2063.

Africa accounts for 17% of world's population but only 5.9% of world's energy supply

The per capita energy supply, accounting for all types of fuel supplied for generating electricity, powering industry, transport and infrastructure, as well as domestic cooking and heating among other uses, is lower in Africa than any other region.

- North America's per capita energy supply is more than eight times that of Africa's, while Europe and the Middle East's per capita supply is more than four times as high.

World regions: energy supply (2019)



In Africa over 600 million people still lack access to electricity

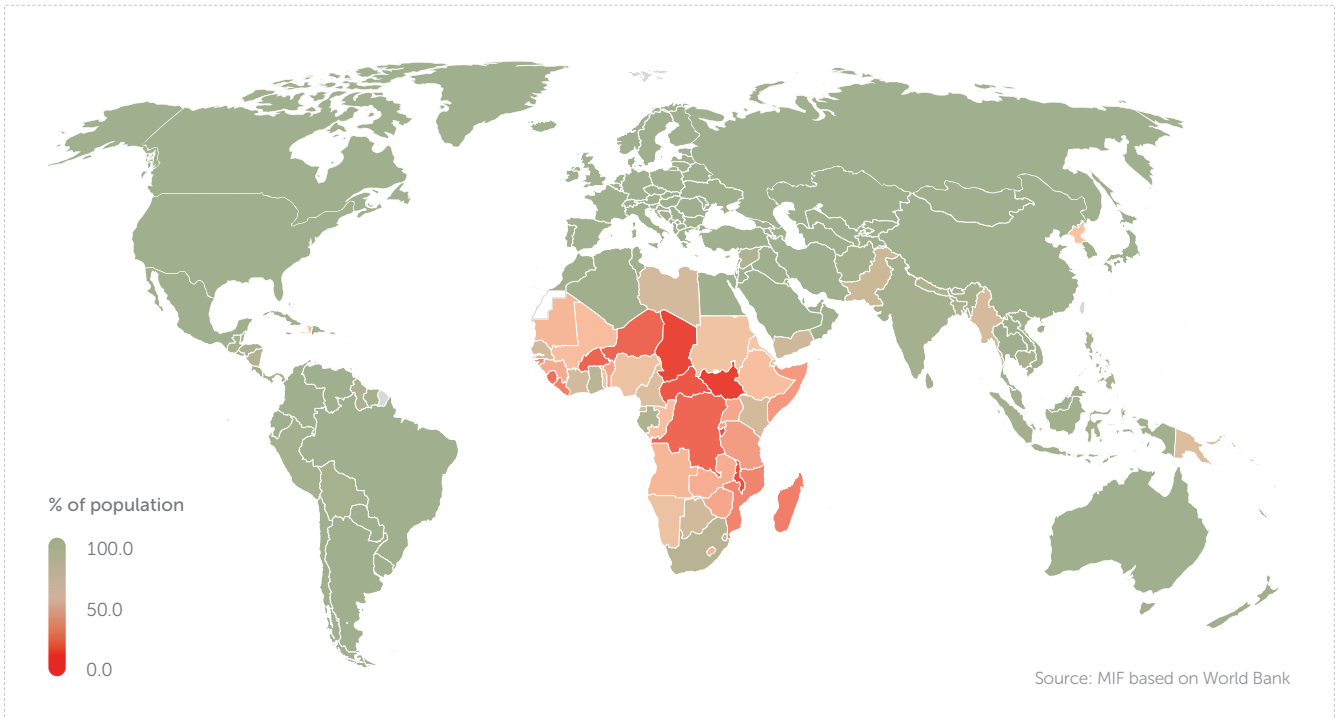
Africa has the lowest electricity access of any world region.

Just over half (55.7%) of the 1.3 billion people living in Africa have access to electricity, as opposed to over 90% for the rest of the world.

Over 600 million in Africa have no access to electricity, equivalent to almost twice the total population of the US

Africa's crippling electricity deficit

World countries: access to electricity (2019)



For those who have access, cost can be a substantial barrier, while outages can make supply unreliable.

- Installing electricity for businesses in Benin, Burundi, Central African Republic, and DR Congo equates to more than 100 times the average income.
- Running a modern fridge in Somalia costs over 40% of annual income.
- Power shortages cost the continent about two to four percent of GDP a year.

The combination of lack of access and affordability means that Africa consumes less electricity than any other world region.

Just over half (55.7%) of Africa's population has access to electricity, as opposed to over 90% for the rest of the world

In 2019, Japan alone consumed more electricity than all African countries combined, with a population less than one tenth of the size

In Africa over 930 million people still lack access to clean cooking fuels

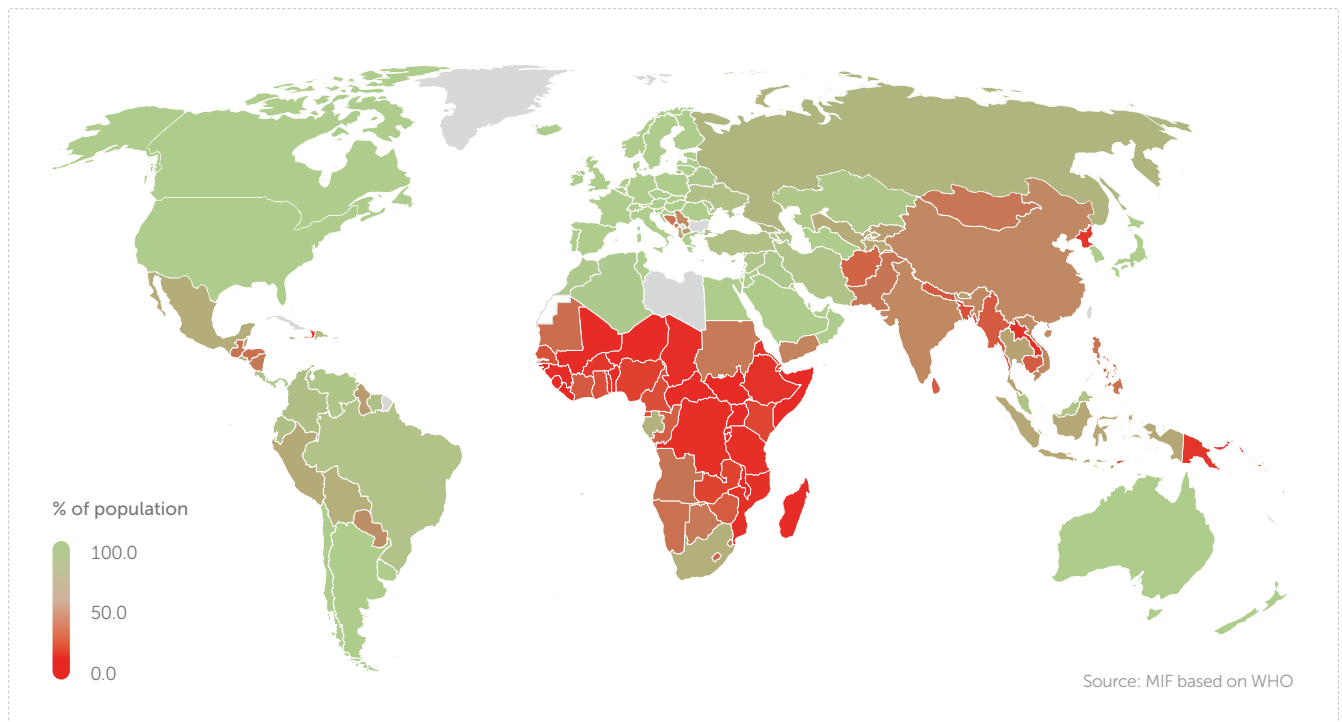
Access to clean cooking fuels is a major component of SDG7 "Ensure access to affordable, reliable, sustainable and modern energy for all". Yet, less than one in three people living in Africa have access to clean cooking fuels.

This leaves over 930 million of Africa's citizens without access, more than Europe's entire population and three times that of the US.

Africa is the only region in which the number of people using unclean cooking fuels is on the rise, having increased by almost 50% since 2000.

In 41 out of 53 African countries, most of the population lacks access to clean cooking

World countries: access to clean cooking fuel (2019)



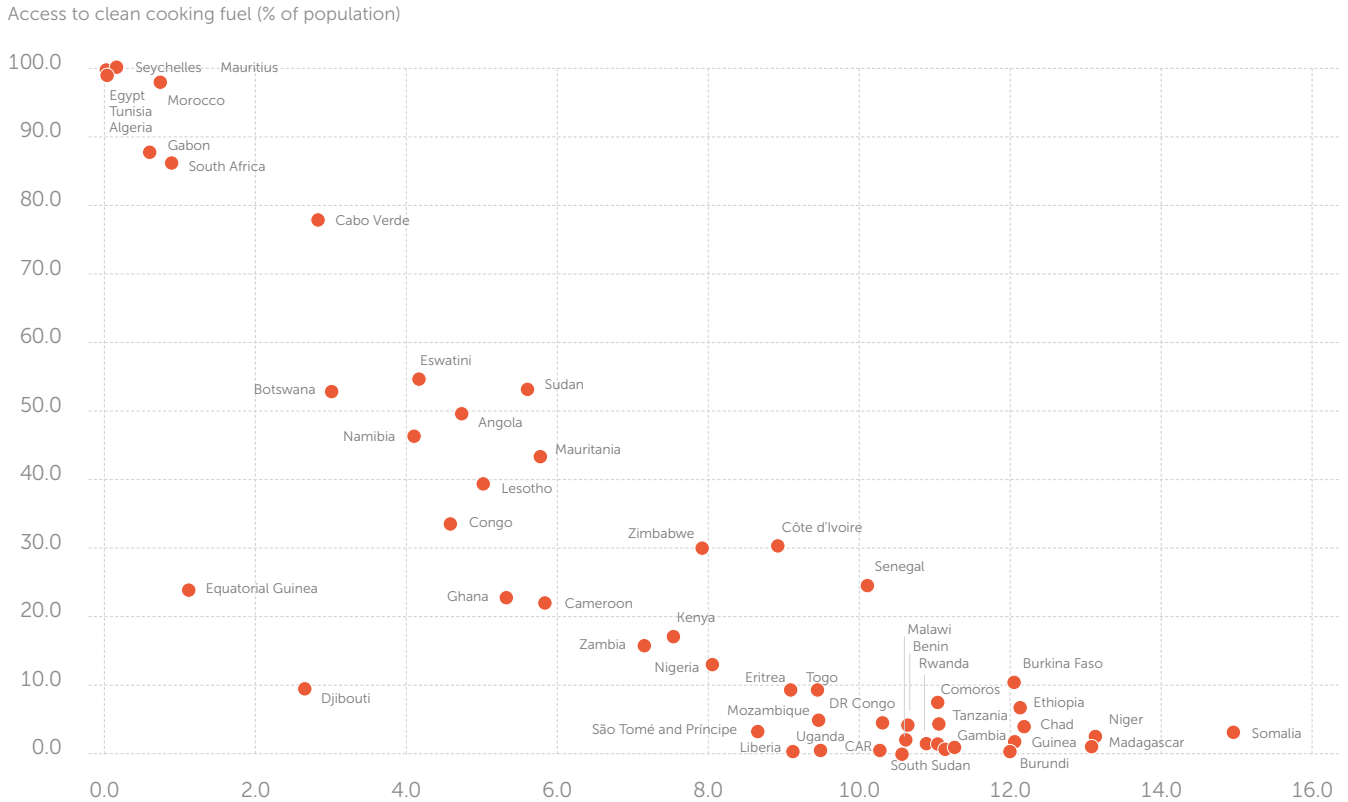
Cooking with biomass fuels such as wood, or other unclean fuels such as charcoal or kerosene is a major health risk.

- More than half of Africa's population (54.6%) cook with solid biomass fuels such as wood.
- The use of other unclean fuels such as charcoal (13.6%) and kerosene (2.8%) are the highest of any region globally.

Almost 490,000 premature deaths per year in sub-Saharan Africa are related to household air pollution from the lack of access to clean cooking facilities.

Clear link between unclean cooking fuels and health risks

African countries: access to clean cooking fuel and deaths from indoor solid fuel combustion (2019)



Source: MIF based on Institute for Health Metrics and Evaluation & WHO

Deaths with indoor solid fuel combustion as risk factor (% of deaths)


Africa’s growing energy demand is inescapable, given demographic trends and development plans

Africa’s growing demographic curve adds another dimension to the continent’s challenging energy landscape, as even more people will need energy to cook their meals, light their homes, travel, power businesses and create jobs.

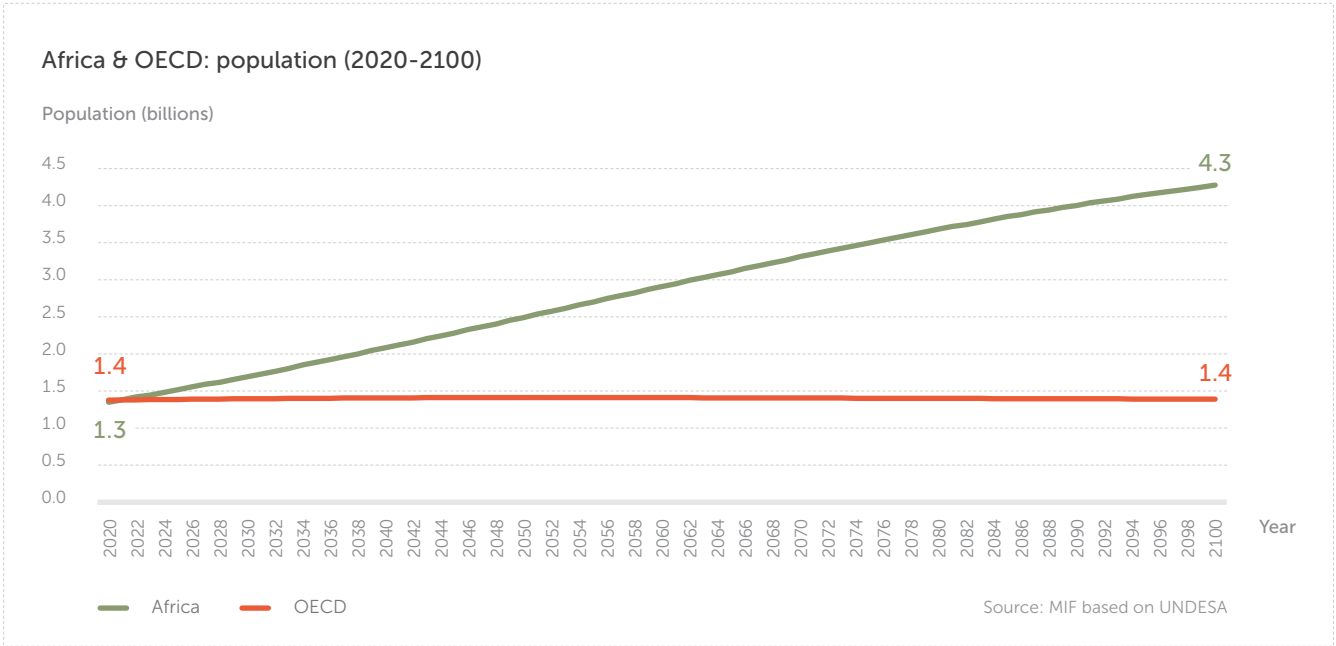
In industrialised countries where populations are stagnating or declining, and energy consumption and access is already high, there is little need to further expand the energy supply, leaving governments the space to focus on a low-carbon transition. In Africa, where the population is growing and energy infrastructure is extremely limited, the need to expand supply is pressing and inevitable. The focus on energy transition in multilateral debate and policy-making spaces totally overlooks Africa’s unique situation.

By 2050, Africa’s population is projected to be twice 2020 levels, while by 2100 it will have increased more than three-fold.

In contrast, the total population of OECD countries is projected to stagnate.



Africa’s population is projected to almost double by 2050, and increase 3-fold by 2100



At the same time, large infrastructural projects such as Agenda 2063's African Integrated High-Speed Rail Network (AIHSRN) and PIDA's Trans-African Highway Network Programme are underway. They are all instrumental in the acceleration of continental integration and the implementation of the African Continental Free-Trade Area. All translate into increased energy demand.

The Afrail Express, part of the AIHSRN, will connect the continent's capitals through three key rail corridors: Cape Town to Casablanca, Casablanca to Cairo, and Cairo to Cape Town. Construction on the Cape Town to Casablanca route via Windhoek, Luanda, Lusaka, Kinshasa, Lagos and Dakar is planned to commence in May 2024.



Upon completion, the Trans-African Highway Programme will have established ten transcontinental road corridors: Cairo to Dakar, Algiers to Lagos, Tripoli to Cape Town, Cairo to Cape Town, Dakar to N'Djamena, N'Djamena to Djibouti, Dakar to Lagos, Lagos to Mombasa, Beira to Lobito, and Djibouti to Bata.



RENEWABLE ENERGY: ONLY ONE PART OF THE SOLUTION

Many African countries are already at the forefront of utilising renewables

Reflecting Africa's ability to leapfrog, many countries have already acknowledged the key role renewables can play to address both the climate challenge and the energy deficit.

Between 2010 and 2019, African governments have more than tripled public investment in renewables, up to \$47.0 billion from \$13.4 billion the previous decade.

Twenty-two African countries already utilise renewables as their main electricity source. Eight African countries generate over 90% of their electricity from renewable sources: Central African Republic (96.3%), DR Congo (98.9%), Eswatini (99.8%), Ethiopia (100.0%), Lesotho (99.9%), Mozambique (95.4%), Namibia (91.0%), Uganda (97.7%).

Some African countries are even leading the way in renewable energy.

- In Namibia, almost one fifth of electricity (19.1%) is generated through solar, the fourth highest share globally.
- In Kenya, geothermal energy accounts for almost half (46.0%) of electricity generation, more than any other country in the world.
- 21 of the 52 countries using hydropower as the primary source of electricity are African.

However, in the 22 African countries that use renewables as their primary source of electricity, access to electricity remains limited.

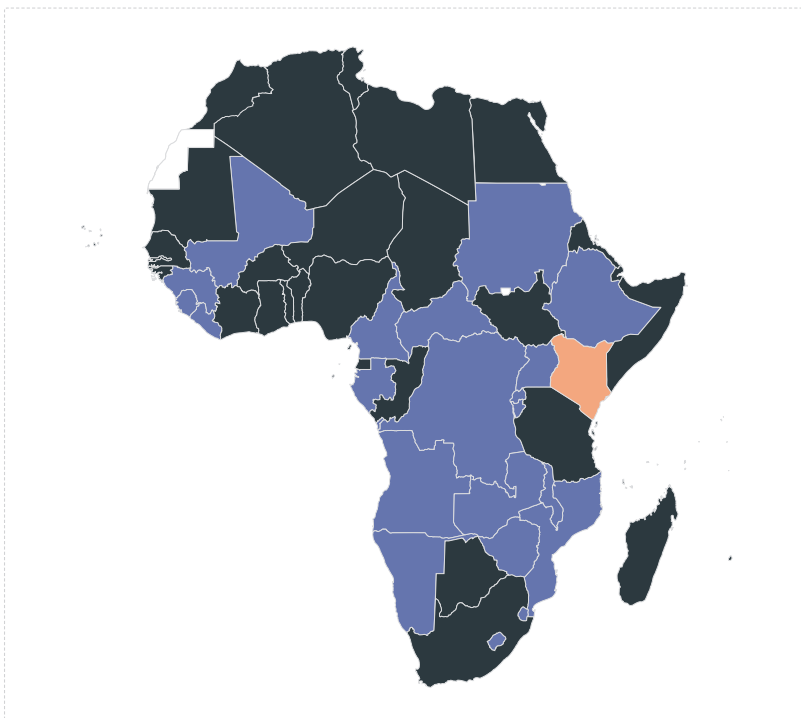
- Only Gabon has over 90% access to electricity.
- In 16 of the 22 countries more than half the population still lack electricity, highlighting how much more needs to be done to realise this potential.

The African Green Hydrogen Alliance

Six African countries – Egypt, Kenya, Mauritania, Morocco, Namibia, and South Africa – launched the African Green Hydrogen Alliance in May 2022, to increase access to clean and affordable energy on the continent. The alliance plans to foster collaboration between its founding members to advance green hydrogen development in their respective countries. It also calls for adopting regulatory and policy reforms, building local capacities, and encouraging investments in green hydrogen production to meet domestic needs.

- Namibia aims to start producing 300,000 tonnes of green hydrogen per year by 2026, replacing South African coal in the country's energy mix.
- Egypt is planning three green hydrogen projects with a combined capacity of 300 megawatts.

African countries: primary source of electricity (2019)



22 African countries already utilise renewables as their main electricity source

- Renewable hydropower
- Fossil fuels
- Geothermal

Source: MIF based on International Renewable Energy Agency

Solar: Africa has 40% of world's potential but just above 1% of installed capacity

Africa accounts for 40% of the world's total solar potential.

Five of the ten countries at global level with the potential to generate the most energy per solar panel are in Africa: Namibia (1st), Egypt (4th), Lesotho (8th), Libya (9th), Botswana (10th).

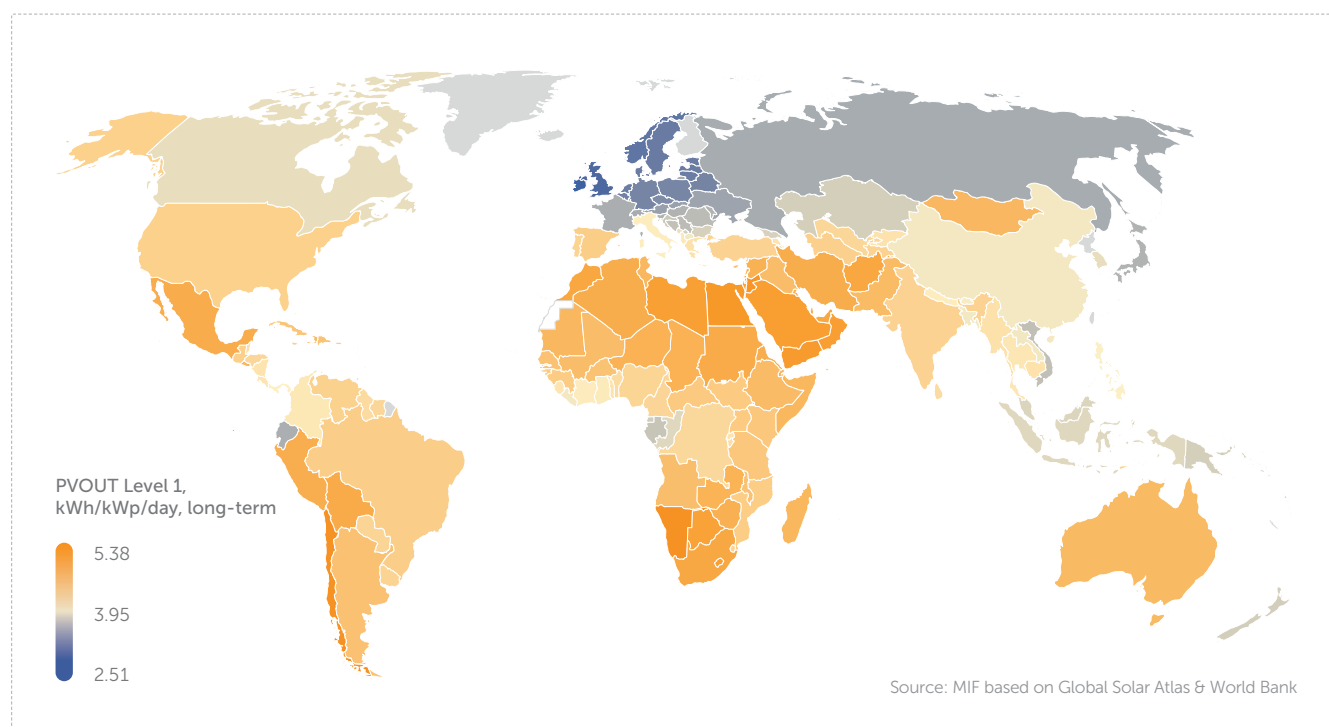
However, solar remains a small share of the energy mix in Africa.

Africa only hosts 1% of the world's panels, despite having some of the greatest potential.

Less than 2% of Africa's electricity was generated through solar technologies in 2019.

African countries have some of the greatest solar potential globally

World countries: average practical potential in photovoltaic solar output per installed unit (2020)



Several African countries are mobilising resources to scale up solar in their energy balance. Public investment in solar in Africa was almost 13 times larger between 2010 and 2019 than in the previous decade.

- Launched by the AfDB in 2021, the Desert to Power Initiative should increase existing capacity of the eleven countries in the Sahel region by almost 40% and bring electricity access to 90 million people for the first time by 2030.
- Uganda has over 570 MW of solar power plants under construction, equivalent to almost half its current electric capacity.
- The recently opened Noor-Ouarzazate complex in Morocco is the world's largest concentrated solar power plant.

5 of the 10 countries with the greatest solar potential are in Africa: Namibia (1st), Egypt (4th), Lesotho (8th), Libya (9th), Botswana (10th)

Hydropower: major high-potential projects, but challenging circumstances

Hydropower remains the continent's primary renewable at over 38 GW of installed capacity, 70% of the renewable electricity share. However, the full potential of hydropower on the continent is nowhere near being realised.

The Grand Inga Dam is an ongoing long-term project in DR Congo. At an estimated cost of at least \$80 billion, it will be the world's largest hydropower facility upon completion.

- Grand Inga could produce up to 40,000 MW of electricity, twice the power generation capacity of the world's current largest dam, China's Three Gorges, and equivalent to over one third of the total electricity produced in Africa.

In Ethiopia, the Grand Renaissance Dam would more than double the country's electricity capacity, but is causing tensions with the Nile's downstream neighbours, Egypt and Sudan.

Wind power: still largely untapped

Wind power is still to get off the ground in Africa, with the continent's wind potential largely untapped.

Practically, Northern Africa, the Sahel, the Horn of Africa, and the South-West of Africa are most suitable for utility scale wind power.

In the Sahel, full mobilisation of technical wind potential would increase electricity capacity more than 30-fold in Chad, Mauritania, Niger and Mali.

For Africa's coastal and small island states, offshore wind could contribute to plugging the energy deficit.

- Seychelles is among the ten countries with the highest per capita potential for offshore wind globally.


Only Senegal and Kenya have projects underway to seriously integrate wind into their energy mix, with prospective wind farms potentially adding more than 25% and 15% to current electricity capacity respectively.

Geothermal: 21 African countries with known resources, mainly unexploited


Twenty-one African countries have known geothermal resources, but currently they go largely unused. Only eight countries utilise geothermal energy for heating and cooling purposes and only two, Ethiopia and Kenya, use it for electricity generation.

The International Geothermal Association estimates that the East African Rift Valley region has the potential to produce over 20,000 megawatts.

- In Djibouti, expansion of geothermal electricity generation could see currently installed electricity capacity increase almost eight-fold.



Africa is only tapping into 0.01% of its wind power potential



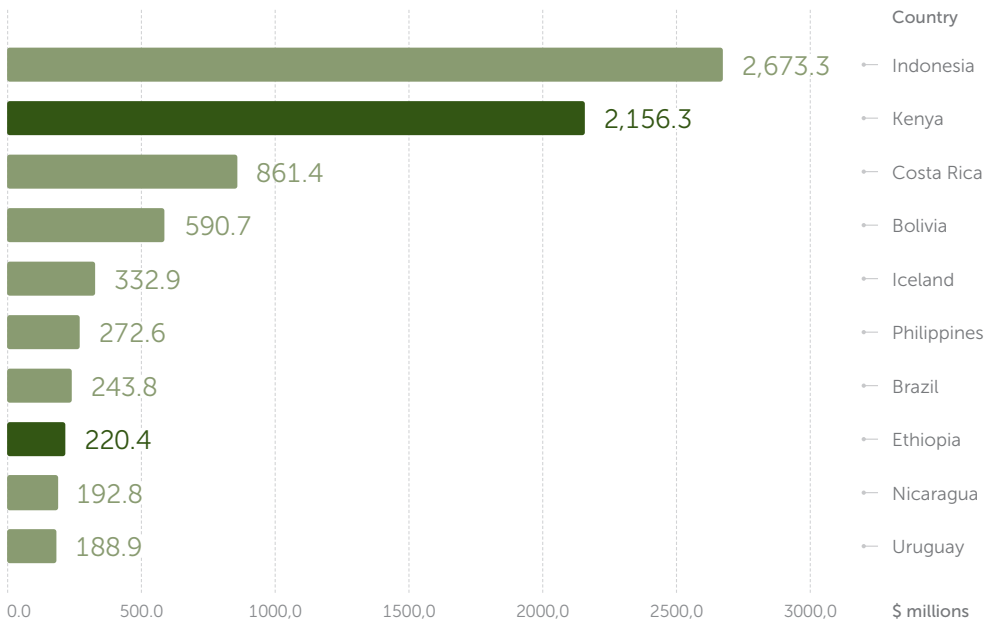
Of 21 African countries with known resources, only Ethiopia and Kenya currently utilise geothermal for electricity generation

- In Ethiopia and Kenya, geothermal could more than triple current electricity capacity.

Kenya is looking to realise this geothermal potential, both domestically and regionally, with KenGen (Kenya Electricity Generating Company) commencing drilling activities in Ethiopia and Djibouti.

Kenya and Ethiopia feature among the 10 countries at global level with the largest public investment in geothermal electricity

10 countries globally with the largest public investment in geothermal electricity generation (2000-2019)



Source: MIF based on International Renewable Energy Agency

SPOTLIGHT

Eight African countries could be using nuclear energy by the 2030s

Potential as a low-carbon base fuel

Nuclear plants are a low-carbon option that can help to limit the impacts from seasonal fluctuations in output from renewables and bolster energy security by reducing dependency on imported fuels.

With African countries accounting for roughly 20% of global uranium resources, the key mineral in nuclear fission, nuclear power could also build local supply chains and jobs.

Nuclear only a fraction of African energy landscape

Nuclear energy is the second largest source of low-carbon electricity globally. The IEA projects that new nuclear projects will need to double to be on track with a 2050 Net Zero scenario. However currently, nuclear only accounts for a fraction of current power generation in Africa.

- South Africa is the only African country to generate electricity through nuclear, accounting for 5.8% of generation in 2019.

Seven additional African countries are planning to build nuclear capacity

Egypt has commissioned a nuclear power plant that will begin operations in 2026, while Algeria, Ghana, Kenya, Morocco, Nigeria, and Sudan all have plans in place that could see them generating nuclear power in the 2030s.

Furthermore, the development of small modular reactors that can be mobilised more quickly present more short-term opportunities for nuclear in Africa.

Nuclear comes with major risks

Large nuclear power plants are subject to cost overruns and construction delays. Nuclear also comes with significant security risks. In the absence of a sound governance environment, proliferation of nuclear materials, waste management issues, or environmental contamination present serious concerns.



South Africa is the only African country that currently generates nuclear power

GAS: A KEY TRANSITIONAL FUEL TO ACHIEVE THE CONTINENT'S DEVELOPMENT AGENDAS

Renewable potential for many African countries is vast. However, renewables alone cannot address the continent's vast energy needs in the short to medium term.

Renewable energy potential is neither consistent nor evenly shared across the continent.

- Wind and solar are unreliable on still or overcast days.
- Hydropower is susceptible to climate change because it is directly affected by changing patterns in rainfall and temperatures.
- Energy storage technologies are not advanced enough to maximise renewable energy production and mitigate against inconsistent supply.

To facilitate the widespread energy access needed to industrialise and achieve the continent's development goals for the benefit of all its citizens, natural gas needs to act as a base fuel complemented by renewables.

Gas is abundant in Africa

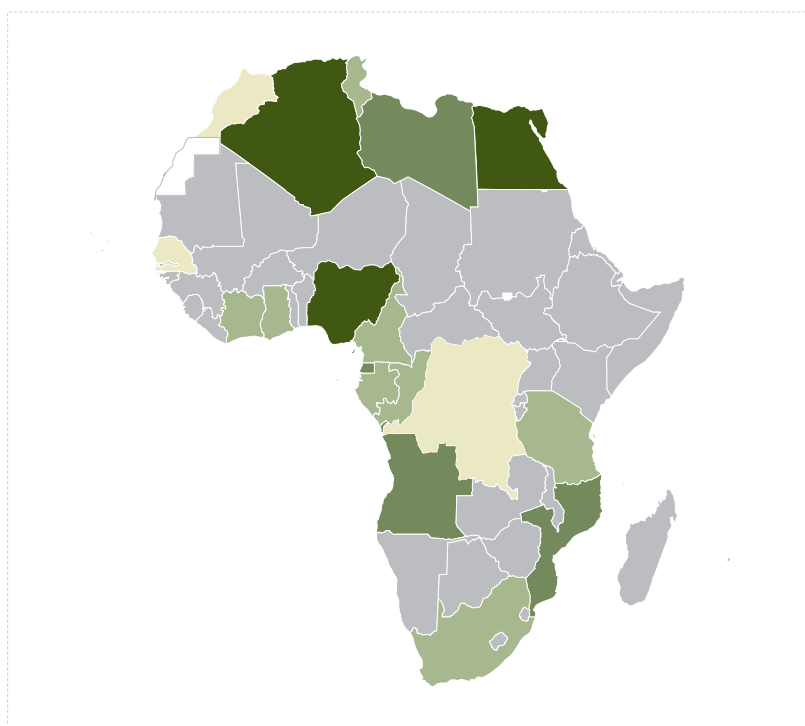
At 455.2 trillion cubic feet in 2020, African gas reserves could go a long way to meeting the continent's growing energy demand.

Algeria was among the world's top 10 producers of natural gas in 2019, while Egypt and Nigeria were among the top 20.

Algeria, Egypt and Nigeria accounted for over 80% of the continent's production, producing over 1 trillion cubic feet each.

Angola, Equatorial Guinea, Libya, and Mozambique each produced over 100 billion cubic feet each.

African countries: total dry natural gas production (2019)



18 African countries
are already gas
producers

Billions of cubic feet

- Over 1000 bcf
- Over 100 bcf
- Over 10 bcf
- Less than 10 bcf
- No gas production

Source: MIF based on United States Energy Information Administration

New discoveries emphasise the continent's vast potential, with Africa accounting for 41% of the world's new gas discoveries between 2011-2018.

Mozambique is now known to have 100 trillion cubic feet of natural gas reserves. This represents almost twice the reserves of Norway, the world's 8th largest natural gas producer and is almost 40% larger than the reserves of Canada, the world's 5th largest natural gas producer.

In Mauritania and Senegal, 450 billion cubic metres of offshore gas has been recently discovered, more than in the entire EU.

Most of Africa's natural gas leaves the continent

Gas accounts for less than 10% of the total domestic energy supply in half of the continent's gas producers.

Investment in domestic power generation and distribution has been overshadowed by investment in the export market. This provides government revenues and foreign exchange, but it does not help expand access to electricity or clean cooking fuels.

- In Mozambique, three quarters of all gas is exported. Meanwhile, less than 5% of its population use clean cooking fuels and less than 30% have access to electricity.
- In Angola, over 85% of gas is exported, yet roughly half the population lacks clean cooking fuel or electricity access.

No more fossil fuel financing at COP26: kicking away Africa's development ladder?

For Africa to achieve SDG7 "Ensure access to affordable, reliable, sustainable and modern energy for all", the continent would require annual power sector investments to more than double up to 2040, including investment in critical gas infrastructure.

However, major donors are pulling the plug on overseas fossil fuel financing. At COP26, 39 countries and development agencies, including twelve EU countries, the UK, the US, the European Investment Bank, and the French and Dutch development agencies, pledged to stop direct international public financing of fossil fuel projects – including natural gas - by the end of 2022.

The World Bank has also stemmed financing lately, providing no funding for any fossil fuel projects including natural gas in 2021.

As the least industrialised region, Africa has contributed the least to climate change and is facing the greatest energy access challenges globally. The one-size-fits-all approach adopted at COP26 ignores Africa's specific situation, kicking away the development ladder for Africa.

At the same time, many signatories of the Glasgow commitments continue to expand fossil fuel use at home.

- The US issued the largest ever auction of oil and gas drilling leases in the Gulf of Mexico days after signing the declaration at COP26.
- The UK continues exploration of its North Sea oil fields.
- Nine of the twelve EU signatories have new fossil fuel pipelines in development: Belgium, Denmark, Germany, Ireland, Italy, the Netherlands, Portugal, Slovenia, and Spain.

African gas could reduce European dependency on Russia

With the Russian invasion of Ukraine, many European countries are seeking to reduce dependency on Russian gas. There is potential for African gas to fill this gap. However, ramping up production to necessary levels will be tough without a prompt and significant uptake in investments in pipelines, storage capacity, or processing facilities. Any arrangement must be mutually beneficial, developing Africa's domestic gas-to-power infrastructure and distribution networks in the process. Africa's natural gas reserves can meet significant, pressing needs for both Europe and Africa. But only if stakeholders in both continents step up and act decisively.

African Energy Transition Bank to offer alternative funding for oil and gas

The African Export-Import Bank (Afreximbank) and the African Petroleum Producers Organisation (APPO) have signed an MoU for the joint establishment of an African Energy Transition Bank. The new bank – unveiled at the African Petroleum Congress & Exhibition held in Angola in May 2022 aims to become the go-to financial institution for companies and countries struggling to secure funds for oil and gas projects. The bank presents itself as 'an African-led solution to combat the threat presented to the African oil and gas industry, brought on by the co-ordinated withdrawal of international trade and project financing'.

Africa uses least fossil fuels in energy supply globally

While fossil fuels - coal, oil, and natural gas - account for most of the energy supply in every world region, their share in Africa is lower than elsewhere, giving Africa more flexibility to expand natural gas use than other regions.

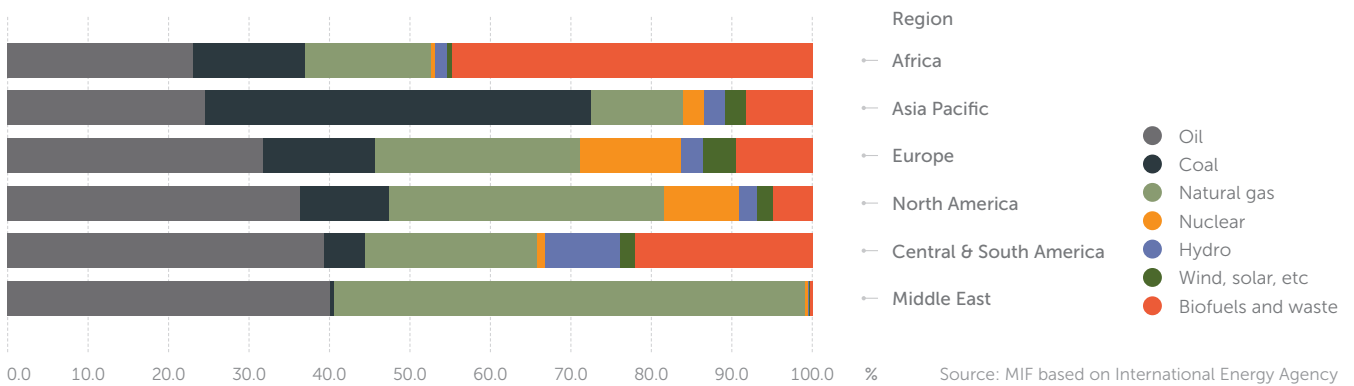
Fossil fuels account for roughly half of the total energy supply in Africa, while accounting for over three quarters in Asia and North America and over 65% in Europe and Latin America.

Increasing natural gas use in Africa does not spell a climate disaster. Many African countries already use little to no fossil fuel for electricity generation.

- In 22 African countries, more than 50% of electricity is generated from renewable sources.

If the whole of sub-Saharan Africa (minus South Africa) were to triple its electricity consumption using entirely gas it would only add 0.6% to global carbon emissions

World regions: total energy supply by source (2019)



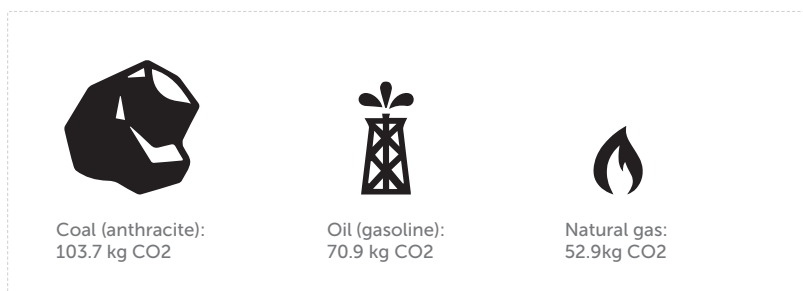
The environmental case for gas as a transition fuel in Africa

Beyond electricity access, industrialisation, and health, there are environmental benefits to expanding gas use on the continent, making the COP26 pledge counterproductive.

Natural gas is the cleanest burning fossil fuel, producing less emissions per unit of energy than coal or oil.

- Coal produces almost twice as much CO2 per million units of energy than gas, while oil produces roughly one third more.

CO2 emissions by fuel: kg emitted per million units of energy



Source: MIF based on United States Energy Information Administration

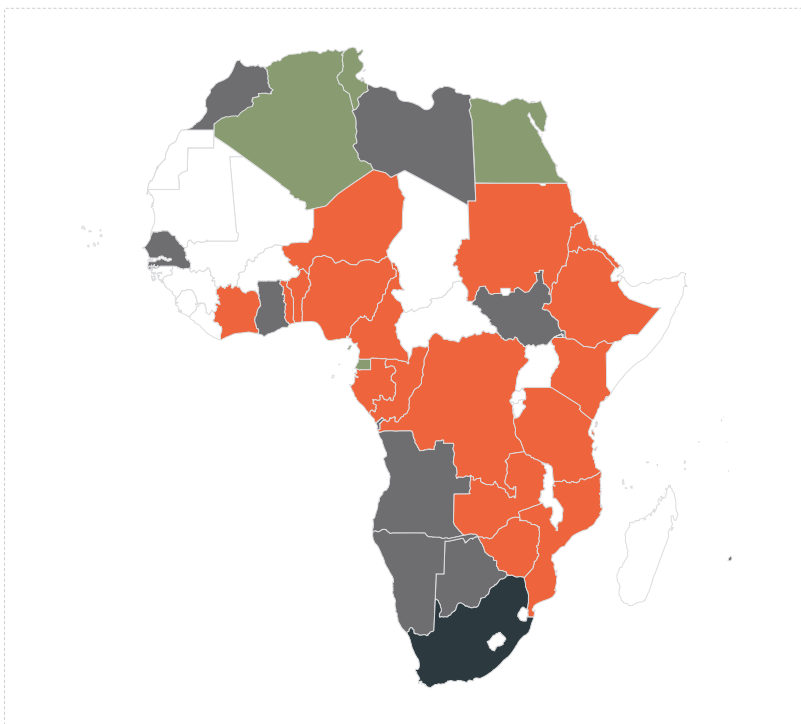
Biofuels and waste are the primary energy source in many African countries. Despite sequestering carbon from the atmosphere as they grow, commonly used solid biofuels such as wood can produce more carbon emissions per unit of energy than fossil fuels and contribute to deforestation.

Wood fuel produces almost twice as much carbon per million units of energy as gas.

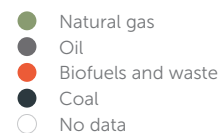
- In sub-Saharan Africa, around 70% of households depend on wood fuel for energy.

The use of wood for cooking is contributing to deforestation in the Congo Basin, the world's second largest carbon sink.

African countries: primary source of energy (2019)



In sub-Saharan Africa, around 70% of households depend on wood fuel for energy. Wood fuel produces twice as much carbon as gas



Source: MIF based on International Energy Agency

Capture flaring gas to generate electricity

Investing in gas infrastructure such as pipelines and storage facilities can also limit gas flaring.

Annually, gas flaring results in more than 400 million tons of CO₂-equivalent emissions.

One major reason for flaring is a lack of investment in infrastructure to capture, store, and conserve or use natural gas.

Moreover, captured gas could be used to generate electricity, replacing more polluting fuels such as coal or oil. It could replace biomass for cooking in homes, or be conserved.

The amount of gas that is currently flared globally each year – about 142 billion cubic meters – could power the whole of sub-Saharan Africa

SPOTLIGHT

Be it renewables or gas, electricity distribution is key

A major challenge underpinning Africa's energy deficit is poor transmission and distribution infrastructure for electricity. This issue is key, and must be addressed regardless of the energy source, be that fossil fuels, renewable energy, or nuclear.

Much of the continent's distribution infrastructure is outdated and unreliable forcing homes and businesses to go without or rely on backup generators. Much energy is also lost due to unsuitable low-voltage distribution lines.

- The Ghana Institute of Management and Public Administration estimate that electricity transmission and distribution losses in sub-Saharan Africa amount to \$5 billion annually.

Power generation and fuel exports have often been prioritised, leaving transmission and distribution unaddressed.

- For every \$10 dollars invested in the African energy sector since 2015, just over \$1 dollar went on transmission and distribution.



Only \$1 in \$10
invested in
distribution
and transmission
since 2015

SPOTLIGHT

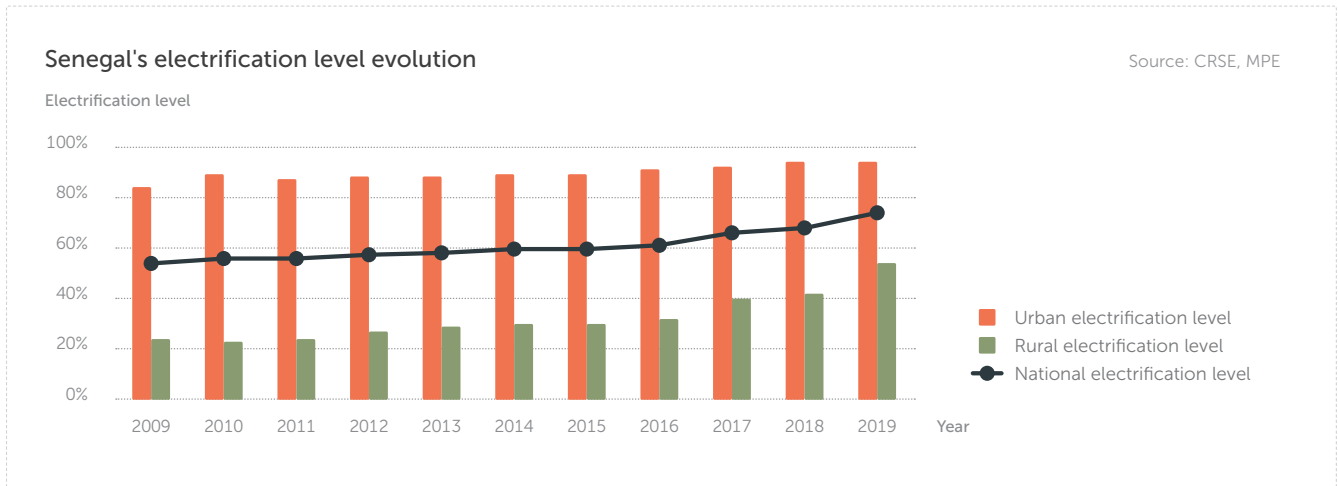
Africa's energy balance according to the IEA's 'Sustainable Africa Scenario'

The IEA's 'Sustainable Africa Scenario' (SAS) of June 2022 details the required direction of Africa's energy landscape by 2030 if both universal access to modern energy services, namely electricity and clean cooking fuel, and the continent's climate pledges are to be simultaneously realised. In the SAS:

- The traditional use of solid biomass – fuelwood, waste and charcoal – is eradicated completely and households have full access to clean cooking fuels.
- Renewables will increase their share of power generation, accounting for over 80% of newly installed capacity up to 2030.
 - Solar and wind will provide 27% of power generation, eight-times more than today.
 - Hydropower output will more than double, accounting for almost half of total electricity generation in sub-Saharan Africa.
- The share of fossil fuels in primary energy supply will decline in Northern Africa and South Africa, but increase in sub-Saharan Africa.
 - Demand for gas will increase and will account for nearly half of fuel supply investment. In West Africa gas will displace the more polluting fuel oil.
 - Natural gas will account for 10% of newly installed power capacity, helping meet demand in areas with low access to modern renewables and providing back up for variable renewables and hydropower.
- The continent will undertake no new coal-fired power projects.

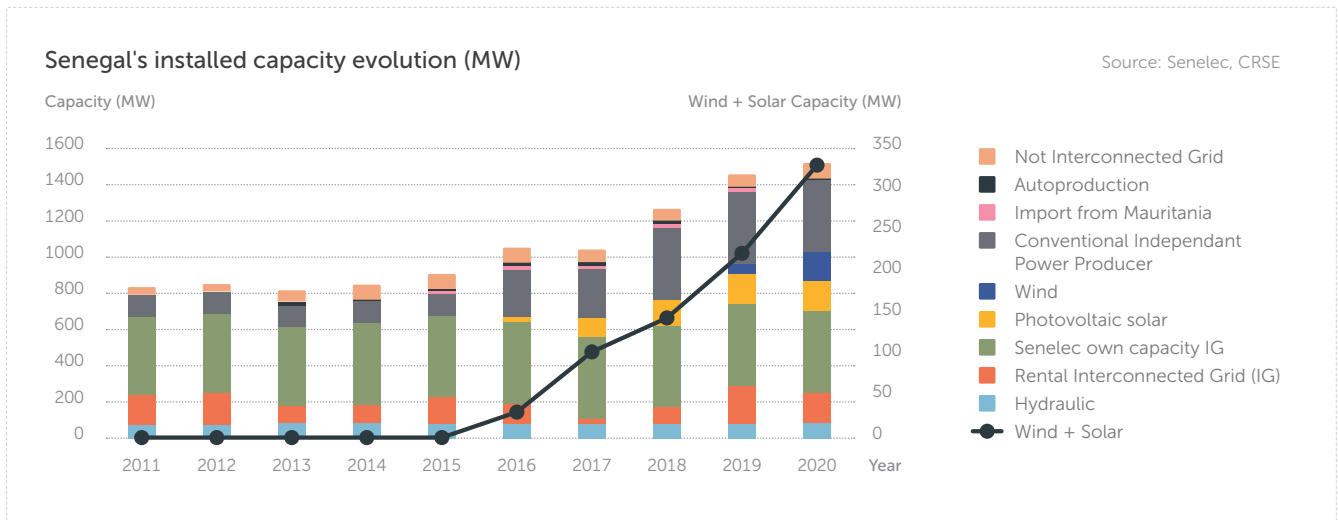
Senegal's energy development efforts

Mamadou Fall Kane, Energy Advisor to the President of the Republic of Senegal



One of the major objectives of the Plan Sénégal Emergent (PSE), the reference framework for HE Macky Sall's social and economic policy, is to achieve universal access to electricity by 2025. In 2019, the national electrification level was 74%, with urban electrification around 94% and rural electrification around 54%, as shown in Figure 1. To achieve this ambitious goal, which is in line with the United Nations' 'SDG7: ensure access to affordable, reliable, sustainable, and modern energy all', Senegal is striving to significantly improve its electrification rate in rural areas and has managed to ensure good access to electricity in large suburbs. However, there remains some challenges, particularly setting up reliable and low-cost transportation networks to reach areas with small, scattered villages.

Since 2016, we have witnessed growth in the development of solar and wind power plants, which has greatly contributed to rural electrification, partly since such technologies do not require long transportation networks to reach remote areas. Thus, the share of renewables in Senegal's energy mix increased significantly during the past five years to reach more than 30% today.



Undeniably, global warming and its impacts, has caught, and rightly so, the attention of most countries' leaders. Limiting the increase of the global temperature to 1.5°C has become imperative to ensuring we leave to our children a sustainable planet. Thus, significant efforts must be made to reduce greenhouse gas emissions by 2100. African countries face the task of finding the right balance that will allow them to guarantee socio-economic development for their population whilst respecting their pledges regarding climate change. It is crucial to consider specific issues of African countries in the global debate on climate change, particularly given that African countries have not polluted at the levels of industrialized countries. To achieve economic progress for which access to reliable and affordable electricity is a prerequisite, it is necessary for African countries to use all their natural resources, in a sustainable and environmentally-friendly manner.

For Senegal, even if renewable energies represent a solution for rural electrification, it must still lean on other more reliable and less intermittent sources of energy than solar or wind, but also less polluting than oil to meet the energy needs of its entire population. Fortunately, Senegal has recently discovered significant reserves of natural gas, widely accepted now as a transition fuel. Senegal intends to fully utilize its natural gas reserves to achieve its goal of universal access to electricity by 2025, while increasing its efforts to tackle climate change.

To support its energy ambition, the Yakaar and Teranga gas fields have been designated as the country's main source of natural gas for power production and industrialization, thus fully exploiting the advantages associated with natural gas with the goals of decreasing dependence on oil imports and reducing its carbon footprint. Indeed, natural gas is at the heart of Senegal's "Gas to Power" strategy, aimed at establishing the legal and institutional framework necessary to optimize the entire natural gas value chain, from primary energy supply to power distribution to final consumers.

In addition to power generation outlined in the "Gas to Power" strategy, Senegal plans to use its natural gas resources as a raw material and energy source to support its industrialization by transforming its mineral resources and those of the sub-region but also by creating new industries. For example, natural gas can:

- transform the Falémé iron ores into steel;
- transform bauxite from the sub-region into alumina and aluminum;
- produce fertilizers using our phosphate resources and then increase our agricultural productivity;
- reduce the energy bill of our industries and their carbon footprints.

Senegal is exploring other opportunities emanating from natural gas outside of its traditional uses. For example, in addition to the Train Express Regional, TER, Senegal is currently modernizing its urban transportation network with the ongoing Bus Rapid Transit (BRT) project which aims to use electric buses for public transportation. In the future, Senegal's ambition is to go even further and explore the possibility of using natural gas as a fuel.

To conclude, our natural resources can propel Senegal to the top of the low carbon industry manufacturing at the global stage. Indeed, with significant natural gas reserves, its geostrategic location and its high potential for renewable energy, Senegal can become a major hydrogen, low-carbon ammonia and sustainable steel producing and exporting country, provided that our leaders seize the right opportunities at the right moment.

South Africa's Just Energy Transition

The African Climate Foundation



South Africa's economy has been built off the back of the extraction and exploitation of its vast coal resources. Indeed, its more than a 100-year coal legacy has played a critical role in the development of key industries like energy, steel production, mining, petro-chemicals and synthetic fuels. Post democracy this legacy has also enabled large electrification programmes to bridge the energy access gap among the communities excluded under the Apartheid regime.

Coal's deep roots in both South Africa's economy and society have made questions around if and how to transition much more difficult. Transitioning in South Africa will not only necessitate a complete restructuring of the energy system (with coal accounting for 65% of South Africa's primary energy supply in 2018 and 86% of its total electricity supply in 2020) but will also have real life implications for the approximately 92 230 people employed in the coal industry.

Despite these difficulties two important developments have brought questions around the transition in South Africa to the fore. The first is increasing global pressure on South Africa to reduce GHG emissions, as one of the top 20 polluting countries, per capita, in the world. Anticipated trade restrictions, for example, on carbon intensive goods by key trading partners like the EU, have raised urgent red flags for government about the sustainability of South Africa's coal dependency.

The second is the growing frustration by the South African public and businesses with more than a decade of load-shedding (forced power outages to maintain grid stability when supply is unable to meet demand) and rapidly escalating electricity tariffs. With patience for the ruling ANC running thin, the party is under increasing pressure to solve the country's energy crises. Urgent decisions about South Africa's energy future are also having to be made at a time when the South African economy is still reeling from the aftermath of state capture and COVID-19.

The urgency of addressing South Africa's electricity crises and fossil fuel dependence has triggered a fundamental shift in thinking around the climate and economic policy landscape in South Africa. This is being driven by the Presidential Climate Commission (PCC), established in December 2020. The mandate of the PCC is to advise on and facilitate a common understanding of a just transition in South Africa – informed by a thorough analyses of the socio-economic, environmental and technological implications of climate change and the transition. This covers adaptation, mitigation as well as financing and implementation. The PCC also plays key role under the Climate Change Bill, which is currently before Parliament.

Diverse in composition Commissioners are drawn from across government departments and state entities, business, labour, academia, civil society, research institutions and traditional leadership. In its first year, with technical and financial support from the African Climate Foundation, the PCC has successfully navigated the fragmented landscape by integrating climate science and placing South Africa's NDCs targets on better footing to identify decarbonisation pathways, and in the long term, to achieve net-zero. It's Just Transition Framework is expected to be presented to Cabinet in 2022.

This groundwork by the South African government and stakeholders was instrumental in securing the \$8.5 billion Just Energy Transition Pledge (JET-P) by the EU, France, Germany, UK and US known as the International Partners Group (IPG) at COP26. While only a fraction of South Africa's estimated transition costs, the JET-P lays the foundation for larger investments and provides the impetus to fast track the reforms necessary to attract more finance on scale.

But the devil is always in the detail. The next step in the JET-P process - which will see the translation of the pledge into tangible finance agreements - is critical. Negotiations are currently underway between the South African Climate Finance Task Team – led by a special envoy in the

Presidency and the IPG group through the JET-P Secretariat - a joint initiative by the IPG and South African Government, coordinated by the Climate Investment Fund. This is expected to culminate in a clear finance plan that enables South Africa to meet the lower range of its NDC commitments. From the South African perspective, ensuring financing agreements on fair terms will be a priority, given the extent of countries existing debt burden.

Another priority from the South African side is mitigating the impacts of the transition on coal workers and vulnerable communities. This requires a detailed assessment and costing of the needs and options for coal workers (retraining, retirement, relocation), the decommissioning of plants (repurposing, rehabilitation), the closure of existing and abandoned coal mines and the development of alternative economic activities for affected communities. To this end, a lot of work is also currently underway in South Africa's coal heartland, Mpumalanga. A social compact will be essential to the success of South Africa's coal phase out, and the PCC will play a critical role in this regard.

While there is still much to do, the brief description above does not do justice to the complexity of the process currently underway or the amount of leg work done by the South African government and stakeholders to get to this point. The \$8.5 billion pledge at COP26 was a first of its kind and holds significant potential for replicability in other developing countries facing similar transition risks, particularly oil and gas dependent economies. As such there are important learnings that can already be drawn from the South African experience.

The first is that the real success of the South African government was its ability to marry domestic energy needs with the global goals of the Paris Agreement and a 1.5 degree pathway. The genesis of the JETP was a Just Transition Transaction (JTT) for Eskom. This was first conceptualized by South African think-tanks and academia as a plan to enable Eskom to deal with its crippling debt burden. By aligning the ambitions of the original Eskom JTT with a revision of South Africa's NDC, South Africa was able to appeal to the interests of climate finance by providing a clear mechanism through which to convert the NDC into clear investment pathways.

Another lesson, closely linked to the first, is that NDCs, properly used, can be more than just ambitions. They have the potential to act as levers to attract climate finance to support managed structural transitions in fossil fuel dependent countries. Properly utilized NDC's can provide a mechanism through which to turn climate ambitions into credible investment plans, identify investment gaps and reduce the transaction costs of mobilizing additional funding. In essence, the South African experience has shown that NDCs, strategically used can be an important tool to attract seed climate finance that de-risks investments for other sources.

A third lesson is the critical importance of ensuring that African countries are in the driving seat in determining their own transition needs and pathways. Cut and paste models simply do not work. Building the investment case on what is possible and pragmatic, that takes into consideration the unique economic, development and social risks in different countries is critical.

One of the most important learnings from the South African experience is that ultimately the success of a process like this rests on the politics – both within the transitioning country itself and within and between those countries supporting it. The South Africa country platform model is being closely watched, with the EU announcing similar initiatives at AU-EU Summit, and a number of African countries expressing interest. With momentum around the South African JET-P growing and an African COP on the horizon, the political climate is favorable for other fossil fuel dependent countries in Africa to work towards similar pledges at COP27.

Humanising Africa's energy transition

Chris Gentle, Senior Advisor New Business Ventures, World Energy Council



Africa is at the forefront of the energy transition and climate change. The continent is suffering the worst effects of rising temperatures and volatile weather patterns, while its emissions are among the lowest around the globe. The elephant in the room is should Africa follow the path to development using hydrocarbons, adopting a similar route map used by mature industrial economies in the West?

The world is suffering a crisis of the three Cs: Covid, conflict and climate. This has resulted in the biggest energy shock in 50, maybe 100 years, with record energy prices and the spectre of damaged food supply chains and potential famine. Indeed, it is likely that there is no one answer for the continent of Africa. Its future lies in humanising the energy transition on a country-by-country basis. Each should consider its energy resources, but also crucially demand side needs and views. These need to be equally balanced across three pillars: net zero, energy security and access and affordability. Clearly there are short-term pain points which require solutions to prevent excessive human suffering. At the same time, the pathways for long-term energy transition and development are urgently required. An unbalanced path to is likely to lead to a slower energy transition, slower economic development, and rising tensions across the continent. The West too needs to play its part, meeting its funding requirements, which in turn can encourage vital private capital to flow to the African continent.

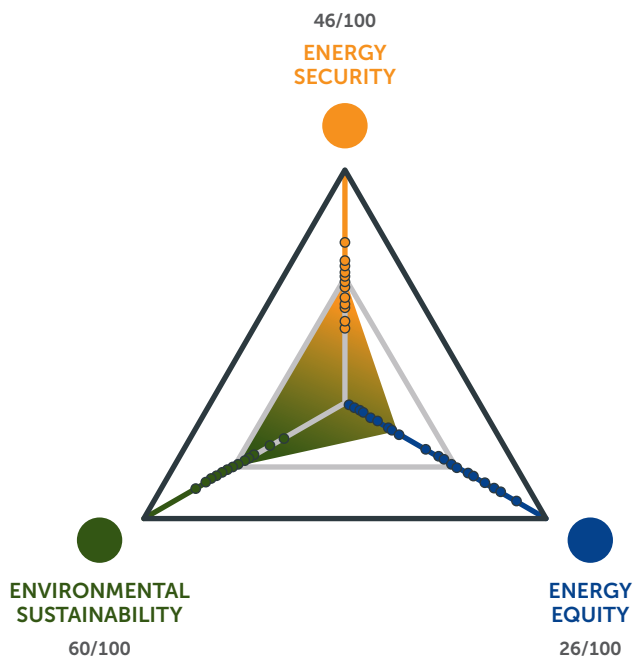
Indeed, the Minister of Industry and Trade of oil rich Angola, recently said in a gathering of investors and bankers in London, his country will not be talking about oil in a decade as they intend to create a new pathway for development¹. As this article demonstrates, the WE Index shows how key African countries are forging ahead. The future is accelerating this progress through shared best practice – World Energy Council is focused on delivering on this goal.

The WE Trilemma index report measures the progress of each country worldwide on its energy transition journey. Africa Trilemma Balance covers the whole African continent, a vast geographic and populous area, with an estimated population of more than 1.3 billion people, representing around 17% of the world's population. There are large disparities amongst countries, in terms of demographics, energy and mineral resources, economic development, industrialisation, energy consumption and energy performance, amongst others. 29 African countries have been assessed for WE Trilemma Index 2021. Figure 1 shows the overall scores of the Africa region across the three dimensions of Energy Security, Energy Equity and Environment Sustainability. Overall, all African countries are still in the bottom half of the global Trilemma rankings. Although, the low ranks reflect the lower starting points of individual countries, it does mean that they are not improving their energy policy performance. Many countries are making substantive improvements, particularly in access to modern energy and energy efficiency under the UN Sustainable Development Goal 7 (SDG7) objectives and the African Union 2063 vision.

¹ Bloomberg Africa Investor Dinner 17 May 2022, London.

Africa Trilemma Balance

Source: World Energy Council



Overall, the following outcomes can be highlighted for the three dimensions of the Trilemma: Energy Security has slightly improved this year with some progress for a few countries. Analysis of the regional historical performance of the Energy Security dimension since 2000 shows substantial increases in the indicator from 2000 to 2021, achieving 40% growth in the period, while the historical scores indexed to base year 2000 show little progress in this dimension from 2000–2007 and substantial increases since 2016. The past three years (2019 to 2021) have brought a clear consolidation of the growth rates (+16% for each year). Energy Security in Africa could be improved substantially by further developing and exploiting the region's abundant energy resources cost-effectively, and by enhancing the energy infrastructure to secure a more reliable energy supply. Energy Equity has made progress for the whole continent, although the scores remain quite low for the region overall; however, the situation is mixed, with North Africa having higher levels of access to electricity and clean cooking fuels, while in Sub-Saharan Africa, energy affordability and quality access remain quite challenging. Analysis of the regional historical performance of the Energy Equity indicator since 2000 shows a steady increase in the scores from 2000 to 2021 reaching +16% in the period, while the historical scores indexed to base year 2000 reveal negative trends in the

period 2002–2007, followed by substantial growth rates since 2013; and the period 2019–2021 seems to have brought substantial consolidation (+38% / +40%). Energy Sustainability is Africa's strongest dimension, with many countries and accompanying institutions (for example, the African Development Bank and United Nations Economic Commission for Africa) acting upon the Paris Climate Change Agreement and looking forward to COP26 in Glasgow, with the aim of supporting African countries to revise their Nationally Determined Commitments (NDCs) and boosting the overall continental commitments by raising global climate change ambitions. Alongside these objectives, Africa is continuing to integrate climate resilience into national sustainable development plans, as well as increasing investments in climate action.

The analysis of the regional historical performance of the Energy Sustainability indicator since 2000 shows overall maintenance of energy sustainability scores. The historical scores indexed to base year 2000 show contrasted variations in the whole period, with a decrease in scores over the period 2013 – 2019, followed by very slight growth rates in the past two years. Assessing the trends and performances of the three Trilemma Energy indexes in the region, highlights the following points: For the Energy Security dimension, the top five African performers are Angola, Kenya, Gabon, Côte d'Ivoire, and Egypt, with Nigeria dropping out of the list of top performers this year. Angola has been amongst the top ten global performers for the past three years and is continuing its positive trajectory. Angola is a major oil producing and oil-exporting country and a member of OPEC, and oil revenues continue to dominate the economy. The country is exploiting its oil reserves, while maintaining a low-carbon generation mix that includes 58% hydro and has developed an integrated transmission network to improve electricity supply across the country. All top five performing countries have developed their energy resources to meet their domestic energy demands while also establishing energy efficiency programmes and increasing deployment of renewable energies that have improved the reliability of their energy systems. Several countries in the region have shown substantial progress in their energy security scores since 2000, including: Kenya (+59%), Tanzania (+51%), Ghana (+40%), Senegal (37%), Eswatini (+37%), Cameroon (+35%). However, three countries fell back over the same period: Egypt (-5%), Algeria (-4%), and Mauritius (-2%). Many African countries scored C or D for Energy Security in 2021. This low performance is generally caused by a lack of capacity to develop a reliable and secure energy supply, but also relates to several cumulative factors depending on the countries' specific circumstances. The most relevant factors contributing to a low energy security score include lack of adequate investment; significant energy infrastructure gap; shortage of energy supply and energy services; insufficient power generation capacities; inadequate transmission and distribution networks; non-reliability of the power supply with increased power shortages; substantial technical and commercial electricity losses; terror attacks and sabotages of pipelines, political and social instability, etc. The implementation of centralised and decentralised grids offers a promising opportunity to provide access to electricity in a sustainable way to rural areas. Accordingly, many countries in the region need to promote these technologies (including micro-grids for off-grid and grid-connected), and innovative and disruptive distributed generation adoption (pay-as-you-go solar power systems and product bundles). For the Energy Equity dimension, although some progress has been made since 2000, the region continues to be challenged with the world's lowest level of access to electricity and clean cooking fuels. Around 600 million Africans, mostly in Sub-Saharan Africa, are still lacking the most basic access to electricity, while another billion Africans are lacking clean cooking facilities. Clean, affordable, and reliable energy is urgently required to improve livelihoods

and lifestyles. In addition, quality energy access and energy affordability remain significant challenges. The top five performing countries this year are: Egypt, Algeria, Mauritius, Tunisia, Morocco, while most African countries (including the five high-need and most populated countries: Nigeria, Ethiopia, DR Congo, Tanzania, and Kenya), which together represent 94% of the total African population, score D for energy equity, as in 2020. In terms of dimension comparison (% of change from 2000), it is worth mentioning that significant progress has been made over the period by some countries, substantially increasing their scores – Kenya (+129%), Benin (+121%), Ethiopia (+108%), Nigeria (+73%), Tanzania (+64%), Morocco (+51%).

Addressing Africa's Energy Equity challenge requires bold action that includes improving infrastructure with more power generation and better transmission/distribution capacity, promoting regional energy integration, and supporting viable cross-border projects across the continent, undertaking suitable energy policy reforms and regulatory frameworks, improving public sector governance, and increasing electricity affordability. Macro-policies that help reduce poverty and boost poor people incomes will also play a crucial role. For the Environmental Sustainability dimension, the top five performers (Angola, Namibia, Mauritius, Kenya, Gabon), have all developed and implemented national climate action plans (Intended Nationally Determined Contributions, or INDCs) further to the Paris Agreement of COP21, promoting the deployment of renewable energy, committing to reduce carbon emissions in electricity generation and in the transportation sector, and supporting the development of UN SDG7 in their respective countries. Angola performed well this year in the Environmental Sustainability dimension and surpassed Namibia. However, environment sustainability remains very challenging for the other 23 countries (including the largest fossil fuels users in transportation and/or power generation): Algeria, Nigeria, South Africa, Morocco, Egypt, DR Congo, Ethiopia, and Zimbabwe all achieved either a 'C' or 'D' ranking. When tracking % of change from 2000, it is worth noting that some countries have made significant progress in this dimension, including: Angola (+18%), Ethiopia (+17%), Senegal (+13%), Namibia (+9%), Eswatini (+8); however, others have regressed, including: Niger (-23%), Zambia (-21%), Zimbabwe (-12%), and Benin (-11%). Despite some national and sub-regional focus on clean energy deployment and actions to protect the local and global environment, there are still environmental challenges, which require better governance of energy resources, infrastructure investments, access to appropriate technologies and policies to improve the overall energy systems management and development in a more sustainable way. Renewable energy has so far been the most resilient energy source despite the COVID-19 outbreak. Accelerated deployment of renewable energy can mitigate energy challenges, while creating jobs, advancing industrial development, and more generally contributing to promoting human welfare and enhancing humanising energy. Substantial use of renewable resources including hydropower would help Africa improve its Environmental Sustainability performance. However, due to the current pandemic, the deployment of renewable projects might slow down or must be delayed, due to several factors including disrupted supply chains, rarefaction of investments and less available financing in the short term. It is expected that if the post-pandemic environment normalises, the industry will move forwards again strongly with plans for sustainable, clean energy deployment.

Africa nations have a bright energy future. The key to realising this future is to humanise the energy transition across the entire continent to bring energy security and sustainable prosperity.

Clean cooking solutions in sub-Saharan Africa: challenges and opportunities

Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda



According to the Mo Ibrahim Foundation's recent research on the road to COP27, 930 million people within Sub-Saharan Africa (SSA) still rely on traditional technologies and fuels to meet their daily cooking needs. The 2021 SDG7 progress report on access to clean cooking technologies and fuels further indicates that due to the rapid population growth rate in SSA, the access deficit to clean cooking solutions has risen by more than 50 percent since 2000, thus making the region to have more people without access to clean cooking technologies and fuels as compared to Central Asia and Southern Asia. Furthermore, among the 20 countries with the highest access deficit, 10 are from SSA with 7 of these having 5 percent or less of its population having access to clean cooking technologies and fuel. Thus, if the current trend is anything to go by, it is unlikely that the region will achieve its universal access to clean cooking technologies and fuels by 2030. This calls for accelerated efforts from different stakeholders including national and local governments, development partners, financial institutions, private sector actors, civil society organisations, research and academic institutions and local communities to support efforts towards ensuring that all the households within the region have access to clean cooking technologies and fuels.

Despite the low adoption of these clean cooking technologies and fuels, there are significant benefits that households could accrue from using them. For example, their use means no smoke and less particulate matter, hence a reduction in indoor air pollution and occurrence of respiratory illnesses thus improved health for the household members. This is especially key for women and children who spend most of their time in the kitchen exposed to such pollutants. Another key health benefit is a reduction in back injuries for women and girls who are responsible for carrying heavy loads of firewood for long distances. The use of clean cooking solutions also means a reduction in the demand and use of unsustainably produced wood, leading to improved health of forest ecosystems thus sustainable provision of ecosystem goods and services that support livelihoods. Moreover, a reduction in demand for traditional fuels will mean that women will no longer be spending most of their productive time collecting firewood and the time saved can be used to engage in income generating activities such as farming and running businesses. Young girls and boys who also engage in firewood collection would use the time saved to study and play with other children which is healthy as they grow. Furthermore, women and girls will no longer be exposed to risks of gender and sexual violence. Collectively, a reduction in time spent collecting these traditional fuels means that households will have more time to spend together, creating more social cohesion at the household level.

Some of the key factors identified that have hindered the rapid adoption and use of clean cooking technologies and fuels are lack of adequate policies and regulatory frameworks to stimulate and support market development and growth of some of these clean cooking technologies and fuels. This has further prevented private sector participation, yet they are one of the critical players that could support market development and growth. Furthermore, inadequate policies and regulatory

frameworks have limited support for subsidies targeting different segments of the clean cooking technologies and fuels value chains thus making the solutions expensive and hinder their uptake at the household level. Inadequate policies and regulatory frameworks also have a direct relation to lack of standards, which has led to some sub-standard clean cooking technologies and fuels in the market, creating negative consumer perceptions about the solutions. Another key factor is lack of financial resources to support the development and growth of the clean cooking sector. According to the 2021 SDG7 progress report, the clean cooking sector needs USD 2 per person, compared to the current USD 0.05, if universal access to clean cooking fuels and technologies is to be achieved by 2030. Coupling this with the lack of adequate policies and regulatory frameworks and limited financial resources for the sector, innovative business models such as public-private partnerships that could otherwise develop and stimulate market growth cannot work as there is no enabling environment to guide such partnerships.

Beyond addressing some of the key high-level factors highlighted above, there is need for efforts to understand the social-cultural dynamics that are often overlooked in discussions on clean cooking, yet they play a critical role in determining not only the adoption but also sustained use of these clean cooking technologies and fuels. Understanding the household dynamics on how and why they have particular cooking practices then co-designing clean technologies that meet these needs would be the first step to ensure that the various technologies and fuels are taken up and used sustainably. It is evident that one-size-fits-all clean cooking solutions do not work and often become counterproductive in efforts to scale the use of these solutions, thus households tend to fall back to their old practices once the clean cooking solution does not meet their cooking needs.

Therefore, localisation of these clean cooking solutions, awareness raising on why it is important to switch to cleaner cooking solutions, creation of an enabling environment for innovative business models to thrive and allocation of resources to support access and scale up, are critical if countries in SSA are to achieve universal access to clean cooking technologies and fuels by 2030.

Towards COP27: potential questions to address

- ➔ How to best articulate the case for African gas?
- ➔ What is the role of renewables in addressing Africa's energy gap?
- ➔ To what extent can the fallout from the Ukraine crisis serve to mobilise Africa's gas resources?
- ➔ How to ensure African gas can primarily serve Africa's people and address the energy gap?
- ➔ What are the best ways and means to end gas flaring and venting?
- ➔ What is required to ensure better energy storage, transmission and distribution networks?

Chapter 03.

Africa's assets
are key for
a global
sustainable
future,
provided key
conditions
are met

The third chapter focuses on the ecological and natural resource wealth that can make Africa a unique player in the global fight against climate change.

Africa owns key assets to accelerate the global transition to a green and sustainable economy. But to realise this potential, longstanding hurdles need to be addressed.

Africa has a wealth of natural resources, including 30% of the world's mineral reserves, that will be pivotal to further developing green and renewable technologies across the world. Whilst the continent's ecological wealth will be critical to meeting the planet's conservation efforts.

This natural wealth has the potential to translate into considerable economic gains in terms of job creation, trade, and investment, with the continent becoming a major cornerstone of a global low carbon future.

However, this potential cannot be realised without the appropriate financial resources, human capital, relevant data and research, and continental equity and solidarity, and last but not least, governance.

With the global demand for green technologies on the rise and capital increasingly seeking green investments, lessons must be learnt from the continent's past experience with mineral resources such as oil and diamonds. For natural resources to translate into wealth for both people and the planet, sound governance and inclusive institutions will be key to ensure that transparency, accountability and effective resource management sit at the heart of Africa's agenda.



Ecological wealth: fundamental to the planet's conservation efforts

Africa's extraordinary wealth in biodiversity and ecosystem services constitutes a strategic asset for sustainable development at both regional and global levels.

Africa holds an important genetic capital that reflects its unique and diverse biological and cultural heritages and is the result of its long and varied history of human interactions with the environment.

Indigenous and local knowledge in Africa underpins the way nature benefits people, and is at the forefront of biodiversity conservation.

The story of Africa's natural endowment remains to be told, as this is not a central topic of current policy debates. Without it, the true value of the contributions of the continent's biodiversity to human wellbeing will continue to be underappreciated in decision-making processes.


To protect the African ecosystems that are of great ecological, biological and cultural importance nationally, regionally and globally, African countries have classified as protected 14% of the continent's land and 2.6% of the seas within national jurisdiction, while some sites have been designated as important or for special conservation reasons.

These regulations cover services provided by nesting, feeding and mating sites for birds and mammals; services provided by insect pollinators such as bees and butterflies; regulation of air quality, climate, ocean acidification, freshwater and coastal water quality; and protection and decontamination of soils and sediments.


Africa hosts:

- 8 of the world's 36 biodiversity hotspots - the Earth's most biologically rich and threatened areas with large numbers of endemic or threatened species. They include the Cape Floristic Region, the Eastern Afromontane, the Coastal Forests of Eastern Africa, the Guinean Forests of West Africa, Madagascar and the Indian Ocean Islands, the Maputaland-Pondoland-Albany, the Mediterranean Basin, the Horn of Africa, and the Succulent Karoo
- 369 wetlands of international importance
- 142 UNESCO World Heritage Sites
- 1,255 important bird and biodiversity areas
- 158 Alliance for Zero Extinction sites – where endangered or critically endangered species live

Analysis from ENACT's Global Organized Crime Index shows that the exploitation of Africa's natural assets by criminal groups is also posing a serious problem to the protection of the continent's biodiversity and natural resources. Globally, environmental crime markets are the most prevalent in Africa.



Africa is home to almost one quarter of the world's 36 biodiversity hotspots



Africa is home to about 1/5 of the world's land, almost 2/3 of its arable land, around 1/6 of the world's remaining forests

Global fight against biodiversity loss: Aichi goals largely unmet

The Aichi Biodiversity Targets - 20 global biodiversity goals for the period 2011-2020 - have been largely unmet. The 15th COP of the Convention on Biological Diversity (CBD) opened in China in 2020 but suffered serious delays due to COVID-19. The final part of this COP15, to take place in Canada in December 2022, should allow to finalise a Post-2020 Global Biodiversity Framework.

Even though many African countries developed their national biodiversity strategies and action plans in line with the Aichi goals, progress in most areas has been insufficient due to obstacles such as financial and capacity constraints. More than 50% of countries are not on course to meet targets. Of particular concern is Target 5 ("Habitat loss halved or reduced"), where more than 25% of countries appear to have moved away from achieving the target.

Africa's green wealth: a large part of the world's land, wildlife, flora, and key carbon sinkholes

Africa: biodiversity assets in terrestrial ecosystems (2022)



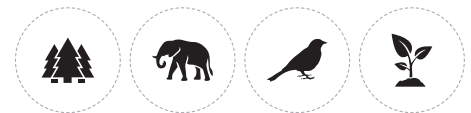
The Congo Basin forest absorbs 4% of global carbon emissions every year, offsetting more than the whole African continent's annual emissions

- Drylands and deserts
- Mediterranean forests, woodlands and scrub
- Tropical and subtropical dry and humid forests
- Tropical and subtropical savannas and grasslands
- Tundra and high mountain habitats

Source: MIF based on Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

Africa is home to:

- Five subregions under different climate conditions.
- About one fifth (20.2%) of the world's land, almost two thirds (65%) of its arable land, around one sixth of the world's remaining forests.
- Key carbon sinkholes for the global climate fight. Among those, the Congo Basin forests of Central Africa constitute the world's second largest rainforest after the Amazon.
 - They are estimated to contain between 25-30 billion tonnes of carbon – roughly equal to 4 years of current global anthropogenic carbon dioxide emissions.
 - They absorb an estimated 1.1 billion to 1.5 billion tonnes of carbon dioxide annually.
 - Despite this, over a period of 15 years (2000-2014), the Congo Basin lost around 165,000 km² (an area of forest bigger than Bangladesh), mainly due to the demand for those trees critical for wood fuel, the main driver of tropical forest degradation.
 - At current rates of deforestation, all Africa's primary forest will be gone by 2100.
- One quarter of the world's mammal species and the last significant assemblage of large mammals, one fifth of the world's bird species, and at least one sixth of the world's plant species.
- Many food crops that are of African origin (species of wheat, barley, millet and sorghum, teff, coffee, cowpea, and oil palm).



At current rates of deforestation, all Africa's primary forest will be gone by 2100

Africa's blue wealth: six large marine ecosystems and East Africa's coral reefs

Africa: biodiversity assets in marine & freshwater ecosystems (2022)



Africa is home to six out of the world's 66 large marine ecosystems

- Flooded grasslands and savannas
- Mangroves
- Inland surface waters and water bodies
- Coastal areas and near shore ecosystems

Source: MIF based on Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

Africa is home to:

- Diverse wetlands, inland surface waters and water bodies, rivers, lakes and estuaries. Wetlands constitute 1% of Africa's total land surface area (Sudd in South Sudan and Okavango in Botswana are among the world's biggest).
- Six out of the world's 66 large marine ecosystems: the Agulhas Current, the Somali Current, the Benguela Current, the Canary Current, the Guinea Current and the Mediterranean. Three of these six large marine ecosystems rank within the four most productive large marine ecosystems in the world.
- East Africa's coral reefs, extending along the coasts of Kenya, Tanzania, and northern Mozambique that constitute around 5% of the planet's total coral reef area.
- Coral reefs in the western Indian Ocean are at risk of extinction by 2070 due to warming temperatures and overfishing, with a roughly 12,000 km² expanse of coral reefs facing ecosystem collapse.

Seychelles: the world's first sovereign blue bond

The Seychelles' Blue Economy is an innovative, holistic policy to sustainably grow an integrated, ocean-based economy. It embraces the value of the ocean – not just in economic terms but also in terms of climate change, sustainability and security. To support sustainable marine and fisheries projects, Seychelles launched the world's first sovereign blue bond in 2018, raising \$15 million from international investors.

Three of Africa's six large marine ecosystems rank within the four most productive large marine ecosystems in the world

Coral reefs in the western Indian Ocean are at risk of extinction by 2070 due to warming temperatures and overfishing

Mineral wealth: at the heart of a global low carbon future

Africa holds 30% of the world’s mineral reserves, which will be critical to renewable and low-carbon technologies, including solar, electric vehicles (EVs), energy storage, green hydrogen, and geothermal. To meet the expected rise in global demand, production of minerals such as lithium, graphite and cobalt will need to increase by nearly 500% by 2050. This cannot be achieved without African minerals.

Cobalt (used in batteries and EVs): DR Congo is the leading world producer and Africa holds roughly half of global reserves

Bauxite (used in solar): Guinea has the world’s largest reserves, and Africa holds 30% of global reserves

Graphite (used in batteries, solar and nuclear): Mozambique is the world’s second largest producer

Platinum Group Metals (used in green hydrogen): South Africa holds 90% of the world’s reserves and with Zimbabwe produces almost 80% of the global output of platinum

Manganese (used in batteries and solar): African countries produce half of the global total

Chromite (used geothermal, solar, and wind): South Africa accounts for over 40% of the global output

Copper (used in geothermal, hydro, solar, and wind): DR Congo is the world’s fourth largest producer

Lithium (used in batteries, and EVs): DR Congo, Mali and Zimbabwe have combined untapped resources of 4.2 million tons

Uranium (used in nuclear power generation): Namibia is the world’s leading exporter of uranium ore

Africa’s mineral assets for a low carbon future

Co: 50% of global reserves

Mn: 50% of global production

Bx: 30% of global reserves

C: Mozambique 2nd global producer

Pt: South Africa and Zimbabwe 80% of global production

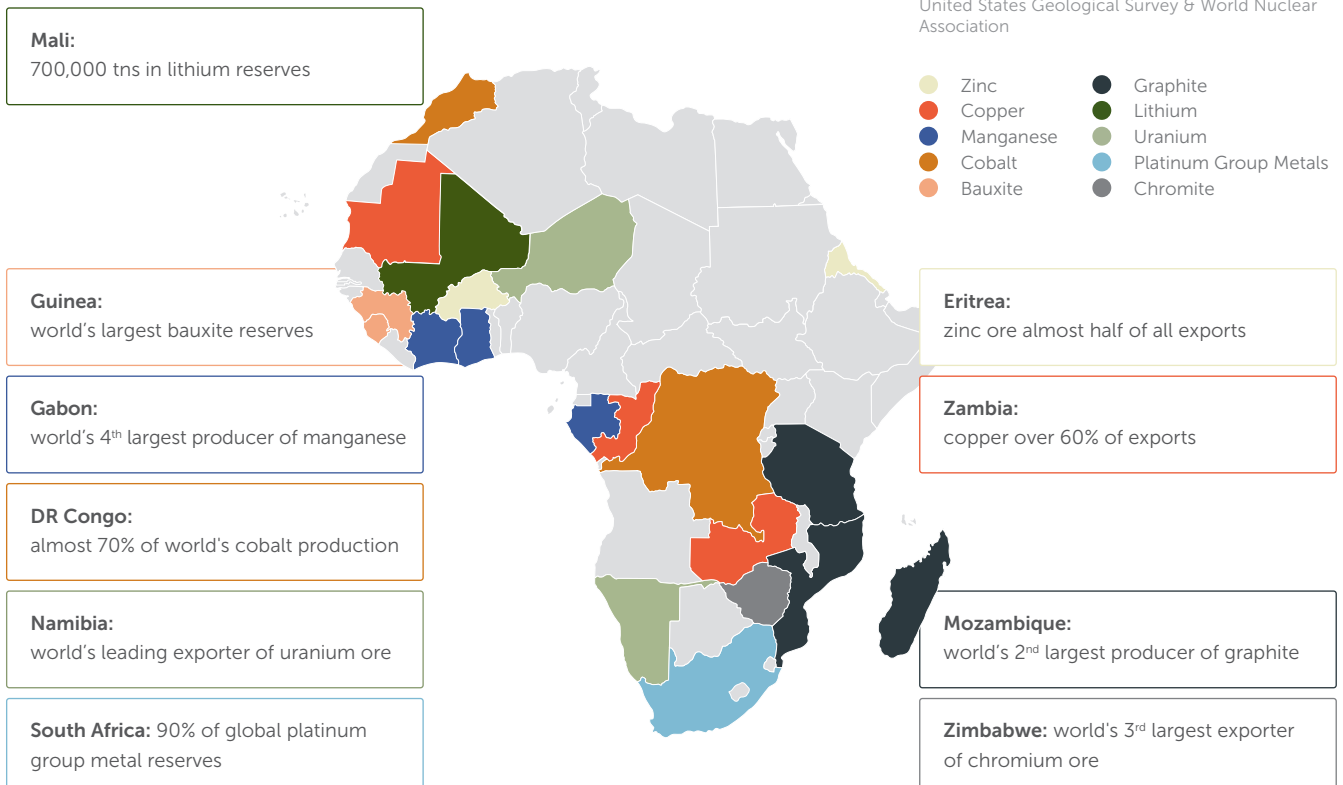
Cr: South Africa 40% of global production

Cu: DR Congo: 4th global producer

Li: DR Congo, Mali and Zimbabwe have combined untapped resources of 4.2 million tons

U: Namibia 1st exporter

African countries: selected low carbon minerals (2019)



SPOTLIGHT

Avoiding the resource curse

Africa's mineral wealth can be a job creator for African countries building green supply chains, through mineral processing and the manufacturing of renewable technologies and associated goods. However, for local populations to truly benefit from the continent's mineral wealth lessons must be learned from decades of jobless growth prior to COVID-19, spurred by the export of extractives such as crude oil. For the continent's oil dependent nations, oil extraction has generated government revenues and foreign exchange, but extraction has been capital intensive, creating few associated jobs. Even in Nigeria, the continent's largest crude oil producer, only 0.5% of the population work in extractives.

In several cases, natural resource wealth has even had an adverse impact on industrialisation and development. Many oil, gas, and mineral rich countries have failed to reach their full potential because of the so-called 'resource curse', with Angola, DR Congo, and Nigeria often cited as examples. There is a tendency for resource dependent countries to become more authoritarian, more prone to conflict and less economically stable than similar countries without resources.

- **Democracy:** Natural resource wealth, particularly oil wealth, has made it more likely for governments to become or remain authoritarian over the past 30 years with governments less dependent on citizens for revenues.
- **Conflict:** Natural resources can, and often do, provoke and sustain internal conflicts as different groups fight for control of the resources or use natural resources to finance their fighting.
- **Unstable public revenues:** The amount that governments collect in resource revenues can change drastically from year to year because of changes in commodity prices and production.
- **Dutch disease:** A large increase in natural resource revenues can hurt other sectors of the economy by causing inflation or exchange rate appreciation and diverting human and financial resources from non-resource sectors.
- **Environmental problems:** Resource extraction can create a host of problems for local communities and environments in the vicinity of operations, such as pollution, environmental scarring, use of local water supply, and seismic disturbances.
- **Weaker institutional development:** Some researchers argue that institutions are weaker in resource-rich countries because it is easy for elites to capture or take large sums of cash.

In the absence of good governance and effective management of natural resources, the continent's climate minerals could become a burden rather than a boon. However, the 'resource curse' is not inevitable. Botswana have been able to leverage their vast diamond wealth to generate economic opportunity largely due to good governance. Developing a sound governance environment will be key to maximising this opportunity for the continent.

Furthermore, targeted industrial policies that focus on processing minerals in-country for consumption in domestic or regional markets could help create jobs and foster green supply chains. We know that when African countries trade among themselves, they exchange more manufactured and processed goods, have more knowledge transfer, and create more value. As such the African Continental Free Trade Area (AfCFTA), which came into force in January 2021, will undoubtedly be key to developing green supply chains.

South Africa showcases both the 'do's' and 'don'ts' of building green supply chains

Nasi Rwigema, MIF Now Generation Network and entrepreneur



In November 2003, the South African government issued a white paper on the role of renewable energy in the future of the country's energy mix. The report acknowledged the country's vast sustainable energy resources in the context of its reliance on fossil fuels; it also made a commitment to having 4 per cent of the generation fleet be renewable power by 2013.

By 2009, no progress had been made toward this goal, so the government made the commendable decision to delegate the task to the private sector. Taking after a successful model in Spain, private companies would be allowed to build and own clean power plants and sell the electricity to Eskom, the national power utility.

As a young engineer - just two years into my professional career - I jumped at the chance to co-found a company that would endeavour to build one of these power plants. When the programme was released - regrettably named the "Renewable Energy Independent Power Producers Programme (the REIPPP)" - it was designed in a way that seemed burdensome to my team but hugely beneficial to South Africa Inc. because all of the risk was passed on to us.

We would have to find and secure a project site, design and permit the plant, negotiate contracts with construction and operations crews, and raise all the funding. Once we had this in place, we would run our best gymnastics in excel and submit to the government that we believe we can sell them power for x Rands per kWh over a 20-year contract.

The government was shrewd in making this a competitive bidding process, which meant that we had to submit the best price we could muster to outbid all of our competitors. An even more innovative design point of the REIPPP was that our price offer would only account for 70% of the consideration. Commitments to an 'economic development' structure accounted for the remaining 30%. This included critical drivers for the creation of local jobs and industries, such as what percentage of the power plant would be owned and operated by black/female/disabled/South African people, as well as similar considerations across the staff who would be hired and the materials that would be procured to build and run the plant. It even accounted for social and business development projects in the communities affected by our massive machines.

REIPPP Scorecard

70 Points for Price

+

30 Points for Economic Development

Socio Economic Development

15%

Enterprise Development

5%

Preferential Procurement

10%

Management Control

5%

Ownership

15%



Job Creation
25%

Local Content
25%

The REIPPP was a beautiful programme, thoughtfully designed to create world-class South African energy companies, hundreds of thousands of skilled local jobs, great new local industries and know-how. Not forgetting, of course, more and clean electricity to the country with little room for public sector corruption. It is worth noting that, at the time, Eskom was six years late and four times over budget on its two most recent coal power plants, and the country was on the verge of rolling blackouts, from which it has still not recovered as of 2022.

So, my team set out to build our first concentrated solar thermal power plant near the Kalahari Desert. We had to hire contractors from Spain, but due to the requirements of the programme, it was easy to persuade them to work with local, black-owned construction companies and hire as many black/female/disabled/South African people as possible. By early 2013, we had received our first licence, raised \$500 million in funding to begin construction, and helped South Africa make a small dent in its green economy plan.

A few years later, we were a leading player on the African energy scene. We had an impressive portfolio of new project developments and an exclusive partnership with a NASDAQ-listed solar panel manufacturer for projects on the continent. The REIPPP had four successful rounds of clean energy procurement and was now producing some of the world's lowest electricity prices. In its wake, Botswana, Zambia, Senegal, Morocco, and Ethiopia had launched similar programmes. Many component suppliers had established manufacturing facilities in South Africa, and skilled South Africans began taking on leadership roles in several work streams after learning directly from ex-pat contractors.

It was almost as if everything was too good to be true, and that's when the cracks started to show. Large international energy companies had learned about our programme and, after establishing lavish offices in Cape Town, began winning licences away from South African companies like mine and taking an increasing portion of their economics across our borders. This took the form of fronting, in which the developer provided high-interest loans to local participants. Tracing the actual money flows would reveal that the foreign party owned the construction, the power plant, and the 20-year operation contract. Due to their size and global scale, they were able to negotiate volumes and prices of material components and finance packages that were simply out of our reach. While all is fair in love and war, it was disheartening to see the government stand by while great South African energy companies withered away and sold their projects to the global north for pennies on the dollar.

As the REIPPP's success grew in prominence, a public debate erupted about the "real cost" of renewable energy, with critics claiming that clean energy was too expensive for the country. They pressed the government on the fact that it was subsidising green energy with higher tariffs than it paid for 30-year-old coal power. In addition, the electricity grid needed to keep backup sources of power because the sun does not always shine, and the wind does not always blow.

The key facts that these detractors ignored were that 1) the country desperately needed more power, and clean power was being added to the grid in 18 months

rather than ten years; 2) this is what it takes to create and own something new and strategic; and, most importantly, 3) renewable energy is a crucially good thing for the world, and South Africa was on a smooth path to becoming a world leader in this space.

Around this time, South Africa's then-president and his cronies devised a plan to build the world's largest nuclear power plant while enriching themselves greatly. Foreign trips to Russia disguised as medical leave were actually negotiations with Rosatom, making our leaders even more eager to move forward with their plan. They argued that renewable energy was bad for South Africa to get their nuclear agenda passed in the legislature, and they managed to halt all further procurement rounds of REIPPP for six years in the process. This meant that no new green power plants were approved while developers continued to pay project site landowners rent in order to secure their rights. Mr Zuma reshuffled government ministers until he had the right pawns in place for his checkmate.

By the third year of the freeze, the renewables industry had all but died. Our investors had pulled out, forcing us to close our doors. All of the local manufacturers had shut down their factories and vowed never to commit resources to Africa again. The skills we had developed as a nation for developing and building sustainable power plants had begun to dwindle as people returned to traditional jobs and industries. Greed and short-term thinking had stifled an exciting opportunity. Along with my own, many hearts were broken, and while the programme is reviving in South Africa today, all necessary trust and goodwill have been eroded, and South Africans remains without electricity for two hours at a time, three times each day.

FINANCING, OWNERSHIP AND SOUND GOVERNANCE CAN TURN THESE ASSETS INTO A DEVELOPMENT BOON

Africa's natural wealth, be it green, blue or mineral, consistently showcases the continent's central role in a low carbon future.

Properly managed, this ecological and mineral wealth could generate net gains for the continent, including gains in fiscal revenues and foreign exchange, but also local jobs in core sectors, such as eco-tourism or in new plants for processing and manufacturing raw materials on the continent.

Green economy for new jobs and climate change goals

Many African countries have the potential to build thriving green economies which could support climate change mitigation and adaptation.

Evidence from a UNDP study in Zimbabwe shows that up to 30,000 jobs were created for every one million dollars invested in conservation agriculture. This is a climate resistant form of agriculture that can help mitigate the continent's food security crisis, while capturing carbon from the atmosphere. Conservation agriculture has the potential to sequester up to 372 million tonnes of carbon dioxide from the atmosphere per year globally.

Gabon plans to combine conservation of its stretch of the Congo Basin Rainforest, which alone sequesters roughly 140 million tonnes of carbon per year, with a high value eco-tourism sector. This follows the successful examples set by Uganda and Rwanda.

Forestry activities, including conservation and reforestation, can be both a job creator and a vital tool for carbon capture. Nigeria's reforestation drive, initiated in 2019 by the government, is projected to create 20,000 jobs and capture 565,000 tonnes of carbon per year.

This potential cannot be realised without the appropriate conditions: additional and diversified financial resources, relevant skills, continental solidarity and sound governance.



Gabon plans to combine conservation of the Congo Basin Rainforest, which alone sequesters roughly 140 million tonnes of carbon per year, with a high value eco-tourism sector

SPOTLIGHT


Local and indigenous knowledge is key to a holistic climate response


In Africa, the vast amount of indigenous and local knowledge is a key resource for enhancing sustainability and climate adaptation. Indigenous and local knowledge in Africa is strong on eco-system specific knowledge that can help enhancing the management of disaster events and climate variability. Across Africa, communities for a long-time relied on this type of knowledge to cope with climate variability and reduce vulnerability. For example, pastoralists and herders might use up to more than a thousand different indicators for weather forecasting, such as the behaviour of trees, insects and other animals. Research suggests that local and indigenous knowledge could be better at reducing climate risks than other knowledge types.

The Endorois people in Kenya have started to cultivate drought-tolerant cereals, tubers and vegetables, leading to more sustainable land management, minimised water usage, reduced human-wildlife conflict and enhanced food security. As a response to climate change induced effects on their livelihoods, the Endorois have turned to nature-based ecotourism.

Indigenous and local communities are also essential to conservation efforts and the protection of biodiversity and thus to achieve the world's climate targets. As such, indigenous and local knowledge will help deliver a more holistic response to climate change through the interaction of different knowledge systems. Indigenous languages have many eco-system specific phrases and words and are key to more effective climate change communication and services for adaptation.

Besides its potential and with climate change impact exacerbating pre-existing vulnerabilities of indigenous groups, indigenous and local knowledge is often not recognised at national level and not considered in policy development and adaptation planning. Indigenous communities are often forgotten when formulating climate-mitigation strategies which could have reverse negative effects for them. Much of the knowledge remains undocumented, has been marginalised by colonisation or is losing value due to urbanisation. It is also unclear to what extent such knowledge is able to help adaptation under future climate conditions with more extreme and unpredictable changes to weather conditions.

 In DR Congo, storing the world's second largest amount of tropical forest carbon, 31% of carbon is managed by indigenous and local communities

 In 2019, only 9 out of 44 NDCs by African countries mentioned traditional knowledge

SPOTLIGHT

The Great Green Wall: an African response to climate change

The idea of the Great Green Wall, building 8,000 km of trees spanning the entire width of Africa to restore land, was born in the 1970s when the Sahel started to degrade and gained momentum in the 1980s. However, it was only in 2007 that the African Union started to put the idea into reality, working with more than 20 African countries.

Planned to span from Senegal to Djibouti and covering a total of 11 African countries, the key objectives of the Great Green Wall by 2030 are:

- Restore 100 million hectares of degraded land
- Sequester 250 million tons of carbon
- Create 10 million green jobs in rural areas

Besides contributing to climate action, the Great Green Wall is set to contribute to food and water security, the fight against poverty, sustainable energy and economic opportunities. It supports 15 of the 17 SDGs.

Despite some successes, such as reaching 11 million people with income-generating activities and creating 335,000 jobs, a status report from September 2020 shows that only between 4 million and 17.8 million hectares have been restored so far, way off the 100 million 2030 goal.

While facing several challenges such as a lack of monitoring and evaluation, the funding situation of the Great Green Wall is a major hurdle. In order to achieve the 2030 restoration objective, the project requires between \$36 billion and \$43 billion until 2030.

In January 2021, French President Emmanuel Macron announced the Great Green Wall multi-actor Accelerator in order to facilitate coordination and collaboration of donors and stakeholders and to improve monitoring efforts. Following the announcement, over \$19 billion until 2025 have been pledged by international donors to support Africa's Great Green Wall.

Additional and diversified financial resources are paramount

Whether addressing Africa's pressing need to bridge the adaptation gap, preserving Africa's vital carbon sinks, mobilising its gas resources or realising potential in renewables, consistent financial resources are needed.

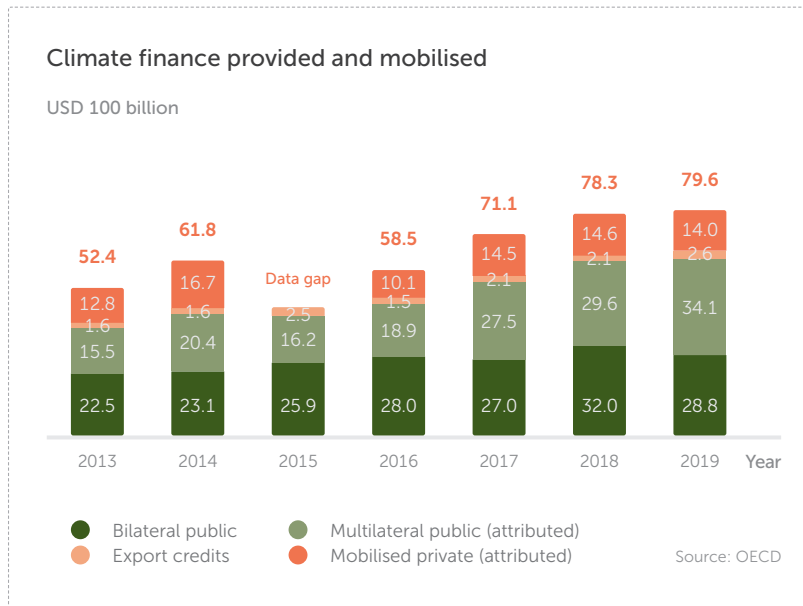
International finance pledges need to be met and better targeted

At the United Nations Conference on Climate and Development in Rio in 1992, the United Nations Framework Convention on Climate Change was established within which rich countries and historic polluters recognised their responsibility to lead the charge for sustainable development. But yet, financial commitments continue to be insufficient to relieve the burden on poorer nations. Finance that has been realised has often been misplaced.

Countries failed to live up to the Copenhagen pledge

Twelve years ago, at COP15 in Copenhagen, wealthy nations made a pledge to commit \$100 billion a year to less wealthy nations by 2020, to assist with climate change adaptation and mitigate further temperature rises. This is well short of the \$1.3 trillion per year by 2030 African negotiators called for at COP26 in Glasgow. Even then, the \$100 billion pledge has yet to be realised.

- According to the OECD, the most generous estimate for finance mobilised in any single year is less than \$80 billion, in 2019.



Additionally, much of the finance that has been mobilised often comes in the form of interest-bearing loans.

- Around 80% of all public climate finance mobilised between 2017 and 2018 was in the form of loans.
- Around half of all loans, were non-concessional, requiring higher interest payments from poor countries.

Most climate finance is evading Africa

The current climate change debate, centred around reducing emissions, is seeing most existing finance directed at middle-income countries with carbon intensive industries, bypassing poorer, and therefore less-polluting, regions.

- Sub-Saharan Africa receives just 5% of total climate finance outside the OECD.

Administrative hurdles also make it challenging for some African countries to access financing. The Green Climate Fund is the world's largest climate fund for developing nations, but the complex standard for accreditation makes accessing this financing directly, very challenging for countries with limited institutional capacity.

- Only 13 African countries have entities accredited by the Green Climate Fund.

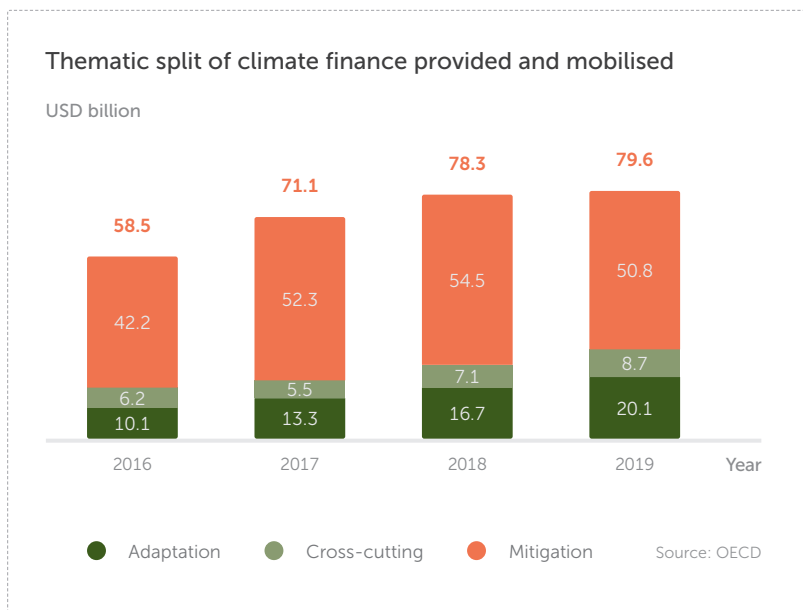
Sub-Saharan Africa receives just 5% of total climate finance outside the OECD

Financing for adaptation is falling woefully short

Adaptation is a policy priority for African countries, with all of the ten most climate vulnerable countries in the world in Africa. The UN estimates that developing countries already need \$70 billion per year to cover adaptation costs and will need between \$140 and \$300 billion by 2030.

However, in 2019, only \$20.1 billion, was spent on adaptation. This amounted to roughly one quarter of climate finance, with the majority, over \$50 billion, going on mitigation.

In 2019, just one quarter of climate finance mobilised globally was spent on adaptation



The financial gap between what is available and what is needed in Africa for meaningful adaptation stands at 80%, with recent data suggesting this gap is widening.

No funds allocated yet to loss and damage

'Loss and damage' is the phrase for the destruction already being wreaked by the climate crisis on lives, livelihoods and infrastructure.

- The climate change linked cyclones that hit Mozambique in early 2019 have estimated recovery and reconstruction costs of \$3.4 billion.

At COP26 the G77, a group of 134 nations accounting for 85% of the world's population, including all 54 African countries called for the creation of a 'Loss and Damage Fund'. However, this was blocked by richer nations, with a facility for technical assistance being set up instead.

The failure to create a loss and damage fund means African countries, on the frontlines of severe climate change impacts, are without recourse or compensation from the wealthy nations most responsible for climate change. However, discussions over a loss and damage fund are set to be a key talking point at COP27.

The Africa Adaptation Acceleration Program (AAAP)

The AAAP is a joint initiative of the African Development Bank (AfDB) and the Global Center on Adaptation (GCA), created in April 2021. It aims to mobilize \$25 billion, over five years, to accelerate and scale climate adaptation action across the continent.

SDR reallocation linked to climate resilience

The IMF plans to reallocate \$100 billion of the \$650 billion in SDRs issued in 2021 to counter COVID-19 through its new Resilience and Sustainability Trust (RST). The RST will focus lending on climate-resilience, providing concessional on-lending of SDRs from richer nations. The RST is a clear step in the right direction but has some restrictive challenges in its current format.

- Access to RST resources is capped based on IMF quotas, which could limit access for countries most in need of resilience finance.
- Countries deemed to have unsustainable debt would be excluded, which could rule out several climate vulnerable countries in Africa.
- The RST would also require countries to take on an additional IMF programme and to engage in policy reform, upon which lending would be conditioned. For the IMF, this usually means some form of long-term spending cuts, that could potentially trigger instability.

One preferable option being touted is to channel SDRs to regional multilateral development banks such as the African Development Bank (AfDB), which have greater institutional and technical knowledge to support countries' needs. Reallocated SDRs might also provide capital for regional lending initiatives such as the nascent African Monetary Fund.

Domestic resources must be mobilised

African countries will also need to mobilise domestic revenue more effectively in order to achieve the non-conditional elements of their NDCs, address the energy deficit, build green economies and green supply chains, and climate-proof their development agendas.

Improving tax efficiency could raise tax revenue by +3.9% of GDP.

Better control of corruption and effective enforcement of existing laws could reduce administrative inefficiencies and raise an additional \$110 billion per year in revenue on the continent.

Identifying and removing unnecessary corporate tax exemptions could bring in extra-revenue. A World Bank Survey of investors in East Africa found 93% would have invested regardless of tax incentives.

The debt trap worsens the situation

The climate crisis is also a debt crisis, and the two cannot be addressed in isolation. Breaking the vicious circle of climate-related disasters and debt will be key.

Disasters place a strain on public finances and send countries further into debt to cover the costs of reconstruction. As an increasing proportion of national income goes on debt servicing, countries are less able to invest in preparing for future disasters.

- 23 of 26 African countries with data spend more on debt servicing than on climate adaptation.

In many cases, debt payments from countries ravaged by climate change are going to countries who are among the greatest contributors to climate change.

- Over 60% of debt payments in Somalia in 2022 will go to the US, whose per capita emissions were 370 times that of Somalia in 2019.

Ironically, lenders are even factoring climate-vulnerability into loans, adding higher interest rates to countries that are seen as more vulnerable to climate induced disasters.

A solution is required to free up the fiscal resources needed to address both Africa's development agendas and the climate crisis. This could come in the form of debt cancellation, debt-climate swaps, grants, or a multilateral law-enforceable debt workout mechanism.

Private investment needs to be leveraged


Sustainable growth is now cheaper than ever. With \$10 trillion in Environmental, Social & Governance capital looking for a return and a pledge at COP26 by global financial institutions to align portfolios worth \$130 trillion to achieve net zero emissions. There is a unique opportunity to grow green African financial markets.

African institutions such as the Africa Finance Corporation – a pan-African infrastructure bank – have already begun to take advantage of this with, plans to diversify its energy portfolio to attract investment, potentially floating a new green energy bundle on the London Stock Exchange.


Much capital can be raised by issuing green bonds, with Africa accounting for only 0.4% of the current issuance, over three quarters of which comes from South Africa.

However, work must be done by government to ensure that the benefits of private investments are shared by all parties and not just repatriated to wealthy nations.

- Private investment must have a strong local element to ensure it delivers local jobs and builds local supply chains.
- Green bonds should be issued with more favourable conditions than the Eurobonds of the last decade, that locked countries into unsustainable foreign currency debt with high interest rates.



Lenders are factoring climate-vulnerability into loans, adding higher interest rates to countries most vulnerable to climate induced disasters



At COP26 global financial institutions pledged to align portfolios worth \$130 trillion to achieve net zero emissions

Flipping the switch for low carbon growth in Africa

Vera Songwe, Executive Secretary, United Nations Economic Commission for Africa



In a global economy built on the platform of high carbon intensity, Africa has remained a low carbon outlier, because of its relative lack of industrialisation. Africa contributes less than 4% of global emissions while being home to 17% of the world's population.

At the same time Africa's economic growth is currently inextricably bound to the perpetuation of the high carbon economy, as the majority of Africa's existing industry is dependent on the export of fossil fuels, mineral resources or related products with minimal value addition.

This extractive economic model has failed to provide the resilience needed to withstand large scale shocks such as the COVID19 pandemic or the current economic crisis linked to the situation in Ukraine.

Hence, Africa's current economic trajectory is one which will be high carbon, and low growth.

We need to flip the switch that unlocks high growth aligned with low carbon emissions. Africa is at the centre of the low carbon/high growth opportunity because of the scale of its industrialisation needs, and the potential power of its natural capital.

Flipping that switch can be built on four pathways:

1. Building a low carbon energy pathway
2. Building a low carbon value chain
3. Mobilisation of finance and investment at scale into a low carbon economic model
4. Monetising and rewarding the preservation of natural capital and low carbon development

There is often scepticism that high growth can be achieved based on low carbon economic models. Recent case studies done by ECA have shown higher rates of return from investment in green sectors as opposed to traditional fossil-fuel based investments. Returns on investment in excess of 400% are achievable in Egypt based on renewable energy and electric vehicle infrastructure. Irrigation investment in DRC brings a return on investment of 500%. Investing in biogas plants in Kenya brings a return of almost 300% and a similar rate of return is achieved from electric vehicle infrastructure in South Africa.

The low carbon energy switch: Africa currently faces an energy paradox, with abundance of both fossil fuel resources and renewable resources, but insufficient investment in energy access. The lower relative cost of renewables, means that Africa can potentially deliver more efficient and cost-effective industrialisation. But accessing this potential low-cost energy boom, requires several critical levers to be activated. Firstly, the scale of investment needs to be dramatically upscaled- 500 billion USD investment is required by 2030 to meet access goals. Currently less than 2% of renewable investment is done in Africa. The rate of return is expected to be dramatic: from the most industrialised countries such as RSA where a return of almost 200% could be achieved from offshore wind energy, to low energy access countries such as DRC where returns on investment of over 200% are expected from renewable mini-grids and over 180% from utility scale solar. But the current low level of infrastructure investment means that to unlock Africa's renewable potential means solving the challenge of intermittency quickly. While it is preferable to fast-track

renewable investment directly, where base generation remains low, gas as a transition energy may remain the most efficient and cost-effective way to foster the renewable energy transition in Africa.

The value chain switch: The majority of global trade is built on integrated regional value chains. Africa unfortunately has low levels of value addition which means that the majority of its trade remains with partners outside the continent. But investing in low carbon value chains can help African countries build truly sustainable low carbon value chains through the implementation of the African Continental Free Trade Area (AfCFTA). A study commissioned by ECA demonstrated that building a renewable energy battery precursor plant in DRC would cost 3 times less than in the United States, and would also contribute 30% less emissions than a current plant situated in China given proximity to the source of minerals. Meanwhile, the global food crisis following the situation in Ukraine, and following supply chain disruptions associated with the pandemic, have illustrated the importance of investing in more efficient food security supply chains within the continent. Investing in these supply chains using climate smart principles can also contribute to climate adaptation and disaster risk reduction. 70% of Africa's population are engaged in agriculture and investing in climate adaptation through agriculture would cost an additional 15 USD billion per year, which pales in comparison to the estimated 201 billion USD annual cost of paying for disaster relief and recovery.

The finance switch: Africa's access to reliable and affordable sources of finance for development and climate resilience remain grossly inadequate. The financing gap for African countries to achieve the SDGs has risen to 354 billion USD per annum due to impacts of the COVID19 pandemic and the crisis in Ukraine. COVID related stimulus mobilised globally translated to a per capita spend of only 57 USD per capita among low-income countries, the majority in Africa. Meanwhile the spend in advanced OECD economies averaged in excess of 11,000 USD per capita. A shift in emphasis by Multilateral Development Banks is needed to channel new SDRs to those countries which need liquidity the most. The proposed Resilience and Sustainability trust needs to become operational as soon as possible. Critically, new instruments are also needed to channel private finance more effectively to developing countries. In climate finance, less than 2% of private sector financing reaches Africa. Meanwhile Africa accounts for only 0.4% of global issuances of green bonds. De-risking of private sector investment into low carbon development in Africa is a question of urgency. ECA is supporting the development of a market-based instrument to increase liquidity available for investment in sustainable projects. The proposed Liquidity and Sustainability Facility (LSF) aims to develop a repurchasing, or 'repo' market for African bonds, increasing demand for green bond issuance and reducing the price of these bonds over time.

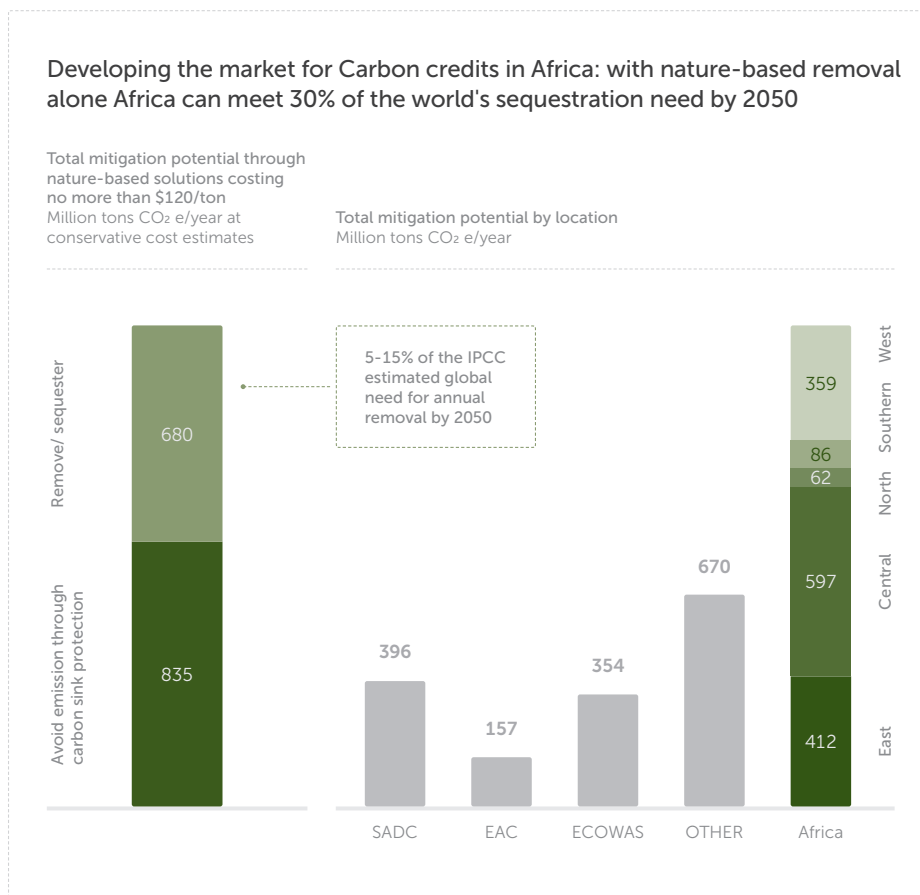
The carbon markets switch: The development of high integrity carbon markets globally has the potential to incentivise the faster transition towards low carbon development. Following progress on Article 6 at Glasgow, the move to further institutionalise carbon trading at the global level will continue to be pursued at Sharm el Sheikh. With such high value natural heritage, African countries could effectively tap into the voluntary carbon market opportunity with the right support. ECA and Dalberg estimates have shown that African countries could meet up to 30% of global sequestration needs by 2050 using nature-based removal (Figure 1). At price points of at least USD 50 per tonne, African

countries could also mobilise in excess of USD15 billion per annum and generate over 30 million livelihoods. The development of carbon markets in Africa is dependent on building capacity for high integrity carbon registries, and this is the focus of ongoing work that ECA is doing with the Climate Commission for the Congo Basin. In creating a harmonised protocol for the measurement of greenhouse gas emissions and the development of high value investments in sectors such as protection of biodiversity, agro-forestry and climate smart agriculture, the Commission seeks to increase investment that will provide meaningful action on mitigation while also ensuring a predictable flow of funds that can be used for adaptation, and for implementing the SDGs. These measures being implemented regionally in the Congo Basin can provide a template for the development of capacity at the continental level to better leverage resources using carbon markets.

Ultimately, Africa needs to seize this moment of adversity to transform its economic model. It's current engagement with global markets re-emphasises its current vulnerability to external shocks.

There is no bigger shock than climate change- even if its impact may be experienced as more of a slow burn than an explosion.

Conversely, with the right strategic focus on low carbon development, and the right support from partners, Africa holds all the assets to benefit from flipping that switch.



Mobilising human capital: skills, research and development

Human capacities with appropriate skills, relevant data and research, documented investment are key to ensure Africa's potential is translated into tangible wealth for the continent.

Equity and solidarity to ensure continental-wide gains

Both climate change effects and Africa's ecological and natural assets are unequally distributed across the continent. Therefore, ensuring equity and solidarity within and between countries is a key condition to translate Africa's potential wealth into gains for all, between and within countries. Widening inequalities would only trigger further instability.

Inequality in energy supply needs to be overcome, as well as levelling at continental level the potential gains derived from renewables and natural gas.

Adopting regional/continental policies and frameworks for energy for all would support a more equitable future across African countries.

Scaling up the current AfCFTA implementation could serve the purpose of creating an integrated African energy market.



Taking a regional approach to climate and energy will be key going forward. Adaptation challenges cross borders, building resilient and sustainable energy networks will be more efficient and successful if based on regional energy pools

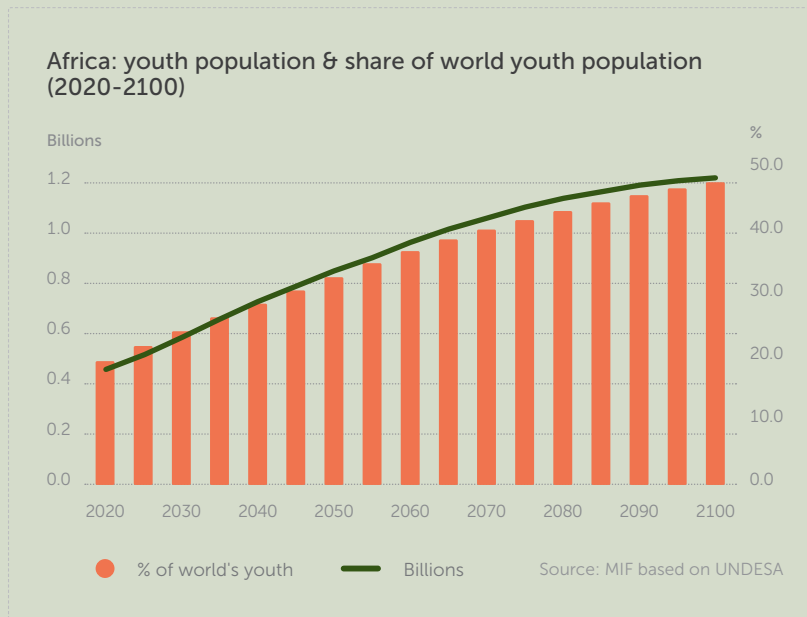
Leverage the youth to address the energy sector skills gap

Despite growing demand for home solar systems, mini-grids and other distributed renewable energy solutions in Africa, governments and companies continue to complain of a shortage of job-ready talent to finance, develop, install, operate and manage these systems. Simultaneously, 12 to 13 million African youth enter the labour market every year, yet only three million get formal jobs. Latest ILO data show that in four of the five African countries with reliable data, over one-third of all youth with an advanced education level were unemployed: Egypt (61.5%), Botswana (44.2%), Rwanda (46.1%), and South Africa (38.8%). There is an enormous opportunity for employment growth from delivering energy access, especially for youth. By leveraging untapped potential and investing in skills, training, and job programmes in the energy sector African countries can address this skills gap.

SPOTLIGHT

Africa's youth and the climate crisis

Between now and the end of the century, Africa's youth (15-34 years old) is estimated to more than double, from half a billion in 2020 to 1.2 billion in 2100. By 2100, young people in Africa will constitute almost half of the world's youth population.



Not only will Africa's youth be exposed to the direct consequences of climate change such as increased extreme weather events, but it will be the future generations that will bear the brunt of the more indirect effects of climate change, most concerningly with regards to the economic consequences stemming from the climate crisis. Required investments into adaptation measures will take away public money from other sectors such as education or health while the incomes of future generations are expected to be severely impacted as well.

Unemployment is already considered the most important problem by African youth today and the climate crisis might only exacerbate the problem, threatening a key livelihood for young people in Africa. Around 60% of Africa's youth (15-24 year old) work in the agricultural sector. The largest share of youth in agriculture are found in Burundi (86.8%), Madagascar (80.6%) and Chad (79.0%).

Of the young people that have heard of climate change, almost two-thirds (64.4%) believe that climate change is making life somewhat or much worse. Just under half (45.1%) of Africa's young people think that climate conditions for agricultural production over the last ten years has gotten worse or much worse. According to a study by the Global Center on Adaptation (GCA), 23% of young people in Africa consider agricultural loss the most urgent climate change impact, considerably more than in any other world region. Unpredictable weather, rising sea levels and natural disasters are also considered more urgent in Africa than in other regions.

According to data from Afrobarometer, less than half of Africa's young people, trust their political leaders somewhat or a lot (44.0%). This is almost 4 percentage points less than the trust older people in Africa have in the political leadership. There is also a huge age gap between Africa's leaders and its population. While the median age of the continent's population in 2020 was 19.7 years, the median age of Africa's leaders in 2021 was 62 years, a gap of more than 40 years.

About half of young people in Africa think that ordinary citizens can do something about climate change. A study by the Global Center on Adaptation (GCA) finds that exposure to climate events and impacts are a major driver of youth engagement and that young people are engaging in adaptation responses and community efforts with 79% of respondents from Africa participating in such activities. Yet, youth in Africa is still largely excluded from decision-making processes. Less than half of the respondents (44%) have engaged in national decision-making processes and just over half took on a leadership role in climate adaptation initiatives. In Africa, the participation of young people at the national decision-making level is lower than in Europe and North America. The likelihood of participation is higher for young people that are part of a global youth network.

To build up resilience, young people in Africa consider improved agricultural practices and infrastructure key while good and participatory governance is believed to be essential for adaptation.



**Seychelles' National
Climate Change
Council has a youth
representative**

The African Youth Initiative on Climate Change (AYICC)

The initiative was launched in 2006, during the International Conference of Youth prior to the UNFCCC COP12 in order to ensure the inclusion and participation of youth voices from Africa in international climate negotiations and making sure that African youth are equipped with the right skills and knowledge for participation. With a membership of over 200 youth organisations across the continent, it is the leading youth movement on climate change and sustainable development in Africa.

The ClimDev-Africa Youth Platform

The ClimDev-Africa Programme is an initiative by the AU Commission, UNECA and the AfDB, mandated by the AU Summit of Heads of State and Government. It was established to create a solid foundation for Africa's response to climate change. The Youth Platform is to empower African youth by enhancing their capabilities and skillsets on a range of climate change response actions.

Sound governance, inclusive institutions and efficient resource management

Governance and inclusive institutions are a key factor in countries' ability to adapt, cope and mitigate climate change and to enable climate-resilient development. However, in many African countries, governance barriers are still holding back progress towards climate targets.

Seven of the ten most exposed countries to climate change are scoring below the African average for *Overall Governance*, with three of them – Chad, Somalia and Sudan – showing some of the worst governance performances on the continent.

As demand for green technologies increases globally, and global capital turns to green investments, the continent's experience with oil and diamonds must be a learning point.

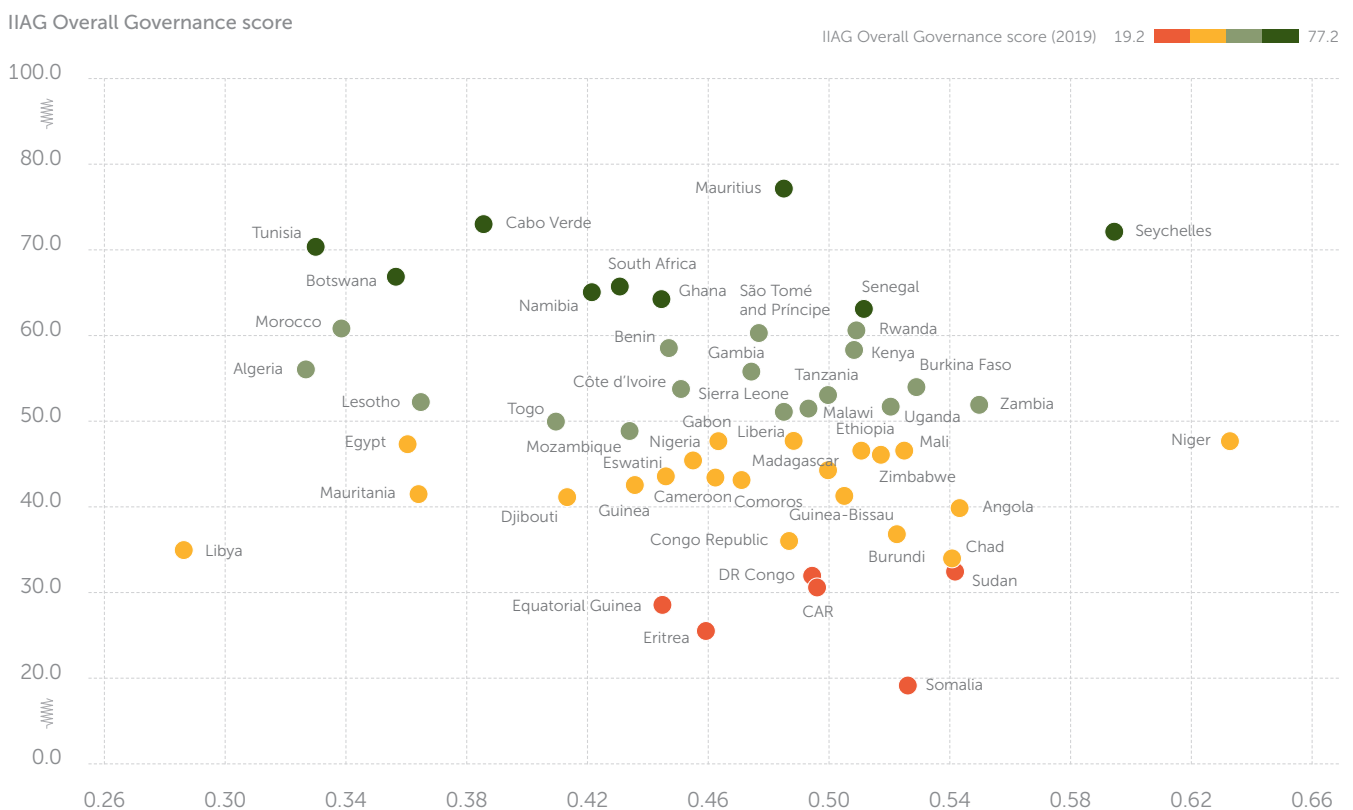
Several countries with important reserves of critical minerals are unprepared for the coming boom. Weak extractive sector governance affects citizens' lives the most, in terms of transparency and oversight of local environmental and social impacts.

Strengthening public and resource governance is key for economic development and weaknesses could lead to potentially dangerous distortions if not addressed. This means addressing key governance challenges and ensuring transparency, accountability and effective resource management sit at the heart of Africa's agenda.

Moreover, a focus on greater ownership of natural resources is key to prioritise the continent's needs versus other agendas, and ultimately benefit and support Africa's business environment as well as help sustain human development and livelihoods.

Most climate vulnerable countries in Africa are showing governance deficits

African countries: exposure to climate change (2019) and IAG Overall Governance scores (2019)



Source: MIF based on MIF & Notre Dame Global Adaptation Initiative

Exposure to climate change

Africa's citizens demand for climate action

Carolyn Logan, Director of Analysis and Kelechi Amakoh, Data Analyst at Afrobarometer



Evidence of the impacts of climate change is mounting across Africa – from increasingly severe droughts in the Sahel and melting glaciers in East Africa to the damage wrought in Southern Africa by Cyclone Idai in 2019 and recent deadly floods in KwaZulu Natal.

How do Africans understand and perceive this threat? Who is responsible? Who should act?

The first challenge: Awareness

The first challenge of confronting climate change is public awareness. When Afrobarometer first asked about climate change in our Round 7 surveys in 2016-2018, we found that across 34 countries, an average of 58% of respondents had heard of the phenomenon. Climate change literacy, a combined measure of awareness and understanding of the human-driven causes and negative impacts of climate change, ranged from just 12% in Mozambique to 57% in Mauritius.

New findings from the first 13 countries in our current Round 9 surveys (2021-2022, still under way) suggest levels of awareness are somewhat lower, at 50%. Across the 12 countries that were included in both rounds, familiarity with climate change decreased from 60% to 51%. This may reflect the still-emerging understanding of climate change on the continent, with levels of awareness possibly fluctuating in response to extreme weather events and media coverage. During the past two years, attention to climate change may also have been crowded out by the focus on the COVID-19 pandemic.

Across countries, awareness of climate change ranges from a low of just one in five respondents (22%) in Tunisia to at least seven in 10 in Gabon (70%), Mauritius (73%), and Malawi (74%). These results suggest the need for targeted interventions to increase citizens' awareness of climate change in order to build momentum for prevention and mitigation efforts by governments.

The second challenge: Understanding

Among those who have heard about climate change, the perception that it is having a negative impact on the quality of life is widespread: 76% say it is making life "somewhat worse" or "much worse" in their country. Namibia is the only country where fewer than half (49%) think it is making things worse (while 31% say it is making them better). Across the 11 countries where this question was asked in both rounds, the perception that climate change has negative effects has increased modestly, from 74% to 77%.

But to what extent do ordinary Africans understand what causes climate change, who is to blame, and whose action will be required to address it? When we asked 2016-2018 survey respondents who had heard of climate change about its causes, 52% attributed climate change to human activity, 27% to natural processes, and 16% to both.

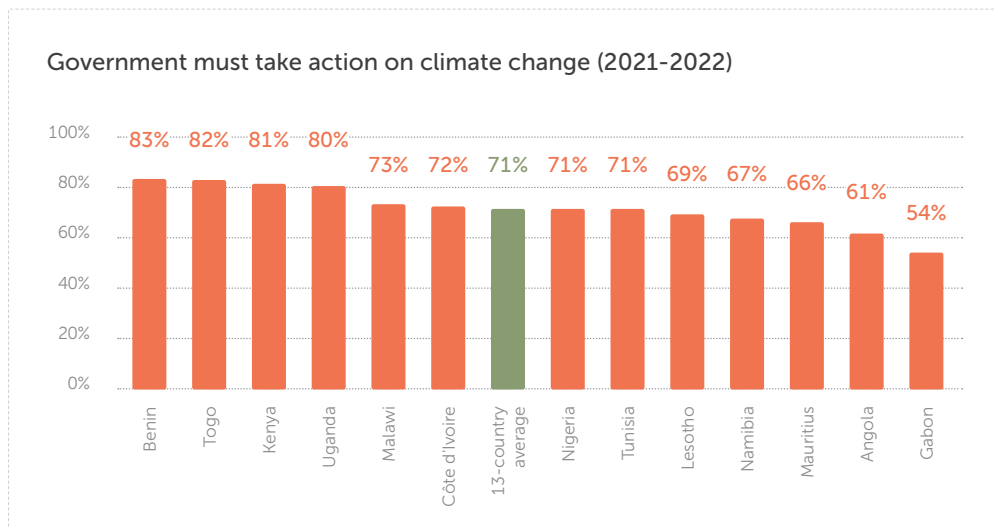
In our current survey, we ask respondents familiar with climate change who should have primary responsibility for trying to "limit climate change and reduce its impact". A plurality (42%) cite their government, and another 29% identify ordinary citizens like themselves. While Africa is only a minor contributor to the global emissions that are causing climate change, just 15% of respondents attribute primary responsibility for addressing the problem to rich or developed countries, and 8% to business and industry. This suggests that more education is needed to impart a fuller understanding of the causes of climate change.

The third challenge: Taking action

While they may differ on who should bear primary responsibility, most respondents agree that everyone should be taking action on climate change.

Africans believe in the power of their own engagement: 75% of those who have heard of climate change say ordinary citizens in their country can play a role in limiting it. This includes majorities in all 13 countries and reaches 80% or more in six countries. This reflects an admirable inclination to take local responsibility for addressing the problem.

But people also demand action from their governments, even if it comes at a price. More than seven in 10 (71%) “agree” or “strongly agree” that “it is important for our government to take steps now to limit climate change in the future, even if it is expensive or causes some job losses or other harm to our economy” – a powerful statement of the seriousness of the problem in the eyes of ordinary citizens. Eighty percent or more agree in Uganda, Kenya, Togo, and Benin.



Respondents who had heard of climate change were asked: For each of the following statements, please tell me whether you disagree or agree: It is important for our government to take steps now to limit climate change in the future, even if it is expensive or causes some job losses or other harm to our economy. (% who “agree” or “strongly agree”) (Respondents who had not heard of climate change are excluded).

To leaders who say they are already taking action, the people’s response is clear: It’s not enough. Fully 92% of those familiar with climate change say their governments should be doing more to limit it, and 91% say the same about business and industry. Nearly as many think that developed countries (88%) and even ordinary citizens (85%) are not yet doing enough.

Given the widespread sentiment that government urgently needs to do more, it is not surprising that governments get generally poor marks for their efforts on climate change up to now. On average across 13 countries, just 33% of all respondents say their governments are doing “fairly well” or “very well” on this issue, while a majority (53%) rate their performance as poor. Beninois and Togolese are the most positive (49% and 48% fairly/very well, respectively). But fewer than one in five give their government positive marks in Angola (19%), Tunisia (15%), and Lesotho (14%).

Through Sustainable Development Goal 13, the United Nations calls for “urgent action to combat climate change and its impacts”. Africans who are familiar with the problem are in clear agreement.

The challenges – of building popular climate change awareness and literacy and translating them into policies and initiatives – are real. But so is this remarkable citizens’ call to action: a demand for greater engagement, by all stakeholders, now.

Harmful narratives impact the fight towards climate action

Natasha Kimani, MIF Now Generation Network, Research and Media Programme Lead, Africa No Filter



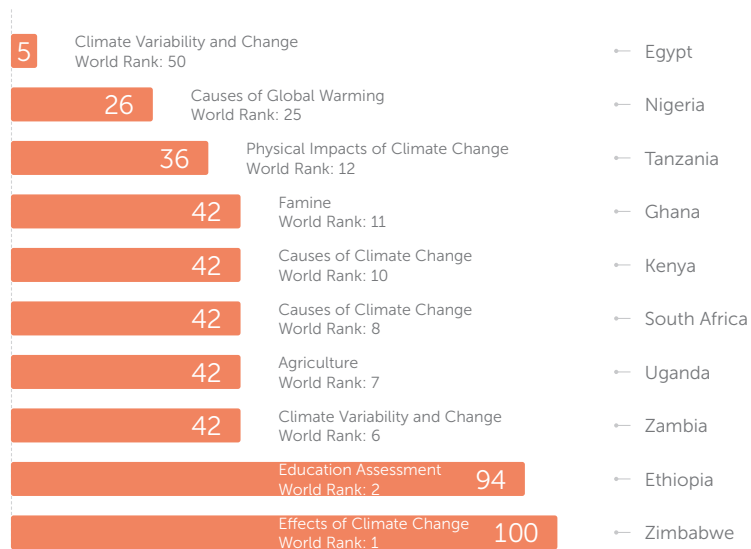
Narratives within and about Africa have affected how the world sees Africa and the way Africans see themselves. As conversations, programmes, campaigns, and interventions around climate action continue to take centre stage, it is imperative to take a step back and understand what the prevailing narratives around climate action are and whether, they are advancing or derailing the cause.

Opinions inform beliefs, beliefs inform actions and actions inform investment, programme development and interventions on climate change in Africa. This is why Africa No Filter carried out a study to understand the existing and prevailing narratives around climate change in and about Africa, what the key conversations are and who is driving them and whether they feed into harmful and stereotypical narratives about the continent.

Using quantitative data gathering techniques, we analysed the kinds of stories about Africa and climate change that were published, using media from mainstream African news sources, and the conversations about African climate change that took place on Twitter.

Of the 41 countries where Google searches related to climate change were recorded from 1 October 2020 to 30 September 2021, none of the top searches were about how people could tackle or mitigate climate change; the focus was mainly on its impacts and causes. This suggests that, in general, Africans are still wanting to understand the problem of climate change.

Top Google search topics by African country, 1 October 2020 to 20 September 2021



We also sought to explore how the mainstream media were reporting about climate change in Africa, including: the top online media outlets; countries mentioned; patterns in frequency of coverage; and emerging narratives (in terms of headlines, articles, and key phrases).

We found that among the top 10 disseminators of stories about climate change on the continent, only three were based on the continent (GhanaWeb, Business Ghana and Guardian Nigeria), and they had just a few articles over the year. Most (467) stories were being shared by the US-owned news aggregator site, *allafrica.com*. The next main organisations sharing stories are from the development sector. This made it difficult to identify the diversity of voices contributing to the African climate change narrative and to establish the extent to which the narrative is driven by African voices.

In general, our research found that in Africa, media coverage of climate change is episodic, generally focusing on disaster stories or linking coverage to international events, such as the G7 Summit, where climate issues were high on the agenda. In country specific contexts, coverage on climate change revolved around national events around climate change. This, coupled with previous research indicating that the sources for news gathering on African countries are problematic, results in content continuing to feed negative stereotypes within and about the continent.

The media seldom shows how countries respond to climate change. Most of the conversation is around the impact of climate change rather than the specific projects being undertaken, planned, or proposed in each country to limit the impact of climate change or adapt to it. And although data shows that this is slowly changing over time, we are still yet to see focus fully on mitigation and opportunities.

An analysis of data collected from Twitter from a 6-month period between 1 May 2021 and 30 September 2021 showed that most individuals tweeting about climate change in Africa were not Africans. Overall, the tweets on climate change in Africa did not portray a positive narrative about the continent of Africa, as they focused on conflict (including racial conflict) and disasters (which form part of a stereotypical narrative about Africa). The most prolific African climate activists only garnered many retweets when they themselves retweeted tweets from elsewhere in the world, such as tweets by well-known Swedish climate activist Greta Thunberg.

Overall, our research shows that, while not all narratives about climate change in Africa perpetuate negative stereotypes about Africa, a significant number do. Just as worrying, individual Africans still do not seem to be taking the lead in developing an African narrative around climate change or climate activism, albeit that some African NGOs are at the forefront of some conversations.

While activities and local NGOs across the continent are taking small, albeit progressive steps towards climate action, this is rarely reported and instead, a lot of the narrative framed is that of a continent in need of saving and in need of solutions. Yet, our data shows us that Africans are already making strides towards developing and implementing solutions.

Messages of doom and gloom do not lead to long-term behaviour change or adoption of positive practices. On the contrary, these messages continue to perpetuate negative and harmful stereotypes about the continent, shifting focus away from the exploration of possibilities and solutions.

With a continent as young as Africa, we are faced with an opportunity to reframe the existing narratives and expand the conversations, media coverage and engagement from impact to mitigation and opportunities. Such a reset would allow for the focused development and scaling of climate adaptation and mitigation innovations, which could spur Africa's economic development. There are several opportunities on the continent for green industries to create jobs, nurture businesses, and stimulate economies in Africa all the while mitigating the harmful effects of climate change.

There is also a case to be made about ensuring that citizens and especially young Africans are more informed about what climate action is and how and why they should be front and centre in this fight. The first step towards this, is the crowding in of new narratives: storytelling and media coverage that gives significant focus on the many diverse interventions, inventions and jobs generated from the pursuit of climate change. Only 2% of global investments in renewable energy in the last two decades were made in Africa, and perhaps this can in part be attributed to the existing narratives on mitigation and innovation efforts on the continent?

The power of storytelling on behaviour change has been widely researched and proven. When we instead focus on the massive potential on the continent such as our resource potential in wind, solar etc then we may begin to see a shift in investment opportunities around climate action on the continent. Framing matters: it is often said that mobile technology changed Africa, but perhaps it is Africa that changed the face of mobile technology? In that same breath, framing climate action conversations around mitigation efforts and innovations taking place within the continent, could begin to shift the narrative and in the long-term, interventions and approaches.

Lastly, it is imperative that African voices and experiences are amplified, highlighting the assets individuals and communities have and ensuring that local context is leveraged upon in the fight towards climate action.

Towards COP27: potential questions to address

- ➔ How to ensure the conservation of Africa's green and blue wealth while leveraging its potential at the same time?
- ➔ Carbon-pricing: could African countries get ahead of the game and how?
- ➔ What are the main hurdles to overcome and challenges to address, when it comes to unleashing the potential of Africa's key resources for global energy transition?
- ➔ Climate pledges: what do the pledges at COP26 mean for Africa? What needs to be evaluated at COP27?
- ➔ Green finance: how can Africa better leverage existing potential? What are the current hurdles to overcome?

Chapter 04.

Key recom-
mendations
on the Road
to COP27



Wednesday 25 May 2022

Opening keynote – Mo Ibrahim, Founder & Chair of the Mo Ibrahim Foundation

Panel Session 1: *Africa's vicious cycle: low resilience worsens, and is worsened by, climate change*

- **Moderator:** Zeinab Badawi, BBC
- Ibrahima Cheikh Diong, UN Assistant Secretary General, Director of the African Risk Capacity Group
- Natasha Kimani, MIF Now Generation Network
- Murithi Mutiga, Programme Director for Africa of the International Crisis Group
- Emilia Siwingwa, MIF Now Generation Network

Mo in conversation with... H.E. President Macky Sall, Chairperson of the African Union and President of the Republic of Senegal

Thursday 26 May 2022

Opening keynote – David Malpass, President of the World Bank Group

Panel Session 2: *The elephant in the room: what's an acceptable trade-off between development and climate goals?*

- **Moderator:** Mo Ibrahim, Founder & Chair of the Mo Ibrahim Foundation
- Gerald Chirinda, MIF Now Generation Network
- Chris Gentle, Senior Advisor New Business Ventures of the World Energy Council
- Mamadou Fall Kane, Energy Advisor to the President of the Republic of Senegal
- Sidi Ould Tah, Director General of the Arab Bank for Economic Development
- Anne Nyambane, MIF Now Generation Network

Friday 27 May 2022

Opening keynote – Kristalina Georgieva, Managing Director of the International Monetary Fund

Panel Session 3: *Africa's assets are key for a global sustainable future*

- **Moderator:** Christine Mhundwa, Deutsche Welle
- Jin-Yong Cai, former CEO of the International Finance Corporation
- Vera Songwe, Executive Secretary of the United Nations Economic Commission for Africa
- Mahmoud Mohieldin, UN Climate Change High-Level Champion for Egypt
- Barkha Mossae, MIF Now Generation Network
- Nasi Rwigema, MIF Now Generation Network
- Samaila Zubairu, President & CEO of the Africa Finance Corporation

Final keynote – Amina Mohammed, Deputy Secretary General United Nations

Handover Session – *Africa's priorities for COP27*

- **Moderator:** Mo Ibrahim, Founder and Chair of the Mo Ibrahim Foundation
- Yasmine Fouad, Minister of Environment of the Arab Republic of Egypt
- Georgie Ndirangu, NGF moderator
- Mary Robinson, Chair of The Elders
- Samaila Zubairu, President & CEO of the Africa Finance Corporation

On the Road to COP27: 15 recommendations to articulate Africa's case

TAKE AFRICA'S SPECIFIC CLIMATE VULNERABILITIES INTO ACCOUNT

RECOMMENDATION 1. Do not work in silos: address the interaction between climate, development and security challenges

RECOMMENDATION 2. Mitigation alone cannot address the scope of the problem: increase focus on adaptation and 'loss and damage' compensation

RECOMMENDATION 3. Invest in resilience to prevent loss and damage to lives, livelihoods and critical infrastructure

ADDRESS AFRICA'S PEOPLE'S RIGHT TO ENERGY ACCESS

RECOMMENDATION 4. Balance net zero, energy access, and energy security

RECOMMENDATION 5. Consider gas as a key transitional fuel, to be developed in parallel with renewables

RECOMMENDATION 6. Whether for gas or renewables, look beyond just production alone

RECOMMENDATION 7. Clean cooking solutions are key to both climate and health goals

HIGHLIGHT AFRICA'S POTENTIAL IN A GLOBAL GREEN ECONOMY

RECOMMENDATION 8. Raise awareness of Africa's assets and Africa's ability to be a key stakeholder of a global green economy - not just a victim of the climate crisis

RECOMMENDATION 9. Assess - and monetise - Africa's carbon-sequestration potential

RECOMMENDATION 10. Avoid the 'resource curse': add local economic value and frontload governance

"YOU DON'T GET WHAT YOU NEED OR WHAT YOU DESERVE, YOU GET WHAT YOU NEGOTIATE"

RECOMMENDATION 11. Define, present, and negotiate a Common African Position

RECOMMENDATION 12. Re-build trust lost through previous summits

RECOMMENDATION 13. Emphasise responsibilities

RECOMMENDATION 14. Adopt a wide range of integrated and innovative financial solutions

RECOMMENDATION 15. Give a human face to the climate debate

TAKE AFRICA'S SPECIFIC CLIMATE VULNERABILITIES INTO ACCOUNT

RECOMMENDATION 1.

Do not work in silos: address the interaction between climate, development and security challenges

- Climate change itself as well as climate-related policies -or lack thereof- have a major impact on development and conflict.
- Climate protection cannot be achieved by sacrificing the right of Africa's people to economically develop. Overlooking this will only lead to the failure of achieving key global commitments such as the UN SDGs.
- At the global level, debates and decision-making on development, climate, and conflict continue to progress in silos, failing to address the intertwined nature of these objectives, and thus feeding inefficiency.



Africa is particularly vulnerable to overlapping crises. The impact of drought on medium-term growth is about eight times higher in Africa than in any other region globally

David Malpass, President, World Bank Group

The devastating effects of climate change are robbing Africa of lives and livelihoods

Kristalina Georgieva, Managing Director, International Monetary Fund

Africa is warming faster than the global average. At current levels of warming, most of Africa is already in 'danger zone'. By 2030, 108 to 116 million people in Africa will be exposed to sea level rise compared to 54 in 2000

Amina Mohammed, Deputy Secretary General, United Nations

In the last two years, almost one in 12 people in South Sudan have been displaced by flooding. In any other place in the world, that would be headline news everywhere

Murithi Mutiga, Programme Director for Africa, International Crisis Group

We Africans did not put that stuff up there (the carbon emissions). Yet the ten most climate vulnerable countries in the world are all African. Is that justice?

Mo Ibrahim, Founder & Chair, Mo Ibrahim Foundation

We need to have a balanced, holistic approach, that puts into consideration the climate agenda with poverty, nutrition, job opportunities, water, electricity...

Mahmoud Mohieldin, United Nations Climate Change High-Level Champion for Egypt

RECOMMENDATION 2.

Mitigation alone cannot address the scope of the problem: increase focus on adaptation and 'loss and damage' compensation

- Increase global focus to climate change adaptation rather than just mitigation.
- Mainly driven by the Global North, the current global climate debate has up to now focused on climate change mitigation through the goal of achieving carbon-neutral economies.
- Accounting for just over 3% of global historical carbon emissions, the priority in Africa's fight against climate change is adaptation. The climate change adaptation pillar has, however, not received the same focus and level of commitment globally. Financial pledges towards adaptation remain small and mostly unrealised, while the majority of global financing is disbursed to industrialised middle-income countries for mitigation purposes.
- The responsibility of the Global North and high carbon-emitting countries to compensate developing countries adversely impacted by climate change they did little to cause has been discussed, including at COP26. However, no concrete actions were taken towards compensation measures, including the failure to establish a 'loss and damage' fund for developing countries.
- Negotiate adequate financial mechanisms for adaptation as well as for 'loss and damage' compensation.



Glasgow was a discussion on a global target for mitigation. There should also be a global target for adaptation.

Yasmine Fouad, Minister of Environment, Arab Republic of Egypt

The narrative at African and local level is climate adaptation much more than mitigation, because mitigation is mainly for the developed world

Audience member, MIF Now Generation Network

Building a more resilient Africa cannot mean slowing down development or the progress towards achieving SDG7 on energy

David Malpass, President, World Bank Group

RECOMMENDATION 3. Invest in resilience to prevent loss and damage to lives, livelihoods and critical infrastructure

- Early warning and disaster risk management systems based on the latest technology need to be at the heart of the climate agenda to anticipate natural disasters and prevent loss of lives and livelihoods and damage to critical infrastructure.
- African countries need to set up clear adaptation investment plans.
- A focus should be put on climate-resilient infrastructure, housing, and urban-planning.
- Step up Africa's climate research as well as statistical capacity.



There is a basic right for people to know what is going to happen

Yasmine Fouad, Minister of Environment, Arab Republic of Egypt

50% of Africa and 60% of the Sahel population are uncovered by early warning systems. The UNSG has mobilised the international community to close the early warning gap, providing everyone with an early warning system in less than five years

Amina Mohammed, Deputy Secretary General, United Nations

Investment in resilient infrastructure has great potential to deliver urban and rural development in terms of power, sanitation, water and safe transport. The World Bank is implementing multiple projects to support Africa's resilience and adaptation in the face of climate change. We are committed to allocating a minimum of 50% of our total climate finance to adaptation

David Malpass, President, World Bank Group

Africa needs to build climate resilience, and specifically early-warning systems. Modelling risk and exposure will help taking the necessary measures in anticipation of disasters. National governments need to step up and be more forward looking in terms of not just humanitarian response, but looking at medium term measures to build resilience

Ibrahima Cheikh Diong, Assistant Secretary General, Director African Risk Capacity Group, United Nations

ADDRESS AFRICA'S PEOPLE'S RIGHT TO ENERGY ACCESS

RECOMMENDATION 4.

Balance net-zero, energy access, and energy security

- Up to now the global energy debate has been focused on achieving net-zero emissions. The impact of the Russia-Ukraine conflict has recently forced a global shift towards the priority of energy security. Still missing from the picture is the critical issue of energy access, often side-lined in the debate. Access is a pre-requisite to discussing security.
- Over 600 million people still lack access to electricity in Africa. This constitutes a global injustice, while in the rest of the world 90% of the population have access to electricity.
- Going forward it is crucial that the priorities of net zero, energy security and access to energy are reconciled and addressed holistically.



Energy balance is a triangle: net-zero/ energy security/energy access. That triangle was destabilised by too much talk about net-zero and not enough about access or security. Without having energy security, net-zero, energy access in balance, we cannot not have an energy transition that works for everyone

Chris Gentle, Senior Adviser New Business Ventures, World Energy Council

Many young people in Africa are looking to leave due to a lack of energy access

Gerald Chirinda, MIF Now Generation Network, Founder & CEO of Future Africa Investments Limited

There is no development without power

Mo Ibrahim, Founder & Chair, Mo Ibrahim Foundation

The only enabling environment we need actually is ensured access to electricity

Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda

People don't understand net-zero in rural villages. They don't even have access to electricity

Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda

This COP will be different from other COPs because we cannot detach the climate discussion from the development discussion

Yasmine Fouad, Minister of Environment, Arab Republic of Egypt

An essential element of COP27 must be a just, fair and equitable energy transition for Africa, one that recognises the unique and special situation and circumstances of Africa, and includes addressing and funding a transitional energy mix, reducing emissions, and providing energy access to the 600 million Africans who still lack it

Amina Mohammed, Deputy Secretary General, United Nations

RECOMMENDATION 5.
Consider gas as a key transitional fuel, to be developed in parallel with renewables

- Renewables are already the main source of electricity for almost half of Africa.
- However, renewables alone are unable to address the current energy gap on the continent.
- Natural gas, by far the least polluting fossil fuel, is abundant on the continent, and could constitute a transitional fuel to power Africa's development and close the electricity access gap.
- However, COP26 commitments to end international public fossil fuel financing are a major obstacle to exploit Africa's natural gas wealth, which is still mainly untapped.



Denying Africa's right to develop and use its own gas is morally unacceptable

Mo Ibrahim, Founder & Chair, Mo Ibrahim Foundation

Natural gas is an important transition fuel to reduce carbon intensity

David Malpass, President, World Bank Group

Many countries have huge deposits of gas but cannot develop them due to a lack of capital

Sidi Ould Tah, Director General, Arab Bank for Economic Development

We are not asking for the right to pollute, but for the right to develop

Barkha Mossae, MIF Now Generation Network, AU Blue Economy Advisor

On the issue of energy, Europe is selling the idea of Africa to abandon gas and shift completely to renewables. Telling Africa this is akin to just holding them on the ground

Audience member, MIF Now Generation Network

Development of hydrocarbons on the continent should not be restricted by decisions taken by the Global North

Audience member, MIF Now Generation Network

It would be naïve to think that development can take place in Africa with no hydrocarbons at all

Chris Gentle, Senior Adviser New Business Ventures, World Energy Council

Allow Africa to catch up before you tell them to wean off

Georgie Ndirangu, MIF Now Generation Network, Global Moderator & Consultant, Portland Communications

RECOMMENDATION 6. Whether for gas or renewables, look beyond just production alone

- Improve efficiency and reduce losses by updating and expanding transmission and distribution infrastructure.
- Ensure the relevant market size to attract needed investments: this means regional scale, regional transport and regional distribution networks.
- Build maintenance, storage, transport capacities: this means public planning, financial resources and additional skills.
- Solve affordability bottlenecks.
- Improve governance and build capacity of institutions managing power grids.



Quite often what is missing is capacity to manage or maintain the energy grid. Connection to the grid is more a governance and institutional issue than an energy issue

Chris Gentle, Senior Adviser New Business Ventures, World Energy Council

Investment in gas is scary. No investor will go without a guarantee of purchase

Sidi Ould Tah, Director General, Arab Bank for Economic Development

Grid investments to absorb renewables will be key

David Malpass, President, World Bank Group

You need to guarantee a market for gas before production. In Africa, the issue is the economic model, as the domestic market is very scattered. We do not have the market because we do not have the infrastructure. We need to first create an integrated infrastructure to distribute to neighbours. The AfCFTA is a first step in this direction

Mamadou Fall Kane, Energy Advisor to the President of The Republic of Senegal

\$6 trillion a year are spent worldwide on energy subsidies. A key question for COP27 is how we transition from these subsidies

Chris Gentle, Senior Adviser New Business Ventures, World Energy Council

Senegalese gas is 25 times less carbon intensive than the gas from Qatar, so we have a strong argument to address the European market, but also to create an integrated domestic market

Mamadou Fall Kane, Energy Advisor to the President of The Republic of Senegal

In a scattered country with large population, it would be difficult to have a grid

Sidi Ould Tah, Director General, Arab Bank for Economic Development

Affordability is key. People who have less than \$1 a day cannot afford electricity

Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda

RECOMMENDATION 7.

Clean cooking solutions are key to both climate and health goals

- The use of unclean cooking fuels such as solid biomass contributes to 490,000 premature deaths per year in sub-Saharan Africa.
- In sub-Saharan Africa, around 70% of households depend on wood fuel for energy, which produces almost twice as much carbon per million units of energy as gas and contributes to deforestation.
- Replacing polluting fuels with cleaner cooking fuels such as liquified petroleum gas (LPG) or electricity is key from both a health and a climate perspective.
- Cooking fuel transition must be a bottom-up process which takes into account local context and needs and is not imposed in a top-down manner.



My mother was using firewood for cooking. I bought her a nice cooker. She put it up as a souvenir. I had to build her a new house so she could start using it, as this was rooted in her culture

Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda

We have to take into consideration the cultural aspect. Sometimes it is not about affordability and access. It is about culture

Sidi Ould Tah, Director General, Arab Bank for Economic Development

If you just say that firewood cooking is dirty and primitive, this is not going to work. You have to say it is unhealthy and take your time. You are coming to change things people have been doing all their life

Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda

HIGHLIGHT AFRICA'S POTENTIAL IN A GLOBAL GREEN ECONOMY

RECOMMENDATION 8.

Raise awareness of Africa's assets and Africa's ability to be a key stakeholder of a global green economy - not just a victim of the climate crisis

- Assess and price adequately Africa's multidimensional wealth: marine and terrestrial biodiversity, renewable energy, and critical minerals for low-carbon technologies.
- Build and leverage Africa's collective bargaining power as a key sovereign owner of ecosystems and assets that are essential for a low-carbon future at global level.
- Consider climate change as a key development opportunity for Africa.



We should not sell cheap. These are the assets we need to negotiate with the rest of the world

Samaila Zubairu, President & CEO, Africa Finance Corporation

The dash for African resources is already well in motion

Zeinab Badawi, Journalist & Broadcaster

I am very optimistic about the future for Africa because it has so much endowment

Jin-Yong Cai, Former CEO, International Finance Corporation

RECOMMENDATION 9.

Assess - and monetise - Africa's carbon-sequestration potential

- Africa is a net carbon sink: the continent is not only the lowest historic emitter per capita globally, but also home to key global carbon sinks such as the Congo Basin rainforest, which absorbs as much as the whole of Africa's carbon emissions together.
- African countries should be duly compensated for the preservation of these global assets, including with a price on carbon storage.



If we were able to put a price to carbon storage in Africa, we would be able to create 136 million jobs

Vera Songwe, Executive Secretary, United Nations Economic Commission for Africa

We must quantify and monetise the carbon we are sequestering

Vera Songwe, Executive Secretary, United Nations Economic Commission for Africa

RECOMMENDATION 10.**Avoid the 'resource curse': add local economic value and prioritise governance**

- Exporting raw commodities should become a trade model of the past. Upgrading the value chain by processing raw commodities locally should be the new economic model, to strengthen ownership, create local business and provide local employment.
- Processing Africa's minerals locally will not only create local value, but also allow to better control the environmental impact of manufacturing and production chains, for instance pollution of maritime transport routes, one of the biggest carbon emitters at global level.
- Transparency, accountability and governance are key at both national and global levels in the process of resource extraction and trade. Strong governance, transparency, and accountability mechanisms must be put in place preventively to avoid corruption, resource losses, ecological disasters, human rights violations and resource-driven conflicts.



There is no resource curse, just good or bad governance

Mo Ibrahim, Founder & Chair, Mo Ibrahim Foundation

The dark side of new energy production – health, child labour, resource conflict... needs to be addressed

Audience member, MIF Now Generation Network

Tailored, robust policies built on good governance, more effective spending combined with accountability and transparency, will mobilise more funds externally and domestically and will make better use of these funds

Kristalina Georgieva, Managing Director, International Monetary Fund

We need to add value to our raw material and substance to our nature endowment, and not just be exporters of raw material and buy the products back

Mahmoud Mohieldin, United Nations Climate Change High-Level Champion for Egypt

We have this incredible continent with phenomenal things under the grounds, and in the oceans as well. This is the opportunity to add value to the assets we own and turn them into real commercial wealth for the continent as well as wealth for its people

Nasi Rwigema, MIF Now Generation Network, Entrepreneur

No green colonialism

Audience member, MIF Now Generation Network

Let us invest what is required to move from cobalt, nickel, graphite, and lithium export to battery production locally

Samaila Zubairu, President & CEO, Africa Finance Corporation

Africa can become a green powerhouse to produce low carbon-impact products, including aluminium and solar panels, as opposed to China, still relying on coal to produce them

Jin-Yong Cai, Former CEO, International Finance Corporation

“YOU DON’T GET WHAT YOU NEED OR WHAT YOU DESERVE, YOU GET WHAT YOU NEGOTIATE”

RECOMMENDATION 11.

Define, present, and negotiate a Common African Position

- Make sure Africa is on par with other participants on the global scene - not just as a victim to be taken care of, but as a key stakeholder to partner with.
- Africa’s position cannot be reduced to one or two leading countries. It should portray the voice and the weight of the whole continent.
- Africa’s leadership and leaders need to define one narrative for negotiating at global level.



COP27 must be an African COP: African solutions developed for Africa by Africans. I urge you to seize the opportunity of COP27 to place the priorities of Africa at the centre of the global response to the climate crisis

Amina Mohammed, Deputy Secretary General, United Nations

We need to articulate Africa’s case. We need to have a really unified, loud, comprehensive voice. We have been unable to do that so far

Mo Ibrahim, Founder & Chair, Mo Ibrahim Foundation

We will not get that opportunity again. We need to get organised and then keep pushing

Ibrahima Cheikh Diong, Assistant Secretary General, Director African Risk Capacity Group, United Nations

We are not victims. We are part of the solution, because we are already providing most of the offsets

Samaila Zubairu, President & CEO, Africa Finance Corporation

If we don’t set the agenda, somebody will set it for us...and make money out of it. Time has come for Africa to set the agenda. Africans have not owned the climate agenda. It is still drafted in Europe’s boardrooms

Emilia Siwingwa, MIF Now Generation Network, Founder, African Hub for Accountability and Development Initiatives (AHADI)

RECOMMENDATION 12.

Re-build trust lost through previous summits

- The Global North must follow through and implement former pledges already made, before even making new ones.
- Follow up on commitments, identify pilot projects for every commitment, including the allocation of resources.
- Monitor implementation and disbursements and be vocal when commitments are not fulfilled.



Turn these summit pledges into solutions, basically translating all commitments into pilot projects

Mahmoud Mohieldin, United Nations Climate Change High-Level Champion for Egypt

We don't have time to still keep writing. This needs to be a COP for implementation

Yasmine Fouad, Minister of Environment, Arab Republic of Egypt

RECOMMENDATION 13.

Emphasise responsibilities

- Africa cannot be expected to carbon finance the Global North.
- The world's largest emitters should be the ones to take the main responsibility for the climate crisis.
- The Global North must lead in terms of renewable energy transition and should provide the bulk of climate financing, including for loss and damage and adaptation mechanisms.



Articulate climate justice: benefits, burden, responsibilities

Emilia Siwingwa, MIF Now Generation Network, Founder, African Hub for Accountability and Development Initiatives (AHADI)

People need to understand climate change is man-made, not a God-driven malediction

Mo Ibrahim, Founder & Chair, Mo Ibrahim Foundation

Industrialised countries do not have the moral authority on climate change, as they are 100% responsible for it

Mamadou Fall Kane, Energy Advisor to the President of The Republic of Senegal

If we can take people to The Hague for trampling human rights, why can't we hold developed countries to account for climate change

Emilia Siwingwa, MIF Now Generation Network, Founder, African Hub for Accountability and Development Initiatives (AHADI)

RECOMMENDATION 14. **Adopt a wide range of integrated and innovative financial solutions**

- Emphasise the relationship between climate and debt and link debt forgiveness to adaptation and mitigation purposes.
- Increase sovereignty over the climate agenda by mobilising domestic resources, leveraging Africa's pension and sovereign funds and strengthening tax systems.
- Streamline financing processes and eligibility criteria.
- Do not rely solely on public finance: include public-private partnerships (PPP), blended finance, guarantees, insurance.



Sub-Saharan Africa represents 14% of world's population, but only 3% of global climate finance flows into the region. Only 2% of global renewable investments in the past decade have gone to Africa, despite its abundant and untapped renewable resources

Amina Mohammed, Deputy Secretary General, United Nations

We need to ensure that Africa benefits from the trillions of private finance being mobilised to accelerate the energy transition. This will require that the Multilateral Development Banks and Development Finance Institutions be more creative and innovative in creating financial instruments and structures that take into account the needs and circumstances of all African economies

Amina Mohammed, Deputy Secretary General, United Nations

Financial innovation is key. Those pledges will only come true through financial innovation

Samaila Zubairu, President & CEO, Africa Finance Corporation

RECOMMENDATION 15.

Give a human face to the climate debate

- Humanise: the climate debate cannot be just about 'saving the planet', but rather about its impact on people's daily lives and livelihoods.
- Contextualise: adapt the narrative, simplify the language, develop climate and energy literacy.
- Localise: define policies that have local context and nuances. Listen and include local and indigenous knowledge and solutions.



We need energy literacy. The world is less than 10% literate in energy. Where the energy comes from, what are the implications of using that kind of energy
Chris Gentle, Senior Adviser New Business Ventures, World Energy Council

Climate change is a very elitist conversation. Only four out of ten Africans know what climate change is, and only 28% have an understanding of the need for and importance of climate action
Natasha Kimani, MIF Now Generation Network, Research and Media Programme Lead, Africa No Filter

When you say climate change to an unemployed 22 years old who is struggling to make ends meet, he says, listen, I am dying anyway, I do not have food on my table. So, you are speaking this English that I do not understand
Audience member, MIF Now Generation Network

People experience climate change on a daily basis. But they do not understand it. They understand drought. They do not understand climate
Audience member, MIF Now Generation Network

It is important to highlight the small and impactful ways Africans are making change on their continent, to shift the narrative. This is not just about doom and gloom
Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda

We must embed this in our education systems as young people are able to understand the importance of protecting their environment and their communities, the importance of being more proactive rather than just reactive
Anne Nyambane, MIF Now Generation Network, Sustainable Energy Specialist NORCAP/FAO Uganda

We are not just talking about melting ice caps, penguins, and polar bears, but about real people. People like my aunts and my cousins who are unable to pursue their livelihoods, to send children to school, to access healthcare, because of the succession of droughts and floods
Emilia Siwingwa, MIF Now Generation Network, Founder, African Hub for Accountability and Development Initiatives (AHADI)

COP27 will put the link between climate and human needs at the centre of the discussion
Yasmine Fouad, Minister of Environment, Arab Republic of Egypt

H.E. President Macky Sall's, Chairperson of the African Union, expectations for COP27 (Conversation with Mo Ibrahim - 25th May 2022)

Power unbalance in climate fora

- The \$100 billion USD yearly to finance climate change adaptation for African nations pledge has never been disbursed.
- The most polluting countries must contribute the most to ensure Africa's adaptation.

A just energy transition for Africa

- Africa needs a just transition and natural gas should be used as a transitional fuel.
- Strong global lobbying practices are working tirelessly to eradicate the use of natural gas altogether by blocking funding, which would have devastating consequences for Africa.
- Africa will never bridge the staggering and urgent energy gap using renewable energy alone.

Powering Africa

- Powering Africa will be achieved via utilising its natural resources and developing a robust energy mix with several sources of energy (hydro, solar, fossil).
- Africa needs a mix of public and private financing (PPPs) working together towards this goal.
- Financing power on the continent needs to cover production as well as transmission.
- Africa will only get to speed if it applies a bespoke strategy adapted to its particular needs.

Leveraging Africa's own solutions

- Africa's needs are rooted in the continent's context and require own solutions.
- African projects such as the Great Green Wall are examples to replicate.

Session 1: Africa's vicious cycle: low resilience worsens, and is worsened by, climate change

Impacts of climate change

The group spoke about the devastating impacts of climate change in Africa with the continent experiencing more frequent extreme weather events such as droughts and flooding; highlighting that although the continent is least responsible for climate change it is paying the highest price. They agreed that it is unfair for African countries to continue to suffer the consequences of high carbon emissions caused by countries in the global North.

COP

COP 27 will be hosted in Egypt this November. The NGF participants recognised the significance of an Africa COP and the opportunity this presents to articulate the continent's specific vulnerabilities and climate solutions. However, in order to strengthen what this platform represents, the group called for commitments made at COP 26 to be met first.

Unity

NGF participants stressed that Africa needs to speak with one voice at COP 27 whilst recognising the challenges faced by individual countries. The group also highlighted that presenting a unified voice should include the perspectives of young people and indigenous communities, and that African governments have a key role to play in this.

Climate financing

The group asserted that the right to development goes hand in hand with climate financing, as such, African countries should be allowed to industrialise with the financial support of developed countries. They also highlighted the importance of holding historical polluters to account through compensation for losses and damages.

Climate research

A major challenge presented by the group in relation to climate action is that of data paucity. NGF participants highlighted a lack of data on climate change in Africa and the need for more funding into climate research on the continent. They called for more investment in climate research and regional collaboration to share and learn from existing data.



Mechanisms should be put in place for the implementation of all of the past promises from COP. Before we even start talking about new ones, I think the old ones need to be respected and implemented.

Emmanuel Adegboye, Nigeria

How do we really hold historical and major polluters accountable for the financing? Because really, the crux of the matter is financing infrastructure.

Barkha Mossae, Mauritius

I think African countries will need to strengthen their regulatory and policy environments to take advantage of carbon markets and ensure people understand how offset trading can benefit their communities.

Oussama Ghajjou, Morocco

The Now Generation Forum (NGF) is an annual closed convening of young African leaders and professionals from across the continent which takes place ahead of the main Ibrahim Governance Forum. The NGF seeks to gather the perspectives and expertise of young Africans on the topics discussed at the Ibrahim Governance Forum, with some representatives joining the high-level discussions. This year, participants unpacked Africa's position in the global debate around climate change.

Session 2: The elephant in the room: what's an acceptable trade-off between development and climate goals?

Balancing development and climate protection

The group agreed that there needs to be balance between climate protection and development. They highlighted that Africa has the right to develop and should be allowed to do so, however, the NGF participants proposed that the continent needs to redefine its development objectives. They also argued that the 'one size fits all' approach to phasing out fossil fuels led by developed countries would constrain the continent, noting that Africa should have different timeframes for reaching net zero.

Energy access

Over 600 million people in Africa still lack access to electricity. The NGF participants asserted that increasing energy access should be a top priority for Africa to address the growing demand for power on the continent. They called on African governments to create clear electrification targets and to use regional networks for energy provision.

Energy transition

The NGF participants highlighted that renewable energy sources such as solar and hydro are not sufficient to fill Africa's energy gaps. The group discussed the abundance of the continent's natural gas reserves, and how this less polluting fuel should be used by African countries to transition to cleaner energy. The group noted that more financial support for renewable energy is a moral and environmental imperative for richer countries. As such, they called for any clean energy commitment made by an African country at COP27 to be matched with an equivalent commitment to funding.

Governance

According to the NGF participants, many African countries have good policies when it comes to climate and energy, however, there is a gap between policy creation and implementation. The group highlighted that good governance is essential to this and that African citizens should hold their governments accountable for climate inaction.



Having African countries sign up to the same timeline or deadline for achieving net zero is totally flawed. We haven't even started playing this game and we are told to curtail emissions by 2050. I don't think anything sooner than 2100 would be fair for African countries at all.

Emmanuel Taiwo, Nigeria

As Africa, we need to create policies that allow us to benefit in climate financing. We need to highly tax companies or countries that need our resources, specifically gas.

Gertrude Kitongo, Kenya

Session 3: Africa's assets are key for a global sustainable future

Leveraging Africa's resources

30% of the world's mineral reserves are in Africa. The NGF participants discussed the vast natural resources the continent has including both green and blue wealth and the opportunity this presents for Africa to be a key stakeholder of a global green economy, if these resources are managed efficiently. They argued that Africa needs to leverage these assets more and set investment priorities that align with the continent's goals.

Governance

The group agreed that good governance at continental, country and local level is essential to ensuring that Africa's resources benefit African citizens. They called for African governments to be more transparent with regards to how natural resources are managed including how mining contracts are issued to foreign companies. The NGF participants also highlighted the importance of involving local communities in the management of local resources and the need for education and investment in these communities to ensure that these assets are protected.

Value addition

Exporting raw materials without enhancing local refining processes on the continent was seen as detrimental to African economies. The NGF participants called for more value addition processes to be done on the continent which would in turn create more jobs, enhance ownership of natural resources and reduce environmental degradation.

Role of young Africans

By 2050, one quarter of the world's population will be Africa's youth. The NGF participants agreed that young Africans and rural communities have an important role to play in the management of continent's natural resources. As such, they must be included in decision-making processes.



As young Africans, we are 60% of the population. We are the future of the continent. The impact of climate change is going to have impact on us more than anything else. So, I think we need to be more proactive in our demands for holding our leaders accountable.

Richard Kweitsu, Ghana

It's about African countries coming up with very clear priorities, and then the global North aligns their investment with what our priorities are, instead of it being the other way round.

Anne Nyambane, Kenya

We mustn't allow people to come and exploit our assets and then leave us to deal with the consequences of the extraction.

Divane Nzima, South Africa

Our voices, our vision, our actions matter and African leaders' voices only resonate when they're backed by citizens voices.

Emilia Siwingwa, Tanzania

SPOTLIGHT

Building a common African position in global climate negotiations

A number of provisions mandate the African Union to address climate change and increase organisation in international fora.

The African Ministerial Conference on the Environment (AMCEN) kicked off institutional cooperation in climate issues at the continental level in Cairo in 1985. The 18th session of AMCEN was held virtually from 13 to 16 September 2021.

The Committee of African Heads of State on Climate Change (CAHOSCC), established by the 13th AU Assembly in 2009, was tasked with working towards a concerted African climate position. The last meeting of CAHOSCC was held on 6 February 2022, shortly after the UNFCCC COP26 in Glasgow.

The Bureau of the African Group of Technical Negotiators, established by the AU in Nairobi to strengthen its negotiating position during climate negotiations.

The African Group of Climate Change Negotiators (AGN), established in 1995, is the technical body of the three-tier African negotiating structure that engages in the technical negotiations during the Conferences of the Parties and the intersessional negotiations. The AGN prepares and drafts texts and common positions, following guidance from CAHOSCC and AMCEN.

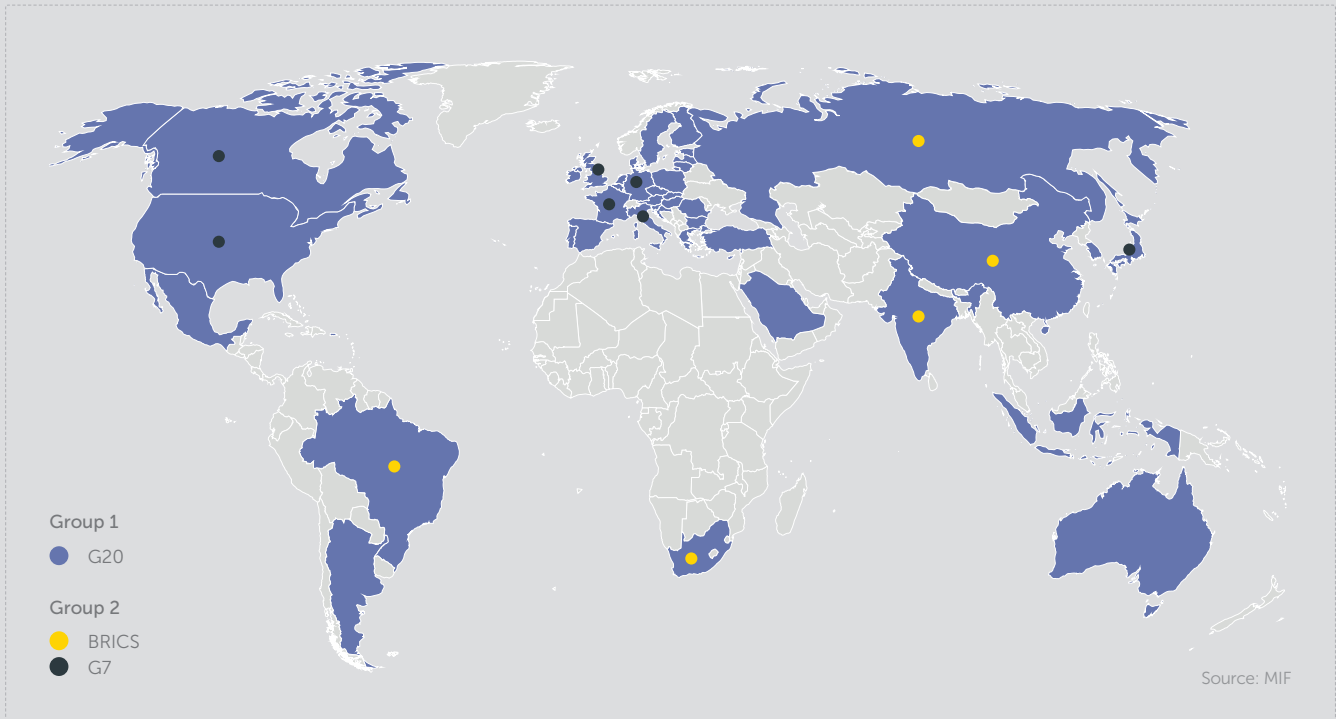
- The 2014 “Common African Position on the Post-2015 Development Agenda” was key for Africa to articulate its development priorities, among which figured “Environmental sustainability, natural resources management and disaster risk management”.
- Much progress has been made in developing a common position, urging developed countries to provide sufficient and predictable financing, as well as the transfer of technologies and capacity building. The AGN also plays a prominent role in building a cohesive stance in issues of particular relevance for the African continent, such as the right of developing countries to develop and the equal treatment between adaptation and mitigation efforts in the Paris Agreement.
- In the run-up to COP21 in Paris, the AGN managed to integrate most of its key proposals into the Paris Agreement, including the adaptation component of Intended Nationally Determined Contributions (INDC), the Global Goal for Adaptation and the Technology Framework. The AGN also champions initiatives such as the African Renewable Energy Initiative (AREI) and the African Adaptation Initiative (AAI), facilitating concrete actions on the ground in Africa.
- Despite these achievements, the AGN faces the challenge of unifying the competing interests of many countries with varying socio-economic realities and priorities. In this sense, compared to the common narrative around adaptation and loss and damage, energy is left out of the common position because there is still no common position on that.
- In March 2022, African countries agreed on common position to integrate gender equality in climate action agenda, recognising that the climate crisis is not a “gender neutral” global crisis. Despite women being disproportionately affected by climate change, they play a crucial role in climate change adaptation and mitigation.

African political leadership in climate: COP22 in Marrakech (2016)

In the margins of UNFCCC COP22 in Marrakech in 2016, an African Summit for Action took place. This led to the creation of the Initiative for the Adaptation of African Agriculture (AAA), the Congo Basin Blue Fund, as well as the three climate commissions (the Congo Basin Commission, the Commission for the Sahel Region, and the Africa Island States Climate Commission).

SPOTLIGHT **Africa's place in the multilateral system needs to be updated**

World countries: inter-governmental group country membership (2022)



- G7: the share of global GDP represented by the G7 fell from 61.9% in 1976 to 45.8% in 2020. Its share of the global population fell from 14.5% to 9.8% as the population only grew by 1.3 times while the world population almost doubled from 1976 to 2022.
- G20: despite a reduction in the share of the global population represented by the G20 since its creation (from 67.5% in 1999 to 62.2% in 2022), the GDP of the group as a share of global GDP has increased from 84.6% in 1999 to reach more than 95% of global GDP in 2020. This is in part due to progress from China, which saw its GDP grow from 3.3% of global GDP in 1999 to 17.4% in 2020.
- BRICS: the BRICS group's share of global GDP has increased from 8% in 2001 to 24.4% in 2020 with all members experiencing growth over the period while their share of global population has stayed close to 40%.
- Africa: Africa's population has grown from 10.2% of global total in 1976 to almost 18% by 2022, while its share of global GDP has barely changed going from 2.7% to 2.8%.

Note: For the purpose of this analysis, the shares of global GDP and population at the year of creation of each one of the intergovernmental groups (or the earliest available data) is compared with their respective shares in latest data available year (2020 for GDP and 2022 for population).

Chapter 01. Africa's climate paradox: the least responsible, but paying the highest price globally**DESPITE CONTRIBUTING THE LEAST TO THE CLIMATE CRISIS, AFRICA IS HIT HARD**

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THE URGENCY TO DEVELOP-PROOF AFRICA'S CLIMATE CHANGE EFFORTS

Fighting climate change at global level requires addressing Africa's specific challenges

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AAA	Adaptation of African Agriculture	GW	Gigawatt
AAI	African Adaptation Initiative	ICPAC	Climate Prediction and Application Centre
ACCORD	The African Centre for the Constructive Resolution of Disputes	IDMC	Internal Displacement Monitoring Centre
ACF	African Climate Foundation	IDP	Internally Displaced Person
ACLED	The Armed Conflict Location & Event Data Project	IEA	International Energy Agency
AfCFTA	African Continental Free Trade Area	IGAD	Intergovernmental Authority on Development
AfDB	African Development Bank	IGF	Ibrahim Governance Forum
Afreximbank	African Export-Import Bank	IIAG	Ibrahim Index of African Governance
AGN	African Group of Climate Change Negotiators	ILO	International Labour Organization
AHADI	African Hub for Accountability and Development Initiatives	IMF	International Monetary Fund
AIHSRN	African Integrated High-Speed Rail Network	INDC	Intended Nationally Determined Contribution
ANC	African National Congress	IPCC	Intergovernmental Panel on Climate Change
AMCEN	African Ministerial Conference on the Environment	IPG	International Partners Group
APPO	African Petroleum Producers Organisation	JET-P	Just Energy Transition Pledge
AREI	African Renewable Energy Initiative	JTT	Just Transition Transaction
AU	African Union	KG	Kilogramme
AU PSC	African Union Peace and Security Council	kWh	Kilowatt per hour
AYICC	African Youth Initiative on Climate Change	kWp	Kilowatt peak
BRICS	Brazil, Russia, India, China, South Africa	LECZ	Low elevation coastal zone
CAHOSCC	Committee of African Heads of State on Climate Change	LPG	Liquified Petroleum Gas
CBD	Convention on Biological Diversity	MIF	Mo Ibrahim Foundation
CEWS	Continental Early Warning System	MoU	Memorandum of Understanding
CO ₂	Carbon Dioxide	MW	Megawatt
COP	Conference of the Parties	NAP	National Adaptation Plan
DRC	Democratic Republic of Congo	NDC	Nationally Determined Contribution
DRR	Disaster Risk Reduction	ND-GAIN	Notre Dame Global Adaptation Initiative
EAC	East African Community	NGF	Now Generation Forum
ECA	United Nations Economic Commission for Africa	NGN	Now Generation Network
ECOWAS	Economic Community of West African States	NGO	Non-Governmental Organisation
EM-DAT	Emergency Events Database	NORCAP	Norwegian Capacity
EU	European Union	OECD	Organisation for Economic Co-operation and Development
EV	Electric Vehicle	OPEC	Organization of the Petroleum Exporting Countries
FAO	United Nations Food and Agriculture Organization	PCC	Presidential Climate Commission
G20	Group of Twenty	PIDA	Programme for Infrastructure Development in Africa
G7	Group of Seven	PPP	Public-Private Partnership
G77	Group of 77	PVOUT	Photovoltaic Output
GCA	Global Center on Adaptation	REIPPP	Renewable Energy Independent Power Producers Programme
GDP	Gross Domestic Product	RST	Resilience and Sustainability Trust
GHG	Greenhouse Gas	SADC	Southern African Development Community

SAS	Sustainable Africa Scenario
SDG	Sustainable Development Goal
SDR	Special Drawing Rights
SSA	Sub-Saharan Africa
UK	United Kingdom
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNSG	United Nations Secretary General
US	United States of America
USD	United States Dollar
WE	World Energy
WHO	World Health Organization
WMO	World Meteorological Organization

This report puts together data-driven facts and figures about climate change in Africa, contributions from external experts, including members of the Foundation's Now Generation Network (NGN), as well as the main findings from the 2022 Ibrahim Governance Forum, which took place on 25-27 May 2022. The focus of this report is to help inform Africa's position ahead of the United Nations Framework Convention on Climate Change (UNFCCC) COP27 summit hosted by Egypt in November 2022. This research publication does not intend, by any means, to be exhaustive. The topics and data selected are those that the Mo Ibrahim Foundation (MIF) finds the most relevant.

This report makes use of the latest available data from a wide range of sources. A reference list containing all the sources used for this document is provided at the end of the report. Sources used are not always the primary data sources.

Quotes from the Now Generation Forum (NGF) and Ibrahim Governance Forum (IGF) are sourced from the transcript of the conversations and have been adapted for editorial purposes.

Each graph is accompanied by its respective data source. Where necessary, additional notes on the data used are also provided throughout the report.

Data included in the report was correct at source at the time of research (the last access date for each variable is provided in the references). In some cases, the numbers may not add up to the total due to rounding.

This report provides comparisons of regional averages. The composition of regions may vary according to source. When data in the report is presented disaggregated for Northern African and sub-Saharan African countries, this is done reflecting the choices made at source.

African averages are, in most cases, taken directly from source. If they have been calculated for the purpose of this report, they are unweighted. As not all sources provide data for the 54 African countries, some averages may not include data from all countries. Please see the sources for full details.

Calculations for Africa using World Health Organization (WHO) data have been adjusted manually to include the following countries from the Eastern Mediterranean region: Djibouti, Egypt, Libya, Morocco, Somalia, Sudan, Tunisia.

Data for Morocco may or not may include Western Sahara depending on the source.

The Ibrahim Index of African Governance (IIAG), which is featured several times throughout this report, is a composite index which gives a statistical measure of governance performance in 54 African countries, produced by MIF. The 2020 IIAG, its latest iteration, covers a ten-year time period from 2010 to 2019. Compiled by combining 237 variables from 40 independent African and international data sources, the 2020 IIAG is the most comprehensive collection of data on African governance. To download all IIAG resources and datasets, please visit: <https://mo.ibrahim.foundation/iiag/downloads>

The Foundation consults on a regular basis with its Now Generation Network (NGN), a group of over 350 young and mid-level career representatives from 54 African countries and a wide range of disciplines. This report contains relevant expert views from the NGN. For more information about MIF's NGN, please visit: <https://mo.ibrahim.foundation/ngn>

The EM-DAT international disasters database, produced by the Centre for Research on the Epidemiology of Disasters, is the source used to analyse the frequency and impact of extreme weather events in Africa. The natural disaster events analysed are those classified as climatological, hydrological, or meteorological by EM-DAT (those labelled as biological, extra-terrestrial or geophysical have been excluded). 2022 counts of natural disaster events are as of 1 April 2022.

Data on conflicts and violent events is taken from the Armed Conflict Location & Event Data Project (ACLED). The dataset used in this report was downloaded on 11 March 2022. In order to analyse conflicts involving pastoralists and protests and riots linked to water, sub-sets of this full ACLED dataset covering all African regions and their countries between 2010 and 2021 were created. For the sub-dataset on pastoralist conflicts, all observations containing the keyword 'pastoralist' in the Notes column of the dataset were filtered. For the sub-dataset on water-related protests and riots, the filtering was conducted on a smaller version of the ACLED dataset which contained only events classified as protests and riots. These observations were filtered for the key word 'water' in the Notes column. Observations where the word 'water' was part of a location or institutional name (e.g. Waterville or Stellenbosch University's Water Institute) or which contained the word 'water cannon' were deleted unless the protest or riot was related to access to water. Although manual quality checks have been conducted, a margin of error remains, and it cannot be excluded that the sub-datasets might contain irrelevant observations or that relevant observations might have been deleted.

Unless stated otherwise, population statistics are taken from the 2019 revision of the World Population Prospects from the United Nations Department of Economic and Social Affairs (UNDESA). For population projections, medium variant estimates are used.

Dollars (\$) are US dollars unless indicated otherwise.

MIF is committed to making data freely available and accessible. We welcome and encourage any accurate reproduction, translation and dissemination of this material. The material must be attributed to the Mo Ibrahim Foundation, but not in any way that suggests that the Foundation endorses you or your use of the material.

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- More than one-third (35.2%) of all new disaster IDPs are based in the ten most climate vulnerable countries.
- Africa accounts for 17% of world's population but only 5.9% of world's energy supply.
- Just over half (55.7%) of the 1.3 billion people living in Africa have access to electricity, as opposed to over 90% for the rest of the world.
- Power shortages cost the continent about 2% to 4% of GDP a year.
- Less than one in three people living in Africa have access to clean cooking fuels.
- Almost 490,000 premature deaths per year in sub-Saharan Africa are related to household air pollution from the lack of access to clean cooking facilities.
- Twenty-two African countries already utilise renewables as their main electricity source.
- Five of the ten countries at global level with the highest solar potential are in Africa.
- Hydropower is the continent's primary renewable with 70% of the renewable electricity share.
- Africa is only tapping into 0.01% of its wind power potential.
- In the Sahel, full mobilisation of technical wind potential would increase electricity capacity more than 30-fold in Chad, Mauritania, Niger and Mali.
- Africa accounted for 41% of the world's new gas discoveries between 2011-2018.
- Gas accounts for less than 10% of the total domestic energy supply in half of the continent's 18 gas producers.
- The share of fossil fuels in energy supply is lower in Africa than in other regions.
- If the whole of sub-Saharan Africa (minus South Africa) were to triple its electricity consumption using entirely gas it would only add 0.6% to global carbon emissions.
- For every \$10 dollars invested in the African energy sector since 2015, just over \$1 dollar went on transmission and distribution.
- Africa is home to almost one quarter of the world's 36 biodiversity hotspots, to 20.2% of the world's land, 65% of its arable land and around one sixth of the world's remaining forests.
- The Congo Basin constitutes the world's second largest rainforest, absorbing an estimated 1.1 billion to 1.5 billion tonnes of carbon dioxide annually.
- Africa holds 30% of the world's mineral reserves, which will be critical to renewable and low-carbon technologies.
- Sub-Saharan Africa receives just 5% of total climate finance outside the OECD.
- 23 of 26 African countries with data spend more on debt servicing than on climate adaptation.
- In 2019, only roughly one quarter of climate finance mobilised globally was spent on adaptation.
- The financial gap between what is available and what is needed in Africa for meaningful adaptation stands at 80%.



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