

# The Road to COP27

Making Africa's Case  
in the Climate Debate



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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 Forum aims to help inform and articulate Africa's position in the global debate around climate change.

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

The Facts & Figures 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 Ibrahim Forum Report will be published following the Forum debates, to combine the data findings with the main takeaways and recommendations from the panel sessions.

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# Chapter 01.

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



The first chapter will focus 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, but 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.

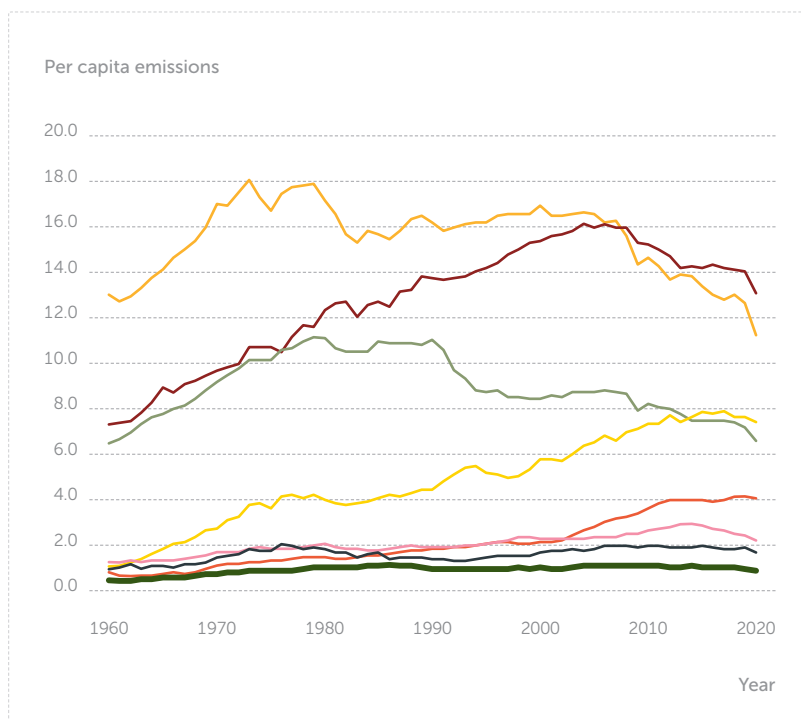
GHG concentrations are currently at their highest levels in 2 million years which means the Earth is 1.1 degrees Celsius warmer than in the late 1800s.

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.

### 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 everywhere else, and will continue to do so**

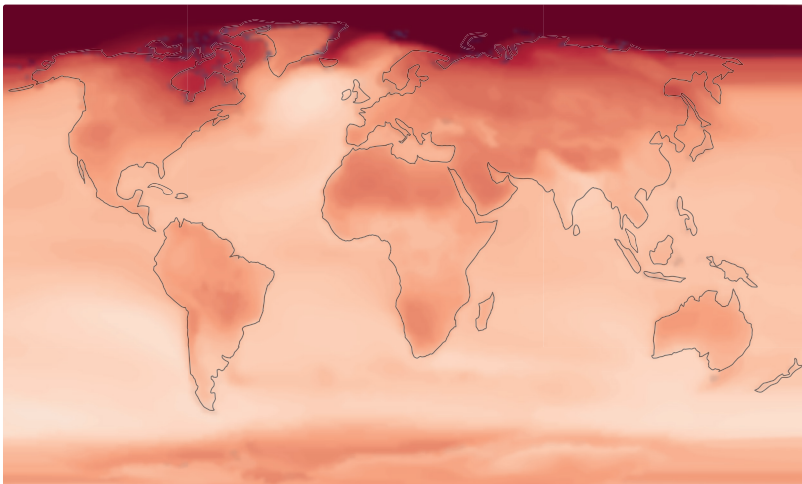
In Africa, temperatures are increasing faster than the global average, and they are projected to continue doing so during the rest of the 21<sup>st</sup> century.

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 21<sup>st</sup> 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-21<sup>st</sup> century, and 33 countries in the late 21<sup>st</sup> 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-21<sup>st</sup> century, and 20 countries in the late 21<sup>st</sup> 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 6 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.

**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 will become more and more unpredictable

Precipitation patterns have dramatically changed since 1900 across Africa.

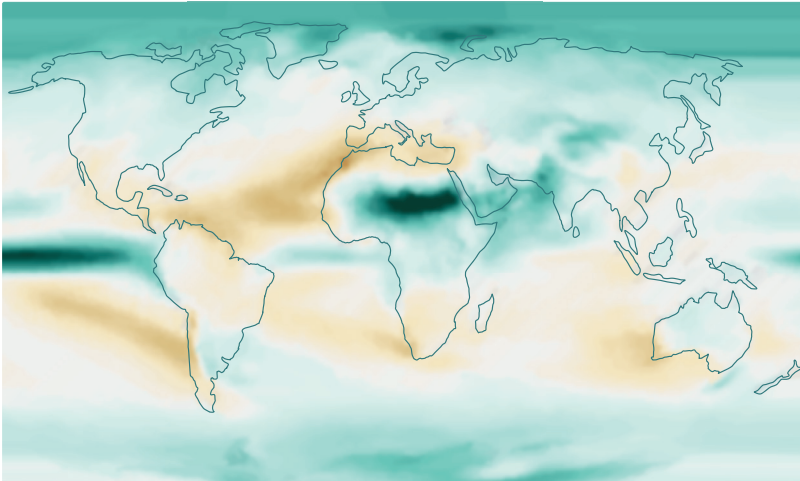
Compared to 1901, the 2020 average annual precipitation over the continent decreased in 29 countries and increased in 25 countries.

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 (%)

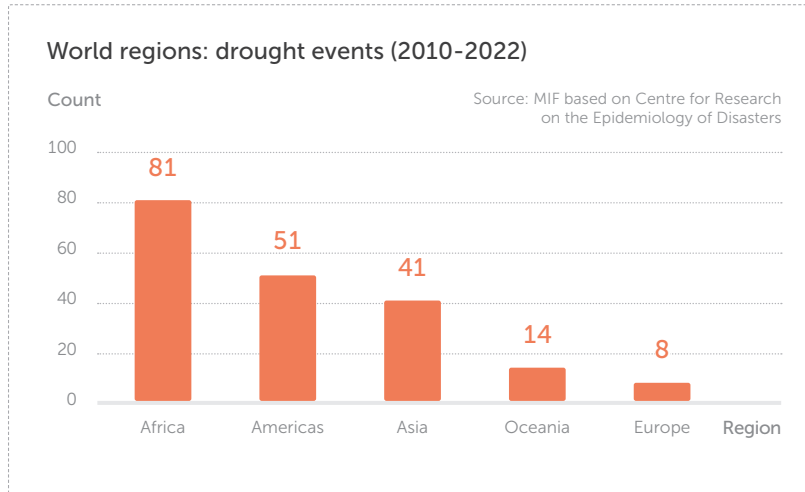
-55.0  +55.0

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 (81 events and at least 172 million people affected over 2010-2022)**



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

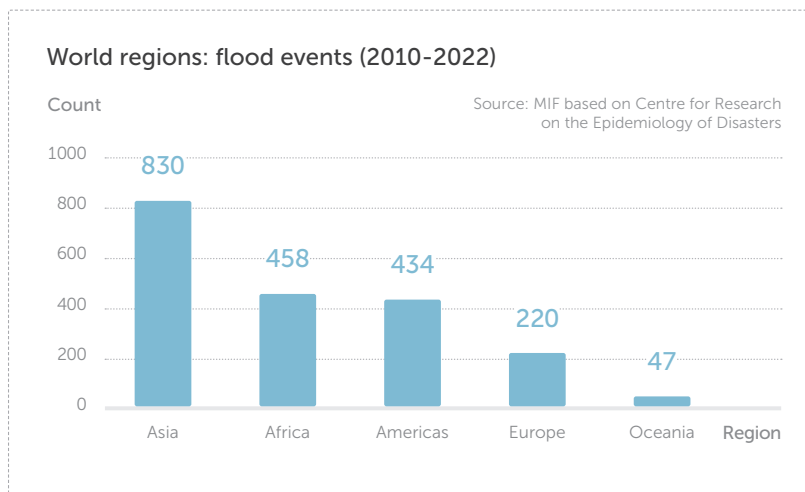
Country	Drought events
Kenya	6
Somalia	6
Mauritania	5
Ethiopia	4
Lesotho	4
Madagascar	4
Niger	4
South Africa	4
Zimbabwe	4
Angola	3

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**

<sup>1</sup> 2022 counts of natural disaster events are as of 1 of April.

**Impact across the continent is unequal**

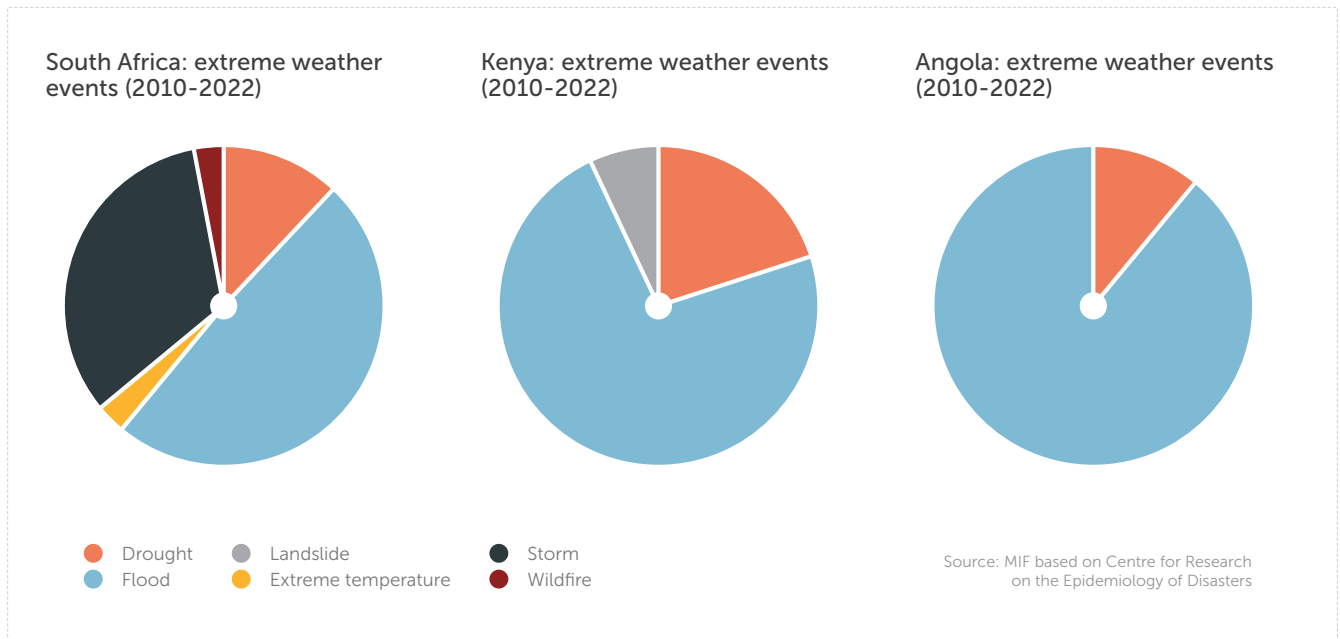
South Africa is the only African country affected by five out of the six types of extreme weather events analysed below (droughts, floods, landslide events, extreme temperature, storms and wildfires).

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.



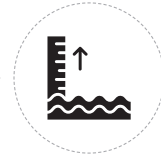
The 15<sup>th</sup> session of the Conference of the Parties (COP15) of the UN Convention to Combat Desertification (UNCCD) is taking place in Abidjan, Côte d'Ivoire, from 9-20 May 2022. Its main focus is steering a coordinated response to desertification, land degradation and droughts, and their serious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

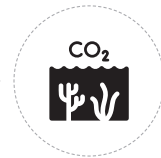


### Ocean acidification

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.



## SPOTLIGHT

### 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 World Meteorological Organization.

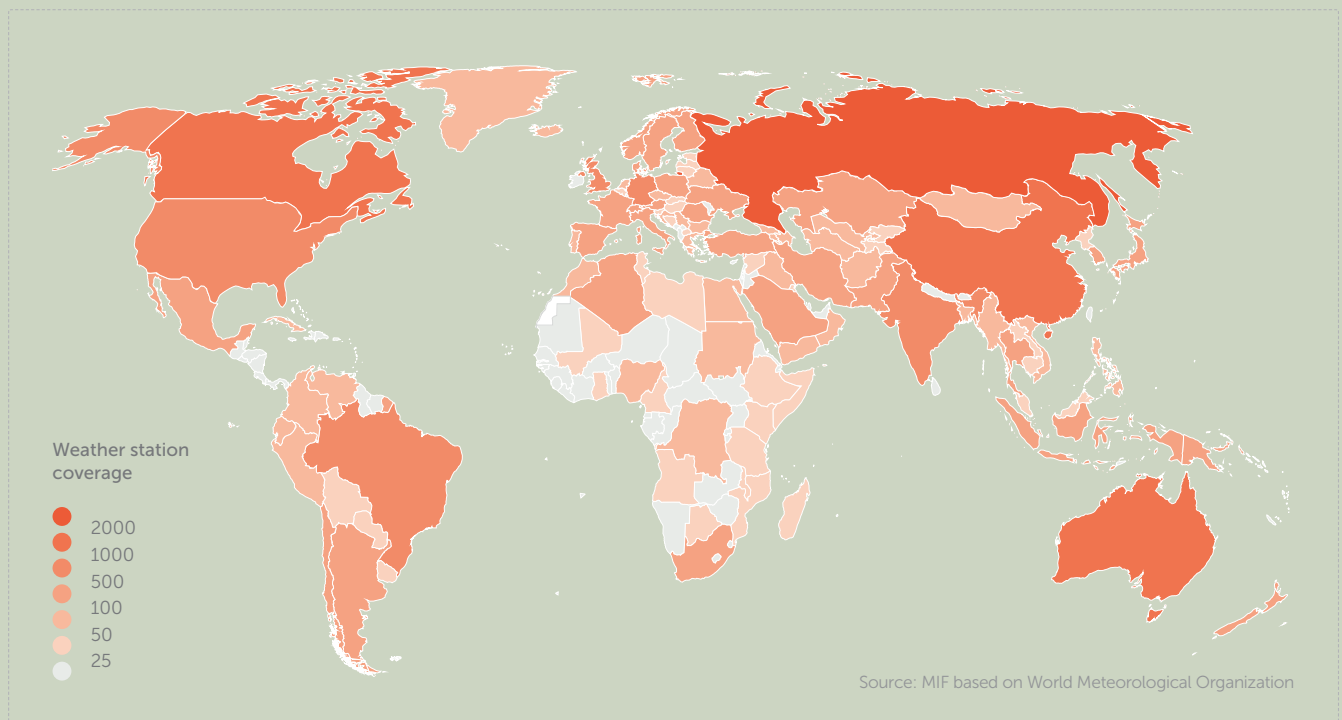
The lack of Africa-specific climate data is particularly acute in the field of precipitation.

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.

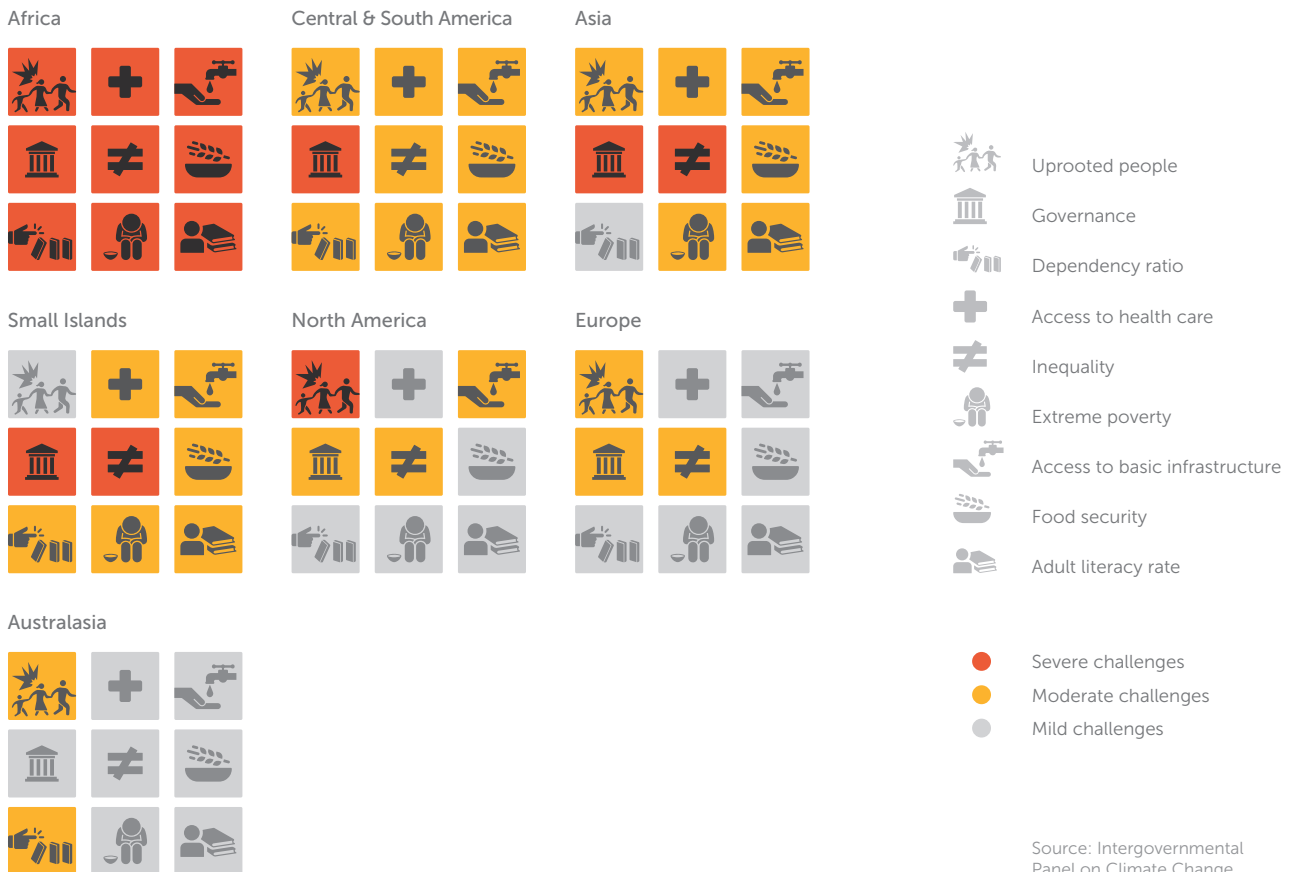
10 worst performers globally in ND-GAIN Vulnerability to climate change score (2019)

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

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.

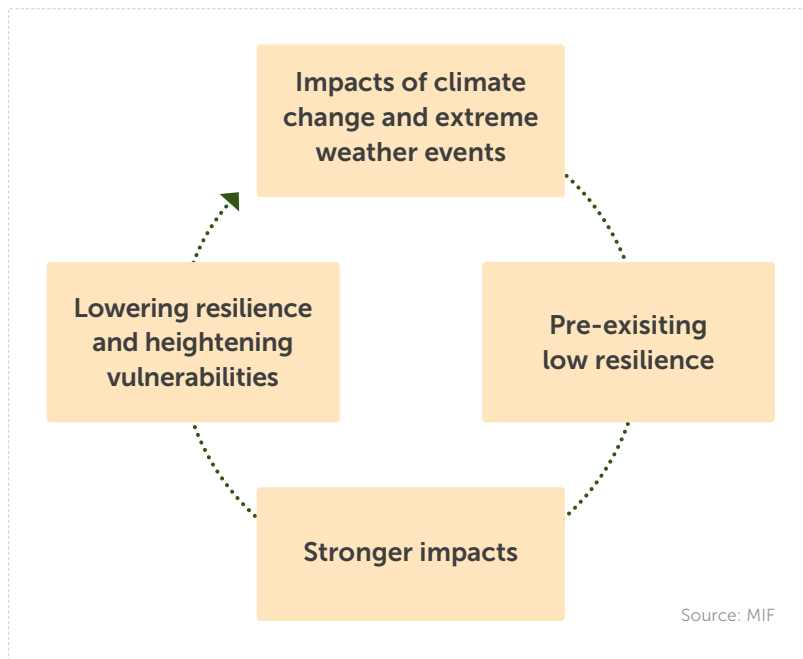


Source: Intergovernmental Panel on Climate Change

## 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.

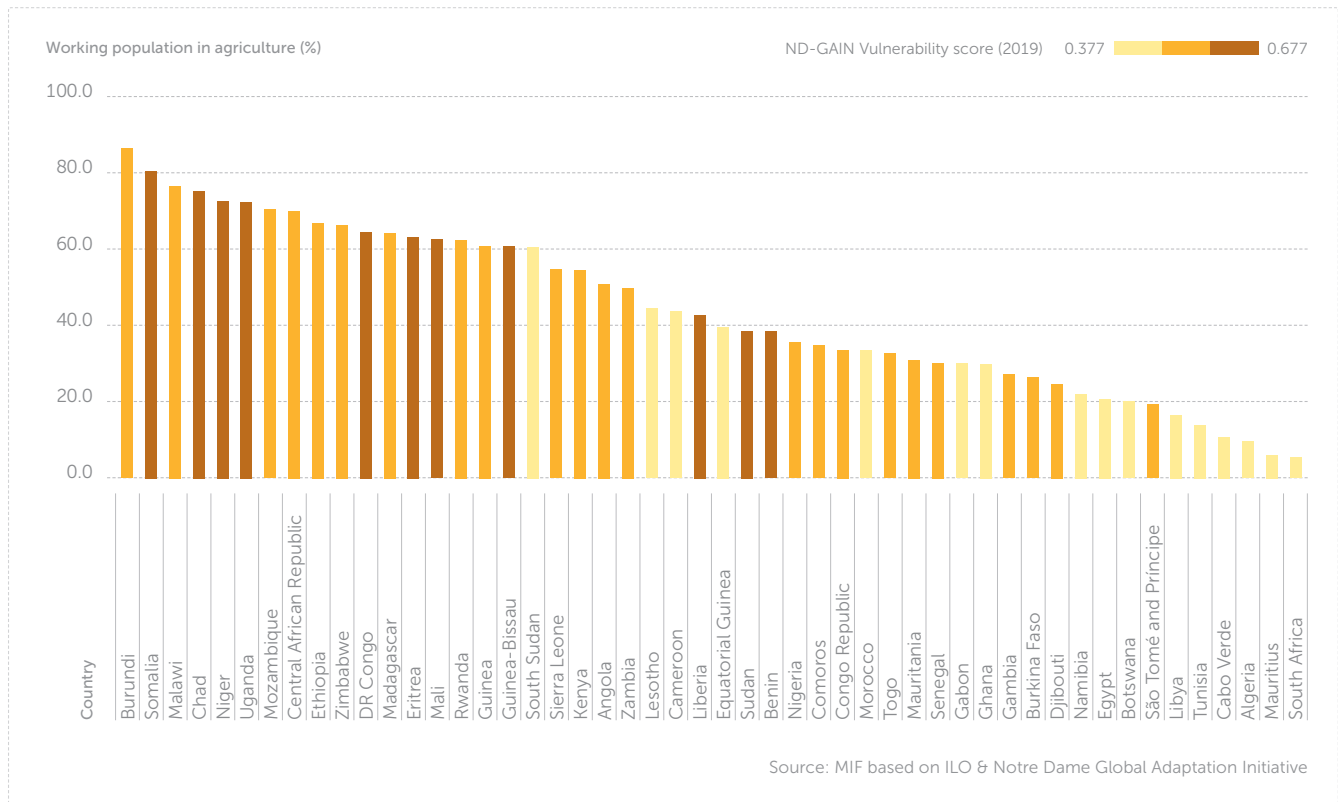
With almost half of Africa's working-age population (49.5%) employed in agriculture, African livelihoods are mainly dependent on the most climate-sensitive sector.

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

### The impact of climate change on agriculture in Africa

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 South Africa and Nigeria, 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**

**Poverty is already high in Africa’s most climate vulnerable countries**

On average, more than two-thirds of the population in Africa’s most climate vulnerable countries are living in poverty.

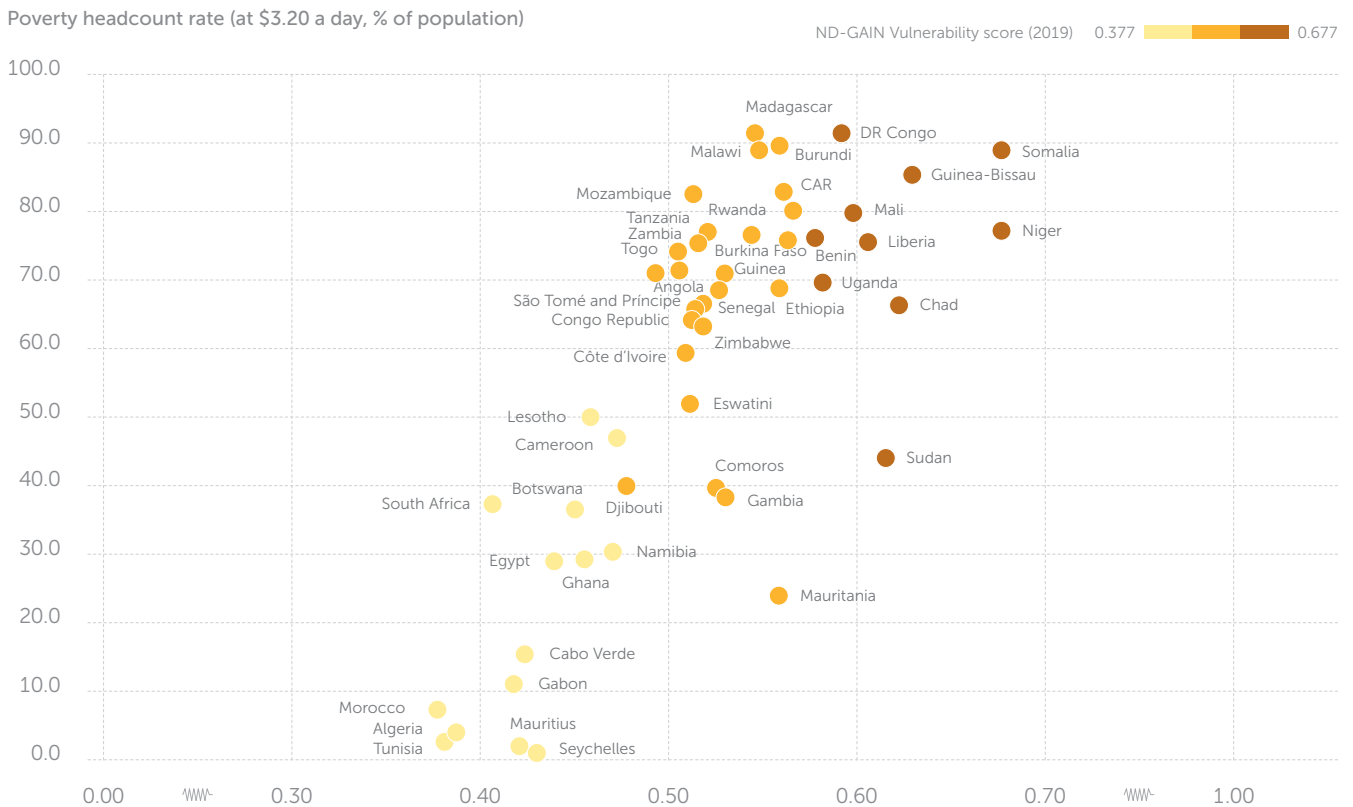
At least two-thirds of the population in 13 of the 15 most climate vulnerable countries as well as in 10 of the 11 most disaster-prone countries live under \$3.20 a day.

In Niger, Somalia and Guinea-Bissau, the world’s three most climate vulnerable countries, poverty rates stand at 77.2%, 88.9% and 85.4%, respectively.

In Madagascar, the African country that has seen the second most disaster events since 2010 after South Africa, more than 90% of the population live on less than \$3.20 a day.

**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**

**African countries: poverty rate (latest year available) and ND-GAIN Vulnerability to climate change score (2019)**



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

ND-GAIN Vulnerability to climate change score

**Africa’s cities and informal settlements are particularly exposed**

The large number of Africa’s population living in informal settlements are particularly at risk due to limited adaptive capacity while also being highly exposed to natural disaster events.

In all of the 11 most disaster-prone countries bar South Africa, at least one-third of the urban population are living in slums.

Almost one-third of African cities with populations of at least 300,000 are located in areas of high-risk exposure to at least one natural hazard.

In 75% of 36 sampled African cities flooding was perceived as the most important water risk.

**About 70% of African cities are highly vulnerable to climate shocks with small and medium sized towns and cities most at risk**

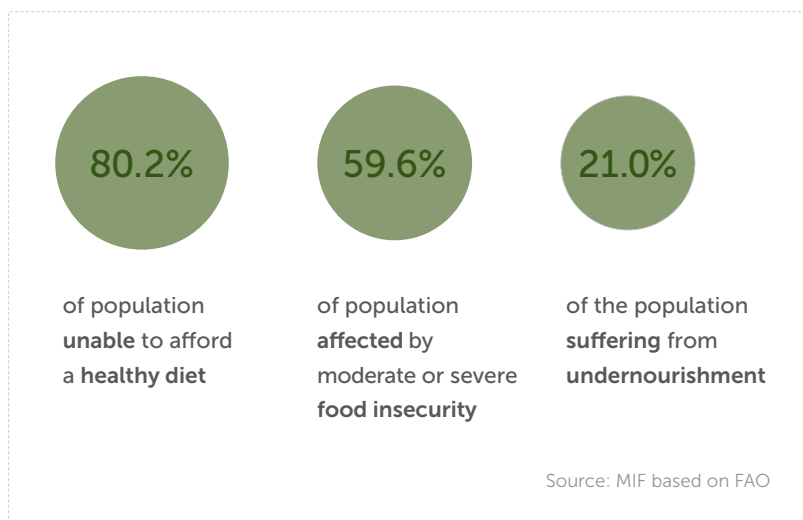
### Food insecurity is worsened by extreme weather events

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.



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.

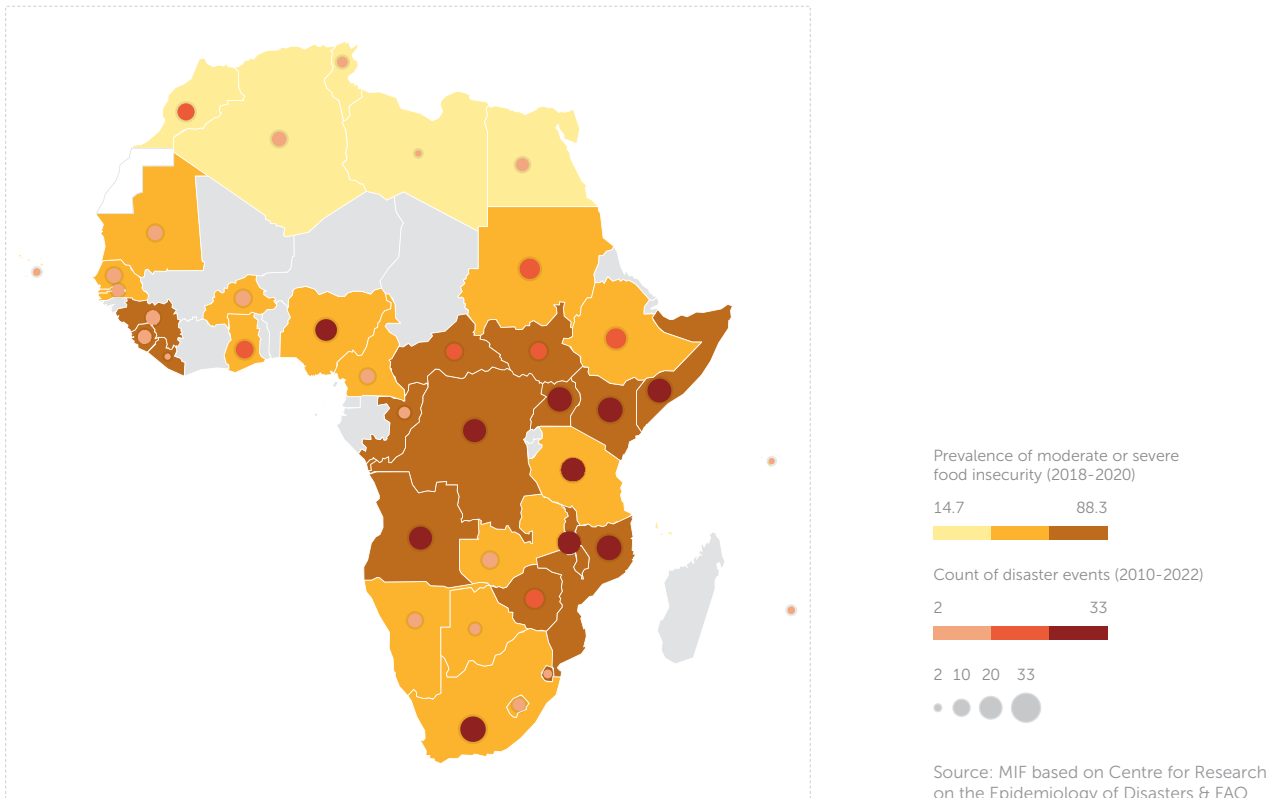
In Kenya, Mozambique, and Uganda, the joint third and fourth most disaster-affected countries, more than two-thirds of the population are food insecure.

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.

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.

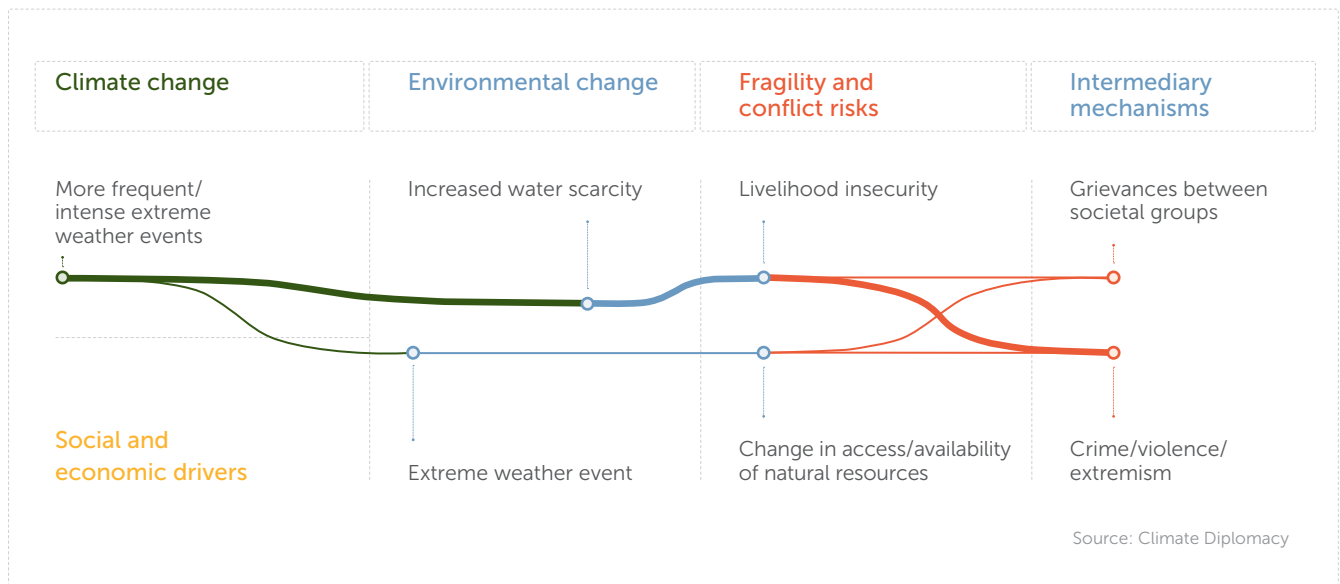
Climate change also alters the conditions for pathogens and zoonotic diseases. About 60% of human infections are estimated to have an animal origin. 75% of all new and emerging human infectious diseases jump species from animals to people, with the majority happening indirectly.

## 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 ●

● 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.

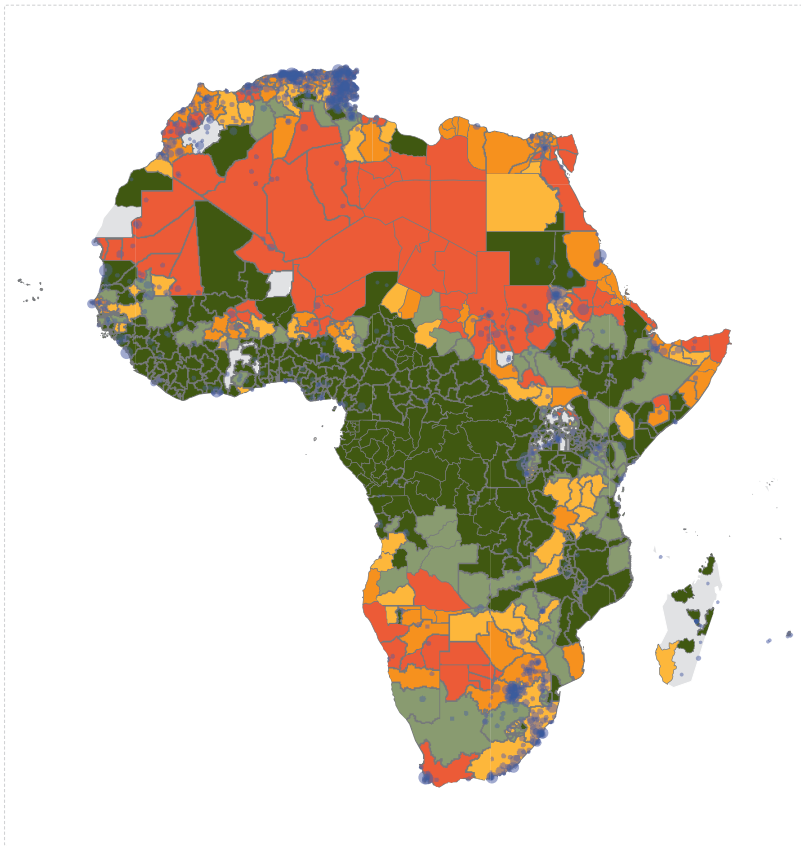
The five countries - Algeria, Morocco, South Africa, Sudan, Tunisia - that have seen the highest number of protests and riots over access to water all suffer from medium to high levels of water stress.

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

- Extremely High (>80%)
- High (80- 40%)
- High - Medium (40-20%)
- Medium - Low (20-10%)
- Low (<10%)
- No data

Source: MIF based on ACLED & World Resource Institute

**Driving 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 1 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.

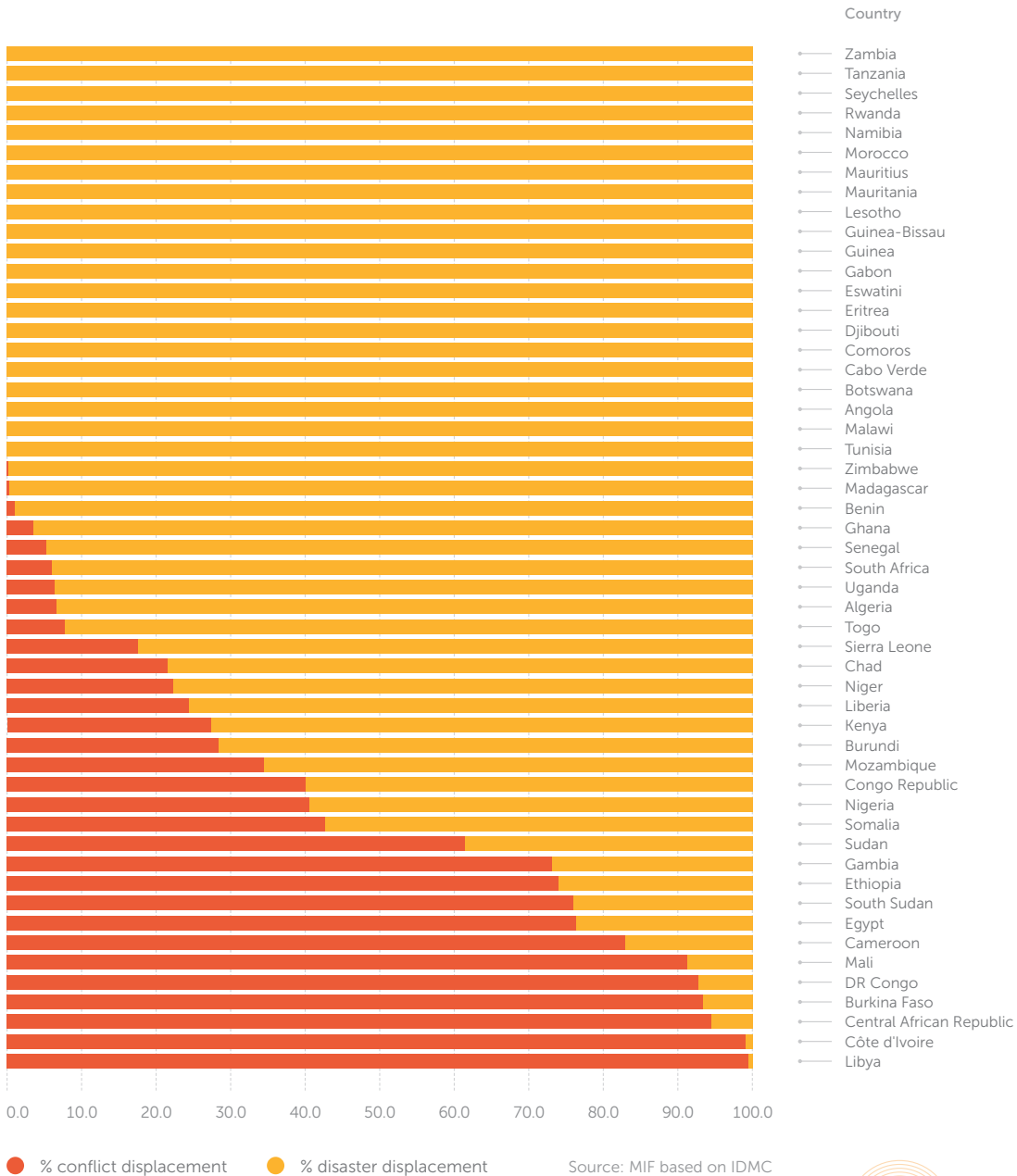
The large-scale displacement due to conflict in Africa means that IDPs are at risk of being displaced several times when also being exposed to natural disasters. This increases and prolongs their vulnerability.

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 Africans 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.

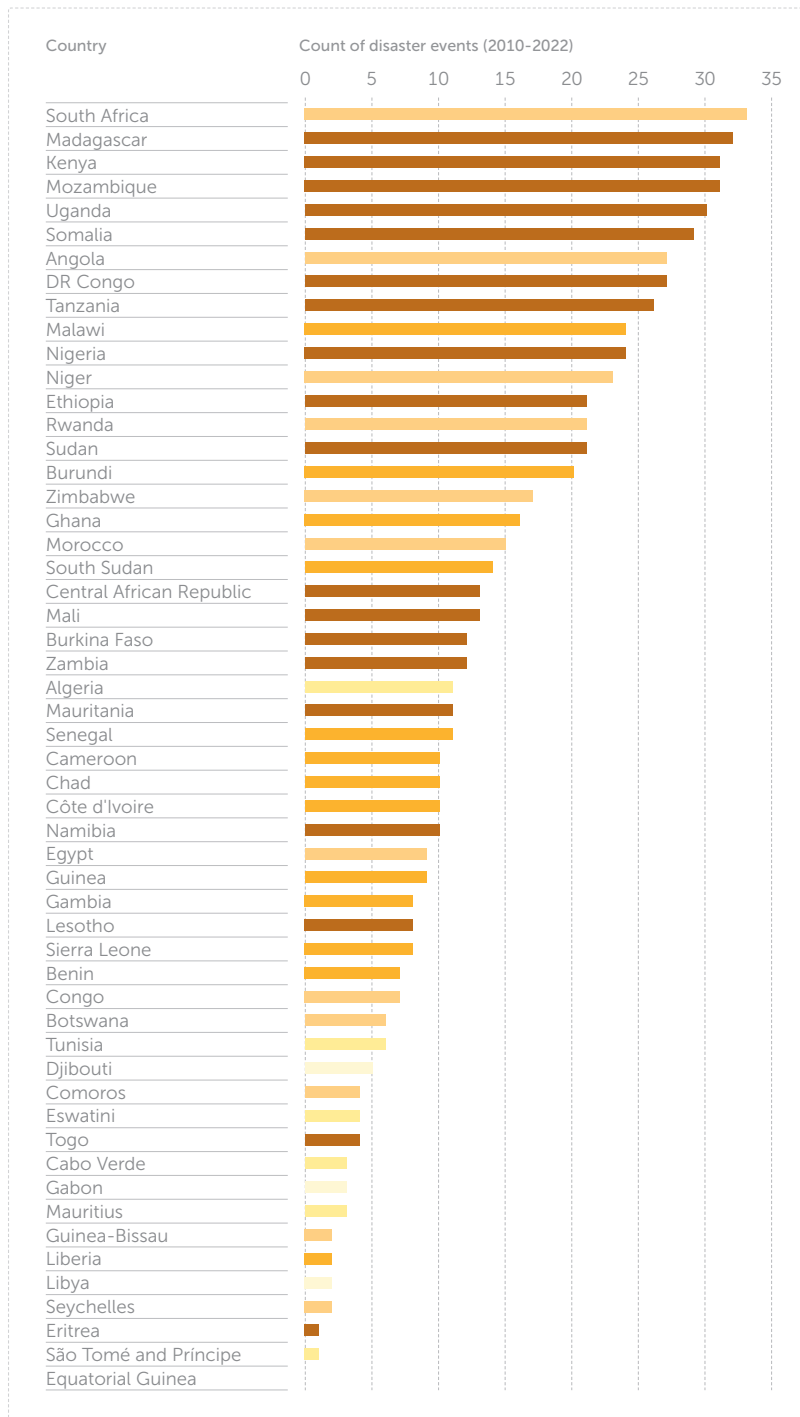
Such migration and mobility mostly happen within a country’s borders or across neighbouring countries. This is often from rural areas where people can no longer sustain a living from agricultural activities or are exposed to worsening life conditions due to climate impact to urban areas where they expect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

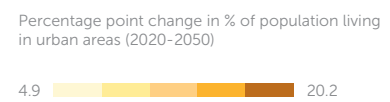
African cities are already growing due to population growth and rural-urban migration, and it is in some of the continent’s most climate vulnerable countries that the urban population is set to grow the most.

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 percent of the continent’s population



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 countries on the continent  
 Among ten best performing countries on the continent

% of working age 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.

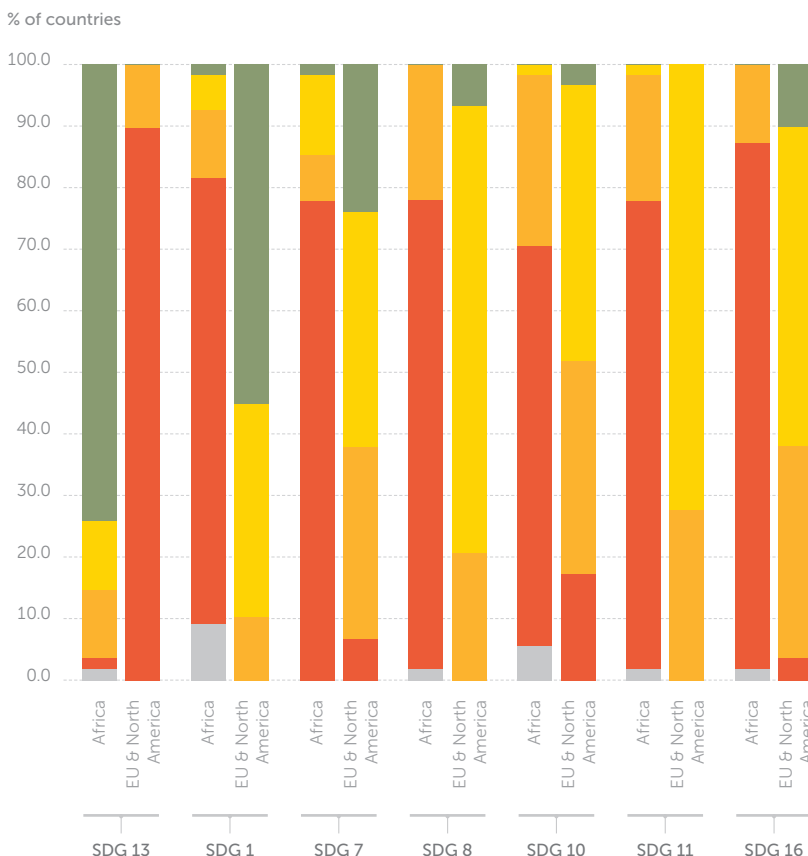
While almost three-quarters of African countries have achieved SDG13 on climate action, no EU country nor the US or Canada have done so.

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 Contributions (NDCs), outlining their plans to cut emissions and adapt to climate impacts.

Of those, 40 have already updated their first NDCs 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.



## Towards COP27: potential questions for the panel discussion

- 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 will analyse 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.

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



## 36 'ENERGY APARTHEID' THREATENS DEVELOPMENT GOALS IN AFRICA

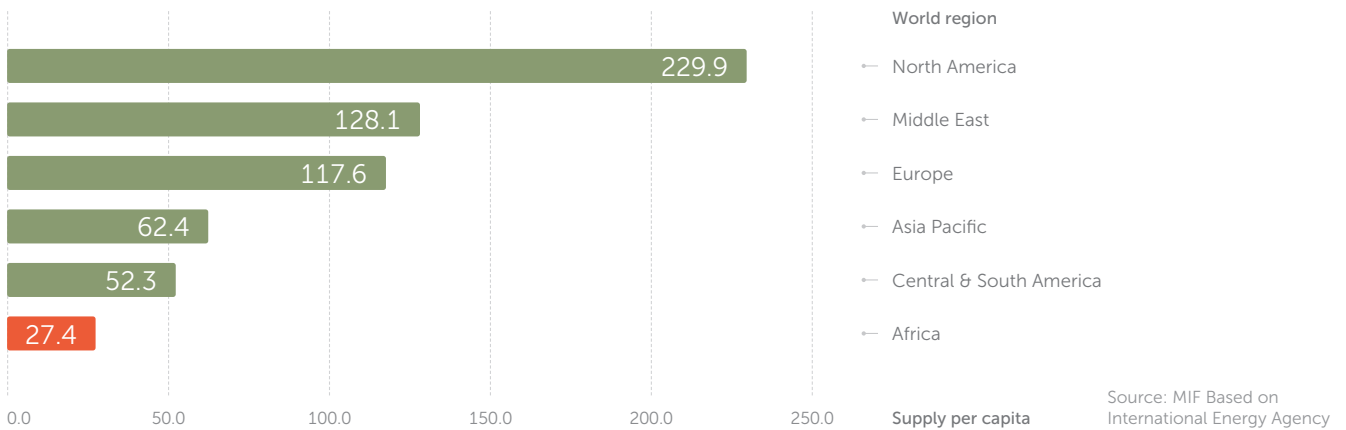
Africa faces the greatest challenges of any region in terms of energy access. Without a dramatic increase in the supply of safe, reliable energy that reaches all people, it will be difficult for African countries to realise either the SDGs or Agenda 2063.

### 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

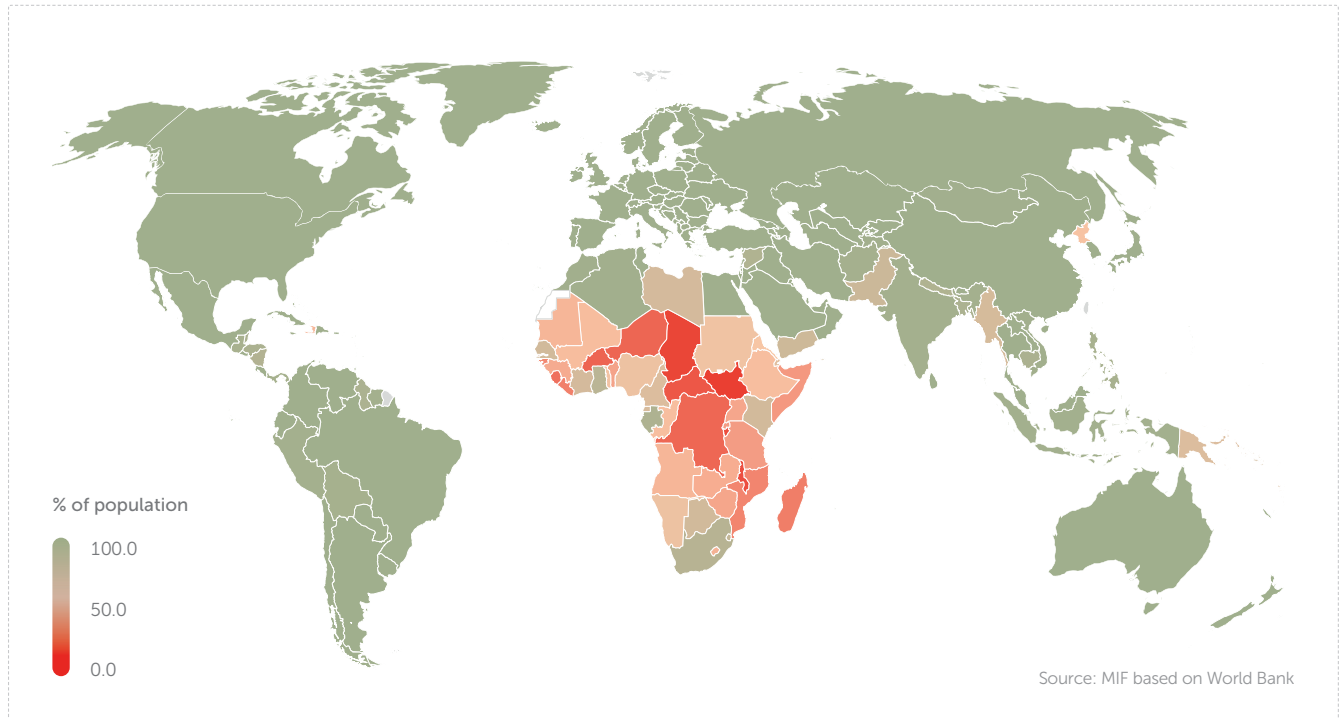
Africa has the lowest electricity access of any world region.

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

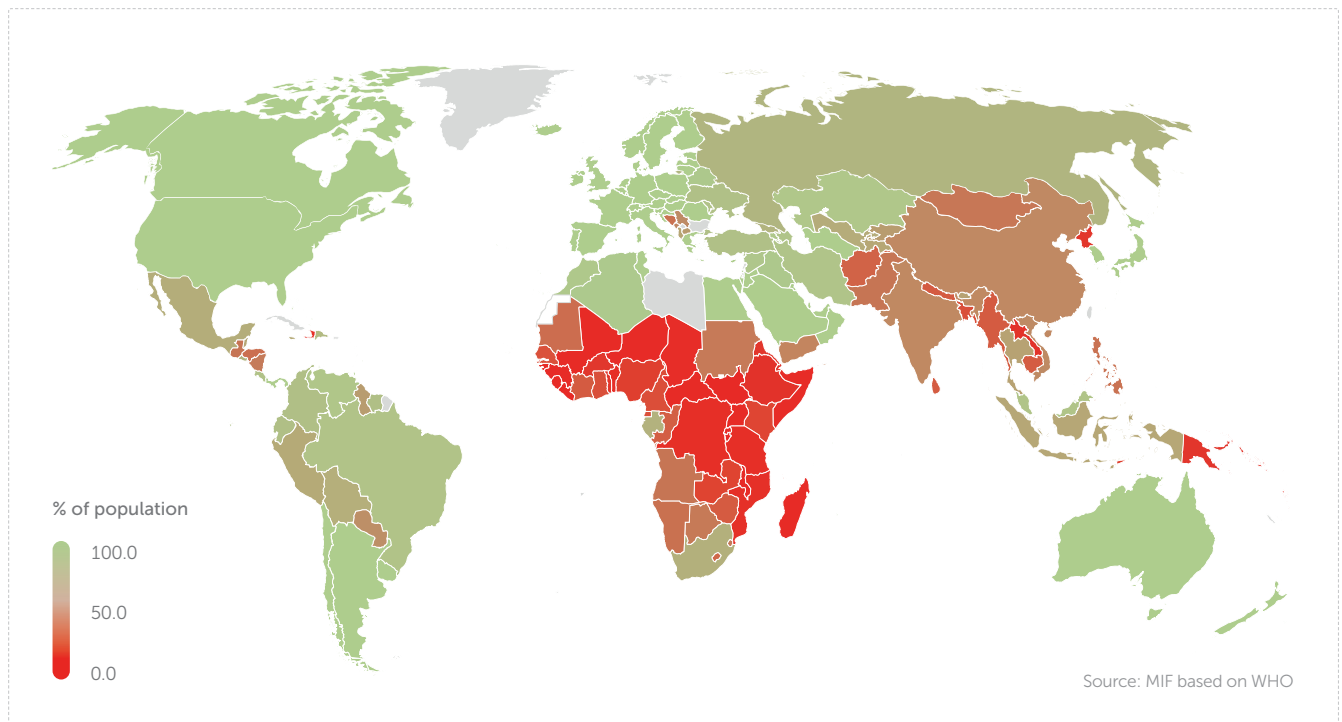
Access to clean cooking fuels is a major component of SDG7 "Ensure access to affordable, reliable, sustainable and modern energy for all". Yet, less than one in three people living in Africa have access to clean cooking fuels.

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)



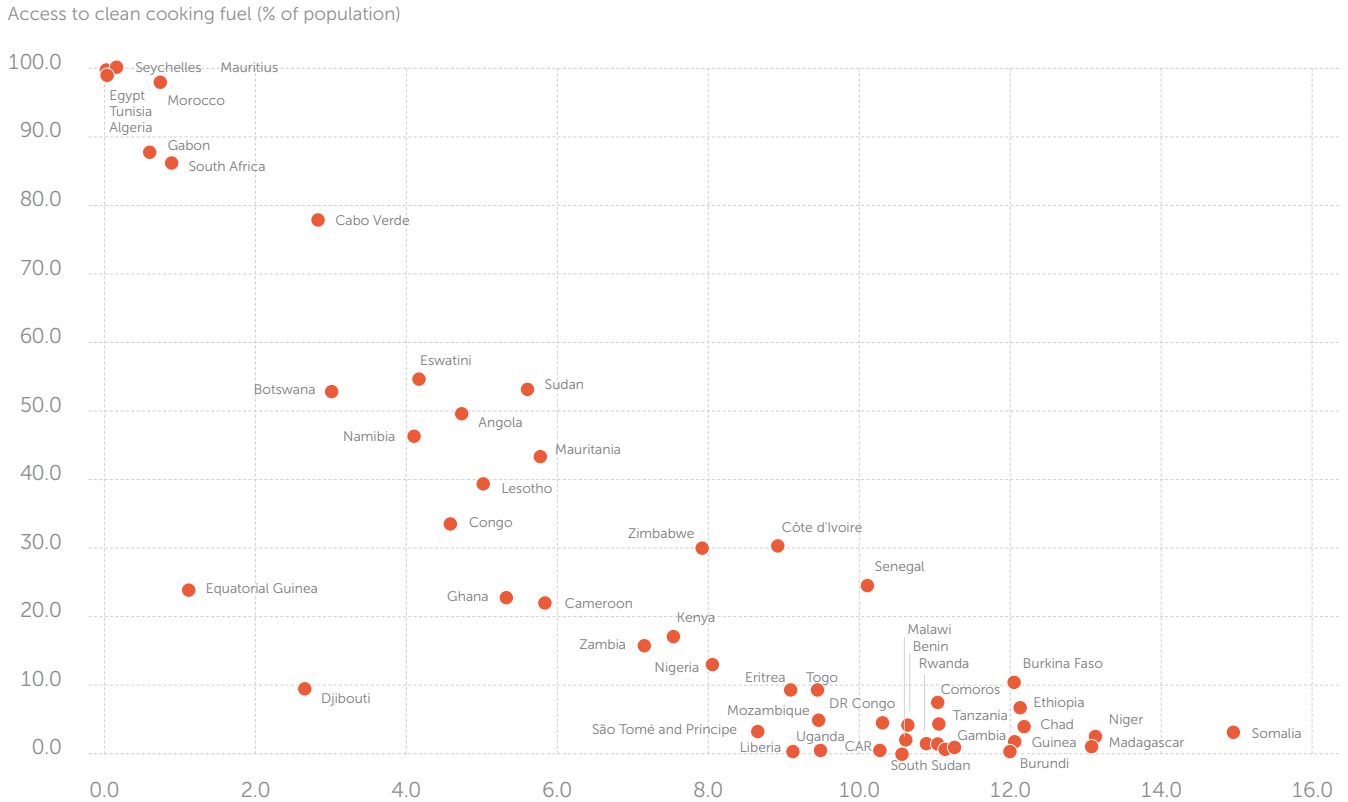
Cooking with biomass fuels such as wood, or other unclean fuels such as charcoal or kerosene is a major health risk.

- 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


**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.

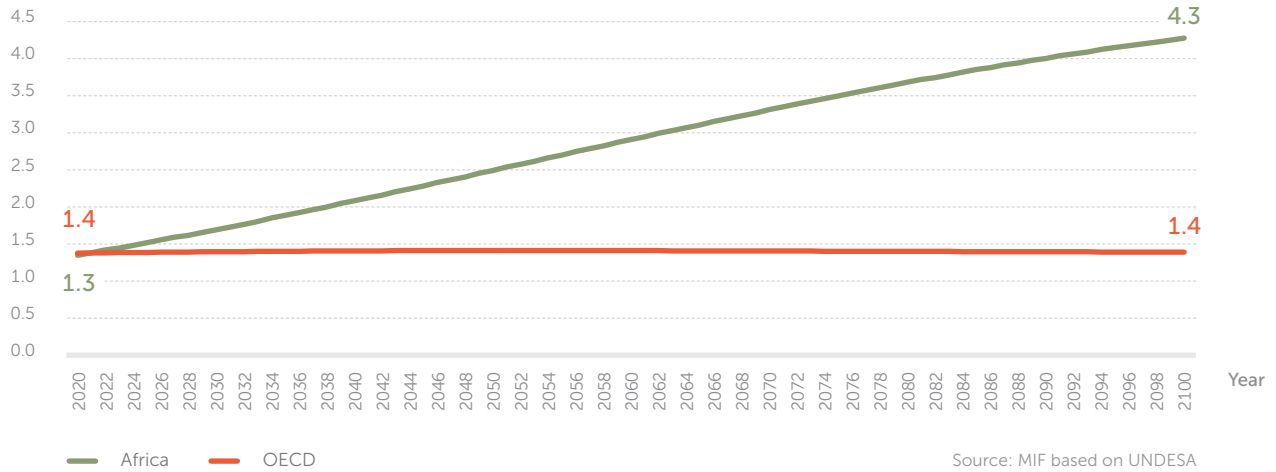
In contrast, the total population of OECD countries is projected to stagnate.



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

### Africa & OECD: population (2020-2100)

Population (billions)



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

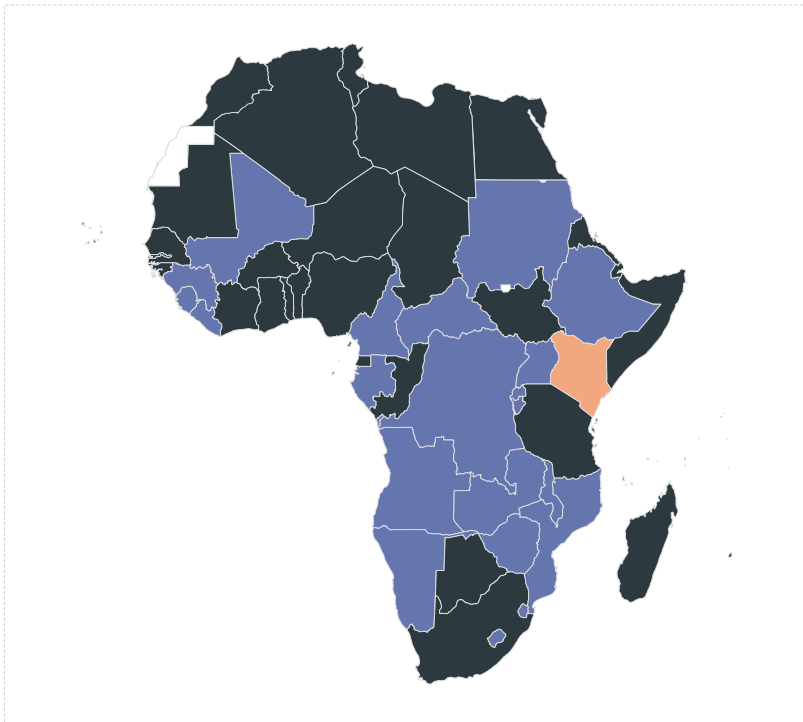
### Many African countries are already at the forefront of utilising renewables

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%).

#### 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

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.

## 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 (1<sup>st</sup>), Egypt (4<sup>th</sup>), Lesotho (8<sup>th</sup>), Libya (9<sup>th</sup>), Botswana (10<sup>th</sup>).

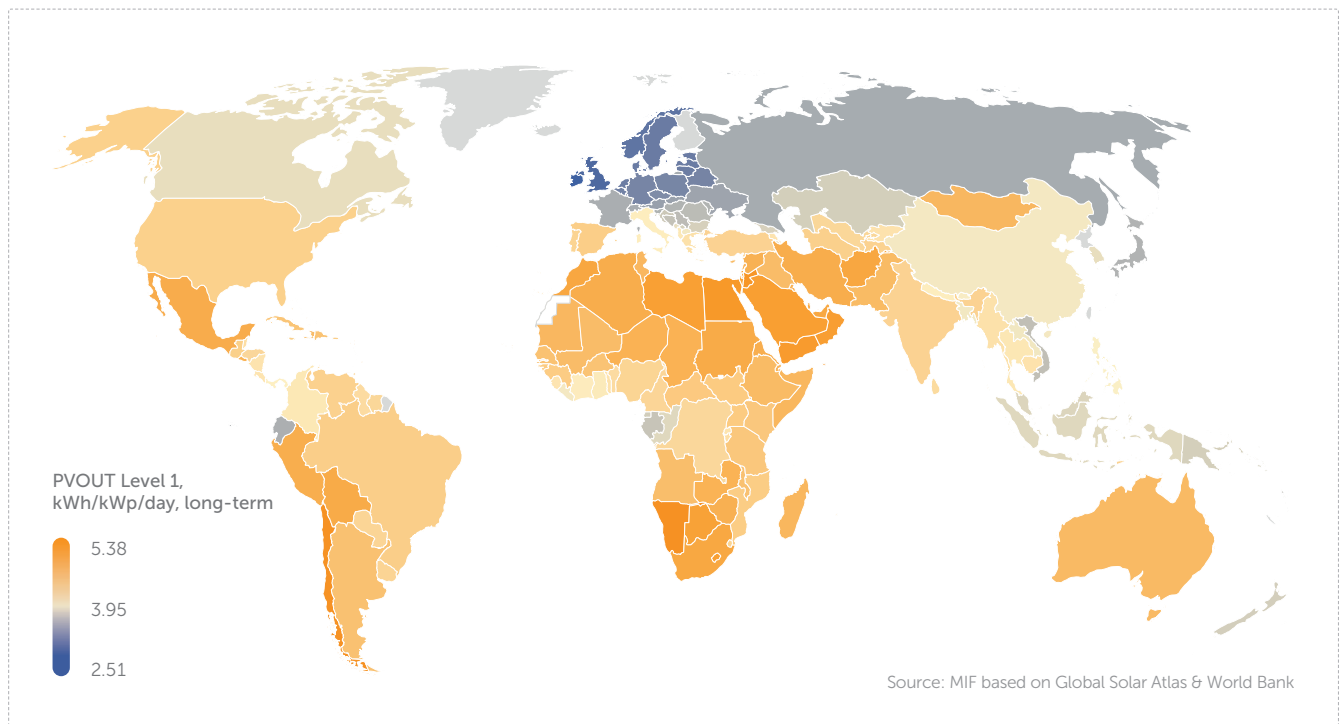
However, solar remains a small share of the energy mix in Africa.

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 (1<sup>st</sup>), Egypt (4<sup>th</sup>), Lesotho (8<sup>th</sup>), Libya (9<sup>th</sup>), Botswana (10<sup>th</sup>)**

## 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



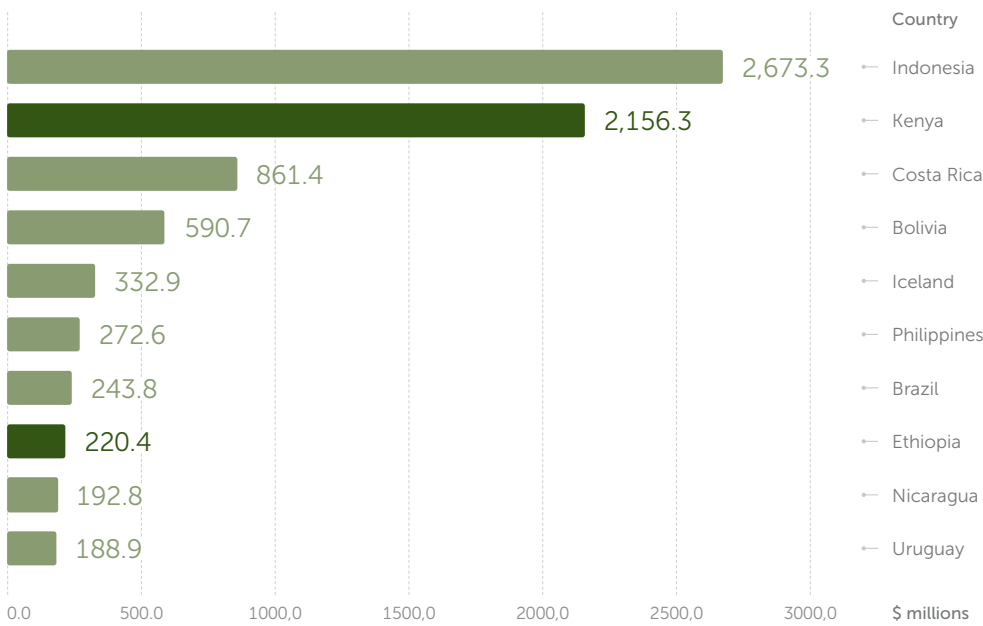
Of 21 African countries with known resources, only Ethiopia and Kenya currently utilise geothermal for electricity generation

- 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.

Since 2000, only Indonesia has invested more in geothermal electricity than Kenya

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



Source: MIF based on International Renewable Energy Agency

## 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

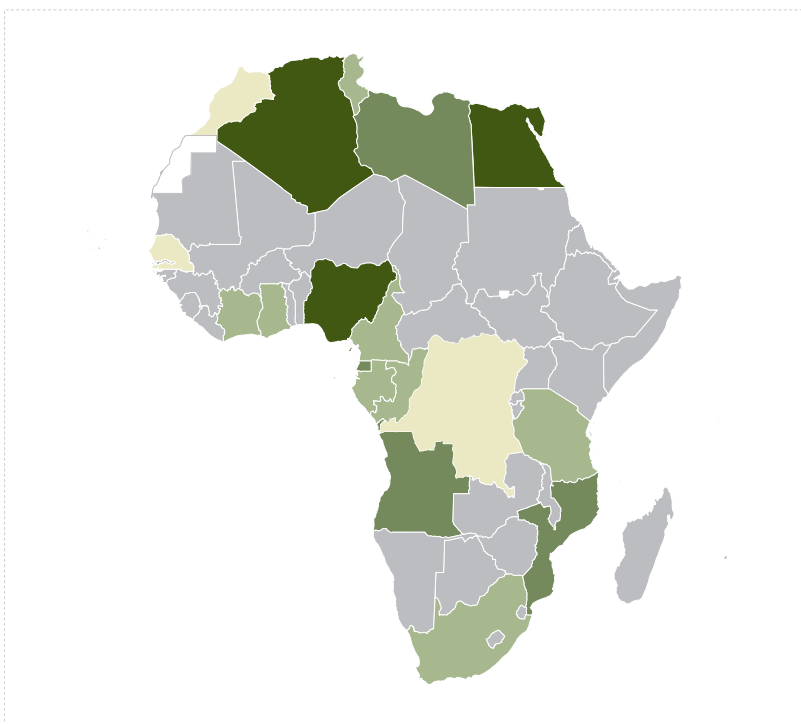
At 455.2 trillion cubic feet in 2020, African gas reserves could go a long way to meeting the continent's growing energy demand.

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 8<sup>th</sup> largest natural gas producer and is almost 40% larger than the reserves of Canada, the world's 5<sup>th</sup> 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.

### 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.



**Africa accounts for 41% of the world's new gas discoveries between 2011-2018**



**In Angola, over 85% of gas is exported, yet roughly half the population lacks clean cooking fuel or electricity access**

### Gas in Africa does not spell climate disaster

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.

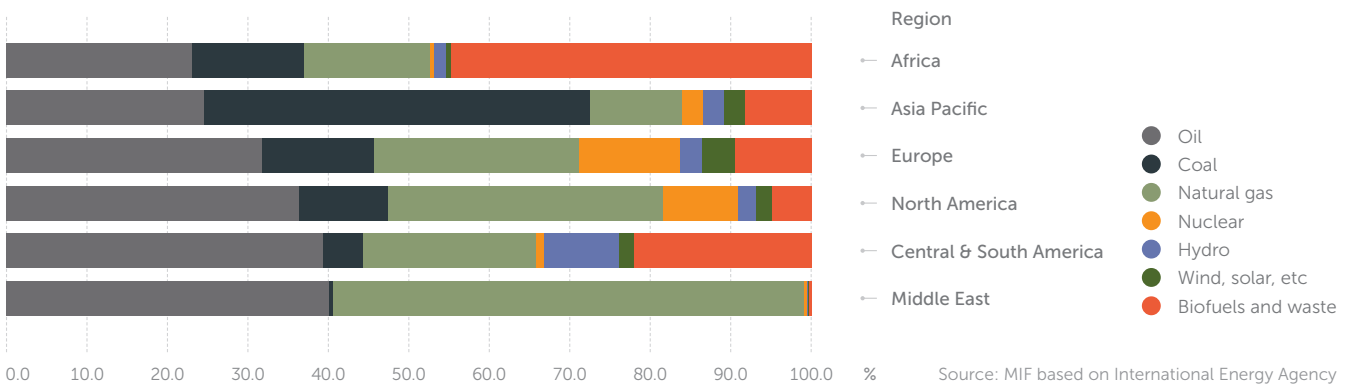
Fossil fuels account for roughly half of the total energy supply in Africa, while accounting for over three quarters in Asia and North America and over 65% in Europe and Latin America.

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)



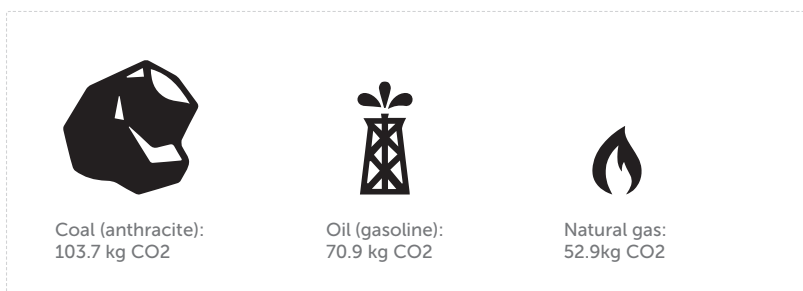
### The environmental case for gas as a transition fuel in Africa

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



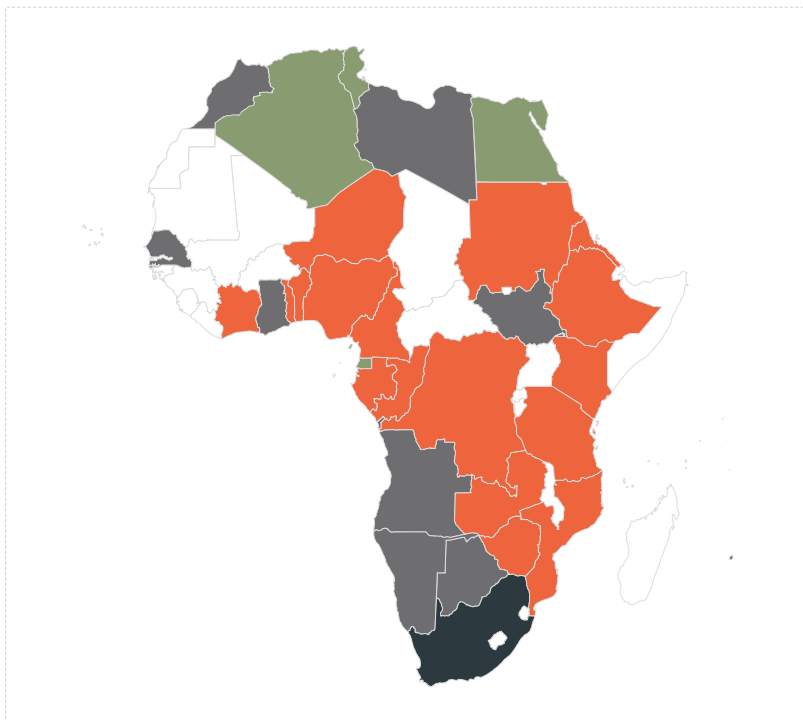
Biofuels and waste are the primary energy source in many African countries. Despite sequestering carbon from the atmosphere as they grow, commonly used solid biofuels such as wood can produce more carbon emissions per unit of energy than fossil fuels and contribute to deforestation.

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

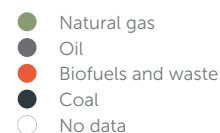
- In sub-Saharan Africa, around 70% of households depend on wood fuel for energy.

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 CO<sub>2</sub>-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



## Towards COP27: potential questions for the panel discussion

- ➔ 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 will focus 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.

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 are 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



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

## 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)



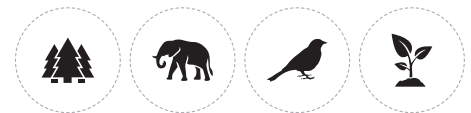
Africa is home to about one fifth (20.2%) of the world's land, almost two thirds (65%) of its arable land, around one sixth of the world's remaining forests

- 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 km<sup>2</sup> (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).



The Congo Basin forests of Central Africa constitute the world's second largest rainforest after the Amazon

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

## Africa's blue wealth: six large marine ecosystems and the 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 km<sup>2</sup> expanse of coral reefs facing ecosystem collapse.

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

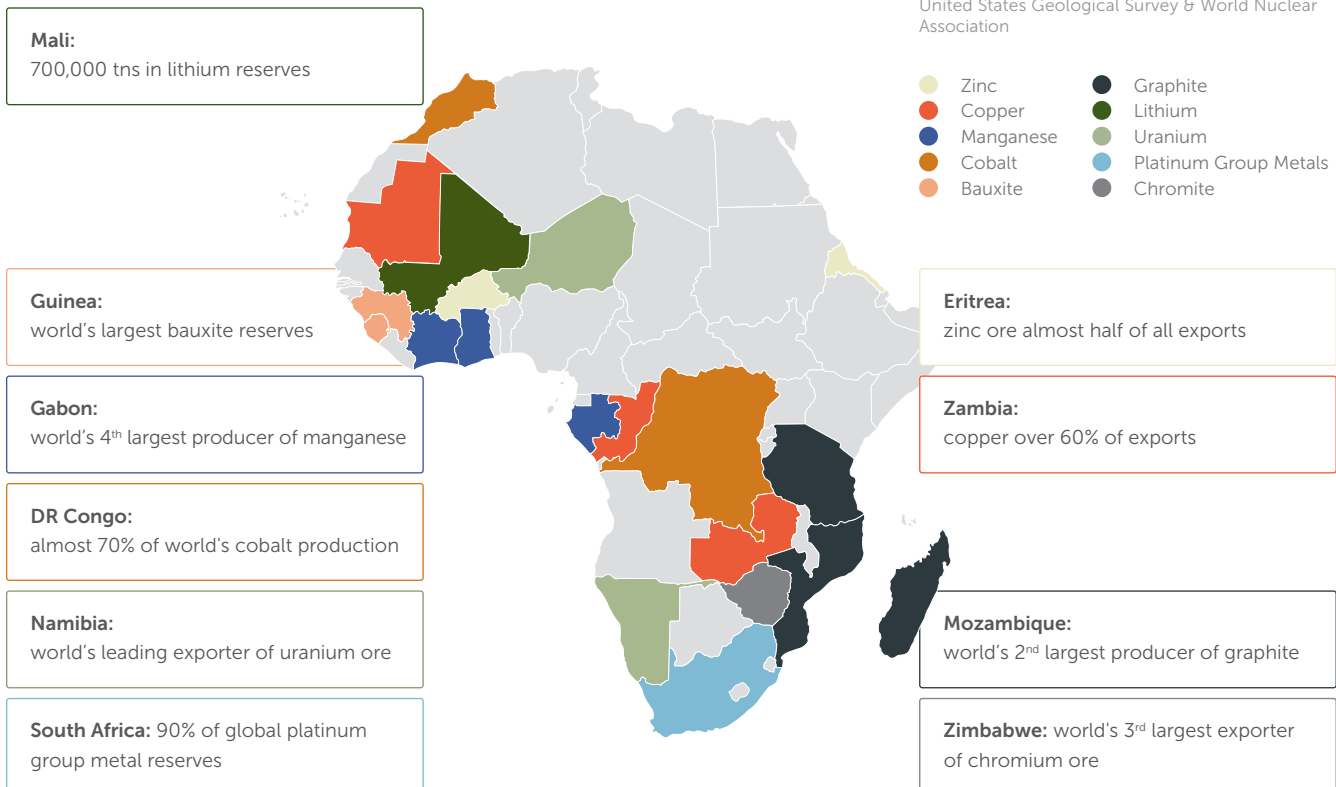
**Lithium** (used in batteries, and EVs): DR Congo, Mali and Zimbabwe have combined untapped resources of 4.2 million tons

**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 2<sup>nd</sup> global producer
- Pt: South Africa and Zimbabwe 80% of global production
- Cr: South Africa 40% of global production
- Cu: DR Congo: 4<sup>th</sup> global producer
- Li: DR Congo, Mali and Zimbabwe have combined untapped resources of 4.2 million tons
- U: Namibia 1<sup>st</sup> exporter

### African countries: selected low carbon minerals (2019)



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

### Africa has potential to power its own development

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, be it in eco-tourism or in new plants for processing and manufacturing raw materials on the continent.

### Green jobs for thriving economies 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.



**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**

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

### 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

The pledge by wealthy nations 12 years ago to commit \$100 billion a year to help developing nations both to mitigate and adapt to the impacts of climate change has not been met.

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.



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



Finance that has been mobilised often comes in the form of interest-bearing loans.

- The most generous estimate from the OECD for finance mobilised in any single year is less than US\$80 billion.
- 80% of all public climate finance mobilised between 2017 and 2018 was in the form of loans. Around half of this was non-concessional, requiring higher interest payments from poor countries.

### **Financing for adaptation is falling woefully short**

The UN estimates that developing countries already need US\$70 billion per year to cover adaptation costs and will need between US\$140 and US\$300 billion by 2030.

In 2019, only \$20.1 billion, 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%, with recent data suggesting this gap is widening. Addressing this adaptation gap is a matter of urgency.

### **No funds are allocated yet to loss and damage**

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.

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



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

### **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.



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



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

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.

### **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 brought by renewables and eventually natural gas.

Adopting a 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.

### Sound governance, inclusive institutions and 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.

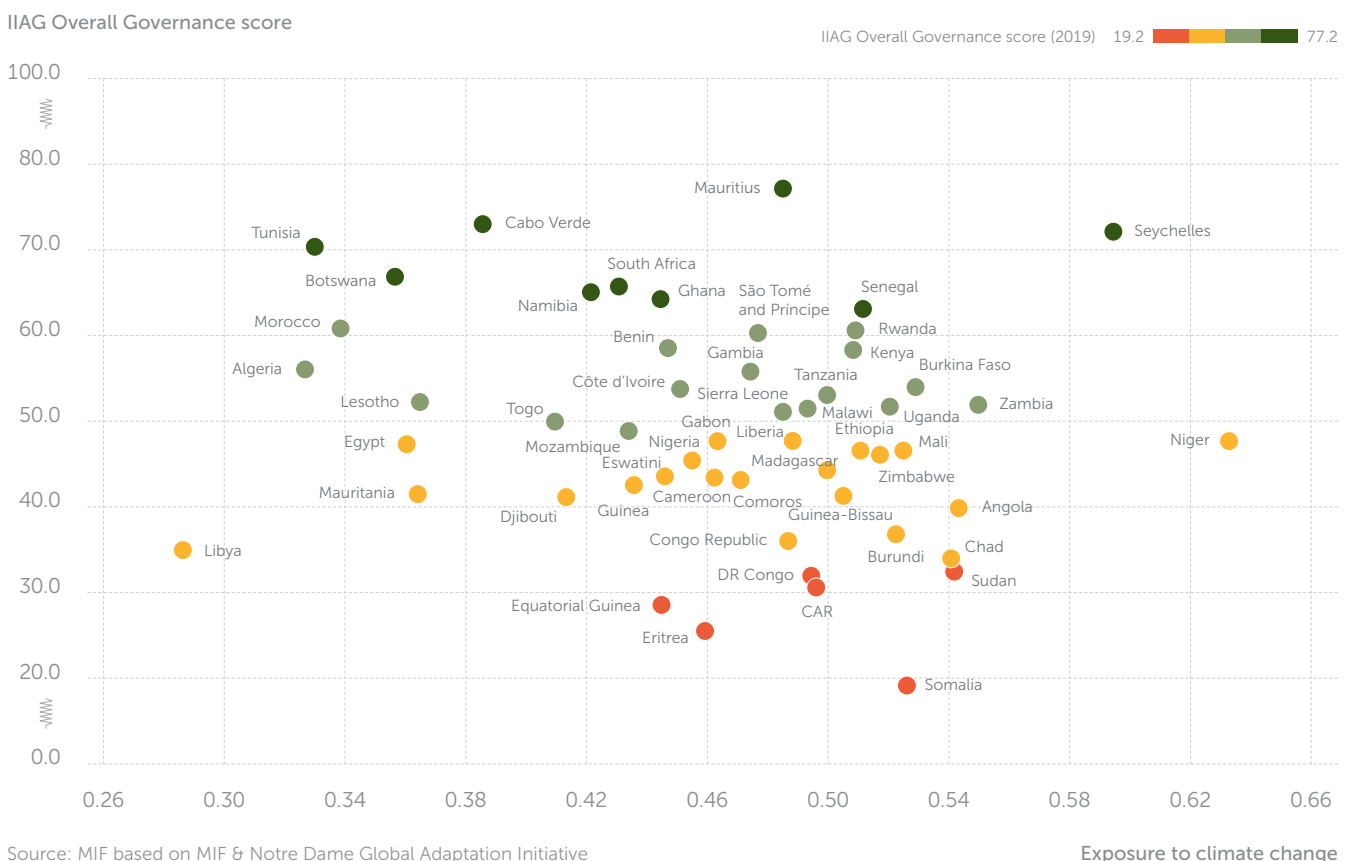
Several countries with important reserves of critical minerals are unprepared for the coming boom. Weak extractive sector governance affects citizens' lives the most, in terms of transparency and oversight of local environmental and social impacts.

Strengthening public and resource governance is key for the economic development and 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 IIAG Overall Governance scores (2019)



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

## Towards COP27: potential questions for the panel discussion

- ➔ 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?

The May 2022 Facts & Figures document provides an overview of the key data and analyses of the forthcoming 2022 Ibrahim Forum Report, that will be published in June 2022, incorporating expert perspectives and key takeaways and recommendations from the Now Generation Forum (19 May 2022) and Ibrahim Governance Forum (25-27 May 2022). The full publication will provide methodological notes, references, glossary and list of acronyms.





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