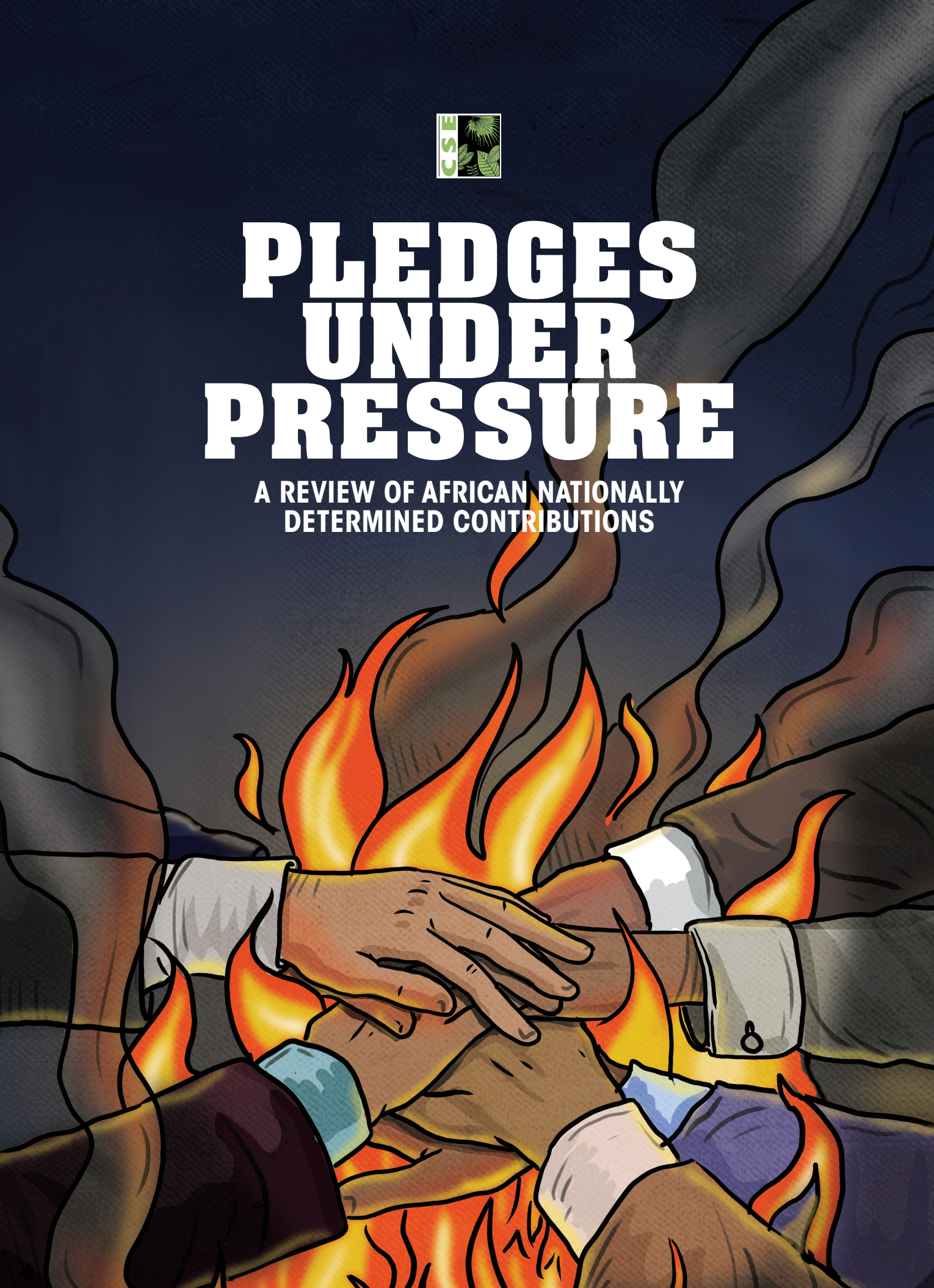




PLEDGES UNDER PRESSURE

A REVIEW OF AFRICAN NATIONALLY
DETERMINED CONTRIBUTIONS





PLEDGES UNDER PRESSURE

**A REVIEW OF AFRICAN NATIONALLY
DETERMINED CONTRIBUTIONS**

Authors: Nivit Kumar Yadav, Diksha Rawat and Binit Das

Editor: Archana Shankar

Cover: Ajit Bajaj

Layout: Surender Singh

Production: Rakesh Shrivastava and Gundhar Das

The Centre for Science and Environment is grateful to the Swedish International Development Cooperation Agency (Sida) for their institutional support



© 2026 Centre for Science and Environment

Material from this publication can be used, but with acknowledgement.

Maps in this report are indicative and not to scale.

Citation: Nivit Kumar Yadav, Diksha Rawat and Binit Das 2026, *Pledges under Pressure: A Review of African Nationally Determined Contributions*, Centre for Science and Environment, New Delhi

Published by

Centre for Science and Environment

41, Tughlakabad Institutional Area

New Delhi 110062

Phone: 91-11-40616000

E-mail: cse@cseindia.org

Website: www.cseindia.org

Printed at

Contents

1. THE RISING DEMAND AMONG ENERGY-DEPRIVED COUNTRIES OF AFRICA	6
How can NDC targets ensure greater energy access from clean energy?	9
2. NDC REPORT: AFRICA'S EXPERIENCE	11
Obligation to international treaty	12
Africa's GHG emissions are the lowest in the world	13
What are countries' plans?	16
KENYA	17
UGANDA	18
GHANA	19
RWANDA	20
ZAMBIA	21
ETHIOPIA	23
NIGERIA	24
Conditional targets	25
Questions about data integrity	28
Still using default emission factor leading to data inaccuracy	30
3. KEY FINDINGS AND ANALYSIS	32
Poor inventorization and data volatility distort emissions trajectories	34
AFOLU—the 'invisible'	35
Claims of future high emissions without quantitative pathways	35
The renewable reliability paradox and the 'hydro-dependency trap'	36
Synthesis	39
4. RECOMMENDATIONS	40
Strengthening African NDC integrity through regional MRV harmonization	41
Mandating sector-wise BAU pathways to eliminate strategic ambiguity	42
Mainstreaming clean cooking as core energy infrastructure	42
Reengineering NDCs into investment-ready climate portfolios	43
Addressing institutional and infrastructure bottlenecks as core climate actions	44
REFERENCES	45

1

THE RISING DEMAND AMONG ENERGY-DE- PRIVED AFRICA

HIGHPOINTS



Africa's energy crisis is vast: Africa's energy crisis is vast: Around 600 million Africans—roughly half the continent's population—still lack reliable electricity access, with extreme gaps between North African nations (near 100 per cent access) and countries such as Chad (15 per cent) and Malawi (17 per cent).

Consumption is rising fast: Total energy supply grew 51 per cent between 2000 and 2022, while electricity generation more than doubled, driven by fossil fuels (alongside growing renewables led by South Africa, Egypt, Kenya and Morocco).

Growth outlook is significant: Africa's installed capacity is projected to jump from 300 GW to nearly 460 GW by 2030, with total electricity output forecast to reach ~1,400 TWh—yet per capita consumption (~418 kWh) remains just a fraction of South America's and Europe's.

The energy sector will play a pivotal role in energy-starved Africa. Energy access has improved considerably across the globe. Most African cities—except the capitals—are, however, still in the dark at night. Access does not mean only electricity for lightning bulbs but also affordable and reliable electricity for schools, hospitals and livelihoods. The foremost requirement of many of the African countries, therefore, is affordable and reliable access to energy.

According to United Nations Sustainable Development Group (UNSDG) data, around 600 million Africans still lack reliable access to electricity¹. The number is approximately half of the continent's population. Access to affordable energy is a lifeline to African communities. It not only creates quality jobs but also protects livelihood and promotes economic growth. However, data show significant variation in energy access across the African continent. Energy access in countries of North Africa, such as Egypt, Morocco, Algeria and Tunisia, is close to 100 per cent. Countries such as Botswana, Eswatini, Gabon, Ghana, Kenya and South Africa have more than 75 per cent of population with energy access. Countries such as Sierra Leone, Niger, Malawi, Liberia, Congo and Chad have even less than 50 per cent energy access. In the case of Malawi and Chad, energy access is only 17 per cent and 15 per cent respectively.² These figures show a huge disparity across Africa with regard to energy access. They also reflect that Africa is energy-starved and that its consumption will rise significantly in the near future.

Energy consumption in Africa is on an increasing trend, which reciprocates the efforts of different African countries to provide affordable and quality energy for daily use, livelihood, industry, transportation and better-quality life. Data from the African Energy Commission report show that energy supply from different fuels has increased from 499,472 kilotonnes of oil equivalent (ktoe) in 2000 to 754,495 ktoe in 2022, an overall increase of 51 per cent.

Electricity generation has also increased significantly from 439,488 gigawatt-hour (GWh) in 2000 to 952,909 GWh in 2022, an overall increase of 117 per cent. The share of South Africa, Egypt, and Algeria in electricity production from fossil fuels is around 70 per cent. The rest is attributed to the remaining African countries. Hydroelectric power is widespread across Africa, with leaders including Zambia, Mozambique, Congo, Egypt, and Ethiopia. When it comes to renewables, South Africa, Egypt, Kenya and Morocco are leaders in producing electricity from solar, wind, geothermal, biofuel and waste. It is also interesting to note the region-wise percentage share of electricity generation. Between 2000 and 2022, the percentage share of North Africa in regional electricity generation increased from 32 per cent

to 42 per cent, while South Africa's share reduced from 55 per cent to 35 per cent. Other regions showed marginal increases over the same period.

Africa's economy, a vibrant yet constrained engine of growth, depends critically on energy. With a population of over 1.4 billion—the world's youngest and expected to double by 2050—the continent is surging forward, driven by an average annual GDP growth rate of 4 per cent. This momentum comes from diverse sectors, from mining in the DRC to rising tech hubs in Nigeria and robust agricultural exports from Kenya.

This potential, however, is severely hampered by a pervasive energy crisis. A staggering 600 million people currently lack electricity access. Despite steady progress in recent years to connect more people, the pace is too slow to keep up with both the continent's rapidly growing population and its rising standard of living. This deficit is a major chokehold on economic progress: frequent blackouts cripple factories in countries like Nigeria, Ethiopia, and Ghana, compromise healthcare in Tanzania, Namibia, and Uganda, and severely limit digital access and opportunity for the massive youth population of 1.2 billion under the age of 25.

The continent's energy sector, however, is poised to transform this narrative by leveraging vast resources, including 60 per cent of the world's best solar potential, wind corridors rivalling those of global leaders, and untapped geothermal reserves in the Rift Valley. Beyond 2025, the State of African Energy 2025 Outlook Report foresees dynamic growth, with total installed capacity soaring from over 300 GW to nearly 460 GW by 2030, a striking 1.5-fold leap, bringing electricity to remote and rural areas.

With regard to generation, Africa's total electricity output is forecast to rise from over 980 terawatt-hours (TWh) in 2025 to nearly 1,400 TWh by 2030, with South Africa and Egypt set to emerge as dominant contributors, each accounting for nearly 20 per cent of continental generation by 2030, leveraging South Africa's renewable diversification strategies and Egypt's expansions in nuclear and gas.

Africa is home to abundant natural resources and the second-largest population on the continent, yet it significantly trails other regions in total power supply and per-capita power consumption. South America, a continent with comparable geographical conditions but with one-third the population, had a per capita power demand of about 2,300 kilowatt-hours (kWh) in 2023, compared to about 418 kWh in Africa. This means that, on average, a person in South America consumes five times as much electricity as a person in Africa. The disparity is even more

pronounced compared with Europe, where per capita power demand exceeds 5,000 kWh.

Africa accounts for just 3.3 per cent of the global power generation. The continent's power sector is largely reliant on domestic resources of oil, gas and coal, providing a measure of energy security, while other countries rely on imported fuels, making them susceptible to fluctuations in international markets. Africa's total power generation stands at over 980 TWh, with fossil fuels currently accounting for nearly 72 per cent of the overall power generation, while renewables hold a share of over 27 per cent.

How can NDC targets ensure greater energy access from clean energy?

National Determined Contributions, or NDCs, are a core part of the Paris Agreement, and they're essential to achieving its long-term goals. An NDC is a climate action plan from each country that outlines its efforts to both reduce emissions and adapt to the effects of climate change. According to the Paris Agreement, every participating country must create, share and update its NDCs over time. The agreement also requires countries to take domestic measures to achieve the goals set out in their NDCs.

The Paris Agreement requests each country to outline and communicate its post-2020 climate actions, known as its NDCs. Together, these climate actions determine whether the world achieves the long-term goals of the Paris Agreement and to reach global peaking of greenhouse gas (GHG) emissions as soon as possible and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of GHGs in the second half of this century. It is understood that the peaking of emissions will take longer for developing-country Parties, and that emission reductions are undertaken on the basis of equity and in the context of sustainable development and efforts to eradicate poverty, which are critical development priorities for many developing countries.

The Paris Agreement recognizes that the long-term goals specified in its Articles 2 and 4.1 will be achieved through time and, therefore, builds on a ratcheting up of aggregate and individual ambition over time.

NDCs are submitted to the UNFCCC secretariat every five years. To enhance ambition over time, the Paris Agreement provides that successive NDCs will represent a progression over the previous NDC and reflect their highest possible

ambition. Parties are requested to submit the next round of NDCs (new or updated) by 2020 and every five years thereafter (e.g., by 2020, 2025, 2030), regardless of their respective implementation time frames. Moreover, Parties may at any time adjust their existing NDC with a view to enhancing its level of ambition (Article 4, paragraph 11).

The urgency of Africa's energy deficit makes the design and ambition of its climate commitments particularly consequential. NDCs are not merely emissions pledges—for energy-starved economies, they represent the policy architecture through which countries must simultaneously expand energy access and shift toward cleaner sources. How African nations have navigated this dual imperative, and the credibility of their commitments in doing so, is examined in the following chapter.

2

NDC REPORT: AFRICA'S EXPERIENCE

HIGHPOINTS



High treaty participation: Out of 54 African nations, 53 have ratified the Paris Agreement, reflecting the continent's commitment despite minimal historical responsibility for climate change.

Massive emissions disparity: Africa accounts for only 4 per cent of global carbon emissions despite representing nearly 20 per cent of the world's population.

The funding paradox: African climate pledges are heavily reliant on external support, with 70–85 per cent of targets classified as 'conditional' on international finance.

Obligation to international treaty

African countries have always taken the initiative to abide by international treaties to limit the impact of climate change. Nearly all African countries have ratified or acceded to the Kyoto Protocol. Out of the 54 recognized sovereign states in Africa, 53 have officially become parties to the agreement. The only African country that has not ratified the Kyoto Protocol is South Sudan. This is primarily, however, because the country did not exist as a sovereign nation until 2011, several years after the protocol entered into force.

As of 2026, 53 out of 54 African countries have ratified or acceded to the Paris Agreement. This represents nearly 100 per cent participation across the continent. The high rate of ratification reflects Africa’s position as one of the region’s most vulnerable to climate change, despite contributing the least to global greenhouse gas emissions. Libya is the only African nation that has signed but not yet formally ratified the agreement. Barring Libya, all other countries have submitted their Intended NDCs (INDCs). INDC is a technical term used in international climate negotiations to describe the individual climate action plans that countries proposed leading up to the 2015 Paris Agreement (see *Table 1: Climate treaty ratification and NDC submission history of select African countries*).

Table 1: Climate treaty ratification and NDC submission history of select African countries

Country	Kyoto Protocol ratified	Paris Agreement ratified	INDC	NDC 1.0	NDC 2.0	NDC 3.0
Kenya	2005	2016	2015	2016	2020	2025
Rwanda	2004	2016	2015	2016	2020	2025
Uganda	2002	2016	2015	2016	2022	-
Ghana	2003	2016	2015	2016	2021	-
Nigeria	2004	2017	2015	2017	2021	2025
Ethiopia	2005	2017	2015	2017	2021	2025
Morocco	2002	2016	2015	2016	2021	2025
Zambia	2006	2016	2016	2016	2021	2025

Source: UNFCCC NDC registry, available at <https://unfccc.int/NDCREG>, as viewed on January 16, 2026.

Under the ‘ratchet mechanism’ of the Paris Agreement, countries that have ratified the agreement are required to progressively strengthen their climate commitments. By 2025, parties are expected to have submitted three rounds of Nationally Determined Contributions (NDCs): the initial NDC 1.0, an updated

NDC 2.0, and a third submission NDC 3.0, each reflecting higher levels of ambition in climate action.

The INDCs are the ‘draft’ versions submitted before a country formally joined the Paris Agreement. The NDCs are the ‘final’ version when a country officially ratifies the Paris Agreement, and its ‘Intended’ contribution (INDC) automatically becomes its ‘Nationally Determined Contribution’ (NDC). All 53 African countries that have ratified the Paris Agreement have released their INDCs. The same number of countries have also released their NDC 1.0.

The number for submission of updated/revised NDC or NDC 2.0 is around 49 and around 45 have submitted their NDC 3.0. The selected African countries whose NDCs we are reviewing in this report have also shown leadership in their submissions. Only Uganda and Ghana have not submitted their NDC 3.0 report.

Africa’s GHG emissions are the lowest in the world

As of 2026, the global climate landscape remains defined by a stark geographical divide. Africa’s relationship with greenhouse gas (GHG) emissions is a massive paradox: the continent is home to nearly 20 per cent of the world’s population but remains the lowest regional contributor to the atmospheric carbon load. To understand the scale of ‘low emissions’ in Africa, one must look at per capita emissions and how they compare with the global average.

The most accurate way to measure climate equity is by looking at how much the average individual emits. As of the latest 2025–26 data, the gap between an average African citizen and the rest of the world remains vast.

- **Global average:** The global average per capita GHG emissions stands at approximately 6.6 tonnes (carbon dioxide equivalent).
- **Africa average:** The average person in Africa emits only around 0.96 tonnes of per year.

This means the average global citizen has a carbon footprint nearly six times larger than that of the average African. If you compare Africa to high-income regions, the disparity is even more extreme. An average person in the United States or Saudi Arabia emits as much in two to three weeks as a person in many Sub-Saharan African countries does in an entire year (see *Table 2: Per capita emission in some African countries*).

Table 3 shows the per capita emission in some of the African countries is even less than 0.5 tonnes of CO₂ equivalent (tCO₂ eq). It cannot be negated that there

is huge scope for data improvement from countries of the African continent. But still, either per capita or in total, their contribution is small (see *Table 2: Per capita emissions in some African countries*).

Table 2: Per capita emission in some African countries

Country	Per capita emissions (tCO2e)	Global emission share (per cent)
Rwanda	0.99	0.003
Uganda	0.1	0.099
Kenya	2.09	< 0.1
Ethiopia	1.8	0.04
Morocco	2.33	0.2
Nigeria	1.73	0.73
Zambia	0.45	0.17
Ghana	1.3t	0.1

Source: Authors' compilation based on updated NDC documents submitted to the United Nations Framework Convention on Climate Change (UNFCCC) NDC Registry, available at <https://unfccc.int/NDCREG>, as viewed on January 16, 2026.

While the continent-wide average is low, Africa is not a monolith. The African continent can be categorized into the following three distinct groups:

a. *The ‘negligible’ emitters (the majority)*

In more than 30 African countries—including Malawi, Burundi, Niger and Chad—per capita emissions are below 0.5 tonnes. For these nations, emissions are so low that they are practically statistically invisible in the global total. In these regions, low emissions are a direct byproduct of ‘energy poverty’, where hundreds of millions lack access to a power grid.

b. *The middle group*

Countries such as Kenya, Ghana and Senegal have per capita emissions ranging from 1.0 to 2.2 tonnes. These nations are growing economically but are increasingly ‘leapfrogging’ fossil fuels. Kenya, for instance, generates over 90 per cent of its electricity from renewable sources (geothermal, wind and hydro), allowing its per capita footprint to remain low even as its economy expands.

c. *The industrial outliers*

A few countries drive the bulk of the continent’s emissions:

- **South Africa:** Due to its heavy reliance on coal for electricity, its per capita emissions are roughly 7.5–8.0 tonnes, which is actually higher than the global average.
- **North African nations:** Countries such as Libya, Algeria and Egypt have higher footprints (3–9 tonnes) due to their oil and gas industries and higher urbanization rates.

The low per capita footprint is driven by the following three structural realities of the African economy in 2026:

1. **Energy poverty:** Approximately 600 million Africans still lack access to electricity³. When millions of people rely on manual labour and traditional biomass rather than machines and power grids, their fossil carbon output remains near zero.
2. **The ‘non-industrial’ economy:** While China and the West built their wealth on carbon-heavy manufacturing and steel, many African economies are based on agriculture and services, which are naturally less carbon-intensive.
3. **Low motorization:** Vehicle ownership rates in Sub-Saharan Africa are among the lowest in the world. While transport is a leading cause of emissions in the Global North, it remains a secondary factor in most of Africa.

History matters in climate physics because CO₂ emitted stays in the atmosphere for centuries.

- **Cumulative contribution:** Since 1850, Africa has contributed less than 3 per cent of total global cumulative emissions.
- **Population projection:** By 2050, one in four people on Earth will be African. In 2021, some 37.12 billion tonnes of CO₂ was emitted across the globe. According to Oxfam, the richest 10 per cent of the world’s population is responsible for more than half of all carbon emissions.
- Africa’s carbon emissions are dwarfed by the emissions of other continents. At 11.47 billion tonnes, China is the world’s largest polluter, followed by the United States (5 billion tonnes), India (2.7 billion tonnes), Russia (1.75 billion tonnes) and Japan (1.07 billion tonnes).
- Comprising about 17 per cent of the world’s population, Africa contributes just 4 per cent of global carbon emissions at 1.45 billion tonnes.⁴

The global challenge is ensuring that as Africa’s population and quality of life grow, its per capita emissions do not rise to meet the global average. If Africa were to follow the historical development path of the US or China (reaching 10+ tonnes per person), the Paris Agreement targets would be impossible to meet (see *Table 3: Per capita GHG emissions by select countries compared to global average*).

Table 3: Per capita GHG emissions by select countries compared to global average

Region/country	Per capita emissions (tonnes CO ₂ e)	Comparison to global average
United States	-173	162 per cent higher
China	-10.8	64 per cent higher
Global average	-6.6	Baseline
South Africa	-6.36	4 per cent higher
Africa (Avg)	-0.96	85 per cent lower
Ethiopia	-0.12	98 per cent lower
Burundi	-0.05	99 per cent lower

Sources: 1. JRC Science for the Policy Report, available at https://edgar.jrc.ec.europa.eu/booklet/GHG_emissions_of_all_world_countries_booklet_2025report.pdf, as viewed on March 16, 2026.

2. Our World in Data, available at https://archive.ourworldindata.org/20250717-182436/grapher/per-capita-co2-vs-average.html?utm_source=chatgpt.com, March 16, 2025.

What are countries' plans?

Despite sharing the same Paris Agreement obligations, the seven African countries examined here tell remarkably different stories—of revised baselines, shifting methodologies and widening gaps between pledged ambition and available resources. The next decade will determine whether these commitments translate into real reductions in emissions or remain aspirational benchmarks (see *Table 4: Comparative overview of emissions baselines, BAU projections, mitigation targets and financial conditionality NDC snapshot across seven African countries*).

The consolidated overview in Table 4 maps key differences across emissions trajectories, mitigation targets, and financial conditionality, providing a critical reference point for the country-by-country analysis that follows (see *Table 4: Comparative overview of emissions baselines, BAU projections, mitigation targets and financial conditionality NDC snapshot across seven African countries*).

Table 4: Comparative overview of emissions baselines, BAU projections, mitigation targets and financial conditionality NDC snapshot across seven African countries

Country	Base year emissions (MtCO ₂ e)	Latest BAU 2030 (MtCO ₂ e)	Reduction target	Conditional funding dependency
Kenya	113 (2022)	215 (2035)	35 per cent below BAU	81 per cent
Uganda	90.1 (2015)	148.8 (2030)	24.7 per cent below BAU	85 per cent
Ghana	58.8 (2019)	Not specified	64 MtCO ₂ e absolute	~75 per cent
Rwanda	8.7 gross (2015)	23.85 gross (2030)	42 per cent below BAU	Not specified
Zambia	185 (2010 revised)	160.2 (2030)	38 MtCO ₂ e reduction	70 per cent
Ethiopia	273.5 avg (2020–23)	176.4 (2030)	85.7 MtCO ₂ e by 2035	22.5 per cent
Nigeria	573.5 (2018 revised)	1,052 (BTR1)	168.2 MtCO ₂ e absolute	80 per cent

Source: Authors' compilation based on updated NDC documents submitted to the United Nations Framework Convention on Climate Change (UNFCCC) NDC Registry, available at <https://unfccc.int/NDCREG>, as viewed on 16 March 2026.

KENYA

Kenya became a signatory to the Kyoto Protocol in 2005 and the Paris Agreement in 2016. The country came out with its Intended Nationally Determined Contributions (INDCs) in 2015, followed by its first NDC in 2016. Kenya later updated its targets in 2020 through an enhanced NDC report outlining goals for 2030. Demonstrating continued progress, in April 2025, Kenya released its Second NDC (for 2031–2035), setting a more ambitious target of reducing greenhouse gas (GHG) emissions by 35 per cent below the business-as-usual (BAU) level—equivalent to 75.25 million metric tonnes of carbon dioxide equivalent (MtCO₂eq) by 2035. The base year is 2022 with emission level of 113 MtCO₂eq (see Table 5: Kenya—Evolution of NDC Targets and BAU Projections [C 2.0 to NDC 3.0]).⁵

Table 5: Kenya—Evolution of NDC Targets and BAU Projections (NDC 2.0 to NDC 3.0)

Report type	Baseline (MtCO ₂ e) (year)	2030/2035 BAU scenario (MtCO ₂ e)	Target level (after mitigation)
NDC 2.0	Quantitative data not specified (2010)	143 (projected for 2030)	97.24 (32 per cent reduction of 143) (2030)
NDC 3.0 NDC (2031–35)	113 (2022)	215 (projected for 2035)	139.75 (after abating 75.25) (2035)

Sources: 1. Kenya's Updated Nationally Determined Contribution, 2020, available at <https://unfccc.int/sites/default/files/NDC/2022-06/Kenya%27s%20First%20NDC%20%28updated%20version%29.pdf>, as viewed on 16 March 2026.
2. Kenya's Second Nationally determined Contribution (2031-2035), available at https://unfccc.int/sites/default/files/2025-05/KENYAS%20SECOND%20NATIONALLY%20DETERMINED%20CONTRIBUTION%202031_2035.pdf, as viewed on 16 March 2026.

The updated plan emphasizes achieving 100 per cent renewable electricity by 2035 and advancing a low-carbon, climate-resilient economy through a collaborative, society-wide effort. Under BAU, emissions are forecasted to hit 143 MtCO₂e by 2030 and surge to 215 MtCO₂e by 2035 as per NDC 2.0.⁶ Yet actual figures show emissions already reached 113 MtCO₂e in 2022—nearly achieving the 2030 target eight years early—signalling that the projection will likely be exceeded amid data uncertainties and risks from unchecked fossil fuel dependency and deforestation.

UGANDA

Uganda's greenhouse gas profile highlights a key paradox of a Least Developed Country—it remains highly vulnerable to climate change despite a negligible global contribution, estimated at just 0.099 per cent of world's total, with per capita emissions at a low 0.1 tCO₂e. Domestically, however, emissions are rising sharply—growing by nearly 69 per cent from 53.4 MtCO₂e in 2005 to 90.1 MtCO₂e in 2015. This surge is directly compounded by pressures from rapid economic and population growth, including one of the world's highest urban growth rates (5.4 per cent), which has fuelled an accelerating demand for energy across the nation.^{7,8}

This accelerating emissions profile provides the critical context for Uganda's long-standing commitment to the international climate regime which began with its ratification of the United Nations Framework Convention on Climate Change (UNFCCC) in 1994, followed by the Kyoto Protocol in March 2002. This resolve was formalized under the new global agreement when Uganda submitted its Intended Nationally Determined Contribution (INDC) in October 2015. The country subsequently ratified the Paris Agreement on September 21, 2016, at which point the INDC became its first Nationally Determined Contribution (NDC). Demonstrating a significant progression in ambition, Uganda submitted its Updated Nationally Determined Contribution (NDC) in September 2022, outlining its comprehensive decarbonization pathway.

The 2015 INDC, using 2000 as the base year, cited national emissions of 36.5 MtCO₂e and projected a business-as-usual (BAU) scenario of 77.3 MtCO₂e by 2030. However, the 2022 updated NDC, which adopted 2015 as the base year, reported national emissions of 90.1 MtCO₂e, an increase of roughly 147 per cent, and revised the 2030 BAU projection sharply upward to 148.8 MtCO₂e, reaching 235.7 MtCO₂e by 2050.^{9, 10} This dramatic change was attributed to improved methodological clarity and the inclusion of additional sectors such as Transport, Waste, and Industrial Processes and Product Use (IPPU), which were previously underrepresented (see *Table 6: Uganda—Evolution of NDC baseline emissions and mitigation targets [2015 INDC to 2022 updated NDC]*).

Table 6: Uganda—Evolution of NDC baseline emissions and mitigation targets (2015 INDC to 2022 updated NDC)

Indicator/report type	Base year	Base year emissions (MtCO ₂ e)	2030 BAU scenario (MtCO ₂ e)	2030 target (after mitigation)
2015 INDC (first NDC)	2000	36.5 (estimated for year 2000)	77.3	-60.3* (calculated 22 per cent reduction from BAU)
2022 updated NDC	2015	90.1	148.8	112.1 (24.7 per cent reduction from BAU)

Sources: 1. Uganda's Intended Nationally Determined Contribution, 2015, available at <https://unfccc.int/sites/default/files/NDC/2022-06/INDC%20Uganda%20final%20%2014%20October%20%202015.pdf>, as viewed on March 16, 2026.

2. Uganda's Updated Nationally Determined Contribution, 2022, available at https://unfccc.int/sites/default/files/NDC/2022-09/Updated%20NDC%20_Uganda_2022%20Final.pdf, as viewed on March 16, 2026.

* Note on 2015 INDC target calculation: Based on the 2030 BAU of 77.3 MtCO₂e, a 22 per cent reduction results in an absolute cut of 17.006 MtCO₂ (77.3 times 0.22), leaving an implied target of -60.3 MtCO₂ (77.3–17.006).

While Uganda maintained its BAU-based target framework, its apparent increase in ambition from 22 per cent to 24.7 per cent is somewhat illusory. The new business-as-usual (BAU) baseline for 2030 was almost doubled from 77.3 MtCO₂e in the 2015 INDC to 148.8 MtCO₂e in the 2022 NDC. As a result, even after applying the higher reduction rate, Uganda's total emissions in 2030 would still reach about 112.1 MtCO₂e, which is much higher than the 60.3 MtCO₂e implied under the earlier plan. This means that despite a stronger percentage cut, Uganda's overall emissions are expected to grow more sharply than originally envisioned.

GHANA

Ghana's formal commitment to climate action was consolidated with its ratification of the Paris Agreement in 2016, building on its 2015 Intended Nationally Determined Contribution (INDC), which outlined 31 priority actions for the period 2020–30. The 2015 INDC established a 2010 baseline of 19.53 MtCO₂e and projected that emissions under a business-as-usual (BAU) trajectory would rise sharply to 73.95 MtCO₂e by 2030.¹¹

To respond to this projected increase, Ghana committed to reducing emissions by 15 per cent below the BAU scenario by 2030 through domestic, unconditional actions. A further 30 per cent reduction was deemed achievable on the condition that international partners provided financing, technology transfer and capacity-building support. With this support, Ghana projected the possibility of achieving a total reduction of 45 per cent below BAU levels by 2030 (*see Table 7: Ghana—Evolution of NDC baseline emissions and mitigation targets [2015 INDC to 2021 updated NDC]*).¹²

Table 7: Ghana—Evolution of NDC baseline emissions and mitigation targets (2015 INDC to 2021 updated NDC)

Aspect	2015 INDC	2021 Updated NDC
Baseline (year)	19.53 MtCO ₂ e (2010)	58.8 MtCO ₂ e (2019)
BAU 2030	73.95 MtCO ₂ e	Not specified
Target type	45 per cent below BAU by 2030	64 MtCO ₂ e absolute reduction

Source: 1. Ghana’s 2015 Intended Nationally Determined Contribution, available at https://unfccc.int/sites/default/files/NDC/2022-06/GH_INDC_2392015.pdf, as viewed on March 16, 2026.
 2. 2021 Updated Nationally Determined Contribution, available at https://unfccc.int/sites/default/files/NDC/2022-06/Ghana%27s%20Updated%20Nationally%20Determined%20Contribution%20to%20the%20UNFCCC_2021.pdf, as viewed on March 16, 2026.

Building on this foundation, Ghana submitted its updated NDC in 2021. This document marked a substantial shift in ambition and methodology. Rather than framing reductions relative to a future projection, Ghana adopted an absolute target of reducing emissions by 64 MtCO₂e. According to the document, the precise emissions value achieved in 2030 will be confirmed through the National Greenhouse Gas Inventory, which reports emissions up to 2030. Reflecting a more current and significantly higher emissions profile, the updated NDC selected 2019 as its new base year, with total emissions recorded at 58.8 MtCO₂e. This transition from a BAU-based target to an absolute target is one of the most important strategic upgrades in Ghana’s climate planning.¹³

RWANDA

Rwanda’s engagement with global climate governance began with the ratification of the UNFCCC in 1998 and the Kyoto Protocol in 2003, supported by key submissions including its National Adaptation Programme of Action (NAPA) and multiple National Communications. This enduring commitment was solidified by Rwanda’s ratification of the Paris Agreement in 2016, which built upon the 2015 Intended Nationally Determined Contribution (INDC). The country has since intensified its climate strategy, evidenced by the updated NDC submitted in May 2020.

Rwanda’s historical contribution to climate change has been negligible; the 2015 INDC reported per capita emissions at just 0.99tCO₂eq/person in 2013 and noted that net emissions (including sequestration) were negative in 2005. This low-emission trajectory is, however, shifting.¹⁴

While the initial 2015 INDC was largely qualitative—lacking a quantified baseline or business-as-usual (BAU) projection—the 2020 updated NDC marked a shift toward detailed, data-driven analysis. This 2020 submission established a clear

2015 baseline of 5.33 MtCO₂e and projected that emissions would more than double to 12.1 MtCO₂e by 2030 under a BAU scenario. Based on this projection, Rwanda committed to a quantified 38 per cent relative reduction (equivalent to 4.6 MtCO₂e) (see *Table 8: Rwanda—Evolution of NDC baseline emissions and mitigation targets [2015 INDC to NDC 3.0]*).¹⁵

Table 8: Rwanda—Evolution of NDC baseline emissions and mitigation targets (2015 INDC to NDC 3.0)

Report type	2015 baseline (MtCO ₂ e)	2030 BAU scenario (MtCO ₂ e)	2030 target (after mitigation)
2015 INDC	Not quantified	Not quantified	Qualitative only
2020 updated NDC	5.33 (excl. Forestry)	12.1	7.5 (38 per cent reduction relative to BAU)
2025 NDC 3.0	8.7 (gross)/ 4.15 (net)	23.85 (gross)/18.80 (net)	10.93 (Net) (42 per cent reduction relative to BAU)

Sources: 1. Rwanda's 2015 Intended Nationally Determined Contribution (INDC), available at https://unfccc.int/sites/default/files/NDC/2022-06/INDC_Rwanda_Nov.2015.pdf, as viewed on March 16, 2026.
 2. 2020 Updated Nationally Determined Contribution (NDC 2.0), available at https://unfccc.int/sites/default/files/NDC/2022-06/Rwanda_Updated_NDC_May_2020.pdf, as viewed on March 16, 2026.
 3. 2025 Nationally Determined Contribution (NDC 3.0) submissions to the UNFCCC, available at <https://unfccc.int/sites/default/files/2025-11/Rwanda%20NDC3.0.pdf>, as viewed on March 16, 2026.

The 2025 submission of the 2035 Nationally Determined Contribution (NDC 3.0) marks a substantial elevation in ambition and data maturity. Responding to the first Global Stocktake, NDC 3.0 establishes an economy-wide mitigation target of a 42 per cent and 53 per cent reduction in GHG emissions by 2030 and 2035 respectively relative to a revised business-as-usual (BAU) scenario.

ZAMBIA

Zambia's Nationally Determined Contribution (NDC) reports articulate the nation's climate pathway in line with its Vision 2030 goal of achieving middle-income status. Although Zambia contributes minimally to global GHG emissions, its climate action is framed around equity and Common but Differentiated Responsibilities (CBDR), recognizing both development needs and high climate vulnerability. The majority of Zambian households continue to depend on traditional biomass for cooking and heating, while at the national scale, the electricity system leans heavily on hydropower—a combination that exposes both households and the economy to climate shocks.

Zambia's engagement with the global climate regime can be traced through the progressive evolution of its Nationally Determined Contributions (NDCs). While the country's initial participation was rooted in the Kyoto Protocol, its concrete mitigation strategy has taken shape primarily under the Paris Agreement. The first

submission, NDC 1.0 (INDC, 2016), laid the foundational framework for national climate action, and NDC 2.0 (2021) deepened this effort by extending mitigation commitments to additional high-emitting sectors, including Transport, Liquid Waste, and Coal. The latest NDC 3.0 (2025) marks the most ambitious iteration to date, introducing explicit quantitative targets designed to align Zambia’s development pathway with global climate objectives.

Understanding how these commitments have evolved requires a closer look at changes in Zambia’s greenhouse gas (GHG) inventory. The initial INDC (NDC 1.0), submitted in 2016, articulated a clear reduction objective but offered no fully quantified baseline or business-as-usual (BAU) trajectory, limiting the scope for precise evaluation of Zambia’s emissions pathway. The updated NDC (NDC 2.0), released in 2021, retained the core reduction target and identified 2010 base-year emissions of approximately 120.6 MtCO₂, yet—like its predecessor—did not present a single explicit BAU projection for 2030.

It is only with NDC 3.0 that Zambia takes a decisive methodological step forward, presenting its first clearly quantified BAU estimate for 2030 at 160.2 MtCO₂. This addition anchors the conditional reduction target to a defined future trajectory. NDC 3.0 also revises the 2010 gross emissions upward to 185 MtCO₂, reflecting improvements in accounting practices, including adoption of the 2006 IPCC guidelines and updated global warming potential (GWP) values.¹⁶

Despite successive revisions to emissions estimates and methodological frameworks, the conditional reduction target has remained the core expression of Zambia’s climate commitment—from the 2016 INDC through the 2021 update and into the 2025 submission, that is 38 MtCO₂ (see *Table 9: Zambia—Evolution of NDC baseline emissions and mitigation targets [2016 INDC to NDC 3.0]*).

Table 9: Zambia—Evolution of NDC baseline emissions and mitigation targets (2016 INDC to NDC 3.0)

Report type	Base year emissions (MtCO ₂ e)	2030 BAU scenario (MtCO ₂ e)	2030 Target
2016 INDC	Not quantified	Not quantified	38 MtCO ₂ e reduction
2021 updated NDC 2.0	120.6 (2010)	Not specified	38 MtCO ₂ e reduction
2025 NDC 3.0	185 (year 2010 revised)	160.2	38 MtCO ₂ e reduction

Sources: Government of the Republic of Zambia, Provisional Nationally Determined Contribution 3.0 (Revised and Updated), submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in March 2025, available at https://unfccc.int/sites/default/files/2025-03/Provisional%20NDC%20Submission_Zambia_Revised%20and%20Updated_NDC_100325.pdf, as viewed on 16 March 2026.

ETHIOPIA

Ethiopia has demonstrated a long-standing commitment to global climate action, ratifying the UNFCCC in 1994 and the Kyoto Protocol in 2005. This engagement continued with key submissions, such as the National Adaptation Programme of Action (NAPA) in 2007 and the Climate-Resilient Green Economy (CRGE) strategy in 2011. The formalization of this commitment globally occurred with the ratification of the Paris Agreement in 2017, building upon its 2015 Intended Nationally Determined Contribution (INDC). Ethiopia has since strengthened its climate action through an updated Nationally Determined Contribution (NDC) in 2021 and, most recently, its NDC 3.0 in 2025, which extends coverage to 2035.

Historically, Ethiopia’s contribution to climate change has been negligible, estimated at only 0.04 per cent of global emissions. The 2015 INDC reported per capita emissions at just 1.8 tCO₂e in 2010. However, this low-emission trajectory is shifting as the country pursues economic development. Recent data indicate per capita emissions have risen to approximately 2.6 tCO₂e, with total actual emissions averaging 273.5 MtCO₂e between 2020 and 2023 (see *Table 10: Ethiopia—Evolution of NDC baseline emissions and mitigation targets [2015 INDC to NDC 3.0]*).^{17, 18, 19}

Table 10: Ethiopia—Evolution of NDC baseline emissions and mitigation targets (2015 INDC to NDC 3.0)

Reports	Base-year emissions (MtCO ₂ e)	BAU reference	Unconditional emission projection	Conditional emission projection (including unconditional support)
2015 INDC	-150 (2010)	~400 (2030)	Not specified	145 MtCO ₂ e by 2030 (64 per cent below BAU)
2021 Updated NDC	-247 (2010)	403.5 (2030)	3473 MtCO ₂ e by 2030 (14 per cent below BAU)	125.8 MtCO ₂ e by 2030 (68.8 per cent below BAU)
2025 NDC 3.0	-273.5 (average 2020–23)	176.4 (2030)	141.9 MtCO ₂ e by 2030	85.7 MtCO ₂ e by 2035

Sources: 1. Nationally Determined Contribution of the Federal Democratic Republic of Ethiopia, 2015, available at: <https://unfccc.int/sites/default/files/NDC/2022-06/INDC-Ethiopia-100615.pdf>, as viewed on March 16, 2026.

2. Nationally Determined Contribution of the Federal Democratic Republic of Ethiopia, 2021, available at: https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission_.pdf, as viewed on March 16, 2026.

3. Nationally Determined Contribution 3.0 (NDC 3.0), available at <https://unfccc.int/sites/default/files/2025-09/Ethiopia%20NDC%203.0%20Final.pdf>, as viewed on March 16, 2026.

Ethiopia’s national submissions showcase an evolving strategy, marked by successive updates to methodologies and baselines. Initially, the 2015 INDC used a 2010 baseline of 150 MtCO₂e and projected a peak 2030 BAU of 400 MtCO₂e. The 2021 updated NDC substantially revised this, moving the 2010 baseline up to

247 MtCO₂e and the 2030 BAU slightly higher to 403.5 MtCO₂e. Most recently, NDC 3.0 (2025) introduced a major change by adopting the average actual emissions from 2020–23 (273.5 MtCO₂e) as its reference point and significantly reducing the future 2030 BAU projection to 176.4 MtCO₂e. This drastic reduction in the projected baseline is significant because it suggests the country has already accounted for the substantial emissions-reducing effects of existing domestic programmes, such as the large-scale afforestation efforts of the Green Legacy Initiative.^{20, 21, 22}

NIGERIA

Nigeria occupies a unique position in the global climate landscape; despite contributing relatively little to global greenhouse gas (GHG) emissions, it is a substantial regional emitter and highly vulnerable to climate impacts. Inaction could cost the country 6–30 per cent of its GDP by 2050.

Nigeria’s engagement with the global climate regime began with acceding to the Kyoto Protocol in 2004 and was reinforced by the Paris Agreement. Its commitment has evolved through three major submissions: the 2015 Intended Nationally Determined Contribution (INDC), the 2021 Updated NDC, and the Third NDC submitted in September 2025.

The country’s climate planning has been characterized by a ‘volatile trajectory’ of emissions data, leading to a major strategic pivot in its latest submission. Initially, the 2015 INDC used a 2010 baseline of 247 MtCO₂e and projected a ‘Business as Usual’ (BAU) scenario of 900 MtCO₂e by 2030. This was radically revised downward in the 2021 update to 453 MtCO₂e due to post-COVID GDP adjustments. However, the most recent data revealed a far more alarming trend: the BTR1 Report (Biennial Transparency Report) revised the 2030 BAU projection sharply upwards to 1,052 MtC₂e, driven by better data on biomass and refrigeration.

Recognizing that the complex and fluctuating BAU baselines made tracking difficult, Nigeria’s NDC 3.0 (2025) marked a fundamental shift. The country moved from relative targets to a clearer, absolute emissions-reduction target based on a historical baseline (see *Table 11: Nigeria—Evolution of NDC Baseline Emissions and Mitigation Targets [2015 INDC to NDC 3.0]*).

Table 11: Nigeria—Evolution of NDC baseline emissions and mitigation targets (2015 INDC to NDC 3.0)

Report type	Baseline-year emissions (MtCO ₂ e)	2030 BAU scenario (MtCO ₂ e)	2030 target (after mitigation)
2015 INDC	247 (2010 baseline)	900	20 per cent reduction below BAU (unconditional); 45 per cent reduction below BAU (conditional)
2021 updated NDC (NDC 2.0)	347 (2018 baseline)	453	20 per cent reduction below BAU (unconditional); 47 per cent reduction below BAU (conditional)
2025 NDC 3.0	573.5 (2018 revised baseline)	1,052 (BTR1 BAU)	Absolute reduction of 168.2 MtCO ₂ e by 2030 (29 per cent reduction from 2018 baseline)

Sources: 1. Nigeria's Second Nationally Determined Contribution, 2015, available at: <https://faolex.fao.org/docs/pdf/nig187295.pdf>, as viewed on March 16, 2026.
 2. Nigeria's Second Nationally Determined Contribution, 2021, available at: <https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20INTERIM%20REPORT%20SUBMISSION%20-%20NIGERIA.pdf>, as viewed on March 16, 2026.
 3. Nigeria's Third Nationally Determined Contribution, available at <https://unfccc.int/sites/default/files/2025-09/Nigeria%20NDC%203.0%20-%20Transmission%20Version%202.pdf>, as viewed on March 16, 2026.

The Third NDC (2025) aligns with Nigeria's goal of net-zero by 2060. It commits to an absolute reduction of 168.2 MtCO₂e by 2030 (a 29 per cent cut from 2018 levels) and 184.9 MtCO₂e by 2035. The strategy relies heavily on the Land Use, Land-Use Change, and Forestry (LULUCF) sector, which is expected to deliver 73.7 per cent of the 2030 reductions, primarily through a 60 per cent reduction in deforestation and by promoting clean cooking to displace wood fuel. The Energy sector follows, contributing 22 per cent of reductions through renewable energy targets (52 per cent of electricity generation) and the elimination of routine gas flaring by 2030.

However, the ambition is financially precarious. The total investment required for NDC 3.0 is estimated at US \$337 billion (2026–35), with Nigeria committing only 20 per cent (US \$67 billion) unconditionally. The remaining 80 per cent (US \$270 billion) is conditional on international support, placing the nation's deepest climate ambitions at significant risk if global funding falls short.

Conditional targets

Implementing Nationally Determined Contributions (NDCs) in Africa represents one of the most significant paradoxes of the Paris Agreement. While African nations are among the most ambitious in their climate pledges, they are simultaneously the most reliant on external support to achieve them.

As of 2026, the dependence of African NDCs on conditional support—defined as climate action that can only be taken if international funding, technology transfer, and capacity building are provided—is not merely a budgetary preference; it is a structural necessity driven by a ‘climate-development’ trap. The distinction between unconditional and conditional targets is the cornerstone of African climate policy.

- **Unconditional targets:** These are actions a country commits to implementing using its own domestic resources. In Africa, these typically cover about **15–30 per cent** of the total climate ambition.
- **Conditional targets:** These represent the remaining 70–85 per cent of the pledge. These actions are explicitly contingent upon the provision of ‘Means of Implementation’ (MoI) from the international community, as articulated in Article 9 of the Paris Agreement (*see Table 12: Unconditional and conditional NDC targets and total climate finance requirements across African countries*).

Table 12: Unconditional and conditional NDC targets and total climate finance requirements across African countries

Country	Unconditional target (%)	Conditional target (%)	Total amount (US \$ in billions)
Ethiopia	77.5	22.5*	106.35
Ghana	25–42 (approx.)	58–75 (approx.)	9.3–15.5
Kenya	19	81	56
Morocco	66.4	33.6	96.09
Nigeria	20	80	337
Rwanda	Not specified	Not specified	12
Uganda	15	85	28.1
Zambia	30	70	50
South Africa	Not specified	Not specified	186

Source: Author’s compilation

Note: South Africa and Morocco are included in the financing overview for regional completeness. Detailed NDC profiles for these countries are beyond the scope of this report but are referenced where relevant for comparative context.

For example, countries like Kenya have committed to a 32 per cent reduction in emissions by 2030, but explicitly state that 81 per cent of the \$56 billion required for this must come from international support. Similarly, the West African region as a whole has framed nearly 70 per cent of its adaptation and mitigation goals as conditional.

The scale of financing required for African NDCs is staggering compared with the continent’s economic output. Recent estimates from the African Development Bank and the Climate Policy Initiative suggest that Africa requires roughly US \$2.7–2.8 trillion during 2020–30 to implement its NDCs. Current annual climate finance flows to Africa hover around US \$30 billion, while the actual need is approximately US \$277 billion per year. This means Africa is currently receiving only 1–2 per cent of the finance required to meet its conditional targets. Without a massive scaling of international support, the majority of Africa’s climate pledges remain commitments on paper rather than projects on the ground—aspirational in design but undelivered in practice.

The scale of this shortfall is stark (*see Table 13: Africa’s annual climate finance gap—Requirement versus current flows*).

Table 13: Africa’s annual climate finance gap—Requirement versus current flows

	Annual climate finance needed	Currently received	Gap
Africa	~\$277 billion/year	~\$30 billion/year	\$247 billion/year (89 per cent unfunded)

Source: Climate Policy Initiative (CPI), Landscape of Climate Finance in Africa, commissioned by FSD Africa, the Children’s Investment Fund Foundation, and UK Aid. Available at <https://www.climatepolicyinitiative.org/wp-content/uploads/2022/09/Landscape-of-Climate-Finance-in-Africa.pdf>, as viewed on March 16, 2026.

The dependence on conditional support is driven by the following three primary factors:

a. *The debt-climate nexus:* Most African nations are currently navigating a ‘polycrisis’. High interest rates and heavy debt burdens mean that many countries spend more on debt servicing than on climate adaptation. Using domestic revenue for unconditional climate action often requires diverting funds from healthcare, education or infrastructure, making conditional support the only viable path for high-ambition climate projects.

b. *Adaptation as a priority:* Unlike developed nations that focus primarily on mitigation (reducing emissions), Africa’s NDCs are heavily weighted toward adaptation. Adaptation projects—such as building sea walls, developing drought-resistant crops, or upgrading urban drainage—often have lower immediate financial returns for private investors than renewable energy projects. Consequently, these projects rely heavily on concessional public finance and grants, which are core components of conditional support.

c. Technology and capacity barriers: Conditionality is not just about cash. It includes access to patented green technologies (e.g., green hydrogen or advanced battery storage), the ability to establish robust Measurement, Reporting, and Verification (MRV) systems. Without these, countries cannot access international carbon markets (Article 6), further deepening their reliance on direct aid.

The heavy reliance on conditional support poses several systemic risks for the continent. If international support is not forthcoming, global climate targets will fail. Because Africa is the world's fastest-growing population centre, its ability to leapfrog fossil fuels is essential for the 1.5°C goal. If conditional support fails, Africa may be forced to rely on cheaper, carbon-intensive energy to meet its development needs.

High dependence on external support can also lead to a 'top-down' approach where donor priorities dictate local climate strategies, potentially sidelining indigenous knowledge or specific local ecological needs. Conditional targets make national planning difficult. It is hard for a Ministry of Energy to plan a grid transition if the funding is 'conditional' on fluctuating international political will or the outcome of annual Conference of the Parties (COP) negotiations.

Questions about data integrity

In its second NDC report, Kenya forecasted that under BAU emissions would hit 143 MtCO₂e by 2030 and surge to 215 MtCO₂e by 2035, yet actual figures show emissions already reached 113 MtCO₂e in 2022—nearly achieving the 2030 target eight years early—signalling that the projection will likely be exceeded amid data uncertainties and risks from unchecked fossil fuel dependency and deforestation. Ghana's 2021 NDC explicitly omits agriculture from mitigation targets to prioritize food security, Kenya lacks quantified reduction pathways for its dominant Agriculture, Forestry, and Other Land Use (AFOLU) emissions, and Zambia's early NDCs relied on coarse AFOLU datasets, requiring major revisions only in 2025.²³

Preparing Nationally Determined Contributions (NDCs)—the heart of the Paris Agreement—is a complex task for any nation. For African countries, this process involves navigating a unique set of structural, financial and technical hurdles, including primary challenges: data scarcity and quality, technical and human capacity constraints, and financial gaps preparation.

Data scarcity and quality: Accurate NDC reporting requires robust data to establish 'baseline' emissions and track progress. Many African countries struggle

with inventory gaps and lack of comprehensive historical data on greenhouse gas (GHG) emissions, particularly in the AFOLU sector (Agriculture, Forestry, and Other Land Use), which is the largest source of emissions for most of the continent.

Africa is dominated by the informal economy. High levels of informal economic activity make it difficult to collect precise data on energy use, waste management and transport. .e. The lack of established real-time Measurement, Reporting, and Verification (MRV) systems is a critical gap that undermines the credibility and effectiveness of global climate actions. Without these technical monitoring systems, tracking climate actions becomes difficult, often leading to reliance on outdated, manual or inaccurate data.

Technical and human capacity constraints: NDC reporting process requires highly specialized skills in climate modelling, economic forecasting and legal drafting. Africa relies heavily on external consultants; due to a shortage of in-house experts, many countries depend on international consultants. This can lead to reports that lack local context or ‘ownership’, making the targets harder to implement once the consultants leave. Brain drain for better opportunity even within the same country is another reason for compromised reports. High staff turnover within environment ministries means that technical knowledge gained during one reporting cycle is often lost before the next update (usually every five years).

Financial limitation: Apart from data quality and technical and manpower constraints, it is also pertinent to understand the financial limitations. While much has been said about the trillions needed for implementation, even preparing the report is costly. National budgets are often stretched thin by immediate development needs such as healthcare, education and debt servicing. Moreover, navigating the complex application processes for international funds (like the Green Climate Fund) to pay for NDC preparation can be a catch-22—the country needs capacity just to apply for the funds to build capacity.

Institutional fragmentation: Climate change is often viewed as ‘just an environmental issue’, but NDCs cover the entire economy, and this is where Africa encounters the major problems. The ministries work in silos. There is often a disconnect between the Ministry of Environment (which writes the NDC) and the Ministries of Finance, Energy, and Agriculture (which control the budgets and projects). NDC targets may conflict with existing National Development Plans (NDPs) that prioritize rapid industrialization or fossil fuel expansion for energy security, countering rapid RE growth as detailed in the NDC.

Under the Paris Agreement, NDCs were originally focused on mitigation (reducing emissions). However, for African countries—who contribute less than 4 per cent of global emissions—adaptation (preparing for droughts, floods and heat) is an existential priority. It is technically much harder to quantify ‘adaptation progress’ in a report compared to ‘carbon tonnes reduced’, leading to vague or less ‘bankable’ adaptation sections in the NDC.

Still using default emission factor leading to data inaccuracy

In the preparation of Nationally Determined Contributions (NDCs) and national Greenhouse Gas (GHG) inventories, African countries utilize a mix of IPCC tiers depending on their technical capacity and the significance of specific sectors (key categories) to their economy.

IPCC defines the following three levels of methodological complexity:

- **Tier 1:** Uses default emission factors provided by the IPCC. This is the simplest method, used when country-specific data is unavailable.
- **Tier 2:** Uses country-specific emission factors and more detailed activity data. This is recommended for ‘key categories’ (sectors with high emissions).
- **Tier 3:** The most complex level, involving high-resolution modeling or direct measurement (e.g., satellite data or field sensors).

Most African nations rely heavily on Tier 1 for their general reporting, but as of the 2025–26 reporting cycle, many have transitioned to Tier 2 for sectors such as Agriculture and Forestry (LULUCF). A small number of countries, such as Morocco, have adopted Tier 3 for their reporting (see *Table 14: IPCC emission-factor tier levels and sector-specific methodologies adopted by select African countries*).

Table 14: IPCC emission-factor tier levels and sector-specific methodologies adopted by select African countries

Country	Primary- tier level	Sector-specific high-tier usage
Ethiopia	Tier 1/Tier 2	Primarily uses IPCC 2006 Guidelines. Utilizes Tier 2 for livestock and specific land-based sequestration (LUCF) as part of its Green Economy Model (GEM) to reflect local animal breeds and feed quality.
Kenya	Tier 2	Transitioning to Tier 2 for key categories including livestock (enteric fermentation) and LULUCF. While general concepts are implemented in stages, the 2024 GHG inventory increasingly adopts country-specific factors to improve data accuracy.
Uganda	Tier 1/Tier 2	Primarily utilizes Tier 1 (default factors) but has integrated Tier 2 for Land Use (AFOLU) and Energy in its 2022–30 roadmap. It uses the GLEAM (Global Livestock Environmental Assessment Model) model for more detailed livestock emissions analysis.

Rwanda	Tier 1/Tier 2	Historically relied on Tier 1 for its Third National Communication, but is transitioning to Tier 2 for key agricultural categories and energy as part of its methodologically enhanced 2020 update.
Morocco	Tier 2/Tier 3	Uses high-tier methodologies for Energy and Industrial Processes (IPPU). It has recently integrated fluorinated gases and short-lived climate pollutants using advanced 100-year GWP values from the IPCC Sixth Assessment Report (AR6).
Ghana	Tier 1/Tier 2	Uses Tier 3 for Forestland, Cropland, and Grassland. Uses Tier 2 for Solid Waste Disposal and Metal Industry (Aluminum production).
Zambia	Tier 2	Recalculated its 2010 base year using 2006 IPCC Guidelines and the 2019 Refinement. It has developed methodologically enhanced inventories for Agriculture (AFOLU) and Energy to improve transparency.

Source: Authors' compilation

The impact of emission factor is felt when reviewed sector-wise. In the case of Agriculture and Livestock (AFOLU), most of the African countries uses the Tier 1 factor. Tier 1 has a limitation. The IPCC default factors often overstate African livestock emissions because they are based on Northern Hemisphere breeds. For this reason, countries are now working on Tier 2 progress. Countries such as Kenya, Ethiopia and South Africa are working with the International Livestock Research Institute (ILRI) to create Tier 2 factors that reflect local feed quality and animal size, often finding emissions are 15 per cent lower than IPCC defaults.

In the case of energy and transport, Tier 1 is used by the majority of Sub-Saharan African countries for fuel combustion, assuming standard carbon content for diesel and gasoline. Tier 2 is used by countries with significant mining or industrial bases such as South Africa and Nigeria for specific fuel types and fugitive emissions from oil and gas.

When it comes to emissions from waste, Tier 1 is used across the continent due to the lack of historical data on waste composition and landfill management practices.

3

KEY FINDINGS AND ANALYSIS

HIGHPOINTS



Accelerating emissions growth: African emissions are rising faster than anticipated, with Uganda surging 69 per cent in 2005–15 and Kenya growing at 4 per cent annually.

Data volatility and AFOLU gaps: Shifting baselines and ‘strategic ambiguity’ hollow out target credibility—Ethiopia’s 2030 BAU dropped from 400 to 176 MtCO₂e through methodology changes alone, while Nigeria’s fluctuated from 900 to 453 to 1,052 MtCO₂e across successive submissions.

The Renewable Reliability Paradox: A vicious cycle undermines Africa’s clean energy strategy—Zambia’s hydro-dependency triggers 450–500 MW of deficit during droughts, and Ethiopia projects an 8.6 per cent generation loss and 20.3 per cent transmission network loss by 2035.

Africa's GHG emissions represent a mounting and urgent concern for the next decade because several countries are already experiencing faster-than-projected emissions growth while simultaneously facing escalating economic exposure to climate impacts. Uganda's emissions rose by nearly 69 per cent between 2005 and 2015 alongside rapid urban growth, and Kenya's emissions increased steadily at around 4 per cent annually from 1990 to 2022, indicating sustained upward trajectories rather than early peaking. More critically, Rwanda's actual emissions (excluding LULUCF) reached its original 2030 BAU level by 2022, while Kenya's 2022 emissions nearly matched its 2030 BAU projection, suggesting that current development pathways are exceeding planned carbon intensities, indicating that mitigation measures have not yet been strong enough to bend the emissions curve early.

This acceleration is occurring alongside economic impacts that are materializing before mitigation benefits take effect, as reflected in Zambia's documented US \$13.8 billion in climate-related losses and Kenya's ongoing agricultural GDP losses exceeding 5 per cent annually. At the same time, structural constraints complicate decarbonization—Nigeria relies on oil and gas for 90 per cent of its foreign exchange earnings, yet this sector is the second-largest source of GHG emissions, Zambia's growing energy demand relies on climate-vulnerable hydropower, and Ghana's shift to an absolute emissions target reflects tightening policy space, indicating that structural fixes (diversification, resilience, clean cooking scale-up) have not yet reached a level that reduces exposure. Together, these country trajectories show that the next decade is decisive not because Africa emits the most today, but because emissions are rising faster than anticipated while the economic and structural costs are materializing faster than mitigation measures are taking effect.

If these trajectories persist, African economies risk locking in carbon-intensive development precisely as climate impacts intensify, permanently raising the cost of both mitigation and adaptation. Early convergence toward BAU pathways undermines the credibility of existing NDC targets and shortens the window for cost-effective emissions reduction. As climate-related economic losses absorb public resources, governments are pushed toward short-term stabilization rather than structural transformation, making delayed course correction both politically and economically prohibitive.

Poor inventorization and data volatility distort emissions trajectories

A pervasive limitation across the reports is weak emissions inventorization, compounded by volatile and repeatedly revised baselines. Revisions driven by updated IPCC methodologies, expanded sector coverage or improved data availability—while technically justified—have triggered major shifts in historical baselines and BAU projections without proportional recalibration of mitigation design. Ethiopia’s 2030 BAU fell from nearly 400 MtCO₂e in its updated NDC report 2021 to 176 MtCO₂e in its third NDC report 2025, following successive methodological updates, dramatically amplifying the apparent ambition of instruments that, in practice, remained unchanged. Rwanda revised its 2015 baseline upward from 5.3 in its updated 2020 NDC report, to 8.7 MtCO₂e, in its third NDC report (2025), doubling the projected 2030 BAU as methane metrics and sectoral coverage improved—retroactively weakening perceptions of earlier ambition. Morocco’s successive NDCs oscillated between downward and upward baseline corrections, complicating inter-temporal comparison and masking real mitigation progress.

Kenya adds a different, but equally revealing, layer to this volatility. While national reporting has steadily improved, updated inventories show emissions already reaching 113 MtCO₂e by 2022—almost converging with earlier 2030 BAU projections. This suggests that historical baselines systematically underestimated growth. Yet the absence of revised, sector-wise BAU trajectories—particularly for AFOLU and energy—means it remains unclear whether this surge reflects genuine structural change or simply inventory refinement.

Zambia’s most recent NDC introduced its first explicit BAU altogether, exposing AFOLU emissions to be far higher than previously recorded. Nigeria represents the most dramatic fluctuation: BAU estimates fell from 900 MtCO₂e (2015) to 453 MtCO₂e (2021), then rose to 1,052 MtCO₂e in the Biennial Transparency Report (NDC 3.0, 2025) as GDP assumptions and sectoral coverage were updated. Although Nigeria has shifted away from BAU-linked targets toward absolute reductions, the lack of revised sector-wise BAU pathways makes it difficult to separate real decarbonization from accounting effects. Collectively, this volatility erodes comparability across NDC cycles and leaves policymakers and observers uncertain whether reported ambition reflects genuine emissions reduction or merely evolving methodologies.

AFOLU—the ‘invisible’

Agriculture, Forestry, and Other Land Use (AFOLU) sectors—despite often representing the largest emissions sources and mitigation potential—remain weakly quantified, qualitatively framed, or strategically constrained by political and data limitations. Ghana’s 2021 NDC explicitly omits agriculture from mitigation targets to prioritize food security, while Kenya lacks quantified reduction pathways for its dominant AFOLU emissions. Zambia’s early NDCs relied on coarse AFOLU datasets, with land-use mitigation only gaining prominence after substantial revisions in its 2025 submission.

Ethiopia assigns 77.1 per cent of planned abatement to LULUCF, yet simultaneously highlights persistent financing and data constraints within the sector. Rwanda’s temporary exclusion of LULUCF similarly redirected mitigation emphasis toward energy, waste and urban systems until improved inventories enabled reintegration.

Where AFOLU mitigation is weakly quantified or deferred, mitigation ambition is consistently re-anchored in sectors perceived as more transparent, bankable and operationally ready. Ghana centres its strategy on energy system decarbonization, clean cooking and efficiency measures; Kenya prioritizes renewable electricity expansion and transport transition; and Zambia foregrounds hydropower and energy access. Even in cases such as Ethiopia and Morocco, where land-use sectors are formally included, mitigation prominence remains skewed toward forestry sinks or energy and industrial transformation rather than agricultural emissions.

Collectively, this pattern indicates that African NDCs function less as comprehensive ecological inventories and more as strategic instruments for resource mobilization. By anchoring mitigation ambition in energy, countries align with international donor preferences for scalable ‘clean tech’, while the more complex and less monetizable challenges of agricultural reform remain comparatively marginalized.

Claims of future high emissions without quantitative pathways

Across multiple NDCs, the energy sector is repeatedly described as the principal source of future emissions growth, yet these assertions are rarely accompanied by quantified, sector-wise projections or clear business-as-usual (BAU) pathways. This pattern limits the ability to verify claims, compare progress across submissions or assess whether prioritized sectors genuinely warrant their status.

Kenya’s NDC presents energy—particularly electricity generation and transport—as the dominant future emitter under Vision 2030. However, the absence of numerical projections or a disaggregated sectoral BAU scenario prevents this narrative from being tested against evidence or tracked over time. Nigeria’s third NDC also recognizes energy as the largest contributor to current emissions and prioritizes mitigation accordingly, but its removal of earlier sector-wise BAU estimates following a re-baselining exercise makes a meaningful comparison with previous commitments impossible and obscures the scale of anticipated growth. Similar gaps appear elsewhere. Zambia’s earlier NDCs referenced rising emissions from energy and transport without providing quantified sectoral trajectories, only partially addressing this issue in the 2025 update. In Rwanda and Ethiopia, expansion of the energy system is framed as central to development, yet future emissions are often discussed qualitatively rather than through explicit sectoral growth curves.

This suggests a trend of ‘strategic ambiguity’—by asserting sectoral priority without committing to hard numbers, nations can signal alignment with global climate goals while avoiding the rigid accountability and potential ‘compliance risk’ that comes with quantified targets. Ultimately, this lack of data transparency transforms NDCs from technical roadmaps into high-level signalling documents, weakening the link between national planning and actual atmospheric impact.

The renewable reliability paradox and the ‘hydro-dependency trap’

While the overarching ambition of African nations is to meet a massive surge in energy demand through a low-carbon pathway—aiming for a total decoupling of economic growth from emissions, the national reports reveal a fundamental structural flaw: the primary ‘green’ solutions are themselves highly vulnerable to the climate change they are intended to mitigate. This creates a vicious cycle’, where the pursuit of clean energy is sabotaged by environmental shifts.

The first vicious cycle is the vulnerability of the Clean Solution. The strategy of meeting rising demand without increasing GHGs relies heavily on hydropower as a low-emission baseload. However, the reports from Zambia and Ethiopia identify this as a primary structural weakness: Despite its low-carbon profile, Zambia’s heavy reliance on hydro has created a legacy of vulnerability where recurrent droughts now trigger hydropower deficits of 450–500 MW, destabilizing the national grid and disrupting the very economic activity the energy is meant to fuel.

Ethiopia, which generates over 95 per cent of its electricity from renewable sources (primarily hydro), has now quantified its climate risk. The NDC 3.0 (2025) projects that by 2035, climate impacts could cause an average 8.6 per cent loss in power generation and a staggering 20.3 per cent loss in the electric transmission network.

The second vicious cycle is strategic fragility and ‘invisible’ emissions. The ambition to remain dependent on these renewables is increasingly viewed as not safe or physically volatile within the reports. This creates a state of strategic fragility in national climate commitments, leading to the following two critical failures:

The Return to invisible emissions: When climate-sensitive hydro fails, countries must prioritize economic survival, necessitating an immediate emergency reversion to high-emission backups. In Zambia, while hydro is well-tracked, the use of diesel-based standalone generators remains poorly documented. This creates an analytical imbalance where the nation appears greener on paper than it is in reality during climate shocks.

The miscalculation of long-term pathways: By neglecting to account for the carbon and system costs of this emergency reversion, NDCs may be fundamentally miscalculating their long-term emissions trajectories. The failure to integrate this critical feedback loop means that a single climate shock—such as a severe drought—can effectively reverse years of mitigation gains in a matter of months.

The third vicious cycle is the *conditional sovereignty* trap (the hypothetical state of ambition). A pervasive flaw across almost all these reports, spanning most of the countries analysed—is that the nations’ most transformative climate strategies are not actually national plans—they are international funding proposals. The NDCs present high-ambition targets that are statistically decoupled from the country’s own economic reality, creating a sovereignty paradox where national development pathways are effectively outsourced to voluntary external finance, and the locus of agency has shifted outward: because the transformative projects (EVs, green hydrogen, grid modernization, large-scale renewable deployment, industrial decarbonization, mass transit systems, forest restoration, and climate-resilient agriculture) are 80–90 per cent conditional—pledged only if international climate finance and technology materialize—national governments are no longer the architects of their own development; they are essentially proposing menus for international financiers to choose from. Across these nations, the ceiling of climate ambition is not determined by political will or

policy design, but by external resources, resulting in fragmented implementation sequencing, especially in hard-to-abate sectors such as industry and transport, and a deeper structural vulnerability in national planning. In practice, investment decisions made in Washington, Brussels, Beijing and multilateral banks end up determining which African mitigation measures move forward, which remain aspirational, and which are quietly deprioritized. Ultimately, climate ambition becomes hostage to donor priorities, currency volatility, global interest-rate dynamics, and the shifting politics of climate finance.

This illusion of sovereignty is explicitly quantified across the reports, revealing that the ‘high ambition’ scenarios often cited in global forums are financially unsecured. Nigeria’s roadmap reveals a massive financial dependency, where 80 per cent of the funding—approximately US \$270 billion—is conditional, a reality that the summary explicitly notes ‘places the nation’s deepest climate ambitions at risk if international funds fall short’. Kenya mirrors this structural fragility, with 81 per cent of its second NDC’s financing (US \$45.36 billion) tied to conditionality; the report warns that this ‘reliance is risky’, as domestic efforts alone can deliver only a fraction of the needed emissions cuts, leaving the country’s green growth trajectory largely theoretical.²⁴

The fourth vicious cycle lies beyond finance: Across the Nationally Determined Contribution (NDC) reports for all seven countries examined—Zambia, Uganda, Ghana, Rwanda, Morocco, Kenya and Ethiopia, a critical structural paradox emerges: while climate ambition is articulated through high-percentage reduction targets, implementation is often stalled by deep-seated institutional and infrastructural bottlenecks that no amount of external funding alone can resolve.

A close reading of the NDC reports shows that the *decisive decade* is shaped by a constant tension between repairing existing systems and structurally transforming them. The key analytical takeaway is that the dominant ‘Conditional Ambition’ model risks masking the real constraint. Even if large-scale climate finance arrived tomorrow, internal systems—from transport governance in Uganda to low-productivity agricultural structures in Zambia— would remain decisive limiting factors. The decisive decade therefore requires a dual-track approach: countries must not only raise external funds but simultaneously undertake massive internal regulatory overhauls and infrastructure climate-proofing to ensure those funds can actually be absorbed and utilized effectively for a low-carbon transition.

Synthesis

Taken together, these findings reveal that African NDCs are simultaneously the continent's most ambitious policy instruments and its most structurally fragile ones. Emissions are rising faster than projected, data systems remain unreliable, the AFOLU sector is largely invisible in mitigation planning, and the bulk of transformative action is contingent on external finance that has not materialized at scale. The *decisive decade* ahead demands not just higher targets, but stronger institutional foundations to make those targets real. The recommendations that follow are designed with this gap in mind.

4

RECOMMENDATIONS

HIGHPOINTS



Regional MRV harmonization: African nations must transition from ad-hoc reporting to permanent, institutionalized Monitoring, Reporting and Verification (MRV) systems to fix data gaps and stabilize volatile baselines.

Eliminating strategic ambiguity: Future NDC submissions should mandate explicit, numerical sector-wise BAU trajectories for all major industries such as energy and transport.

Clean cooking as core infrastructure: Clean cooking must be elevated to a core pillar of energy infrastructure to address the extreme biomass dependency seen in countries like Uganda (89 per cent) and Rwanda (86 per cent). Replacing wood and charcoal with electricity, LPG or solar solutions is identified as the single most impactful emissions-reduction lever available to these economies in the near term.

Strengthening African NDC integrity through regional MRV harmonization

a. Standardizing baselines for credible climate ambition

To bolster the credibility of African NDCs on the global stage, member states must move toward regional synchronization of emissions inventories and business-as-usual (BAU) projections. While national baselines must reflect unique economic structures, adopting unified calculation rules and sectoral coverage is vital.

Currently, ‘baseline volatility’—as seen in Nigeria’s GDP-linked revisions or Rwanda’s significant 2015 baseline adjustment—can inadvertently signal a lack of predictability to international climate finance partners. By adopting uniform frameworks, such as the 2019 Refinement to the 2006 IPCC Guidelines, African nations can ensure that enhanced ambition reflects genuine decarbonization rather than mere methodological shifts.

b. From ad-hoc reporting to permanent institutions

The transition from project-based data collection to institutionalized Monitoring, Reporting, and Verification (MRV) systems is a prerequisite for long-term NDC success. Permanent frameworks solve the data gap issues prevalent in countries like Kenya and Zambia, where the dominance of off-grid solar and biomass often goes underreported compared to grid-based energy.

Institutionalized MRV offers key benefits: it replaces sporadic reporting with permanent technical units, captures the true impact of sectoral performances such as decentralized energy and land-use changes, and provides the transparent proof of impact required to access Article 6 carbon markets and Green Climate Fund (GCF) resources.

Uganda’s experience is illustrative here. Its 2022 NDC revised the 2030 BAU projection from 77.3 MtCO₂e to 148.8 MtCO₂e—nearly doubling the baseline—not because emissions suddenly surged, but because Transport, Waste and IPPU sectors were included for the first time. Had a regional MRV framework been in place, this sectoral gap would have been identified and corrected far earlier, preventing the misleading impression of a sudden emissions spike.

c. Transitioning towards absolute targets

As African economies mature and data systems stabilize, institutionalized MRV allows for a strategic pivot. Moving away from volatile BAU models toward absolute

emissions targets—as currently seen in the evolving NDCs of Ghana and Nigeria—provides a clearer signal to investors and ensures that Africa’s contribution to the 1.5°C goal is both measurable and undeniable.

For an NDC to be a useful ‘roadmap,’ it cannot just be a list of hopes. It needs specific, numbers-based forecasts for every major industry—such as energy, farming and transport.

Mandating sector-wise BAU pathways to eliminate strategic ambiguity

To restore NDCs as operational roadmaps, future submissions should require explicit sector-wise BAU trajectories for all major emitting sectors. Qualitative claims of future high emissions without numerical baselines should be deemed non-compliant under the Enhanced Transparency Framework. Standardized sectoral BAU reporting would enable inter-temporal comparison, expose misaligned priorities across sectors, and prevent selective emphasis on politically convenient mitigation areas by anchoring ambition to verifiable emissions dynamics rather than narrative projections.

Kenya’s NDC is a case in point. Energy and transport are repeatedly cited as the dominant future emissions drivers, yet no disaggregated sectoral BAU trajectory accompanies these claims. Without such pathways, it is impossible to determine whether Kenya’s 2022 emissions of 113 MtCOe—already approaching its 2030 BAU projection—reflect a genuine structural acceleration or simply an inventory refinement.

Mainstreaming clean cooking as core energy infrastructure

National climate plans must elevate clean cooking from a secondary social intervention to a core pillar of energy infrastructure to address extreme biomass dependency, such as the 86 per cent observed in Rwanda and 89 per cent in Uganda. Addressing this challenge requires aligning renewable energy expansion with household-level energy needs rather than prioritizing industrial electrification alone.

Targeted subsidies and supporting infrastructure are required to replace wood and charcoal with electricity, LPG or solar-powered cooking solutions across residential and institutional sectors. Making clean cooking competitive with

traditional fuels would slow deforestation—a major emissions driver across East Africa—while reducing GDP losses associated with respiratory illness and environmental degradation.

Rwanda and Uganda present the starkest illustration of this gap. With biomass dependency rates of 86 per cent and 89 per cent respectively, clean cooking is not a peripheral social intervention—it is the single most impactful emissions-reduction lever available to these economies in the near term. Yet neither country's NDC treats it with the financial scale or policy urgency that this dependency demands.

Reengineering NDCs into investment-ready climate portfolios

Governments should restructure expansive NDC targets into smaller, bankable projects with clear business cases to reduce excessive financial dependency, such as the 80 per cent conditional funding requirement in Nigeria and 85 per cent in Uganda. Overreliance on conditional ambition increases donor volatility and weakens national ownership over decarbonization pathways.

Rather than soliciting broad-based international aid, countries should establish legal and financial frameworks to attract private capital directly. This includes issuing sovereign green bonds—such as Nigeria's third issuance in 2025—developing public-private partnerships for large-scale infrastructure, and deploying complementary instruments such as debt-for-climate swaps that leverage existing debt in exchange for verified climate outcomes.

African nations also need to stand together and seek reform of the Global Financial Architecture (GFA). NDCs based upon conditional targets is destined to fail. Therefore, reform of the Global Financial Architecture will ensure that countries make a plan based upon fund availability, which will surely bring more tangible results on the ground.

Nigeria's NDC 3.0 offers both a warning and a model. Its US \$337 billion financing requirement —80 per cent conditional—illustrates the systemic risk of unconsolidated ambition. However, Nigeria's issuance of sovereign green bonds and its shift toward absolute emissions targets in the same submission demonstrate that the reengineering of NDCs into investable instruments is not theoretical. It is already underway, and other African nations should accelerate this transition.

Addressing institutional and infrastructure bottlenecks as core climate actions

Governments must undertake comprehensive regulatory and institutional reform to remove the barriers that continue to obstruct effective NDC implementation. This includes modernizing outdated policy frameworks—such as Kenya’s 2012 Feed-in Tariff—reducing import taxes on green technologies, and embedding climate targets directly into national development and budgetary processes. Aligning mitigation objectives across all levels of governance, from national ministries to subnational authorities, is essential to prevent the recurrent diversion of climate funds toward emergency response and reconstruction.

These governance and regulatory gaps reflect deeper constraints in state capacity and infrastructure resilience, without which NDC implementation cannot be sustained. Climate ambition in Africa cannot be decoupled from state capacity and infrastructure resilience. NDC implementation strategies must therefore treat regulatory reform, transmission rehabilitation, land governance and subnational planning capacity as core mitigation enablers rather than background constraints. Loss and damage pressures should be explicitly incorporated into fiscal planning, as repeated post-disaster reallocations risk locking countries into perpetual recovery cycles. A credible *decisive decade* for decarbonization thus requires parallel investment in institutional absorption capacity, without which even substantial climate finance will fail to translate into durable emissions reductions.

Kenya’s outdated 2012 Feed-in Tariff policy, Uganda’s fragmented transport governance, and Zambia’s climate-vulnerable hydropower infrastructure all illustrate the same fundamental point: finance alone cannot deliver decarbonization where the regulatory and physical infrastructure to absorb and deploy that finance does not exist. Institutional reform is not a precondition to climate action—it is climate action.

References

1. [Unsdg | Decoding Africa's Energy Journey: Three Key Numbers](#), as viewed on September 10, 2025.
2. <https://iea.blob.core.windows.net/assets/9b89065a-ccb4-404c-a53e-084982768baf/SDG7-Report2023-FullReport.pdf>, as viewed on February 27, 2025.
3. <https://www.iea.org/regions/africa>, as viewed on February 27, 2025.
4. <https://www.aljazeera.com/news/2023/9/4/how-much-does-africa-contribute-to-global-carbon-emissions>, as viewed on February 27, 2025.
5. https://unfccc.int/sites/default/files/2025-05/KENYAS%20SECOND%20NATIONALLY%20DETERMINED%20CONTRIBUTION%202031_2035.pdf / p. 13, as viewed on February 27, 2025.
6. https://unfccc.int/sites/default/files/2025-05/KENYAS%20SECOND%20NATIONALLY%20DETERMINED%20CONTRIBUTION%202031_2035.pdf; pp. 5 and 13, as viewed on February 27, 2025.
7. <https://unfccc.int/sites/default/files/NDC/2022-06/INDC%20Uganda%20final%20%2014%20October%20%202015.pdf>; p. 1, as viewed on February 27, 2025.
8. https://unfccc.int/sites/default/files/NDC/2022-09/Updated%20NDC%20_Uganda_2022%20Final.pdf; pp. 6, 8 and 58, as viewed on February 27, 2025.
9. <https://unfccc.int/sites/default/files/NDC/2022-06/INDC%20Uganda%20final%20%2014%20October%20%202015.pdf>; p. 17, as viewed on February 27, 2025.
10. https://unfccc.int/sites/default/files/NDC/2022-09/Updated%20NDC%20_Uganda_2022%20Final.pdf; pp. 6 and 27, as viewed on February 27, 2025.
11. https://unfccc.int/sites/default/files/NDC/2022-06/GH_INDC_2392015.pdf; pp. 3–4, as viewed on February 27, 2025.
12. https://unfccc.int/sites/default/files/NDC/2022-06/GH_INDC_2392015.pdf; p. 3, as viewed on February 27, 2025.
13. https://unfccc.int/sites/default/files/NDC/2022-06/Ghana%27s%20Updated%20Nationally%20Determined%20Contribution%20to%20the%20UNFCCC_2021.pdf; p. 12, as viewed on February 27, 2025.

14. https://unfccc.int/sites/default/files/NDC/2022-06/INDC_Rwanda_Nov.2015.pdf; p. 22, as viewed on February 27, 2025.
15. https://unfccc.int/sites/default/files/NDC/2022-06/Rwanda_Updated_NDC_May_2020.pdf; pp. 2–3, as viewed on February 27, 2025.
16. <https://unfccc.int/sites/default/files/2025-10/NDC%203.0%20COPY%20OF%20ZAMBIA%27S%20ICTU%20FOR%20SUBMISSION%20.pdf>; pp. 6 and 24, as viewed on February 27, 2025.
17. https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission_.pdf; p. 3, as viewed on February 27, 2025.
18. <https://unfccc.int/sites/default/files/NDC/2022-06/INDC-Ethiopia-100615.pdf>; p. 7, as viewed on February 27, 2025.
19. <https://unfccc.int/sites/default/files/2025-09/Ethiopia%20NDC%203.0%20Final.pdf>/ pg. 3, 20 , as viewed on February 27, 2025
20. https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission_.pdf; pp. 3, 9, as viewed on February 27, 2025.
21. <https://unfccc.int/sites/default/files/NDC/2022-06/INDC-Ethiopia-100615.pdf> /pp. 7, 2–3, as viewed on February 27, 2025.
22. <https://unfccc.int/sites/default/files/2025-09/Ethiopia%20NDC%203.0%20Final.pdf>/ pg. 20, 3 and 12, as viewed on February 27, 2025.
23. https://unfccc.int/sites/default/files/2025-05/KENYAS%20SECOND%20NATIONALLY%20DETERMINED%20CONTRIBUTION%202031_2035.pdf /; pp. 5, 13, as viewed on February 27, 2025.
24. <https://unfccc.int/sites/default/files/2025-09/Nigeria%20NDC%203.0%20-%20Transimission%20Version%202.pdf>/ pp. 21, 32, as viewed on February 27, 2025.

Despite contributing less than 4 per cent of global greenhouse gas emissions and hosting around 600 million people without reliable access to electricity, African countries are obligated to submit credible emissions-reduction plans.

This report examines the climate commitments of African nations under the Paris Agreement, scrutinizing whether their nationally determined contributions (NDCs) reflect genuine ambition or face structural limitations. It profiles seven nations—Kenya, Uganda, Ghana, Rwanda, Zambia, Ethiopia and Nigeria—analysing their emissions baselines, mitigation targets and heavy dependence on international climate finance. It identifies critical gaps, including poor data integrity, weak emissions inventorization, and a problematic reliance on hydropower.

Key findings reveal that many countries claim future high emissions trajectories without quantitative pathways to justify them, while the Agriculture, Forestry and Land Use (AFOLU) sector remains largely invisible in national accounting despite being a major emissions driver. Data volatility and continued use of default emission factors further distort emissions trajectories, undermining the credibility of pledged reductions. The report concludes with actionable recommendations to strengthen NDC credibility.



Centre for Science and Environment

41, Tughlakabad Institutional Area, New Delhi 110 062

Phone: 91-11-40616000 Fax: 91-11-29955879

E-mail: cse@cseindia.org Website: www.cseindia.org