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The Geography of the Gap: Why Africa Is Being Left Behind the Renewable Tripling Target and What That Means for the Global Climate Commitment

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Abstract

The COP28 commitment to triple global renewable energy capacity assumes a level financial playing field that does not exist. This paper argues that Africa's renewable deployment gap is driven primarily by the cost of capital rather than by technology, resources, or political ambition. Drawing on evidence from the International Energy Agency, IRENA, and other international sources, it shows that renewable projects in Africa face financing costs several times higher than in advanced economies because of sovereign and macroeconomic risks. The paper concludes that achieving the global tripling target requires reforming international climate finance, reducing financing costs, and aligning deployment with renewable resource potential rather than financial risk.

Keywords: Africa · renewable energy · COP28 tripling target · cost of capital · WACC · climate finance · energy access · NDC · financing gap · transition equity

> "The problem is not ambition in Africa. The problem is the financing gap." - Ali Mohamed, Special Climate Envoy, Kenya, speaking at the Africa Climate Summit 2, Addis Ababa, 2025

1. Introduction: A Target That Assumes a Level Playing Field

At COP28 in Dubai in December 2023, nearly 200 countries committed to tripling global renewable energy capacity to 11.2 TW by 2030. The target was presented as a collective global effort in which all countries would contribute to the expansion of clean energy. Progress appears encouraging. In 2024, the world installed a record 582 gigawatts (GW) of new renewable capacity, extending more than two decades of consecutive annual records [1]. However, the global total does

not reveal a striking geographical imbalance. Asia accounted for 72% of new renewable capacity added in 2024, with China alone contributing almost 88% of the region's total. By contrast, Africa added only 4.2 GW, despite possessing some of the world's richest solar resources and a rapidly growing demand for electricity [2]. Other developing regions also contributed only marginally. The Middle East added 3.3 GW, while the Small Island Developing States reduced annual additions from 1.1 GW in 2023 to 0.7 GW in 2024 [3]. Therefore, the transition is accelerating globally while becoming increasingly concentrated geographically.

This raises an important question. If renewable technologies are now mature, costs have fallen sharply, and solar resources are often better in Africa than in Europe, why is renewable deployment concentrated in countries that need it least rather than in those with the greatest resource potential and energy deficits? Africa illustrates this contradiction most clearly. At the Africa Climate Summit in Nairobi in September 2023, governments committed to increasing renewable capacity to 300 GW by 2030, more than five times existing levels. Achieving that goal requires annual additions of around 45 GW, roughly ten times the capacity installed in 2024 [4]. Thus, the gap between ambition and deployment is substantial.

This paper argues that the constraint is not primarily technological or political but financial. The same solar or wind project typically faces a cost of capital three to seven times higher in Africa than in Europe or North America [5]. Because renewable electricity is highly capital intensive and has low operating costs, these financing differences translate directly into higher electricity costs and fewer bankable projects. The geography of renewable deployment reflects the geography of finance as much as the geography of renewable resources. In this paper, I examine that financing gap and its implications for the global tripling target. Section 2 documents the growing concentration of renewable deployment across regions. Section 3 analyses the cost-of-capital premium and the structural factors that sustain it. Section 4 shows why the current COP28 implementation framework is unlikely to close the deployment gap. Section 5 discusses reforms to multilateral finance that could reduce financing costs. Section 6 considers what Africa's experience implies for achieving the global renewable tripling target.

> CENTRAL FINDING
> The COP28 tripling gap is not evenly distributed. It is almost entirely a Global South financing failure. Africa holds 60% of the world's best solar resources and has pledged to reach 300 GW by 2030 but added only 4.2 GW in 2024. The mechanism is not a shortage of sun or ambition. It is a cost-of-capital premium of 8.5 to 11% in Africa versus 4 to 6% in Europe, driven by sovereign risk perceptions that have nothing to do with the quality of the solar resource or the viability of individual projects.

2. The Geographic Concentration of the Tripling Progress

The record 582 GW of renewable capacity added in 2024 reflects genuine progress. However, it also masks a pronounced geographical concentration. Much of the global increase came from a small number of countries, particularly China, while deployment remained limited across large parts of the developing world. The global transition is therefore advancing through a narrow set of national transitions rather than through broad-based diffusion.

China illustrates this concentration. In 2024, it added more renewable capacity than the rest of the world outside Asia and Europe combined. The country's expansion builds on sustained investment over the past decade, with renewable sources accounting for 85% of newly installed

power capacity in 2023, supported by the declining costs of utility-scale solar and wind [6]. This represents a remarkable national achievement. However, it should not be interpreted as evidence that the global transition is progressing evenly across countries.

Region	2024 additions (GW)	Share of global total	2030 target
Asia (led by China)	421.5	72.3%	Dominant
Europe	~90	~15%	On track
North America	~55	~9%	On track
Latin America	~18	~3%	Partial
Africa	4.2	0.7%	300 GW pledge
Middle East	3.3	0.6%	Significant deficit
Small Island States	0.7	<0.1%	Declining

Source: IRENA Renewable Capacity Statistics 2025; Global Solar Council Africa Market Outlook 2025–2028.

This concentration has important implications for the 2030 renewable tripling target. Current Nationally Determined Contributions (NDCs) collectively commit to around 1,300 GW of additional renewable capacity, barely 12% of the approximately 11,000 GW required to achieve the global tripling goal [7]. Even full implementation of existing commitments would leave the world substantially short of the target. Africa illustrates the scale of this gap. To achieve its commitment of 300 GW of renewable capacity by 2030, the continent must install around 45 GW annually. At the 2024 deployment rate of 4.2 GW, cumulative additions would reach only about 25 GW by 2030, equivalent to less than one-tenth of the pledged target [4]. The challenge is not simply accelerating renewable deployment but reducing the widening gap between where renewable capacity is expanding and where future deployment is expected to occur.

Key figure Africa's solar potential is 60% of the world's best solar resources. Africa's share of global energy investment is 3%. Annual investment needed to achieve energy access and climate goals is $200 billion. Actual clean energy investment in Africa in 2024 is$40 billion, which is 20% of the required level.

3. Why Same Technology Costs More in Africa

The deployment gap is not mostly explained by differences in renewable resources, technological availability, or political ambition. Africa has some of the world's highest solar potential, solar technologies are commercially available across global markets, and many governments have adopted ambitious renewable energy targets. Yet deployment remains far below what the continent's resource base would suggest. The critical difference lies in the cost of finance.

3.1 The WACC premium and what drives it

For renewable energy projects, financing costs matter as much as technology costs. Solar and wind require large upfront investment but have very low operating costs. As a result, the weighted average cost of capital (WACC) becomes a major determinant of the levelised cost of electricity. The higher the cost of capital, the more expensive renewable electricity becomes, even when the underlying technology is identical. Evidence from the International Energy Agency's (IEA) Cost of Capital Observatory illustrates the scale of the financing gap. Utility-scale solar projects in Kenya and Senegal, two of Africa's stronger renewable-energy markets, face WACC values of around 8.5 to 9.0%, compared with 4.7 to 6.4% in Europe and North America [8]. Financing costs are even higher elsewhere on the continent. Estimated WACC ranges from 9.5% to 11% in South

Africa and other emerging markets [8], while electricity projects in Ghana face financing costs exceeding 20% [9].

The difference is driven mainly by country risk rather than project risk. According to the IEA, the country-risk component accounts for 60 to 90% of the total cost of capital for solar projects in African markets, compared with 35% in China and only 10% in advanced economies [8]. This premium reflects investors' assessments of sovereign creditworthiness, currency volatility, political uncertainty, and broader macroeconomic conditions. It does not reflect differences in solar technology or engineering performance. A solar photovoltaic plant in Kenya uses essentially the same technology as one in Germany. What differs is the price of financing it.

This financing premium has important economic consequences. Because renewable energy is capital intensive, higher financing costs translate directly into higher electricity prices and fewer financially viable projects. The result is a striking paradox. Countries with some of the world's best solar resources can face higher renewable electricity costs than countries with much lower solar potential. As SolarPower Europe notes, solar electricity may therefore be cheaper in a relatively cloudy, low-risk European country than in a much sunnier African one because the resource advantage is more than offset by the cost-of-capital premium [10].

THE WACC INVERSION

A solar developer in Kenya pays 8.5 to 9% WACC. A developer in Germany pays 4 to 6%. On a 25-year project, this difference compounds into a levelised cost of electricity that is 40 to 60% higher in Kenya than in Germany, from identical panels, at a site with higher average solar irradiance. The sun is not the constraint. The credit rating is.

3.2 The credit rating bottleneck

The cost-of-capital premium reflects more than the risk of individual renewable energy projects. It is rooted in sovereign creditworthiness. As of January 2025, only Botswana and Mauritius held investment-grade sovereign credit ratings in Africa [8]. This matters because many institutional investors, including pension funds, insurance companies, and sovereign wealth funds, are either restricted by their mandates or discouraged by their risk frameworks from investing in sub-investment-grade markets.

The consequence is that renewable energy projects inherit the financing costs of the countries in which they are located. The same solar technology attracts very different financing conditions depending on sovereign risk rather than engineering quality. The African Development Bank has argued that prevailing sovereign risk assessments disproportionately penalise African economies, increasing borrowing costs beyond what underlying fundamentals would justify [8]. Whether or not that claim is fully accepted, the empirical consequence is clear. Limited investment-grade access restricts the pool of available capital and raises financing costs across the continent.

High public debt reinforces this constraint. Africa's public debt reached USD 1.8 trillion in 2023, equivalent to 60.1% of GDP, after increasing by 135% since 2010, substantially faster than economic growth [11]. Rising debt limits governments' ability to provide sovereign guarantees, concessional finance, or other de-risking instruments that could reduce private financing costs. The result is a self-reinforcing cycle. Higher sovereign risk raises financing costs, weaker investment slows economic growth, and slower growth makes sovereign risk more difficult to reduce.

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3.3 Currency risk and PPA denomination

Currency risk adds a second structural layer to the financing premium. Many renewable energy projects in Africa are financed in foreign currency while generating revenue in local currency. To reduce exchange-rate risk for investors, power purchase agreements (PPAs) are often denominated in US dollars, as in Kenya, or euros, as in Senegal [8]. This arrangement protects project investors but transfers exchange-rate risk to governments or state-owned utilities, which receive electricity payments in local currency while meeting contractual obligations in foreign currency. When domestic currencies depreciate, the local cost of servicing these contracts rises sharply. Kenya's experience in 2023, when payment delays were linked to difficulties obtaining foreign currency, illustrates this vulnerability [8]. The consequence is that macroeconomic instability becomes project risk. Renewable energy projects may be technically sound and commercially viable, yet financing costs remain high because investors price sovereign and currency risks alongside engineering performance. The cost-of-capital premium therefore reflects the financial environment surrounding renewable investment rather than the renewable technologies themselves.

4. The Governance Gap: Why the COP28 Model Cannot Close the Gap

The COP28 UAE Consensus established an ambitious global objective but left the central implementation problem unresolved. The agreement commits countries to tripling global renewable energy capacity by 2030. It does not specify how that target should be distributed across countries, assign differentiated financing responsibilities, or establish binding mechanisms to reduce the financing costs faced by countries where renewable deployment remains weakest. Therefore, the framework assumes a level financial playing field that does not exist.

The limitations of this approach are reflected in countries' NDCs. Of the 194 NDCs submitted before COP28, only 14 included explicit renewable energy capacity targets for 2030 [7]. Together, these commitments amount to only 1,300 GW, approximately 12% of the 11,000 GW required to achieve the global tripling target [7]. Progress has improved modestly. According to the E3G NDC Energy Commitments Tracker, 68% of NDCs submitted by April 2026 included quantified renewable deployment targets [12]. Even so, aggregate ambition remains well below what the global target requires, and the countries facing the largest deployment gaps remain those with the highest financing costs.

Africa illustrates this governance problem most clearly. Analyses by the Clean Air Task Force show a persistent disconnect between African countries' NDCs and their National Development Plans [13]. Climate strategies emphasise renewable energy, transport, agriculture, and mitigation, whereas development plans prioritise economic growth, finance, private-sector development, and poverty reduction. The divergence is less a planning failure than a financing constraint. Governments have committed to renewable expansion internationally but lack access to the concessional finance needed to implement those commitments at the required scale.

A similar contradiction appears in global public finance. G20 governments provided a record USD 1.4 trillion in public support for fossil fuels in 2022, an amount broadly equivalent to the annual investment required to achieve the global renewable tripling target [3]. At the same time, countries in sub-Saharan Africa continue to face some of the highest financing costs for renewable energy, prompting repeated calls for greater support from multilateral development banks and expanded concessional finance [3]. The problem is therefore not that the financing gap is unknown. It is that existing governance arrangements have proved unable to close it.

The evidence points to a broader conclusion. Global renewable targets alone cannot produce geographically balanced deployment when the cost of capital differs systematically across countries. Unless international climate governance addresses these financing asymmetries, renewable investment will continue to concentrate in low-risk economies. Countries with the greatest renewable resource potential and the largest energy-access deficits will remain behind.

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Key structural finding The COP28 tripling target is a global number that will be achieved or missed by a small number of large, well-financed economies. Africa's contribution to or absence from that achievement is not primarily determined by African policy choices. It is determined by whether the multilateral financing system provides the concessional capital, credit enhancement, and de-risking instruments that would reduce the WACC premium for African solar projects to a level at which deployment becomes commercially viable at scale.

5. What Would Actually Change the Deployment Arithmetic

The evidence points to a consistent conclusion. Renewable deployment in Africa is constrained less by technology than by the cost of finance. The policy challenge is therefore to reduce the cost-of-capital premium rather than further improve technologies whose costs have already fallen substantially. Four interventions have the strongest empirical support, each targeting a different component of the financing premium.

5.1 Concessional capital and blended finance

Concessional finance directly reduces financing costs. About half of the renewable projects examined by the IEA in Kenya and Senegal received low-cost debt from international financial institutions [8]. As a result, these countries face lower financing costs than many comparable African markets. The policy implication is straightforward. Expanding concessional finance would lower the weighted average cost of capital. It would also reduce the levelised cost of electricity and improve project viability. Existing mechanisms include multilateral development banks, blended finance, and the New Collective Quantified Goal (NCQG) agreed at COP29, which aims to mobilise USD 1.3 trillion annually by 2035 [14]. The challenge is implementation. Actual disbursements remain well below what is needed to build a large pipeline of renewable projects.

5.2 Political risk insurance and sovereign guarantees

A second intervention reduces investment risk. The World Bank's MIGA and Norway's NORAD Guarantee Scheme insure investors against political, sovereign, and currency risks [14]. Long-term power purchase agreements also improve project bankability by providing predictable revenues. South Africa illustrates the importance of domestic financial markets. Many renewable projects are financed in local currency, and financing costs are lower than in many comparable African economies [8]. Risk guarantees improve investment conditions in the short term. Strong domestic capital markets provide a more permanent solution.

5.3 Credit rating methodology reform

Much of the financing premium originates at the sovereign level. The African Development Bank argues that current credit-rating methodologies overstate investment risk across much of Africa [8]. Whether or not that criticism is fully accepted, the outcome is clear. Countries with similar renewable resources face very different financing costs. The differences are substantial. Estimated WACC values range from 20.47–22.87% in Ghana but 5.99–17.26% in Côte d'Ivoire [9]. These differences are reflected directly in project financing costs. Reforming sovereign risk assessment would lower the base-rate component of the financing premium across entire markets rather than individual projects.

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5.4 Local currency lending

Local-currency finance addresses exchange-rate risk. It removes the mismatch between foreign-currency debt and local-currency electricity revenues discussed in Section 3. South Africa already finances many renewable projects in domestic currency [8]. Expanding this model across Africa will take time. It requires deeper domestic bond markets, stronger institutional investors, and more developed project-finance systems. However, it tackles one of the structural causes of high financing costs rather than simply reducing their consequences.

The potential gains are large. A DNV analysis estimates that if sub-Saharan Africa faced financing costs similar to those in Europe between 2024 and 2050, installed solar PV capacity could reach almost 545 GW by 2050. That is nearly 100 GW more than under current financing conditions [14]. Therefore, the cost-of-capital premium is not a background condition. It is one of the main determinants of Africa's renewable deployment.

6. What the Evidence Shows and What It Does Not

The evidence for the financing-gap diagnosis is consistent across multiple independent sources. The IEA Cost of Capital Observatory, the Clean Air Task Force, the Global Solar Council, and IRENA all identify the same underlying mechanism using different datasets and methods. Africa possesses around 60% of the world's best solar resources but attracts only 3% of global energy investment [5]. Financing costs for solar projects are typically three to seven times higher than in advanced economies [5]. The evidence also shows that this premium is driven primarily by sovereign and macroeconomic risks rather than by the technologies or projects themselves [8].

The evidence is less clear on the relative effectiveness of alternative policy interventions. Existing studies show that reducing the cost of capital would substantially increase renewable deployment. They do not establish which instruments deliver the largest deployment gains for each dollar of public support. The comparative effectiveness of concessional finance, blended finance, political-risk insurance, sovereign credit reforms, and local-currency lending across different African contexts remains uncertain. This is an important research gap because multilateral institutions must decide which instruments generate the greatest deployment impact with limited concessional resources.

One conclusion, however, is difficult to avoid. The current governance framework is unlikely to deliver the renewable deployment required to achieve the global tripling target. NDCs produce ambition but not financing. The COP process leads to commitments but not implementation mechanisms. Existing concessional finance has reduced financing costs in selected markets. However, it has not reached the scale needed to close Africa's annual deployment gap of around 45 GW. Therefore, the gap is not one of ambition. It is one of implementation through finance.

7. Conclusion: Global Financing Transition

The COP28 renewable tripling target may be achieved numerically in Asia. Whether it succeeds as a global climate strategy depends on what happens elsewhere. A transition concentrated in a small group of economies is not the same as a global energy transition. If Africa, the Middle East, and the Small Island Developing States continue to deploy renewable energy at current rates, the global target will coexist with persistent energy poverty and continued fossil dependence across large parts of the world.

The evidence points to a clear mechanism. Renewable technologies are no longer the principal constraint. Finance is. Renewable projects in Africa typically face financing costs of 8.5–11%,

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compared with 4–6% in advanced economies. Most of this difference reflects sovereign and macroeconomic risk rather than technology or project performance. Africa also attracts only a small share of global energy investment despite possessing some of the world's richest renewable resources. Together, these conditions create a financing structure that cannot deliver renewable deployment at the pace required by the tripling target.

Closing this gap requires more than higher climate ambition. It requires reducing the cost of capital through greater concessional finance, expanded risk-sharing mechanisms, more effective sovereign-risk assessment, and deeper local-currency financial markets. These instruments already exist. The challenge is deploying them at the scale required.

> "There is no shortage of excellent solar resources and political ambition in Africa, only a shortage of affordable capital." — Léo Echard, Policy Officer, Global Solar Council, 2025

The broader implication extends beyond Africa. The geography of renewable deployment is increasingly determined by the geography of finance rather than the geography of renewable resources. As long as countries with the greatest renewable potential face the highest financing costs, global deployment will remain concentrated where capital is cheapest rather than where renewable resources are strongest. The success of the global energy transition therefore depends not only on building more renewable capacity, but also on reshaping the financial architecture that determines where that capacity is built.

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