

Achieving Africa's Energy Goals

Pathways Toward a Just and Renewable Future



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panels are transported by motorbike.

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Executive Summary

Background and context

A paradox of abundance and scarcity marks Africa's current energy system. Africa holds 60 percent of the world's best solar resources yet generates only 20 percent of its electricity from renewables, with over 750 million people lacking electricity and two billion relying on biomass for cooking. Fossil fuels still dominate (70–90 percent of primary energy), and access inequalities persist, particularly in rural areas. With limited fossil infrastructure to dismantle, a just renewable energy (RE) transformation can deliver universal access, create millions of quality jobs, enhance energy sovereignty, catalyse sustainable development, and position Africa as a global leader in climate action. The costs of delay far exceed the investments required, making bold action not only a moral imperative but a strategic necessity for shared global prosperity.

Purpose and Scope of the Report

This report examines Africa's RE transformation at a critical inflection point, where unprecedented climate challenges, deep energy poverty, and widening inequalities intersect with vast renewable potential. It aims to identify actionable pathways for achieving an inclusive and sustainable RE future in Africa. The focus is twofold:

- **Defining the conditions for an irreversible shift** to a 100 percent RE-based energy system that delivers universal access, enhances climate resilience, and supports sustainable development.
- **Clarifying the roles of the German government and civil society** in supporting African-led RE transitions, in line with both African priorities and global climate and energy goals.

Methodology and approach

The analysis is based on a literature review and insights from a multi-stakeholder consultation held during the UNFCCC SB62 in June 2025 in Bonn. The workshop brought together African and German civil society, academia, and policy experts, who identified key levers of change, potential entry points, and new narratives to accelerate Africa's just energy transformation. The research integrates national, regional, and international policy targets (including SDG 7, Agenda 2063, the Nairobi Declaration, and COP28 outcomes) with country case studies (Morocco, Namibia, and Kenya) to assess enabling conditions and barriers.

Critical Success Factors for a Just Energy Transformation in Africa

- **Leadership and Political Will** – Long-term commitment to RE, phasing out fossil fuels, and aligning national strategies with social justice goals.
- **Policy and Regulatory Frameworks** – Stable, coherent, pro-RE laws and policies that incentivise investment and align with development priorities.
- **Finance** – Scaled, predictable, equitable financing; reduced cost of capital; debt relief; and improved access for local actors.
- **Infrastructure, Technology, and Skills** – Modernised grids, decentralised systems, technology, and human capital development.
- **Narratives** – Reframing RE as central to Africa's development, prosperity, and sovereignty.
- **Justice and Equity** – Prioritising affordability, access, community ownership, gender inclusion, and environmental protection.



Solar panel on the roof of a “Green Mosque”.

Role of Germany

- **Government:** Champion Africa-led, ambitious RE goals; invest in infrastructure, skills, and technology; ensure local value creation; promote just financing; build strategic partnerships; support cross-border integration.
- **Civil Society:** Co-create RE narratives with African partners; highlight African-led successes; champion community ownership; strengthen public awareness; support civic engagement and advocacy.

Towards COP30

Africa's RE transformation is both urgent and achievable. With strong African leadership, supportive global partnerships, especially from Germany as a reliable partner, and a clear focus on justice, equity, and local value creation, the continent can transition to a sustainable, inclusive, and resilient energy future. COP30 in Belém, Brazil, will be pivotal for operationalising the commitments from COP28 and aligning global financing with Africa's RE transformation goals and needs. This report recommends that in the lead-up to COP30:

- **African Governments:** Present integrated RE roadmaps with clear access, equity, and targets; leverage success stories to strengthen negotiating power.
- **Germany & Partners:** Commit to needs- and grant-based and high-concessional finance for Africa; support AU-led energy goals and regional energy integration; embed justice and local priorities in all RE partnerships.
- **Civil Society:** Mobilise public support for RE-centred development, challenge fossil fuel narratives, and ensure justice prevails in the COP30 outcomes.

Introduction

The world is experiencing unprecedented geopolitical landscape shifts, a worsening climate crisis, growing socio-economic and energy inequalities, and injustices. Africa's energy transformation is also at a critical inflection point. While progress is being made, deep-seated structural challenges and global inequities persist, hindering the development of scalable, just, and sustainable energy access models. At the same time, there are unparalleled opportunities from renewable energy, innovation, and technological development that could be tapped to address energy poverty, while providing broader social, economic, and well-being outcomes, meeting Africa's key priorities of universal energy access, including access to clean cooking energy services, and eliminating poverty.

With numerous energy goals and visions, abundant RE resources, including solar, wind, hydro, and geothermal, as well as vast reserves of critical minerals vital for the global energy transition, Africa has the opportunity to lead a continental and global renewables-based energy transformation. Yet, the energy situation in Africa demonstrates that while Africa sees and knows the potential and benefits of a RE-based transformation, many countries have not been able to respond. The energy system remains locked in fossil fuel dependency, with the continent only generating 20 percent of its electricity from renewables, mostly hydropower. Meanwhile, 2023 figures show that approximately 750 million people around the world lack access to electricity, and over two billion people still lack access to clean cooking solutions, with the majority located in developing Asia and sub-Saharan Africa.

The potential for a different future is clear and increasingly urgent. Renewables-based energy transformation

promises to deliver vast socio-economic and climate benefits to countries across Africa, improving energy access, creating jobs, and boosting energy sovereignty, driving green industrialisation and enhanced climate resilience, and well-being. Take, for instance, the benefit of job creation. According to the International Renewable Energy Agency (IEA), Africa's RE sector has the potential to create millions of quality jobs by 2030, especially in solar PV installation, maintenance, and manufacturing. The 1.5 degrees Celsius Pathway is projected to generate an additional 26 million quality jobs across various sectors in Africa by 2050, compared to a business-as-usual scenario, significantly surpassing the job losses associated with fossil fuels in the industry.

As demonstrated in national, regional, and global energy goals, many African countries are aware of this potential and desire a just energy transformation. Yet, despite falling RE costs, technological innovation, and increasing political desire and potential, Africa's energy transformation effort remains limited and uneven. The consequences of inaction, deepening energy poverty, underdevelopment, compromises to health and well-being, continued fossil fuel expansion, and widening inequality are well understood, both within Africa and globally.

Against this background, the questions driving this work are: How can Africa move from the current state to the desired state (see Figure 1 below), where it is on an irreversible path towards a 100 percent renewable energy-based system? What role can the new German government play? What role can German civil society organisations play to support Africa's energy transformation?

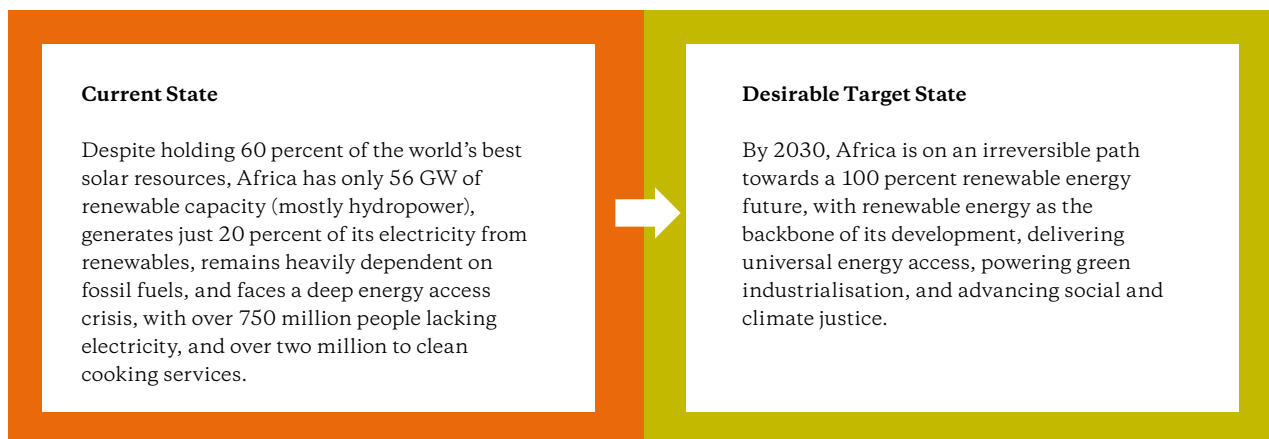


Figure 1: Current and desirable target state

This report is based on a literature review and insights gathered during a workshop held in Bonn. The workshop brought together diverse stakeholders from civil society and academia. Participants were tasked with exploring and identifying both visible and potential levers of change, entry points, and new perspectives and narratives to drive action towards a just energy transformation in Africa. The goal is to move the continent from its current state towards a desirable future, one in which energy systems address access challenges, generate social and economic value, and lay the foundation for inclusive

development. Such a transformation would also advance climate and social justice, ensuring a sustainable future for both current and future generations.

Central to this desirable state is phasing out fossil fuels and massively scaling up renewable energy. By centring justice, this report contributes to a growing discourse that aims to shape an energy transformation in Africa that is not only technically feasible, economically and ecologically sound, but also one that is fair, inclusive, and just.



The Noor Complex in Ouarzazate, Morocco, is the world's largest concentrated solar power plant.

Chapter 1

The Case for a Renewable Energy Transformation in Africa

Africa stands at a pivotal crossroads. Despite possessing 60 percent of the world's best solar resources, the continent generates only 20 percent of its electricity from renewable sources and is home to 43 percent of the over 750 million people without access to electricity. This stark disparity presents not only a challenge, but also one of the greatest energy opportunities of the 21st century. With limited fossil infrastructure to dismantle, Africa can leap directly into a clean energy future. A well-executed transition to renewables can power inclusive development at home while shifting the global energy narrative and supporting broader climate actions.

Why It Matters for Africa

- **Universal energy access, enabling social and economic development**

Clean, decentralised energy systems can rapidly bring electricity and clean cooking energy services to every household and community. This unlocks access to modern education and other social services such as healthcare, digital tools, and economic opportunity, especially in rural and underserved areas.

- **Green jobs and inclusive growth**

A thriving renewable sector can generate millions of skilled, future-proof jobs. From engineers and technicians to green manufacturing, these jobs support inclusive, resilient economies that can help move Africa's economy into sustainable and resilient development.

- **A hub for innovation and green markets**

With rising demand and a clean slate for experimentation, Africa can become a global leader for decentralised technologies, new business models, and climate-smart solutions, opening new markets and partnerships.

- **Energy sovereignty**

By harnessing local solar, wind, geothermal, and hydrogen resources, African countries can reduce their reliance on volatile fossil fuel imports and price shocks, building more stable and self-sufficient energy systems.



Adapted technology: Noah Sablon Mwita charges his mobile phone using a solar panel in rural Kewamaba, Tanzania.

- **Climate resilience**

RE systems, both decentralised and centralised, can help countries fight the impacts of climate change and become more climate-resilient while slashing emissions.

- **Community agency and empowerment**

Renewable energy, particularly when community-owned, fosters local agency, ownership, and enhances local value creation. It gives people a stake in their development and encourages democratic participation and ownership in energy planning, implementation, access, and use.

- **Global leadership**

In the growing geopolitical uncertainties and shifting energy landscapes, RE energy development can enhance global stability by adding clean supply chains for electricity, green hydrogen, and critical minerals.

Why It Matters for the Rest of the World

- **A new development model**

Africa has the chance to prove that RE-based growth is not just viable but superior. This sets a powerful precedent, dismantling the false narratives that fossil fuels are the only path to industrialisation and development.

- **A hub for innovation and green markets**

Africa can become a global leader for decentralised technologies, new business models, and climate-smart solutions, opening new markets and partnerships to enable a global, market-based energy transition.

- **Global energy security**

In the growing geopolitical uncertainties and shifting energy landscapes, a diversified, renewable-rich Africa can help partner countries reduce global dependency on fossil fuels.

- **Climate action at scale**

Africa's transition to clean energy is crucial for limiting global warming to below 1.5 degrees Celsius. Although Africa currently contributes approximately 4 percent of global carbon dioxide emissions, its rapidly growing population and rising energy demand could result in a significant increase in emissions if the continent remains dependent on fossil fuel-based energy systems. Supporting a RE-based development now prevents the lock-in of future emissions from fossil infrastructure and provides a model for climate-resilient energy transformation globally.

In the Dachla Oasis, in the middle of the Egyptian desert, the New Horizon Association for Social Development focuses on site-specific solutions.



The energy needs, available resources, as well as the benefits of a RE energy-based transformation for Africa and the world, show that Africa's RE future is not just needed and possible; it can no longer be delayed or stifled. However, to meet the moment, Africa's energy transformation must be bold, ambitious, and realistic. On the one hand, Africa needs to achieve universal access to electricity and clean cooking energy services. On the other hand, it also needs a stable and reliable energy system to support and provide benefits for a modern society. This means it must address current energy needs while laying the foundation for a modern, resilient, and low-carbon economy. To meet the scale and urgency of this challenge, the transformation must be approached with a long-term vision that integrates decentralised solutions, grid development and upgrades, and local value creation.

Chapter 2

Africa's Energy Landscape

The Current State

Africa's energy landscape is defined by a paradox of abundance and scarcity. Despite efforts to expand energy production and access, the 2024 Energy Progress Report shows that, for the first time in over a decade, the number of people without electricity has increased, with the region now accounting for 83 percent of the global electricity access gap, up from 50 percent in 2010. 18 of the 20 countries with the largest energy access deficits are located in Sub-Saharan Africa, where nearly 750 million people lack access to electricity, and nearly two billion rely on traditional biomass for cooking. Nearly half of these individuals are found in five countries: the Democratic Republic of the Congo (DRC), Ethiopia, Nigeria, Tanzania, and Uganda. Three countries are especially impacted. Nigeria (86 million), the Democratic Republic of Congo (78 million), and Ethiopia (55 million) make up nearly one-third of the global gap. Nigeria is a prime example that fossil fuel extraction does not translate into access to energy services and broad-based socio-economic development. Despite exporting oil since the 1960s, the country continues to face the world's largest energy access gap. This demonstrates that the benefits of fossil fuel revenues have largely accrued to a small elite and foreign corporations, while most citizens remain without basic energy services, which exposes the flaws in the "fossil fuels for development" narrative. Energy access also remains uneven between urban and rural areas. In 2021, for example, about eight in ten people without electricity lived in rural areas. This rural-urban divide deepens poverty and limits opportunity, reinforcing inequality.

Africa is highly dependent on fossil fuels. Despite holding the world's best RE resources and an abundance of critical minerals, it remains heavily dependent on fossil fuels, accounting for about 70 to 90 percent of the primary energy supply with biomass accounting for more than 45 percent of total energy consumption, particularly in rural areas where it is primarily used for cooking, contributing to indoor air pollution and related health issues. In 2020, an estimated 3.2 million deaths were attributed to air pollution, including over 237,000 deaths of children under the age of 5.

Africa's population is growing, but energy access is not keeping pace. Energy demand is projected to rise significantly in the coming decades due to the cumulative effects of population growth, enhanced energy accessibility, improved living standards, and industrial

development. Access and consumption remain low compared to other parts of the world with relatively low populations. Africa accounts for roughly 20 percent of the global population, but it consumes under 6 percent of the world's total energy. To illustrate this disparity, Africa has the lowest per capita energy use, meaning that the bulk of its energy system is yet to be built. Excluding South Africa, per capita energy consumption in sub-Saharan Africa is just 180 kilowatt hours (kWh), compared to 6,500 kWh in Europe (9 percent of the world's population) and 13,000 kWh in the United States (4 percent of the world's population). This stark contrast underscores the significant energy access disparities between Sub-Saharan Africa and more developed regions. The situation, while undesirable, presents a window of opportunity to institute a renewable energy-based transformation. Africa's limited legacy energy infrastructure, though a symptom of underdevelopment, allows for a more flexible and accelerated transition to renewable energy. Coupled with rapidly growing energy demand, this creates a clean slate for innovation, inclusive electrification, and sustainable development.

Desired State

Aware that addressing energy poverty is a matter of necessity for its survival and prosperity, Africa has remained vigilant in setting and advocating for its agenda on the local, regional, and international stage. Central to this vision is Sustainable Development Goal 7 (SDG 7) of the 2015 United Nations Agenda, dedicated to ensuring access to affordable, reliable, sustainable, and modern energy for all. Specifically, Target 7.1 aims to achieve universal access to modern energy services by 2030. Recent years have seen significant progress towards this goal, reflecting both international ambition and continental commitment. At the regional level, African states introduced an ambitious common agenda, Agenda 2063, which recognises energy poverty as a major threat to their prosperity.

The Africa Climate Summit, held in Nairobi in September 2023, also marked a pivotal moment in the continent's pursuit of sustainable and transformational energy solutions. African leaders, through the "Nairobi Declaration", committed to expanding RE generation capacity to 300 gigawatts (GW) by 2030, a more than fivefold increase from 56 GW in 2022.

Current State	Desired State
56 GW installed renewable capacity in 2022 (mainly hydro, only 5 GW solar) despite having 60 percent of the world's best solar resources	Tripling renewables to at least 11,000 GW renewable capacity globally by 2030 Africa: Increase renewables capacity to at least 300 GW by 2030.
Low grid efficiency, rapidly growing population and energy demand	Doubling annual energy efficiency improvement from 2 percent to at least 4 percent by 2030
Current electricity mix heavily reliant on fossil fuels, fossil fuel projects still planned Gas as transition fuel and gas as development accelerators are common narratives	Transition away from fossil fuels until 2050
Approximately 750 million people lacking access to electricity (43 percent of Sub-Saharan Africa), electrification	100 percent access to affordable, reliable, sustainable and modern energy for all by 2030 (SDG 7)
Approximately 2.3 billion people rely on biomass (wood, charcoal) for cooking (80 percent of the total population)	100 percent access to clean cooking by 2030
Less than USD 20 billion/year, which is about 2 percent of global RE investment in Africa (2023)	USD 190–200 billion per year in clean energy investment is needed in Africa by 2030

Figure 2: Summary of the Current State and the Desired State for Africa

This ambitious target aligns with global commitments made at the 28th United Nations Climate Change Conference (COP28), held in December 2023, where over 100 countries, including several African nations, including Kenya, Morocco, Senegal, and South Africa, pledged to triple global RE capacity by 2030. This commitment aims to increase global renewable power capacity from approximately 3,000 gigawatts (GW) in 2022 to at least 11,000 GW by 2030, aligning with the International Renewable Energy Agency's (IRENA) 1.5 degrees Celsius Scenario for limiting global warming. COP28 also resulted in pledges to ensure access to clean cooking energy by 2032 for nearly one billion Africans who currently rely on firewood and other biomass fuels. This commitment supports the African Women Clean Cooking Support Programme (AWCCSP), initiated by Tanzanian President Samia Suluhu Hassan, and coordinated by the African Union Commission (AUC) in partnership with the African Development Bank (AfDB) and the Clean Cooking Alliance (CCA). The AWCCSP aims to expand clean cooking access while promoting women's leadership in the clean energy sector through financial, technical, and

capacity-building support targeted at women entrepreneurs and organisations involved in clean cooking value chains.

Complementing these efforts, the World Bank and African Development Bank (AfDB) launched "Mission 300" early this year, aiming to connect 300 million Sub-Saharan Africans to electricity by 2030 through investments in generation, transmission, distribution, and regional interconnections. This initiative emphasises multi-stakeholder partnerships to ensure reliable, affordable power and includes a pledge of USD 2 billion over ten years by AfDB to expand clean cooking solutions, critical for health and environmental sustainability.

At the national level, commitments to RE and efficiency are reflected in countries' Nationally Determined Contributions (NDCs). By late 2021, 53 African nations had submitted their NDCs, with 38 updating their commitments in 2020–2021, with the majority improving their RE targets. Countries like Morocco, South Africa, Kenya, Egypt, Ethiopia, Ghana, Zimbabwe, and Sierra Leone are leading in renewable investments and have

committed to highly ambitious shares of RE in the electricity mix (up to 100 percent). Renewable-based hydrogen as a catalyst for industrial development and RE deployment is also gaining traction on the continent, with countries like South Africa, Namibia, Egypt, Morocco, Kenya, and Mauritania planning or having already initiated large-scale hydrogen projects in partnership with international partners. Moreover, Africa Green Hydrogen Alliance aims to produce between 30 and 60 million tonnes of clean hydrogen annually by 2050, potentially adding USD 126 billion to its collective GDP and creating up to four million jobs in Africa. These ambitious goals are a starting point to move away from or bypass fossil fuels entirely,

positioning Africa as a model for sustainable and fossil-free development.

Importantly, achieving 100 percent RE in Africa requires a rights-based and inclusive approach that prioritises human rights, land protection, and equitable access. A truly just and equitable energy future for Africa must go beyond simply replacing fossil fuels with large-scale RE projects. It should prioritise human rights, community ownership, and fair benefit-sharing, ensuring that energy transitions do not replicate the extractive and exclusionary practices of the past. African policy-makers must ensure energy transitions are accountable, locally grounded, and designed to deliver both sustainable power and social justice.



The apprentice Maria Yoram is building the dome of a biogas plant in Mvumi Mission, Tanzania. The property owner, Joyce Chindoli, 60, pays attention to the progress of the construction work.

Chapter 3

Will Africa Succeed in Shifting to Renewable Energies

Africa is making significant investments in expanding its RE energy generation capacity. A variety of large-scale RE energy projects have been executed across various nations to improve energy supply and access. In Central Africa, efforts are underway to construct a third dam, Inga III, with a capacity of 4.8 GW, as part of the Grand Inga continental flagship initiative, a multi-phase hydropower facility planned for the Congo River. The anticipated generation capacity is around 44 GW. Ethiopia has also made substantial investments in large-scale hydropower projects, including Gilgel Gibe II (420 MW), Gilgel Gibe III (1.87 GW), and the Grand Renaissance (6 GW) dams. The Lake Turkana Wind Power Project in Kenya, the largest wind farm in Africa, aims to integrate an additional 300 MW into the Kenyan power grid. The Noor I Concentrated Solar Power plant in the Sahara Desert, a solar thermal power project, aims to generate 160 MW of electricity to serve over 1 million residents in Morocco. But the devil is in the details. Large-scale projects, while demonstrating renewable potential, risk repeating extractive practices if community participation and safeguards are not integrated. The Turkana case, where illegal land grabbing disrupted pastoralist livelihoods, underscores the need for strong legal frameworks and transparent governance. These patterns mirror the injustices of fossil fuel exploitation, proving that scale alone does not guarantee justice. Progress has been slow and is concentrated in fewer countries. This leaves most African countries behind, creating the risk of a two-track energy transformation, where few countries advance while others lag. Yet, the cases of Morocco, Namibia, and Kenya, the top 3 countries from Africa on the Energy Transition Index (ETI) in the global ranking, show that under the right conditions, RE development and energy access expansion can become a reality.

Morocco

Morocco has emerged as a continental leader in RE development and use, offering a clear example for other African nations. Through a combination of visionary leadership, policymaking, institutional coordination, and large-scale project implementation, Morocco has demonstrated that with the right mix of conditions, Africa's RE energy future can be both successful and sustainable. Before the late 2000s, Morocco was heavily dependent on imported fossil fuels to satisfy its energy



requirements, rendering it susceptible to the volatility of international energy prices and energy dependent. The launch of the National Energy Strategy (NES), the Solar Plan (MSP), and the Integrated Wind Energy Programme (IWEP) between 2009 and 2010 catalysed the nation's RE progress. Furthermore, in 2022, Morocco made a pivotal move by amending its RE legislation to streamline and expedite the approval process for projects, thereby enhancing the sector's attractiveness to investors. These reforms not only streamline approvals and attract private investment but also maintain the financial and social stability of publicly owned electricity entities, striking a balance between investor interests and public-sector sustainability. Since adopting its National Energy Strategy in 2009, Morocco has pursued ambitious targets to diversify its energy mix and reduce fossil fuel dependence, aiming to derive 52 percent of its installed electricity capacity from renewables by 2030.

This progress is supported by strong regulations, institutional development, local capacity building, and

coordination among agencies such as the Moroccan Agency for Sustainable Energy (MASEN), the National Office for Electricity and Drinking Water (ONEE), the Moroccan Agency for Energy Efficiency (AMEE), and the Research Institute for Solar Energy and New Energies (IRESEN). Morocco's RE framework is also anchored in political leadership and progressive legislation, including Law 13–09, which liberalised the electricity sector; Law 58–15, which expanded MASEN's mandate; and Law 40–19 (2022), which streamlined project approvals and safeguarded public utility finances. These institutional and legal foundations have enabled landmark projects like the Noor Ouarzazate solar complex and the 300 MW Tarfaya Wind Farm, exemplifying large-scale, high-impact renewable development. The country has increased its renewable capacity from 3.9 GW in 2020 to 4.3 GW in 2021 and is aiming to generate 52 percent of its total electricity generation from renewables by 2030. Massive wind, solar, and hydrogen projects are already underway, including its first industrial-scale green hydrogen project set to start operations in 2025. Beyond national progress, Morocco is also contributing regionally through initiatives such as the Desert to Power programme and knowledge sharing, illustrating a replicable and inclusive model for Africa's energy future. These efforts are yielding tangible results. In 2024, Morocco ranked as the highest-performing African nation on the Global Energy Transition Index (ETI), placing 65th globally. Morocco's commitment to RE has also translated into climate action leadership. Morocco ranks 8th globally in the 2025 Climate Change Performance Index (CCPI), leading Africa and the Arab world. This achievement underscores Morocco's commitment to RE and climate policy. Namibia and Kenya are other examples. Ranked second and third highest ETI-scoring African countries, and placed 68th and 70th worldwide, respectively, both countries have made great strides in their RE resources development.

Namibia

Namibia has set an ambitious target to produce 70 percent of its energy from renewable sources by 2030. This significant pledge positions the nation as a frontrunner in combating climate change and is in line with the United Nations' Sustainable Development Goals, especially SDG 7, which seeks to provide access to affordable,

reliable, sustainable, and modern energy for everyone. To meet this objective, the Namibian government has established a comprehensive policy framework and strong institutional mechanisms to support the advancement of RE initiatives. The RE Feed-in Tariff (REFIT) programme, launched in 2015, provides appealing tariffs to independent power producers who generate electricity from renewable resources such as solar, wind, and biomass. This initiative has played a vital role in drawing private sector investments into large-scale RE projects. Supported by strong policies aimed at utilising its RE resources, RE could significantly contribute to Namibia's goals for sustainable development and economic advancement, fostering local value creation and industrialisation, and serving as an example from which other African nations can learn.

Kenya

Kenya, with its ambition to generate 100 percent of its electricity from clean energy sources by 2030 and to deploy an additional 100 GW of renewable capacity by 2040, is another example of an African country aggressively moving towards a RE-based economy. That target is not far off: its current share of RE powering its national grid is 90 percent, making it a leader among many countries aiming for similar outcomes. Moreover, Kenya's leadership on universal electricity access has achieved considerable results. The Last Mile Connectivity Project (LMCP), initiated in 2015, has been instrumental in providing electricity to nine million individuals in rural areas, effectively halving the number of people without access in less than ten years. Electrification rates in Kenya increased from 37 percent in 2013 to 79 percent in 2023, with urban regions achieving complete access. Current efforts are focused on connecting an additional 280,000 households nationwide by the conclusion of 2025. Kenya has also demonstrated significant leadership in the adoption of off-grid solar technology, representing almost 75 percent of all solar home system sales in East Africa in 2023. These off-grid solutions have become essential to Kenya's electrification strategy, especially in remote and underserved areas. Presently, one in five households in Kenya utilises solar-powered mini-grids or standalone systems. If these countries are doing it, why do many other African countries struggle to turn their RE resource potential into reality?

Chapter 4

Critical Factors for a Just Energy Transformation in Africa

Africa has the greatest RE potential, but if it cannot be tapped and utilised to improve health and well-being conditions in Africa and beyond, it won't matter. What is needed to achieve the required transformation? What are the fundamental conditions under which a just energy transformation can flourish and be sustained? Drawing on the case example of progress above, the broader literature, and insights from the stakeholder works, we identify key critical factors needed to put Africa on an irreversible path towards a 100 percent RE future that delivers universal energy access, powers sustainable industrialisation, and advances social and climate justice.

Leadership and Political Will

Transforming Africa's energy systems requires strong political will and decisive leadership. Since energy decisions are inherently political, they involve choices that can significantly shape a country's development path. In this context, effective leadership is crucial to steer nations towards RE development rather than continuing reliance on fossil fuels. Energy systems reflect choices about whose needs are prioritised, how public resources are allocated, and what kind of energy development is pursued. Actions to defund fossil fuels and to prioritise RE-based energy development and energy efficiency at (COP28) and inaction at (COP29) provide examples of how leadership (or lack thereof) can influence the energy transformation in Africa and globally. Therefore, leaders both within Africa and globally have a defining role in shaping the continent's path towards inclusive, reliable, and sustainable energy access.

Across Africa, where large populations still lack access to electricity and clean cooking, national leadership is essential to set direction, mobilise institutions, and ensure that energy systems serve long-term social and economic development goals. National leadership is also essential for setting long-term strategies, aligning energy goals with development priorities, and ensuring that policies serve people's needs and aspirations in a just and equitable manner.

Choosing RE over fossil fuels demands political courage, and governments that prioritise RE-based energy systems, access, and inclusion can redefine national energy futures. For example, Morocco's long-term, consistent leadership and support for solar and wind energy have strengthened national energy

independence and positioned the country as a regional leader in renewables. Similarly, Kenya's focus on RE and investment in off-grid solar solutions has expanded energy access in underserved areas. While these examples are encouraging, it is also important to acknowledge that the pathways to a just and sustainable energy transition are highly context dependent. Morocco's transition has been relatively straightforward, in part because it lacks significant fossil fuel resources, removing the tension between fossil fuel exploitation and RE investment. In contrast, countries such as Mozambique, Uganda, and Nigeria face more complex choices, needing to balance potential fossil fuel revenues with development. Meanwhile, nations like South Africa must manage the challenges of transitioning from established fossil-based systems, highlighting that strategies for equitable and sustainable energy transitions must be tailored to each country's unique circumstances.

At the same time, global leadership has a critical role to play, particularly in how financing is structured and distributed, partnerships are shaped and implemented, the distribution of risks and benefits, as well as global priorities are aligned with African goals and priorities. Moreover, how the international community responds to Africa's energy needs and priorities, through capital flows, technology development, access, and diplomatic engagement, will continue to influence the pace and direction of progress. South Africa's Just Energy Transition Investment Plan (JET-IP) serves as a key example of national and global leadership detailing a decarbonisation strategy that incorporates support for workers and communities in coal-dependent regions. While the plan has faced implementation challenges related to equity and justice, it reflects a growing recognition among policymakers that energy justice requires not only technical solutions but also national and global leadership and political will.

Policy and Regulatory Frameworks

Strong, coherent policy and regulatory frameworks are essential for driving Africa's energy transformation. Without clear, stable rules and long-term planning, progress remains fragmented, and much-needed investment in RE is deterred. Effective policies provide the foundation for aligning current electrification needs with future

development goals, while also mitigating investor risk and enabling inclusive, resilient energy systems that align with current and future needs. In Morocco, ambitious solar and wind investments have been made possible through consistent legal reforms, including Law 13–09 and the more recent Law 40–19, which opened the energy market to independent power producers and clarified grid connection procedures. These frameworks underpin large-scale projects like the Noor Ouarzazate Solar Complex and demonstrate how regulatory clarity and long-term policy and vision can attract capital and scale up renewables. Kenya has also taken major steps to strengthen its policy and regulatory framework, encouraging both public and private investment. The Energy Act of 2019 consolidated governance under a unified regulatory body (EPRA) and introduced tools like Feed-in Tariffs for small-scale RE and competitive auctions for utility-scale projects under the Auctions Policy (REAP). Kenya’s upcoming Integrated National Energy Plan ensures coordination across national and county levels, aligning energy expansion with socio-economic priorities. Similarly, Rwanda’s success in expanding access, rising from 6 percent in 2009 to nearly 40 percent in a decade, is rooted in its strong rural electrification strategy and a policy framework that supports both grid and off-grid solutions. The Electricity Access Rollout Program (EARP) exemplifies how consistent regulation and institutional coordination can support inclusive, rapid progress. These examples illustrate that with the right policy and regulatory frameworks, African countries can build energy systems that are sustainable, affordable, and socially transformative.

Finance

Finance is a decisive enabler of Africa’s shift to renewable energy-based systems, one that guarantees energy access and enables social and economic development. Several African countries’ progress demonstrates that strategic financing can catalyse RE development. Morocco’s Noor Ouarzazate Solar Complex, supported by clear policies and international financing, stands as one of the world’s largest concentrated solar power plants, driving large-scale clean energy generation. Kenya’s Lake Turkana Wind Power Project is financed through public-private partnerships. Meanwhile, Rwanda’s rapid expansion of rural areas has been facilitated by innovative finance

models that combine public funds with donor grants and private investments.

However, the quality and sustainability of finance are also important. Many African countries face high capital costs due to the burden of perceived risk, resulting in two to three times higher costs than in developed nations, making it difficult to attract private investment and build cost-effective infrastructure. Rising debt burdens and shrinking fiscal space limit the ability of governments to borrow responsibly for long-term clean energy projects.

Importantly, access to finance plays a central role in shaping the pace and scale of RE development across Africa. RE projects, especially at the local and community levels, require substantial initial investments that many lack access to. Even when funds are available globally, local communities and small developers often face barriers to accessing this capital due to complex financing structures and high transaction costs. The disparity in access to finance means that many promising RE initiatives struggle to get off the ground, limiting the reach of affordable, clean energy in rural and underserved areas.

Despite progress in some countries, the state of Africa’s energy development and current energy needs is a clear reflection of the state of RE financing. According to the International Energy Agency (2024), Africa receives less than 2 percent of global clean energy finance, despite needing at least USD 70 billion annually to achieve universal energy access by 2030. This limited flow not only slows the pace of a RE-based transformation, but it also undermines equity and justice, as 75 percent of this finance is directed to only five countries: South Africa, Egypt, Nigeria, Kenya, and Morocco, leaving much of the continent underserved. To succeed, Africa needs not just more finance, but finance that is sustainable, accessible, efficiently deployed, equitably distributed, and aligned with both immediate and long-term renewable energy-based transformation goals.



Infrastructure, Technology, and Skills

Africa's RE transformation depends not only on financial investment but also on robust infrastructure, relevant technologies, and skilled human capital. However, widespread infrastructure deficits remain a major bottleneck. Many national grids are outdated, fragmented, and unable to accommodate additional generation or support new connections. The World Bank estimates that electricity system losses in African countries reach 15 to 20 percent, nearly double the global average of 8 to 10 percent, undermining supply reliability, raising operational costs, and reducing investor confidence.

Moreover, distributional justice is central to achieving a fair and equitable RE-based energy transition, yet technological and infrastructure investment remains highly uneven across the continent. Between 2010 and 2020, 92 percent of energy technology investment was concentrated in just four countries – Nigeria, Egypt, Kenya, and South Africa, leaving over 50 countries underserved. This uneven investment risks deepening regional disparities and entrenching fossil fuel dependency in the least-resourced nations.

Human capital and institutional capacity are equally critical. Local skills shortages in engineering, project management, and regulatory oversight limit the design, operation, and scaling of RE systems. Weak institutional capacity further constrains policy execution and project implementation. Without targeted efforts to strengthen

infrastructure, technology, and skills, Africa's RE goals will remain unattainable.

Yet there are promising examples of addressing these challenges. Morocco illustrates how investment in education, research, and innovation can support a continent-wide energy transition. The Mohammed VI Polytechnic University (UM6P) in Benguerir emphasises experiential learning, entrepreneurship, and industry collaboration, integrating academic instruction with practical training through living laboratories, pilot projects, and fieldwork in renewable energy, sustainable agriculture, and digital technologies. Programmes such as Excellence in Africa, developed with the École polytechnique fédérale de Lausanne (EPFL), train PhD students, build competence centers, and develop young African teacher-researchers. With initiatives like NextAfrica, a GreenTech and AgriTech acceleration programme, and the Youth Tech Challenge Africa, focused on co-designing future African cities, UM6P's practical commitment to advancing innovation and skills development across the continent is demonstrated.

Similarly, technology transfer and intellectual property considerations are key to ensuring that RE solutions benefit all African nations, not only those with existing fossil fuel revenues or concentrated investment. By combining infrastructure development, technology deployment, and human capital investment, countries can pursue a just and equitable RE transformation that serves communities and reduces disparities.

Narratives

Narratives play a critical role in shaping Africa's energy transformation towards RE. The way energy development is framed influences public perception, policy priorities, and investment flows. Currently, dominant narratives often emphasise fossil fuels as central to economic growth and energy security, which can overshadow the opportunities that RE offers. To enable the desired RE transformation, RE energy narratives must be strategically reoriented to position RE as integral to Africa's future, rather than a distant ideal. By forging a clear and successful path to free the country from fossil fuel dependence, Morocco has shifted its narratives of energy scarcity and fossil fuel dependence by positioning RE energy development as a symbol of energy independence and progress. This example shows that shifting the narrative to highlight renewable energy's direct benefits, such as expanding energy access, creating local jobs, supporting sustainable development, and energy sovereignty, can help build broader momentum and societal ownership. Moreover, narratives shape not just what energy is produced, but how it is valued and embraced. Immediate and meaningful RE examples can help communities and policymakers understand that RE can deliver affordable, reliable power that improves livelihoods and creates value. Importantly, information about the benefits of RE solutions, such as access to electricity, local ownership, energy independence, and other socioeconomic benefits, can help foster trust and support, which are critical for scaling clean energy across diverse African contexts. Critically, narratives are important for building informed, critical citizens who can advocate for just and inclusive energy systems and call out extractive and unjust practices within their communities.

Justice and Equity

Efforts to advance RE in Africa must be explicitly grounded in justice across multiple dimensions – distributive, procedural, retributive, restorative, environmental, social, and representative. A just energy transition goes beyond simply deploying infrastructure; it ensures that energy systems empower communities, reduce inequalities, and enhance resilience. Africa faces extreme poverty and underdevelopment, with over 400 million people living in extreme poverty and 35.5 percent earning less than USD 1.90 per day, nearly seven times the global average. Under these conditions, even where energy infrastructure exists, households, individuals, and small enterprises often cannot afford connection costs, appliances, or clean cooking technologies. In rural off-grid communities, lack of access constrains small enterprises and subsistence livelihoods, reinforcing structural inequalities. Women and marginalised groups experience disproportionate barriers due to social, cultural, and economic constraints. A justice-centred approach would ensure equitable distribution of energy resources (distributive justice), inclusive decision-making processes (procedural and representative justice), protection and restoration of rights where harms occur (retributive and restorative justice), and safeguarding of ecosystems and human health (environmental and social justice). Practically, this means designing energy policies and projects that prioritise affordability, access, local participation, skills development, and community ownership, while integrating RE solutions with broader socioeconomic development goals.

Chapter 5

Germany's and Civil Society's Roles in Africa's Energy Transformation

Despite the significant challenges facing Africa's energy transformation efforts, the continent holds immense potential to overcome these obstacles and achieve universal access to affordable, reliable, and sustainable energy alongside other critical development goals. Realising this promise requires navigating structural barriers and aligning long-term investments with Africa's energy access and development priorities.

As a global leader in climate diplomacy, energy transition, technical innovation, and development cooperation – and building on country and regional policies such as those under Mission 300, as well as global agendas including SDG 7 and the COP28 targets, the German government and civil society community are uniquely positioned to support Africa's RE ambitions. Germany is already engaged in multiple initiatives that promote RE deployment, policy alignment, and regional cooperation. Building on this foundation, there is an opportunity to strengthen existing workstreams by scaling up what is already working, while refining approaches to ensure greater impact. At the same time, targeted support for bottom-up, locally driven initiatives can help amplify solutions that are already emerging within African countries but require international backing to reach scale. Finally, introducing new and innovative approaches aimed at filling critical gaps – such as addressing persistent infrastructure bottlenecks, technology transfer challenges, and skills shortages – can further accelerate the continent's transition.

Informed by stakeholder insights from the Bonn workshop on the occasion of UNFCCC's SB62, the recommendations that follow outline how the German government and civil society community can advance a renewable energy-based transformation in Africa that is technically viable, socially just, and economically inclusive, while supporting the continent's broader development goals.

Recommendations to the German Government

Advocate for an ambitious energy future for Africa

Germany, with its technical expertise, global influence, commitment to climate justice, and global energy transition expertise, is uniquely positioned to support and advocate for an ambitious Africa's energy future.

Action Points for the German Government

- **Support ambitious, long-term energy visions** by championing bold, realistic RE targets that integrate decentralised solutions with centralised infrastructure, aligned with Africa's development goals and climate commitments.
- **Strengthen institutional capacity** by continuing to invest in building strong local institutions and governance capacity to effectively plan, implement, and oversee RE projects, ensuring transparency, accountability, and sustainability.
- **Double down on support for developing enabling conditions and regulatory frameworks** by working with African partners to develop and implement clear, supportive policies and regulations that incentivise RE investments, foster local ownership, and accelerate the deployment of decentralised energy systems.

Support integrated infrastructure, technological development, and skills development

Most of Africa's energy infrastructure has yet to be built, presenting a unique opportunity to design systems around RE from the outset. To meet rising energy demand and tackle widespread energy poverty, African countries need support to develop a stable, secure, flexible, future-proof grid system that integrates both large-scale and decentralised solutions. This approach not only enables the deployment of clean energy at scale but also builds the foundation for long-term energy security, socio-economic development, and local resilience across African nations. However, these kinds of actions require massive local technological and skills development.

Action Points for the German Government

- **Support large-scale and decentralised energy infrastructure development** by investing in a balanced mix of grid expansion, decentralised renewables, and flexible systems to strengthen energy access, reliability, future energy system resilience, and ensure human rights.
- **Invest in local technology and skills ecosystems by providing** targeted local support for technical education, skills development, and local innovation to build African capacity for

designing, operating, and maintaining RE systems. Germany can also finance regional centres of excellence and hubs for engineers for green industries, enabling frontrunners such as Morocco to support other countries to share knowledge, expertise, and experiences with other African countries.

- **Promote community-based, inclusive energy models** by prioritising support for renewable, decentralised energy solutions that empower local communities, create jobs, and integrate productive uses, especially in rural and underserved regions. Support for decentralised energy solutions like mini-grids is especially essential for Africa's energy goals. The IEA projects that 40 percent of installed capacity by 2030 must come from such systems to achieve universal electricity access. The case of Kenya demonstrates that advancements in decentralised clean energy generation can transform the energy access situation.

Centre Justice in Africa's RE Transformation

We cannot build just futures on unjust RE foundations. To ensure that Africa's energy transformation is not only renewable but truly just, justice must be a foundational principle. At its core, the energy transformation in Africa should recognise past injustices and honour diversity and contextual differences, and engage Africa on its terms, emphasising production for local consumption over export, local value creation, and strong national and community participation and ownership. Moreover, a truly just transformation requires a nuanced understanding of local contexts and a firm commitment to uplifting marginalised groups, such as indigenous people, women, and others disproportionately affected. To support these efforts, the new German government must ensure its investments and support are focused not only on RE production but also on facilitating just implementation and access approaches and conditions.

Action Points for the German Government:

- **Centre local value creation, local priorities, and energy needs**, such as access to electricity and clean cooking solutions, as well as the decarbonisation of the local grid, over foreign demand, and energy partnerships with African countries. More specifically, green hydrogen initiatives by Germany must be grounded in energy additionality and local value creation to ensure that RE is not diverted from essential local use.
- **Break free of flawed development and partnership patterns in support** of a local consumption-export balanced strategy in energy partnerships with African countries, by aligning financing and RE energy technological support with projects that are community-led, expand affordable access, and generate domestic value, such as local manufacturing, technology development, skills-building, and practices that are socially and environmentally aligned.
- **Support inclusive planning and equity** by actively seeking the participation of local communities, women, civil society, and Indigenous groups in programme design, implementation, and benefit and risk-sharing structures. Programmes like Kenya's Last Mile Connectivity Project are more successful when communities are involved in identifying local energy priorities and monitoring implementation outcomes, and can serve as a model for successful engagements and inclusion.

Address structural finance barriers

Finance is a fundamental part of Africa's energy transformation. However, the lack of suitable financing and diverse finance models, high capital costs, limited fiscal space, and complex access mechanisms hinder African countries, communities, and small businesses from investing in RE at the necessary scale and speed. Germany, as a key player in the EU, G7, and G20, International Group of Partners (JET-P), as well as the COP processes, has both the opportunity and leverage to help change this paradigm by championing high finance ambitions, delivery, and fair access conditions, and use terms for real on-the-ground actions.

Action Points for the German Government

- **Champion long-term, predictable, and high volumes of financing** by increasing grant-based financing and pushing multilateral institutions, other governments, and the private sector to deliver sufficient, sustained, predictable, long-term finance to create foundational and accelerator conditions for RE-based energy development that aligns with African priorities and needs. Models like the South Africa Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) can be supported and scaled across Africa to attract private sector participation.
- **Advance debt relief and global financial reforms** by supporting coordinated debt relief and advocating for a fairer global financial architecture to create the fiscal space needed for sustained investment in RE systems without deepening social and economic vulnerabilities. Germany can, for example, play a crucial role in supporting and implementing recommendations from expert bodies such as the Expert Review on Debt, Nature and Climate (co-led by Kenya), the Debt Jubilee Commission, and the African Expert Panel on Cost of Capital (led by South Africa). These preliminary recommendations offer valuable proposals for delivering debt relief.
- **Improve access to capital for local actors** by streamlining funding mechanisms and supporting direct-access facilities that empower African SMEs, communities, and institutions, particularly in off-grid and clean cooking sectors, to ensure that finance reaches those driving implementation on the ground, by prioritising off-grid and clean cooking sectors, a main priority of African governments and where social impact is greatest because of current and growing needs. The bottom-up financing in Nigeria by the German government aimed at facilitating local-level electrification can be scaled to other countries to support access processes.
- **Lower the cost of capital** through risk-sharing and advocating for just financial terms for RE-based capital by countering the “perceived risks” narratives with data to unlock diverse and

affordable capital for RE investments in African countries.

- **Support a Finance-Efficiency Enabling Environment:** Germany should go beyond mobilising funds for Africa's energy transition and, in addition, support the creation of a financeable environment that strengthens domestic financial capacity. This includes partnering with regional development banks and supporting local bond issuance to bolster African financial institutions.
- **Align climate and development finance and champion diverse finance models** by ensuring coherence and alignment between Germany's development cooperation and climate commitments and recognising African countries' diverse starting points. Strategic alignment of development and climate-focused investments can ensure financial efficiency while ensuring access conditions and resilience of RE systems in Africa.
- **Commit to a fossil-free future** at home and abroad and redirect the freed funds (investments and subsidies) towards RE development and access.

Use of strategic and mutual energy partnerships

Africa's energy transformation requires a shift away from outdated, fragmented export models towards focused, strategic partnerships that deliver mutual benefits. Effective partnerships must be fewer but stronger, grounded in shared priorities, local realities, and long-term commitment. Credibility and predictability are essential to overcome partnership fatigue and fragmentation, building trust by ensuring that framework agreements are co-created and aligned with Africa's energy needs. Moreover, partnerships must balance ambition with feasibility, aligning investments with both partners' needs and fostering African ownership, skills development, and support for local technology development. Additionally, energy cooperation must extend beyond production targets to emphasise access conditions, societal benefits, and local value creation, to reflect Africa's energy needs and broader development goals.

Action Points for the German Government

- **Focus on fewer, strategic partnerships with shared priorities** by shifting from fragmented collaborations to fewer strategic partnerships aligned with Africa's energy needs, development goals, and system resilience to limit fragmentation, partnership fatigue, and enhance coherence and delivery.
- **Ensure measurable societal and resilience outcomes** by designing partnerships that deliver clear social and environmental benefits, such as job creation, clean air, public health, and resilient infrastructure, through credible frameworks that reinforce trust, performance, and long-term development impact.
- **Acknowledge and address partnership shortcomings.** Despite good intentions, partnerships, cooperation models, and policies can have widespread negative impacts. The German government should make sure that negative impacts are identified, mitigated, and justly addressed when they occur.

Enable ownership, access, and productive use conditions

The ability of African countries to realise a just RE-based transformation depends not only on finance, infrastructure, and technological development but also on the social and economic conditions that determine who can access, afford, and productively use energy and enjoy other associated benefits. Currently, the energy transformation policy and implementation strategies are highly focused on production targets, while access and use targets are either not taken into consideration or are not adequately resourced and financed. Germany's support must therefore go beyond generation and supply to also focus on building diverse social and economic ecosystems to support energy use and local value creation and drive sustainable development. Germany should prioritise the following actions:

Action Points for the German Government:

- **Enable resilience and productive use** by aligning energy access with national socio-economic priorities – linking investments to agriculture, value-adding industries, SMEs, and services. Supporting integrated approaches that combine industrial development with last-mile electrification and human development will ensure access is meaningful, inclusive, and sustainable.
- **Strengthen local value chains and circular capacity** by committing to domestic value creation in RE and critical mineral supply chains. This includes supporting community co-ownership of decentralised systems, embedding circular economy principles (e.g., recycling end-of-life solar PV modules), and ensuring Africa's resources drive local sustainable industrialisation rather than merely feeding global supply.
- **Promote need-based access and affordability** by advancing financial tools that deliver need-based, affordable energy solutions for low-income households and enterprises. Particular focus should be placed on women- and youth-led enterprises, ensuring that access expands economic opportunity and social equity.
- **Support just RE energy foundations** by helping African partners avoid fossil-based models and instead build systems of worker protection, retirement benefits, and inclusive labour participation in sustainable industries. Drawing on Germany's coal phase-out, support should also extend to governance mechanisms that mitigate the social and environmental risks of mining while fostering decent jobs and empowering diverse local workforces.

Support cross-border and regional cooperation and integration

Cross-border and regional integration and collaboration are essential to unlocking Africa's RE potential and building future-fit energy systems. Cross-border and regional cooperation, resource pooling across various countries, and strategy integration can help African countries move faster and further together, ensuring that the continent's energy transformation is not only concentrated in a few countries but is continental in scale, inclusive in reach, and resilient for the future. There

are already processes and actions underway that can be supported to maximum impact. The African Union's Continental Power System Master Plan highlights the need for greater regional cooperation and investment in cross-border electricity trade. At COP28, the Accelerated Partnership for Renewables in Africa (APRA), which brings together African countries like Kenya, Ethiopia, Namibia, Rwanda, Sierra Leone, and Zimbabwe with international partners – including Denmark, Germany, the UAE, and the International Renewable Energy Agency (IRENA) – to mobilise finance, technical support, and private sector engagement for a just and green energy transition also reaffirms the continent's collective ambition. Moreover, initiatives like the African Union's Continental Power System Master Plan (CMP) and the African Single Electricity Market (AfSEM) are also laying the groundwork for a more integrated African energy landscape. These efforts are essential for building interconnected power markets, enabling electricity power sharing and cross-border energy trade, improving grid reliability, and reducing generation costs. However, inadequate regional transmission infrastructure hampers the development of interconnected power markets, which are essential for improving efficiency and reducing costs, and this is where the German government can come in.

Action Points for the German Government:

- **Continue to invest in regional transmission infrastructure** by providing financing and technical assistance for cross-border grid projects that enable electricity trade and unlock economies of scale for RE deployment.
- **Continue to support regional institutional and regulatory frameworks** by providing technical and financial backing to AU-led initiatives such as AfSEM, CMP, and Mission 300. The East Africa Power Pool shows the impact of such efforts: cross-border interconnections and a forthcoming day-ahead market are expanding access and boosting electricity trade, proving the economic and energy gains of coordinated infrastructure and harmonised regulation.
- **Double down on South-South peer leadership and knowledge exchange** by creating platforms that position leading African RE countries as

regional champions. These champions can mentor peers, share lessons learned, and help generate political momentum in neighbouring countries. The German government can further strengthen this effort by fostering inclusive dialogue with civil society organisations (CSOs).

Recommendations to the Civil Society in Germany

Civil society has an important role in informing society of its rights, responsibilities, and benefits through civic engagement, providing knowledge and information to empower people to make informed decisions and participate in their development. Moreover, it has an important responsibility of acting as a check and balance to the government and other powerful actors, including the energy development sphere. The German civil society can support the just energy transformation in Africa.

Co-creating and communicating RE energy narratives

In today's era of competing energy narratives, the future of Africa's energy transformation is as much about perception and narratives as it is about policy and technology. Fuelled by local and international special interests, the fossil fuel narrative continues to dominate the public imagination, promoted as the most viable path to growth, stability, and national progress. Countering these narratives requires transparency, scientific evidence, and powerful storytelling. Meanwhile, RESs are still too often portrayed as inadequate, unreliable, or incompatible with Africa's development goals. To truly accelerate the energy transition, we must crack the fossil fuel narrative by using real data and lived experiences to expose the fossil fuel industry's misleading claims and create compelling, community-rooted stories about RE that connect to what people care about most: affordable energy, job creation, improved quality of life, and inclusive economic development.

German CSOs, in partnership with African CSOs, can play a crucial role in co-creating and amplifying alternative narratives that position RE not simply as the alternative to fossil fuels, but as a relevant, credible, and people-centred solution. Drawing on already existing campaigns such as Watts Up Africa, which advocates for people-powered energy systems, and CAN International's "Sunshine Stories", which highlights community-led

solar initiatives improving health, education, and livelihoods, to demonstrate the social and economic benefits of renewables. These and other processes can tap into both local success stories like solar mini-grids empowering rural communities in Nigeria, and other examples

such as Morocco's solar leadership, Kenya's geothermal advances, or Germany's Energiewende, to illustrate the tangible benefits RE brings to people's everyday lives.

Action Points for German Civil Society:

- **Co-create positive RE narrative** with African partners to develop and share stories that frame RE as a development tool, improving lives, strengthening communities, and fostering ownership and inclusive growth.
- **Elevate African-led successes** by identifying and highlighting local RE initiatives that deliver clear societal benefits, shaping public perceptions and informing policies in both Germany and Africa. Positive examples of RE development, such as Strathmore University in Nairobi, Kenya, and green mosques in Morocco, serve as great examples.
- **Champion local value and energy access** by advocating for RE strategies that prioritise energy access for all and create local value. Ensure Africa's resources serve African development first, recognising Africa as a co-equal partner with its own energy needs and potential for value creation, not merely as a resource base for Germany's energy demands. In Nigeria, where fossil fuel revenues remain central to the national economy, showcasing RE projects that directly improve livelihoods can serve as persuasive evidence that another path is not only possible but already underway.

Case brief:

Strathmore University in Nairobi

Strathmore University in Kenya demonstrates how educational institutions can lead by example – leveraging solar infrastructure for clean power, cost savings, and building local RE capacity by functioning as a living lab for solar engineering training

Case brief:

Morocco's Green Mosques

Morocco's Green Mosques initiative showcases how cultural and religious institutions can drive societal awareness and job creation, spearheading energy efficiency and renewables across communities.



The Zambian partner organisation Kaluli Development Foundation supports the population in their everyday lives, e.g. with solar panels for charging mobile phone batteries.



Advance awareness and ownership for a people-centred energy transformation

Systemic change begins with people. A successful, just energy transformation in Africa requires a well-informed and engaged public. When individuals and communities understand how RE enhances their daily lives through clean cooking, reliable electricity, improved health, and enhanced livelihoods, they are more likely to support, co-create, and take ownership of the transition. Awareness builds the foundation for societal ownership and long-term impact. German CSOs can play a catalytic role by partnering with African counterparts to align efforts with local, national, and regional goals, such as poverty reduction, energy access, and climate resilience.

Action Points for the German Civil Society

- **Co-develop public education initiatives** with African CSOs to highlight how RE-based solutions support development priorities such as poverty reduction, education, and health.
- **Champion African-led and community-owned RE projects** that affirm local leadership and foster inclusive energy governance.
- **Support civic engagement and advocacy** by strengthening the capacity of local CSOs and citizens to influence policy and implementation processes that prioritise equity, access, and local resources.
- **Facilitate cross-continental CSO alliances** to share knowledge, align strategies, and build a common agenda for a people-centred, RE transformation.

Chapter 6

Conclusion and Way Forward

Africa's energy future stands at a critical juncture. The current reliance on fossil fuels, persistent energy poverty, and fragmented international support are no longer sustainable. A decisive shift towards an inclusive, RE system that delivers universal access, affordability, energy sovereignty and security, and social justice is both necessary and achievable. However, achieving this future depends not only on Africa's leadership but also on the commitments and actions of international partners, most notably the German government, a key player within the EU, G7, and G20.

By aligning climate ambition with African-led development priorities, Germany can help shape an energy future that is renewable, inclusive, and resilient. To be effective, Germany's support must move beyond isolated technical projects to strategic, long-term cooperation that strengthens foundational and accelerator conditions for Africa's energy transformation. This support must be grounded in the local realities of African countries, prioritising often-overlooked sectors such as clean cooking and decentralised energy access, and ensuring that policy design meaningfully involves local CSOs, upholds free, prior, and informed consent, and upholds social justice. Germany must also resist approaches that prioritise

its access to Africa's renewable resources at the expense of African communities' energy needs and development goals. As Germany gears up for key multilateral events, including COP30, the 7th AU-EU Summit, and the African Climate Summit, it needs to consider four urgent questions.

- What future are we striving to create?
- What are the energy needs and priorities of Africa's people?
- What support does Africa require to achieve a just and sustainable energy future?
- What is Germany prepared to contribute towards these goals?

Answering these questions with clarity and commitment will not only advance Africa's energy transformation but also strengthen trust, deepen cooperation in trade and climate action, and reinforce Germany's position as a global leader amid complex geopolitical shifts. The benefits of a bold and just RE transformation in Africa far outweigh the costs of inaction or business-as-usual approaches.



A house in Gambela, Ethiopia, is powered by solar panels.

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Abbreviations

AfDB	African Development Bank
AfSEM	African Single Electricity Market
AMEE	Moroccan Agency for Energy Efficiency
APRA	Accelerated Partnership for Renewables in Africa
AUC	African Union Commission
AWCCSP	African Women Clean Cooking Support Programme
CAN	Climate Action Network
CCA	Clean Cooking Alliance
CCPI	Climate Change Performance Index
CMP	Continental Power System Master Plan
COP	Conference of the Parties (UN Climate Change Conference)
CSO(s)	Civil Society Organisation(s)
DRC	Democratic Republic of the Congo
EARP	Electricity Access Rollout Program (Rwanda)
EPFL	École Polytechnique Fédérale de Lausanne
EPRA	Energy and Petroleum Regulatory Authority (Kenya)
ETI	Energy Transition Index
EU	European Union
GDP	Gross Domestic Product
GW	Gigawatt
IEA	International Energy Agency
IRENA	International Renewable Energy Agency
IRESEN	Research Institute for Solar Energy and New Energies (Morocco)
JET-IP	Just Energy Transition Investment Plan
JET-P	Just Energy Transition Partnership
kWh	Kilowatt-hour
LMCP	Last Mile Connectivity Project (Kenya)
MASEN	Moroccan Agency for Sustainable Energy
MSP	Moroccan Solar Plan
MW	Megawatt
NDC(s)	Nationally Determined Contribution(s)
NES	National Energy Strategy (Morocco)
ONEE	National Office for Electricity and Drinking Water (Morocco)
PV	Photovoltaic
RE	Renewable Energy
REAP	Renewable Energy Auctions Policy (Kenya)
REFIT	Renewable Energy Feed-in Tariff (Namibia)
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme (South Africa)
SDG	Sustainable Development Goal
SME(s)	Small and Medium-sized Enterprise(s)
UM6P	Mohammed VI Polytechnic University (Morocco)
USD	United States Dollar

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