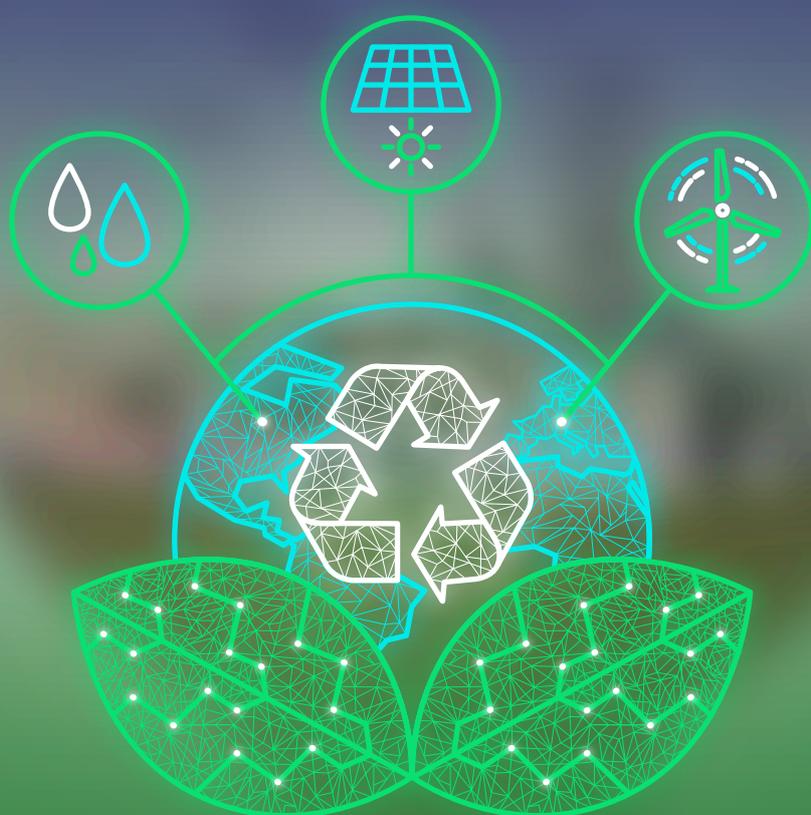




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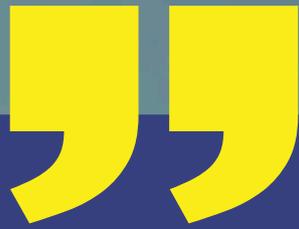
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## **POLICY BRIEF: ACCELERATING A JUST AND INCLUSIVE ENERGY TRANSITION IN TANZANIA**

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## Key Messages

- Up to 13 million Tanzanians risk internal displacement by 2050 due to climate-related shocks; urgent energy transition is non-negotiable.
- Tanzania holds world-class reserves of graphite, nickel, lithium, and rare earths; key to powering the global green economy
- Without climate action, Tanzania could lose up to 4% of GDP by 2050; clean energy is both a mitigation and development strategy.



# 1. Background

Tanzania's energy system is heavily reliant on fossil fuels particularly natural gas which accounts for over 50% of the national electricity generation mix. While this has provided a relatively stable supply in recent years, it poses long-term risks, including vulnerability to global fuel price shocks and increased greenhouse gas emissions. The urgency to transition to a cleaner, more resilient energy future is underscored by the 2024 Tanzania Country Climate and Development Report (CCDR) by the World Bank, which warns that without decisive climate action, the country could suffer GDP losses of up to 4% by 2050 due to climate-induced impacts on agriculture, water, and infrastructure. The report also estimates that up to 13 million Tanzanians could be displaced internally due to climate stressors, with 2.6 million pushed into poverty.<sup>1</sup>

The Tanzanian government has recognized the critical link between climate resilience and energy transition. This is evident in the updated Nationally Determined Contribution (NDC) submitted in 2021 and the revised National Climate Change Response Strategy (2021–2026),<sup>2</sup> which outlines key mitigation measures including increased deployment of renewable energy technologies, energy efficiency, and clean cooking initiatives. However, challenges persist in operationalizing these commitments. A lack of coordination between central and local authorities, limited financing, regulatory uncertainties, and institutional capacity gaps have slowed the pace of renewable energy adoption.

Moreover, energy poverty in Tanzania is not just a technical issue it is a matter of equity and inclusion. According to Heinrich Böll Stiftung's 2024 context paper, energy investments have disproportionately favored centralized infrastructure projects, often neglecting rural communities and marginalized groups, including women<sup>3</sup>. This reinforces energy inequality and undermines broader development objectives.

The Power Shift Africa report (2024) emphasizes that Tanzania has immense potential for solar, wind, and small hydro energy, and transitioning to 100% renewable energy is technically and economically viable<sup>4</sup>. Such a shift could not only diversify the

energy mix but also enhance national energy security, reduce dependence on fossil fuels, and stimulate green job creation.

In this context, Tanzania's energy transition is both a necessity and an opportunity. A just and inclusive energy transition anchored in renewable energy, equitable access, and climate resilience can accelerate progress toward the Sustainable Development Goals (SDGs), particularly SDG 7 (Affordable and Clean Energy), SDG 13 (Climate Action), and SDG 1 (No Poverty).



<sup>1</sup>Tanzania Country Climate and Development Report  
<sup>2</sup>National Climate Change Response Strategy 2021-2026

<sup>3</sup>Choices, Challenges and Dilemmas in Tanzania's Energy System | Heinrich Böll Stiftung | Nairobi Office Kenya, Uganda, Tanzania  
<sup>4</sup>Tanzania: Energy Development Plan to decarbonize the Economy – Power Shift Africa

# 2.Key Findings

Recent research and policy analysis have shed light on the opportunities and challenges Tanzania faces in its energy transition:

## 2.1.Climate Change Threatens Tanzania's Development Gains

The 2024 Tanzania Country Climate and Development Report (CCDR)<sup>5</sup> Tanzania: Energy Development Plan to decarbonize the Economy — Power Shift Africa Tanzania: Energy Development Plan to decarbonize the Economy — Power Shift Africa by the World Bank paints a stark picture of the risks posed by climate inaction. It estimates that if current trends persist, Tanzania could lose up to 4% of its GDP by 2050, primarily due to climate-induced impacts on agriculture, water, infrastructure, and health systems. Rising temperatures and erratic rainfall are already disrupting key sectors like agriculture, which employs over 65% of the population. The report further warns of massive internal displacement, projecting that up to 13 million people could be forced to migrate within the country due to drought, flooding, and land degradation, while an additional 2.6 million Tanzanians could be pushed into poverty.

These findings highlight the urgency of embedding climate resilience and low-carbon development strategies especially in the energy sector into national planning frameworks.

## 2.2.Renewable Energy is Technically Feasible and Economically Sound

Tanzania has significant untapped potential in renewable energy, particularly solar, wind, geothermal, and small-scale hydro. According to Power Shift Africa's 2024 report,<sup>6</sup> transitioning to 100% renewable energy by 2050 is not only technically feasible but also economically viable. Tanzania receives 4.5–6.5 kWh/m<sup>2</sup>/day of solar radiation on average, making it one of the most solar-rich countries in Sub-Saharan Africa. If effectively harnessed, this could meet domestic energy needs and power regional trade. The report highlights that renewable energy systems can create thousands of new green jobs, reduce import dependence on fossil fuels, and offer more stable and affordable electricity, particularly in remote communities. The study also challenges outdated assumptions about the high cost of renewables, noting that global price drops and improved storage technology make them increasingly competitive with fossil-based systems.



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Up to 13 million people could be forced to migrate .



# 3. Recommendations

To steer Tanzania toward a just and inclusive energy transition, the following policy recommendations are proposed

## 3.1. Leverage Critical Minerals for a Green Industrialization Strategy

Tanzania should integrate its vast reserves of nickel, graphite, lithium, cobalt, and rare earth elements into a national Green Industrialization Plan. These minerals are essential for clean technologies like batteries, electric vehicles, and solar panels. The government should promote value addition and local processing to avoid dependence on raw exports, develop clear environmental and social safeguards to prevent harmful extraction practices, and align mineral governance with global Environmental, Social, and Governance (ESG) standards—such as the OECD Due Diligence Guidance for Responsible Mineral Supply Chains, the Extractive Industries Transparency Initiative (EITI) Standard, the UN Guiding Principles on Business and Human Rights, and the International Finance Corporation (IFC) Performance Standards. This will enable Tanzania to become not just a supplier of raw materials, but a competitive player in global green value chains, creating jobs and boosting domestic revenue

## 3.2. Commit to an Accelerated, Just, and Renewable-Driven Energy Transition

Tanzania must urgently pivot toward a fully renewable energy future by prioritizing rapid investments in solar, wind, and mini-hydro systems. While natural gas currently dominates the energy mix, continued reliance on fossil fuels—even as a so-called "bridge"—risks locking the country into carbon-intensive infrastructure and delaying climate goals. A bold, forward-looking strategy should phase out fossil fuel dependencies in line with global climate commitments, while promoting decentralized renewable energy solutions that expand energy access, create green jobs, and build climate resilience.

Rather than a dual-track approach, Tanzania should pursue an accelerated, context-sensitive transition that aligns with its development needs while committing to an endgame of zero-carbon energy. This means immediately scaling up policy, technical, and financial frameworks to fast-track renewable deployment—particularly in off-grid and underserved areas—while ensuring that existing

fossil fuel infrastructure is not expanded or prolonged beyond what is strictly necessary for near-term stability. A just transition framework must also address the needs of workers and communities currently reliant on fossil fuel industries, ensuring that no one is left behind as Tanzania embraces a clean, inclusive, and climate-safe energy future.

## 3.3. Unlock Climate Finance for Green Energy

Tanzania risks losing 4% of GDP by 2050 if climate threats persist. Establishing a national Green Energy Investment Facility can attract concessional finance, and blended funding for renewable energy.

As a least developed country (LDC), Tanzania must leverage its eligibility for concessional financing to support clean energy investments. Government agencies, in collaboration with development partners, and the private sector, should establish a Green Energy Investment Facility to pool resources from climate funds (e.g., Green Climate Fund), Multilateral Development Banks, Development Agencies and Philanthropies.

In the recent Mission 300 Africa Energy Summit held in January 2025 in Dar es Salaam, the World Bank Group and the African Development Bank collectively committed up to \$48 billion in concessional finance, technical support, and risk mitigation instruments to support country-led efforts to expand electricity access across Sub-Saharan Africa<sup>10</sup>.

Structured financial instruments such as guarantees, viability gap funding, and results-based financing can help de-risk investments<sup>11</sup>—by reducing financial and regulatory uncertainties that often deter private capital from entering emerging renewable markets. Strengthening transparency and project bankability will be key to attracting consistent financing.

## 3.4. Strengthen Institutional Coordination and Governance

Poor coordination and regulatory gaps are slowing implementation. An inter-ministerial energy transition task force should lead cross-sector action, aligning the Nationally Determined Contribution (NDC), Integrated Power System Master Plan (IPSMP), and local energy plans under one coordinated roadmap. The effectiveness of energy transition policies depends on robust institutions. Tanzania should establish an inter-ministerial task

<sup>10</sup>Heads of State Commit to Concrete Plans to Transform Africa's Energy Sector, with Strong Backing from Global Partners

<sup>11</sup>"de-risk investment" means reducing or mitigating the financial, political, technical, and regulatory uncertainties that discourage investors from committing capital to renewable energy projects—particularly in emerging markets

force on energy transition to ensure policy coherence between the Ministry of Energy, the Vice President's Office (Environment), the Ministry of Finance, and local authorities. This body should coordinate implementation of the NDC, IPSMP, Integrated Power System Master Plan, and related development frameworks. Capacity-building efforts should focus on planning, procurement, data systems, and regulatory reform particularly to better integrate Independent Power Producers (IPPs) and community-owned systems.

### **3.5. Ensure Equity, Gender Inclusion, and Local Participation**

Women and rural dwellers face energy exclusion and most women rely on biomass for cooking. Prioritizing clean cooking, inclusive planning, and vocational training to ensure no one is left behind is essential. The energy transition must be inclusive by design. Policies should mainstream gender equality and social inclusion by involving women, youth, and marginalized communities in the design, implementation, and monitoring of energy projects.

This includes offering targeted subsidies for clean cooking solutions, supporting vocational training in renewable technologies for women and youth, and mandating community benefit-sharing frameworks in new energy developments. Equity considerations should also be central to resettlement, compensation, and environmental safeguards for both renewable and fossil fuel projects.

### **3.6. Develop a Just Transition Framework**

To manage shifts away from fossil fuels, the Government should consider creating a Just Energy Transition Framework that supports reskilling, social protection, and local job creation especially in fossil fuel-dependent regions and among youth. Tanzania should begin developing a Just Energy Transition Framework to guide the long-term shift from fossil fuels to renewables in a socially and economically responsible manner. This includes safeguarding workers currently employed in fossil fuel sectors, identifying opportunities for retraining and job creation in the clean energy economy, and mitigating potential socioeconomic disruptions. A national dialogue led by government and involving civil society, private sector, trade unions, and development partners can help shape this roadmap, ensuring broad buy-in and contextual relevance.

### **3.7. Improve Energy Data and Transparency**

Build a centralized, open-access energy database to track access, investments, emissions, and project outcomes. Better data will enhance decision-making, investor confidence, and public accountability. Reliable data is essential for effective energy planning and monitoring. Tanzania should invest in the development of an open-access, centralized energy data platform tracking generation capacity, emissions, energy access rates, financing flows, and project performance. This will support better policy evaluation, attract investor confidence, and allow civil society and academia to contribute meaningfully to the energy policy space.

## **4. Conclusion**

Tanzania's energy future sits at a critical crossroads. While fossil fuels particularly natural gas—remain important for short- to medium-term energy security and economic stability, the long-term human and economic costs of climate inaction are stark. With up to 13 million people at risk of internal displacement and 2.6 million pushed into poverty due to climate-related shocks by 2050, the energy transition is not a distant goal it is a development imperative.

The shift to clean energy also aligns with Tanzania's emerging comparative advantage: its abundance of critical and transitional minerals such as nickel, graphite, lithium, and rare earth elements. These minerals are essential components in solar panels, electric vehicle batteries, and wind turbines, making Tanzania a potential key player in the global green economy. By strategically integrating renewable energy development with sustainable mining policies, Tanzania can position itself as both a supplier and beneficiary of the global energy transition maximizing local value addition, job creation, and climate-smart industrialization<sup>12</sup>.

However, this transition must be just, inclusive, and realistic. Energy poverty still affects over 60% of rural households, and institutional gaps continue to limit the scale and speed of renewable energy deployment. Therefore, a carefully managed, phased approach grounded in equitable policies, smart investment, and local participation is essential.

<sup>12</sup> Climate-smart industrialization refers to the development of industries that are environmentally sustainable, low-carbon, and resilient to climate change. In Tanzania's context, it means leveraging renewable energy and critical minerals to build green value chains such as battery manufacturing or solar component assembly while ensuring that mining, processing, and energy use are guided by climate, environmental, and social safeguards.

With the right political will, financing mechanisms, and governance reforms, Tanzania has a unique opportunity to leapfrog into a clean energy future one that powers its economy, uplifts its people, and supports the global fight against climate change.





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