

COP27 POLICY BRIEF SERIES

Policy and legal framework for Renewable energy in Zambia: Opportunities and challenges

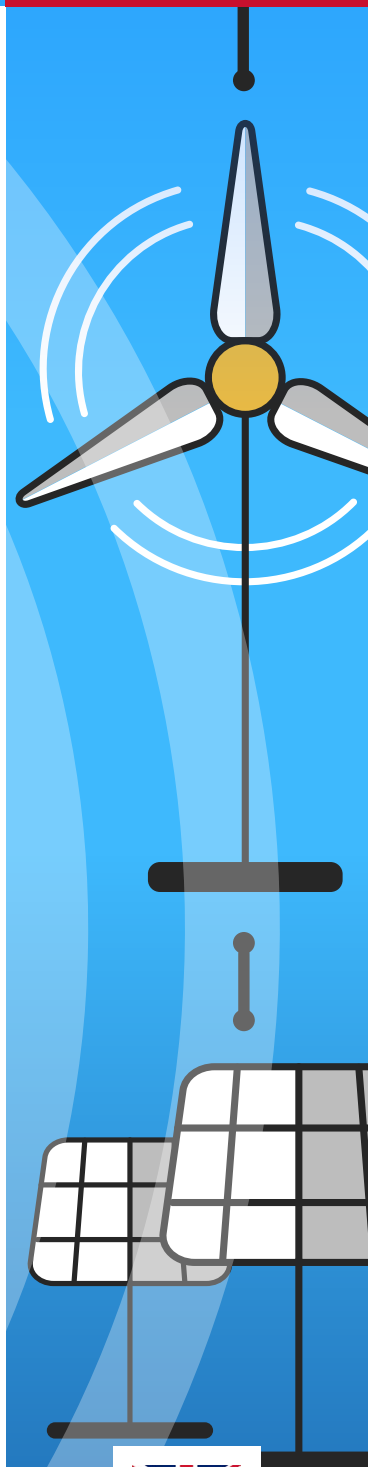
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Summary Zambia has been experiencing extreme weather events, particularly droughts, floods, shortened rainy seasons, high temperatures, and frequent zoonotic, human, and food crop diseases. These events have put adaptation and mitigation on the policy map. The role of renewable energy has increasingly featured in policy discussions to reduce deforestation and forest degradation to build community resilience and climate change adaptive capacities and to

drive socio-economic development. An analysis of relevant official documents, and interviews with key informants, reveal a lack of investment in renewable energy, limited policy mainstreaming and alignment, and low levels of adoption of renewable energy sources. As a result of these findings, this brief calls particularly for a multisectoral approach, robust awareness campaigns, a coherent policy environment, and increased institutional capacities to boost investments in the renewable energy sector.

Key Policy Recommendations

- The government should amplify its political support and commitment to:
 - i)** mainstreaming renewable energy in all productive economic sectors in Zambia;
 - ii)** improved land-use planning to facilitate the production, distribution, and scaling up of renewable energy sources; and
 - iii)** policy alignment to clarify institutional mandates and strengthen coordination and efficiency in renewable energy delivery.
- The government should continue providing a more coherent policy environment for the private sector to provide financial, infrastructural and technical support to boost investments in renewable energy sources.
- Include robust awareness-raising campaigns and community training programmes in efforts to promote and scale up renewable energy technologies.
- The government should consider socio-economic incentives for small to medium enterprises to invest in the production of renewable energy and its use, particularly in rural areas.
- Policy alignment is needed to clarify institutional mandates and strengthen coordination among key energy-related institutions and improve efficiency in renewable energy delivery.



The views expressed in this material do not necessarily reflect the UK government's official policies.

Introduction

Zambia has a heavily natural resources-based economy. Agriculture, mining, and tourism are the three most important economic pillars that are posed to graduate Zambia into a middle-income country by 2030 [1].¹ Zambia's human development index is 0.584. This positions it at 146 out of 189 countries and territories [2]. Poverty remains chronically high in rural areas, making the phenomenon very geographically enclaved. The unequal distribution and access to socio-economic opportunities in Zambia is accompanied by weak governance and institutional capacities.

Zambia has been experiencing extreme weather events, particularly droughts, floods, shortened rainy seasons, high temperatures, and frequent zoonotic, human, and food crop diseases. As a member of the international community, Zambia has committed to domesticating² various multilateral agreements to address the extreme weather events. The role of renewable energy has increasingly featured in policy discussions to reduce deforestation and forest degradation, with the aim of building community resilience and climate change adaptive capacities and to drive socio-economic development. Domesticating global policies and steering the country to achieve the middle-income status will require more focused interventions to narrow the gulf between rural and urban socio-economic disparities and strengthen governance and institutional capacities in the country. Energy drives social and economic development through improving energy security, environment, economy, mechanical manufacturing, construction, transportation, and industry and also helping to create new jobs [3]. Therefore, the energy sector is key to efforts aimed at narrowing rural–urban

disparities. It should also be noted that access to electricity is about 31% with a rate of 4.4–11% in rural areas [4].

As the human population increases in Zambia (estimated at 2.9% annually [5]) with projected increase in the middle-class, so will the demand for energy.

Zambia recognizes that every productive sector in the economy relies on the provision of energy [6]. Despite this, diversification of production and access to renewable energy remains appallingly low.

Within this context of scarcity lies huge untapped potential to make Zambia more renewable energy self-sufficient. **This policy brief aims at answering the following question: what are the policy enablers and barriers in Zambia's renewable sector?**

Methodology

This policy brief has been informed by literature review of national policy documents relevant to the energy sector in Zambia and 13 key informant interviews. 10 official documents (**Table 1**) were analysed to identify and understand emerging insights [7] from documents related to energy, agriculture, forestry, and transport sectors, among others.

¹ Please, note that at the time of this policy brief, the draft of the 8th National Development Plan had just been approved, and the final version was not yet in the public domain.

² In this case, this refers to the process of making international legal instruments (standards, practices, etc) part of national law.

POLICY DOCUMENT	YEAR
The Rural Electrification (Amendment) Act	2021
National Energy Policy	2019
Energy Regulation Act	2019
Electricity Act	2019
Non-Motorised Transport Strategy	2019
National Transport Policy	2019
7th National Development Plan	2017
Second National Agricultural Policy	2016
National Forestry Policy	2014
Petroleum (Exploration and Production) Act	2008

Table 1 List of official documents reviewed

These policy documents were analysed for references to renewable energy in policy documents and policy measures that are either enablers or barriers for the promotion of renewable energy in Zambia. On the basis of identified enablers, policy decisions related to renewable energy from policy documents were categorized.

Key informant interviews were conducted with officials from four categories of stakeholders, namely: government institutions (4), international development partners working in Zambia (3), research institutions (3), and civil society organizations (3). Where possible, interviews were conducted physically, otherwise virtual meetings were used. To triangulate findings, a virtual focus group meeting was conducted with eight key informants, from the original set of interviewees.

Results/Case Study

Findings from the both key informant interviews and literature review enabled us to understand the policy enablers and bottlenecks for the renewable sector in Zambia.

Opportunities for the renewable sector in Zambia

- Demographic and socio-economic dynamics:** Zambia's population is on the rise, and middle-income households keep expanding with more socio-economic opportunities [8]. These factors are creating demand for more energy consumption. In Zambia, hydro-power accounts for 84% of energy production; however, solar photovoltaics is the fastest growing technology thanks to a range of installations such as small solar home systems, mini- and micro-grids, and commercial-scale solar parks [9].
- Biophysical and climatic context:** Zambia is not only endowed with abundant natural resources. The country also enjoys about 3,000 sunshine hours per year – providing potential for solar water systems, solar water pumping, and solar water heating [10]. Also, the country has 80 hot springs for geothermal and an average wind speed of 6 metres per second for power generation from wind energy [10].
- Supportive investment environment:**

“Investors in Zambia are treated like Kings in all the sectors of the economy to ensure they feel welcome to invest in the country.” (Government Institution interviewee – June 2022)

Zambia has been promoting pro foreign-investor policies such as abolition of price controls, liberalization of interest rates, abolition of exchange rate controls, 100% repatriation of profits, free investment in virtually all sectors of the economy, and trade reforms aimed at simplifying and harmonizing the tariff structure.

- **Unsaturated renewable energy sector:** The level of investment in the energy sector is still very low – this is therefore an opportunity for entrants into the sector as there is no stiff competition from other investors.

“Zambia remains a land of opportunities for renewable. We can only boast of hydropower, and a bit of isolated cases of solar energy – really nothing else.” (Government Institution interviewee – June 2022)

Barriers to the renewable sector in Zambia

- **Population density and the country's surface area:** Zambia is almost twice the size of Germany, yet Zambia's population is sparse. Development and production of renewable energy for consumption pose an economy of scale challenge [11].
- **'Many cooks spoil the broth':** The energy sector is currently governed by the Energy Regulation Act, the Electricity Act, the Petroleum (Exploration and Production) Act and the Rural Electrification Act, among others, with various stakeholders playing different uncoordinated roles.

“Generally, the multiplicity of players, poor coordination, inefficiencies, political interference, and overlapping of institutional mandates characterize the energy sector in Zambia.” (International Development Partner interviewee – June 2022)

- **Rural communities habitually use firewood as their principal source of energy:**

“Available sources of renewable energy in Zambia such as solar, wind, geothermal, small hydro and biomass need a certain

level of technical know-how, financial resources and level of education to facilitate adoption. These are above the means of an average household in Zambia, particularly in rural areas.” (International Development Partner interviewee – June 2022)

- **The promotion and scaling up of renewable energy sources faces adoption challenges due to culture:**

“There is need for a socio-cultural mindset shift to support the promotion and scaling up of renewable energy.” (Private Sector interviewee – June 2022).

Fire places in the evening, particularly in rural areas, are places of family time which renewable sources of energy may not offer.

Policy Recommendations

This brief examined the enablers and barriers in the renewable sector in Zambia. Data was collected through interviews with key informants and a review of official documents. The brief makes the following recommendations:

- The government should amplify its political support and commitment to: i) **mainstreaming renewable energy** in all productive economic sectors in Zambia; ii) **improved land-use planning** to facilitate the production, distribution, and scaling up of renewable energy sources; iii) **Policy alignment is needed** to clarify institutional mandates and strengthen coordination among key energy-related institutions and improve efficiency in renewable energy delivery.
- The government should **continue providing**

a more coherent policy environment for the private sector to provide financial, infrastructural, and technical support to boost investments in renewable energy sources.

- Include **robust awareness-raising campaigns and community training programmes** in

efforts to promote and scale up renewable energy technologies.

- The government should consider **socio-economic incentives for small to medium enterprises** to invest in the production of renewable energy and its use, particularly in rural areas.

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