



Africa Energy Futures: Zimbabwe

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Over the last 5 years, how has the energy mix changed, and what have been the key drivers?

In 2021, energy supply in Zimbabwe is a mix of hydropower (70%), coal (29%) and renewable energy sources, according to the Zimbabwe Energy Regulatory Authority. Over the past five years, independent power producers (IPPs) have explored alternative energy sources such as solar, wind, geothermal, biofuels and biomass. This was driven by the promulgation of the National Renewable Energy Policy in 2019, whose aim was to raise the share of renewables in the energy mix by creating incentives from supply to distribution and demand, in both urban and rural settings.

What is the outlook for the energy and natural resources sector in the next 5 years? In particular:

Key policy decisions

In 2020, a General Procurement Notice was issued by the Zimbabwe Electricity Transmission and Development Company (the national utility) where it announced its plans to procure 500 MW of photovoltaic (PV) solar energy sources at various locations throughout the country.

In 2021, the government rolled out the National Development Strategy (NDS) Phase 1 (2021-2025) with the following targets:

- to increase power supply from the current installed capacity of 2317 MW to 3467 MW by 2025;
- to create an Independent System and Market Operator (ISMO) to assist in generation resource planning and buying of power from generators; and
- to construct an additional 280 km of the electricity transmission and distribution network by 2025.

It is anticipated that an enabling legislative framework will be amended to take into account the specific requirements of procuring renewables by the utility against the targets set out in the NDS.

Main policy challenges

- Climate change: perennial droughts reduce the power generation capacities of all hydro power plants in Zimbabwe, in particular the Kariba Hydro Station.
- Part 9.3 of the National Renewable Energy Policy of 2019 states that: "The land acquisition process has been identified as a major hurdle in development of renewable energy projects. Projects usually face competition from services such as agriculture, irrigation and other activities." Land use issues ultimately lead to delays in the implementation of renewable energy projects.
- Currency fluctuations affecting liquid fuel supplies.

- High production costs affecting the economic viability of renewable energy projects.
- Inadequate transmission and distribution infrastructure to develop, install and commission renewable energy projects.
- Lengthy and complex administrative approval processes.
- Inadequate training of technical personnel.

The anticipated role that renewables and/or new technologies will play

The Zimbabwean Ministry of Energy and Power Development (MEPD) is committed to the development and adoption of renewable energy technologies. The MEPD has established the Department of Energy Conservation and Renewable Energy (DECREE), which is responsible for energy conservation technologies and techniques and the promotion of new and renewable sources of energy. DECREE aims to develop and promote increased use of renewable energy sources and technologies, and to ensure efficient production and utilization of the resources in the country. The department has been mandated to formulate renewable energy and energy conservation policies, strategies and action plans concerning the facilitation and implementation of energy conservation and renewable energy projects and programmes.

There is, however, a need for DECREE to promulgate and codify legislation surrounding renewable energy and technologies, and address gaps such as providing clear base requirements or thresholds for incentives for increased uptake and investment in renewable energy.

What are the key investment opportunities in the energy and natural resources sectors over the next 5 to 10 years?

Investment opportunities will arise in two main areas in Zimbabwe in the next decade: renewable energy and petroleum. The government has provided incentives to the energy sector and awarded several IPP licenses to different companies, but very few of these projects have been executed. The delay in implementing these projects has been caused by a lack of funding in light of perceived currency risks.

In the last couple of years there has been an increased focus on solar energy. Zimbabwe has solar irradiation averaging 20 MJ per m² and 3000 hours of sunshine per year. Its location and climate provide a lucrative opportunity for investment in solar energy technology and the government is looking to provide incentives to leverage in the sector. To attract investment there are a few fiscal incentives, namely:

- Build-Own-Operate-Transfer arrangements
- Build-Own-Transfer arrangements
- National Project Status and tax incentives to renewable energy projects
- Negotiable tax holidays
- Prescribed Asset Status to renewable energy projects
- Solar equipment can be imported duty free. This includes solar panels, invertors, solar lights, solar water heaters and energy saving bulbs
- Special Economic Zones (SEZ) where manufacturing and assembly plants can be set up

The low electrification rate in Zimbabwe presents plenty of opportunities for either direct investment (as IPPs) in the sector or joint venture participation with the power utility.

The country has large deposits of coal resources which are largely underdeveloped or yet to be used. The country boasts over 12 billion metric tons situated mainly in the northern and north-western parts of the country with calorific values ranging from 20 to 32 MJ/kg. The large deposits and the good quality ore present an opportunity for investment in the exploration of the deposits, mining and extraction of the coal and developing the existing infrastructure to bring it up to speed with new technologies.

There is also potential to generate power from mini hydro sites located in the Eastern Highlands due to a conducive terrain and rainfall patterns.

Biomass and waste also present another investment opportunity for power generation. The country has huge deposits of wood waste, municipal waste and agricultural waste which can be used to generate power. This remains an untapped area which can be potentially exploited in the next ten years. The main issues are principally a lack of funding into the exploration of the resource and infrastructure to build a base for the use of this alternative source of power.

Zimbabwe imports all of its fuel, and the government had a target to substitute at least 10% of the nation's fuel requirements by 2020. It sought to achieve this by increasing production of fuel blending by upping the production of ethanol through sugarcane production. Although this has not been achieved, it will persist with this policy to promote growth in this area, creating a platform for ethanol production, through farming projects for sugarcane and building factories for the actual production of the ethanol blend.

Another upstream investment opportunity is in the potential availability of petroleum and gas in Muzarabani, currently at exploration stage. The result of this first phase of the project could potentially unlock opportunities in the midstream and downstream sectors in the coming years.

With particular focus on sustainability, and on reducing carbon emissions, how will the energy and natural resources landscape change over the next 5 to 10 years?

With coal being one of the major sources of power in Zimbabwe it is unlikely that there will be a major focus on the reduction of carbon emissions in the near future. The challenge that the country faces is the absence of viable alternatives for the production of electricity with the exception of hydropower. Strikingly, the availability of abundant coal deposits – approximately 1.132 terra cubic meters of coal bed methane (CBM) located in the western and southeastern parts of the country – that can last up to a generation means it will be very difficult to move towards the reduction of carbon emission in the next ten years.

However, if the potential in renewable energy is tapped into and thoroughly used, the government target to reduce emissions by 33% per capita by 2030¹ could be achieved. In addition, the advent of electric cars which is being explored, albeit slowly, will likely contribute to a reduction of carbon emissions towards the end of the next decade.

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