

OPPORTUNITIES AND TRENDS BRIEF

March 2021

Zambia: For stand-alone solar to effectively contribute to universal electricity access, affordability constraints need to be addressed

7.2m

Unelectrified population

17.8m

Total population



23

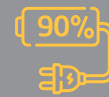
people/Km²
Population density¹

53
out of
100²

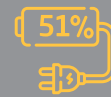


RISE Score (Framework for Stand-Alone Systems)

2030



90%
in urban areas



51%
in rural areas

Government target for universal electrification

85
out of
190³



Ease of Doing Business Rank



5

Donor programmes supporting Stand-Alone Solar (SAS)

80
out of
100⁴

PAYG Market Attractiveness Index (Score)



- » Copper mining and agriculture are the main drivers of Zambia's economy. Mining accounts for **70% of the export revenues** while **agriculture employs 54%** of the workforce.
- » COVID-19 has worsened the outlook on the **Zambian Kwacha**, which saw its **value depreciate 31.5%** between 1st March and 19th September 2020.
- » In 2019 the country suffered **prolonged power cuts** that pushed many urban households to **purchase SHS as backup for lighting and phone charging**⁵.
- » There was a **50% decrease in sales** between January- June 2020 compared to the same period in 2019. Before the Covid-19 pandemic, **59% of the sales** made between July-December were **pay-as-you-go**, indicating the model could be useful in addressing affordability constraints.
- » The notable productive use activities in Zambia are hammer mills, solar water pumping and SHS for off-grid health centers.

A task force is providing oversight on initiatives in the off-grid sector, and other areas of government support:

In February 2018, the Ministry of Energy established the **Zambia Off-Grid Energy Task Force (ZOTGF)**, made up of six government representatives, eight cooperating partners, and five members representing the private sector making a total of **19 permanent members**.

National Energy Policy of 2019 includes solar energy while the National Electrification Program and the National Renewable Energy Strategy are under development.

Removal of import duty on solar equipment in 2019, particularly promoting solar for productive use.



There is limited financing for the SAS sector:

- ❖ The **USD 2.5 million** Electricity Services Access Program **funded by the World Bank** and implemented by the Development Bank of Zambia will support mini-grid and SHS companies for 7 years.
- ❖ Scaling Solar by World Bank with **USD 39 million** is offering a line of **credit to off-grid solar companies**.
- ❖ Beyond the Grid Fund for Zambia funded by SIDA and USAID with **EUR 20 million has supported 148,000 connections** mainly through SHS.
- ❖ Solar E-Waste Challenge **funded by USAID** to the tune of **USD1.2 million** is providing grant funding to companies with innovative approaches to solar e-waste management in sub-Saharan Africa.

Appropriate financing and affordability are key constraints for the SAS sector



Many SAS companies in Zambia still look to international investors whose capital requirements and foreign currency financing result in high borrowing rates over 2-3 years. These terms are unfavorable and inflexible for local SAS companies considering the time taken to order, receive and sell products, and collect payments especially for pay-as-you-go.



Even before Covid-19, **61% of households** cited affordability constraints as a **barrier** to purchasing SAS⁶. During the pandemic, **12% of customers** were struggling to make payments compared with 4% before then. The pandemic has left **43% of Zambians very vulnerable** and **6% extremely vulnerable**. Alternative consumer financing models and demand side subsidies could go a long way in addressing affordability.^{7, 8}

A partnership between a mobile phone and SAS company has potential to increase access...

- ❖ The mobile phone service provider MTN has partnered with Fenix International to expand solar and alternative energy products such that Fenix traders are trained as mobile money agents.
- ❖ Zambia has an up-coming election in August 2021, though historically the country has not had political instability during elections.

In conclusion

Appropriate financing and strategies to address affordability constraints in Zambia will be key if SAS is to effectively contribute to universal energy access.

Reference

1. World Bank (2018) Population data
2. ESMAP (2019) Regulatory Indicators for Sustainable Energy
3. World Bank (2018) Population data
4. Lighting Global (2019) Pay-As-You-Go Market Attractiveness Index Report
5. Interview with Ministry of Energy Official. 10 December 2020.
6. USAID (2019) Can Zambian households afford SHS: Insights from a local survey
7. ACE TAF (2020)
8. ACE TAF (2020)