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Understanding routes to energy project bankability in Zambia

George Carew-Jones ¹, Remy Twiringiyimana ², Julia Tomei ³,
Cleopas Sambo ⁴, Meron Tesfamichael ⁵, Bernard Tembo ⁶

Summary

Bankability is central to understanding how Zambia's ambitious energy sector expansion plans can be achieved. With private sector finance being a necessary ingredient for rapid infrastructure delivery, this policy brief explores what key energy sector stakeholders in Zambia think are the most promising routes to achieving improved energy project bankability. We find that progress has been made in core areas, with market liberalisation reforms and improved creditworthiness for the state-owned energy utility (ZESCO) setting the conditions for Zambia to

access new pools of concessional and commercial finance. In order to consolidate progress, this policy brief points to four concrete priority areas to reduce investor risk: (i) liberalised offtake agreements, (ii) increased and differential tariffs, (iii) the creation of a 'one-stop shop' for permitting, and (iv) diversified access for investors and novel instruments. These steps are crucial to derisking projects and raising revenues, thereby lowering the cost of capital available to energy project developers in Zambia.

Key Policy Recommendations

- The success of the energy open access regime should be built upon by encouraging diversified offtakers.
- Differential tariff rates should continue to be permitted as a revenue-generating measure to improve ZESCO's creditworthiness.
- Policy-related de-risking should occur via the use of political risk guarantees and the creation of a 'one-stop shop' for new energy project permitting.
- Steps should be taken to diversify the pool of investors and types of instruments used to access Zambia's energy sector, focussing on pension funds and green bonds.

Introduction

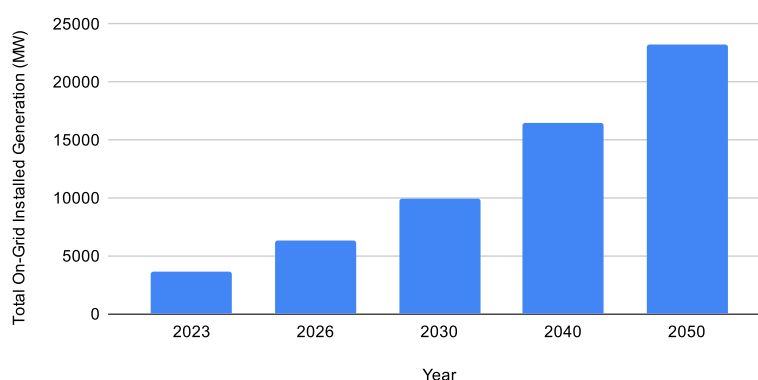
The difficulty of attracting private sector investment in Africa's energy sector is one of the biggest challenges facing energy expansion and transition across the continent. In 2020, McKinsey estimated that 80% of African infrastructure projects fail at the feasibility and business plan stage and less than 10% reach financial closure [1]. Why these projects fail to achieve 'bankability' – meaning their project risks and returns are considered acceptable by investors – is highly contextual. To shed light on this challenge, this policy brief presents the results of an investigation into routes to bankability in the specific context of Zambia.

The Integrated Resource Plan (IRP), published in February 2024, sets an ambitious growth path for Zambia's power sector [2]. The IRP anticipates a 5.3-fold increase in generation by 2050 (see **Figure 1**) and a move to diversification beyond hydropower, which is currently responsible for over 80% of generation capacity. The 2023/24 Southern African drought, and the associated load-shedding regime of 8–21 hours per day since March 2024, has placed further impetus on the urgent need to finance alternative sources of energy to stop the energy sector being a barrier to Zambia's wider economic growth. ZESCO, the state-owned energy utility, is central to this story through its domination of energy generation, transmission,

distribution and trade. ZESCO has persistently struggled to maintain creditworthiness and remains indebted, in part due to droughts and non cost-reflective tariffs. Energy blackouts create a vicious cycle for ZESCO: the 2024 load-shedding alone cost the utility US\$300m in lost revenue in just four months [3]. All this restricts ZESCO's ability to attract project finance.

Remedying these challenges and achieving generation growth in Zambia will require an estimated US\$31bn by 2050 [2]. Public reserves remain constrained following a debt default in 2021, and they will likely need to be prioritised to infrastructure that is difficult to generate revenue from, such as grid extensions to increase energy access. This context reinforces the often argued mantra that private sector finance is the key to rapid energy sector development [4]. Approaches to energy transition finance have typically focussed on de-risking investment to reduce the cost of loan capital (29.4% in October 2024) [5], but equally important is increasing the potential for returns [6]. Adopting this framing and in the context of the above challenges, this study asked what routes there are for improving the bankability of energy projects in Zambia in order for the country to achieve its power sector expansion goals.

Figure 1: Projected required growth in Zambia's power generation capacity (Data from IRP Antares model, [2, p.47])



Methods

A mixed-methods approach was adopted for this project, which comprised a stakeholder workshop in February 2023 to identify key actors and potential issues, and semi-structured interviews with experts (n=17). This brief primarily draws on the expert interviews, which were undertaken between June and August 2023. Participants were selected on the basis of their expertise and role in energy sector financing in Zambia and internationally (see Table 1).

Interviews explored participants' perspectives on the Zambian energy sector, barriers to and opportunities for energy investments, perceptions of risk, and the steps that can be taken to address perceived risks in Zambia. Whilst there is a bias towards government representatives in our sample, this facilitated the output of policy-relevant recommendations. In future research, we aim to socialise these outputs to identify clear routes for implementation.

Table 1: Interviewees by category

Category	Role	No. of interviewees	Abbreviation in text
Domestic bank	Finance provider	3	DB
Project financier	Finance provider	2	PD
Intermediary offtaker	Investment provider and delivery	1	O
International organisation	Technical assistance	3	IO
Government	Public policy, planning and regulation	6	G
Utility	Public utility	1	U
Energy Infrastructure provider	Investment provider and delivery	1	IP

Results and Discussion

Two recent policy changes were considered particularly positive by participants for the bankability of Zambia's energy sector: i) the new open access regime since 2019 and ii) electricity tariff reforms. The **open access policy regime** has created a route to financing renewable energy projects which have offtakers pre-defined, something that offers potentially favourable financing terms compared to projects which are dependent on ZESCO's credit rating. In commending this change, an infrastructure

interviewee stated: *“That’s something I can praise the government for doing. A lot of the regulations have been streamlined. It’s quite easy to register yourself as an IPP [Independent Power Producer], even to be able to find your own offtaker”* (IP1). With literature suggesting that offtake risk is a key determinant of the cost of capital for energy projects [7], the liberalised market, which also allows for offtake options through the Southern African Power Pool (SAPP), is a large step forward.

Electricity tariffs, meanwhile, have long been subsidised in Zambia, leading to the country having some of the lowest cost tariffs in Africa (US\$0.02/kWh in Zambia vs US\$0.9/kWh in Botswana [8]). Legislation already permitted the utility to increase rates, but tariff raising since 2022 was seen by participants as particularly effective in reducing ZESCO's external debt from US\$1.8bn at the end of 2021 to US\$450m in August 2024: *“ZESCO is correcting itself. They are restructuring their position... And that is massive because, if ZESCO is doing well, that is a big positive for the energy sector and Zambia as a whole”* (DB1). Notably, in October 2024, ZESCO was permitted by the Energy Regulation Board (ERB) to further raise tariffs temporarily to respond to the drought-induced hydropower capacity loss. This increase, which aims to raise US\$15m/month, is progressive in that it reduces the relative tariff cost for low consumption residential users (reduction of 20%) and increases it for the highest consuming residential and commercial customers (increased by 39–162%) [9]. Such differential, increased tariffs are a good model for how ZESCO can increase revenue in a socially mindful way in the long term, improving relative energy accessibility for those not connected to the grid and marginally increasing tariffs for those most able to pay. Where negotiations can take place to increase the tariffs for maximum demand customers, they should, given these customers are currently being relatively subsidised compared with residential consumers.

Beyond the credit risk of ZESCO, participants also flagged ways in which investments could be derisked through **political risk guarantees**. Renewable energy investments are generally characterised by large proportions of upfront capital expenditure and long payback periods. In referencing this, one participant argued that when *“you are investing for 25 years... you are hoping that policies remain stable”* (DB1), and policy differences have been shown to be one of the larger causes of variation in costs of capital

for renewable energy projects across low- and middle-income countries [10]. Zambia has very low political or conflict risk compared to neighbouring countries, and the Government has made a clear commitment to renewable energy. To ensure this is reflected in the cost of capital, one participant (IO1) argued that policy risk guarantees should be integrated into power purchase agreement negotiations, something the Ministry of Energy could provide guidance on. Particularly whilst sovereign risk of default remains high following Zambia's protracted debt restructuring process, such guarantees are essential.

Similarly, developers need to comply with significant regulation at multiple stages of energy project implementation, creating inevitable time lags especially when coordination is required between agencies such as the ERB and Zambia Environmental Management Agency. To reduce costs of capital, participants suggested creating a **regulatory ‘one-stop shop’ – a single body that developers could contact for all energy-sector permitting**. Sitting under the Ministry of Energy, the ‘one-stop shop’ would have a remit for: (i) reviewing feasibility study reports on energy investment projects and (ii) negotiating project implementation agreements. Providing power to this agency, if set up effectively, would speed up the investment process and provide increased certainty to investors, improving project terms.

A final option flagged by participants was for the government to encourage further **diversification of the investor and instrument pool** in the renewable energy sector. Two examples of recent progress flagged were Zambia's first green bond, placed on the Lusaka Stock Exchange in 2024 by the Copperbelt Energy Corporation at a value of US\$53.5m [11], and the National Pension Scheme Authority's (NAPSA) US\$300m of finance for the construction of a coal-powered plant by Maamba Collieries, announced in July 2024 [12], building on a US\$170m investment in the Kafue Gorge Lower

Power Station completed in 2023. Whilst the latest investment by NAPSAs is in a coal-generating asset, forced by the ongoing energy crisis, this is still a significant move showing political will for the pension fund to diversify beyond government

securities (70% of its holdings) [13]. Diversification to direct energy sector investment is a highly welcome move for the availability of local capital, as is the potential to raise finance through long-term bond instruments.

Outlook

After a long period of underinvestment and credit challenges, green shoots of opportunity are emerging in the financing of Zambia's power sector expansion. With high ambitions set, there is a clear need to attract private sector finance to supplement public energy spending; renewable energy offers a clear path to economic growth in Zambia, but is currently lacking adequate investment. The four routes that we offer to improved bankability – i) maintaining the open access policy regime, ii) increased and differential tariffs, iii) political risk guarantees and a one-stop shop for energy sector permitting and iv) diversification of the investor and instrument pool – all allow Zambia to take better advantage of the growing global shift towards sustainable,

impact and adaptation finance. CCG will continue to produce research and tools at the intersection of energy and finance for Zambian policymakers, practitioners and international investors, with the aim of reducing information asymmetries. The participants in this research have originated the recommendations set out in this brief, and each one will have a key role in coordinating their implementation.

To find out more about energy and finance research under the CCG programme, and how the recommendations of this paper could be taken forward, please contact george.carew-jones@smithschool.ox.ac.uk & ben2great@yahoo.co.uk (Bernard Tembo)

References

- [1] Lakmeharan, K., Manji, Q., Nyairo, R. and Poeltner, H. (2020). '[Solving Africa's Infrastructure Paradox](#)'. McKinsey & Company.
- [2] Ministry of Energy, Zambia (2024). '[Integrated Resource Plan for the Power Sector in Zambia](#)'.
- [3] Ministry of Energy, Zambia (2024). '[Statement on the Electricity Situation in Zambia](#)'.
- [4] Agutu, C., Egli, F., Williams, N.J., Schmidt, T.S., and Steffen, B. (2022). '[Accounting for Finance in Electrification Models for Sub-Saharan Africa](#)'. *Nature Energy* 7 (7): 631–41.
- [5] Gurufocus (2024). '[ZMBAY Cost of commercial lending capital](#)'.
- [6] Polzin, F., Egli, F., Steffen, B., and Schmidt, T.S. (2019). '[How Do Policies Mobilize Private Finance for Renewable Energy?—A Systematic Review with an Investor Perspective](#)'. *Applied Energy* 236:1249–68.
- [7] International Energy Agency (2023). '[Cost of Capital Observatory – Analysis](#)'.
- [8] Galal, S. (2023). '[Household electricity prices in Africa 2023, by country](#)'. Statista
- [9] Energy Regulation Board (2024). '[Board's Decision on ZESCO's Application for an Emergency Tariff](#)'. Energy Regulation Board.
- [10] Steffen, B. (2020). '[Estimating the Cost of Capital for Renewable Energy Projects](#)'. *Energy Economics* 88:104783.
- [11] Copperbelt Energy Corporation (2024). '[Green Bond](#)'.
- [12] National Pension Scheme Authority (2024). '[NAPSA Statement on the Financing of a 300 MW Power Plant](#)'.
- [13] Kukula Capital (2024). '[The Zambian Landscape for Private Investment in Climate-Friendly Projects: Final Research Report](#)'.

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AUTHOR INFORMATION:

- ¹ **George Carew-Jones** (Smith School of Enterprise and Environment, University of Oxford): Writing – original draft; formal analysis.
- ² **Remy Twiringiyimana** (Department of Science, Technology, Engineering and Public Policy, University College London): Formal analysis.
- ³ **Julia Tomei** (Institute for Sustainable Resources, University College London): Conceptualisation; formal analysis; writing – original draft.
- ⁴ **Cleopas Sambo** (Oslo Metropolitan/ University of Zambia): Investigation.
- ⁵ **Meron Tesfamichael** (World Resources Institute): Conceptualisation; investigation.
- ⁶ **Bernard Tembo** (Tec Analytics Consultants, Zambia): Conceptualisation; investigation; writing – review & editing.

REVIEWERS:

Tash Perros  (University College London) &
Hannah Luscombe  (University of Oxford)

COMMISSIONING EDITOR:

Vivien Foster  (Imperial College London)

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